

FINAL REPORT
TO STUDY
IMPACT OF IMPORTED SECOND HAND SHUTTLELESS
LOOMS UNDER TUFS ON DOMESTIC CAPITAL GOODS
INDUSTRY DURING XI PLAN

SUBMITTED TO



MINISTRY OF TEXTILES,
GOVT. OF INDIA
NEW DELHI

SUBMITTED BY



NATIONAL PRODUCTIVITY COUNCIL
NEW DELHI

2013

ACKNOWLEDGEMENT

- *National Productivity Council (NPC) would like to place on record its sincere thanks to Ministry of Textiles (MoT), Govt. of India for entrusting the Study on “Impact of Imported Second hand Shuttle-less looms under TUFS on Domestic Capital Goods Industry during XI Plan”.*
- *Special thanks are due to earlier Secretary of MoT, Ms. Kiran Dhingra, IAS and present Secretary of MoT, Ms. Zohra Chatterji, IAS for awarding this very important study and also for providing the required direction to NPC study team.*
- *NPC also expresses its sincere thanks to Ms. Sunaina Tomar, IAS, Joint Secretary (MoT) and Shri N.D. George, IES, Economic Advisor, (MoT) for providing necessary co-ordination and support to NPC study team for the fruitful Completion of the study within the stipulated time.*
- *NPC study team would also like to express gratitude to all the officials of Ministry of Textiles for extending their whole-hearted co-operation and support for the successful completion of the study.*
- *Last but not the least, NPC study team is thankful to all the stakeholders for sparing their valuable time and also for providing required information as and when NPC study team approached them.*

NPC STUDY TEAM

NPC STUDY TEAM

PROJECT DIRECTOR

**DR. K.P.SUNNY
GROUP HEAD (ECONOMIC SERVICES &
SUPPORT SERVICES)**

TEAM LEADER

**SHRI. RAJESH SUND
DEPUTY DIRECTOR (ECONOMIC
SERVICES)**

CORE STUDY TEAM

**MS. SWETA KUMARI
ASSISTANT DIRECTOR (ECONOMIC
SERVICES)**

**MS. PRISHITA SAREEN
PROJECT ASSOCIATE (ECONOMIC
SERVICES)**

FIELD STUDY TEAM

**SHRI K. N. RAVI
SHRI SUJOY MAMMIN THOMAS
SHRI PIYUSH KUMAR BHATT
SHRI SRI PRASAD**

Table of Content

	Content	Page No.
	<i>Acknowledgement</i>	
	<i>Study Team</i>	
	<i>List of Tables</i>	i-ii
	<i>Executive Summary</i>	I-XX
Chapter I	INTRODUCTION	1-8
	1.1. Background	1
	1.2. Objectives of the Study	3
	1.3. Terms of Reference	4
	1.4. Methodology	5
	1.5. Outline of the Report	7
	1.6. Limitation of the Study	7
Chapter II	IMPLEMENTATION OF TUFFS FOR SECOND HAND SHUTTLE LESS LOOMS- FIELD SURVEY FINDINGS	9-14
	2.1. Introduction	9
	2.2. Shuttle less Loom Component of TUFFS	10
	2.2.1. Beginning Phase of TUFFS	10
	2.2.2. Modified TUFFS	11
	2.2.3. Restructured TUFFS	11
	2.3. Growth of Shuttle-less looms under TUFFS	11
	2.3.1. Financial Implication	12
	2.3.2. Physical Implication	13
	2.4. Conclusion	14
Chapter III	FIELD SURVEY COVERAGE & CLUSTER OBSERVATION REPORTS	15-32
	3.1. Introduction	15
	3.2. Coverage of Sample Beneficiaries	16
	3.3. Size of the Units Covered	18
	3.4. Cluster wise Field Survey Report	19
	3.4.1. Bhiwandi	19
	3.4.2. Ichalkaranji	20
	3.4.3. Erode	22
	3.4.4. Surat	24

	3.4.5. Bhilwara	26
	3.4.6. Malegaon	29
Chapter IV	MODERNIZATION OF THE POWERLOOM SECTOR- FIELD SURVEY FINDINGS	33-51
	4.1. Introduction	33
	4.2. Current state of Modernization in the Power Loom Sector	33
	4.3. Cost of Investment	35
	4.4. Indigenous Power loom Manufacturing Industry	36
	4.5. Field Survey Findings	36
	4.5.1. Current state of Modernization	37
	4.5.2. Plans for Modernization	37
	4.5.3. Type of Shuttle-less Looms for Modernization	40
	4.5.4. Mobilization of Funds	41
	4.5.5. Reasons for Modernization	42
	4.5.6. Constraints in Modernization	43
	4.6. Bankability of the Textile Unit	44
	4.6.1. Parameters to establish the Bankability of the Textile Units under TUFS	44
	4.6.2. Default Percentage	45
	4.7. Criteria adopted for financing Shuttle-less Looms under TUFS	45
	4.8. Modernization Plans of Composite Mills	47
	4.9. Conclusions	49
Chapter V	COMPARATIVE ANALYSIS OF THE SHUTTLE-LESS LOOMS -FIELD SURVEY FINDINGS	52-74
	5.1 Introduction	52
	5.2 Comparison based on Quantitative Parameters	53
	5.2.1 Calculation based on Cost of Production	56
	5.2.1.1. Rapier Machines	56
	5.2.1.2. Water jet Machines	58
	5.2.1.3 Air Jet Machines	60
	5.2.1.4. Projectile Machines	61
	5.3 Comparison based on Qualitative Parameters	62
	5.3.1 Output Quality	63
	5.3.2 Quality standards of the Machinery	64
	5.3.3 Safety Standards	65

	5.3.4 Hazardous Waste Generation and Noise & Vibration	65
	5.4 Comparative Analysis based on Quantitative and Qualitative Parameters	66
	5.5 Conclusions	74
Chapter VI	REASONS FOR LOWER INSTALLATION OF BRAND NEW INDIGENOUS SHUTTLE-LESS LOOMS-FIELD SURVEY FINDINGS	75-82
	6.1. Introduction	75
	6.2. Preference pattern for installing Shuttle-less Looms	75
	6.2.1. Installation of 2nd hand imported Shuttle-less Looms from EU	76
	6.2.2. New imported Shuttle-less Looms from EU, Japan, China	77
	6.2.3. Brand new Indigenous Looms	77
	6.3. Reasons for the Lower Installation of Brand New Indian Shuttle-less Looms	78
	6.4. Reasons for increase in the Share of 2nd hand Looms In total Import of Looms	79
	6.5. Measures to support the Domestic/ Indian Shuttle-less looms manufacturing units	81
	6.6. Conclusions	82
Chapter VII	FINDINGS AND RECOMMENDATIONS	83-94
	7.1. Major Findings	84
	7.1.1. Impact of TUFs on Domestic Capital Goods Industry	84
	7.1.2. Reasons for Import of Second Hand Shuttle-less Looms	86
	7.1.3. Reasons for low Modernization	86
	7.1.4. General Findings	88
	7.2. Major Recommendations	90
	7.2.1. Domestic Capital Goods Industry	90
	7.2.2. General Recommendations	91
	7.3. Present Scenario in Nutshell	93
	7.3.1 Way Forward	94
	Annexure I - XII	A1 – A39

List of Tables

Table No.	Title	Page No.
1.1	Subsidy Released to Power looms under TUFS (2003 to 2012)	2
2.1	Segment-wise progress of Restructures TUFS as on 29.06.2012	12
2.2	Import of Shuttle-less looms	13
2.3	Import of Second hand Shuttle-less looms	14
3.1	Details of sample covered	17
3.2	Category wise beneficiary units covered across clusters	18
3.3	Units Covered based on size	19
4.1	Sector-wise and year-wise projected cloth production during the 12th Plan	34
4.2	State of Modernization	37
4.3	Cluster-wise Modernization Plan	38
4.4	Shuttle-less looms for modernization during 12th five year plan	40
4.5	Mobilization of funds for modernization	42
4.6	Reasons for Modernization	43
4.7	Constraints faced for Modernization	43
4.8	Bankability of the Unit	44
4.9	Major criteria adopted to finance shuttle less looms under TUFS	46
4.10	Shuttle-less looms for modernization of Composite Mills	48
4.11	Mobilization of funds for modernization	48
5.1	RPM and width of the machines	53
5.2	Average cost of machine (Rs. Lakhs)	54
5.3	Productive Life of the Machine	55
5.4	Output per day of the Machine	55
5.5	Operation Cost	56
5.6	Comparison of Cost of Production of Rapier Looms	57
5.7	Comparison of Cost of Production of Water Jet Looms	59
5.8	Comparison of Cost of Production of Air Jet Looms	60
5.9	Comparison of Cost of Production of Projectile Looms	62
5.10	Output quality of different categories of looms	63
5.11	Quality standards of different categories of looms	64

5.12	Comparative Analysis of Rapier Machines	66
5.13	Comparative Analysis of Water Jet Machines	69
5.14	Comparative Analysis of Air Jet Machines	71
5.15	Comparative Analysis of Projectile Machines	73
6.1	Reason for installing 2nd hand imported shuttle less looms from European Union	76
6.2	Reason for installing New Imported Looms from European Union, Japan and China	77
6.3	Reason for installing Local/Indian Brand New Shuttle-less Looms	78
6.4	Reasons for lower Installation of Brand New/Indian Shuttle-less Looms	79
6.5	Reasons for increase in the share of 2nd Hand Looms in total import of Looms	80
6.6	Measures to support the Domestic/ Indian Shuttle-less Looms Manufacturing Units	81

EXECUTIVE SUMMARY

1. About the Study

Ministry of Textiles had launched Technology Upgradation Fund Scheme (TUFS) for Textile and Jute Industries on 1.4.1999 for a period of 5 years, in order to address the backwardness of technology prevailing in Textile and Jute sector and also to improve productivity and competitiveness of the sector vis a vis other competing countries. During X and XI Plan periods, TUFS had undergone substantial modifications as per the industry requirements. During the beginning years of 1999 to 31st March 2007, plant and machinery were also covered under the purview of TUFS. Besides these, taxes on the machinery were also taken into account for calculation of TUFS eligibility for the Shuttle-less looms. The scheme was further modified during the XI plan period and taxes on machineries were excluded for deciding the TUFS eligibility. Also, the entire range of imported second hand machinery were made ineligible under the Scheme except automatic Shuttle-less looms with the value cap of Rs. 8.00 lakh per machine and 10 years vintage and with a residual life of minimum 10 years. TUFS was re-structured and reinitiated on 28th April 2011 with defined caps for various segments

In order to understand the impact of imported second hand shuttle-less looms under TUFS on domestic capital goods industry, Ministry of Textiles has entrusted National Productivity Council (NPC) to undertake a detailed study on “Impact of Imported Second hand Shuttle-less looms under TUFS on Domestic Capital Goods Industry” during XI five year plan. The present study by NPC is based on detailed field surveys and discussions across six major power loom clusters besides various other stake holders such as composite mills and Indian shuttle-loom manufacturers across India conducted during January-March 2013.

The study has been undertaken with the following terms of reference

- a. The study shall assess the current status of modernization of the Power loom sector under TUFS and the modernization requirements of the sector.
- b. The study shall assess the investment capacity of the Power loom sector, their bankability for rapid scaling up and modernization.
- c. The study shall undertake a comparative analysis in terms of cost, productive life, productivity and safety standards between 2nd hand shuttle-less looms imported from European Union and New looms imported from European Union, Japan and China under TUFS.
- d. The study shall also examine the reasons for lower installation of brand new Indian shuttle-less looms by the power loom units.
- e. The study shall examine the reasons for increase in the share of 2nd hand looms in total import of looms.
- f. Identification and mitigating measures required to overcome the major hurdles in increasing indigenous production of shuttle-less looms.
- i. Undertake field surveys of companies/ Power loom units of different sizes and other stakeholders based on Questionnaires/Responses across the six selected power loom clusters.

- ii. Undertake field surveys of major power loom manufacturing units at the selected six locations as well as outside the clusters.
- iii. The study shall focus on XI Plan period from 2007-08 to 2011-12 only and recommend the steps needed to be taken to meet the projected requirements of shuttle-less looms by the power loom sector during 12th Plan.

Coverage of the Field Survey

The field survey covered six major Powerloom clusters in India such as Bhiwandi, Ichalkaranji, Erode, Surat, Bhilwara and Malegaon. The field survey covers 203 powerloom beneficiaries of TUFS, 61 non-beneficiary powerloom units, 6 composite mills, 13 banks, 9 manufactures/traders and 9 power loom associations from the six selected clusters and other locations. The industrial units have been selected under three categories viz., Small (below 10 looms), Medium (10-50 looms) and large (above 50 looms). The field survey covered 114 small units (56.16%), 85 Medium units (41.87%) and 04 large units (1.97%).

2. Cluster wise field report

2.1. Bhiwandi

There are more than 6 lakh power looms in the cluster of which about 25000 are Shuttle-less power looms. About 1.5 lakh families are employed in the sector and most of the looms are owned by families that had entered the textile industry about 2 decades back.

Only a few beneficiaries are aware of the technicality of the Shuttle-less looms. The traditional weavers are not interested in shifting to high tech Shuttle-less power looms, as a result the modernization of the looms are very less. Units are not going for modernization mainly due to lack of demand, acute power cut, Industrial recession and lack of skilled labourers.

Barring a few big industrialists, most of the units are small scale units hence they can hardly afford to purchase or import second hand or highly prized Shuttle-less power looms from European Union or Japan. Hence they depend on Shuttle-less looms imported from China which is available at cheap cost. Based on the feedback received from various stakeholders, about 90% of the Shuttle-less looms are Chinese Rapiers.

The financial Institutions are of the view that the capacity of industrialists to undertake modernization is weak. The cases of default are high after availing loan under TUFS. They are finding it difficult to get mortgage of land because collateral security of the loan as most of the land in the area has no proper title. The land belongs to "TRUST LAND" in Bhiwandi area, hence the banks are sanctioning loan after taking collateral security of machinery and building only.

2.2. Ichalkaranji

Shuttle-less looms are coming up in Ichalkaranji and its vicinity at a faster pace since the announcement of TUFS in the year 1999 by Central Government. The total investment in the cluster is to the tune of Rs.2000 Crores and the industry has given direct and indirect employment to 18000 workers from rural area. During the last decade the annual growth rate witnessed by this area is around 35%. Out of 7500 Shuttle-less looms in SSI units, 85% are second hand imported looms, 13% brand new imported and only 2% are of Indian make.

TUFS has given technological boost to the textile industry in the cluster but no long term policy has been formulated after April, 2012 and hence the entrepreneurs are in a state of suspicion and are demanding TUFS for the import of second hand Shuttle-less machinery needs to be continued for some more years to ensure sustained growth.

There are a large number of units working on plain looms. Local market demand for cloth of plain loom will not change as the output of the looms is required for different usages and it cost less per meter. Therefore not all units in Ichalkaranji can be modernized, however, in recent years more and more units are planning for modernization.

Majority of the units in the cluster are doing job work for big industries mainly because of the lack of processing activities. For Job work, second hand machines are good and will not be economical if new machines are installed and used for carrying out job work. They are getting 2 paise per pike and extra job work on 2nd hand EU Machine than China's new machines.

As far as Indian Shuttle-less looms are concerned, users lack faith in them due to low quality and more wear and tear. With Indian machines, there are 40-50 minor mistakes in 100 meters of cloth as compared to only 4 minor mistakes in 100 of cloth meters with EU machines.

Banks are providing loans against collateral security. However banks are not providing loan to new units and are considering projects of minimum 12 machines as economically viable. Units with proposals of more than 12 machines are only considered bankable.

Dattajirao Kadam Education (DKTE), Textile and Engineering Institute is planning to tie up with Chinatex and EU machine manufacturers for setting up manufacturing facility for technologically advanced Shuttle-less looms in India.

2.3 Erode

There are about 89,000 power looms out of which only 3,200 are Shuttle-less power looms. Most of the units in Erode cluster had purchased Second hand Shuttle-less looms mainly from Italy, Germany, Turkey etc and a few beneficiaries have purchased second hand Shuttle-less looms from Japan.

Most of the Shuttle-less looms installed are Rapier and only a few cases Air Jet-Toyota (Japan) are installed. Second hand Shuttle-less looms purchased are at an average cost of Rs.6.5 to 9.5 lakhs. In a few cases brand new Chinese Rapier looms are also purchased.

Brand new imported Chinese Shuttle-less looms cost only Rs.3 to 6 lakhs. Water Jet Shuttle-less looms are not at all used in T.N. as there is scarcity of water. Indian made Shuttle-less looms are not considered worthy at all and even industrialists are not aware of availability of such machines in India.

Due to the power cut and shortage of skilled workers and non functioning of captive power generation plant in Cauvery Hi tech Weaving park at Komarapalayam, workers are shifting to other jobs and most of the units are now facing closure. Because of industrial recession there is acute shortage of demand and most of them are not going for modernization now. Actually they are struggling for survival.

With regard to TUFS file processing, there is much office formality as the application form itself is highly complicated. There is enormous delay in getting the application processed and sanctioned.

The financial institutions are by and large happy to support the Power loom units as this is the traditional activity in the area. The machinery is taken as prime security and land building etc are taken as collateral security. According to them there is less credit flow to the power loom sector since a lot of Shuttle-less power looms are becoming non-performing assets.

Sustained demand of traditional cloth manufacturing items like Lungi, Dhothi, Towels etc; which doesn't require the technology of Shuttle-less power looms act against modernization. It is also observed that workers (traditional weavers) are not willing to accept the new technology of Shuttle-less power looms.

2.4 Surat

Out of about 6 lakh power looms in Surat around 5.7 lakh are ordinary shuttle looms and 22600 Shuttle-less looms. Out of total of 22600 Shuttle-less looms, around 20000 looms are Water Jet, 2000 are rapier and there are only around 600 projectile looms. Since the major product of the cluster is synthetic textiles, hence, the cluster has a natural inclination towards Water Jet machines.

Majority of the Shuttle-less looms in the cluster are imported under TUFS while some of the high precision second hand looms have not been covered under the scheme because these looms are more than 10 years old.

The SSI sector of Surat has not got much exposure to the export market. The main market for Surat textile products are from India and other Asian countries. As the fabric produced in the cluster is being consumed in the domestic market and there is no demand for the high end products produced on the high precision machines hence, the small scale power loom sector refrain from making heavy investment in high precision new looms and restricts their investments to either low cost Chinese looms or 2nd hand looms. Higher quality is required to cater to the demands of the international market. Exposure to foreign market can encourage the cluster for swift modernization.

Based on the feedback received from Surat Peoples Cooperative Bank, the total investment capacity of the power loom sector for modernization in Surat cluster is approximately Rs.1000 Crores per year. The banks are giving loans to power loom sector in lieu of collaterals and the cluster is quite credit worthy. However, undue delay in the release of subsidy under TUFS is a matter of concern for the industrialists.

2.5 Bhilwara

There are around 13000 power looms in the cluster and around 80%-90% of them are Shuttle-less power looms. Around 64% of the Shuttle-less power looms are Air Jet while 34% are projectile looms and 2% are Rapier and Water Jet.

Majority of the units are planning for modernization anticipating higher demand from both domestic and international markets. The demand for Air Jet machines is higher than Projectile looms since the Projectile looms (Sulzur-make) are not included under TUFS. Water Jet Shuttle-less power looms are not popular in Bhilwara cluster due to scarcity of water in the cluster.

Industry believes that the future of textile machinery is Air Jet looms as they have higher speed (RPM) and the current job rate of work done on Air Jet is almost double that of Projectile machines. The speed of projectile machines is also less than that of Air Jet looms.

As far as TUFS is concerned, there is a lack of awareness among the textile unit regarding which machines are covered under TUFS and which are not. The frequent interruption of TUFS has resulted in a lot of suspicion among the units to avail the benefit of TUFS. Neither the Synthetics Weaving Mills Association, Bhilwara nor the DIC, Bhilwara had organized any workshops/ seminars on TUFS awareness for the benefit of the textile units. Also no person in the banks is well versed with the technicalities of TUFS.

Most of the units interviewed opined that TUFS has added to the overall technological development of Bhilwara and should be continued while making systems and procedures for importing the Shuttle-less looms easier for them.

The performance of second hand looms is comparable with that of the brand new looms but the cost of the looms is a major factor behind the popularity of second hand looms in the cluster. Since, there is no quality Indigenous looms in the market forcing the units to purchase imported Shuttle-less looms. A reason for a large share of imported Shuttle-less looms being 2nd hand projectile (Sulzur-make) from Europe is that demand in European market is for cotton fabrics which are suited to make on Air Jet looms. So it is easier for Indian textile industry to get these projectile looms from Europe. Also strict laws in Europe make the units there to sell off their looms which become old and thus making them to sell their looms to other countries including India.

The after sales service and support network for Air Jet looms and Projectile (Sulzur-make) looms is very good in Bhilwara. This can also be a reason for the popularity of these two looms in Bhilwara. Another reason for Air Jet looms having a large share of the looms imported under TUFs is that now TUFs is practically not available for Projectile looms as the popular manufacture of projectile looms (Sulzur) has closed around 2002. Therefore the second hand Sulzur-make looms available in the market will be more than 10 years vintage life making it fall out of the TUFs.

The banks are giving loans to the textile units and they don't have any problem regarding the credit worthiness of their client. The relation between the textile units and their respective banks is largely supportive and friendly which makes the entire transaction procedure trouble-free. By and large the textile units are also satisfied with the support they received from their respective banks.

2.6 Malegaon

Malegaon is a major textile producing centre which produces fabric of relatively lower quality and caters to mainly the local market. It has an estimate of more than 3 lakh power looms, producing about 10 million meters of cloth annually. The condition of the textile industry is very bad. Many looms have closed down their operations as it is becoming increasingly unprofitable. However, people continue to be engaged because it is a big source of employment. Almost 90% of the people involved in the textile industry are Mohammedans.

The two important factors hindering the adoption of Shuttle-less looms are:

- 1) Almost the entire section of the Mohammedan community is not taking TUFs benefits since the scheme is linked to taking loans from Banks and their religious beliefs do not allow them to take benefits on loans.*
- 2) Moreover, they live in joint families; hence the title of the land is also not well defined so that it is not accepted as collateral also inhibits them from taking the benefits under TUFs.*

As there were no beneficiaries of the TUFs for Shuttle-less looms 10 non beneficiaries were interviewed. The following points emerged from the discussions.

- a) The current state of modernization is very low.*
- b) For the benefit of the Mohammedan Community, the TUFs needs to be reshaped in such a way that the subsidy amount disbursed covers the entire bank interest as well or the TUFs may be delinked from taking loans from Banks.*
- c) The Regional Textile Office may organize co-operatives for the Mohammedan community so that finance can be mobilised under various schemes for the rapid scaling up and modernization of the looms.*
- d) In spite of the TUFs, the entrepreneurs feel that the cost of new imported machinery from China, and 2nd hand machinery from EU are high and cannot be afforded by them and the government should increase the subsidy amount to 30% from the current 20% MMS.*

- e) *The entrepreneurs feel that due to global recession, it would be extremely difficult to find external markets. They are of the view that the inferior quality cloth that they produce will always find a market in India and they would not be at the mercy of the fluctuations in the international market.*

Financial Institutions are of the view that due to the strong religious beliefs of the Mohammedan community there was no beneficiary under TUFS scheme for Shuttle-less looms. During the last five years there were only 4 units who have sought the benefit under different TUF Scheme. Of that one has already received benefits and the other three are under process.

President of the Malegaon Power loom Action Committee reported that the main factors preventing the Modernization of the textile industry in Malegaon are:

- 1) The Mohammedan community in general harbours a deep mistrust towards Government Schemes due to a variety of reasons. The major reason being lack of education and awareness and cumbersome documentation. Government may consider paying the interest on bank finance directly to the bank.*
- 2) The high volatility in the yarn prices are eroding whatever little profits that the entrepreneurs earn. Therefore raising even 25% of the funds is proving to be a herculean task. There is no printed price on the yarn. Government may take steps so that there is a printed price on the yarn cone and the rate of yarn should be fixed for a period of at least one month.*
- 3) The TUFS subsidy should be disbursed to the beneficiaries with certain time period and there should be a single window system for the process and disbursement of the subsidy claim.*
- 4) The government should take steps to see that a proper marketing system is in place before the modernization occurs. It is very difficult for entrepreneurs from a tiny cluster like Malegaon to find markets to export. There is no use of modernization if the entrepreneurs are not able to find markets to sell their goods.*
- 5) 2nd hand EU looms which are available within India may also be included in the TUFS as majority of the powerloom units can afford only that.*

3. Modernization of the Power loom Sector

The Technology Upgradation Fund Scheme (TUFS) has facilitated the installation of state-of-the art / near state-of-the-art power loom machinery at competitive capital cost resulting in the holistic growth of the textile industry. Out of approximately 5.18 lakh power loom units having 22.92 lakh power looms as on 31.03.2011, the share of Shuttle-less looms are approximately 1,05,000 in this sector. It is estimated that more than 75% of the shuttle looms are obsolete and outdated with a vintage of more than 15 years. Although the weaving segment has witnessed the sharpest increase in productivity (over 20%) amongst all segments under TUFS and investment in Shuttle-less looms have clocked a nearly 7 fold increase yet, investments are still much lower than requirement and consequently, the sector lags behind significantly in modernization.

For achieving the projected production of power loom sector cloth during XII five year plan, modernization of the sector is imperative, therefore, consolidation and strengthening of power loom units with upgradation of technology is a prerequisite. The technology norms for power loom sector under TUFS need modification to raise the technology level of this sector. For modernization of the power loom sector, fully automatic Shuttle-less looms with higher RPM only may be allowed under TUFS and not the existing one of semiautomatic looms.

Indigenous Power loom Manufacturing Industry could meet only the requirements of old technology power looms, i.e., plain power looms, semi-automatic and automatic power looms whereas, the demand for hi-tech Shuttle-less looms is primarily met from imports. Present installed capacity of Indian power loom machinery industry is almost 24,600 shuttle-less looms per annum, though production has not reached beyond 2,000 shuttle-less looms per annum as per information received from Textile Machinery Manufacturers' Association.

The acceptability of indigenous Shuttle-less looms, particularly of Air Jet and Water Jet looms, is very low due to low end technology and high the price. The major reason for high price of indigenous looms is the import content (20% - 45%) of components for manufacture of Shuttle-less looms. Only high volume of production can lower the import content and create an atmosphere conducive for further indigenization.

On an average around 5 percent of the power loom units across the five clusters have been modernized, however, Bhilwara cluster has been modernized more than 80 percent whereas other clusters are comparatively having very less Shuttle-less looms. Since, a large number of power loom units are still working with plain power looms, semi-automatic and automatic power looms, therefore, modernizing with Shuttle-less looms is not feasible for all the units. The plans of modernization also varies from cluster to cluster:

- Bhiwandi- The units are planning for modernization with new Chinese machines only. The main reason is that Chinese machines are bought with over invoicing. Many non beneficiary units reported that they are facing financial constraints and find it difficult to raise even the minimum 25% required for availing the bank loan under TUFS.*
- Ichalkaranji- Majority of the beneficiary units are planning for modernization/ expansion but are going for expansion with a separate entity. Most of the Non beneficiary units are planning for modernization but they want it in a periodical manner based on the type of looms used.*
- Erode- Economic recession, shortage of demand, labourers shifting to other jobs and power cuts have resulted in closure of many units thus most of the units are not going for modernization. Satisfaction with the traditional method of manufacturing of cloth items like Lungi, Dhoti, Towels etc is the other important reason against modernization. It is observed that their labourers (traditional weavers) are not willing to accept the new technology of Shuttle-less power looms.*
- Surat- Around 50% of the beneficiaries as well as non-beneficiaries are willing to modernize in order to expand their capacity to meet both domestic and foreign market demand. The industrialists are of the view that the SSI sector would further expand its capacity if the government policies are conducive for the industry.*

- *Bhilwara- Majority of the units are planning for modernization anticipating higher demand in the market. The demand for Air Jet machines is higher than Projectile looms as the Projectile looms (Sulzur-make) is out of TUFS because of ten year vintage cap.*
- *Malegaon- The entrepreneurs feel that global depression adversely affected exports hence they may not be able to sell the goods that they would produce if they modernize. They are of the view that the inferior quality cloth will always find market in India and they would not be at the mercy of the fluctuations of international market.*

The textiles units that are planning for modernization with indigenous brand new Shuttle-less looms are very few. Preference for Rapier power looms is comparatively very high than Air Jet, Projectile and Water Jet power looms. In the case of Water Jet power looms, units are planning to modernize with Chinese power looms. Whereas for Rapier, percentage of units planning for new power looms are quite high i.e. particularly in the latter part of 12th five year plan i.e 2015, 2016 and 2017. Hardly any textile unit is planning to modernize with new projectile power loom due to very high price.

