

INTRODUCTION

COTTAGE INDUSTRIES - 1700S

BANGLE MAKING, LAMP MAKING, HANDICRAFT BLOWING, CONSUMER BASED GLASS MADE INDUSTRY

PRESSING AND BLOWING

FIROZABAD, LUCKNOW, AGRA, ALIGARH – TRADE ROUTE – EXPORT AND IMPORT – MAIN ROUTE OF INDUSTRIES

PRESSING AND BLOWING – ONLY IN FACTORIES

ARTISANS CLUSTERS/ COTTAGE INDUSTRIES

GENERATION TO GENERATION

300 YEARS OLD

DENSE CLUSTERS

KARBALA – WAREHOUSES

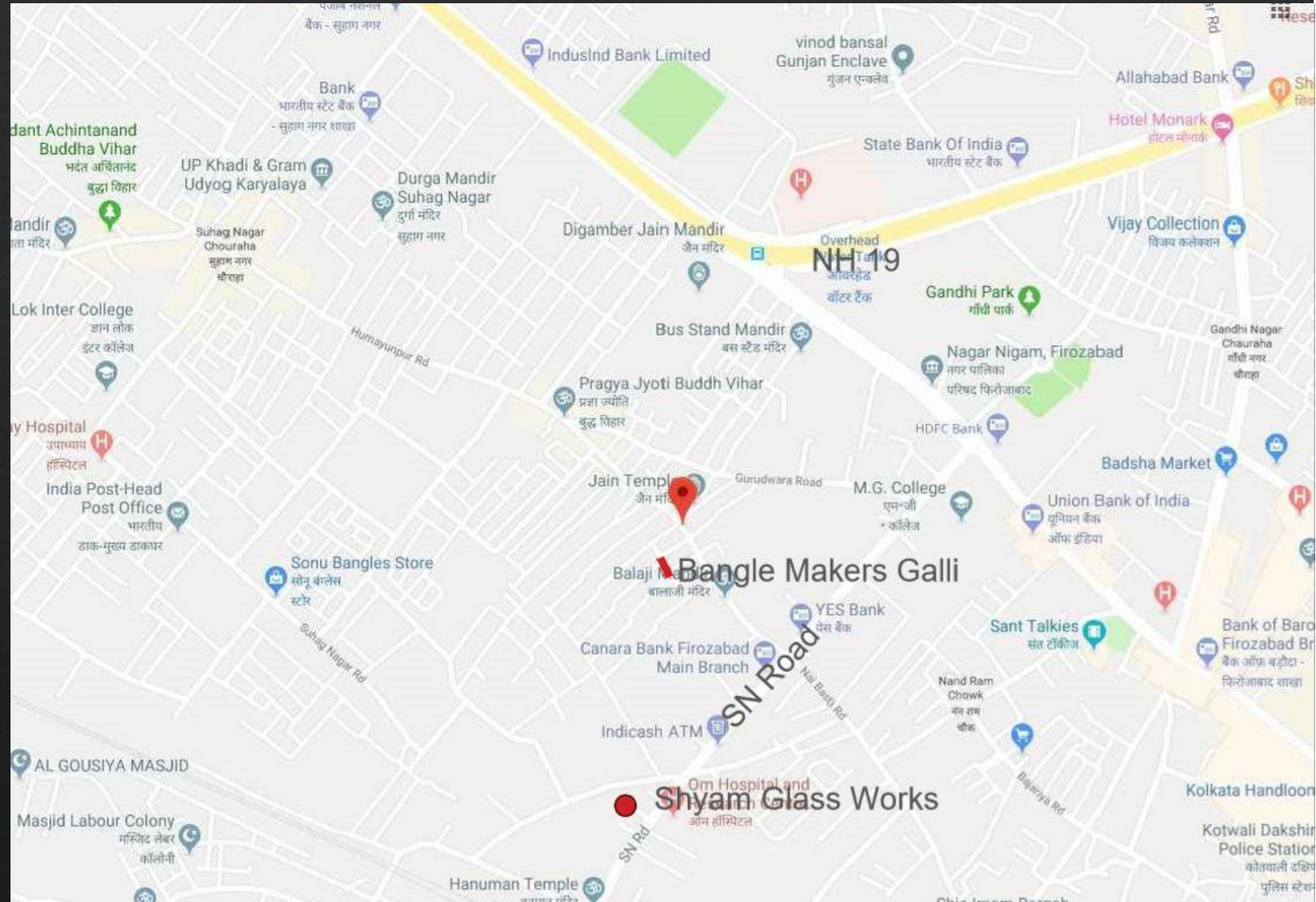
HISTORY AND EVOLUTION

DURING ANCIENT TIMES, INVADERS BROUGHT A LOT OF GLASS ARTICLES TO INDIA. THE REJECTED ARTICLES WERE COLLECTED AND MELTED IN LOCALLY MADE FURNACES CALLED '**BHAINSA BHATTI**'. IN THIS FURNACE, **WOOD WAS USED AS A FUEL**. THESE TRADITIONAL FURNACES ARE STILL USED IN ALIGARH AND AT PURDAL NAGAR. THE GLASS INDUSTRY SPECIALLY THE MODERN GLASS BANGLES TECHNOLOGY WAS STARTED AND INVENTED BY **HAJI RUSTAM USTAD**. ONE BANGLE AT A TIME, BANGLES HAD NO JOINTS, KADECHHAL KI CHUDI.

- 1700S.** MUGHAL ERA – DEVELOPMENT STARTED – SHISHGARS COMMUNITY – MIGRATED FROM RAJASTHAN, GUJARAT, 2-3 CLUSTERS
- 1908** BRITISH ERA - INDUSTRIALIZE IT TO A MASS LEVEL
- 1910** ALL OVER FIROZABAD – FURNACE REPLACED WITH REGENERATED FURNACE – MASS PRODUCTION – ASIAN COUNTRIES
- AFTER WWI, INDUSTRIAL REVOLUTION, OLDEST FACTORIES 1920S**
- 1924** GLASS USAGE REDUCED IN WWI BUT BOOMED IN 1924, NEW FACTORIES
- 40 YEARS** GOLDEN PERIOD OF GLASS INDUSTRY, DIFFERENT UNITS AFTER THAT SUHAAAG NAGARI
- 1960** AUTOMATION IN INDUSTRIES MECHANIZATION
- 1980S** COAL REPLACED ELECTRIC FURNACES, NEW POLICIES

