

**INDUSTRIAL
POTENTIAL
SURVEY
[2020]
SRIGANGANAGAR**

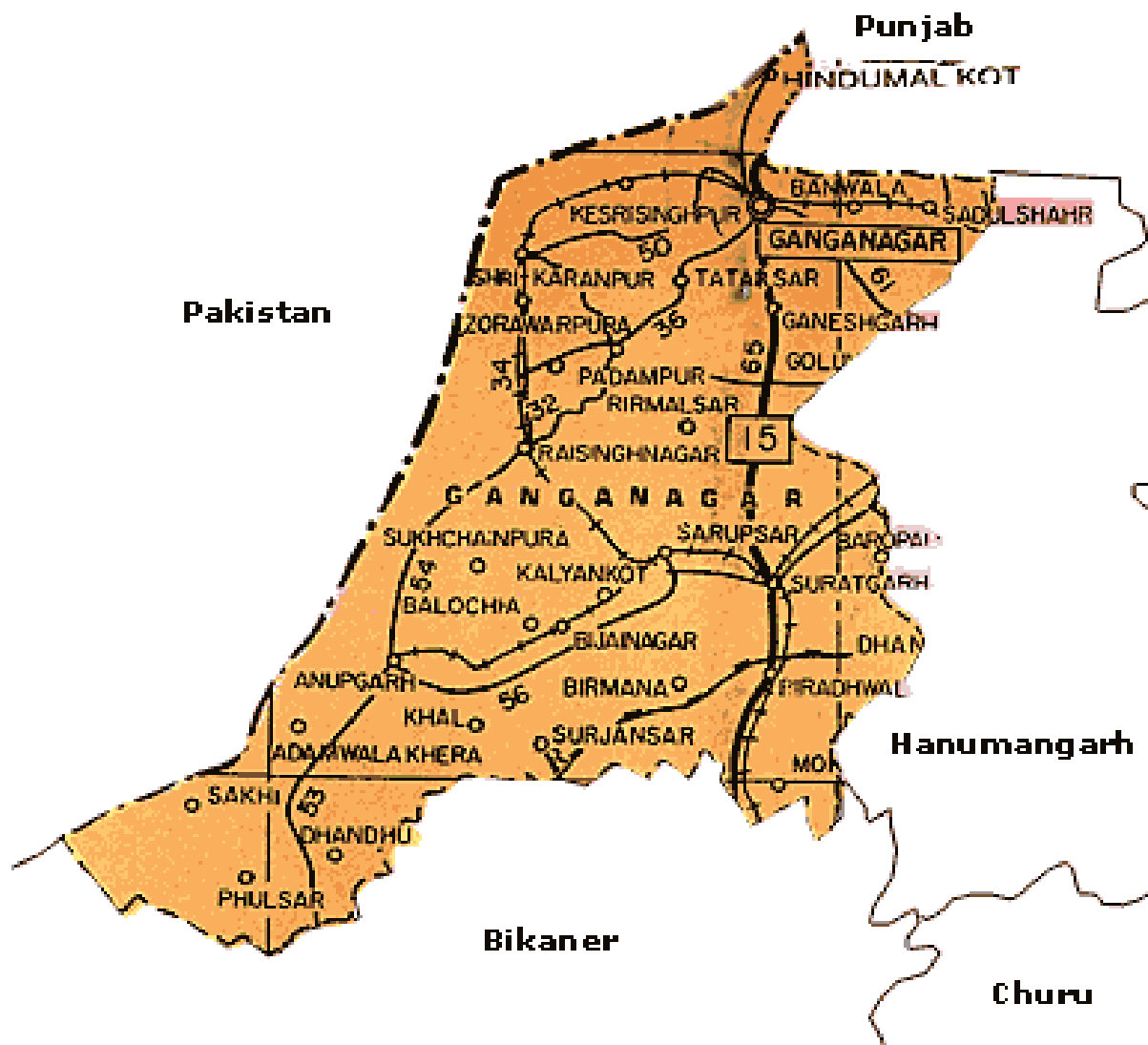


**GOVERNMENT OF RAJASTHAN
DISTRICT INDUSTRIES CENTRE
SRIGANGANAGAR - 335001
[RAJASTHAN]**

GANGANAGAR

District Map





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CHAPTER –I

District Profile

District Industries Centre, Sriganaganagar

District at a Glance

1		Area Hect.	10932.90
2.		Population[2011]	Men Women
			1043340 925828
	1	Total Population Nos	1969168
	2.	Rural	1463726
	3.	Urban	505442
	4.	Density per sq.k.m.	180
	5.	Sex Ratio[per 1000 Males]	887
6.	Literacy Male	79.33%	
	Female	60.07%	
	Total	70.25%	
3.	1	No of towns	17
	2.	Municipal Council	01
	3.	Municipalities	9
4.	1.	Total No. of village	3060
	2.	Panchayat samities[Nos]	09
	3.	No. of Tehsils	09
	4.	No. of Sub-division	09
5.		Total working force lacs	7.19

6.		Agriculture	748933 Hectares
	1	Total cultivated area	748933
	2.	Double cropped area	470991 Hectares
	3.	Main crops	Guar, Wheat , Barley, Sugarcane, Rice, Gram, Guarseed, Cotton, Mustered, Malta, Mausmimi, Kinnu, Groundnut, Taramira etc.
7		Irrigation - Total irrigated area	7.77 Lac Acre
8.		Total livestock population[Nos]2012	1644864
9.		Area under forest hectares	66.60 Hectare
10.		Minerals available	Gypsum, Earth soil [Bricks]
11		Average rain fall	303 m.m.
12.		Total No of industrial area	15 1 Private
	1.	No. of plots planned	1658
	2.	No. of plots allotted	1366
13.		No. of villages electrified	2978
14.		Transport & communications	5715.25
	1	Total road length K.m.	
	2.	Total railway line K.m.	265
	3	No. of STD PCO	125
	4.	No. of Telephone Exchange	101
	5.	No. of Post office	327
	6.	No. of Vehicle Registered	34681
7.	No. of Bank Branch	317	
15.		Education facilities	58
	1	Technical Colleges	15
	2.	Senior Secondary School/secondary	942