The total amount indicated for modernization is Rs 183.58 crores (Rs 137.16 crores by the Beneficiaries and Rs 46.42 crores by the Non Beneficiaries). On an average investment planned for modernization by each unit is Rs 1.78 crores irrespective of the type of looms. On an average, textile units have been planning to invest own capital to the extent of 17 percent and the rest of the funds they rely on banks and government in the ratio of for 63 percent and about 20 percent respectively.

Most important reason given by textile units for modernization are Capacity Expansion and Market demand followed by reduction in cost of production and quality improvement. It is interesting to note that Market Demand is ranked number one by the units for modernization followed by Financial Support, Taxes/Duties and Lack of skilled labour.

For establishing the Bankability of the textile unit while financing Shuttle-less looms, 'the loan paying capacity of the unit', 'the profitability of the unit' and 'the relationship with the bank' have been cited as the most important factors by banks while sanctioning the loans under TUFS.

For financing of Shuttle-less looms the most important factors that banks take into account irrespective of the type of machinery are a) Total Net worth of the Collateral b) Relationship of the client with the bank and his reputation c) Previous experience in the specific sector. For 2nd Hand Imported looms 'Viability of the project proposal submitted for the loan' is the most important criteria, 'Model of the Machine' and 'Resale Value' followed by the 'residual life' of the Machine. The document from the Office of the Certifying Engineer (OCE) is essential by the bank to establish the authenticity of the imported machine.

Percentage of default on an average is reported less than 25%. Due to the collateral required by the banks, the rate of defaults in some banks reported as low as 0% and 3%.

4. Modernization Plans of Composite Mills

Composite Mills are the major beneficiaries of the TUFS and these mills have already modernized with the state of art technology of Shuttle-less looms. Unlike small & medium power loom units, none of the mills are planning for installation of second hand machines. Majority of them are planning for modernization with new imported Air Jet looms in contrast to Rapier looms planned for modernization by SSI.

Only 4 mills are planning for modernization out of 6 composite mills surveyed. The amount planned for modernization of power looms in 4 mills is Rs. 165.89 crores i.e. average of Rs 41.47 crores by each mill. As far as mobilization of funds for modernization are concerned, 45% will be mobilized from banks while they will contribute other 54% and very less contribution from government.

The main reason for expansion by four mills out of six mills contacted was market demand and quality improvement of the end product. However, the two other mills which are not planning for expansion/modernization are neither meeting the market demand with their present capacity nor able to get skilled labourers.

5. Comparative Analysis of Power loom Technologies

The comparative analysis of the 2nd hand Shuttle-less looms under TUFS imported from European Union and New looms imported from European Union, Japan and China has been carried in terms of cost, productive life, productivity and safety standards parameters.

The comparison has been based on both qualitative as well as quantitative parameters. As the four machines i.e. rapier, air-jet, water-jet and projectile technologies are quite different in terms of quantity as well as production quality. The comparison for the new imported, new indigenous and second hand imported has been made separately for all the four types of machines.

5.1. Comparison based on Quantitative Parameters

The total cost of production per day and per meter has been considered as the base for drawing quantitative comparison. The Cost of the machine, Taxes/Duties, Productive life of the machine, Output per day and Operational cost per day are important parameters considered for computing cost of production.

- **Comparison of Cost of Production of Rapier Looms**

The cost of production per meter for the second hand machineries imported from EU is less compared to both brand new indigenous as well as imported new Chinese machineries. Though the cost of production per meter for new machineries imported from EU is less than other three categories but their average cost is more than 5 times for indigenous and new imported Chinese machines and more than 3 times second hand machineries imported from EU.

- **Comparison of Cost of Production of Water Jet Looms**

The cost of production per meter of fabric produced by Indigenous Shuttle-less looms is lowest in comparison to the new Chinese imported Shuttle-less looms as well as Second hand imported looms from EU. The analysis reveals that the indigenous Water Jet looms can be preferred in comparison to the 2nd hand imported from EU/Japan and the new imported Water Jet looms from China considering the initial investment, RPM on which machines operate and the final cost of production per meter of fabric.

- **Comparison of Cost of Production of Air Jet Looms**

The cost of production per meter of fabric produced by second hand machineries is higher as compared to the brand new Air Jet machines imported from European Union. However, considering the fact that initial investment incurred almost three times in case of new machines imported from EU, there is an obvious and justified inclination of the user industry towards the second hand machinery.

- **Comparison of Cost of Production of Projectile Looms**

The cost of production per meter of fabric using a projectile loom is the lowest among all the four types of Shuttle-less looms. The new imported projectile looms would have even lower cost of production, however, the initial investment required for installation of new machines imported from EU is more than three times higher as compared to the second hand ones, hence only a few units are planning for new projectile looms.

5.2 Comparison based on Qualitative Parameters

The qualitative comparison has been carried for quality, safety and environmental pollution aspects using the output quality, quality standards, safety standards, hazardous waste generation and noise & vibration.

- **Comparison of Output quality of different categories of looms**

In case of Rapier machines, quality of output of new looms imported from EU is the better followed by new looms imported from Japan and 2nd hand Shuttle-less looms imported from EU. The output quality of the Chinese new imported machineries and indigenous looms are ranked very less however, quality of indigenous looms are relatively better than new looms imported from China.

- In case of Water Jet machines, the respondents were of the opinion that quality of 2nd hand machines imported from EU and new looms imported from China is same.
- In case of Air Jet and Projectile machines, quality of output of new looms imported from Japan is the better followed by new looms imported from EU and 2nd hand Shuttle-less looms imported from EU. However, the output quality of 2nd hand Shuttle-less looms imported from EU are far better than the Chinese new imported looms.

- **Comparison of Quality standards of different categories of looms**

- In case of Rapier, Air Jet and Projectile machines, quality standards of new loom imported from Japan is better than new looms imported from EU. However, 2nd

hand Shuttle-less looms imported from EU are not matching the new imported looms from EU and Japan but are far better than the indigenous looms and new imported looms from China.

- *The quality standards of indigenous looms are relatively better than new looms imported from China in case of Rapier.*
- *In case of Water Jet machines, the respondents were of the opinion that quality standards of 2nd hand machines imported from EU are better than new looms imported from China.*

5.3 Comparison of Safety Standards, Hazardous Waste Generation and Noise & Vibration of different categories of looms

There has not been any significant difference in the beneficiaries' opinion with regard to safety standards, hazardous waste generation and noise & vibration of all the four types of Shuttle-less looms. Majority of the beneficiaries are of the opinion that almost all the machineries are same on the parameter of safety standard.

6. Reasons of Lower Installation of Brand New Indigenous Shuttle-less Looms

Advance Technologies and Cheap Cost play significant role in the installation of 2nd hand imported Shuttle-less looms from EU. Power loom units are preferring for 2nd hand looms mainly because new projectile looms are high priced with higher RPM rapier and Air Jet looms are also available at reasonable rates.

Brand new indigenous looms are neither cheaper than new looms from China nor comparable to advanced technology and better quality of output of new Shuttle-less looms from EU and Japan. Non availability of world class designs/ standards, High wear & tear, Less productive life and Poor quality to meet the specification of exporters have been cited described as main reasons for the lower installation of brand new Indian Shuttle-less looms.

Fiscal incentive like reduction in excise duty on raw materials, Foreign collaboration either through Joint venture or Foreign Direct Investment and R&D backup for design and new materials have been suggested as important Measures to support the domestic/ Indian Shuttle-less looms manufacturing units.

7. Findings and Recommendations

Present study is focused on the impact of imported second hand shuttle-less looms under TUFS on Domestic Capital Goods Industry during XI Plan. The study has assessed the investment capacity of the Powerloom sector, their bankability and capacity to make investments for rapid scaling up and modernization. Comparative analysis of the 2nd hand shuttle-less looms installed under TUFS and the reasons for lower installation of brand new

shuttle-less looms by the textile industry along with the reasons for increase in the share of 2nd hand looms in total import of looms has also been examined.

The six clusters given for the present study have lot of advantages in Powerloom weaving over other regions of India. The cluster's Powerloom industry apart from meeting export requirements, produces large varieties of textiles catering to the domestic market besides meeting fabric requirements of the readymade garment manufacturers for the export market.

As discussed in chapter third, the situation in all the six clusters varies depending upon the requirement of market, therefore some of the observations and recommendations are not applicable to other clusters. However, the level of modernization varies widely according to the scale of operation. Modernization of SSI sector has taken place mainly through the import of second hand or low priced Chinese shuttle-less looms whereas the large scale textile industries and composite mills prefer the import of brand new machineries from EU or Japan with higher investments. Therefore views expressed by composite mills are not in line with the small and medium units, however attempt has been made to generalize observations and recommendations.

7.1. Major Findings

The findings have been presented separately for impact of 2nd hand shuttle-less looms on domestic capital Goods industry, reasons for import of second hand shuttle-less looms and reasons for low modernization. Apart from this some general findings are also there on overall working of the scheme. Major findings of the study have been elucidated below

Impact of TUFS on Domestic Capital Goods Industry:

- i. *In case of Rapier looms, though domestic capital goods manufacturing sector has production capabilities but has not been fully utilized due to lack of demand from powerloom units. Second hand machinery are preferred over new imported looms from EU, Japan as well as China by majority of the units. However, a sizeable number of SSI units who have already installed shuttle-less looms are preferring only new imported machineries for the next stage of their modernization during the XII five Year Plan compared to the new units who are planning for modernization.*
- ii. *In case of Water Jet looms, domestic capital goods manufacturing sector has production capabilities but volume of production is quite low compared to the demand because the user industry lacks confidence. Second hand machinery from EU does not have cost advantage over new machines from China as well as indigenous machines. Therefore, units are preferring new imported Chinese looms instead of indigenous looms despite the fact that cost of indigenous machines is comparable to new imported Chinese machines*
- iii. *In case of Air Jet looms, though domestic capital goods manufacturing sector is claiming to have developed production capabilities, however there is no indigenous production as such. The major reason of non-production being high percentage of import content (20% - 45%) of component for manufacture of shuttle-less looms.*

Second hand machinery in this case also, are being preferred over the new imported brand new shuttle-less looms from EU, Japan as well as China by the user industry due to high initial investment. Contrary to SSI sector, composite mills are going for new Air Jet machines.

- iv. In case of Projectile looms, domestic capital goods manufacturing sector does not have production capabilities, Second hand machinery only from EU in this case is highly preferred over the new imported brand new shuttle-less looms due to huge price difference. Only composite mills are going for new projectile machines.*
- v. SSI sector is planning for modernized mainly with rapier machines whereas the composite mills are planning to modernize mainly with Air Jet machines.*
- vi. The fall in the demand for the import of second hand machinery in recent years did not benefit indigenous textile machine manufacturing industry. The increased demand for low cost new machines has been cornered by the Chinese manufacturers instead of Indian machines.*
- vii. Although Chinese machineries are considered inferior in quality, yet they are gaining market mainly because the availability of good quality low cost second hand machineries from EU as well as Japan with ten year vintage is reducing in the international market. Therefore, the user industry is opting the new low cost Chinese machinery which can easily be brought under TUFS without any certification problems regarding cap on vintage.*
- viii. Quality of indigenous shuttle-less looms is reported to be of inferior hence unable to build confidence among the user industry resulting in very low impact of the increased demand on domestic capital goods industry.*

Reasons for Import of Second Hand Shuttle-less Looms

- i. Based on NPC field surveys, it was found that the second hand looms having a residual life of 10-20 years are working smoothly with 80% to 90% efficiency and are of great help for modernization of power loom industry.*
- ii. The difference between the prices of new and second hand shuttle-less looms are more than three times especially in the case of Air Jet and Projectile looms.*
- iii. The buyers of the fabric prefer the machines produced in Europe in comparison to the Chinese and indigenous machines since the fabric fetch additional 2 paise per pike as compared to the other machineries.*
- iv. The SSI sector has limited exposure to the export market. They do not want to make investments for modernization as they are selling their production in local market with existing machineries. Some of the units who are modernizing are doing it either with low cost Chinese machineries or with second hand looms from EU.*
- v. Moreover, there is no domestic production of machines with higher RPMs.*

Reasons for low Modernization

Only around 5 percent of the powerloom units in five clusters are only modernized and more than 75% of the shuttle looms are obsolete and outdated with a vintage of more than 15 years. Investments in this segment are also woefully short of requirement and consequently, the sector lags significantly in modernization. The important reasons are:

- i. Equal amount of Collateral security required by Banks act as one of the major bottle neck for modernization.*
- ii. Persistent demands for output from plain looms restrict the small units from going for modernization.*
- iii. Many units are not opting for modernization due to the fear that they won't be able to sell their output from shuttle-less looms as market demand for the output from shuttle-less looms is not very much as compared to the output from plain looms.*
- iv. Moreover, the units are lacking in confidence and are reluctant to install new indigenous machines because of inconsistency in their quality, poor Casting/metallurgy, low productive life and high maintenance requirement.*
- v. Many powerloom units reported that they hire services of consultants and chartered accountants in order to avail TUFS subsidy. Government formalities and multiple inspections associated with the scheme forces the industries to seek the help of consultants and chartered accountants. A sizable portion of the subsidy is lost in such processes.*
- vi. Reduction in state subsidies in recent years had a negative impact on modernization among small units.*
- vii. Many banks consider minimum of 12 shuttle-less looms as economically viable for financing loans under TUFS. In some cases, banks are not financing the new units hence this act as a entry barrier for new units to modernize.*
- viii. Most of the properties/lands at Bhiwandi and Malegaon clusters have no clear title, therefore, the units functioning on those lands cannot avail loans against land collateral, and therefore, they remain deprived of benefits under TUFS.*
- ix. Electricity cost is a major component of cost for the power loom units. A frequent increase in the electricity charges is acting as discouraging factor for the units to go for modernization.*

General Findings

- i. Delay in the release of subsidy: Project applications are usually forwarded through banks by the industries. Many a times, it has been observed that the interest subsidies do not reach the eligible beneficiaries on time. These undue delays adversely affect the variable cost and hence they lose the confidence for further expansion.*

- ii. *Fluctuations in government policies: TUFS has not been consistent throughout the last plan period. This has created disparity among some of the units. This kind of disparity and uncertainty restricts the industrialists to further plan to modernize their industry.*
- iii. *Cost of Investment: There would be an incremental requirement of 2,34,563 auto/shuttle-less looms to produce an additional projected cloth production of 31.39 billion sq. mtrs. of fabric during the XII five year. The total cost of investment on only shuttle-less looms would be Rs.17592 Crores.*
- iv. *Compulsory loan: The industry has to compulsorily avail the loan to get subsidy under the scheme. The condition of compulsory loan restricts those industries who don't want to carry the burden of loan for up-gradation of their industry.*
- v. *Non existence of mechanism for addressing grievances: SSI sector is not fully aware of the intricacies of scheme. Non existence of any redressal forum for addressing the reasons of rejection in proposal at local level has discouraged the industries to go for modernization.*
- vi. *Availability of skilled labour: Many places, it is getting difficult for the industrialists to get skilled workers who can operate the machineries of high precision shuttle less looms.*
- vii. *Availability of power: Due to erratic power supply, units are not able to run shuttle less looms throughout the day. Therefore, are not able to reap the full benefits of modernizing their unit.*
- viii. *Brand consciousness in the local Market: Brand Consciousness in the local Market for finished fabrics has resulted in small and medium scale industries to prefer for spinning rather than investing in weaving sector.*
- ix. *Job work: Majority of the small units who have availed the TUFS are doing job work for big industries. Since they don't have the exposure to independent marketing of their output, new units are not opting for modernization.*
- x. *Fear of cartel formation: With very limited number of indigenous manufacturers of shuttle-less looms, industrialists have a fear that if the import of second-hand machineries gets banned, 2 or 3 local manufacturers can form cartel and can exploit them on price and quality.*
- xi. *Disadvantage of slab on 2nd hand Import: Second hand shuttle-less looms with higher RPMs are available in the range of Rs.15 to 20 Lacs, therefore, are not beneficial under 20% MMS with a maximum cap of Rs.8 lakhs.*
- xii. *Lack of monitoring: the present system do not have in built provision of monitoring beneficiaries of shuttle-less under TUFS, hence, it is difficult to trace the money flow for shuttle-less looms.*

7.2 Major Recommendations

Domestic Capital Goods Industry

- i. *Foreign collaboration for indigenous manufacturers: In order to start production of higher precision indigenous shuttle-less looms at competitive prices, foreign collaboration should be encouraged either through Joint venture or Foreign Direct Investment. This will help in reducing the dependence on import of shuttle-less looms particularly second hand shuttle-less looms. Initiatives to tie up with Chinotec and EU machine manufacturing by institutions like DMTE, Kolhapur for foreign collaboration should be encouraged.*
- ii. *Strengthen R&D facilities for indigenous manufacturers: the manufacturing industry needs the technical knowhow which is lacking in the absence of adequate R&D facilities in India. The costs of foreign know how is not only high but also no technology transfer. Thus, there is requirement of strengthening the domestic R&D facilities for indigenous manufacturers. In the long run emphasis should be given on strengthening the domestic R&D facilities whereas in the short run emphasis may be given for foreign collaboration to develop the domestic capabilities as well as brand development of the indigenous textile machine manufacturing industry in the market.*
- iii. *Incentive for manufacturers of high tech shuttle-less looms: Tax break for a period of five years may be provided to the units manufacturing hi-tech item of textile machinery to encourage production of high end indigenous shuttle-less looms.*
- iv. *Incentive for manufacturers of WaterJet machines: It is recommended that the indigenous industry should be given some incentive particularly for the production of Water Jet machines to in-cash on the increasing demand of new Water Jet machines.*
- v. *Impose duty on low tech shuttle-less looms: the indigenous textile machine manufacturing industry is producing mainly of low tech shuttle-less looms. The imposition of duty on low tech new imported shuttle less looms will boost the indigenous manufacturing of shuttle-less looms.*

General Recommendations

1. *Mechanism to release timely subsidy: Timely disbursement of subsidy from the Office of Textile Commissioner will encourage industry for modernization*
2. *Clarity of the scheme: The scheme guidelines and policies should be made clear in the very beginning of plan period to avoid confusion among the industrialists for availing benefits of the scheme.*
3. *Provision of scheme guidelines in vernacular: The guidelines and amendments made on TUFS should always be circulated in the local languages so that the small industrialists could understand and their dependence on consultants could be reduced.*

4. *Awareness camps: More awareness camps and extension programs should be organized for explaining the scheme especially for unorganized SSI sector to enhance the coverage of beneficiaries under the scheme and for rapid modernization.*
5. *Beneficiaries grievance redressal forum: A forum should be set up for any queries related to rejection of application, this will encourage the industrialists to come forward for availing scheme benefits.*
6. *Monitoring system with banks: the present system should have in-built provision of monitoring beneficiaries of shuttle-less under TUFS so that more efficiency can be brought under the scheme.*
7. *Marketing support: Proper marketing support and exposure to new markets will encourage the units for capacity expansion and modernization.*
8. *Removal of compulsory loan clause under TUFS: The present clause in the scheme of availing compulsory loan, if modified, will help in bringing more units under the scheme and boost modernization.*
9. *Provision of technical training: Modernization process can be enhanced by providing proper technical training especially to SSI sector for handling machines of high precision. Training facilities may also be provided to the unskilled labour to meet the labour requirement of the industry.*
10. *Fixation of slab: In order to encourage modernization with quality efficient hi-tech machineries, the following changes may be made in upper slab fixed on the import of shuttle-less looms under TUFS:*

S. No.	Description of 2nd hand imported machine	RPM	Upper ceiling on bench marked price for subsidy	
			Existing	Recommended (EU/JAPAN)
1	Projectile looms	More than 400	Rs.8 lakhs	Rs. 15 lakhs
2	Air Jet looms	More than 900	Rs.8 lakhs	Rs. 12 lakhs
3	Water Jet looms	-	Rs.4 lakhs	Rs.4 lakhs
4	Rapier looms	More than 750	Rs.8 lakhs	Rs. 12 lakhs

Continuation of the import of second hand Shuttle less looms during XII plan:

Based on NPC field study, it was found that the import of second hand shuttle-less looms during XI Plan was quite substantial and it contributed towards the upgradation of the technology of the powerloom sector. Since, the domestic capital goods manufacturing sector is still in a developing stage and not able to meet the technology upgradation requirements of the user industry, it is recommended that import of Second hand shuttle less looms may be continued for XII Plan as well.

- *There is an urgent need to support and develop indigenous textile machine manufacturing industry capabilities for producing high tech automatic shuttle-less looms at competitive cost for meeting the requirements of weaving sector.*
- *Indigenous textile machine manufacturing industry may be encouraged to enter into foreign collaborations through Joint Ventures with renowned companies for producing state of the art shuttle-less looms desired by the user industry.*

8. Way Forward

A. Domestic Capital Goods Industry (Shuttle-less Loom manufacturers)

There is an urgent need for equipping domestic capital goods industry involved in the manufacture of shuttle-less looms with state of art technology through:

- *Joint ventures (short term)*
- *R&D inputs with Government Support (long term)*
- *Foreign Direct Investments*
- *Govt. support and proactive intervention in the short run (tax incentives/ breaks)*
- *Gradual withdrawal of the scheme component of import of second hand shuttle-less looms under TUFS during XII Plan and the scheme to be offered only for import of the new shuttle-less looms only from XIII Plan onwards.*

B. Methods to Improve Implementation

- *Digitalize the data/information with Textile Commissioner and nodal agencies (Financial Institutes) to enhance transparency of scheme implementation for wider coverage.*
- *Disseminate information about the shuttle-less looms component of TUF scheme among the user industry through local language.*
- *Encourage Banks to hypothecate machinery instead of land and buildings as collateral against the loan amount.*

A national level nodal agency (e.g. SIDBI or IDBI) may be entrusted with the task of co-ordinating with other financial institutions for the fund disbursement under TUFS. Nodal agency may be paid 0.5% of the disbursed amount for meeting co-ordination charges and the Agency should also act as the Central Repository of information besides updating the information on TUFS beneficiaries in the website on a periodic manner.

CHAPTER I

INTRODUCTION

1.1. Background

Technology Up-gradation Fund Scheme (TUFS) has been implemented by Ministry of Textiles (M/oT) ever since 1999. Under TUFS, for Power looms in SSI sector (20% Credit Linked Capital Subsidy Scheme) was announced in 2003. The scheme covers imported second hand shuttle-less power looms with a minimum residual life of 10 years by the eligible applicant unit subject to maximum expired life (vintage) of 10 years as reckoned from the year of manufacture. Shuttle-less Power looms are available in four different type of technology such as Air Jet, Projectile, Rapier and Water Jet fitted with or without electronic jacquard/electronic dobby. Financial support was provided under TUFS for import of second hand shuttle-less looms from European Union, import of new shuttle-less looms from European Union, Japan and China and for buying brand new Indian Power looms.

Financial Assistance under TUFS for shuttle-less power looms is mainly of the following two types;

- Powerloom units and independent preparatory units can avail 20% Margin Money subsidy under Restructured TUFS in lieu of 5% interest reimbursement on investment in TUF compatible specified machinery subject to a capital ceiling of Rs. 500 lakh and ceiling on margin money subsidy of Rs.60 lakh.
- A reimbursement of 5% interest charged by the financial institutions/banks for shuttle-less looms. For brand new shuttle-less looms only, 5% interest reimbursement plus 10% capital subsidy and the ceiling on margin money subsidy will be Rs.1 crore. A minimum of 15% equity contribution from beneficiaries will be ensured.

During the period from 2003 till March 2012, Rs.256 crores subsidy has been disbursed under the TUF Scheme benefitting a total of 3033 textile manufacturing units (**Table 1.1**).

Table 1.1 Subsidy Released to Power looms under TUFs (2003 to 2012)

Sr. no	Year	No. of units	Amount of subsidy released (Rs. Crore)
1	2003-2004	004	00.10
2	2004-2005	150	06.00
3	2005-2006	368	23.00
4	2006-2007	958	68.89
X Five Year Plan Total		1480	97.99
5	2007-2008	436	35.92
6	2008-2009	404	32.48
7	2009-2010	363	30.57
8	2010-11	233	17.72
9	2011-12	117	41.42
XI Five Year Plan Total		1553	158.11
GRAND TOTAL		3033	256.00

Source: Annual report, Ministry of Textiles 2011-12

Data with Textile Commissioner indicates that there is only 1.05 lac shuttle-less looms against the total installed capacity of 22.9 lac looms in Powerloom sector in India which amounts to less than 5% of the total loom installed.

Keeping in view of the objectives and targets of the TUFs scheme, M/oT entrusted National Productivity Council to undertake a study on the “**Impact of Imported Second hand Shuttle-less looms under TUFs on Domestic Capital Goods Industry during**

XI Plan". The present report is the outcome of the study undertaken by the National Productivity Council (NPC) during January to March, 2013.

1.2. Objectives of the Study

The study has been undertaken with the following objectives:

- The study shall assess the current state of modernization in the Power loom sector under TUFS and extent of modernization needs of the sector along with cost of investment. The estimated requirement of shuttle-less looms for the 12th Plan has been estimated at 150000 against indigenous manufacturing capacity of 50000 leaving a gap of 1 lac looms to be sourced from other means. The study shall assess the investment capacity of the Power loom sector, their bankability and capacity to make investments for rapid scaling up and modernization.
- The study shall undertake a comparative analysis of the 2nd hand shuttle-less looms installed under TUFS in terms of cost, productive life, productivity and safety standards. In this regard, a comparison in terms of quality/technology may be made between 2nd hand shuttle-less looms imported from European Union and New looms imported from European Union, Japan and China.
- The study shall also examine the brand new shuttle-less looms installed under TUFS and examine the reasons for lower installation of brand new shuttle-less looms by the textile industry.
- The study shall examine the reasons for increase in the share of 2nd hand looms in total import of looms.
- The study shall identify major hurdles in increasing indigenous production of looms and recommend measures to remove these hurdles to increase indigenous production of looms.

- The study shall review the steps required to be taken to meet the projected requirements in the 12th Plan.

1.3. Terms of Reference (TORs)

- i. Undertake an evaluation study on “Impact of Imported Second Hand Shuttleless Looms on Domestic Capital Goods Industry during XI Five Year Plan” across six major Power loom clusters such as Bhiwandi, Ichalkaranji, Erode, Surat, Bhilwada and Malegaon as per the following Terms of Reference:
 - a. The study shall assess the current status of modernization of the Power loom sector under TUFS and the modernization requirements of the sector.
 - b. The study shall assess the investment capacity of the Power loom sector, their bankability for rapid scaling up and modernization.
 - c. The study shall undertake a comparative analysis in terms of cost, productive life, productivity and safety standards between 2nd hand shuttle-less looms imported from European Union and New looms imported from European Union, Japan and China under TUFS.
 - d. The study shall also examine the reasons for lower installation of brand new Indian shuttle-less looms by the power loom units.
 - e. The study shall examine the reasons for increase in the share of 2nd hand looms in total import of looms.
 - f. Identification and mitigating measures required to overcome the major hurdles in increasing indigenous production of shuttle-less looms.
- ii. Undertake field surveys of companies/ Power loom units of different sizes and other stakeholders based on Questionnaires/Responses across the six selected power loom clusters.

- iii. Undertake field surveys of major power loom manufacturing units at the selected six locations as well as outside the clusters.
- iv. The study shall focus on XI Plan period from 2007-08 to 2011-12 only and recommend the steps needed to be taken to meet the projected requirements of shuttle-less looms by the power loom sector during 12th Plan.

1.4. Methodology

The methodology adopted by NPC study team to undertake the impact study has been delineated as follows:

- (i) First phase of the study has focused on the compilation of information from the Office of Textile Commissioner, Mumbai, regarding power loom units importing 2nd hand shuttle-less looms during the XI Plan under TUFS. Besides, the information on the brand new indigenous shuttle-less power looms installed under TUFS were also collected to identify beneficiaries from six selected clusters.
- (ii) The information collected from various published and unpublished sources has been collated for assessing the investment capacity of the power loom sector, their bankability and capacity to make investments for rapid scaling up and modernization.
- (iii) Second phase of the study focused on detailed field level surveys and interviews of various stakeholders from the six selected power loom clusters of Bhiwandi, Ichalkaranji, Erode, Surat, Bhilwada and Malegaon. The field surveys conducted through structured questionnaires.