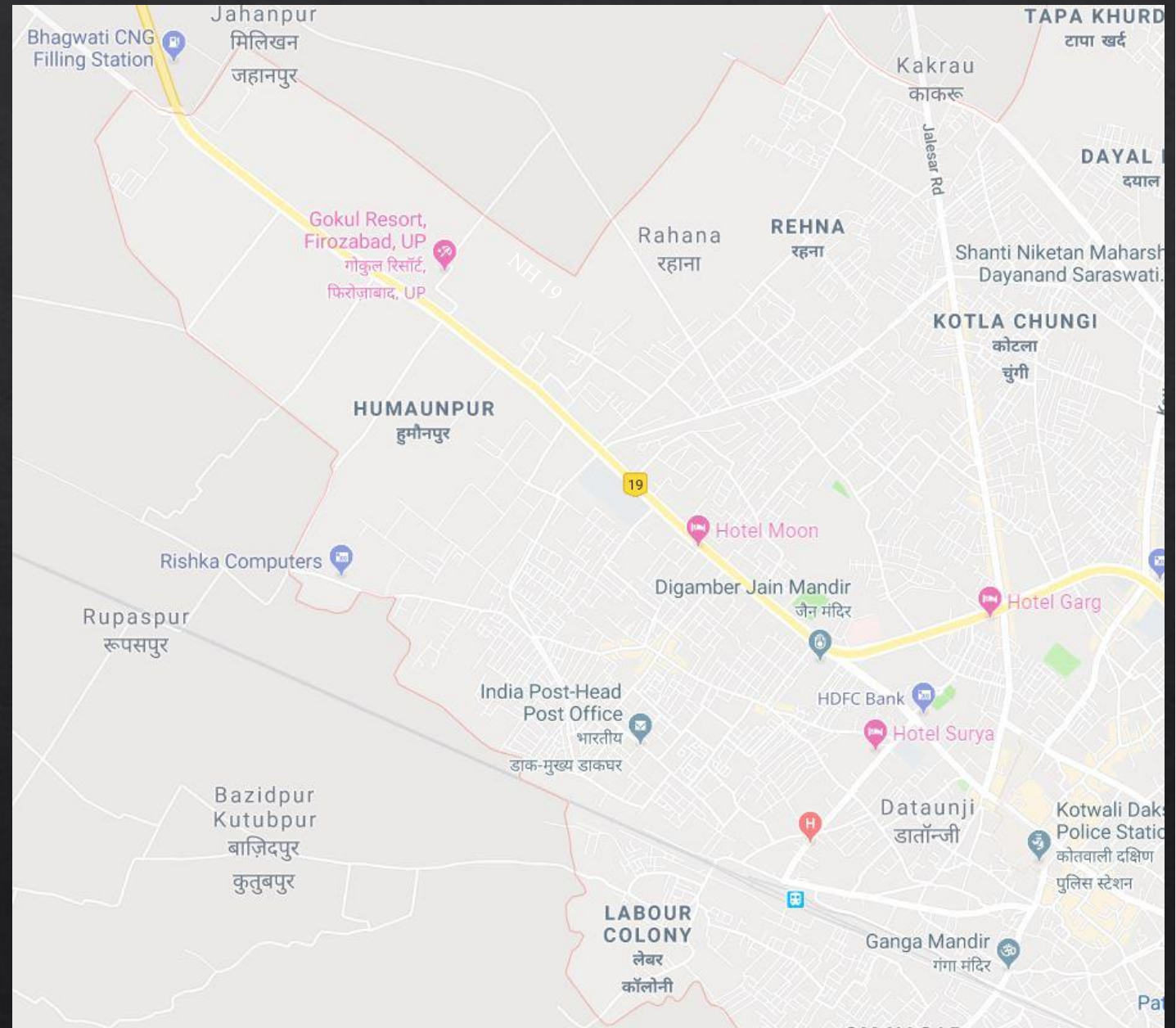
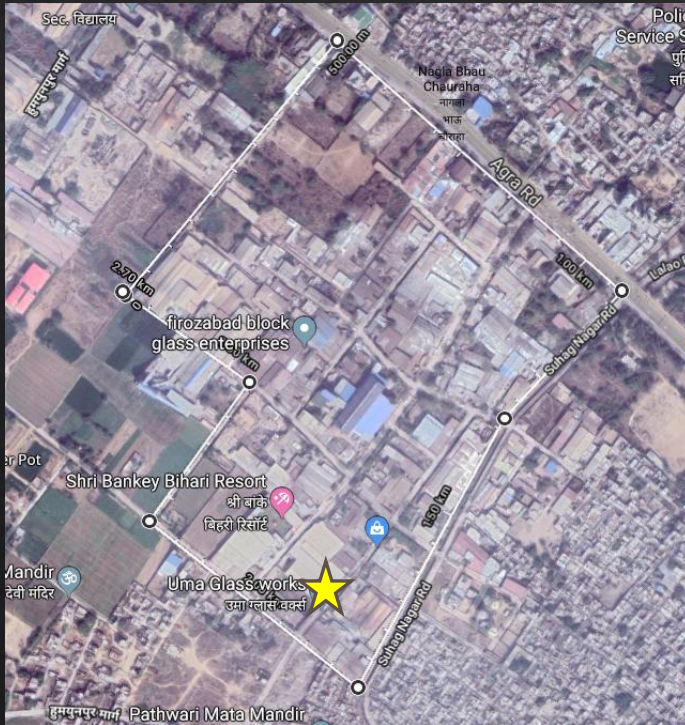
Context of Karbala

- The area, Karbala Road is a branch of the industrial cluster along the SN road.
- The NH 19 connects directly to the SN road.
- Karbala has a few medium scale bangle factories and two large scale glass factories.
- There is a group of household bangle workers along Karbala Road who work on the *Judaai* and *Chataai* of the bangles.
- This is very near also to the railway station and has godowns and warehouses along this road.



Humaunpur Industrial Cluster

- The Humaunpur Area is to the west of Firozabad with large industries clustered in the area.
- The area is situated in The Industrial Estate with large glass manufacturing plants warehouses and bangle manufacturers in the area.



Glass industries are facing difficulties like having to shift there location as it falls in **TTZ region**. Second, **shortage of skilled workers** and the third difficulty is that factory workers work in **extreme conditions, high temperatures and toxic gas**.

The government setup, centre for development of glass industry under MSME ministry is lending businesses and providing machines.

Centre for development of glass industry was established at Firozabad in **1992** as a joint venture program of government of india.

TAJ TRAPEZIUM ZONE

TAJ TRAPEZIUM ZONE IS A DEFINED AREA OF 10,400 SQ. KM AROUND THE TAJ MAHAL TO PROTECT THE MONUMENT FROM POLLUTION. THE SUPREME COURT OF INDIA DELIVERED A RULING ON DECEMBER 30, 1996 REGARDING INDUSTRIES COVERED UNDER THE TTZ, IT BANNED THE USE OF COAL/ COKE IN INDUSTRIES LOCATED IN THE TTZ COMPRISES ABOUT 40 PROTECTED MONUMENTS INCLUDING THREE WORLD HERITAGE SITES