	3.	Middle school	1127
	4.	Primary School	984
	5.	I.T.I. (Government)	06
16	1	Existing industrial status No. of large medium scale units	07 Large 02 Medium (2 Large Units Under Construction)
	2.	No. of Small scale units	13272
	3.	Investment in SSI sector[Rs. in lacs]	110901.89
	4	No.of employment in SSI Sector {Nos}	59791

1.3 Administrative Set Up

The Ganganagar district is divided into 9 sub-divisions, which are further divided into 9 Tehsils and out of these 9 Tehsils there are 9 panchayat samities. There are 17 towns and 3060 villages and out of them 2978 villages have been electrified. District headquarter has municipal council where as other 10 towns of the district have municipalities. Jila Parishad is functioning in the district to supervise the work of rural development carried on through the Panchayat Samities.

ADMINISTRATIVE SET UP OF THE DISTRICT

S.N.	Sub-Division	Tehsil	Towns [Nos.]	Village [Nos.]	Population 2011
1	Sriganganagar	Sriganganagar	2	313	481640
2	Sadulshahar	Sadulshahar	2	214	158473
3	SriKaranpur	SriKaranpur	2	239	146878
4	Padampur	Padampur	2	249	162718
5	Raisinghnagar	Raisinghnagar	1	408	196455
6	Anoopgarh	Anoopgarh	1	423	184423
7	Vijaynagar	Vijaynagar	2	279	145770
8	Gharasana	Gharasana	3	435	171830
9	Suratgarh	Suratgarh	2	500	320981
		Total	17	3060	1969168

CHAPTER –2

Energy Resources

The district is getting power from Bhakra Nangal and well connected with power lines. Sriganganagar is getting power from Muktsar Grid through 66 KV lines. There are [two] 132 Grid sub station at Sriganganagar and Padampur, out of the total 3060 villages of the district, 2978 villages have been electrified by march 2018. The industrial area of the district have regular supply, however, it is revealed that the existing availability of power is not adequate. For the development of industrial status of Ganganagar, position will have to be improved presently Govt. of Rajsthan is working very fast on Suratgarh Thermal power Station, a very ambitious project of the district. Six unit has been commissioned of the STPS and it has started electricity production also. Now the power supply position will be improved and it would change the industrial scenario and will prove to be a mile stone in power supply.

Rural Electrification/Grid Station

Electrification/Grid Station As on 31.03.2019

S.No.	Item	2018-19
1	Village Electrified	2978
2	Electrified Wells	16997

Electricity Consumption Pattern

Electricity Consumption Pattern 31.03.2019

Category	S.No.	Connected Load in K.W.	year 2018-19 No. of Consumers	Electricity Consumed (in Lac unit)
Domestic	1	415745.56	326891.00	5291.86
Non- Domestic	2	136146.45	36277.00	1325.49
Industrial		36585.69	3535.00	239.41
[A] Small Scale				
[B] Medium		23901.66	453.00	256.07
[C] Large		76057.71	111.00	883.60
Public Lighting	4	11457.91	507.00	70.53
Irrigation	5	177613.27	16997.00	1953.71
Water Works	6	17671.15	670.00	546.87
Others	7	40827.20	1887.00	801.06
TOTAL		936006.60	387328.00	11368.60

Existing Power Supply Position

Existing Power Supply Position As on 31.03.2019

S. N.	Name of EMV/ Sub Station	No. of 33/11 KV S/s	No. of Power Transformer	Total MVA
1	City Division I Sriganganagar	16	33	184.90
2	D D Division Sriganganagar	41	54	162.30
3	Raisinghnagar Division	38	46	154.10
4	<u>Suratgarh</u> Division	34	42	126.40
5	Anoopgarh Division	23	28	90.95
	Total	152	203	718.65

(Source SE JVVNL Sri Ganganagar)

Solar Power Production

The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has given its approval for utilization of 400 hectares of un-cultivable farm land at the Central State Farm (CSF), Jetsar in Sri Ganganagar District, Rajasthan for setting up of a solar power plant of capacity exceeding 200 MW. The land is presently in possession of National Seeds Corporation (NSC), a Central Public Sector Enterprise (CPSE) under the administrative control of the Ministry of Agriculture and Farmers Welfare. The Solar Power Plant will be set up by a CPSE, which would be selected through negotiation.

Wind Power Production

There is no production of wind power in sriganganagar

Thermal Power Production

A lignite based thermal project is being established at village thukrana of suratgarh tehsils of Ganganagar district on the southern bank of Indira Gandhi Canal. There would be six units of 250 M.W. each.

Suratgarh Super Critical Thermal Plant (Under Construction)-

There would be two units of 660 M.W. each.

As on 31.03.2019

S.No.	Line	Length in Kilometers
1	33 K V	1506.69
2	11 K V	12943.09
3	Distribution Line	10156.43

Suratgarh thermal power station is the first super thermal plant of Rajasthan. It has installed capacity of 1500 MW, which is highest in the state. Suratgarh super thermal power station is located 27 km from Suratgarh -15 km from Suratgarh to Biradhwaj on NH15, then 12 km in east from NH15.