-
- (iv) The study included all the four technologies available for shuttle-less power looms such as Air Jet, Projectile, Rapier and Water Jet machines.
 - (v) Since there was no beneficiary of shuttle-less looms under TUFSS in Malegaon cluster and there was short fall of 7 sample beneficiaries in Bhilwara. Additional 20 beneficiaries units have been interviewed from Ichalkaranji and 15 beneficiaries units in Bhiwandi to get the required number of sample units.
 - (vi) The selection of the respondent units for the field survey was based on a stratified random sampling procedure at the selected clusters.
 - (vii) The questionnaires have also been mailed and e-mailed to beneficiary units from various clusters under Regional Office of Textile Commission to gather information.
 - (viii) Information has been gathered from a total of 203 powerloom units having shuttle-less looms of different sizes (156 beneficiary units from field visit and 47 through email) and 61 powerloom units who are not beneficiaries under TUFSS to get the views on various issues related to technology as control group.
 - (ix) Besides the Power loom units, 9 Manufactures/ Importers, 13 Financial Institutions, 10 Power loom Associations and 6 Composite Mills had also been interviewed with structured questionnaires from the identified clusters as well as from outside.

The Data compiled from both primary and secondary sources have been analyzed using statistical software SPSS and evaluated as per the terms of reference of the scheme. On the basis of the results of the impact study, measures have been suggested to enhance the effectiveness of the scheme during XII Five Year Plan.

1.5. Outline of the Report

The study report has been presented in seven chapters. The first chapter provides the background of the study, its objectives, TOR and the methodology adopted for the study. The implementation of the TUFS by the Ministry of Textiles is discussed in detail in Second Chapter. Field Survey coverage and Cluster Observation report of all the six sample cluster based on field study findings are given in Third chapter. Modernization status of the Power loom Sector has been presented in the Fourth Chapter. Fifth Chapter provides Comparative Analysis of the imported 2nd hand Shuttle-less looms and imported New Looms. Sixth Chapter provides reasons of lower Installation of Brand New Indigenous Shuttle-Less Looms based on the feedback received from field surveys at six clusters. Chapter Seven provides the major findings of the study along with recommendations for making the TUFS more effective during XII Five Year Plan.

1.6. Limitations of the Study

- Despite persistent follow up with the Office of Textile Commissioner, Mumbai, the data regarding physical and financial progress of shuttle-less looms under TUFS could not be received. Data pertaining to physical progress of shuttle-less looms was required for identification of beneficiaries. Data pertaining to financial progress of shuttle-less looms under TUFS data was required to analyse the financial allocations made for new imported, second hand imported as well as new indigenous shuttle-less looms during XI five year plan. In the absence of required data financial analysis of secondary data could not be taken up.
- The study team has to face great difficulty in identification of beneficiaries for data collection in all the six clusters as the list of beneficiaries of TUFS for shuttle-less looms provided by Office of Textile Commissioner, Mumbai does not contain any phone numbers or e-mail IDs.

- The required cooperation from Regional Offices, Office of Textile Commissioner, Mumbai regarding details of beneficiaries of shuttle-less looms under TUFS in their respective regions for carrying out field survey was not provided to NPC study team at some of the sample clusters.
- As per the TOR, the questionnaires were supposed to email to all the beneficiaries of shuttle-less looms under TUFS for collecting data. However, questionnaire could not be emailed to all the beneficiaries due to the delay in getting the required contact details of beneficiaries of shuttle-less looms under TUFS from the Office of Textile Commissioner, Mumbai.
- The shuttle-less looms financed by the banks under TUFS is only a part of the larger package for which the banks had advanced loans to their clients therefore banks did not have information regarding finances specific to shuttle-less looms.

CHAPTER II

IMPLEMENTATION OF TUFs FOR SECOND HAND SHUTTLE-LESS LOOMS- FIELD SURVEY FINDINGS

2.1 Introduction

Technology Up gradation Fund Scheme (TUFs) was launched by Ministry of Textiles for Textile and Jute Industries on 1.4.1999 for a period of 5 years, i.e., up to 31st March 2004 for induction of state-of-the-art or near-state-of-the art technology in the Indian textile industry. The scheme was subsequently extended up to 31.3.2007, i.e., till the end of tenth five year plan. The scheme was meant for introduction of a significant step up from the present technology level to a substantially higher one in the Indian textile industry. From the beginning of 1999 till 2013, a wide range of modifications has been incorporated in the scheme during various phases. The diverse phases of TUFs have been briefly discussed in the following paragraphs in chronological order:

From 1999 to 31st March 2007, TUFs exhibited substantial growth. It has infused investment climate in the textiles sector and in its operational life span of eight years since 01.04.1999 till 31st March 2007, has propelled investment of more than Rs.86, 000 crore.

The scheme was modified during the XI plan and named as Modified TUFs. The Modified TUFs scheme started from 1st April 2007 and was planned for the entire XI plan period but was again modified on 28th June 2010.

An independent evaluation of the TUFs by a professional consultant, M/s CRISIL, had revealed that TUFs has facilitated an increase in productivity; cost and waste reduction; and improved quality across the value chain. However, the gains have varied across segments, with the processing and power loom sectors emerging as major areas of

concern. To ensure optimum value addition across the value chain, the evaluation study recommended that TUFs may be completely restructured to channelize investments towards hitherto low focus areas. Based on the findings of the evaluation study, Government took a policy decision to completely restructure the Scheme, to channelize investments in the low investment segments to facilitate a balanced growth across the value chain; and to ensure the subsidy outgo is not open ended and has a definite cap. Accordingly, the existing scheme was discontinued and new sanctions under the Scheme were stopped from **29.6.2010** under intimation to all the lending agencies. However, for loans sanctioned during 01.04.1999 to 28.06.2010, the then existing parameters and guidelines were continued to apply.

2.2 Shuttle-less Loom Component of TUFs

As the present study is focused mainly on the shuttle-less looms in the power loom sector, thus, our main concern is the objectives of the scheme pertaining to the shuttle-less looms. The main objective of the present restructured TUFs scheme for the shuttle-less looms is to up-grade technology in weaving by providing higher capital subsidy for establishment of new shuttle-less looms. This would help to reduce and eventually phase out second hand looms.

Shuttle-less looms are one among the numerous gamut of modern machineries covered under TUFs. The provisions and initiatives taken under the scheme particularly for shuttle-less looms are:

2.2.1 Beginning Phase of TUFs

During the period between 1999 to March 2007, around 25% of the eligible expenses on land, plant and machinery were also covered under the purview of TUFs. Besides these, taxes on the machinery were also taken into account for calculation of TUFs eligibility for the shuttle-less looms.

2.2.2 Modified TUFs

Under the modified TUFs, the various modifications included in the scheme affecting shuttle-less looms in particular were:

- The Scheme was to provide Interest subsidy/capital subsidy/Margin Money subsidy on the basic value of the machineries and exclude the tax component for the purpose of valuation in view of the decision for non-subsidizing the taxes.
- Only certain imported second hand machinery was permitted. The entire range of imported second hand machinery were made ineligible under the Scheme for any benefit except automatic shuttle-less looms with the value cap of Rs. 8.00 lakh per machine and 10 years vintage and with a residual life of minimum 10 years.
- Investments like land, factory building, pre-operative expenses and margin money for working capital were made ineligible for benefit of reimbursement under the scheme.
- Other investments such as energy saving devices, effluent treatment plant, in-house R&D, IT including ERP, TQM including adoption of ISO/BIS standards, CPP etc (including non-conventional sources) were eligible for benefits of the scheme only upto 25% of the cost of machinery.

2.2.3 Restructured TUFs

TUFs was re-structured and reinitiated on 28th April 2011 with defined caps for various segments. The provisions made for second hand shuttle-less loom in the modified TUFs were carried forward in the restructured TUFs also. The eligibility and other specifications for shuttle-less looms has been given in **Annexure 1**.

2.3 Growth of Shuttle-less looms under TUFs during XI Plan

Growth of the shuttle-less looms under TUFs has been reviewed on the basis of financial as well as physical progress during XI five year plan.

2.3.1 Financial Implication

A total of Rs.1858 crores was allocated under re-structured TUFs, in addition to this; an additional amount of Rs.114 crores was reserved for small power looms. The fund allocations and utilizations for the various segments under Restructured TUFs have been tabulated in **Table 2.1**. As the study team could not get the requisite data pertaining to financial allocation exclusively under the shuttle-less looms from the Office of Textile Commissioner, the analysis has been made based on the assumption that a major portion of financial allocation under the weaving segment is being used for the shuttle-less looms.

Table 2.1: Segment-wise progress of Restructured TUFs as on 29.06.2012
(Rs. Crore)

CATEGORY	NO. OF APPLICATION	PROJECT COST	SANCTIONED LOAN AMOUNT	LOAN UNDER TUFs	CAP FOR PROJECT COST	SUBSIDY FOR ALL	CAP FOR SUBSIDY AMOUNT	SUBSIDY CLAIMED	
								NO. OF APPLICATIONS	AMOUNT
SPINNING	216	7933.22	4326.27	3980.55	12194	820.94	210	115	15.40
WEAVING	515	1475.64	1067.02	1032.36	6097	280.46	225	190	18.74
PROCESSING	221	1051.61	685.56	651.31	9849	183.02	424	87	13.76
GARMENTING	241	406.90	273.29	243.01	3752	63.62	200	97	8.72
OTHERS	1332	16266.93	9232.52	8388.86	15008	2237.56	799	727	79.13
TOTAL	2525	27134.30	15584.66	14296.09	46900	2585.60	1858	1216	135.75

Source: TUFs section of Office of Textile Commissioner

Table 2.1 clearly indicates that maximum number of applications have been received under weaving among four major categories. Consequently, maximum amount of subsidy has also been claimed under weaving segment among four major categories. Around 13.8% of the total subsidy has gone for the weaving segment, the achievement is quite appreciable as compared to the X plan period where power loom segment has emerged as an area of concern.

2.3.2 Physical Implication

A continuous increase has been observed in the import of shuttle-less looms during the XI plan period. Besides, indigenous looms have also been installed by textile units under TUFs.

2.3.2.1 Import of Shuttle-less looms

A total of 36570 shuttle-less looms have been imported under TUFs during the XI plan period as given in **Table 2.2**, maximum (around 44%) of which were Rapier machines. There is a significant increase in the number of Water Jet and Projectile Looms imported over the last five years. The import of Water Jet looms has become almost three times whereas import of projectile looms has become more than two times since 2007.

Table 2.2: Import of Shuttle-less looms

Items of Looms Imported	No. of looms imported					Total number of Looms
	2007-08	2008-09	2009-10	2010-11	2011-12	
Air Jet	1452	660	1592	2827	1537	8068
Rapier	2520	1686	4251	3873	3856	16186
Water Jet	536	246	1474	1497	1577	5330
Projectile	734	407	2060	2161	1624	6986
Total	5242	2999	9377	10358	8594	36570

Source: Textile Machinery Manufacture Association

2.3.2.2 Import of 2nd hand Shuttle-less looms

Table 2.3 represents the total number of second hand shuttle-less looms imported during XI Plan. Out of the total of 36570 shuttle-less looms imported, 27300 looms are second hand that is around 75% of the total shuttle-less looms imported. The import of Second hand Water Jet looms has declined during the last year, however, the data clearly reveals the dependence of textile industry on second hand shuttle-less looms.

Table 2.3: Import of Second hand Shuttle-less looms

Items of Looms Imported	No. of looms imported					Total number of Looms
	2007-08	2008-09	2009-10	2010-11	2011-12	
Air Jet	339	153	900	1062	1311	3765
Rapier	1801	548	2644	3719	3637	12349
Water Jet	536	246	1474	1497	447	4200
Projectile	734	407	2060	2161	1624	6986
Total	3410	1354	7078	8439	7019	27300

Source: Textile Machinery Manufacture Association

2.4 Conclusion:

In spite of a strong and diversified fibre and production base, the Indian textile industry is suffering from severe technological obsolescence and lack of economies of scale. The Technology Upgradation Fund Scheme (TUFS) provided a new enthusiasm and energy to the textile industry. It has helped the textile industry to overcome technological obsolescence and also to reap the benefits of economies of scale. The scheme had a great impact on the weaving segment.

It has been observed in the recent years that there has been substantial increase in the installation of shuttle-less looms. The increasing inclination of textile industry towards the installation of shuttle-less looms may be due to the sustained initiatives taken under TUFS for the weaving segment.

Majority of the shuttle-less looms imported are second hand. It is, therefore, imperative that imposing a ban on the import of second hand shuttle-less looms can adversely affect the user industry.

CHAPTER III

FIELD SURVEY COVERAGE & CLUSTER OBSERVATION REPORTS

3.1 Introduction

This chapter presents the field survey coverage across the six selected clusters namely Erode, Surat, Bhilwara, Bhiwadi, Malegaon and Ichalkaranji surveyed as per the terms of reference of the study to evaluate the impact of imported second hand shuttle-less looms under TUFs on domestic capital goods industry during XI plan. The sample respondents for field study from these six clusters for all the three category of beneficiaries' a) units importing 2nd hand shuttle-less looms from EU, b) units importing new shuttle-less looms from EU, Japan and China, and c) units installing new indigenous shuttle-less looms have been personally interviewed by NPC study team for collecting field data. Besides the beneficiary units, a few non-beneficiary powerloom units have also been interviewed from all the six clusters. Some important Composite mills, the biggest beneficiary of the shuttle-less looms under TUFs have also been interviewed from various locations. The field survey was conducted during Feb-Mar 2013. This chapter also includes cluster observation reports by the NPC study team.

Besides the direct field surveys, the questionnaires have also been emailed to the beneficiaries of shuttles-less looms under TUFs spread across the eight Regional Offices of Textile Commissioner. Around 500 questionnaires were also posted to various beneficiaries as per the list of beneficiaries provided by Textile Commissioner, Mumbai.

As in the case of many other government schemes, the benefits of TUFs have been channelised to the powerloom units, through the Banks who acted as nodal agencies. The units can also submit their proposals directly to concerned Regional Office of the Textile Commissioner. The target group, therefore, includes units availing benefits of TUFs, non-beneficiary units, Composite mills and implementing banks. Since the study covers indigenous brand new shuttle-less looms, local manufactures of shuttle-less

looms as well as traders of the shuttle-less looms have also been contacted for field survey. Textile Associations from all the six clusters were also interviewed to get an over view of the TUFS and to find out the reaction of the industry.

3.2 Coverage of Sample Beneficiaries

For the purpose of the study, a beneficiary textile unit is defined as one who has availed financial assistance for shuttle-less loom under TUFS during the last five years. A non-beneficiary unit, on the other hand, is any textile unit that had not availed any financial assistance for shuttle-less loom under TUFS. Those non-beneficiary units that had applied for financial assistance for shuttle-less loom but could not avail due to one reason or the other were also interviewed.

The total number of powerloom units in the selected six clusters are based on the information provided by the associations from the respective clusters. While selecting sample respondents for field study, size of the unit has also been considered for ensuring adequate representation of textile units from different categories across the six selected clusters. Although efforts were made to contact units from all possible categories however, based on the higher concentration of the beneficiaries of 2nd hand imported shuttle-less looms from EU and units importing new shuttle-less looms from EU, Japan and China most of the beneficiaries were selected from these two categories. Only a few beneficiary units installing new indigenous shuttle-less looms could be contacted.

In view of the highly skewed interest in limited type of shuttle-less looms by various categories of units over the last five years, care has been taken to get adequate representation sample beneficiary units for the survey. The beneficiary units were contacted based on the stratified information available with the nodal agencies/banks whereas non-beneficiaries' units were selected randomly based on the information provided by industry associations from the clusters.

3.2.1 Homogeneity of Sample

Although there was significant number of power loom units operating in all the six selected clusters, considering the homogeneity of the operations and also considering the time and cost considerations, a stratified random sampling procedure has been adopted to get adequate number of powerloom units for small, medium and large Power loom units. In order to get the views from all cross-sections of Powerloom units, the sample units have been drawn in such a way that 3/4th sample drawn from beneficiary units while 1/4th sample drawn from non-beneficiary powerloom units. Thus, the total sample survey comprises of 203 (Beneficiary powerloom units) and 61 (Non-Beneficiary powerloom units) drawn from the selected six clusters.

Since, the types of shuttle-less looms used by various category of powerloom units irrespective of their size are the same, the small sample could adequately capture the major features of the population.

Efforts have also been made to get adequate number of beneficiary powerloom units of second hand as well as new machines using all the four different types of shuttle-less loom technology such as Rapier, Waterjet, Airjet and Projectile. The details of the sample units covered during field visits are given in **Table 3.1**. It may be seen from the **Table 3.1** that NPC study team could surpass the target w.r.t. almost all stakeholder categories of respondents.

Table 3.1: Details of Sample Covered

Sr. no	Stakeholder/ Respondents	Target	Achieved
1	Beneficiaries	150	203
2	Non-Beneficiaries	54	61
3	Composite Mills	6	6
4	Financial Institute	10	13
5	Manufacturers/Traders	10	9
6	Associations	10	10
Total		240	302

NPC study team interviewed and collected data/ information from 203 beneficiaries (156 beneficiary units from direct field survey and 47 through mail & email), 61 non-beneficiary units, 6 composite mills, 13 banks, 9 manufactures/traders and 10 associations from the six clusters and other locations.

The details of category wise beneficiary units covered under NPC field survey importing 2nd hand shuttle-less looms, new shuttle-less looms and indigenous shuttle-less looms under TUFs are given in **Table 3.2**. The details of the Composite mills, Banks, Manufactures/Traders and Associations covered in the field survey are given in **Annexure II, III, IV & V** respectively.

Table 3.2: Category wise beneficiary units covered across clusters

Powerloom Clusters	Units importing 2nd hand shuttle-less looms	Units importing new shuttle-less looms	Units buying indigenous shuttle-less looms	Total
Bhiwandi	17	23	-	40
Ichalkaranji	19	24	1	44
Erode	16	12	-	28
Surat	6	17	3	26
Bhilwara	17	1	-	18
Others	16	14	17	47
Total	91	91	21	203
Percentage	44.83	44.83	10.34	100.00

3.3 Size of the Units Covered

Since majority of the units availing TUFs is SSI only, the size of the industry has been studied under three heads viz., Small (below 10 looms), Medium (11-50 looms) and large (above 50 looms). The sample survey covered 114 (56.16%) of small units, 85 (41.87%) of Medium units and 04 (1.97%) of large units. The distribution of the sample respondents according to the size of the units is given in **Table 3.3**.

Table 3.3: Units Covered based on Size

Power loom clusters	Beneficiary of TUFS			Total
	Small	Medium	Large	
Bhiwandi	12	28	-	40
Ichalkaranji	42	2	-	44
Erode	18	10	-	28
Surat	3	20	3	26
Bhilwara	9	8	1	18
Others	30	17	-	47
Total	114	85	4	203
Percentage	56.16	41.87	1.97	100.00

3.4 Cluster wise Field Observation Report

Field Observation Reports of shuttle-less looms under TUFS across the six clusters covered under field survey are present below in the following sections:

3.4.1 Bhiwandi Cluster

Bhiwandi is one of the largest textile clusters in India. There are more than 6 lakh powerlooms located of which approx. 25000 are shuttle-less powerlooms. About 1.5 lacs families are employed in the sector and most of the looms are owned by families that had entered the textile industry almost 2 decades back. The current state of Modernization of the powerloom sector is quite weak in Bhiwandi as most of the power looms in Bhiwandi area are very old.

Only a few beneficiaries are aware of the technicality of the shuttle-less looms. The traditional weavers are very lazy and are not interested in converting into shuttle-less powerlooms, as a result as the modernization to shuttle-less power looms is very less. But the units are claiming that they are not going for modernization because of lack of demand, acute power cut, Industrial recession and lack of skilled labours.

Barring a few big industrialists, most of the units are small scale units hence they could not afford to purchase or import second hand or highly prized shuttle-less power looms from European union or Japan. Hence they depend on shuttle-less looms imported from China which is available at cheap cost. Based on the feedback received from various stakeholders, it was found out that about 90% of the shuttle-less looms are Chinese Rapiers. Out of 40 beneficiaries interacted, only in one case, Indian made shuttle-less loom has been purchased.

Power-cut is reportedly a regular phenomenon for upto 9 to 10 hours per day. Due to this workers salary are curtailed, they are now resorting to other jobs, hence there is acute shortage of skilled workers. Only a few beneficiaries are having the technical knowhow of the shuttle-less looms and could utilize the shuttle-less looms.

The financial Institutions-M/s PNB, Bhiwandi is also not much positive about the sector. According to them the capacity of industrialists to undertake the modernization is weak. The cases of default or defunct are high after availing loan under TUFS. They are finding it difficult to get mortgage of land as collateral security of the loan as most of the land in the area has no proper title. The land belongs to "TRUST LAND" in Bhiwandi area, hence they are sanctioning loan undertaking the risk of collateral security of machinery and building only.

3.4.2 Ichalkaranji Cluster

Shuttle-less looms are coming up in Ichalkaranji and its vicinity at a faster pace since the announcement of TUFS in the year 1999 by Central Government. The total investment in this industry in this belt is to the tune of Rs.2000 Crore and the industry has given direct and indirect employment to 18000 workers from rural area. During last decade the annual growth rate witnessed by this area is around 35%. Out of 7500 shuttle-less looms in SSI units, 85% are second hand imported looms, 13% brand new imported and only 2% are of Indian make. The user industry lacks faith in Indian

manufacturers because they consider that Indian manufacturers follow age old technology of 1980s and lack advanced state-of-the art technology.

No doubt, the TUFS has given technological boost to this industry but no long term policy has been formulated after April, 2012 and hence the entrepreneurs are in a state of suspicion and are demanding TUFS for the import of second hand shuttle-less machinery needs to be extended for some more years to ensure sustained growth.

There are sizeable units working on plain looms. Local market demand for cloth of plain loom will not change as the output of the looms is required for different usages and it cost less per meter. Therefore, not all units in Ichalkaranji can modernize. However in recent years more and more units are planning for modernization, it can be judged from the fact that one of the humidification plant in Ichalkaranji which makes five plants per month is having advance booking for the next six months. Similarly many applications are pending for 1000 Wt. connection with MSEP for 8 HP Rapier and 15 HP Air Jet.

Ichalkaranji is not a manufacturing hub, majority of the units are doing job work for big industries mainly because Processing is lacking, setting up of processing unit will help to grow shuttle-less looms. For Job work, second hand machines are good and will not be economical if new machines are installed and used for carrying out job work. They are getting 2 paise per pike and extra job work on 2nd hand EU Machine than China's new machines. Because of low quality China machines, 4-5 units have been closed. They consider EU machines are technologically superior, assurance of weaving quality and availability of Job work. As far as Indian shuttle-less looms are considered, users lack faith in them mainly due to of low quality and more wear & tear. With Indian machines, there are 40-50 minor mistakes in 100 meters as compared to only 4 minor mistakes in 100 meters with EU machines.

Banks are providing loans against Collateral security. However, banks are not providing loan to new units and are considering economical viable only if it is a project of

minimum of 12 machines. Less than 12 machines, labour/electricity charges are more therefore units with proposals of more than 12 machines are only considered bankable.

Dattajirao Kadam Education (DKTE), Textile and Engineering Institute is planning to tie up with Chinatec and EU machine manufacturers for manufacturing technologically advanced shuttle-less looms in India.

3.4.3 Erode Cluster

Erode in Tamilnadu is a Textile Industry concentration area and there are about 89000 powerlooms out of which only 3200 shuttle-less powerlooms. Most of the units in Erode cluster had purchased Second hand shuttle-less looms mainly from countries of the European Union like Italy, Germany, Turkey etc and very few beneficiaries have purchased second hand shuttle-less looms from U.S and Japan

Most of the shuttle-less looms installed are Rapier and only in few cases Air Jet-Toyota (Japan) are installed. Second hand Shuttle-less looms purchased are at an average cost of Rs.6.5 to 9.5 lacs. In a few cases brand new Chinese Rapier looms are also seen purchased. Brand new imported Chinese shuttle-less looms costs only Rs.3 to 6 lacs. Water Jet shuttle-less looms are not at all used in Tamil Nadu as there is scarcity of water. Indian made shuttle-less looms are not considered worthy at all and even industrialists are not aware of availability of such machines in India.

The important problems faced by beneficiaries are lack of demand, the powercut and shortage of skilled laborers. Power cut in Tamil Nadu is up to 10 to 16 hours a day. In Cauvery Hi tech Weaving Park at Komarapalayam where there are about 50 units, the captive power generation plant is not functioning for the last one year and there is no proper road or bus service to the park. Hence labourers in the park are resorting to other jobs and most of the units are now closing. Because of economic recession there

is acute shortage of export demand and most of the units report losses. Hence most of them are not going for modernization now. Actually they are struggling for survival.

It is very difficult to get sanctions under the scheme. There is much office formality as the application form itself is highly complicated. There is enormous delay in getting the application processed and sanctioned.

In Erode cluster, the financial institutions are by and large happy to support the Powerloom units as this is a traditional activity in the area. The machinery is taken as prime security and land building etc are taken as collateral security. According to them there is less credit flow to the powerloom sector since a lot of Shuttle-less powerlooms units are becoming non-performing assets.

Most of the non-beneficiaries who are owners of traditional powerloom units are found satisfied with the shuttled powerlooms they are having. Out of nine non beneficiaries covered, only 2 expressed their desire to modernize their unit replacing shuttled powerlooms with shuttle-less powerlooms. The main reason against modernization is traditional cloth manufacturing items like Lungi, Dhoti, Towels etc., doesn't require the technology of shuttle-less powerlooms. It is observed that their labourers (traditional weavers) are not willing to accept the new technology of shuttle-less power looms. In 2 cases the non beneficiaries expressed their willingness to modernize the looms with brand new Japanese Air Jet shuttle-less looms.

They are aware of TUFS scheme but think it will be very difficult to get it sanctioned. Majority of the powerloom units in the cluster are accommodated in very old sheds, side to the congested streets and in tightly packed condition. There is no proper space or infrastructure facility, thus space requirement is also a problem for modernization.

Suggestions

1. Norms with regard to TUFS has to be made easier and simpler.

2. The application etc has to be made simple so that there is no need for hiring a consultant.
3. Improve Indian shuttle-less powerloom machinery sector with enough R&D facility so that it can develop technically competitive shuttle-less powerlooms at par with E.U or Japan and make available shuttle-less powerlooms at affordable price.
4. Establish central research laboratories for textile machinery development.
5. Increase the % of subsidy under TUFS- for Indian Machinery and earmark quota system.
6. Train skilled laborers for shuttle-less looms in government sector.
7. Establish solar power station in Hi tech weaving parks for the exclusive use of shuttle-less power loom units.

3.4.4 Surat Cluster

Surat power loom cluster is country's biggest man-made fabric hub. Surat is well known for its synthetic products market. It is mainly engaged in the production and trading of synthetic textile products.

The city of Surat has about 6 lakh power looms. There are around 5.7 lakh ordinary shuttle looms and 22600 shuttle-less looms in the city. Out of total of 22600 shuttle-less looms, around 20000 looms are Water Jet, 2000 are rapier and there are only around 600 projectile looms. Nearly 30 million metres of raw fabric and 25 million metres of processed fabric are produced in Surat daily. Since the major product of the cluster is synthetic textiles, hence, the cluster has a natural inclination towards Water Jet machines.

Majority of the shuttle-less looms in the city are imported under TUFS while some of the high precision second hand looms have not been covered under the scheme. The major reason behind this is that the machines are more than 10 years old and hence cannot

be imported as per the cap on the vintage of the import of the second hand shuttle-less looms under the scheme. Despite this, TUFS has given a major boost to weaving sector of Surat Cluster.

The SSI sector of Surat has not got much exposure to the export market. The main market for Surat textile products are from India and other Asian countries. Around 90% of polyester used in India comes from Surat. However, international demand for its products is not significant. As the fabric produced in the cluster is being consumed in the domestic market and there is no demand for the high end products produced on the high precision machines in the local market hence, the small scale power loom sector refrain from making heavy investment in high precision new looms and restricts their investments to either low cost Chinese looms or 2nd hand looms.

Higher quality is required to cater to the demands of the international market. Exposure to foreign market can encourage the cluster for swift modernization.

The rising cost of power and labour, which consequently raises the cost of production are the major issues faced by the Surat textile industry. Most of the labour employed in this industry is unskilled and comes from states such as Bihar, Orissa, Maharashtra and Uttar Pradesh. The industry faces shortage of skilled labour. Moreover, severe labour crunch is felt by the industry during April-June when the labourers travel to their hometowns. Erratic and discontinued power supply is also one of the major concerns of the Surat Power loom industry.