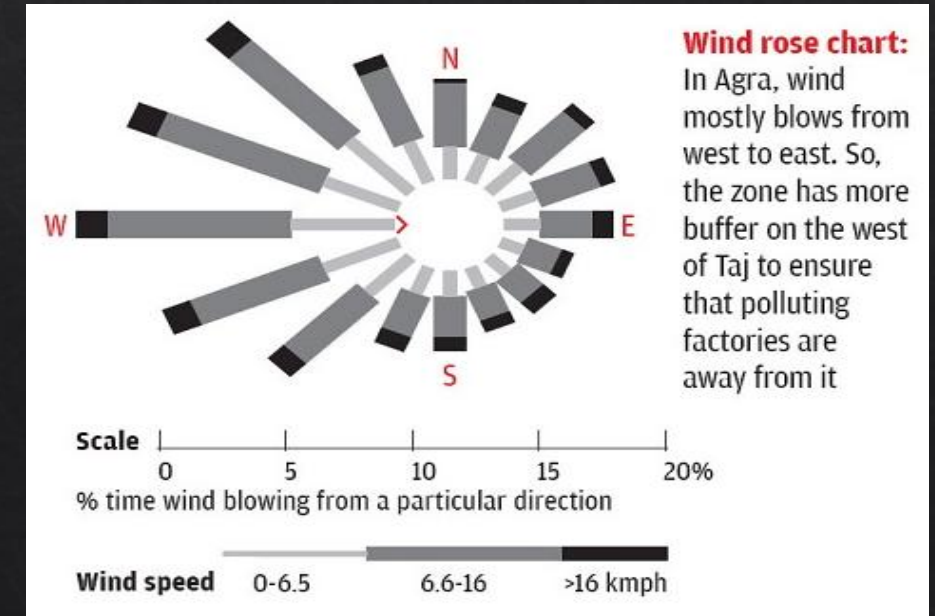
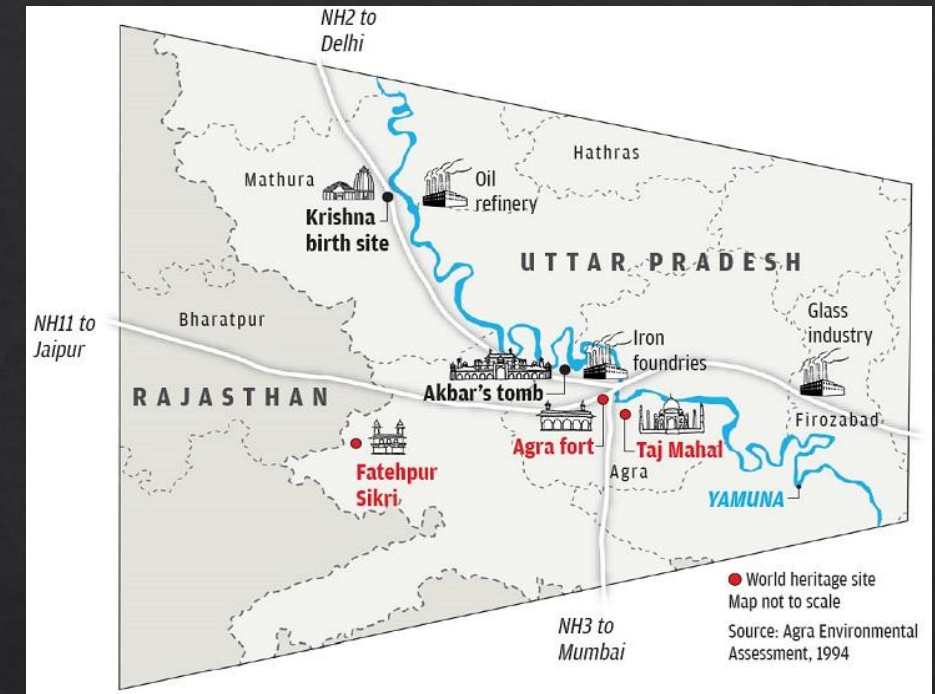
THE TTZ COMPRISES MONUMENTS INCLUDING THREE WORLD HERITAGE SITES

- THE TAJ MAHAL
- AGRA FORT
- FATEHPUR SIKRI.

TTZ IS SO NAMED SINCE IT IS LOCATED AROUND THE TAJ MAHAL AND IS SHAPED LIKE A TRAPEZOID.

THE TAJ TRAPEZIUM ZONE (TTZ) IS SPREAD OVER 6 DISTRICTS:

1. AGRA: STATE OF UTTAR PRADESH
2. MATHURA: STATE OF UTTAR PRADESH
3. FIROZABAD: STATE OF UTTAR PRADESH
4. HATHRAS: STATE OF UTTAR PRADESH
5. ETAH: STATE OF UTTAR PRADESH
6. BHARATPUR: STATE OF RAJASTHAN



TOI, FEB 1, 2017: DEMONETISATION IMPACT: 65% OF FIROZABAD'S GLASS INDUSTRY STILL SHUT, WAGES FALL	TOI, AUG 24,2017: FIROZABAD'S 202 GLASS FACTORIES TOLD TO PROVIDE POLLUTION DATA	TOI: FEB 29, 2016: FIROZABAD'S BELEAGURED GLASS INDUSTRY DISAPPOINTED AT BUDGET'S NEGLECT	ONE INDIA; JUNE 28, 2009: CHILD LABOUR RAMPANT FIROZABAD'S FAMOUS BANGLE INDUSTRIES	TOI; SEP 8, 2016: CLAMOUR GROWS OVER REMOVING NON-POLLUTING FIROZABAD FROM ECOSENSITIVE TAJ TRAPEZIUM ZONE.	TOI; SEP 9, 2015: NGT NOTICE TO CENTRE ON GLASS INDUSTRIES IN FIROZABAD
MORE THAN 1.35 LAKH LABOURERS OUT OF JOB DUE TO THE DEMONETISATION POLICY ANNOUNCED LAST NOV., BALANCE BETWEEN DEMAND & SUPPLY OF WORKERS GONE AWRY. TAKING ADV. OF ENEMPLOYED WORKERS, FACTORY OWNERS ARE ALLEGEDLY PAYING LOW WAGES TO THEM.	IN A BID TO KEEP POLLUTION UNDER CHECK, CPCB HAS DIRECTED OWNERS OF ALL 202 GLASS FACTORIES TO MONITOR POLLUTION LEVELS IN THEIR UNITS & SUBMIT THEIR INDIVIDUAL REPORTS BY AUG 28. LAST YEAR STUDY CARRIED OUT BY NEERI REPORTED THAT THE LEVEL OF HARMFUL PM10 & PM2.5 EXCEEDED THE MIN LEVELS, WHILE NO2 CROSSED THE BASIC LEVEL BE TWO AND A HALF TIMES MORE.	SMALL SCALE INDUSTRIES NEGLECTED DURING THE ANNUAL FISCAL ANNOUNCEMENT. IN FIROZABAD THERE ARE 200 GLASS MANUFACTURING FACTORIES & 6 LAKH PPL EMPLOYED IN THE SECTOR. GLASS INDUSTRY'S ANNUAL TURNOVER ESTIMATED TO BE AROUND 4000 CR. HOWEVER THE BANGLE TOWN'S ONCE FLOURISHING GLASS INDUSTRIES TODAY FACES A THREAT FROM CHEAPER CHINESE ITEMS. INFLUX OF CHINESE PRODUCTS INTO MARKET IS POSING A SERIOUS THREAT TO THE CENTURY OLD GLASS INDUSTRIES.	THE SADAR BAZAR ISN'T ONLY FAMOUS FOR THE CLINKING COLOURFUL BANGLES, BUT ALSO FOR THE INFAMOUS CHILD LABOUR MARKET, WHERE ONE HIRES CHILDREN. DEFYING ANTI-CHILD LABOUR LAWS, THE BANGLE INDUSTRY CONTINUES TO EXPLOIT THE RIGHTS OF CHILDREN.	WITH NEERI REPORT STATING THAT POLLUTION FORM FIROZABAD'S GLASS INDUSTRY ISN'T REACHING TAJ MAHAL, DEMANDS FOR TAKING THE CITY OUT OF THE TAJ TRAPEZIUM ZONE, AN ECOSENSITIVE AREA. STANDING COMMITTEE ON PETROLEUM & NATURAL GAS HAS WRITTEN TO THE PMO REQUESTING THAT THE SUPPLY OF SUBSIDIZED NATURAL GAS TO FIROZABAD BE STOPPED. SINCE THE SUBSIDIZATION HAD LED TO PROLIFERATION OF GLASS FACTORIES IN FIROZABAD. THE SUPREME COURT IN 1996 PASSED AN ORDER, STATING THERE WOULD BE NO FURTHER EXPANSIONOF INDUSTRIES IN TTZ & FIXED AMOUNT OF NATURAL GAS TO BE PROVIDED TO THEM	THE NATIONAL GREEN TRIBUNAL TODAY SOUGHT RESPONSE FROM THE CENTRE & THE UP GOVT. ON A PLEA SEEKING CLOSURE OF GLASS INDUSTRIES OPERATING WITHOUT VALID CONSENT IN FIROZABAD DISTRICT. THE NGO RAISES THE ISSUE OF PERMITTING THE CAPACITY EXPANSION OF THE GLSS INDUSTRIES, RESTART OF LONG TIME CLOSED GLASS INDUSTRIES & ESTABLISHMENT OF NEW GLASS INDUSTRIES IN TTZ
1. 1. <u>HTTPS://TIMESOFINDIA.INDIATIMES.COM/CITY/AGRA/DEMONETISATION-IMPACT-65-OF-FIROZABADS-GLASS-INDUSTRY-STILL-SHUT-WAGES-FALL/ARTICLESHOW/56898477.CMS</u>	1. 1. <u>HTTPS://TIMESOFINDIA.INDIATIMES.COM/CITY/AGRA/FIROZABADS-202-GLASS-FACTORIES-TOLD-TO-PROVIDE-POLLUTION-DATA/ARTICLESHOW/60213236.CMS</u>	1. 1. <u>SHTTPS://TIMESOFINDIA.INDIATIMES.COM/CITY/AGRA/FIROZABADS-GLASS-INDUSTRY-DISAPPOINTED-AT-BUDGETS-NEGLECT/ARTICLESHOW/51199134.CMS</u>	1. 1. <u>HTTPS://WWW.ONEINDIA.COM/2009/06/28/CHILD LABOUR-RAMPANT-IN-FIROZABADS-FAMOUS-BANGLE INDUSTRY</u> HTML	1. 1. <u>HTTPS://TIMESOFINDIA.INDIATIMES.COM/CITY/AGRA/CLAMOUR-GROWS-OVER-REMOVING-NON-POLLUTING-FIROZABAD-FROM-ECO-SENSITIVE-TAJ-TRAPEZIUM-ZONE/ARTICLESHOW/54093226.CMS</u>	1. 1. <u>HTTPS://WWW.BUSINESS-STANDARD.COM/ARTICLE/PTI-STORIES/NGT-NOTICE-TO-CENTRE-ON-GLASS-INDUSTRIES-IN-FIROZABAD-</u> 115090901230_1 HTML