SANCTION OF SCHEMES (STAGE-I to V)

Stage	Unit No.	Capacity(MW)	Cost(Rs.Crore)
I	I & II	2x250	2300
II	III & IV	2X250	2057
III	V	1X250	753
IV	VI	1X250	1117
		TOTAL	6227

It has achieved many milestones since commissioning of its 1st unit despite being located at place where climatic conditions are very adverse.

1. Award

Since starting of 1st unit, it is getting awards from government of India consistently for its performance. For 1999-2000 shield has been given to SSTPS for meritorious productivity. For year 2000-01, 2001-02, 2002-03 & 2003-04 SSTPS is given meritorious productivity gold shield, awarded by Hon'ble President of India Dr. A. P. J. Abdul Kalam on 24-Aug-2004. Hon'ble Prime Minister of India Dr. Manmohan Singh awarded the shield to SSTPS on 21-03-2007 for performance in 2005-06.

2. Fly Ash Utilisation

SSTPS has achieved almost 100% fly ash utilization in 2010-11. Working more efficiently auxiliary power consumption has been reduced from 9.16% in 2009-10 to 9.12% in 2010-11. We have also managed to reduce demurrage hours for unloading of coal rakes by remarkable 81% in 2010-11 from 2009-10. In 2009-10 number of demurrage hours were 3787 while for 2010-11 it has been reduced to just 708 hours.

3. Mini-Micro Hydel Plant

For financial year 2010-11 there is an increase of 206 % in total generation by mini/micro hydroelectric plants (under SSTPS) from last year 2009-10. Generation for 2010-11 is 67.89 lakh units while generation for 2009-10 was 22.18 lakh units.

4. CSR

Under corporate social responsibility, bus facility has been started from SSTPS township to nearby villages, enabling village children to have quality education in Kendriya Vidyalaya and DAV school situated in SSTPS township.

CHAPTER –3

Transportation

Road Network

The national highway No. 62 crosses through the Ganganagar and the district is also well connected with different types of roads viz.State Highways and main district roads. Sri Ganganagar is directly connected with Jaipur, Bikaner, Jodhpur, Churu and Ajmer, within the state and Bhatinda, Jalandhar, Amritser in Punjab state. The district itself has sufficient network of Roads and all the towns and mandies are connected with roads.

Road network in the District As on 31.03.2019

S.No	Roads	Lenth in Kilometers 31.03.2019
1	National Highway	152.10
2	State Highway	238.30
3	Major District Road	65.00
4	Other District Road	319.57
5	Village Road Others	2588.439
6	KUMS Road	1802.755
7	Gref Road	391.446
8	Other Agency Road [RSRDC+CPWD]	14.95
9	Urban Road	0
10	Mandi Road	198.40
11	Municipal Road	558.952
	Total	6329.912

(Source SE PWD, Sri Ganganagar)

Vehicle on Roads

The number of vehicles registered in the district is increasing continuously; specially the increase is noteworthy in case of tractors.

The vehicles registered in the district are as under.

Registered Motor Vehicle Upto 31.03.2019

S.No.	Catagery	No. of Vehicles
1	Private cars	3653
2	Private Buses	113
3	Motorcycle/Scooters	27245
4	Taxi Maxi	91
5	Tractors/Trollers	2883
6	Jeep	409
7	Loading Vehicles	8
8	Auto Rickshaw	66
9	Others	213
	Total	34681

(Source DTO Sri Ganganagar)

Rail Transport

The district is connected by broad gauge line of the western/northern Railway. The length of Railway track in the district is 265 km. and there are 34 Railway stations in the district. Broad gauge connection to Bhatinda-Delhi-Bikaner, Anupgarh, Hanumangarh, Suratgarh provides important link for movement of industrial raw material and finished products outside the state.

Airport Connectivity

Lalgarh Airport is located at Lalgarh jattan, 26 kilometres South-East of Sri Ganganagar. It is owned and operated by the state government of Rajasthan. The airport is spread over 65 acres, has a 1300 meter long runway and a 4410 square meter apron for two small aircraft. A 125 square meter rest house serves as a terminal building.

The State Civil Aviation Department signed a Memorandum of Understanding (MoU) with the Indian Army in November 2017, allowing the Army to use the airstrip for next 10 years

Network of Communication Facilities

Sri Ganganagar is equipped with most advance telephone exchange. Fax and Telex service, internet is also available. As such the communication facilities are sufficient to cater the present need.

CHAPTER –4

Water Resources

Water & Irrigation Resources

The main source of irrigation and drinking water in the district is canals. Irrigation facilities are comparatively better in Ganganagar district as compared to other district of Rajasthan. Land in the district is mainly irrigated by Gang canal and Indira Gandhi canal but some part of the district is also irrigated by seasonal river Ghaggar.

Water & Irrigation Resources as on 31.03.19

S.N.	Name of canal	Capacity	Area Irrigated [in Lac. Acres]
1	Gang Canal	3027 Cusec	7.77
2	Indira Gandhi Canal		NA

(Source SE Irrigation Sri Ganganagar)

Drinking Water

The main source of drinking water in the district is canals. Drinking water facilities are comparatively better in Ganganagar district as compared to other district of Rajasthan. The main source of drinking water is Gang canal in the district.

Irrigation Facilities

Sources Wise Irrigation Facilities As on 31.03.2019

S.No.	Sources of Irrigation	Area Irrigated [in lac.Acres]
1	Canal	3.14
2	Wells	NA

CHAPTER –5

Infrastructurs

Existing Industrial Areas

- Riico
- Government
- Private

Rajasthan State Industrial Development & Investment Corporation Ltd.[RIICO] is wholly owned company of government of Rajasthan, incorporated under companies act 1956. the main functions are;

1. Providing land and infra structure facilities for setting up industries.
2. Providing financial assistance by way participation in share capital, under writing, bridge loans, term loans seed capital interest free loans against sales tax and subsidy.
3. Giving technical constancy to entrepreneurs.
4. Setting up projects in joint sector and assisted sector.
5. Giving escort services to NRI entrepreneurs.
6. Development industrial areas.
7. Financial inputs.