As per Surat Peoples Cooperative bank, the total investment capacity of the powerloom sector for modernization in Surat cluster is approximately Rs.1000 Crore per year. The banks are easily giving loans to power loom sector in lieu of collaterals and the cluster is quite credit worthy. However, undue delay in the release of subsidy under TUFS is a matter of concern for the industrialists. Also, due to the un-awareness regarding the

norm of no subsidy on advances of more than 15% loans under R-TUFS, more than 300 applications have been rejected from a single bank. These issues have caused some dissatisfaction among the industrialists of the cluster.

3.4.5 Bhilwara Cluster

As per the data available from Synthetic Weaving Mills Association, Bhilwara, there are around 13000 power looms in the cluster and around 80%-90% of them are shuttle-less power looms. Around 64% of the shuttle-less power looms are Air Jet while the around 34% are projectile looms and 2% are Rapier and Water Jet.

Majority of the units are planning for modernization anticipating higher demand from both domestic and international. The demand for Air Jet machines is higher than Projectile looms. Since the Projectile looms (Sulzur-make) are not included under TUFS, the Bhilwara cluster is keen to go for Air Jet looms in order to avail the benefits of TUFS. Water Jet Shuttle-less power looms are not popular in Bhilwara cluster. The major reason was that there is scarcity of water in the cluster and the units believe that Water Jet cannot be successful in their area.

Industry believes that the future of textile machinery is Air Jet looms as they have higher speed (RPM) and the current job rate of work done on Air Jet is almost double of Projectile machines. The speed of projectile machines is also less than that of Air Jet looms.

As far as the TUFS scheme is concerned, there is a lack of awareness among the textile unit regarding which machines is covered under TUFS and which is not. Also the frequent interruption of TUFS as when it is active and when TUFS is closed has resulted in a lot of suspicion among the units to avail the benefit of TUFS. Neither the Synthetics Weaving Mills Association, Bhilwara nor the DIC, Bhilwara had organized

any workshops/ seminars on TUFS awareness for the benefit of the textile units. Also no person in the banks is well versed with the technicalities of TUFS.

Largely, everyone agreed that TUFS has added to the overall technological development of Bhilwara and should be continued while making systems and procedures for importing the shuttle-less looms easier for them.

The performance of second hand looms is comparable with that of the brand new looms but the cost of the looms is a major factor behind the popularity of second hand looms in the cluster. Also, there is no quality Indian made looms in the market forcing the units to purchase imported shuttle-less looms. Popular models of Projectile Shuttle-less looms in the cluster are Sulzur P7100, Sulzur P7150, TW11 (not under TUFS). Popular models of Air Jet loom is Tsudakoma ZAX9100.

A reason for a large share of imported shuttle-less looms being 2nd hand projectile (Sulzur-make) from Europe was demand for cotton fabrics in European market which can be suitably made on Air Jet looms. So it is easier for Indian textile industry to get these projectile looms from Europe. Also strict laws in Europe make the units there to sell off their looms which become old and thus making them to sell their looms to other countries including India.

Another reason for Air Jet looms having a large share of the looms imported under TUFS is that now TUFS is practically not available for Projectile looms as the popular manufacture of projectile looms (Sulzur) has closed around 2002. Therefore the second hand Sulzur-make looms available in the market will be more than 10 years vintage life making it fall out of the TUFS.

The after sales service and support network for Air Jet looms and Projectile (Sulzur-make) looms is very good in Bhilwara. This can also be a reason for the popularity of these two looms in Bhilwara.

It was also brought to the notice that some textile units have still not received the benefits of the scheme even though they applied in 2009, their applications are still not cleared. The reason given for the delay was that the frequent transfer/change of the person associated with TUFS at the bank has lead to confusion regarding the cases and no one is taking responsibility to clear the cases. Despite taking the matter at zonal level of the bank (Bombay) and Joint Textile Commissioner (Bombay), their cases are still pending. Even after when the textile ministry had ordered to clear backlog (blackout cases), their cases were still not cleared. It is believed that their files are okay but due the change in the person handling the case in the bank, their claims are yet to be cleared due to lack of necessary cooperation from the bank's side.

The banks are giving loans to the textile units and they don't have any problem regarding the credit worthiness of their client. The relation between the textile units and their respective banks is largely supportive and friendly which makes the entire transaction procedure trouble-free. The banks in Bhilwara were reported to be supportive to their clients. And they have faith and confidence in the loan repayment capabilities of its customers. By and large the textile units are also satisfied with the support they received from their respective banks.

It is recommended that

- It is preferable if the related banks have a resource person who is well versed with the TUFS scheme and can coordinate the same to the textile units so that they can plan which machine to buy and can settle their claims without any hiccups.

- It would be better if some awareness campaign is undertaken by the Textile department (in coordination with respective Associations or DICs) so that more and more units can avail the benefits of TUFS and upgrade their technology.
- The time frame to clear the TUFS claims may be defined.
- In order to promote Indian machines for textile industry, the government may invite joint ventures to be established in India which can be used for technology transfer to Indian machine manufacturers.
- Private individuals & Government should come forward to open textile-machine manufacturing facilities so that the textile units do not have to buy foreign machines.

3.4.6 Malegaon Cluster

Malegaon is a major textile producing centre which produces fabric of relatively lower quality and caters to mainly the local market. It has an estimate of more than 3 lakh power looms, producing about 10 million meters of cloth annually. The condition of the textile industry is very bad. Many looms have closed down their operations as it is becoming increasingly unprofitable. However, people continue to be engaged because it is a big source of employment. In the backdrop of unfortunate incidents that have taken place in the past, there was a strong communal divide within the textile manufacturing sector. Almost 90% of the people involved in the textile industry are Mohammedans. A few entrepreneurs from the majority community have relocated to nearby Ichalkaranji and Surat. Most of the indigenous looms are purchased from Ahmadabad and along with that a lot of scrap looms are also reconverted locally.

Most of the sections of the Mohammedan community that belong to the textile industry can be classified as lower middle class and also BPL category with. The two major important reasons hindering the progress of the textile industry from the normal powerloom to the shuttle-less looms are as follows:

- Almost the entire section of the Mohammedan community is extremely religious, and they are not taking any benefits with loans as their religious beliefs prevent them from paying interest on loans.
- As a result of the huge involvement of large families from this community, there is no proper documentation. So they have strong inhibitions of availing the benefits of any government scheme whatsoever. For eg: A father-in law will be owing the building, the son-in law owns the machines and the electricity bill would be in somebody else's name. This was a very common feature that was very typical to the Malegaon cluster.

As there were no beneficiaries of the TUFS for shuttle-less looms, 10 non beneficiaries were covered. The following major points emerged from the detailed discussions.

- The current state of modernization is very poor and the requirements here for modernization are varied.
- For the benefit of the Mohammedan Community the TUFS has to be reshaped in such a way that the subsidy amount disbursed should cover the entire bank interest.
- The Regional Textile Office should be directed to organize co-operatives for the Mohammedan community so that large scale finance can be availed under various schemes for the rapid scaling up and modernization of the normal looms to shuttle-less looms.
- In spite of the TUFS, the entrepreneurs feel that the cost of new imported machinery from China, and 2nd hand machinery from EU are high and cannot be afforded by them and the government should increase the subsidy amount to 30% from the current 20% MMS.

-
- The entrepreneurs feel that in the depression hit world economy, it would be extremely difficult to find markets to sell the additional goods that they would produce if they modernize. They are strongly of the view that the inferior quality cloth that they produce will always have a market in India and they would not be at the mercy of the fluctuations in the international market. There were 3 beneficiaries who had the means to modernize but chose not to do so for the above reason.

Financial Institution, Bank of Baroda, is of the opinion that due to the religious beliefs the Mohammedan communities do not come forward for loans at all and that there was no beneficiary under TUFS scheme for shuttle-less looms. During the last five years there was only 4 units who have sought the benefit of TUFS. Of that one has already received and the other three are currently under process. The main reasons that he stated for the low credit flow to this sector in Malegaon are:

- The textile industry is much unorganized in Malegaon.
- The procedures are very tedious and clients get frustrated after one experience.

President of the Malegaon Power loom Action Committee expressed the main factors that are preventing the Modernization of the textile industry in Malegaon.

- The Mohammedan community in general harbours a deep mistrust of Government Schemes due to a variety of reasons. The major reason being lack of education and awareness and cumbersome documentation. The recommendation was that the Government should take steps to see that it pays the interest on bank finance directly to the bank.
- The high volatility in the yarn prices was eroding whatever little profits that the entrepreneurs had for expansion. So raising even 25% of the funds is proving to be a herculean task. There is no printed price on the yarn. It is recommended

that the Government takes steps to see that there is a printed price on the yarn cone and the rate of yarn should be fixed for a period of at least one month.

- The TUFS subsidy should be disbursed with immediately and there should be a single window system for the process and disbursement of the subsidy claim.
- The government should take steps to see that a proper marketing system is in place before the modernization occurs. It is very difficult for entrepreneurs from a tiny cluster like Malegaon to find profitable markets to export. There is no use of modernization if the entrepreneurs are not able to find markets to sell their goods.
- 2nd hand EU looms which are available within India may also be included in the TUFS as the majority of the people will be able to afford only that.

CHAPTER IV

MODERNIZATION OF THE POWERLOOM SECTOR- FIELD SURVEY FINDINGS

4.1 Introduction

The Technology Upgradation Fund Scheme (TUFs) implemented by Ministry of Textiles facilitated the installation of state-of-the art / near state-of-the-art powerloom machinery at competitive capital cost resulting in the holistic growth of the textile industry. In a globalised economy, the mill sector has the advantage of maintaining/ improving its quality at each stage of production, and has a better chance of facing competition both in the domestic and international markets. Whereas the decentralized powerloom sector is vulnerable to international competition and it is assumed that they may lose some of their market share to the organized sector.

As per the Report of the Working Group on Textile & Jute Industry for the XII Five Year Plan (2012-2017), there are approximately 5.18 lakh powerloom units with 22.92 lakh power looms as on 31.03.2011. The technology level of this sector varies from obsolete plain looms to high tech shuttle-less looms. There are approximately 1,05,000 shuttle-less looms in this sector. It is estimated that more than 75% of the shuttle looms are obsolete and outdated with a vintage of more than 15 years. M/s. CRISIL had evaluated TUFs and reported that the weaving segment has witnessed the sharpest increase in productivity (over 20%) amongst all segments under TUFs and investment in shuttle-less looms have clocked nearly 7 fold increase. However, investments are still woefully short of requirement and consequently, the sector lags significantly in modernization.

4.2 Current state of Modernization in the Powerloom Sector

There had been significant up-gradation of technology in the powerloom sector under TUFs during the XI Five Year Plan.

Modernization is imperative for achieving the projected levels of cloth production in the powerloom sector during XII five year plan. The importance of modernization of powerloom sector has been even emphasized by the Honorable Finance Minister Shri P. Chidambaram, in his budget speech 2013 as he has earmarked Rs 2400 crores for modernization of powerloom.

In order to estimate the modernization requirements of the sector, projected production of cloth has been considered as base. The total cloth production target for all sectors of textile industry by the end of the Twelfth Plan is 111.85 billion sq. mtr. The contribution of both mills and powerloom by the end of the 12th plan is estimated at 73.10 billion sq.mtr. This projected cloth production is about 75% more than their estimated production of 41.71 billion sq mts in 2011-12 as can be seen in **Table 4.1**.

Table 4.1: Sector-wise and year-wise projected cloth production during the 12th Plan

(Mn. Sq. mtrs)

Sector	Eleventh Plan		Twelfth Plan projections				
	2010-11 Actual (Prov.)	2011-12 (Estimated)	2012-13	2013-14	2014-15	2015-16	2016-17
Mill	2208	2318	2724	3201	3761	4419	5193
Powerloom	37516	39392	43922	48973	54605	60885	67886
Handloom	6903	7248	8082	9011	10047	11203	12491
Hosiery	14372	15091	16743	18577	20611	22868	25371
Khadi, Wool, Silk	812	853	863	874	884	895	906
Total	61811	64902	72334	80635	89908	100269	111848

Source: Report of the working group on Textile & Jute Industry for the XII Five Year Plan (2012-17)

To produce an additional 31.39 billion sq.mtr. of fabrics by 2016-17 from the actual production of 39.72 in 2010-11, consolidation and strengthening of powerloom units with an upgradation of their technology is a prerequisite. This is only possible if modernization of powerloom sector takes places at a greater pace than ever. Therefore the continuation of TUFs for the powerloom sector during the Twelfth Five Year Plan is crucial for modernization.

The technology norms for powerloom sector under TUFs need modification to raise the technology level of this sector. For modernization of the powerloom sector automatic looms and shuttle-less looms with higher RPM should only be allowed and not the existing semiautomatic looms.

4.3 Cost of Investment

It was estimated that an incremental 187351 auto/shuttle-less looms will be required to produce an additional 25 billion sq. mtrs. of fabric as per the Report of the Working Group on Textile & Jute Industry for the XI Five Year Plan (2007-2012). On the basis of this, requirement of auto/shuttle-less looms for the XII Five Year Plan for projected cloth production has also been calculated. It is estimated that an incremental 2,34,563 auto/shuttle-less looms will be required to produce an additional projected cloth production of 31.39 billion sq. mtrs. of fabric.

If we assume half of the incremental production of fabric would be by auto and half would be by shuttle-less looms, then the requirement of shuttle-less looms will be 117282 during XII Five Year Plan.

Various stake-holders during field interactions indicated certain prices of second hand as well as new looms of all the four types i.e. rapier, Air Jet, Water Jet and projectile looms. For estimating the required cost of investment during the XII Five Year Plan on the shuttle-less looms, average price of shuttle-less looms calculated on the basis of proportionate requirement of all the four types of looms during the XII Five Year Plan. The average price of second hand and new imported shuttle-less looms comes out to be Rs. 15 lakhs. The total cost of investment during the XII Five Year Plan on the shuttle-less looms will be Rs.17592 Crores.

4.4 Indigenous Power loom Manufacturing Industry

Indian Textile Powerloom machinery manufacturing industry is only able to meet the requirements of old technology powerlooms, i.e., plain powerlooms, semi-automatic and automatic powerlooms. However, the demand for hi-tech shuttle-less looms is primarily met from imports. A number of manufacturers of old technology Rapier looms (Crank Beat-up) have come into existence. Present installed capacity is almost 24,600 looms per annum, though production has not reached beyond 2,000 per annum as per information received from TMMA.

Since the demand for indigenous power looms are on the rise, it is expected that within a span of 2 years there would be approx. 25 manufacturers in the country. The acceptability of shuttle-less looms of indigenous manufacturers among the textile industry is poor due to low end technology and also the high price.

The major reason for high price of indigenous looms is the import content (20% - 45%) of component for manufacture of shuttle-less looms. Only high volume of production can lower the import content and create an atmosphere conducive for further indigenization. For any new reputed manufacturer of high-tech powerlooms, the initial import content would be around 60 percent.

4.5 Field Survey Findings

NPC study has assessed the investment capacity of the powerloom units across six selected powerloom clusters focusing mainly on shuttle-less looms for modernization of powerloom sector. The study has also assessed their bankability and capacity of the powerloom units to make further investments for rapid scaling up and modernization.

4.5.1 Current state of Modernization

The powerloom manufacturing units having even one shuttle-less loom are also considered modernized for assessing the current state of modernization in the powerloom sector. The information gathered from the industry associations and other stakeholders from all the six selected clusters except Malegaon cluster regarding state of modernization has been presented in **Table 4.2**. It can be seen that on an average around 5 percent of the powerloom units in five clusters are only modernized however Bhilwara cluster have been modernized more than 80 percent whereas other clusters have comparatively very less shuttle-less looms.

Table 4.2: State of Modernization

Clusters	Total no. of power looms	No. of shuttle-less power looms	%age of Modernization
Bhiwandi	600000	25000	4.17
Ichalkaranji	125000	7500	6.00
Surat	600000	23000	3.83
Erode	89000	3200	3.60
Bhilwara	13000	11000	84.62
Total	1427000	69700	4.88

Source: NPC Field Survey Feb-March 2013

4.5.2 Plans for Modernization

In order to find out the capacity of the powerloom units to make investments for rapid scaling up and modernization, information has been gathered from both beneficiary as well as non beneficiary units on their plans for modernization. Since, a large number of powerloom units are still working on plain powerlooms, semi-automatic and automatic powerlooms therefore, modernizing with shuttle-less looms is not feasible for all the units.

Responses received from beneficiary powerloom units of TUFs having shuttle-less looms pointed towards their plans for further modernization/expansion. The non-

beneficiary units operating on plain, semi-automatic looms as well as on shuttle looms were asked about their modernization plans with a time horizon of five years during 12th five year plan. Some of the units did not have any plans for five years while some others are not willing to share their future investment plans. Based on the responses received, the following broad findings are arrived at:

From a total of 203 beneficiaries surveyed, 43.59 percent respondents planned for expansion, 56.41 percent respondents did not plan to upgrade at all in the near future and 23.15 percent beneficiaries do not want to share their future plans. In case of 61 non-beneficiaries surveyed, 58.18 percent respondents planned to upgrade, 41.82 percent respondents did not plan to upgrade at all in the near future and 9.84 percent beneficiaries were unsure about their future plans. Since every cluster has specific requirements, therefore, the views provided by the units from various clusters were also not comparable. The cluster wise scenario for modernization during XII Plan has been compiled in **Table 4.3**.

Table 4.3 Cluster-wise Modernization Plan

Sr. No.	Cluster	Plans for modernization
1	Bhiwandi	<ul style="list-style-type: none"> • The units are planning for modernization for new Chinese machines only because the Chinese machines can be bought with over invoicing. • The speed claimed is more than 300 rpm of Chinese machines. However it has been noticed that the actual running capacity is less than 250 rpm. • Non beneficiary units are facing financial constraints and find it difficult to raise even the minimum/25% required for availing the bank loan under TUFS.
2	Ichalkaranji	<ul style="list-style-type: none"> • Majority of the beneficiary units are planning for modernization/ expansion but are going for expansion with a separate entity because of three major reasons: a) exhaust SSI limit, b) avail state subsidy benefits and c) exhaust 105 HP electricity limit applicable to SSI sector. • Most of the Non beneficiary units are planning for modernization but they want it in a periodical manner based on the type of looms used.

3	Surat	<ul style="list-style-type: none"> • Around 50% of the beneficiaries as well as non-beneficiaries are willing to modernize basically to expand their capacity. • The main reason for modernization is market demand. The industrialists are of the view that the SSI sector would further expand its capacity if the government policies are favourable. They also add that the SSIs do not have foreign exposure. • Measures to increase export from the cluster can further propel the industrialists for modernization.
4	Erode	<ul style="list-style-type: none"> • Economic recession, shortage of demand, labour force moving to other jobs and power cuts has resulted in closure of many units thus most of the units are not going for modernization. • Satisfaction with the traditional cloth manufacturing items like Lungi, Dhoti, Towels etc is the other important reason against modernization. It is observed that their labourers (traditional weavers) are not willing to adapt to new technology of shuttle-less power looms.
5	Bhilwara	<ul style="list-style-type: none"> • Majority of the units are planning for modernization anticipating higher demand in the market. However, the units which are not going for modernization are not expecting any rise in the demand in the market • The demand for Air Jet machines is higher than Projectile looms as the Projectile looms (Sulzur-make) is out of TUFS because of ten year vintage cap. • The demand for shuttle-less looms in Bhilwara cluster among the respondents was close to 400 Air Jet looms and 200 Projectile looms. On the basis of the number of units prevailing in Bhilwara, the demand for Shuttle-less looms in Bhilwara can be estimated at around 10000 looms for the next five years.
6	Malegaon	<ul style="list-style-type: none"> • The entrepreneurs feel that due to the recession in world economy, it would be extremely difficult to markets additional output due to modernization. They are of the view that the inferior quality cloth that they currently produce will always have a market in India and they would not be at the mercy of the fluctuations in international market. There were 3 beneficiaries who had the resources to modernize but chose not to do so for the above reason.

4.5.3 Type of shuttle-less looms for Modernization

Further, the units which have undertaken modernization were asked about their future plans for type of powerloom machines they are planning during XII Five Year Plan (2012-2017). There are very few instances where beneficiary units indicated that they are planning for purchase of indigenous brand new shuttle-less looms. It can be deduced from the **Table 4.4** that as high as 75 percent units are preferring Rapier powerlooms and majority of them are planning for new imported Rapier looms. After Rapier the next preferences has been for Air Jet looms followed by Projectile and Water Jet looms for modernization.

Table 4.4: Shuttle-less looms for Modernization during 12th five plan

Type & Name of power loom	Years	New imported	2nd hand imported	Local/ Indigenous Brand New	Total
Rapier	2012-13	45	35	28	905
	2013-14	286	109	15	
	2014-15	229	110	-	
	2015-16	30	-	-	
	2016-17	18	-	-	
	Total A	608	254	43	
Water Jet	2012-13	18	-	-	58
	2013-14	10	30	-	
	2014-15	-	-	-	
	2015-16	-	-	-	
	2016-17	-	-	-	
	Total B	28	30		
Air Jet	2012-13	56	40	-	142
	2013-14	18	-	-	
	2014-15	12	-	-	
	2015-16	6	5	-	
	2016-17	5	-	-	
	Total C	97	45		
Projectile	2012-13	14	-	-	89
	2013-14	41	-	-	
	2014-15	18	6	-	
	2015-16	-	-	-	
	2016-17	10	-	-	
	Total D	83	6		
Grand Total (A+B+C+D)		816	335	43	1194

It has been reported that the powerloom units initially install 2nd hand shuttle-less looms to get sufficient hands on experience and acquire the skills. During the expansion stage they install and operate new imported looms. On the basis of discussion with the units across the six powerloom clusters, modernization plans for all the four types of looms are summarized as follows:

- Majority of units are planning for 2nd hand imported powerlooms except in case of Water Jet powerlooms.
- In case of Water Jet powerlooms, units are planning to modernize with Chinese powerlooms.
- Preference for new shuttle-less powerlooms would be high during the latter years as compared to the initial years of XII five year plan particularly for Rapier.
- Hardly any textile unit is planning to modernize with new projectile powerloom due to very high price.

4.5.4 Mobilization of Funds

The textile units were asked about the source of funds for modernization of their units in order to find out their investment capacity. Out of 203 beneficiaries interviewed, only 68 beneficiaries, gave the details of their sources of funds for modernization/expansion. However, out of 61 non beneficiary respondents only 35 provided the details of their financial plans for modernization. The total amount indicated by 103 units (68 beneficiaries and 35 non beneficiaries) for modernization is Rs 183.58 crores (Rs 137.16 crores by the 68 beneficiaries and Rs 46.42 crores by the 35 Non Beneficiaries).

Although the investment capacity of each unit varies as per their requirement and type of powerloom they are planning for modernization however, the average investment planned for modernization by each unit is Rs 1.78 crores irrespective of the type of looms. As can be seen from **Table 4.5** that on an average, textile units have been planning to invest own capital to the extent of about 17 percent and for the rest of the

funds they are relying on banks for 63 percent and government 20 percent. It may be noted that percentage of own investment is more in case of Projectile looms because good quality second hand projectile are not easily available with vintage life of less than 10 years and cost of new looms is very high.

Table 4.5: Mobilization of funds for Modernization

Type & Name of power loom	Total Source of funds (Rs. Lacs)			Total
	Self	Government	Banks	
Rapier	2145	2609	8345	13099
Water Jet	165	160	474	799
Air Jet	500	605	2053	3158
Projectile	240	298	764	1302
Total	3050	3672	11636	18358
%age	16.61	20.00	63.39	100.0

From modernization point of view, it is important to know the reasons and major constraints faced by the units. Different choices have been posted to the units and asked them to rank these choices in order of their preference. It may be noted that constraints and reasons reported by the units vary from cluster to cluster as factors like market demand is important reason in one cluster whereas it is the biggest constraint for modernization in other cluster.

4.5.5 Reasons for Modernization

The most important reasons cited by textile units for modernization are Capacity Expansion and Market demand followed by Reduction in cost of production and quality improvement. As is seen from **Table 4.6** that as high as 51.1 percent of the units have ranked 'Capacity Expansion' first followed by Market demand by 25.6 percent of units and reduction in cost of production by 20% units. As far as the second rank is concerned, reduction in cost of production is the second most important reason for modernization by many powerloom units.

Table 4.6: Reasons for Modernization

Reasons	1 st Rank	2 nd Rank	3 rd Rank	4 th – 7 th Rank	Total
Capacity Expansion	51.1	23.4	4.3	21.2	100.0
Competition from Imports	4.2	4.2	4.2	87.4	100.0
Market demand	25.6	16.3	9.3	48.8	100.0
Reduction in cost of production	20	40	31.4	8.6	100.0
Quality improvement	18.2	25	27.3	29.5	100.0
Quantity improvement	0	16.1	38.7	45.2	100.0
Safety standards	4.3	0	0	95.7	100.0

4.5.6 Constraints in Modernization

It is interesting to note that lack of Financial Support is not the major constraint for modernization but the Market Demand is ranked number one by the highest number of units. As observed from the **Table 4.7** that 48.1 percent of units have ranked Market Demand first constraint followed by 42.0 percent of units for Financial Support. The other major constraints reported are Taxes/Duties and Lack of skilled labour.

Table 4.7: Constraints faced for Modernization

Constraints	1 st Rank	2 nd Rank	3 rd Rank	4 th – 8 th Rank	Total
Financial Support	42.0	27.4	9.5	21.1	100.0
Market Demand	48.1	10.1	5.1	36.7	100.0
Taxes/Duties	9.2	36.8	19.7	34.3	100.0
Logistics / Infrastructure bottlenecks	5.7	11.4	22.9	60.0	100.0
Legal/Certification and testing delays	0.0	3.4	23.7	72.9	100.0
Lack of skilled labour	8.9	20.2	15.2	55.7	100.0
Non availability of quality Raw Material	3.1	12.3	6.2	78.4	100.0
Unaware regarding government schemes/incentives	3.6	0.0	1.8	94.6	100.0

4.6 Bankability of the Textile Unit

TUFS is mainly a refinancing scheme with the Banks being the major stakeholders. Major nationalized banks like State Bank of India, Punjab National Bank, Industrial Development Bank of India, Bank of Baroda, Canara Bank, Co-operative Banks etc. are refinancing textile units under TUFS.

To gauge the bankability of the powerloom units under TUFS, NPC study team has undertaken detailed discussions with the TUFS cell of nationalized banks as well as the local banks at the selected six clusters where loans had been sanctioned under the TUFS.

The shuttle-less looms financed under TUFS is only a part of the larger package for which the banks had advanced loans to their clients. Therefore banks did not have information regarding finances specific to shuttle-less looms. However, the banks were requested to provide information on important parameters to establish the Bankability of the units and the criteria adopted for financing shuttle-less looms under TUFS.

4.6.1 Parameters to establish the Bankability of the Textile Units under TUFS

It may be seen from **Table 4.8** that for establishing the Bankability of the Unit for financing shuttle-less looms, 50% banks ranked the relationship with the bank, 28.6% ranked loan paying capacity of the unit, 25% banks ranked the profitability of the unit as the most important criterion for sanctioning the loans to the units under TUFS.

Table 4.8: Bankability of the Unit

Parameters	1 st Rank	2 nd Rank	3 rd Rank	4 th – 8 th Rank	Total
Relationship with the bank	50.0	37.5	-	12.5	100.0
Turnover of the unit	-	28.6	28.6	42.8	100.0
Profitability of the unit	25.0	37.5	25.0	12.5	100.0
Projection/future growth	-	-	25.0	75.0	100.0
No. of Machines available with the units	-	12.5	12.5	75.0	100.0
Age of the unit	16.7	16.7	-	66.6	100.0
Loan Paying capacity of the unit	28.6	-	28.6	42.8	100.0
Liabilities of the unit	-	16.7	-	83.3	100.0

4.6.2 Default Percentage

It may be noted that one of the important parameters for establishing the mechanism of bankability by banks is the rate of defaults in this sector. Under the Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGMSE), banks are not supposed to take collateral from SSI's upto a limit of one Crore. However, it has been reported that banks coerce the clients into accepting 100% collateral on the amount sanctioned for the loan. Banks are taking an equal amount of the value of machines as collateral from the clients under TUFS. Therefore, the rate of default is generally less in most of the cases as per the information provided by banks.