MANUFACTURING PROCESS

PROCESSING THE RAW GLASS

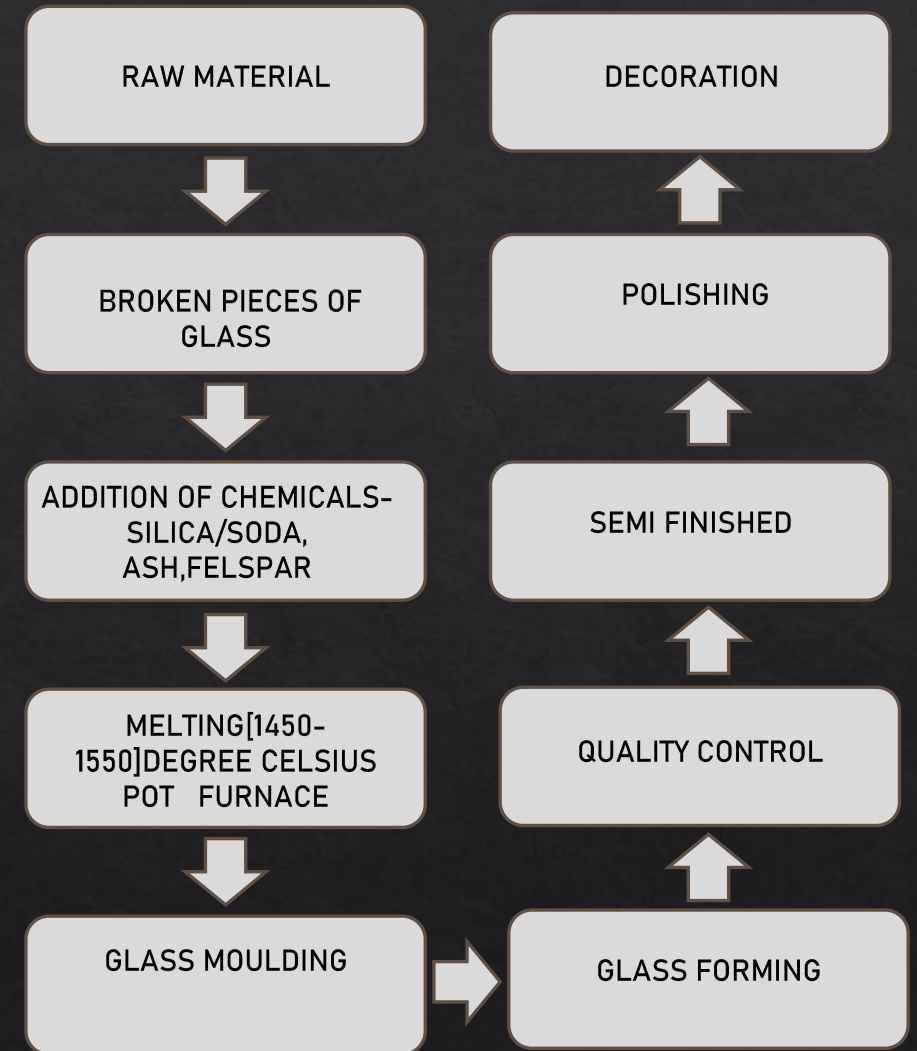
- RAW GLASS FOR BANGLES IS OF THE SAME MATERIAL AS PREPARED FOR OTHER GLASSWARES, WHICH IS TAKEN OUT OF THE FURNACE THROUGH THE PIPES. WITHOUT REMOVING THE PIPES, THE MOLTEN GLASS IS BEATEN TO MAKE ITS DIMENSIONS EQUAL.
- THE GLASS WITH THE PIPE IS PLACED IN AN ANOTHER FURNACE WHICH HAS AN AUTOMATED ROLLER. WHEN THIS MOLTEN GLASS COMES IN CONTACT WITH THE ROLLER, IT STARTS STRETCHING AND ROLLS AROUND IT. IN THIS PROCESS A SPRING OF GLASS IS FORMED.
- TO MAKE SEPARATE BANGLES, THIS SPRING IS THEN CUT WITH THE HELP OF A CUTTER OF DIAMOND. BUT, AT THIS STAGE, THESE BANGLES HAVE TWO ENDS.
- **JHADAI** –IT IS THE PROCESS IN WHICH OVERLAPPED PART OF BANGLE IS REMOVED.
- **JUDAI** –IT IS THE PROCESS IN WHICH SEPARATE BANGLE WHICH ARE OPEN ENDED AND NOT COMPLETE ARE THEN TAKEN TO JOIN THEM OVER A CANDLE OR A GAS LAMP.
- **SADHAI** - IN THIS PROCESS, JOINTS OF BANGLES ARE MADE TO LOOK NEAT AND STRAIGHT. HERE, THE GLASS IS MADE TO MELT. APPLICATION OF LITTLE PRESSURE JOINS BOTH THE ENDS.
- **CHHATAI** –SEPARATION OF IRREGULAR SHAPE BANGLES.
- **CHAKLAI**- COUNTING OF BANGLES AND ARE PACKED BY A STRING TO A BUNCH OF 320 PIECES, WHICH IS ALSO CALLED ONE **TODA**

MANUFACTURING PROCESS [BANGLES]



THE POT FURNACEUSED FOR BANGLES ARE HAVING
CAPACITY OF 500 KGS

MANUFACTURING PROCESS [GLASSWARE]



THE POT FURNACEUSED FOR BANGLES ARE HAVING
CAPACITY OF 500 KGS

EXISTING STATUS OF INDUSTRIAL AREAS IN THE DISTRICT FIROZABAD

S. No.	Name of Ind. Area	Land acquired (In hectare)	Land developed (In hectare)	Prevailing Rate Per Sqm (In Rs.)	No of Plots	No of allotted Plots	No of Vacant Plots	No. of Units in Production
1	Firozabad	4.96	40.96	4000	83	83	00	48
2	Shikohabad	10.80	10.80	700	50	49	1	23
3	Usaini	5.00	5.00	174	94	94	0	-
4	Tundla	2.50	2.50	246	60	60	0	-
5	Jalesar Road	201.79	32.90	900	219	210	9	21
	Total	225.05	92.16		506	496	10	92