Industrial Area Wise hand review Existing status of Industrial Area

As on 31.03.2019

S.No.	NAME OF IND.AREA	LAND ACQUIRED (in hectare)	LAND DEVOL PED (in hectare)	Prevailing Rate per SQM. (Rs.)	No. of Plots	No. of allotted plots	No. of vacant plots	No. of units in Production (Plots)	National/ State Highway
1	2	3	4	5	6	7	8	9	10
DISTRICT :- SRI GANGANAGAR									
(A)	Transferred Industrial Areas								
1	INDUSTRIAL ESTATE	6.31	6.31	4700.00	85	85	-	84	
2	SADUL SHAHAR	25.58	25.58	4700.00	95	95	-	93	
(B)	Own Industrial Areas								
3	UDYOG-VIHAR-I	95.29	95.29	4700.00	294	291	-	285	SH
4	UDYOG-VIHAR-II	30.39	30.39	4700.00	129	129	-	117	
5	AGRO FOOD PARK SGNR	32.83	32.83	4700.00	89	88	1	82	
6	PADAMPUR	10.25	10.25	300.00	65	65	-	65	
7	RAISINGHNAGAR	24.99	24.99	350.00	141	92	49	31	
8	ANOOPGARH-I	21.24	-	300.00	55	42	-	42	SH
9	ANOOPGARH-II	13.65	15.23	600.00	50	48	-	42	SH
10	GHARSANA-I	24.48	24.48	350.00	40	40	-	40	
11	GHARSANA-II	50.57	35.06	350.00	163	135	28	30	
12	RAWALA-I	36.01	36.01	200.00	86	48	38	39	
13	RAWALA-II	50.59	40.77	200.00	125	67	58	17	
14	SURATGARH	33.25	33.25	1000.00	136	134	2	107	
15	13 LNP Sriganaganar	32.82	32.82	4700.00	105	7	98	-	

(Source RM RIICO, Sri Ganganagar)

There is One Private Industrial area established in Sri Ganganagar by name of Aggarsain Industrial area. It has 148 plots and units established on 48 plots.

District Industries Center, Sriganganagar Medium and Large Industries List of Large scale Industries as on 31-03-2019													
District- Sriganganagar			Format-A			(Rs. In Crore)							
S.No	Year	Name of the Unit	Contact Person & Phone	Name of Product	Installed Capacity (With Unit)	Date of Prodn.	Gross Capital Investment (Rs. In Crore)		Emplo yment No.	Prod. Value in Qty(MT)	Prod. Value (Rs. In Crore)	G.O.R./ G.O.I./ M.N.C.	Present Position
							Fixed (Plant & Machinery) Rs. In Crore	Working (Rs. In Crore)					
1	2018-19	Kalptaru Power Transmission Ltd. Chak –27-BB Padampur, Sri Ganganagar	Hitesh Goyal (094140-92888) email add.- hiteshg@kalptarupower.co,	Electricity Generation	7.8 M.W. (68328000 Unit)	15.7.2003	28.95	5.72	87		29.74	Public Ltd.	In Operation
2	2018-19	Khandelia Oil & Gen Mills Ltd., E-180-183,Udyog Vihar RIICO,Sri Ganganagar Email add. sgnr@khandelia.com	S.P. Bahal G.M. 0154-2494540 94114089740	Mustard Oil	100 MT	1986	34.00	22.00	143.00	36657.00 70723.00 9281.00	297.25 123.53 65.79	Company	Running
				Mustard Cake	200 MT	1986							
				MustardRefined Oil	50 MT (P/Day)	1995							
				Mustard De-oiled cake	185 MT	1994							
				Mustard De-oiled cake	370MT	2016	-	-	-				
				Mustard solvent oil	15 MT	1994	-	-	-	9671	58.24		

				Mustard solvent oil	30MT	2016	-	-	-				
3	2018-19	Raj State Ganganagar Sugar Mill (sugar) (A Raj. Govt. Undertaking) Chak 23 F, Kaminpura, Tehsil-Srikanpur Sri Ganganagar	SH.SUBHASH CHAND SHARMA GENERAL MANAGER (01501-248015)	Sugar	1500 TCD	27/12/2018	51.0124802	1.081746335	211	93000Qtls	28.83	GOR	Running
		RSGSM LTD. (DISTLLERYO	SH.SUDHIR KUMAR CHIEF.DISTLLERY CHEMIST	Rectified Sprit	30 KLPD	13/03/2019	51.0124802	1.081746335	11	131934 BL	0.55	GOR	Running
4	2018-19	Ruchi Soya Indl. Ltd. A 69-70, Udyog Vihar Sri Ganganagar	Govind Dubey 0154-2494508	1- Musterd doc 3-Mustered Oil & Refind Cotton Seed Oil 2- Solvent Musered Oil Mustered oil &refined cotton oil	185 TPD 15 TPD 45 TPD	04.06.2004	14.59	3.1E+08	70	Mustered DOC-9510 Solvent Mustered oil-822.701 Refined Mustered oil-1089.62	16.75 6.95 9.13	Company	Running
5	2018-19	Shri Cement Ltd. Udasar, Teh Suratgarh, Sri Ganganagar	Shri. Ravish Balav M.No-9214037485	Cement	1.8MTPA	10.02.2010	554.61	8.32	216			Company	Running
		Bangur Cement Unit (A unit of shree cement Ltd.) village- udaipur-rohi, Tehl. Suratgarh, distt.- sriganganagar	Shri. Ravish Balav M.No-9214037485	Cement	3.6MTPA	16.03.2018	269.15	22.92	63				Running