Out of the 13 banks, i.e. 3 Corporate Banks and 10 Regional Banks, who had given information, about 60% of the banks reported that rate of default is less than 25% even majority of them were of the opinion that the rate of default is less than 5% or even 0%. Only in Bhiwandi cluster, the rate of default is more than 50% as there is no clear title of the land available for collateral as per the information provided by the banks.

This finding is consistent with the report prepared by the Bank of Baroda Capital Market for the Textile Ministry which in its Assessment Report on Stress in the Textile Industry has estimated that the total fund based credit (including TUFS) extended to the textile industry was at Rs.1,55,809 crores and the total loans that need to be restructured should be about Rs.36,000 crores which amounts to roughly 23%.

4.7 Criteria adopted for financing Shuttle-less Looms under TUFS

The field study across the six selected textile clusters revealed that financial institutions sanction loans to their clients not based on the technology of the machinery, rather they look at the macro picture of the textile sector and at the micro level they look at the project proposal and its viability.

Different options/choices were given in the questionnaire to elicit the criteria adopted by Banks for financing Shuttle-less looms under TUFS. Banks were asked to rank the important criteria among the different option/choices for all the three types of shuttle-less looms namely second hand imported, new imported and indigenous brand new shuttle-less looms under TUFS.

Table 4.9: Major criteria adopted to finance shuttle-less looms under TUFS

Criteria	Cost of the shuttle-less loom	Make of the machine	Model of the machine	Residual life of the machine	Country of Import	Resale value of the machine	Viability of project proposal submitted for loan	No. of quotations
2nd hand imported								
1 st Rank	14.3	-	-	-	-	-	85.7	-
2 nd Rank	14.3	28.6	28.6	14.3	-	28.6	14.3	-
New imported								
1 st Rank	14.3	-	-	-	-	-	85.7	-
2 nd Rank	28.6	28.6	-	-	40.0	20.0	14.3	-
Indian brand new								
1 st Rank	-	-	-	-	-	25.0	60.0	25.0
2 nd Rank	80.0	20.0	20.0	25.0	-	-	20.0	-

It may be noted from **Table 4.9** that 85.7% of the respondents ranked the 'Viability of the project proposal submitted for the loan' as the most important criteria followed while sanctioning loans for 2nd Hand and New Imported shuttle-less looms under TUFS. For 2nd Hand Imported shuttle-less looms the next most important parameters considered are 'Model of the Machine' and 'Resale Value' followed by the 'residual life' of the Machine. For New Imported shuttle-less looms, the most important parameters after

'viability of the project proposal' was 'country of import' followed by 'make of the machine' and cost of the machinery.

As far as Indian brand new shuttle-less looms are concerned, Cost of the shuttle-less looms is the most important parameter besides the viability of the project proposal.

However, sanctioning loans for new shuttle-less loom was relatively easier as compared to 2nd Hand shuttle-less loom. As for sanctioning of loans for imported second hand machinery, a confirmation and approval from the Office of the Certifying Engineer (OCE) verifying the details of the machinery imported is required by the banks.

In addition to the above mentioned factors for sanctioning loans, the most important factors that have been taken into account irrespective of the type of machinery are:

- a) Total Net worth of the Collateral
- b) Relationship of the client with the bank and his reputation
- c) Previous experience in the specific sector.

4.8 Modernization Plans of Composite Mills

Composite Mills are the major beneficiaries of the TUFS and these mills have already modernized with the state of art technology of shuttle-less looms. Therefore, information have been gathered from these Mills on aspects like their plans for expansion with types of powerloom, major reasons and constraints for modernization. The investment capacity and source of funds for expansion/ further modernization was also sought.

It may be seen from **Table 4.3** that unlike small & medium powerloom units, the composite mills are not planning for second hand powerlooms. The composite mills are mainly planning for modernization with new imported Air Jet looms in contrast to Rapier looms planned by SSIs. No mill has reported for Water Jet and projectile looms.

Table 4.10: Shuttle-less looms for modernization of Composite Mills

Type & Name of power loom	Years	New Imported
Rapier	2012-13	16
	2013-14	20
	2014-15	-
	2015-16	-
	2016-17	-
Air Jet	2012-13	130
	2013-14	350
	2014-15	222
	2015-16	132
	2016-17	-
	Total	870

Only 4 mills are planning for modernization/expansion out of 6 composite mills surveyed. The amount planned for modernization of all powerlooms in 4 mills is Rs. 165.86 crores i.e approx. average of Rs 41.47 crores by each mill. As far as mobilization of funds planned for modernization are concerned, mills reported that 45% will be mobilized from banks they will contribute other 54% and very less from government. The details of the looms planned for modernization and requirement of funds are given in **Table 4.11**.

Table 4.11: Mobilization of funds for Modernization

Type & Name of power loom	Source of funds (Rs. Lacs)			Total
	Self	Government	Banks	
Rapier	5068	-	4050	9118
Air Jet	3818	200	3450	7468
Total	8886	200	7500	16586
%age	53.5	1.21	45.22	100

The main reason for expansion by four mills out of six mills contacted was market demand and quality improvement of the end product. However the two other mills which are not planning for expansion/modernization are either meeting the market demand with their present capacity or not able to get skilled labours.

4.9 Conclusions

The Technology Upgradation Fund Scheme (TUFS) has facilitated the installation of state-of-the art / near state-of-the-art powerloom machinery at competitive capital cost resulting in the holistic growth of the textile industry. It is estimated that more than 75% of the shuttle looms are obsolete and outdated with a vintage of more than 15 years. Although the weaving segment has witnessed the sharpest increase in productivity yet, investments are still much lower than requirement and consequently, the sector lags behind significantly in modernization.

For achieving the projected production of powerloom sector cloth during twelfth five year plan, modernization of the sector is imperative, therefore, consolidation and strengthening of powerloom units with upgradation of technology is a prerequisite. On the basis of this, requirement of auto/shuttle-less looms for the XII Five Year Plan for projected cloth production, the total cost of investment during the XII Five Year Plan on the shuttle-less looms will be Rs.17592 crores.

Indigenous Power loom Manufacturing Industry could meet only the requirements of old technology powerlooms, i.e., plain powerlooms, semi-automatic and automatic powerlooms whereas, the demand for hi-tech shuttle-less looms is primarily met by imports.

The major reason for high price of indigenous looms is the import content (20% - 45%) of component for manufacture of shuttle-less looms. Only high volume of production can lower the import content and create an atmosphere conducive for further indigenization.

On an average around 7 percent of the powerloom units in five clusters are only modernized however Bhilwara cluster has been modernized more than 80 percent whereas other clusters are comparatively having very less shuttle-less looms. Since, a large number of powerloom units are still working on plain powerlooms, semi-automatic and automatic powerlooms therefore, modernizing with shuttle-less looms is not feasible for all the units. The Plans of modernization also vary from cluster to cluster:

The textiles units are planning for modernization with indigenous brand new shuttle-less looms are very few. Preference for Rapier powerlooms is comparatively very high than Air Jet, Projectile and Water Jet powerlooms. In case of Water Jet powerlooms, units are planning to modernize with Chinese powerlooms. Whereas for Rapier, percentage of units planning for new powerlooms are quite high in particularly in the latter part of 12th five year plan i.e 2015, 2016 and 2017. Hardly any textile unit is planning to modernize with new projectile powerloom due to very high price.

The total amount indicated for modernization is Rs 183.58 crores (Rs 137.16 crores by the Beneficiaries and Rs 46.42 crores by the Non Beneficiaries). On an average investment planned for modernization by each unit is Rs 1.78 crores irrespective of the type of looms.

On an average, textile units have been planning to invest own capital only about 17 percent and for rest of the funds they are dependent on banks and government i.e for 63 percent and about 20 percent respectively.

Most important reason given by textile units for modernization is Capacity Expansion and Market demand. Whereas Financial Support is not the primary factor by units as Market Demand is ranked number one by the units for constraints for modernization.

For establishing the Bankability of the Unit for financing shuttle-less looms, 'the loan paying capacity of the unit', 'the profitability of the unit' and the relationship with the

bank' have been cited as the most important factors considered by banks for sanctioning the loans to the units.

For financing of shuttle-less looms the most important factors that banks take into account irrespective of the type of machinery are a) Total Net worth of the Collateral b) Relationship of the client with the bank and his reputation c) Previous experience in the specific sector. For 2nd Hand Imported looms 'Viability of the project proposal submitted for the loan' is the most important criteria, 'Model of the Machine' and 'Resale Value' followed by the 'residual life' of the Machine. The document from the office of the certifying engineer (OCE) is essential by the bank to establish the authenticity of the imported machine.

Percentage of default on an average is reported less than 25%. Due to the collateral required by the banks, the rate of defaults in some banks was as low as 0% and 3%.

In case of Composite Mills, majority of them are planning for modernization with new imported Air Jet looms in contrast to Rapier looms planned for modernization by SSI.

The amount planned for modernization of all powerlooms in 4 mills is Rs. 165.89 crores i.e approx. average of Rs 41.47 crores by each mill. As far as mobilization of funds planned for modernization are concerned, 45% will be mobilize from banks they will contribute other 54% and very less contribution from government.

The main reason for expansion by four mills out of six mills contacted was market demand and quality improvement of the end product. However the two other mills which are not planning for expansion/modernization are either meeting the market demand with their present capacity or not able to get skilled labours.

CHAPTER V

COMPARATIVE ANALYSIS OF THE SHUTTLE-LESS LOOMS -FIELD SURVEY FINDINGS

5.1 Introduction

This chapter provides a comparative analysis of the 2nd hand shuttle-less looms installed under TUFS imported from European Union, New looms imported from European Union, Japan, China and the brand new India-made looms. The analysis has been undertaken in terms of important parameters such as cost, productive life, productivity and safety standards. A number of questions were posed to all stakeholders except the nodal agencies i.e. banks, which are not the actual users of the machines. Although non beneficiaries are not target group for the comparative analysis, however their views were also included to have wider understanding on various aspects for more in-depth analysis.

Efforts have been made to collect information on various parameters for comparative analysis of all four type of shuttle-less loom machines i.e. Rapier, Air Jet, Water Jet and Projectile. Various parameters have been used to arrive at comparative analysis. However, in the present study, three major parameters i.e. Cost of loom, Taxes/Duties and Operational cost/day has been considered for cost comparison. The parameters like Capacity of looms, Operational efficiency, Production Waste and Run Time Capacity has been considered for comparing productivity. Whereas Hazardous Waste Generation, Noise & Vibration are considered for safety standards.

Since the beneficiaries of 2nd hand imported shuttle-less loom are generally not beneficiaries of new imported shuttle-less loom and vice-a-versa therefore some of the units are not able to provide information on either new imported shuttle-less looms or 2nd hand imported shuttle-less looms. The comparison has been based on both qualitative as well as quantitative parameters.

5.2 Comparison based on Quantitative Parameters

The total cost of production per day and per meter has been considered as the base for drawing quantitative comparison. The following important parameters have been analyzed:

1. Cost of the machine
 2. Taxes/Duties
 3. Productive life of the machine
 4. Output per day
 5. Operational cost per day
- **Cost of the Machine:** Cost of the machines is dependent on parameters such as the RPM, width of the machine, pick of operation etc. Based on the field discussion it has been observed that majority of the machines operated under TUFs have the following RPM and width. It may be seen from **Table 5.1** that projectile and Air Jet machines are not manufactured India. NPC study team could not find any indigenously or Chinese made projectile or Air Jet shuttle-less looms.

Table: 5.1: RPM and Width of the Machines

Type of Machine	Rapier		Water Jet		Projectile		Air Jet	
	RPM	Width	RPM	Width	RPM	Width	RPM	Width
2nd hand imported shuttle-less looms from EU	More than 300	190 cm	550-700	190 cm	300	370 cm	More than 500	190 cm
New imported shuttle-less looms from EU & Japan	More than 500				550		More than 900	
China New imported shuttle-less looms	210-250				-	-	-	
Indigenous brand new shuttle-less looms	180-220				-	-	-	

Average cost of the machine taken for the purpose of calculation is given in **Table 5.2**. Second hand rapier looms imported from EU is costlier than Indian and Chinese looms; however, they are high RPM looms. The average cost of indigenous Water Jet looms is less than that of Chinese looms.

Table: 5.2: Average cost of Machine (Rs. Lakhs)

Name of shuttle-less looms	2 nd hand imported from EU	Indigenous	New imported	
			EU/ Japan	China
Rapier	7.50	4.00	23.50	4.50
Water Jet	3.75	5.50	-	6.15
Air Jet	9.00	-	25.00	-
Projectile	13.00	-	45.00	-

- Taxes and duties:** Taxes and duties vary for imported and indigenous machines. Excise duties on imported machines ranges from 15-18%, however, in most of the cases, machines are imported at 3.09 % import duty under EPCG. Whereas for indigenous machines around 15-18% taxes are required to be paid. To avoid undue variation for computation purposes taxes and duties have not been taken into consideration.
- Total productive life of the machine:** As there is no device available to calculate the total productive life of a machine, hence, it has been calculated based on the common perception of the user industry. The average productive life of the machines has been tabulated in **Table 5.3**. It may be noticed that the productive life of brand new indigenous rapier looms have been reported almost double the productive life of Chinese looms. In the case of Water Jet looms the productive life of both Indian and Chinese machines are comparable. New imported EU looms have reported more than double the productive life than that of Indian looms.

Table: 5.3: Productive Life of the Machine

Name of shuttle-less looms	Productive Life (yrs)			
	2 nd hand imported from EU	Indigenous	New imported	
			EU/ Japan	China
Rapier	20	15	30	7
Water Jet	20	10	-	8
Air Jet	20	-	30	-
Projectile	25	-	35	-

- **Output per day**

The output varies with the pick chosen for operating the machine. Hence, information about output for all the four machines has been sought on 60 pick of operation. It may be noticed from **Table 5.4** that the productivity of indigenously made Water Jet looms is much higher (350 mtr/day) than both Chinese and 2nd hand looms from EU. Projectile looms have relatively higher output.

Table: 5.4: Output per day of the Machine

Name of shuttle-less looms	Output per day (mts)			
	2 nd hand imported from EU	Indigenous	New imported	
			EU/ Japan	China
Rapier	198	110	220	120
Water Jet	250	350	-	300
Air Jet	265	-	385	-
Projectile	400	-	-	-

- **Operation cost**

The average value of the cost of labour, maintenance as well as energy requirement of the machine for a day have been considered for computation for the operation cost. It may be noted that interest, cost of raw material as well as plant and building has not been taken into consideration. It is seen from **Table**

5.5 that the operation cost is the lowest for 2nd hand imported Water Jet from EU. Operation cost for Chinese and Indian looms are comparatively lower.

Table: 5.5: Operation Cost

Name of shuttle-less looms	Average Operation Cost per day (Rs.)			
	2 nd hand imported from EU	Indigenous	New imported	
			EU/ Japan	China
Rapier	1600	1200	1500	1150
Water Jet	1000	1200	-	1000
Air Jet	1800	-	2800	-
Projectile	1200	-	-	-

5.2.1 Calculation based on Cost of Production

Cost of production has been calculated by adding up operation cost and use value of the machinery per day. Use value of the machinery is actually the cost of the machine distributed evenly in its entire productive life.

As the four machines i.e. Rapier, Air-Jet, Water-Jet and Projectile are quite different in terms of quantity and production quality of output. Hence the comparison for the new imported, new indigenous and second hand imported have been undertaken separately for all the four types of machine.

5.2.1.1 Rapier Machines

Rapier machines are the most widely used machines in almost all the clusters. Rapiers have easily been adopted by the textile sector because they can be used for the production of a wide variety of fabrics.

The cost of Rapier machines ranges from Rs. 2.50 Lakhs to about Rs. 25 Lakhs depending upon the metallurgical quality, RPM on which machine operates, production quality etc.

India has also developed domestic capability of producing Rapier looms. The cost of Indian Rapier looms varies from Rs.3.00 lacs to Rs.5.50 lakhs. The RPM of Indigenous machines generally ranges from 180 to 220.

Though China has a wide range of machineries, however, Indian market prefers their low end machineries which are available at a cheap price (Rs. 3.50 Lakhs to Rs.5.50 Lakhs) and they operate at an RPM of 210 to 250. The users are of the view that these machines have low productive life and they cannot be operated profitably beyond 7 years.

The new machines imported from EU are generally high end machines operating above 500 RPM. The cost of new machines generally ranges between 18 Lakhs to 25 lakhs whereas the cost of 2nd hand machines ranges somewhere between 3 to 12 lakhs depending upon their vintage, make and model. The comparative analysis of all the four types of rapier machines has been presented in the **Table 5.6**.

Table 5.6: Comparison of Cost of Production of Rapier Looms

Type of shuttle-less loom	RPM	Avg. Cost (Rs. Lacs) (A)	Productive Life (yrs) (B)	Operational Cost per day (Rs.) (C)	Output per day (mts) (D)	Use Value of the machinery per day (Rs.) (U)=[A*10 ⁵ /(B*365)]	Total cost of production per day (Rs.) (E)=U+C	Cost of production per meter (Rs.) (F)=E/D
Indigenous	180-210	4.00	15	1200	110	73.05	1273.05	11.57
New Imported from China	210	4.50	7	1150	120	176.12	1326.12	11.05
New Imported from EU/Japan	550	23.50	30	1500	220	214.6	1714.6	7.80
Second hand Imported from EU/Japan	325	7.50	20	1600	198	102.7	1702.7	8.5

The comparison shows that

- The cost of production per meter of fabric produced by second hand shuttle-less imported from EU is less compared to both brand new indigenous as well as imported Chinese looms.
- Though the cost of production per meter of fabric produced by new shuttle-less looms imported from EU is less than other three categories but their average cost is about 5 times of indigenous and new imported Chinese machines and more than 3 times second hand machineries imported from EU.

5.2.1.2 Water Jet Machines

Water-jet machines are not used as frequently as rapiers because these looms are preferred for some special types of fabrics only. The process is unsuitable for yarns of hydrophilic fibers because the fabric picks up too much moisture. The machine is usually used for the production of synthetic fiber only. During the field visit, Water-jet machines are found only in Surat cluster.

The cost of the Chinese Water Jet looms ranges from Rs. 5.50 Lakhs to Rs. 9 lakhs which can be operated at an RPM of 500-550. The indigenous Water Jet looms cost around Rs. 4.50 Lakhs to Rs.5.50 Lakhs and they usually operate at high RPMs of around 700. The cost of the second hand machines usually range from Rs.3.00 lakhs to 5.50 Lakhs and their RPM ranges from 500 to 550.

The Indian Textile machine manufacturers are producing Water Jet machines but not many indigenous Water Jet machines are being used by the textile industry because of low confidence among the user industry on indigenous produce. Majority of the units are using new Water Jet machinery imported from China. None of the beneficiaries contacted have installed brand new Water Jet machines imported from EU/Japan. Hence the data in this regard has been taken from the traders dealing with Water Jet

looms. The comparative analysis of all the four types of rapier machines has been presented in the **Table 5.7**:

Table 5.7: Comparison of Cost of Production of Water Jet Looms

Type of shuttle-less loom	RPM	Avg. Cost (Rs. Lacs) (A)	Productive Life (yrs) (B)	Operational Cost per day (Rs.) (C)	Output per day (mts) (D)	Use Value of the machinery per day (Rs.) (U)=[$A \cdot 10^5 / (B \cdot 365)$]	Total cost of production per day (Rs.) (E) = U+C	Cost of production per meter (Rs.) (F)=E/D
Indigenous	700	5.50	10	1200	350	150.7	1350.7	3.8
New Imported from China	550	6.15	8	1000	300	210.6	1210.6	4.03
New Imported from Japan*	700	12	30					
Second hand Imported from EU/Japan	550	3.75	20	1000	250	51.36	1051.36	4.2

*There is no production of Water Jet looms in European countries now a day, however, Japan and Korea are still producing them.

The comparison shows that

- The cost of production per meter of fabric produced by Indigenous shuttle-less looms is lowest in comparison to the new Chinese imported looms as well as Second hand imported looms from EU.
- The analysis reveals that the indigenous Water Jet looms may be preferred in comparison to the 2nd hand imported from EU/Japan and the new imported Water Jet looms from China considering the initial investment, RPM on which machines operates and the final cost of production per meter of fabric.

5.2.1.3 Air Jet Machines

Air Jet machines are sophisticated machines usually operated at RPMs as high as 900. The machines are suitable for almost all type of fabrics. The new Air Jet machineries require substantial Capital investment and new imported machineries from EU usually ranges between Rs. 12 Lakhs to Rs. 30 Lakhs. The cost of second hand Air Jet machineries usually ranges from Rs. 6 lakhs to Rs. 15 Lakhs.

Majority of beneficiaries contacted were found using 2nd hand imported looms from EU barring a few units using new Air Jet machineries imported from EU. None of the beneficiaries contacted have installed brand new Air Jet machines imported from China.

Since there is no production for indigenous Air Jet machines, thus none of the beneficiaries reported using new indigenous machineries. Since the data of new Air Jet looms imported from China is not available, hence, the comparison has been made for new Air Jet looms Imported from EU/Japan and Second hand imported from EU only. The comparative analysis of Air Jet machines has been presented in the **Table 5.8**.

Table 5.8: Comparison of Cost of Production of Air Jet Looms

Type of shuttle-less loom	RPM	Avg. Cost (Rs. Lacs) (A)	Productive Life (yrs) (B)	Operational Cost per day (Rs.) (C)	Output per day (mts) (D)	Use Value of the machinery per day (Rs.) (U)=[A*10 ⁵ /B*365]	Total cost of production per day (Rs.) (E) =U+C	Cost of production per meter (Rs.) (F)=E/D
Indigenous	-	-	-	-	-	-	-	-
New Imported from China*	600	9-10						
New Imported from EU/Japan	850	25	30	2000	385	273.9	2273.9	5.9
Second hand Imported from EU	650	9.0	20	1800	265	123.3	1923.3	7.3

*Though china has the production of Air Jet looms but textile industry does not prefer it due to high cost and low RPM.

The analysis shows that

- The cost of production per meter of fabric produced by second hand machineries is higher as compared to the brand new Air Jet machines imported from European Union. However, considering the fact that initial investment incurred almost three times in case of new machines imported from EU, there is an obvious and justified inclination of the user industry towards the second hand machinery.

5.2.1.4 Projectile Machines

Projectile looms are relatively expensive, with a wide range of application and relatively low energy consumption, and are suitable for the production of high to medium quality textiles. Projectile looms accommodate larger widths than other looms. They also have a longer life span than any other loom.

Projectile looms are also significantly more expensive than most other looms. Due to their relatively high price and average productivity level, projectile looms are a product for niche markets.

Projectile Machines are the costliest among all the four types of weaving machineries. The SSI sector as well as the medium scale industries usually cannot afford the Brand new projectile machines imported from EU because of the huge initial capital requirement. The initial investment required for the installation of a single projectile loom imported from EU is around Rs.45 Lakhs.

The cost of the second hand machineries imported from European Union generally ranges from Rs. 6 Lakhs to Rs.15 Lakhs. The comparative analysis of all the four types of Projectile machines has been presented in the **Table 5.9**.

As of now, Indian textile machine manufacturers are not producing Projectile Looms. Besides this, no beneficiary contacted have imported new Projectile looms from China,

EU or Japan during the XI plan period. As the data pertaining to other three looms except for second hand Projectile looms imported from EU is not available, hence analysis cannot be based on the cost of production per meter.

Table 5.9: Comparison of Cost of Production of Projectile Looms

Type of shuttle-less loom	RPM	Avg. Cost (Rs. Lacs) (A)	Productive Life (yrs) (B)	Operational Cost per day (Rs.) (C)	Output per day (mts) (D)	Use Value of the machinery per day (Rs.) (U)=[A*10 [^] 5/(B*365)]	Total cost of production per day (Rs.) (E) =U+C	Cost of production per meter (Rs.) (F)=E/D
Indigenous								
New Imported from China								
New Imported from EU/Japan	550	45.00						
Second hand Imported from EU	300	13.00	20	1200	400 m	178.08	1378.08	3.44

The analysis shows that

- The initial investment required for installation of new machines imported from EU is more than three times as compared to the second hand ones.
- Since, the second hand projectile machines are available at a cheap cost, hence only a few units are planning to go for new projectile looms.

5.3 Comparison based on Qualitative Parameters

The qualitative comparison for 2nd hand shuttle-less looms imported from European Union viz. a viz. Brand new indigenous shuttle-less looms and New looms imported from European Union, Japan and China has been carried for quality, safety and environmental pollution aspects using the following parameters:

- Output Quality
- Quality Standards of the machinery which includes machine design, material quality, electronic features etc.
- Safety Standards
- Hazardous Waste Generation
- Noise and Vibration

Among the afore-mentioned five parameters, two parameters namely output quality and quality standards have been dealt under Quality aspects whereas the other three parameters namely safety standards, hazardous waste generation and noise & vibration parameters have been dealt under Safety and Environmental pollution aspect. The beneficiaries were asked to rank the different machines as same, less or better on the basis of the qualitative parameters.

Since no beneficiary has been found using indigenous Water Jet looms, hence, the data pertaining to Water Jet looms is simply the perception of the beneficiaries based on the general idea and not based on personal experience.

As there is no indigenous production of Air Jet and Projectile looms, hence, no data is available with regard to these machines.

5.3.1 Output Quality

Quality of the fabric produced by different looms is a very strong determinant of the quality of the machine.

Table 5.10: Output quality of different categories of Looms

Name of shuttle-less looms	% of respondents expressed better quality				
	2 nd hand imported from EU	Indigenous	New imported		
			EU	China	Japan
Rapier	56.0	34.0	65.0	38.4	60.0
Water Jet	50.0	50.0	0.0	50.0	0.0
Air Jet	57.1	-	64.0	37.0	69.0
Projectile	56.0	-	64.0	32.0	64.5

It can be seen from the **Table 5.10** that:

- In case of Rapier machines, quality of output of new looms imported from EU is the better followed by new looms imported from Japan and 2nd hand shuttle-less looms imported from EU. The output quality of the Chinese new imported machineries and indigenous looms are ranked very less however, quality of indigenous looms are relatively better than new looms imported from China.
- In case of Water Jet machines, the respondents were of the opinion that quality of 2nd hand machines imported from EU and new looms imported from China is same.
- In case of Air Jet and Projectile machines, quality of output of new looms imported from Japan is the better than new looms imported from EU and 2nd hand shuttle-less looms imported from EU. However, the output quality of 2nd hand shuttle-less looms imported from EU are far better than the Chinese new imported looms.

5.3.2 Quality standards of the Machinery

The various parameters considers for quality standards are the suitability of the machine design for the work, its electronic features, quality and durability of the casting materials, frequency of the wear and tear of the moving parts, quantum of maintenance required by the machine etc.

Table 5.11: Quality standards of different categories of Looms

Name of shuttle-less looms	% of respondents expressed better quality standards				
	2 nd hand imported from EU	Indigenous	New imported		
			EU	China	Japan
Rapier	36.8	26.0	67.4	21.4	71.4
Water Jet	50.0	27.4	0.0	33.3	0.0
Air Jet	48.1		68.0	14.8	74.9
Projectile	44.0		69.0	0.0	72.0

It can be interpreted from the **Table 5.11** that:

- In case of Rapier, Air Jet and Projectile machines, quality standards of new loom imported from Japan is better than new looms imported from EU. However, 2nd hand shuttle-less looms imported from EU are not matching the new imported looms from EU and Japan but are far better than the indigenous looms and new imported looms from China.
- The quality standards of indigenous looms are relatively better than new looms imported from China in case of Rapier.
- In case of Water Jet machines, the respondents were of the opinion that quality standards of 2nd hand machines imported from EU are better than new looms imported from China.

5.3.3 Safety Standards

There has not been any significant difference in the beneficiaries' opinion with regard to safety standards of all the four types of shuttle-less looms. Majority of the beneficiaries are of the opinion that almost all the machineries are same on the parameter of safety standard.

5.3.4 Hazardous Waste Generation and Noise & Vibration

In case of Hazardous Waste Generation and Noise & Vibration also, the beneficiaries have opined that there is no significant difference among the machineries on these parameters.

Only in case of Projectile and Air Jet machines, some of the beneficiaries have said that noise and vibration is less in case of New imported machineries in comparison to the second hand ones.