Source:- DIC, Firozabad

DETAILS OF EXISTING MICRO & SMALL ENTERPRISES AND ARTISAN UNITS IN THE DISTRICT

NIC CODE NO.	TYPE OF INDUSTRY	NUMBER OF UNITS	INVESTMENT (Lakh Rs.)	EMPLOYMENT
20	Agro based	95	10260.00	760
22	Soda water	0	0	0
23	Cotton textile	0	0	0
24	Woolen, silk & artificial Thread based clothes.	0	0	0
25	Jute & jute based	0	0	0
26	Ready-made garments & embroidery	25	100.00	75
27	Wood/wooden based furniture	215	643.00	700
28	Paper & Paper products	16	320.00	80
29	Leather based	05	15.00	45
31	Chemical/Chemical based	10	80.00	80
30	Rubber, Plastic & petro based	05	40.00	35
32	Mineral based	528	10560	4224
33	Metal based (Steel Fab.)	125	375.00	900
35	Engineering units	115	230.00	890
36	Electrical machinery and transport equipment	05	350.00	40
97	Repairing & servicing	2503	7654.30	12032
01.	Others(Glass & Glassware)	4222	12666.00	33776
	Misc.	05	10.00	40
	Total	7874	43303.3	53677

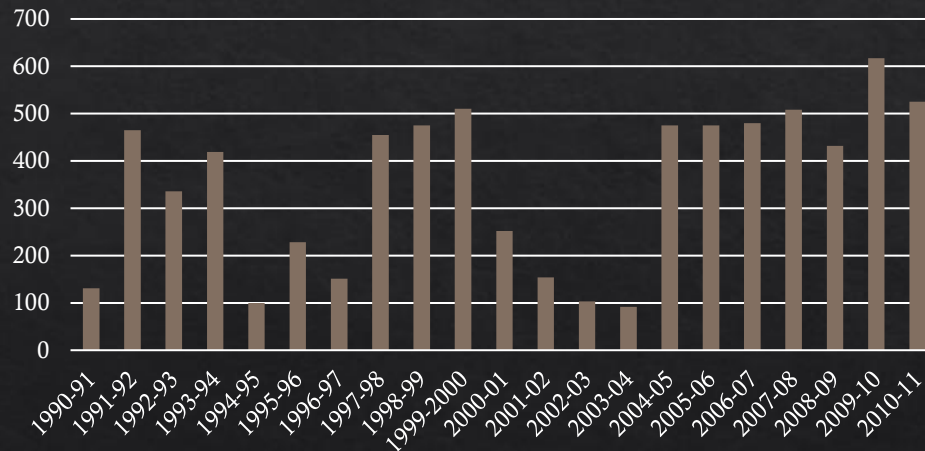
Source: DIC, Firozabad

INDUSTRIAL SCENERIO OF FIROZABAD

Sr No	Head	Unit	Particulars
1.	REGISTERED INDUSTRIAL UNIT	NO.	7874
2.	TOTAL INDUSTRIAL UNIT	NO.	7874
3.	REGISTERED MEDIUM & LARGE UNIT	NO.	10
4.	ESTIMATED AVG. NO. OF DAILY WORKER EMPLOYED IN SMALL SCALE INDUSTRIES	NO.	50749
5.	EMPLOYMENT IN LARGE AND MEDIUM INDUSTRIES	NO.	2605
6.	NO. OF INDUSTRIAL AREA	NO.	04
7.	TURNOVER OF SMALL SCALE IND.	IN LACS	38359.00
8.	TURNOVER OF MEDIUM & LARGE SCALE INDUSTRIES	IN LACS	46.94

Source: DIC, Firozabad

NO. OF REGISTERED UNITS



YEAR WISE TREND

MAJOR EXPORTABLE ITEM:

VARIOUS GLASS PRODUCTS ARE MAIN EXPORTABLE ITEMS FROM FIROZABAD.

GROWTH TREND:

AFTER THE AVAILABILITY OF NATURAL GAS TO THE FIROZABAD GLASS INDUSTRIES, THE PRODUCTION AND QUALITY OF THE PRODUCTS HAS IMPROVED MANY FOLDS APART FROM COST BENEFIT.

LIST OF THE UNITS IN FIROZABAD & NEAR BY AREA

1. M/S HIND LAMP LTD., SHIKOHABAD, FIROZABAD (LAMP CAP FOR GLASS LAMP)
2. M/S HIND LAMP LTD., SHIKOHABAD, FIROZABAD (FLOCING TUBE)
3. M/S HARDYAL MILK PVT. LTD., SHIKOHABAD, FIROZABAD
4. M/S PANKAJ GLASS WORKS, FIROZABAD
5. M/S PRAHLAD GLASS WORKS, SHIKOHABAD, FIROZABAD
6. M/S PRAHLAD STEEL PVT. LTD., SHIKOHABAD, FIROZABAD
7. M/S S.R. MITTAL PAPER MILLS PVT. LTD., SHIKOHABAD, FIROZABAD
8. M/S BALKISHAN AGARWAL GLASS INDUSTRIES PVT LTD., DHOLPURA, FIROZABAD
9. M/S DURGESH BLOCK GLASS & CHINA GLASS INDUSTRIES PVT. LTD., FIROZABAD

SOURCE: DIC FIROZABAD

POTENTIAL FOR NEW MSMEs

- 1- FRUIT PRESERVATION
- 2- JAM, JELLY & PICKLES
- 3- NAMKEEN
- 4- SQUASH & SYRUP
- 5- BAKERY & CONFECTIONERY
- 6- RICE MILL
- 7- DAL MILL
- 8- CATTLE FEED
- 9- PHENYL
- 10- POLYTHENE BAGS

SOURCE: DIC FIROZABAD

DETAIL OF MAJOR CLUSTERS

VARIOUS GLASS PRODUCTS LIKE GLASS BANGLES, GLASS WARE, GLASS TUMBLERS, GLASS BOTTLES, GLASS TUBE ARE THE MAJOR CLUSTER OF FIROZABAD.