6	2018-19	Suratgarh Super Thermal Power Station Parbhat Nagar, Suratgarh, Sri Ganganagar	Sh. H.B. Gupta (chief Engineer) 9413385960 Sh.Rakesh Verma (Addl. Chief Engineer) 9413385635	Electricity	6x250 MW MW= 1 500 M.W.	Unit-I 1.02.1999 Unit-II 01.10.2000 Unit-III 15.06.2002 Unit-IV 31.07.2002 Unit-V 19.08.2003 Unit-VI 30.12.2009	6277.00	2512.18(unaudited)	1800 Including Contractor worker	7168.99	#####	GOR	Running
7	2018-19	Vikas WSP Ltd. B-86-87, F 88/89 & SP - 241 Udyog Vihar, I.A. Sri Ganganagar	Umesh Bansal 8696939883 0154-2494512/52	Guar Gum Powder	170 MT Per Day	1988	28.92	105.00	665		Approx 770.39	MNC	Running
8	2018-19	Suratgarh Super Critical Thermal Power Plant Rajasthan Rajya Vidhut Utpadan Nigam Ltd. O/o CE(STPS-SC) Admn. Building STPS, Surtgarh	SE- (T-Cell) 9414063265	Power Generation	2x660MW	Generation Not started yet	8228.49 upto Sept. 2018	Plant under construction	Total 320 Nos Employees are working	NIL	NIL	Working State PSU	Plant under construction
9	2018-19	Ananta Medicare Ltd.	MR.Rajesh Jain 9414480804	Dry powder injection	24.00(Million) NOS PER ANNUM	-	2078.14 Lakh	175.67 Lakh	48	-	-	-	Under Process

District Industries Centre, Sriganganagar													
List of Medium scale Industries as on 31.03.2019				Format-B				(Rs. In Crore)				District- Sriganganagar	
S. No.	Name of the Unit	Contact Person & Phone	Name of Product	Installed Capacity (With Unit)	Date of Production	Gross Capital Investment (Rs. In Crore)		Employment (Nos.)	Prod. Value (Rs. In Crore)	G.O.R./ G.O.I./ M.N.C.	Present Position		
						Fixed (Plant & Machinery) Rs. In Crore	Working (Rs. In Crore)						

District : Sri Ganganagar

(34)

1	Tilam Sangh Riico, Udyog Vihar Sri Ganganagar	M.K. Purohit, GM 2494415	Mustared Oil & Mustared Cake,	100 MTD	29.05.1992	6.76	1.60	6	Nil	G.O.R. (Co-opretive)	Closed Since 2008
			Greded seed	2 MT per Houres	2010	0.25			7.62		Running
2	Honeybee Multitrading Private Ltd., Plot No. A-71, Udyog Vihar , Sriganganagar	Mr. Diwakar Nath Srivastava (9829035160)	Kachi Ghani	300PTD	01.02.2017	5.55	4.47	40	43.12	Company	Running
			Mustard Cake						22.03		

CHAPTER –6

Export

Products/Services which are being Exported

A. GUAR GUM AND POWDER

1. M/S VIKAS WSP:-

One 100% EOU M/S Vikas WSP limited has been exporting gum powder to European Countries. The units has also been awarded president of India's award for it excellent export performance. The volume of export made by the above named unit for the last fifteen years is given below.

S.N.	Year	Value [in crore]
1	2007-08	303.56
2	2008-09	365.11
3	2009-10	458.98
4	2010-11	546.01
5	2011-12	1025.00
6	2012-13	2190.91
7	2013-14	1036.51
8	2014-15	780.76
9	2015-16	572.94
10	2016-17	51.21
11	2017-18	696.00
12	2018-19	1564.80

(Source Vikas WSP Ltd. Sri Ganganagar)

2. MAT WHITE GUM INDUSTRY :-

Is producing guar gum and powder and exports to USA . The volume of exports made by the above given unit is as follows.

S.No.	Years	value(in crore rupees)
1	2017-2018	35
2	2018-2019	40
3	2019-2020	50

GUAR GUM POWDER- Two units in the district are exporting and district has great scope in it.

IDENTIFICATION OF PRODUCT OF EXPORT POTENTIAL IN SRIGANGANAGAR- GUAR GUM

- * Guar is grown in almost all district of Rajasthan.
- * Ganganagar is the highest produce of Guar in State.
- * It is sold to USA and European countries like Germany, France, Neitherland, England etc.
- * Guar is grown in 2.5-3 lac hectares in Sriganganagar district.
- * Around 36 lac quintal of guar is produced in the district every year.
- * If guar gum is promoted as export item in the district it will overall uplift the economy of the district.

Future Potential

Guar (cluster bean) is grown in India indigenously as fodder, feed, food and cover crops mainly in complex, diverse, risky and under-invested rain fed (arid and semi-arid) regions. Guar seed is grown as a kharif crop in India. The crop is generally sown after the monsoon rainfall in the second half of July to early August and is harvested in late October to early November. Guar gum is extracted from the seed and its derivatives have very unique properties of solubility over wide range of temperatures, as hydro collider, emulsifier, thickener, stabilizer, coating/ filming agent, binder, thixotropic, non-ionic, cross-linking, gelling, preservation, non-calorific fibrous food etc. Guar gum and its derivatives are critical ingredients in

about 100 products or processes in 21 sectors of food, petroleum/gas exploration, explosives, pharmaceuticals, cosmetics, paper industry, textile, paints/distempers, aerial firefighting etc. Its recent utility in the production of highly commercial and rapidly growing shale gas extraction has created upheaval in its demand, trading among more than 100 countries and unprecedented volatility in prices.