5.4. Comparative Analysis based on Quantitative and Qualitative Parameters

Summarizing the quantitative and qualitative parameters, following conclusions has been drawn and represented in the tables below for each of the four shuttle-less looms separately:

Table 5.12: Comparative Analysis of Rapier Looms

Parameters	2nd hand Imported from EU	New Imported from			Indigenous
		EU	Japan	China	
QUANTITATIVE PARAMETERS					
i. Productive Life (yrs)	20	30	30	7	15
ii. Cost	<ul style="list-style-type: none"> Higher compared to Chinese Much lower in comparison to new imported machines from EU/Japan 	High	High	Low compared to New imported EU and Japanese looms and second hand looms	Low compared to New imported EU and Japanese looms and second hand looms
iii. RPM	<ul style="list-style-type: none"> Higher than Chinese machines. Less compared to New imported EU and Japanese looms 	High	High	Low compared to New imported EU and Japanese looms and second hand looms	Low compared to New imported EU and Japanese looms and second hand looms
iv. Operational Cost per day	Highest	Less compared to second hand	Less compared to second hand	Low compared to New imported EU and Japanese looms and second hand looms	Least
v. Interest on loans	<ul style="list-style-type: none"> Higher than Chinese machines. 	More	More	Less compared to New	Less compared to New imported

	<ul style="list-style-type: none"> • Less compared to New imported EU and Japanese looms 			imported EU and Japanese looms and second hand looms	EU and Japanese looms and second hand looms
vi. Productivity	<ul style="list-style-type: none"> • More compared to Chinese • Less compared to New imported EU & Japanese looms 	Highest	Highest	Less in comparison EU and Japanese looms and second hand looms	Less in comparison EU and Japanese Machines and second hand looms
QUALITATIVE PARAMETERS					
i. Output Quality	<ul style="list-style-type: none"> • Better compared to Chinese • Less compared to New imported EU and Japanese looms 	Better	Better	Less in comparison EU and Japanese Machines and second hand looms	Same as Chinese looms
ii. Quality Standards	<ul style="list-style-type: none"> • Better compared to Chinese • Less compared to New imported EU and Japanese looms 	Better than Second hand and new looms imported from China	Best	Less in comparison EU and Japanese Machines and second hand looms	Slightly better than Chinese
iii. Casting	Better compared to Chinese	Best	Best	Less in comparison EU and Japanese Machines and second hand looms	Same in comparison to Chinese looms
iv. Wear and tear	Less compared to Chinese looms	Less compared to Second	Less compared to Second	More in comparison EU and	Same in comparison to Chinese looms

		hand and new looms imported from China	hand and new looms imported from China	Japanese Machines and second hand looms	
v. Ease of operation	Easy	High Precision machines, hence slightly difficult	High Precision machines, hence slightly difficult	Easy	Easy
vi. Safety Standards	Same	Same	Same	Same	Same
vii. Run Time	Same	Same	Same	Same	Same
viii. Electricity Consumption	More	Less	Less	Less	More
ix. Maintenance	Less	Less	Less	More	More
x. Hazardous Waste Generation	Same	Same	Same	Same	Same
xi. Noise and Vibration	Same	Same	Same	Same	Same

Summing up the qualitative and quantitative parameter in case of Rapier Looms, it can be said that

- The new imported machineries from EU and Japan are better in comparison to the 2nd hand imported machineries, Chinese machineries as well as indigenous machineries
- The 2nd hand machineries are better in comparison to the Chinese and indigenous machines. Though they are inferior compared to the new machineries imported from EU and Japan but they have cost advantage as compared to them.

Table 5.13: Comparative Analysis of Water Jet Looms

Parameters	2nd hand Imported from EU	New Imported from			Indigenous
		EU	Japan	China	
QUANTITATIVE PARAMETERS					
i. Productive Life (yrs)	20	-	30	8	10
ii. Cost	Lowest	-	High	Higher compared to second hand looms Low compared to New imported Japanese looms	Same as compared to Chinese looms
iii.RPM	Same as Chinese machines.	-	High	Same as second hand looms	High compared to Chinese and second hand looms
iv.Operational Cost per day	Same as compared to Chinese	-	-	Same as second hand looms	Highest
v. Interest on loans	Least	-	More	Less compared to New imported Japanese looms	Less compared to Chinese looms
vi.Productivity	Less compared to New imported Japanese looms	-	Highest	Less in comparison Japanese looms and second hand looms	More compared to Chinese looms
QUALITATIVE PARAMETERS					
i. Output Quality	Same	-	Better than Second hand imported, new imported and Chinese	Same	Same

			looms		
ii. Quality Standards	Same	-	Better than Second hand imported, new imported and Chinese looms	Same	Same
iii. Casting	Better compared to Chinese	-	Best	Less in comparison to Japanese Machines and second hand looms	Same in comparison to Chinese looms
iv. Wear and tear	Less compared to Chinese looms	-	Less compared to Second hand and new looms imported from China	More in comparison EU and Japanese Machines and second hand looms	Same in comparison to Chinese looms
v. Ease of operation	Easy	-	High Precision machines, hence slightly difficult	Easy	Easy
vi. Safety Standards	Same	-	Same	Same	Same
vii. Run Time	Same	-	Same	Same	Same
viii. Electricity Consumption	More	-	Less	Less	Less
ix. Maintenance	Less	-	Less	More	Less
x. Hazardous Waste Generation	Same	-	Same	Same	Same
xi. Noise and Vibration	Same	-	Same	Same	Same

In case of Water Jet machines, it has been observed that:

- The second hand machineries do not have a major cost advantage considering the qualitative and quantitative parameter as a whole.
- Japanese machinery, despite having slight advantage on qualitative and quantitative parameter, falls behind in cost consideration.
- Comparing all, Indigenous machines emerge comparatively better than the other three available options considering the cost and quality both.

Table 5.14: Comparative Analysis of Air Jet Machines

Parameters	2nd hand Imported from EU	New Imported			Indigenous
		New Imported from EU	New Imported from Japan	New Imported from China	
QUANTITATIVE PARAMETERS					
i. Productive Life (yrs)	20	30	30	-	-
ii. Cost	Same as Chinese Machines	Highest	Highest	Same as 2nd hand Imported from EU	
iii. RPM	Less	Slightly More	Slightly More	Same as second hand machines	-
iv. Operational Cost per day	Same as Chinese Machines	High	High	Same as 2nd hand Imported from EU	
v. Interest on loans	Less	More	More	Less	-
vi. Productivity	More Compared to Chinese	Highest	Highest	Less in comparison EU and Japanese Machines	-
QUALITATIVE PARAMETERS					
i. Output Quality	Same	Better	Better	Same	-

ii. Quality Standards	Same	Better	Better	Same	-
iii. Casting	Better Compared to Chinese	Best	Best	Less	-
iv. Wear and tear	Less	Less	Less	More	-
v. Output Quality	Easy	High Precision machines, hence slightly difficult	High Precision machines, hence slightly difficult	Easy	-
vi. Safety Standards	Same	Better	Better	Same	-
vii. Run Time	Same	Same	Same	Same	-
viii. Electricity Consumption	More	More	More	Less	-
ix. Maintenance	Less	Less	Less	More	-
x. Hazardous Waste Generation	Same	Same	Same	Same	-
xi. Noise and Vibration	Same	Less	Less	Same	-

In case of Air Jet Machines,

The imported new looms from EU and Japan is better considering both qualitative as well as quantitative parameter as compared to imported Second hand looms as well as new imported Chinese looms.

The second hand shuttle-less looms are better than Chinese looms considering both cost and quality parameters. Though they are inferior to the new imported looms from China and Japan, however, second hand machineries are preferred giving due weightage to cost parameter.

Table 5.15: Comparative Analysis of Projectile Machines

Parameters	2nd hand Imported from EU	New Imported			Indigenous
		New Imported from EU	New Imported from Japan	New Imported from China	
QUANTITATIVE PARAMETERS					
i. Productive Life (yrs)	20	30	-	-	-
ii. Cost	Low	High			
iii. RPM	Less	More			
iv. Operational Cost per day	Less	Slightly More	-	-	-
v. Interest on loans	Less	More	-	-	-
vi. Productivity	Less	High	-	-	-
QUALITATIVE PARAMETERS					
i. Output Quality	Same	Same	-	-	-
ii. Quality Standards	Same	Same	-	-	-
iii. Casting	Same	Same	-	-	-
iv. Wear and tear	More	Less	-	-	-
v. Ease of operation	Easy	High Precision machines, hence slightly difficult	-	-	-
vi. Safety Standards	Same	Better	-	-	-
vii. Run Time	Same	Same	-	-	-
viii. Electricity Consumption	Same	Same	-	-	-
ix. Maintenance	Less	Less	-	-	-
x. Hazardous Waste Generation	Same	Same	-	-	-
xi. Noise and Vibration	Same	Less	-	-	-

In case of Projectile machines,

Only European machines are there in the market either new or used. New machines have better technology and quality. However, their cost is much higher as compared to the used ones, hence; the industry has a natural inclination is towards the second hand machines.

5.5 Conclusions

- Summing up the qualitative and quantitative parameter, it has been observed that new shuttle-less looms from imported from EU are considered best by the user industry followed by the second hand machines imported from EU.
- Though Chinese machineries are being considered inferior quantitatively as well as qualitatively, but they are gaining market because of their low cost. The second region behind their import is that they can easily brought under TUFS without any certification problems regarding caps on vintage.
- The indigenous production of Air Jet and projectile looms is almost nil, though, the manufacturing industry claims that they have the capability of producing these machines. In case of Water Jet looms also, the volume of production is quite low compared to the demand. Considering the higher initial investment in the import of brand new shuttle-less looms from EU, the user industry is dependent on the import of second hand shuttle –less looms. The user industry should be given some time to reduce their dependence on second hand machines.
- In case of Water Jet looms, quantitative analysis reveals that the cost of production per meter is lowest for Indigenous shuttle-less looms. User industry has got a very limited exposure to the machine; hence, qualitative parameters cannot be relied upon fully. Considering the quantitative data, Indigenous manufacturers should be promoted particularly in case of Water Jet machines.

CHAPTER VI

REASONS FOR LOWER INSTALLATION OF BRAND NEW INDIGENOUS SHUTTLE-LESS LOOMS-FIELD SURVEY FINDINGS

6.1 Introduction

The TUFS scheme has provision for the installation of four types of shuttle-less looms (i.e. Rapier, Water Jet, Air Jet & Projectile) through the import of second hand shuttle-less loom from EU; new imported shuttle-less looms from EU, Japan & China and brand new indigenous looms. During the course of field survey and discussions with beneficiary units, manufactures and other stakeholders it has been observed that majority of the textile units have preference for Rapier shuttle-less looms as compared to other three types.

This chapter analyses the reasons behind lower installation of brand new indigenous shuttle-less looms under TUFS. In order to understand the factors, information has been gathered on a number of aspects like (i) increase in the share of 2nd hand looms in total import of looms (ii) lower installation of brand new indigenous shuttle-less looms by the powerloom units and (iii) identification and mitigating measures required to be put in place to overcome the major hurdles in increasing indigenous production of looms.

6.2. Preference patterns for installing Shuttle-Less Looms

In order to understand the preference patterns of the beneficiary textile looms, a number of subjective questions were asked. Since beneficiaries can avail TUFS for 2nd hand Imported looms from EU, new imported looms from EU, Japan, China and local/ brand new indigenous shuttle-less looms, they were asked to rank the most important factor that influenced them to install either of the above three types of shuttle-less looms under TUFS. Similarly the beneficiaries were also asked to rank important factors for not installing any among above three types of shuttle-less looms.

6.2.1 Installation of 2nd hand imported shuttle-less looms from EU. From the field surveys, it was observed that the following factors played a significant role in the installation of 2nd hand imported shuttle-less looms from EU:

- a) Cheap Cost
- b) Advance Technologies
- c) Quality meeting export demand/specification of exporters
- d) High Productive Life

It may be observed from **Table 6.1** that the beneficiaries who had installed 2nd hand shuttle-less looms imported from EU, majority of them (61.2%) ranked 'Cheap Cost' as the most important factor. 'Advanced technologies' has been reported by highest number of beneficiaries (38.6%) as the second major consideration while 'Quality meeting export demand' has been reported by the highest number of beneficiaries (30.9%) as the third highest factor.

Table 6.1: Reason for installing 2nd hand Imported Shuttle-Less Looms from European Union

Reasons	1 st Rank	2 nd Rank	3 rd Rank	4 th – 13 th Rank	Total
Advance Technologies	25	38.6	19.3	17.1	100.0
Easily and timely available	1.5	10.4	9.0	79.1	100.0
Cheap cost	61.2	29.8	4.8	4.2	100.0
High Productive life	11.0	28.0	23.2	37.8	100.0
Quality meeting export demand/ specification of Exporters	20.6	14.7	30.9	33.8	100.0
Less Wear and tear	-	6.6	10.5	82.9	100.0
After sales service	-	3.4	3.4	93.2	100.0
Consumption of less electricity	-	1.8	1.8	96.4	100.0
Low maintenance cost	1.5	1.5	6.0	91.0	100.0
Ease of operating	4.2	2.8	8.5	84.5	100.0
Lack of knowledge regarding importing looms	3.3	1.7	1.7	93.3	100.0
Low duties/taxes	-	3.3	-	96.7	100.0
Manageable with less skilled labour	-	7.8	1.6	90.6	100.0

6.2.2 New imported shuttle-less looms from EU, Japan, and China. Major reasons given by beneficiaries for installation of new imported shuttle-less looms from from EU and Japan are different from the reasons of new imported shuttle-less looms from China. Cheap cost plays important role in installing looms from China compared to advanced technology and better quality of output in case of looms from EU and Japan.

As can be seen from the **Table 6.2** that 'Advance Technologies' has been ranked first by as high as 81.3 percent of respondents. Around 42 percent has ranked 'quality of output that met the export demand to the specification of exporters' as the second highest factor and 'less wear and tear as third important.

Table 6.2: Reason for installing New Imported Looms from European Union, Japan and China

Reasons	1 st Rank	2 nd Rank	3 rd Rank	4 th – 13 th Rank	Total
Advance Technologies	81.3	12.5	1.3	4.9	100.0
Easily and timely availability	6.2	15.4	16.9	61.5	100.0
Cheap cost	23.1	12.3	6.2	58.4	100.0
High Productive life	12.3	38.3	15.0	34.4	100.0
Quality meeting export demand/ specification of Exporters	18.1	41.9	27.4	12.6	100.0
Less Wear and tear	5.1	-	28.8	66.1	100.0
After sales service	4.2	4.2	2.1	89.5	100.0
Consumption of less electricity	2.1	2.1	-	95.8	100.0
Low maintenance cost	3.1	3.1	7.7	86.1	100.0
Ease of operating	1.6	1.6	14.1	82.7	100.0
Lack of knowledge regarding importing looms	2.0	-	4.0	94.0	100.0
Low duties/taxes	2.1	-	2.1	95.8	100.0
Manageable with less skilled labour	1.7	8.3	8.3	4.9	100.0

6.2.3. Brand new Indigenous Looms. It may be seen from **Table 6.3** that comparatively the number of brand new indigenous looms installed under TUFS is very less. However the most important factors that led to the installation of

these brand new indigenous looms are easily and timely availability, after sales service and manageable with less skilled labour. As seen from **Table 6.3** below, that 27.8 percent of the units ranked easily and timely availability as the most important reason followed by after sales service and manageable with less skilled. 33.3 percent of the respondents mentioned cheap cost as the second important reason for the installation of indigenous brand new looms. High productive life has been cited by 34.5 percent units as the third important reason for the installation of brand new Indian shuttle-less looms.

Table 6.3: Reason for installing local/Indian Brand New Shuttle-Less Looms

Reasons	1 st Rank	2 nd Rank	3 rd Rank	4 th – 13 th Rank	Total
Advance Technologies	13.2	1.8	8.9	76.1	100.0
Easily and timely availability	27.8	13.8	22.4	36.0	100.0
Cheap cost	20.8	33.3	14.8	31.1	100.0
High Productive life	1.8	14.5	34.5	49.2	100.0
Less Wear and tear	3.6	3.6	10.9	81.9	100.0
After sales service	25.6	7.4	7.4	59.6	100.0
Consumption of less	1.9	1.9	7.5	88.7	100.0
Low maintenance cost	1.9	1.9	3.7	92.5	100.0
Ease of operating	3.6	5.5	5.5	85.4	100.0
Lack of knowledge regarding importing looms	11.1	5.6	14.8	68.5	100.0
Low duties/taxes	11.3	22.6	13.2	52.9	100.0
Manageable with less skilled labour	23.6	10.5	5.3	60.6	100.0

6.3. Reasons for the lower installation of Brand New Indian Shuttle-Less Looms

During field discussions, it was observed that powerloom units lack faith in the quality of brand new Indian shuttle-less looms. Many powerloom units are not aware about the existence of indigenous manufactures of shuttle-less looms. The respondents were quizzed with a number of choices to understand the major reasons for the lower installation of brand new Indian shuttle-less looms by the power loom units. They were

asked to rank the factors that made these indigenous shuttles-less looms less attractive. The most important factors indicated by them are:

- Non availability of world class designs standards
- High Wear & Tear
- Less productive life
- Poor quality to meet the specification of exporters

It may be seen from the **Table 6.4** that, 79.1 percent respondents ranked non availability of world class design standards i.e non availability of high RPM looms as the most important factor. Wear and tear has been ranked first 23.2 percent of the respondents mainly because of casting problem and low quality of Metallurgy.

Table 6.4: Reasons for lower installation of Brand New/Indian Shuttle-Less Looms

Reasons	1 st Rank	2 nd Rank	3 rd Rank	4 th – 8 th Rank	Total
Non- availability of world class designs /standards	79.1	13.6	3.6	3.7	100.0
Uncertain supplies	-	25.6	9.8	64.6	100.0
Less Demand	3.4	29.9	23.0	43.7	100.0
Less Productive life	5.9	15.7	28.4	50.0	100.0
Poor quality to meet specification of Exporters	8.9	13.3	18.9	58.9	100.0
Easy import of modern machineries & equipments	11.4	-	3.4	85.2	100.0
More Wear and tear	23.2	16.0	10.6	50.2	100.0
High consumption of electricity	1.2	3.6	2.4	92.8	100.0

6.4 Reasons for increase in the share of 2nd Hand Looms in Total Import of Looms

It has been observed that though majority of the units are preferring 2nd hand looms under TUFS yet their preferences varies with respect to type of shuttle-less looms mainly because new projectile looms are high priced, higher RPM rapier and Air Jet

looms are also available at reasonable rates and new Water Jet looms from China are available at cheap cost.

To understand the major reasons for increase in the share of 2nd hand looms in total import of looms, respondents were asked to rank the most important factors responsible. As expected, the most important factors cited by them are:

- a) Cheap compared to brand new shuttle-less loom
- b) Quality meeting export demands/ specifications

As evident from **Table 6.5**, Cheap compared to new shuttle-less loom is ranked the most important by more than 84.1 percent of the respondents for increase in the share of 2nd hand looms in total import of looms. Whereas, quality meeting export demands/ specifications was ranked second most important reason by more than 65 percent of respondents.

Table 6.5: Reasons for increase in the share of 2nd Hand Looms in total import of Looms

Reasons	1 st Rank	2 nd Rank	3 rd Rank	4 th – 9 th Rank	Total
Cheap compared to new shuttle-less loom	84.1	8.0	3.6	4.3	100.0
Quality meeting export demands/ specifications	12.0	65.7	16.7	5.6	100.0
Easily and timely available	4.5	7.9	28.1	59.5	100.0
Fiscal Incentives	-	1.2	30.5	68.3	100.0
Conducive Govt. policies & Infrastructure support	-	3.4	11.2	85.4	100.0
Ease of operating	4.1	5.2	11.3	79.4	100.0
Consume less electricity	-	13.4	1.2	85.4	100.0
High productive life	2.8	16.7	9.3	71.2	100.0
Parts easily available	1.1	2.2	8.7	88.0	100.0

6.5 Measures to support the Domestic/ Indian Shuttle-less Looms Manufacturing Units

While respondents were asked about the reasons for lower installation of domestic/ Indian shuttle-less looms, they were also asked about their opinion regarding measures to be adopted for supporting the domestic/ Indian shuttle-less loom manufacturers. As expected, user industry i.e powerloom units could provide very limited information whereas manufacturing units as well as traders had provided various measures required to support the domestic/ Indian shuttle-less looms manufacturing units. The most important measures suggested are:

- a) Fiscal incentive like reduction in excise duty on raw materials
- b) Foreign collaboration
- c) R&D backup for design and new materials

As evident from the **Table 6.6**, about 40 percent respondents ranked 'reduce excise duty on raw material used' and foreign collaboration as most import measures followed by 'R&D backup for design and new materials' by 28.6 percent as the second most important measure.

Table 6.6: Measures to support the Domestic/ Indian Shuttle-less Looms Manufacturing Units

Measures	1 st Rank	2 nd Rank	3 rd Rank	4 th – 9 th Rank	Total
Reduce excise duty on raw materials used	40.8	31.6	6.1	21.5	100.0
Strengthen Tool room/Testing facilities	10.1	16.1	18.3	55.5	100.0
Fiscal Incentives	20.4	12.9	18.3	48.4	100.0
Conducive Govt. policies & Infrastructure support	16.8	10.8	10.8	61.6	100.0
Organized marketing network	4.6	9.2	10.3	75.9	100.0
R&D Backup for design & new materials	28.6	25.2	7.8	38.4	100.0
Strengthen Cluster facilities (infrastructure etc.)	3.6	9.5	4.8	82.1	100.0
Cheaper credit	2.2	3.4	3.4	91.0	100.0
Foreign collaboration	38.8	25.6	16.1	19.5	100.0

6.6 Conclusion

Advance Technologies and Cheap Cost play significant role in the installation of 2nd hand imported shuttle-less looms from EU. Units are preferring for 2nd hand looms mainly because a) new projectile looms are high priced b) higher RPM Rapier and Air Jet looms are also available at reasonable rates.

Very few units are installing brand new indigenous shuttle-less looms mainly due to easily & timely availability and after sales service. However, brand new indigenous looms are neither cheaper than new looms from China nor comparable to advanced technology and better quality of output of new shuttle-less looms from EU and Japan. Non availability of world class designs/ standards, High wear & tear, Less productive life and Poor quality to meet the specification of exporters have been cited as main reasons for the lower installation of brand new Indian shuttle-less looms.

Fiscal incentive like reduction in excise duty on raw materials, Foreign collaboration either through Joint venture or Foreign Direct Investment and R&D backup for design and new materials have been suggested as important measures to support the domestic/ Indian shuttle-less looms manufacturing units.

CHAPTER VII

FINDINGS AND RECOMMENDATIONS

Present study has focused on the impact of imported second hand shuttle-less looms under TUFS on Domestic Capital Goods Industry during XI Plan. The study has assessed the investment capacity of the Powerloom sector, their bankability and capacity to make investments for rapid scaling up and modernization. Comparative analysis of the 2nd hand shuttle-less looms installed under TUFS and the reasons for lower installation of brand new shuttle-less looms by the textile industry along with the reasons for increase in the share of 2nd hand looms in total import of looms have also been examined.

The six clusters selected for the present study have lot of advantages in Powerloom weaving over other regions of India. The cluster's Powerloom industry, apart from meeting export requirements, produces large varieties of textiles catering to the domestic market besides meeting fabric requirements of the readymade garment manufacturers for the export market.

As discussed in chapter third, the situation in all the six clusters varies depending upon the availability of market, therefore some of the observations and recommendations are not applicable to other clusters. However, the level of modernization varies widely according to the scale of operation. Modernization of SSI sector has taken place mainly through the import of second hand or low priced Chinese shuttle-less looms whereas the large scale textile industries and composite mills prefer the import of brand new machineries from EU or Japan with higher investments. Therefore, views expressed by composite mills are not in line with the small and medium units. However, efforts have been made to generalize observations and recommendations.

7.1. Major Findings

The findings have been presented separately for impact of 2nd hand shuttle-less looms on domestic capital Goods industry, reasons for import of second hand shuttle-less looms and reasons for low modernization. Apart from this some general findings are also given with respect to overall working of the scheme. Major findings of the study have been elucidated below:

7.1.1 Impact of TUFs on Domestic Capital Goods Industry: The used/second hand capital goods can be imported into the country without any restrictions, the major observations in this regard are:

- i. In case of Rapier looms, though domestic capital goods manufacturing sector has production capabilities but has not been fully utilized due to lack of demand from powerloom units. Second hand machinery is preferred over new imported looms from EU, Japan as well as China by majority of the units. However, a sizeable number of SSI units who have already installed shuttle-less looms are preferring only new imported machineries with high RPM for the next stage of their modernization during the XII five Year Plan compared to the new units who are planning for modernization.
- ii. In case of Water Jet looms, domestic capital goods manufacturing sector has production capabilities but volume of production is quite low compared to the demand because the user industry lacks confidence. Second hand machinery from EU does not have cost advantage over new machines from China as well as indigenous machines. Therefore, units are preferring new imported Chinese looms instead of indigenous looms despite the fact that cost of indigenous machines is comparable to new imported Chinese machines
- iii. In case of Air Jet looms, though domestic capital goods manufacturing sector is claiming to have developed production capabilities, however there is no

indigenous production as such. The major reason of non-production being high percentage of import content (20% - 45%) of component for manufacture of shuttle-less looms. Second hand machinery in this case also, are being preferred over the new imported brand new shuttle-less looms from EU, Japan as well as China by the user industry due to high initial investment. Contrary to SSI sector, composite mills are going for new Air Jet machines.

- iv. In case of Projectile looms, domestic capital goods manufacturing sector does not have production capabilities, Second hand machinery only from EU in this case is highly preferred over the new imported brand new shuttle-less looms due to huge price difference. Only composite mills are going for new projectile machines.
- v. SSI sector is planning for modernized mainly with rapier machines whereas the composite mills are planning to modernize mainly with Air Jet machines.
- vi. The fall in the demand for the import of second hand machinery in recent years did not benefit indigenous textile machine manufacturing industry. The increased demand for low cost new machines has been cornered by the Chinese manufacturers instead of Indian machines.
- vii. Although Chinese machineries are considered inferior in quality, yet they are gaining market mainly because the availability of good quality low cost second hand machineries from EU as well as Japan with ten year vintage is reducing in the international market. Therefore, the user industry is opting the new low cost Chinese machinery which can easily be brought under TUFs without any certification problems regarding cap on vintage.

viii. Quality of indigenous shuttle-less looms is reported to be of inferior hence unable to build confidence among the user industry resulting in very low impact of the increased demand on domestic capital goods industry.

7.1.2 Reasons for Import of Second Hand Shuttle-less Looms

- i. Based on NPC field surveys, it was found that the second hand looms having a residual life of 10-20 years are working smoothly with 80% to 90% efficiency and are of great help for modernization of power loom industry.
- ii. The difference between the prices of new and second hand shuttle-less looms are more than three times especially in the case of Air Jet and Projectile looms.
- iii. The buyers of the fabric prefer the output from machines imported from Europe in comparison to the Chinese and indigenous machines since the fabric fetch additional 2 paise per pike as compared to the other machineries.
- iv. The SSI sector has limited exposure to the export market. They do not want to make investments for modernization as they are selling their production in local/ domestic market with existing machineries. Some of the units who are modernizing are doing it either with low cost Chinese machineries or with second hand looms from EU.
- v. Moreover, there is no domestic production of machines with higher RPMs.

7.1.3 Reasons for low Modernization

Only around 5 percent of the powerloom units in five clusters are only modernized and more than 75% of the shuttle looms are obsolete and outdated with a vintage of more than 15 years. Investments in this segment are also woefully short of requirement and consequently, the sector lags significantly in modernization. The important reasons are:

-
- i. Equal amount of Collateral security required by Banks act as one of the major bottle neck for modernization.
 - ii. Persistent demand for output from plain looms restricts the small units from going for modernization.
 - iii. Many units are not opting for modernization due to the fear that they won't be able to sell their output from shuttle-less looms as market demand for the output from shuttle-less looms is not very much as compared to the output from plain looms.
 - iv. Moreover, the units are lacking in confidence and are reluctant to install new indigenous machines because of inconsistency in their quality, poor Casting/metallurgy, low productive life and high maintenance requirement.
 - v. Many powerloom units reported that they hire services of consultants and chartered accountants in order to avail TUFS subsidy. Government formalities and multiple inspections associated with the scheme forces the industries to seek the help of consultants and chartered accountants. A sizable portion of the subsidy is lost in such processes.
 - vi. Reduction in state subsidies in recent years had a negative impact on modernization among small units.
 - vii. Many banks consider minimum of 12 shuttle-less looms as economically viable for financing loans under TUFS. In some cases, banks are not financing the new units hence this act as a entry barrier for new units to modernize.
 - viii. Most of the properties/lands at Bhiwandi and Malegaon clusters have no clear title, therefore, the units functioning on those lands cannot avail loans against land collateral, and therefore, they remain deprived of benefits under TUFS.