GENERAL ISSUES RAISED BY INDUSTRY ASSOCIATION:**STEPS TO SET UP MSMEs**

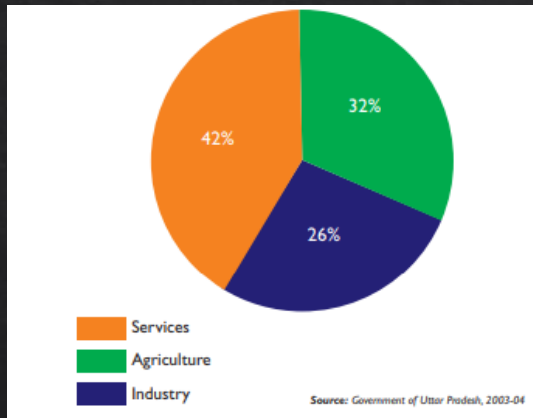
- AVAILABILITY OF UNINTERRUPTED POWER SUPPLY AT LOWER RATE.
- BETTER ROAD CONNECTIVITY.
- ENHANCEMENT OF INVESTMENT LIMIT IN MICRO, SMALL & MEDIUM ENTERPRISES.
- STATE INDUSTRIAL POLICY: IT MUST BE DECLARED.
- ATTRACTIVE INDUSTRIAL POLICY OF NEIGHBORING STATE.
- VARIOUS CENTRAL/ STATE DEPARTMENTS ARE OPERATING SIMILAR NATURE OF ACTIVITIES/ SCHEMES WITH VARYING SUBSIDY/ LIMITS, REQUIRED TO BE CONSOLIDATED.
- BETTER TECHNOLOGY UP GRADATION SCHEME WITH SOME MECHANISM FOR TRACKING OF APPLICATION STATUS MAY BE AVAILABLE ON LINE.
- IMPLEMENTATION OF ONLINE SUBMISSION OF ENTREPRENEURSHIP MEMORANDUM.
- BETTER LOAN SCHEME FOR SELF EMPLOYMENT FOR EDUCATED UNEMPLOYED YOUTHS.
- MORE BENEFIT TO MICRO LEVEL ENTERPRISES UNDER CGTMSE SCHEME.
- INTEREST SUBSIDY TO MICRO ENTERPRISES TO ATTRACT MORE ENTREPRENEURS TO START NEW VENTURE.
- MDA SCHEME SHOULD BE MORE ATTRACTIVE.
- PROCEDURE FOR NATIONAL AWARDS SHOULD BE SIMPLIFIED. • VARIOUS DC (MSME) SCHEMES MUST BE MORE ENTREPRENEURS FRIENDLY.

S.No	Type of assistance	Name and address of agencies
1.	Provisional Registration Certificate (EM-I) & Permanent Registration Certificate (EM-II)	District Industries Centre (DIC), Firozabad
2.	Identification of Project Profiles, techno-economic and managerial consultancy services, market survey and economic survey reports.	MSME-Development Institute, Agra DIC, Firozabad
3.	Land and Industrial shed	DIC, Firozabad & UPSIDC, Agra
4.	Financial Assistance	UPFC, KVIC, KVIB, NABARD, SIDBI, & All Commercial Bank
5.	For raw materials under Govt. Supply	UPSIC, Agra
6.	Plant and machinery under hire / purchase basis.	NSIC, Agra
7.	Power/ Electricity	UPSEB, Firozabad
8.	Technical Know-how.	MSME-DI, Agra CDGI, Firozabad
9.	Quality & Standard	BIS, Kanpur/ New Delhi & NPC Kanpur/ New Delhi
10.	Marketing /Export Assistance	MSME-DI, Agra NSIC, Noida/ Agra ECGC, Agra
11.	Other Promotional Agencies	Director of Handicraft & Cottage Industries/ Textile/ Fisheries, Coir Board, Horticulture.

INDUSTRIAL POLICIES

INDUSTRIAL PROFILE

➤ UTTAR PRADESH IS THE SECOND BIGGEST STATE ECONOMY IN THE COUNTRY, WITH A SHARE OF 10.7 PER CENT IN AGGREGATE DOMESTIC PRODUCT. AREA-WISE IT IS THE FOURTH LARGEST STATE IN THE COUNTRY. THE STATE RECORDED A GROWTH OF 4.5 PER CENT DURING 1993-94 TO 2003-04. N. THE WESTERN REGION IS MORE URBANISED THAN THE REST OF THE STATE AND HAS 622 INDUSTRIAL WORKERS PER THOUSAND IN REGISTERED FACTORIES, AGAINST 443 IN THE STATE. THE DENSITY OF POPULATION IN THE WESTERN REGION IS 762 PER THOUSAND AGAINST 689 IN THE STATE.



INCENTIVES FOR INVESTMENT:

- Subsidy of 20% of fixed capital investment for new units in most backward areas.
- Subsidy of 15% of fixed capital investment for new units in less backward areas.
- Subsidy of 10% of fixed capital investment for new units in least backward areas.
- Deferment of luxury tax in thrust areas for 5 years.
- Exemption of minimum power demand charges for sick units during the closure period.
- Land at 20% of market prices for standard hotels.

GOVERNMENT POLICIES

THE GOVERNMENT HAS UPTO LATE 1980S' FOLLOWED A FAVOURABLE POLICY TOWARDS THE GLASS INDUSTRY. THE EMPHASIS WAS ON THE INDUSTRIALISATION OF BACKWARD AREAS AND TO REGIONAL DEVELOPMENT. A MAJOR PART OF THE INDUSTRY INPUTS COULD COME FROM THE RECYCLING OF WASTE. THE GOVERNMENT OF INDIA HAS RESERVED A LIST OF ITEMS TO BE PRODUCED IN THE SMALL-SCALE SECTOR:

1. GLASS BEADS EXCEPT INDUSTRIAL BEADS.
2. SIMPLE GLASS MIRRORS EXCLUDING SPECIAL GLASS MIRRORS SUCH AS THOSE MEANT FOR OPTICAL INSTRUMENTS.
3. SCIENTIFIC LABORATORY GLASSWARE EXCLUDING BOROSILICATE TYPE.
4. MICRO COVER GLASSES AND SLIDES FOR MICROSCOPES.
5. GLASS BANGLES.
6. GLASS HALLOWARE BY MOUTH BLOWN OR SEMI AUTOMATIC PROCESS.
7. GLASS TUMBLER, SODA LINE SILICA PRESSED.
8. GLASS PLATES.
9. GLASS BOWLS.
10. GLASS ASHTRAYS.
11. GLASS VASES.
12. GLASS MARBLES.
13. GLASS ROOFING TUBES.

THE GLASS INDUSTRY IN FIROZABAD WHICH DATES BACK MUGHAL PERIOD HAS GAINED PROMINENCE DUE TO UNIQUE CRAFTSMANSHIP OF PRODUCTS.

VISION & MISSION

The state government of UP has laid thrust on the following key areas:

- Create facilitative administrative systems
- Reduce lead time in setting up of industries
- Remove bureaucratic hindrances
- Provide internationally competitive infrastructure
- Unfetter industries in the conduct of their business

MASTER PLAN OF 2001
URBAN POPULATION

PROJECTED POPULATION	400000
CURRENT POPULATION	432866
MIGRATED POPULATION	33000

	PROPOSED/ PROJECTED	EXISTING	AGAINST THE PROPOSAL
LAND DEVELOPMENT	1861 HA		426.5 HA
LAND PROPOSED FOR MANUFACTURING GLASS PRODUCTS	370 HA		
INDUSTRIAL AREA	325 HA	160.43 HA	
STORAGE	45 HA		
RESIDENTIAL		121.95 HA	

FIROZABAD LAND USE: 2010

EXISTING LAND USE	TOTARE A	ARE A	PERCENTA GE
INDUSTRIES	290.05		13.72
COMMERCIAL/TRADE	37.95		1.79
WHOLESALE COMM. CENTRE/ MANDI		7.68	
BUSINESS		16.7	
PETROL PUMP		1.79	
COLD STORAGE		2.5	
GODOWN		9.22	

- ❖ DIFFERENT KINDS OF INDUSTRIAL ACTIVITIES ARE LOCATED IN 45.57 HA.
- ❖ 23.68 % OF PROPOSED AREA UNDEVELOPED.