The processing of guar gives three products mainly viz. guar splits, Churi and Korma. Guar split is used as a main product for different industrial uses while Churi and Korma are used as cattle feed. By-products or meals after gum extraction are a rich source of proteins, nutrients and fibres with high digestibility and have high importance in animal and fish feed industry.

India is the largest producer of guar seed and its derivative products with a share of about 80 per cent of world production of guar seed. Pakistan is the next largest contributor with 15 percent share. Other producers include US, Brazil, South Africa, Malawi, Zaire, Sudan, Australia and China. Rajasthan has 83.25% of area under guar followed by Haryana 9.6%, Gujarat.6.6%. Guar is grown in almost all the districts of Rajasthan except Kota and Baran but 96.53% of the area is confined to 13 districts which produce 94.06% of guar in the state. However, Rajasthan's share in the total production in India is 64.8% followed by Haryana 24.30% and Gujarat 9.33%. The average productivity of Guar in Rajasthan is lowest i.e. 19kg/ha whereas that of Haryana is 1096 kg/ha, Gujarat 582 kg/ha, Punjab 769 kg/ha and UP 1000kg/ha.

Due to the fact that the product has a very long storage life, most of the product purchased from the mandi by traders is released in a staggered way as per the demand for coming years. Key strengths of Guar value chain are; highly suitable for the rain fed conditions in Rajasthan, it has various by-products with high demand for industrial usage and the crop is a high earner of foreign exchange, Rajasthan is the leading producer of Guar in India. Key weaknesses of Guar value chain are: Low productivity due to cultivation in marginal land, high level of speculative market and large number of intermediaries in the value chain.

This legume is a very valuable plant within a crop rotation cycle, as it lives in symbiosis with nitrogen-fixing bacteria. In fact, agriculturists in semi-arid regions of Rajasthan follow crop-rotation and use guar as a source to replenish the soil with essential fertilizers and nitrogen fixation, before the next crop. Guar as a plant

has a multitude of different functions for human and animal nutrition but its gelling-agent-containing seeds (guar gum) are today the most important use. Demand is rising rapidly due to industrial use of guar gum in hydraulic fracturing (oil shale gas)

Its ability to suspend solids, bind water by hydrogen bonding, control the viscosity of aqueous solutions, form strong tough films have accounted for its rapid growth and use in various industries. For example guar gum is used in paper, textile, oil drilling, mining, explosives, ore flotation and other various industrial applications.

Application wise global consumption of guar derivatives

Food grade	Bakeries (Bread), Dairy (Ice cream, Sherbets, Cheese etc.), Dressing (Sauces, Ketchup's) Beverages (Chocolate drinks), Pet Food (Thickener)	20%
Fast Hydrated Gum	Oil drilling (as a well stimulant and fraction reducer), Mining (increased yield, filter aid) Explosives (Gelling agent), Coal Mining (fraction reducer, binding)	70%
Industrial grade	Textile printing (Thickening agent for dyes) Paper (increase strength and decrease porosity) Tobacco (binding and Strengthening) Photography (Gelling and Hardening) Cosmetics & medicines (as binder and thickener) Slimming (Reducing weight & laxative)	10%

A by-product of the guar processing is guar meal (mixture of husks and germ) which is a potential source of protein. It is used for cattle as well as poultry feeding. Toasting of guar meal improves its nutritive value. It can be used up to 10% in poultry diet and can replace up to 100% protein supplements such as ground nut oil cakes in ruminants. Guar is more than 6 times as effective as starch in thickening power and is used for upgrading starches.

Nearly 75-80% of the Guar Gum or other derivatives of Guar seed are being produced in India and are exported mainly to the USA, China and European countries.

Indian Scenario

Guar accounts for 18% of total farm exports which is at the value of Rs. 21287crores in 2012-13. Although India is the biggest exporter of guar seed to US, the countries like Spain and Italy are continuously increasing their share in US

market. Nearly 75-80% of the Guar Gum or other derivatives of Guar seed are being produced in India and are exported mainly to USA and European countries.

State-wise Value of Output from Guarseed in India

State/UTs	2013-14	
	Value	%Share
Gujarat	410764	11
Haryana	73362	2
Punjab	3513	0.09
Rajasthan	3224744	87
Uttar Pradesh	191	0.01
India	3712574	100