- ix. Electricity cost is a major component of cost for the power loom units. A frequent increase in the electricity charges is acting as discouraging factor for the units to go for modernization.

7.1.4 General Findings

- i. **Investment capacity of the sector:** On an average each SSI unit has investment capacity of 1.78 crores whereas each mill has investment capacity of Rs.41.47 crores for modernization.
- ii. **Delay in the release of subsidy:** Project applications are usually forwarded through banks by the industries. Many a times, it has been observed that the interest subsidies do not reach the eligible beneficiaries on time. These undue delays adversely affect the variable cost and hence they lose the confidence for further expansion.
- iii. **Fluctuations in government policies:** TUFs has not been consistent throughout the XI plan period. The withdrawal of the scheme during 29th June 2010 to 27th April 2011 period has created disparity among some of the units. This kind of disparity and uncertainty restricts the industrialists to further plan to modernize their industry.
- iv. **Cost of Investment:** There would be an incremental requirement of 2,34,563 auto/shuttle-less looms to produce an additional projected cloth production of 31.39 billion sq. mtrs. of fabric during the XII five year. The total cost of investment on only shuttle-less looms would be Rs.17592 Crores.
- v. **Compulsory loan:** The industry has to compulsorily avail the loan to get subsidy under the scheme. The condition of compulsory loan restricts those industries who don't want to carry the burden of loan for up-gradation of their industry.

-
- vi. **Non existence of mechanism for addressing grievances:** SSI sector is not fully aware of the intricacies of scheme. Non existence of any redressal forum for addressing the reasons of rejection in proposal at local level has discouraged the industries to go for modernization.
- vii. **Availability of skilled labour:** Many places, it is getting difficult for the industrialists to get skilled workers who can operate the machineries of high precision shuttle less looms.
- viii. **Availability of power:** Due to erratic power supply, units are not able to run shuttle less looms throughout the day. Therefore, are not able to reap the full benefits of modernizing their unit.
- ix. **Brand consciousness in the local Market:** Brand Consciousness in the local Market for finished fabrics has resulted in small and medium scale industries to prefer for spinning rather than investing in weaving sector.
- x. **Job work:** Majority of the small units who have availed the TUFs are doing job work for big industries. Since they don't have the exposure to independent marketing of their output, new units are not opting for modernization.
- xi. **Fear of cartel formation:** With very limited number of indigenous manufacturers of shuttle-less looms, industrialists have a fear that if the import of second-hand machineries gets banned, 2 or 3 local manufacturers can form cartel and can exploit them on price and quality.
- xii. **Disadvantage of slab on 2nd hand Import:** Second hand shuttle-less looms with higher RPMs are available in the range of Rs.15 to 20 Lacs, therefore, are not beneficial under 20% MMS with a maximum cap of Rs.8 lakhs.

xiii. **Lack of monitoring:** the present system do not have in built provision of monitoring of the implementation of the import of second hand shuttle-less looms under TUFs, hence, it is difficult to trace the money flow for shuttle-less looms.

7.2 Major Recommendations

The major recommendations of the study are:

7.2.1 Domestic Capital Goods Industry

- i. **Foreign collaboration for indigenous manufacturers:** In order to start production of higher precision indigenous shuttle-less looms at competitive prices, foreign collaboration should be encouraged either through Joint venture or Foreign Direct Investment. This will help in reducing the dependence on import of shuttle-less looms particularly second hand shuttle-less looms. Initiatives to tie up with Chinatec and EU machine manufacturing by institutions like DKTE, Kolhapur for foreign collaboration should be encouraged.
- ii. **Strengthen R&D facilities for indigenous manufacturers:** the manufacturing industry needs the technical knowhow which is lacking in the absence of adequate R&D facilities in India. The cost of foreign know how is not only high but also there is no technology transfer. Thus, there is requirement of strengthening the domestic R&D facilities for indigenous manufacturers. In the long run emphasis should be given on strengthening the domestic R&D facilities whereas in the short run emphasis may be given for foreign collaboration to develop the domestic capabilities as well as brand development of the indigenous textile machine manufacturing industry in the market.

- iii. **Incentive for manufacturers of high tech shuttle-less looms:** Tax break for a period of five years may be provided to the units manufacturing hi-tech item of textile machinery to encourage production of high end indigenous shuttle-less looms.
- iv. **Incentive for manufacturers of Water Jet machines:** It is recommended that the indigenous industry should be given some incentive particularly for the production of Water Jet machines to in-cash on the increasing demand of new Water Jet machines.
- v. **Impose duty on low tech shuttle-less looms:** the indigenous textile machine manufacturing industry is producing mainly low tech shuttle-less looms. The imposition of duty on low tech new imported shuttle less looms will boost the indigenous manufacturing of shuttle-less looms.

7.2.2 General Recommendations

1. **Mechanism to release timely subsidy:** Timely disbursement of interest subsidy from the Office of Textile Commissioner will help in timely utilizing for planned purposes and also encourage industry for modernization
2. **Clarity of the scheme:** The scheme guidelines and policies should be made clear in the very beginning of plan period to avoid confusion among the industrialists for availing benefits of the scheme.
3. **Provision of scheme guidelines in vernacular:** The guidelines and amendments made on TUFs should always be circulated in the local languages so that the small industrialists could understand and their dependence on consultants could be reduced.
4. **Awareness camps:** More awareness camps and extension programs should be organized for explaining the scheme especially for unorganized SSI sector to enhance the coverage of beneficiaries under the scheme and for rapid modernization.

- 5. Beneficiaries' grievance redressal forum:** A forum should be set up for any queries related to rejection of application, this will encourage the industrialists to come forward for availing scheme benefits.
- 6. Monitoring system with banks:** the present system should have in-built provision of monitoring beneficiaries of shuttle-less under TUFs so that more efficiency can be brought under the scheme.
- 7. Marketing support:** Proper marketing support and exposure to new markets will encourage the units for capacity expansion and modernization.
- 8. Removal of compulsory loan clause under TUFs:** The present clause in the scheme of availing compulsory loan, if modified, will help in bringing more units under the scheme and boost modernization.
- 9. Provision of technical training:** Modernization process can be enhanced by providing proper technical training especially to SSI sector for handling machines of high precision. Training facilities may also be provided to the unskilled labour to meet the labour requirement of the industry.
- 10. Fixation of slab:** In order to encourage modernization with quality efficient hi-tech machineries, the following changes may be made in upper slab fixed on the import of shuttle-less looms under TUFs:

S. No.	Description of 2nd hand imported machine	RPM	Upper ceiling on bench marked price for subsidy purpose from EU/Japan Counties	
			Existing	Recommended
1	Projectile looms	More than 400	Rs.8 lakhs	Rs.15 lakhs
2	Air Jet looms	More than 900	Rs.8 lakhs	Rs.12 lakhs
3	Water Jet looms	-	Rs.4 lakhs	Rs.4 lakhs
4	Rapier looms	More than 750	Rs.8 lakhs	Rs.12 lakhs

11. Continuation of the import of second hand Shuttle less looms during XII

plan: Based on NPC field study, it was found that the import of second hand shuttle-less looms during XI Plan was quite substantial in terms of upgrading the technology of the sector. Moreover, the domestic capital goods manufacturing sector is still in a developing stage and not able to meet the technology upgradation requirements of the sector. Therefore, it is recommended that import of Second hand shuttle less looms may be continued during XII plan and may be withdrawn towards the end of XII plan.

However, there is a need to develop the capabilities of indigenous textile machine manufacturing industry for producing high tech machines at competitive cost for meeting the requirements of domestic powerloom weaving sector.

Indigenous textile machine manufacturing industry may be encouraged to enter into foreign collaborations with renowned companies for producing shuttle-less looms desired by the user industry.

7.3 Present Scenario in Nutshell

- Capacity Utilization of indigenous capital goods industry of shuttle-less looms is around 8% (Annual demand of indigenous shuttle-less loom is less than 2000).
- Low demand for indigenous powerlooms is due to non-availability of the state of art technology with domestic manufacturers.
- Domestic capital goods industry (shuttle-less looms) is on the verge of closure due to low capacity utilization and low market demand.
- Less than 5% Power looms are modernized country wide (about 4.9% penetration of shuttle-less looms in the six clusters).
- Information/ data regarding the implementation of the TUFs scheme during XI Plan are not compiled by implementing Agencies.

7.3.1 Way Forward

A. Domestic Capital Goods Industry (Shuttle-less Loom manufacturers)

There is an urgent need for equipping domestic capital goods industry involved in the manufacture of shuttle-less looms with state of art technology through:

- Joint ventures (short term)
- R&D inputs with Government Support (long term)
- Foreign Direct Investments
- Govt. support and proactive intervention in the short run (tax incentives/breaks)
- Gradual withdrawal of the scheme component of import of second hand shuttle-less looms under TUFs during XII Plan and the scheme to be offered only for import of the new shuttle-less looms only from XIII Plan onwards.

B. Methods to Improve Implementation

- Digitalize the data/information with Textile Commissioner and nodal agencies (Financial Institutes) to enhance transparency of scheme implementation for wider coverage.
- Disseminate information about the shuttle-less looms component of TUF scheme among the user industry through local language.
- Encourage Banks to hypothecate machinery instead of land and buildings as collateral against the loan amount.

A national level nodal agency (e.g. SIDBI or IDBI) may be entrusted with the task of co-ordinating with other financial institutions for the fund disbursement under TUFs. Nodal agency may be paid 0.5% of the disbursed amount for meeting co-ordination charges and the Agency should also act as the Central Repository of information besides updating the information on TUFs beneficiaries in the website on a periodic manner.

PROVISION UNDER TUFs FOR SHUTTLE-LESS LOOMS

Type of Machinery	Criteria							
	For Non-SSI & SSI			SSI				
	Eligibility	Financial Assistance		Interest Reimbursement	Margin Money Ceiling	Capital Ceiling	Beneficiaries contribution	Value Cap
Interest Reimbursement		Margin Money subsidy						
Brand New Indigenous	All four types i.e. Air jet, Water jet, Rapier, Projectile looms Specifications for the looms to be decided by TAMC.	5% interest reimbursement	20% Margin Money subsidy in lieu of 5% interest reimbursement on invest	For a period of 7 years including 2 years implementation / moratorium period	Rs.1 crore	Rs. 500 lakh	15% equity contribution	-
Imported new								TAMC can also consider other machinery apart from the four types of looms.
Imported second hand	Only automatic shuttle-less looms of 10 years' vintage and with a residual life of minimum 10 years.	5% interest reimbursement			Rs.60 lakh			Decided by TAMC Rs.8 Lakhs per machine

ANNEXURE II

LIST OF FINANCIAL INSTITUTIONS

S.No	Bank Name	Address
Financial Institution-Corporate Office		
1	IDBI	IDBI Bank Ltd. IDBI Tower, WTC Complex, Cuffe Parade, Colaba, Mumbai-400005
2	State Bank of India	N.G.N. Vaidya Marg, Horniman Circle, Fort, Mumbai-400001
3	Punjab National Bank	7, Bikaji Cama Place, New delhi-1106070
Lead Bank Office		
1	Canara Bank	Lead Bank Office, Circle Office 166, T.V. Swamy Road (W), R.S. Puram, Coimbatore-641002
Financial Institutions - Branch		
1	Punjab National Bank	Shop No.5,6 &7, Ashok Complex, Opp. Dandekar Ricc Mill, Bhiwandi Kalyan Road-421302
2	State Bank of India	Opp. Dandekarwadi P.O., Bhiwandi-421302
3	Bank of India	Devaki' 7/5, Adat Peth, Main Road, Ichalkaranji, Dist. Kolhapur-416115
4	Kallappa Anna Awade Ichalkaranji Janata Sahakari Bank Ltd.	Janata Bank Bhavan, Main Road, Ichalkaranji, Dist. Kop.
5	Indian Overseas Bank	45-A, New 51, Salem Main Road, Komarapalayam, Erode - 638183
6	State Bank of India	31, Sankar By-pass Road, Pallipalaym, Dist. Namakkal, Erode - 638006
7	The Surat People's Co-op. Bank Ltd.	'Vasudhara Bhavan', Timliawad, Nanpura, Surat - 395001
8	Punjab National Bank	Nagori Garden, Bhilwara-311001 (Rajasthan)
9	Bank of Baroda	Maheshwari Bhavan, Nehru Chowk, Malegaon-423203

ANNEXURE III

LIST OF MANUFACTURERS/ IMPORTERS

S.No	Manufacturers/ Importers Name	Address
1	Palod Himsan Machines Pvt. Ltd.	B-102, 1 st Floor, International Trade Center, Majuragate, Surat – 395001
2	Premier Looms Manufacturers Pvt. Ltd.	MG Road No.11, Udyog Nagar, Udhna-394210, Surat
3	Dynamic Autolooms India Pvt. Ltd.	Plot No.2, Road No.1, Phase-1, GIDC, Kathwada, Ahmedabad-382430
4	Laxmi shuttle less looms Pvt. Ltd.	Shanghvi Estate GST road, Ranip, Ahmedabad
5	Span Engineers	13/4 Panchratna Industrial Estate near Vatva GIDC, Ahmedabad
6	Aalidhar Texpro Engineers Pvt Ltd.	B-52, Second Floor, Road No.3, Udyognagar, Udhna-394210, Surat
7	Lakshmi Automative Loom Works Ltd,	686 Alanarti Road, Coimbatore
8	Madhu Textiles	Vikas, Bank Street, Fort, Mumbai
9	Harish Textiles	Sona Industry Area, Andheri East, Mumbai

ANNEXURE IV

LIST OF INDUSTRY ASSOCIATIONS

S.No	Associations Name	Address
1	Ichalkaranji Shuttleless loom Owner's Association	17/59, Sawant Industris, Opp. Laykar Theater, Vivekanand Colony, Ichalkaranji-416115
2	The Ichalklaranji Powerloom Weaver's Co-op. Association Ltd.	Post Box No. 16, 11/197, Main Road, Ichalkaranji – 416115
3	Pallipalayam Powerloom & Auto Association	60 Raja Street, Pallipalayam, Erode-638006
4	Katar Gam Weavers' Association	New GIDC, Katar Gam, Surat-394230
5	District Small Industries Association	Industrial Estate, Behind DIC, Bhilwara-311001
6	Mewar Chamber of Commerce & Industries	Nagori garden, Bhilwara, Rajasthan-311001
7	Synthetic Weaving Mills Association	"Vastro Bhawar", RIICO Industrial Area, PUR Road, Bhilwara
8	Malegaon Powerloom Action Committee	Navkiran sizing, Kusumba road, Malegaon
9	Powerloom Development & Export Promotion Council	GC-2 Ground Floor Gundecha Onclave, Kherani Road Sakinaka, Andheri (East) Mumbai-400072
10	Textile Machinery Manufacturers Association	53 Mittal Chambers, 5th Floor, Nariman Point, Mumbai-400021

ANNEXURE V

LIST OF COMPOSITE MILLS

S.No	Mills Name	Address
1	Alok Industries Ltd.	Plot No.17/5/1 & 521/1, Village Rakholi Silvassa, Mumbai -396230
2	Arvind Denim	Arvind Ltd. Naroda Road, Ahmedabad
3	Remand Zoombatts Ltd.	Plot No. T-1, Kagal Hatkanangale Five Star Ind. Area, Kasba: Sangaon, Taluka: Kagal, Kolhapur, Maharashtra-416216
4	Vardhman Textiles Ltd.	Regd. Office Chandigarh Road, Ludhiana Punjab-141010
5	VTM Limited	Sulakarai, Virudhu Nagar, Tamil Nadu
6	Welspun India Ltd,	Welspun House, 6th floor, Kamala Mills Compound, Senapati Bapat Marg, Lower Parel, Mumbai-400013

Questionnaire for Beneficiary Power loom Units**GUIDELINES**

- Please tick (✓) the appropriate box(s)
- Information has been sought for XI Five Year Plan
- Information would be treated strictly confidential and will be used for study purposes

1 Cluster Code (1=Erode, 2=Surat, 3=Bhiwandi, 4=Bhilwara, 5=Ichalkaranji, 6=Malegaon)

2 Name & Address of the unit: _____

Phone & Email _____ Location City _____

3 Contact Person and Designation-----

4 Year of Establishment -----

5 Scale of Operation: (Code: 1=SSI, 2= Medium, 3= Large)

6 No. of power looms are in your unit _____

7 No. of Shuttle less power looms are in your unit _____

8 When have you installed shuttle less looms under TUFS (<2 yrs-1, 2-5 yrs-2, >5yrs-3)

9 Please provide details of Machines (shuttle less looms) in the unit

Type & Name of power loom	Nos.	First/second hand	Indian/imported	Year of Purchase/ upgraded	Country of import	Value (Rs. lakhs)		Source of funds
						At Inception/ Upgradation	Present Value	
Rapier								
Water Jet								
Air Jet								
Projectile								
Total								

10 Please provide information regarding Loom details and Assistance received under TUFS

Years	Name of shuttle less looms	Type of Machine (loom)		Country of import	Type of Assistance (pl tick✓)			Machine Amount details (Rs. Lacs)				
		Air jet/ Waterjet/ Projectile/ Rapier	2 nd hand imported/ New imported/ Brand New Indian		20% Margin Money (MMS)	5% Interest	10% capital subsidy	Cost of Machine	Assistance Recd. under TUFS	Finance Recd. from Bank	Own funds	
2007-08												
2008-09												
2009-10												
2010-11												
2011-12												

11 Are you planning for further modernization in the existing /new unit? (1=Yes/2=No)

- 12 If yes, please provide information regarding modernization (no. of shuttles looms) in next five years (Nos.)

Years	Type & Name of power loom	New imported	2nd hand imported	local/ Indigenous Brand New
2012-13	Rapier			
	Water Jet			
	Air Jet			
	Projectile			
2013-14	Rapier			
	Water Jet			
	Air Jet			
	Projectile			
2014-15	Rapier			
	Water Jet			
	Air Jet			
	Projectile			
2015-16	Rapier			
	Water Jet			
	Air Jet			
	Projectile			
2016-17	Rapier			
	Water Jet			
	Air Jet			
	Projectile			

- 13 Appox. amount required for modernization of all powerlooms in your unit _____ (Rs Lacs)
- 14 Details regarding mobilization of funds required for modernization in your unit

Type & Name of power loom	Source of funds(Rs. Lacs)			
	Self	Government	Banks	Any other
Rapier				
Water Jet				
Air Jet				
Projectile				
Total				

- 15 If you are planning for modernization (Please Rank 1 for most appropriate Reason)

Reasons for modernization	Rank	Remarks
Capacity Expansion		
Competition from Imports		
Market demand		
Reduction in cost of production		
Quality improvement		
Quantity improvement		
Safety standards		
Any other (pl. specify)		

- 16 What are the major **constraints you are facing in modernization** of your unit (Please Rank 1 for Most Important Reason)

Constraints	Rank	Remarks
Financial Support		
Market Demand		
Taxes/Duties		
Logistics / Infrastructure bottlenecks		
Legal/Certification and testing delays		
Lack of skilled labour		
Non availability of quality Raw Material		
Unaware regarding government schemes/incentives		
Any Others (pl. specify)		

- 17 In your Opinion, what are the **major differences** between 2nd hand shuttle less looms imported from European Union and New shuttle less looms imported from European Union, Japan and China

Differences	2 nd hand shuttle less looms imported from European Union				New shuttle less looms imported from European Union, Japan and China			
	Rapier	Water Jet	Air Jet	Projectile	Rapier	Water Jet	Air Jet	Projectile
Productive /Usage life (no. of years)								
Output /Minute								
Output /Day								

18 Please provide details on 2nd hand shuttle less looms imported from European Union and New shuttle less looms imported from European Union, Japan and China.

Name of shuttle less looms	Cost of loom (Rs Lacs)/loom				Taxes /Duties (Rs Lakhs)				Operational cost/day (Rs)				Productive life (Code: 1=>5 yrs, 2= 6-10 yrs,3=>10 yrs)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Capacity of looms (Output /day) (1day=8hrs)				Operational efficiency (Same—1, Better--2)				Production Waste (Same—1, less—2, more-3)				Run Time Capacity (Same—1, less—2, more-3)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Width of the Loom (cm)				Speed (Same—1, less—2, more-3)				Output Quality (Same—1, Better--2)				Quality Standards {Electronic Features, M/C design, Material etc} (Same—1, less—2, more-3)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Safety Standards (Same—1, less—2, more-3)				Hazardous Waste Generation (Same—1, less—2, more-3)				Noise and Vibration (Same—1, less—2, more-3)				Any other (please specify)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																

19 Please Rank Most Important Reason for installing any among the following **shuttle less looms** under TUFS. (**Rank 1** for Most Important Reason)

Reasons	2 nd hand Imported from European Union	New Imported from European Union, Japan and China	local/Indian brand new	Remarks
Advance Technologies				
Easily and timely available				
Cheap cost				
High Productive life				
Quality meeting export demand/ specification of Exporters				
Less Wear and tear				
After sales service				
Consumption of less electricity				
Low maintenance cost				
Ease of operating				
Lack of knowledge regarding importing looms				
Low duties/taxes				
Manageable with less skilled labour				
Any other (pl. specify)				

20 Please Rank Most Important Reason for not installing any among the following **shuttle less looms** under TUFS. (**Rank 1** for Most Important Reason)

Reasons	2 nd hand Imported from European Union	New Imported from European Union, Japan and China	local/Indian brand new	Remarks
High Cost				
Lack of knowledge				
Indian easily available				
Low Productive life				
Low in Quality/efficiency				
High Maintenance cost				
Non availability of parts				
Required skilled labour				
High duties/taxes				
Market does not require that level of quality				
Inappropriate Technologies				
High consumption of electricity				
Poor quality to meet specification of Exporters				
Uncertain supplies				
Any other (pl. specify)				

- 21 What are the **major reasons for lower installation of brand new/Indian shuttle-less looms by the power loom units?** (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Non- availability of world class designs /standards		
Uncertain supplies		
Less Demand		
Less Productive life		
Poor quality to meet specification of Exporters		
Easy import of modern machineries & equipments		
More Wear and tear		
High consumption of electricity		
Less efficient		
Any other (pl. specify)		

- 22 Please rank the **reasons for increase in the share of 2nd hand looms in total import of looms?** (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Cheap compared to new shuttle less loom		
Quality meeting export demands/ specifications		
Easily and timely available		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Ease of operating		
Consume less electricity		
High productive life		
Parts easily available		
Any other (pl. specify)		

- 23 What according to you are the important reasons for the **competitive advantage of shuttle less looms of other countries?** (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Economies of Scale		
Availability of skilled labour		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organized marketing network		
R&D Backup for design & new materials		
Cheap and easy availability of Raw materials		
Cheaper credit		
Any other (pl. specify)		

- 24 What measures do you suggest to support the **domestic/ Indian shuttle-less looms manufacturing units?** (Rank 1 for Most Important Reason)

Measures	Rank	Remarks
Reduce excise duty on raw materials used		
Strengthen Tool room/Testing facilities		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organized marketing network		
R&D Backup for design & new materials		
Support modernization credit through reduced interest		
Strengthen Cluster facilities (infrastructure etc.)		
Cheaper credit		
Any other (pl. specify)		

25 What are the major problems faced by you for availing assistance under TUFS Scheme

Type of machine	Problem
2nd hand imported shuttle-less looms	
New imported shuttle-less looms	
Indigenous brand new shuttle-less looms	

26 In your opinion, what changes are required in the specific guidelines/standards established for the sanctioning loans to increase the share of brand new indigenous shuttles looms to meet the projected requirement of the XII Plan.

Changes Suggested	Purpose

27 What are the additional measures need to be taken to make Indian shuttles looms more competitive?

Thank you

ANNEXURE VII

Questionnaire for Non-Beneficiary Power loom Units (shuttled looms)**GUIDELINES**

- Please tick (✓) the appropriate box(s)
- Information has been sought for XIth Five Year Plan
- Information would be treated strictly confidential and be used for this study only
- Information will be taken from units operating on **shuttled looms** only

- 1 Cluster Code (1=Erode, 2=Surat, 3=Bhiwandi, 4=Bhilwara, 5=Ichalkaranji, 6=Malegaon)
- 2 Name & Address of the unit: _____

Phone & Email _____ Location City _____

- 3 Contact Person and Designation-----
- 4 Year of Establishment -----
- 5 Scale of Operation: (Code: 1=SSI, 2= Medium, 3= Large)
- 6 No. of power looms in your unit _____
- 7 Are you planning for modernization/shuttleless loom in the existing /new unit? (1=Yes/2=No)
- 8 Are you aware of TUF Scheme for Shuttle less looms (1=Yes/2=No)
- 9 If yes, what is the reason for not availing assistance under TUFS Scheme

Section I: If planning for modernization/shuttle less looms

- 10 Please provide information regarding modernization (no. of shuttleless looms) in next five years (in Nos.)