- ❖ ACCORDING TO SECTORAL SURVEY, 2010. WORKING POPULATION IN BUSINESS UNIT – 25023 (20.77 %) OF TOTAL POPULATION – 120477 (WORKING)

LARGE SCALE INDUSTRIES

- ❖ SHIKOHABAD LOCATED OUTSIDE THE TAJ TRAPEZIUM.
- ❖ HENCE, LARGE SCALE INDUSTRIES CAN BE ESTABLISHED HERE.
- ❖ PROPOSED LAND FOR LARGE SCALE INDUSTRY= 317.44 H

SMALL SCALE INDUSTRIES:

- ❖ FIROZABAD IN TTZ, THEREFORE LARGE INDUSTRIES NOT PERMITTED.
- ❖ LAND PROPOSED FOR SMALL SCALE INDUSTRY = 751.36 HA

MASTER PLAN OF 2021

	labours in secondary series	labours in tertiary series
Firozabad	60.50%	38.58%

LAND USE	FIROZABAD
BUSINESS	
BAZAAR STREET	67.2
CITY CENTRE	81.92
SUBURB	177.92
WHOLESALE MARKET	35.84
TOTAL	362.88
INDUSTRIES	
LARGE SCALE 1	
SMALL SCALE 1	751.36
UPSIDC	130.56
TOTAL	881.92

69+ 8	PROPOSED AREA	RESIDENTI AL	COMMERCIAL	INDUSTRIAL	OFFICE	COMMUNI TY FACILITIES	RECREATION PARK	TRANSPORT CIRCULATION	AGAINST DEVELOPMENT	ACC DEV	TOTAL
INDUSTRIES	370 HA	120 HA	0.51	159.92		1.02			121.95	160.43	282.38

GLASS INDUSTRY OF INDIA

- Glass industry came into being in India in 16th century when items like bangles, small bottles and flasks were made.
- By **17th century**, enameled glass was produced at a number of places in Karnataka and Uttar Pradesh.

NATIONAL LEVEL GLASS INDUSTRY

- Indian glass market is estimated to increase at a compound annual growth rate of 15% over the next three years.
- The organized glass industry employs 30 lac people directly and provides indirect employment to 5 lac people whereas unorganized sector employees around 5-6 lac people
- The per capita glass use in India is 1.2 kg compared with 8-9 kg in developed countries.



STATE LEVEL GLASS INDUSTRY

- 70% of the total glass production in the unorganized sector is contributed by Firozabad.
- The highest share in number of factories is in UTTAR PRADESH (36.9%), followed by GUJARAT (15%).



LOCAL LEVEL- FIROZABAD

- India's biggest glass industry cluster
- Nearly 5-6 lac people employed directly and plenty more employed indirectly.
- Around 50% of the total produce of the units are exported to different countries.
- Firozabad is the only cluster producing bangles thus catering the entire requirement of the nation.



Checklist for Workers

PASHA GLASS WORKS

Job/ Post	: Glass moulder
Salary per month	: 10500
Skill required	: Learned from the
Factory	
Origin	: Firozabad
Mode of commute	: Walk
No. of family member	: 6
Martial status	: Unmarried
Working Members in industry	: None
Quality of Education	: 12 th Pass
Waste generated	: Left over glass moulds
Methods of Disposal	: Not disposed, instead
recycled	
Environmental impacts	: None
Accidents in Factories	: Rarely
Health issues among workers	: Sun Stokes
Any preventive measures by the Factory	: No care taken for the
workers	

Checklist for Workers

COTTAGE INDUSTRY

Job/ Post	:	Chatai (Sorting), Judaai
(Combining)		
Salary per month	:	7500
Skill required	:	Sorting & Combining
Origin	:	Firozabad
Mode of commute	:	Work from home
No. of family member	:	7
Martial status	:	Married
Working Members in industry	:	4
Quality of Education	:	None
Waste generated	:	None
Methods of Disposal	:	None
Environmental impacts	:	None
Accidents in Factories	:	Small bruises
Health issues among workers	:	None
Any preventive measures by the Factory	:	Family takes measures

Checklist for Owners

Adarsh Kaanch Udyog

Name of Industry	: Adarsh Kaanch Udyog
Scale	: Medium
Year of Establishment	: 1980
Locational advantage	: Skill labours found here
Raw Materials	: Limestone, Malt
From	: Rajasthan
Capacity	: -
Transport of raw materials	: Trucks
How many trucks	: 35 trucks per month
Electricity Supply	: They Generate their own Electricity
Water Supply	: Underground (Municipality)
Final Product	: Glass tumblers & Tubes
Amount	: 6 tonnes per day
Turnover	: -
Process	: Mix→ Furnace→ Melt→ Liquid pouring→ Machine Mould
No. of workers	: 125
Origin of Workers	: Local, Eastern-Uttar Pradesh, Bihar,
Jharkhand, Noida	
Contact with research institute	: CDGI

HEALTH AND ENVIRONMENTAL HAZARDS OF GLASS INDUSTRY

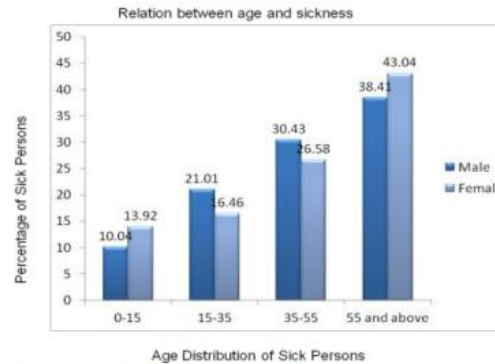
CONDITIONS OF WORKPLACE

- The small industrial or household units are still based on traditional coal fired furnaces for processing of unfurnished bangles and other glass products.
- The working temperature of furnaces in large scale production units is about 12000C which consumes a lot of fuel.
- A number of chemicals are used in glass industry to make glass of desired shape, colour and quality, irrespective to their hazardous nature.
- Chimneys of the factories are not capable enough to flue the gases from factory premises and surroundings.
- While dealing with hazardous chemicals no safety measurements are used by the owners as well as the



HEALTH IMPACTS

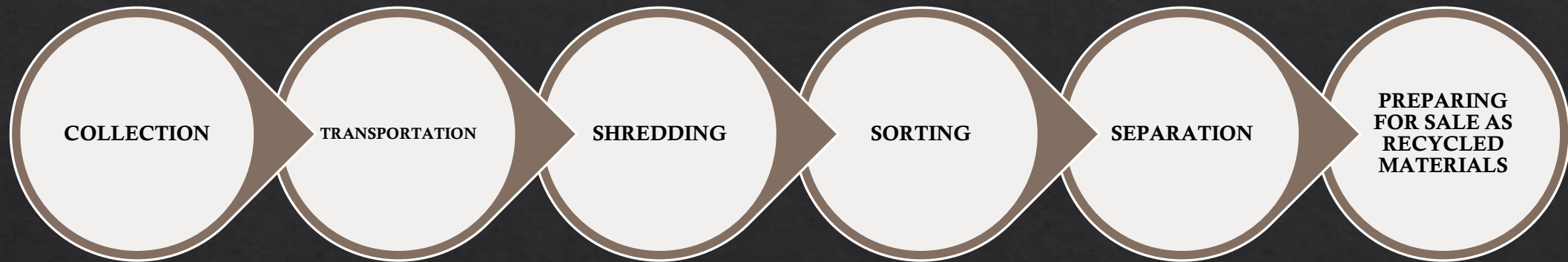
- several elements such as lead, boron, arsenic, nickel, copper and cobalt in their various chemical forms along with silica dust are used in precarious working conditions in glass industries.
- coal fired furnaces and filthy condition of factories have made the health of workers miserable.
- Due to saving of the cost on fuel, furnaces kept burning without any time off and this practice compels the workers to work without any leisure time.
- This continuous exposure to immense heat and sound which is far beyond permissible levels adversely affects the workers and the residents of the area



ENVIRONMENTAL IMPACTS

- The continuous use of harmful chemicals for production of glasswares, and use of coal in small processing units in furnaces has misbalanced the appropriate ratios of gases in city surroundings.
- These glass industries emit large amount of carbon dioxide, carbon monoxide, nitrogen oxides, sulphur dioxide, lead, ozone, hydrogen sulphide, hydrocarbons, cadmium, polynuclear aromatic hydrocarbons (PAH), particulate matter and fly ash in atmosphere.
- Incomplete combustion of coal as fuel and lack of proper exhaustion of heat and smoke in makes situation bitter small scale production units which releases Carbon Mono Oxide (CO) in their surroundings.