State Scenario

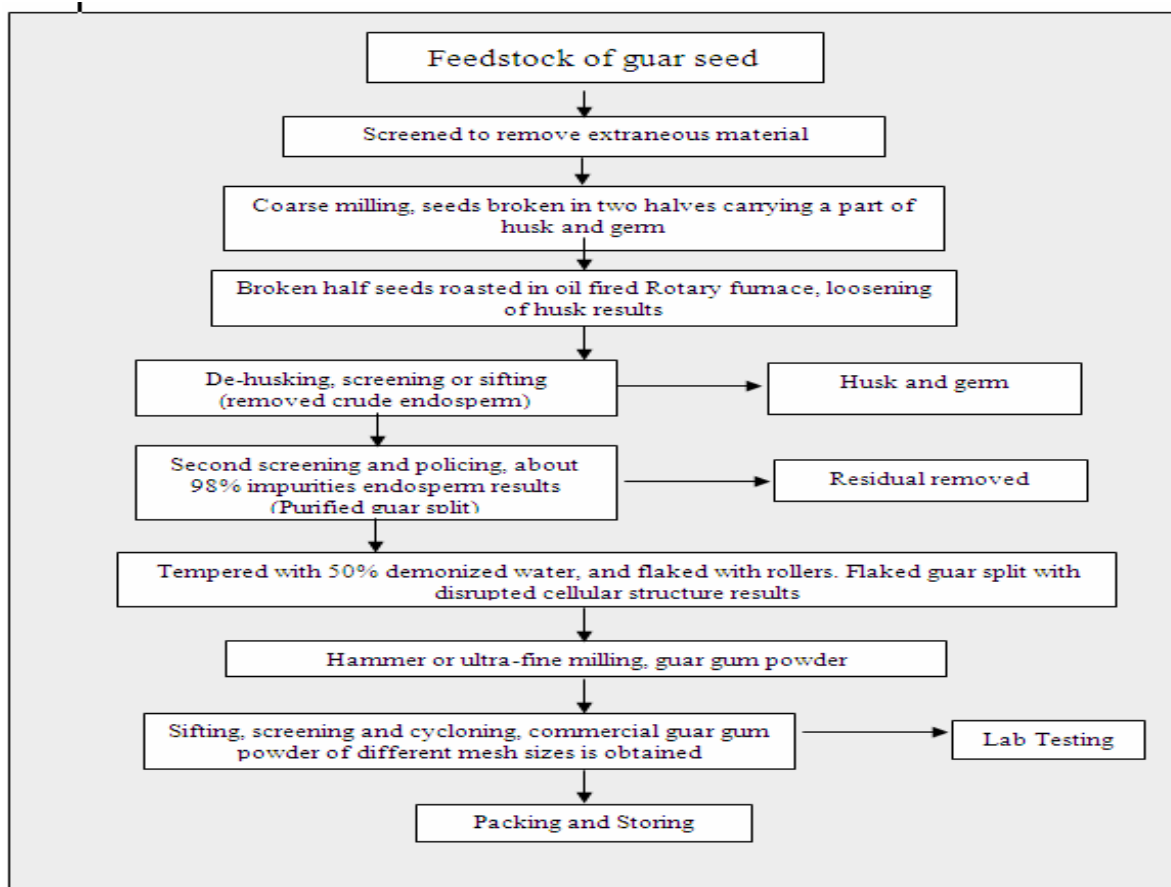
Rajasthan has 83.25% of area under guar followed by Haryana 9.6%, Gujarat.6.6%. However, Rajasthan's share in the total production in India is 64.8% followed by Haryana 24.30 and Gujarat 9.33%. The average productivity of Guar in Rajasthan is lowest i.e. 319kg/ha whereas that of Haryana is 1096 kg/ha, Gujarat 582 kg/ha, Punjab 769 kg/ha and UP 1000kg/ha. The key reason for low productivity in Rajasthan is because most of the crop is grown in in the semi-arid zones of the state depending upon only rained condition and hence there is very little investment on good agriculture practices like land labeling, seed treatment, use of improved variety seeds, line sowing, weeding, providing irrigation at important stages of crop cycle etc.

Districts which grow guar in Rajasthan

Total Production in the catchment Area (2015-16) MT		1,388,193	
Total Production in Rajasthan (2015-16) MT		2,223,474	
Percentage share in the State Production		62%	
Top Producing Districts in the catchment zones		Ganganagar, Bikaner, Jaisalmer	
Sr. No	District in Catchment Area	Production in MT	Rank of District in the catchment
1	Ganganagar	563,987	1
2	Bikaner	408,082	2
3	Jaisalmer	203,745	3
4	Nagaur	87,130	4
5	Jaipur	50,226	5
6	Alwar	47,732	6

7	Ajmer	10,465	7
8	S. Madhopur	6,420	8
9	Chittorgarh	4,511	9
10	Tonk	4,412	10
11	Dholpur	666	11
12	Bundi	400	12
13	Banswara	207	13
14	Baran	144	14
15	Kota	59	15

Steps in Processing of Guar Seed



Guar Gum

Refine guar splits are the sole raw material for manufacturing Guar gum powder for pharmaceutical and food grade material. The properties of Guar powder, which make it useful in various applications, are:

- Easy solubility in cold and hot water
- Film forming property
- Resistance to oils, greases and solvent
- Better thickening agent
- Water binding capacity

- High viscosity
- Functioning at low temperatures

Uses of Guar and its derivatives

Guar is traditionally used for feeding animals in Rajasthan and green pods were used for vegetable

purpose. With the development in processing technology in the country, Guar seed is being used for extracting gum powder, which has many applications including food preparations, beverages, textiles, paper industry, petroleum industry, mining, explosives, pharmaceuticals and cosmetics

Human Consumption:

- Immature pods are dried, salted and preserved for future use
- Immature pods are dried and fried like potato chips
- Green pods are cooked like French beans
- Mature seeds are used as an emergency pulse in time of drought

Cattle Feed:

- Plants are cut and used as green forage.
- Beans are used as high protein feed.

Medicinal Purposes:

- Plants are mashed, then mixed with oil and used as a poultice on cattle boils.
- Leaves are eaten to cure night blindness.
- Seeds are used as a chemotherapeutic agent against smallpox.
- Boiled Guar seeds are used as poultices for the plague, enlarged livers, head swellings and also for swellings due to broken bones.
- Seeds are used as laxative.

Crop and Soil Improvement:

- Plants are used as shade for ginger
- Guar commonly is used as a cover crop and green manure.

Industrial Use

The guar gum is being consumed in variety of industries ranging from oil drilling, textile, paper, explosive, food processing, pharmaceuticals, cosmetics, etc. The Industry wide applications of Guar gum is presented in table below.