Years	Type & Name of power loom	New imported	2nd hand imported	Indigenous/ imported
2012-13	Rapier			
	Water Jet			
	Air Jet			
	Projectile			
2013-14	Rapier			
	Water Jet			
	Air Jet			
	Projectile			
2014-15	Rapier			
	Water Jet			
	Air Jet			
	Projectile			
2015-16	Rapier			
	Water Jet			
	Air Jet			
	Projectile			
2016-17	Rapier			
	Water Jet			
	Air Jet			
	Projectile			

11 Appox. amount required for modernization in your unit----- (Rs Lacs)

12 Details regarding **mobilization of funds** for modernization in your unit

Type & Name of power loom	Source of funds(Rs. Lacs)			
	Self	Government	Banks	Any other
Rapier				
Water Jet				
Air Jet				
Projectile				
Total				

13 Rank important **Reason for modernization** (Please Rank 1 for Most Important Reason)

Reasons for modernization	Rank	Remarks
Capacity Expansion		
Competition from Imports		
Market demand		
Reduction in cost of production		
Quality improvement		
Quantity improvement		
Safety standards		
Any other (pl. specify)		

14 Please rank the following reasons if you **are planning to** install any among the following **shuttle less looms import 2nd hand shuttle less looms** from European Union.(Rank 1 for Most Important Reason)

Reasons	2 nd hand Imported from European Union	New Imported from European Union, Japan and China	local/Indian brand new	Remarks
Advance Technologies				
Easily and timely available				
Cheap cost				
High Productive life				
Quality meeting export demand/ specification of Exporters				
Less Wear and tear				
After sales service				
Consumption of less electricity				
Low maintenance cost				
Ease of operating				
Lack of knowledge regarding				
Low duties/taxes				
Manageable with less skilled labour				
Any other (pl. specify)				

- 15 Please rank the following reasons if you **are not planning to** install any among the following **shuttle less looms import 2nd hand shuttle less looms** from European Union. (Rank 1 for Most Important Reason)

Reasons	2 nd hand Imported from European Union	New Imported from European Union, Japan and China	local/Indian brand new	Remarks
High Cost				
Lack of knowledge				
Indian easily available				
Low Productive life				
Low in Quality/efficiency				
High Maintenance cost				
Non availability of parts				
Required skilled labour				
High duties/taxes				
Market does not require that level of quality				
Inappropriate Technologies				
High consumption of electricity				
Poor quality to meet specification of Exporters				
Uncertain supplies				
Any other (pl. specify)				

Section II: If you are not planning for modernization/shuttle less looms

- 16 What are the **major constraints you are facing in modernization** of your unit (Please Rank 1 for Most Important Reason)

Constraints	Rank	Remarks
Unawareness of TUFS		
Lack of Funds		
Market Demand		
High Taxes/Duties		
Logistics / Infrastructure bottlenecks		
Legal/Certification delays		
Lack of skilled labour		
Non availability of quality Raw Material		
Unaware regarding other government schemes/incentives		
Any Others (pl. specify)		

Thank you

Financial Institutions**GUIDELINES**

- Please mention the codes at the appropriate box(s)
- Information has been sought for XI Five Year Plan
- Information would be treated strictly confidential and will be used only for study purposes

- 1 Cluster Code (1=Erode, 2=Surat, 3=Bhiwandi, 4=Bhilwara, 5=Ichalkaranji, 6=Malegaon)
- 2 Name & Address of the Bank: _____
 Phone _____ Email _____
 Location City _____
- 3 Contact Person and Designation-----
- 4 No. of Power loom units in the cluster _____ (With shuttleless loom _____ without shuttleless loom _____)
- 5 No. of power loom units financed for shuttle less looms under TUFS during last five years: Small _____ medium _____ Large _____
- 6 Major criteria adopted to finance shuttle less looms under TUFS (Please Rank 1 for Most Important Reason)

Criteria	Rank			Remarks
	2 nd hand imported	New imported	Indian brand new	
Cost of the shuttle less loom				
Make of the machine				
Model of the machine				
Residual life of the machine				
Country of Import				
Resale value of the machine				
Viability of project proposal submitted for loan				
No. of quotations				
Any other (pl. specify)				

- 7 Rank the important parameters to establish **Bankability of the Unit** for financing shuttle less looms under TUFS. (Please Rank 1 for Most Important Reason)

Parameters	Rank	Remarks
Relationship with the bank		
Turnover of the unit		
Profitability of the unit		
Projection/future growth		
No. of Machines available with the units		
Age of the unit		
Loan Paying capacity of the unit		
Liabilities of the unit		
Any other (pl. specify)		

- 8 Percentage of defaulters in powerloom sector in this cluster
 (a. less than 25% b. 25-50% c. more than 50%

9 Details of Financial Assistance for **New Imported Shuttleless looms imported from European Union, China and Japan** under TUFS

Years		Machine Amount details (Rs. Lacs)											
		European Union				China				Japan			
		Cost of Machine	Received under TUFS	Financed by Bank	Financed by Units	Cost of Machine	Received under TUFS	Financed by Bank	Financed by Units	Cost of Machine	Received under TUFS	Financed by Bank	Financed by Units
2007-08	Air jet												
	Water Jet												
	Projectile												
	Rapier												
2008-09	Air jet												
	Water Jet												
	Projectile												
	Rapier												
2009-10	Air jet												
	Water Jet												
	Projectile												
	Rapier												
2010-11	Air jet												
	Water Jet												
	Projectile												
	Rapier												
2011-12	Air jet												
	Water Jet												
	Projectile												
	Rapier												

10 Details of Financial Assistance for **Second hand Shuttleless looms imported from European Union** under TUFS

Years	Name of shuttle less looms	Machine Amount details(Rs. Lacs)			
		Cost of Machine	Received under TUFS	Financed by Bank	Financed by Units
2007-08	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2008-09	Air jet				
	Water Jet				
	Projectile				
	Rapier				
	Air jet				

2009-10	Water Jet				
	Projectile				
	Rapier				
2010-11	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2011-12	Air jet				
	Water Jet				
	Projectile				
	Rapier				

11 Details of Financial Assistance for **Brand new indian Shuttleless looms under TUFS**

Years	Name of shuttle less looms	Machine Amount details(Rs. Lacs)			
		Cost of Machine	Received under TUFS	Financed by Bank	Financed by Units
2007-08	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2008-09	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2009-10	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2010-11	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2011-12	Air jet				
	Water Jet				
	Projectile				
	Rapier				

- 12 Time required **by you** to process application for shuttle less loom under TUFS (please ✓)

Time	2nd hand imported	New imported	Brand new Indian
Less than 15 days			
15-30 days			
More than a month			

- 13 Time taken by **Office of Textile Commissioner** to process the application forwarded by Bank for shuttle less loom under TUFS (please ✓)

Time	2nd hand imported	New imported	Brand new Indian
Less than 15 days			
15-30 days			
More than a month			

- 14 Provide the following information with respect to imported **2nd hand shuttle less loom under TUFS**
{Same-1, Less-2, More-3}

Sr. No	Criteria	New imported	Brand new Indian
1	Documents required by Office of Textile Commissioner to process application		
2	Type of collateral required by Bank		
3	Interest rate charged by Bank		
4	Duration of Loan		
5	Preference of Loan for the Air jet		
6	Preference of Loan for the Water jet		
7	Preference of Loan for the Projectile		
8	Preference of Loan for the Rapier		
9	Any other (pl. specify)		

- 15 In your opinion, what is the investment capacity of the powerloom sector for modernization in this cluster?

- 16 In your opinion, what changes are required in the specific guidelines/standards established for the sanctioning loans to increase the share of brand new Indian shuttles looms to meet the projected requirement of the XII Plan.

Changes Suggested	Purpose

- 17 What additional/alternative measures, in your views, can be taken to make Indian shuttles looms more competitive?

- 18 What are your credit plans for the powerloom sector during next five years?
(Please enclose the detailed credit plan)

- 19 **What are the main reasons for** low credit flow to the powerloom segment?

Thank you

Financial Institutions-Head Office**GUIDELINES**

- Please mention the codes at the appropriate box(s)
- Information has been sought for XI Five Year Plan
- Information would be treated strictly confidential and will be used only for study purposes

1 Name & Address of the Bank: _____
 Phone _____ Email _____
 Location City _____

2 Contact Person and Designation-----

3 Details of Power loom units

Particulars	With shuttleless loom	Without shuttleless loom
Erode		
Bhiwandi		
Ichalkaranji		
Surat		
Bhilwada		
Malegaon		
All India		

4 No. of power loom units financed for shuttle less looms under TUFs during last five years: Small _____ medium _____ Large _____

5 Percentage of defaulters in powerloom sector (please \sqrt)

Particulars	less than 25%	25-50%	more than 50%
Erode			
Bhiwandi			
Ichalkaranji			
Surat			
Bhilwada			
Malegaon			
All India			

6 Major criteria adopted to finance shuttle less looms under TUFs (Please Rank 1 for Most Important Reason)

Criteria	Rank			Remarks
	2 nd hand imported	New imported	Indian brand new	
Cost of the shuttle less loom				
Make of the machine				
Model of the machine				
Residual life of the machine				
Country of Import				
Resale value of the machine				
Viability of project proposal submitted for loan				
No. of quotations				
Any other (pl. specify)				

- 7 Rank the important parameters to establish **Bankability of the Unit** for financing shuttle less looms under TUFS. (Please Rank 1 for Most Important Reason)

Parameters	Rank	Remarks
Relationship with the bank		
Turnover of the unit		
Profitability of the unit		
Projection/future growth		
No. of Machines available with the units		
Age of the unit		
Loan Paying capacity of the unit		
Liabilities of the unit		
Any other (pl. specify)		

- 8 Details of Financial Assistance for **New Imported Shuttleless looms imported from European Union, China and Japan** under TUFS

Years	Name of shuttle less looms	Machine Amount details (Rs. Lacs)											
		European Union				China				Japan			
		Cost of Machine	Received under TUFS	Financed by Bank	Financed by Units	Cost of Machine	Received under TUFS	Financed by Bank	Financed by Units	Cost of Machine	Received under TUFS	Financed by Bank	Financed by Units
2007-08	Air jet												
	Water Jet												
	Projectile												
	Rapier												
2008-09	Air jet												
	Water Jet												
	Projectile												
	Rapier												
2009-10	Air jet												
	Water Jet												
	Projectile												
	Rapier												
2010-11	Air jet												
	Water Jet												
	Projectile												
	Rapier												
2011-12	Air jet												
	Water Jet												
	Projectile												
	Rapier												

9 Details of Financial Assistance for **Second hand Shuttleless looms imported from European Union** under TUFs

Years	Name of shuttle less looms	Machine Amount details(Rs. Lacs)			
		Cost of Machine	Received under TUFs	Financed by Bank	Financed by Units
2007-08	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2008-09	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2009-10	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2010-11	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2011-12	Air jet				
	Water Jet				
	Projectile				
	Rapier				

10 Details of Financial Assistance for **Brand new indian Shuttleless looms under TUFs**

Years	Name of shuttle less looms	Machine Amount details(Rs. Lacs)			
		Cost of Machine	Received under TUFs	Financed by Bank	Financed by Units
2007-08	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2008-09	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2009-10	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2010-11	Air jet				
	Water Jet				
	Projectile				
	Rapier				
2011-12	Air jet				
	Water Jet				
	Projectile				
	Rapier				

11 Time required **by you** to process application for shuttle less loom under TUFs (please √)

Time	2nd hand imported	New imported	Brand new Indian
Less than 15 days			
15-30 days			
More than a month			

12 Time taken by **Office of Textile Commissioner** to process the application forwarded by Bank for shuttle less loom under TUFs (please √)

Time	2nd hand imported	New imported	Brand new Indian
Less than 15 days			
15-30 days			
More than a month			

13 Provide the following information with respect to imported **2nd hand shuttle less loom under TUFs**
{Same-1, Less-2, More-3}

Sr. No	Criteria	New imported	Brand new Indian
1	Documents required by Office of Textile Commissioner to process application		
2	Type of collateral required by Bank		
3	Interest rate charged by Bank		
4	Duration of Loan		
5	Preference of Loan for the Air jet		
6	Preference of Loan for the Water jet		
7	Preference of Loan for the Projectile		
8	Preference of Loan for the Rapier		
9	Any other (pl. specify)		

14 In your opinion, what is the investment capacity of the powerloom sector for modernization in this cluster?

15 In your opinion, what changes are required in the specific guidelines/standards established for the sanctioning loans to increase the share of brand new Indian shuttles looms to meet the projected requirement of the XII Plan.

Changes Suggested	Purpose

16 What additional/alternative measures, in your views, can be taken to make Indian shuttles looms more competitive?

17 What are your credit plans for the powerloom sector during next five years?
(Please enclose the detailed credit plan)

18 What are the main reasons for low credit flow to the powerloom segment?

Thank you

Questionnaire for Manufacturing/Importing Units**GUIDELINES**

- Please tick (✓) the appropriate box(s)
- Information has been sought for XI Five Year Plan
- Information would be treated strictly confidential and will be used only for study purposes

- 1 Cluster Code (1=Erode, 2=Surat, 3=Bhiwandi, 4=Bhilwara, 5=Ichalkaranji, 6=Malegaon, 7= other)
- 2 Name & Address of the Manufacturing unit: _____

Phone & Email _____ Location City _____

- 3 Contact Person and Designation-----
- 4 Year of Establishment -----
- 5 Scale of Operation: (Code: 1=SSI, 2= Medium, 3= Large)
- 6 Type of Machine being Produced /imported(1=Air jet, 2=Water jet, 3=Projectile, 4=Rapier)
- 7 Whether the demand for Indian shuttle less loom has increased or decreased during the last five years? (Increased-1/ Decreased-2)
- 8 If the demand during last year has increased/decreased, What is the per cent change?
(a. <15% b. 15-25% c.25-35% d. >50% e. remain same)
- 9 If the **demand for Indian shuttle less loom has increased** during last five years, please rank the following reasons (Rank 1 for the most important reason)

Reasons	Rank	Remarks
Modernization		
Government incentives		
Quality of indigenous shuttle-less looms is at par with the imported ones		
Cost effective		
Spare parts are easily available		
Repair and maintenance is cheap		
Technical Know how is available within country		
Any other, please specify		

- 10 If the **demand has decreased** during last five years, please rank the following reasons (Rank 1 for the most important reason)

Reasons	Rank	Remarks
Imported 2nd hand shuttle less looms are cheaper		
Imported 2nd hand shuttle less looms are of superior quality		
Less Productive		
Lack of government incentives		
High cost of repair and maintenance		
Any other, please specify		

11 Average selling price of the Indian/imported shuttle less looms (Rs. Lacs)

Year	Rapier Type		Air Jet Type		Water Jet Type		Projectile Type	
	Indian	Imported	Indian	Imported	Indian	Imported	Indian	Imported
2007-08								
2008-09								
2009-10								
2010-11								
2011-12								

12 Have you planned any increase in production? (1=Yes/ 2=No) 13 If yes, what %age of increase has been planned? (a. <15% b. 15-25% c.25-35% d. >50% 14 What are the **major constraints you are facing in increasing production of your unit** (Please Rank 1 for Most Important Reason)

Constraints	Rank	Remarks
Financial Support		
Market Demand		
Taxes/Duties		
Logistics / Infrastructure bottlenecks		
Legal/Certification and testing delays		
Lack of skilled labour		
Non availability of quality Raw Material		
Any Others (pl. specify)		

15 Please Rank probable important reasons for installing any among the following **shuttle less looms** under TUFS by Units. (**Rank 1** for Most Important Reason)

Reasons	2 nd hand Imported from European Union	New Imported from European Union, Japan and China	local/Indian brand new	Remarks
Advance Technologies				
Easily and timely available				
Cheap cost				
High Productive life				
Quality meeting export demand/ specification of Exporters				
Less Wear and tear				
After sales service				
Consumption of less electricity				
Low maintenance cost				
Ease of operating				
Lack of knowledge regarding				
Low duties/taxes				
Manageable with less skilled				
Any other (pl. specify)				

16 Please Rank probable important reason for not installing any among the following **shuttle less looms** under TUFS. (**Rank 1** for Most Important Reason)

Reasons	2 nd hand Imported from European Union	New Imported from European Union, Japan and China	local/Indian brand new	Remarks
High Cost				
Lack of knowledge				
Indian easily available				
Low Productive life				
Low in Quality/efficiency				
High Maintenance cost				
Non availability of parts				
Required skilled labour				
High duties/taxes				
Market does not require that level of quality				
Inappropriate Technologies				
High consumption of electricity				
Poor quality to meet specification of Exporters				
Uncertain supplies				
Any other (pl. specify)				

17 What measures do you suggest to support the **domestic/ Indian shuttle-less looms manufacturing units**? (Rank 1 for Most Important Reason)

Measures	Rank	Remarks
Reduce excise duty on raw materials used		
Strengthen Tool room/Testing facilities		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organized marketing network		
R&D Backup for design & new materials		
Support modernization credit through reduced interest		
Strengthen Cluster facilities (infrastructure etc.)		
Cheaper credit		
Any other (pl. specify)		

18 What are the **major reasons for lower installation of brand new/Indian shuttle-less looms by the powerloom units**? (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Non- availability of world class designs /standards		
Uncertain supplies		
Less Demand		
Less Productive life		
Poor quality to meet specification of Exporters		
Easy import of modern machineries & equipments		
More Wear and tear		
High consumption of electricity		
Less efficient		
Any other (pl. specify)		

- 19 What according to you are the important reasons for the **competitive advantage of shuttleless looms of other countries?** (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Economies of Scale		
Availability of skilled labour		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organised marketing network		
R&D Backup for design & new materials		
Cheap and easy availability of Raw materials		
Cheaper credit		
Any other (pl. specify)		

20 Please provide the following information regarding 2nd hand shuttle less looms imported from European Union and New shuttle less looms imported from European Union, Japan and China.

Name of shuttle less looms	Cost of loom (Rs Lacs)				Taxes /Duties (Rs Lakhs)				Operational cost/day (Rs)				Productive life (Code: 1=>5 yrs, 2= 6-10 yrs,3=>10 yrs)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Capacity of looms (Output /Minute)				Operational efficiency (Same—1, Better--2)				Production Waste (Same—1, less—2, more-3)				Run Time Capacity (Same—1, less—2, more-3)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Width of the Loom (cm)				Speed (Same—1, less—2, more-3)				Output Quality (Same—1, Better--2)				Quality Standards {Electronic Features, M/C design, Material etc} (Same—1, less—2, more-3)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Safety Standards (Same—1, less—2, more-3)				Hazardous Waste Generation (Same—1, less—2, more-3)				Noise and Vibration (Same—1, less—2, more-3)				Any other (please specify)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																

21 What measures do you suggest to support the **domestic/ Indian shuttle-less looms manufacturing units**? (Rank 1 for Most Important Reason)

Measures	Rank	Remarks
Reduce excise duty on raw materials used		
Strengthen Tool room/Testing facilities		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organized marketing network		
R&D Backup for design & new materials		
Support modernization credit through reduced interest		
Strengthen Cluster facilities (infrastructure etc.)		
Cheaper credit		
Any other (pl. specify)		

22 In your opinion, what changes are required in the specific guidelines/standards established for the sanctioning loans to increase the share of brand new indigenous shuttles looms to meet the projected requirement of the XII Plan.

Changes Suggested	Purpose

23 What are the additional measures need to be taken to make Indian shuttles looms more competitive?

24 If there will be a decline in import of shuttle-less looms from other countries, whether you have the capability of producing shuttle-less looms other than Rapier type. (Yes-1, No-2)

25 If yes, how much you will be able to match the requirement (Please √)

Demand	Water Jet	Air Jet	Projectile
<2%			
2-5%			
5-10%			
>10%			

Thank you

Questionnaire for Powerloom Industry Associations**GUIDELINES**

- Please tick (✓) the appropriate box(s)
- Information is sought for XIth Five Year Plan
- Information would be treated strictly confidential and be used for this study only

1 Cluster Code (1=Erode, 2=Surat, 3=Bhiwandi, 4=Bhilwara, 5=Ichalkaranji, 6=Malegaon, 7=others)

2 Name & Address of the Association: _____

Phone & Email _____ Location City _____

3 Contact Person and Designation _____

4 No. of Power loom units in the cluster(_____With shuttleless loom_____without shuttleless loom_____)

5 No. of members associated with your association (Small_____Medium_____Large_____)

6 Please provide information regarding the members who have availed **TUFS scheme** for shuttle less looms during the XI Plan (Small_____Medium_____Large_____)

7 Please provide the following information of the members of the association w.r.t. machinery installed under TUFS during the XI Plan by the:

Years	Type of shuttle less looms			
	Machine	2 nd hand	New imported	Indigenous brand new
2007-08	Air jet			
	Water Jet			
	Projectile			
	Rapier			
2008-09	Air jet			
	Water Jet			
	Projectile			
	Rapier			
2009-10	Air jet			
	Water Jet			
	Projectile			
	Rapier			
2010-11	Air jet			
	Water Jet			
	Projectile			
	Rapier			
2011-12	Air jet			
	Water Jet			
	Projectile			
	Rapier			

8 Please provide the following information regarding 2nd hand shuttle less looms imported from European Union and New shuttle less looms imported from European Union, Japan and China.

Name of shuttle less looms	Cost of loom (Rs Lacs)				Taxes /Duties (Rs Lakhs)				Operational cost/day (Rs)				Productive life (Code: 1=>5 yrs, 2= 6-10 yrs,3=>10 yrs)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Capacity of looms (Output /Minute)				Operational efficiency (Same—1, Better--2)				Production Waste (Same—1, less—2, more-3)				Run Time Capacity (Same—1, less—2, more-3)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Width of the Loom (cm)				Speed (Same—1, less—2, more-3)				Output Quality (Same—1, Better--2)				Quality Standards {Electronic Features, M/C design, Material etc} (Same—1, less—2, more-3)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																
Name of shuttle less looms	Safety Standards (Same—1, less—2, more-3)				Hazardous Waste Generation (Same—1, less—2, more-3)				Noise and Vibration (Same—1, less—2, more-3)				Any other (please specify)			
	2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported			2 nd hand imported from EU	New imported		
		EU	China	Japan		EU	China	Japan		EU	China	Japan		EU	China	Japan
Rapier																
Water Jet																
Air Jet																
Projectile																

- 9 Approximately how many member units are planning for modernization in the existing /new unit
(Small_____ Medium_____ Large_____)
- 10 How many members are planning for: (2nd hand import___New import ___Brand new/Indigenous___)
- 11 Approximately average investment capacity for modernization of all the member units
(Rs Lacs)(Small_____ Medium_____ Large_____)
- 12 Please rank the important reasons for modernization (Rank 1 for Most Important Reason)

Reasons for modernization	Rank	Remarks
Capacity Expansion		
Competition from Imports		
Market demand		
Reduction in cost of production		
Quality improvement		
Quantity improvement		
Safety standards		
Any other (pl. specify)		

- 13 What are the major **constraints member units are facing** while going for modernization (Please Rank 1 for Most Important Reason)

Constraints	Rank	Remarks
Financial Support		
Market Demand		
Taxes/Duties		
Logistics / Infrastructure bottlenecks		
Legal/Certification and testing delays		
Lack of skilled labour		
Non availability of quality Raw Material		
Any Others (pl. specify)		

- 14 Please Rank probable important reasons for installing any among the following **shuttle less looms** under TUFS by Units. (Rank 1 for Most Important Reason)

Reasons	2 nd hand Imported from European Union	New Imported from European Union, Japan and China	local/Indian brand new	Remarks
Advance Technologies				
Easily and timely available				
Cheap cost				
High Productive life				
Quality meeting export demand/ specification of Exporters				
Less Wear and tear				
After sales service				
Consumption of less electricity				
Low maintenance cost				
Ease of operating				
Lack of knowledge regarding importing				
Low duties/taxes				
Manageable with less skilled labour				
Any other (pl. specify)				

15 Please Rank probable important reason for not installing any among the following **shuttle less looms** under TUFS. (Rank 1 for Most Important Reason)

Reasons	2 nd hand Imported from European Union	New Imported from European Union, Japan and China	local/Indian brand new	Remarks
High Cost				
Lack of knowledge				
Indian easily available				
Low Productive life				
Low in Quality/efficiency				
High Maintenance cost				
Non availability of parts				
Required skilled labour				
High duties/taxes				
Market does not require that level of quality				
Inappropriate Technologies				
High consumption of electricity				
Poor quality to meet specification of Exporters				
Uncertain supplies				
Any other (pl. specify)				

16 In your opinion, important reasons for **lower installation of brand new/indigenous shuttle-less looms** by the powerloom units? (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Non- availability of world class designs /standards		
Uncertain supplies		
Less Demand		
Less Productive life		
Poor quality to meet export demand /specification of Exporters		
Easy import of modern machineries & equipments		
More Wear and tear		
High consumption of electricity		
Less efficient		
Any other (pl. specify)		

17 In your opinion, important reasons for **increase in the share of 2nd hand looms in total import of looms**? (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Cheap compare to new shuttle less loom		
Quality meeting export demands/ specifications		
Easily and timely available		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Ease of operating		
Consume less electricity		
High productive life		
Parts easily available		
Better than China New looms		
Any other (pl. specify)		

- 18 What according to you are the important reasons for the **competitive advantage of shuttleless looms of other countries?** (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Economies of Scale		
Availability of skilled labour		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organised marketing network		
R&D Backup for design & new materials		
Cheap and easy availability of Raw materials		
Cheaper credit		
Any other (pl. specify)		

- 19 What **measures do you suggest to support the domestic/ indigenous shuttle-less looms manufacturing units?** (Rank 1 for Most Important Reason)

Measures	Rank	Remarks
Reduce excise duty on raw materials used		
Strengthen Tool room/Testing facilities		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organized marketing network		
R&D Backup for design & new materials		
Support modernization credit through reduced interest		
Strengthen Cluster facilities (infrastructure etc.)		
Cheaper credit		
Any other (pl. specify)		

- 20 In your opinion, what changes are required in the specific guidelines/standards established for the sanctioning loans to increase the share of brand new indigenous shuttles looms to meet the projected requirement of the XII Plan.

Changes Suggested	Purpose

- 21 What additional/alternative measures, in your views, can be taken to make indigenous shuttles looms more competitive?

ANNEXURE XII

Questionnaire for Office of Textile Commissioner**GUIDELINES**

- Please tick (✓) the appropriate box(s)
- Information has been sought for XI Five Year Plan
- Information would be treated strictly confidential and will be used only for study purposes

- 1 Name of the contact person: _____
Designation _____
Phone & Email _____ Location City _____
- 2 Please provide following information regarding Applications processed under TUFS for shuttle less looms during XI plan

Years	Number of Applications processed for shuttle less looms under TUFS					
	Office of Textile Commissioner			Banks		
	2 nd hand imported	New imported	Indian brand new	2 nd hand imported	New imported	Indian brand new
2007-08						
2008-09						
2009-10						
2010-11						
2011-12						

- 3 Please provide following information regarding Machine details and Assistance received under TUFS for shuttle less looms during XI plan

Years	Type of Machine	Number of shuttle less looms financed under TUFS	Funds under TUFS for shuttle less looms (Rs. Lacs)	
			Funds Allocated	Funds Utilized
2007-08	2 nd hand imported			
	New imported			
	Brand New Indian			
2008-09	2 nd hand imported			
	New imported			
	Brand New Indian			
2009-10	2 nd hand imported			
	New imported			
	Brand New Indian			
2010-11	2 nd hand imported			
	New imported			
	Brand New Indian			
2011-12	2 nd hand imported			
	New imported			
	Brand New Indian			
2007-12	2 nd hand imported			
	New imported			

4 No. of Power loom units in the clusters

Particulars	With shuttleless loom	Without shuttleless loom
Erode		
Bhiwandi		
Ichalkaranji		
Surat		
Bhilwada		
Malegaon		
All India		

5 Please provide information on number of beneficiaries for shuttle-less looms under TUFS during XI Plan in following clusters

Particulars	Importing Second hand shuttleless looms			Importing new shuttleless looms			Buying Brand new/ Indian shuttleless looms		
	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
Erode									
Bhiwandi									
Ichalkaranji									
Surat									
Bhilwada									
Malegaon									
All India									

6 Please provide information on size wise financial support for shuttle-less looms under TUFS during XI Plan in following clusters

(Rs. Lacs)

Particulars	Second hand shuttleless looms imported			Imported new shuttleless looms			Brand new shuttleless looms (Indian)		
	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
Erode									
Bhiwandi									
Ichalkaranji									
Surat									
Bhilwada									
Malegaon									
All India									

- 7 Please provide information on machine wise financial support disbursed during XI Plan for shuttle-less looms under TUFS in following clusters

(Rs. Lacs)

Particulars	Second hand shuttleless looms imported				Imported new shuttleless looms				Brand new shuttleless looms (Indian)			
	Airjet	Waterjet	Rapier	Projectile	Airjet	Waterjet	Rapier	Projectile	Airjet	Waterjet	Rapier	Projectile
Erode												
Bhiwandi												
Ichalkaranji												
Surat												
Bhilwada												
Malegaon												
All India												

- 8 Please provide the criteria adopted to select a unit to provide assistance for shuttle-less looms (Please Rank 1 for Most Important Reason)

Criteria	Rank			Remarks
	2 nd hand imported	New imported	Indian brand new	
Cost of the shuttle less loom				
Make of the machine				
Model of the machine				
Residual life of the machine				
Country of Import				
Resale value of the machine				
Viability of project proposal submitted for loan				
No. of quotations				
Any other (pl. specify)				

- 9 Is there any difference in the procedure adopted for financing shuttle less looms under TUFS (1=Yes/2=No)

- 10 If yes, difference changes required to increase the share of brand new Indian shuttles looms to meet the projected requirement of the XII Plan

Type of machine	Changes Suggested
New import	
2 nd hand import	
Brand new/Indian	

- 11 What are the major **reasons for lower installation of brand new/Indian shuttle-less looms** by the powerloom units? (Rank 1 for Most Important Reason)

Reasons for lower installation of brand new/Indian shuttle-less looms	Rank	Remarks
Non- availability of world class designs /standards		
Uncertain supplies		
Less Demand		
Less Productive life		
Poor quality to meet export demand /specification of Exporters		
Easy import of modern machineries & equipments		
More Wear and tear		
High consumption of electricity		
Less efficient		
Any other (pl. specify)		

- 12 What according to you are the important reasons for the **competitive advantage of shuttleless looms of other countries over the Indian machines**? (Rank 1 for Most Important Reason)

Reasons for competitive advantage of shuttleless looms of other countries	Rank	Remarks
Economies of Scale		
Availability of skilled labour		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organised marketing network		
R&D Backup for design & new materials		
Cheap and easy availability of Raw materials		
Cheaper credit		
Any other (pl. specify)		

- 13 Please rank the reasons for **increase in the share of 2nd hand looms in total import of looms**? (Rank 1 for Most Important Reason)

Reasons	Rank	Remarks
Cheap compare to new shuttle less loom		
Quality meeting export demands/ specifications		
Easily and timely available		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Ease of operating		
Consume less electricity		
High productive life		
Parts easily available		
Better than China New looms		
Any other (pl. specify)		

- 14 What measures do you suggest to support the domestic/ Indian shuttle-less looms manufacturing units? (Rank 1 for Most Important Reason)

Measures	Rank	Remarks
Reduce excise duty on raw materials used		
Strengthen Tool room/Testing facilities		
Fiscal Incentives		
Conducive Govt. policies & Infrastructure support		
Organized marketing network		
R&D Backup for design & new materials		
Support modernization credit through reduced interest		
Strengthen Cluster facilities (infrastructure etc.)		
Cheaper credit		
Any other (pl. specify)		

- 15 In your opinion, what is the investment capacity of the powerloom sector for modernization?

- 16 In your opinion, what changes are required in the specific guidelines/standards established for the sanctioning loans to increase the share of brand new Indian shuttles looms to meet the projected requirement of the XII Plan.

Changes Suggested	Purpose

- 17 What additional/alternative measures, in your views, can be taken to make Indian shuttles looms more competitive?

Thank you