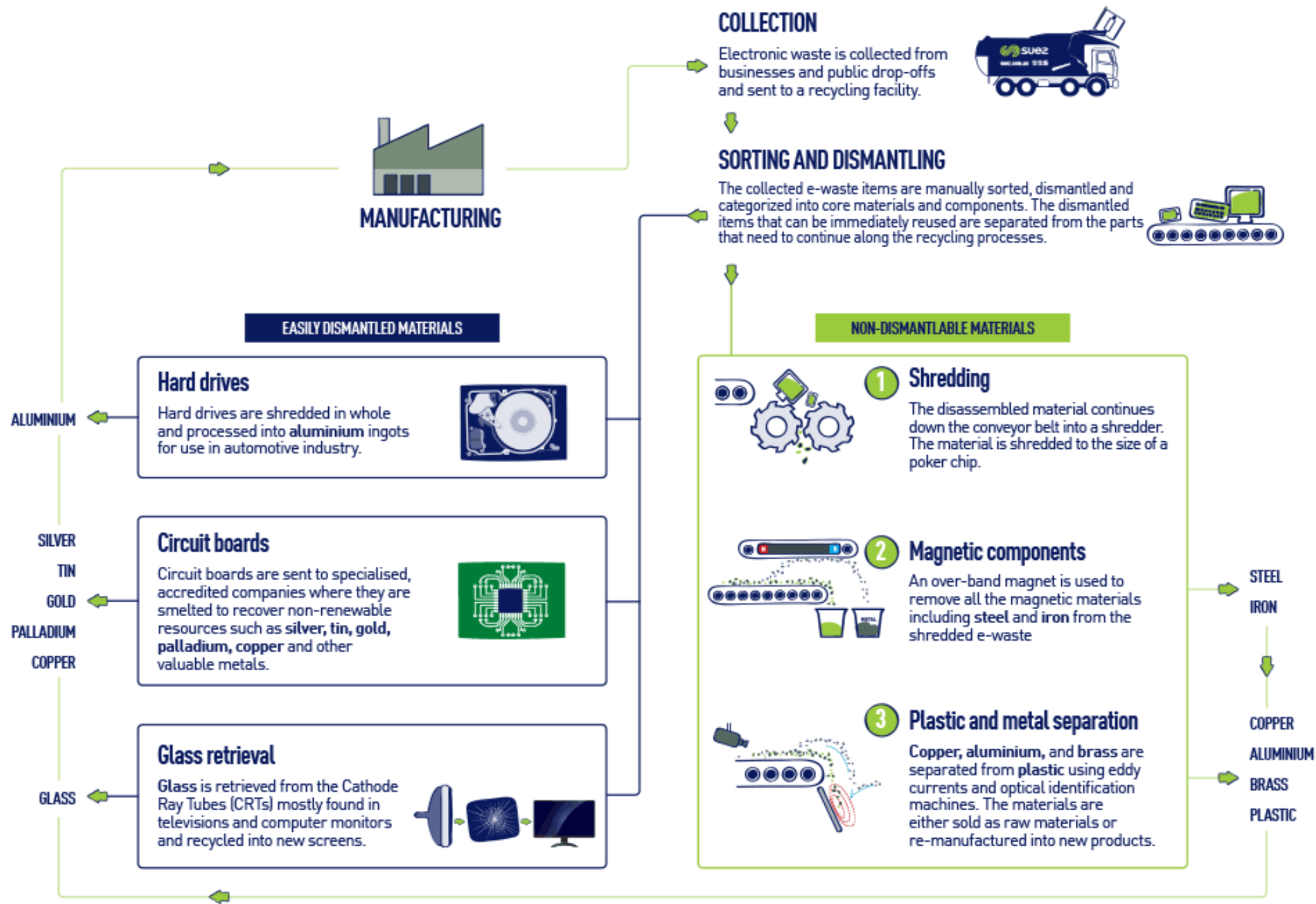
PROCESS OF E-WASTE RECYCLING



- ❖ **Electronic waste** or **e-waste** describes discarded electrical or electronic devices
- ❖ Electronic waste or e-waste may be defined as discarded computers, office electronic equipment, entertainment device electronics, mobile phones, television sets, and refrigerators.



E-waste recycling process



HAZARDS- ENVIRONMENTAL AND SOCIAL HAZARDS

- ◇ In E-waste cathode ray tube and florescent lamp glass, mercury and lead are present as the major pollutants.
- ◇ Bangles are manufactured along with chandeliers, beads, table lamps and pottery. The very high pot furnace (1600 degree C) leads to heat stroke, dehydration, anaemia, headache and ocular problems.
- ◇ The workers, irrespective of mode of work inhale soot, fumes and dust from dry glass mixture and other chemicals. This also leads to environmental pollution.
- ◇ The living space of bangle makers is used for bangle making operation in less space of their house which is exposed to extremely high level of pollution in their own houses leading to variety of diseases.

LEAD

- Old cathode ray tube monitors , televisions contain lead.
- Lead has a tendency to stick to soil particles exposure to lead can effect almost every organ and system in human body.

ARSENIC

- Arsenic can found in circuit boards, semiconductors, LCD displays, computer chips and when these item are sent to landfills, arsenic can reach into soil and the ground water.

MERCURY

- Mercury can be found in florescent tubes, switches and thermostats, older computers, batteries.

Environmental and biological effects:

- Lead can also wildlife and plant life.
- Arsenic can enter atmosphere workers close to recycling plants and informal recycling areas can also be exposed to arsenic.
- When electronic wastes containing mercury is sent to landfill sites or is burnt mercury is released into environment.
- Mercury is primarily absorbed into human body by breathing.

POLICIES

Reduction in the use of hazardous substances.

- ◆ Every producer of electrical and electronic equipment and their components shall ensure that they do not contain lead, mercury, cadmium, hexavalent chromium beyond a maximum concentration value of 0.1% by weight in homogenous materials.
- ◆ CPCB shall conduct a random sampling of electrical and electronic equipment placed on the market to monitor and verify the compliances of reduction on hazardous substances.
- ◆ If the product doesn't comply with reduction of hazardous substances, the producers shall take corrective measures to bring the product in compliance and withdraw or recall from the market.

Procedure for storage of e-wastes:

- ◆ Every manufacturer, producer, bulk consumer and recycler may store e-waste for a period not exceeding 180 days and shall maintain a record of collection, sale, transfer and storage of wastes.
- ◆ SPCB may extend the said period up to 365 days in case the waste needs to be specifically stored for development of process for its recycling or reuse.

- ◆ **Bulk consumer-** users of electrical and electronic equipment such as state and central gov. departments public sector, banks, institutions, mnc's, that are registered under the factories act.1948 and 2013 companies act.
- ◆ **Responsibilities of BULK CONSUMERS:** bulk consumers shall ensure that the product should not be mixed with e-waste containing radio active material as covered in atomic energy, act 1962.
- ◆ **Responsibilities of MANUFACTURER-** collection of e-waste generated during manufacture of any electrical and electronic equipment and channelize it for recycling or disposal.
- ◆ **Responsibility of PRODUCERS-** implementing the extended producers responsibility frameworks mainly
 - collection and channelization of e-waste generated from e-waste.
 - mechanism used for channelization of e-waste from products
 - disposal and storage.
 - Awareness through media.
- ◆ **Responsibilities of collection centres:** collect e-waste on behalf of producer or dismantler.
Follow guidelines by CPCB.