Sr.No	Industry	Uses	Derivatives	Functions
Industrial/ Technical				
1	Oil well drilling	Driling Fluids hydraulic fracturing	Borate cross-linked guar gum, hydroxy alkyl ether derivatives	Control of water loss, viscosity, suspension, turbulence, mobility, friction reduction
2	Textile Printing	Cotton, Rayon silk, wool sizing, carpet printing	Carboxy-methyl guar, hydroxy propyl guar, modified guar gum	Reduces wrap breakage, reduces dusting film forming thickening for dye
3	Paper	Wrapping paper, kraft, photographic paper, filter	Oxidized guar gum, cross linked guar gum, amino ethyl gum, modified guar gum, guar gum formate,	Replaces hemi cellulose, increase strength, fold, pick, pulp hydration, retention of fines, decreases porosity
4	Mining	Concentration of ore, filtration	Aminoethyl guar gum, sulphate of guar gum	Flocculating and settling agent, filter aid
5	Explosive	Stick explosive, blasting slurries	Reticulated guar gum, cyanoethyl ether of guar gum	Water proofing, gelling agent
6	Water Treatment	Industrial water, drinking water	Food grade guar gum	Coagulant aid (food approved)
7	Tobacco	Reconstitution of fragmental tobacco	Reaction product of carboxymethyl cellulose and guar gum	Binding agent, strengthening agent
8	Coal Mining	Coal suspension,	Borate cross-linked guar	Friction reducing suspending
	shock impregnation	Gum	Agent	shock impregnation
9	Fire fighting	Water for fighting fires	Guar gum with ethylene glycol and glycerol	Friction reducing, dispersion and direction control
10	Ceramic	Enamels, electroceramics	Chlorinated guar gum	Fixing, binding thickening agent
11	Photography	Emulsions, gelatine solutions	Borate cross linked guar gum, hydrolysed guar gum	Gelling, hardening agent
12	Synthetic Resins	Polymerization, suspension, collagen dispersion	Suspension of guar gum with CMC	Thickening, Binding agen

Food Applications				
13	Frozen foods	Ice creams, Soft serves, frozen	Food grade guar gum with CMC	Water retention, ice crystal inhibitor, stabilizer
14	Bakery	Bread, Cakes, Pastry, Icing	Non-metabolised guar gum	Dough improvement, greater moisture retention, prolonged self life
15	Proceed Cheese	Cottage cheese, cream cheese	In combination with other water soluble gums	Increase the yield of curd solids, improves tenderness
16	Dairy Products	Yoghurts, desserts, molasses	In combination with other water soluble gums	Inhibits when separate keeps texture after
17	Dressing and Sauces	Salad cream, pickles, barbecue relish	In combination with other water soluble gums	Fast, cold dispersible thickening and texturising agent
18	Instant mixes	Pudding sauces, desserts, beverages	In combination with other water soluble gums	Fast, cold dispersible thickening and texturising agent
19	Canned Foods	Pet foods, corned meat, baby foods	In combination with other water soluble gums	Acid resistant thickening and suspending agent
20	Beverages	Cocoa drink, fruit nector, sugarless beverages	In combination with other water soluble gums	Acid resistant thickening and suspending agent
21	Animal Feed	Veterinary preparations, calf milk replacer	In combination with other water soluble gums	Suspending agent, granulating agent
Pharmaceuticals				
22	Laxative, slimming aids , Gastric hyperacidity, Diabetic treatment, Cholesterol, Vitamin formation Preparation	Food grade guar gum	Bulking agent, bulk forming appetite depressant Synergistic activity with bismuth salt, Reduction of Urinary glucose loss, Reducing aid, Stable water soluble susp	
23	Cosmetics	Ointment Lotions, Hair Shampoos, Hair Conditioners	Hydroxypropyl guar(HPG), Food grade guar gum, Cationic guar, Hydroxypropyl guar (HPG),	Thickening agent gives unctuousness Lubricating, suspending agent, Detergent compatible thickener

The major consumer of Guar gum is oil drilling and mining with the global consumption of 60-65percent followed by food processing industry accounting for 25-30 percent consumption.

Application-wise Global consumption of Guar Derivatives

Type of Applications	Target industries	Global Consumption
Food grade	Bakeries (Bread), Dairy (Ice cream, Sherbets, Cheese etc.), Dressing (Sauces, Ketchup's), Beverages (Chocolate drinks) & Pet Food (Thickener)	25-30%
Pharmacy grade	Cosmetics & medicines (as binder and thickener) Slimming, (Reducing weight & laxative)	05-10%
Industrial grade	Oil drilling (as a well stimulant and fraction reducer), Mining (increased yield, filter aid), Explosives (Gelling agent), Coal Mining (fraction reducer, binding)	60-65%
Other	Textile printing (Thickening agent for dyes), Paper (increase strength and decrease porosity), Tobacco (binding and Strengthening) & Photography (Gelling and Hardening)	5-10%

A by-product of the Guar processing is Guar meal (mixture of husks and germ) which is a potential source of protein. It is used for cattle as well as poultry feeding. Toasting of Guar meal improves its nutritive value. It can be used up to 10 percent in poultry diet and can replace up to 100 percent protein supplements such as ground nut oil cakes in ruminants. Various derivatives of Guar gum are available that will stiffen gels even up to a water content of 99 percent.

Commercially important derivatives of Guar gum are:

- Hydroxy and Carboxy Alkylated Guargum
- Oxidized Guargum
- Acetates of Guargum
- Cationic derivatives of Guargum
- Sulphated Guargum
- Guar gumformate
- Guar gum acrylamide
- Borate cross linked Guargum
- Reticulated Guargum
- Carboxy methyl hydroxy propyl Guargum
- Depolymerized Guargum

SWOT analysis of the indicative Value Chain of Guar

Strength	Weakness
<ul style="list-style-type: none"> • About 80% of world production occurs in India • Rajasthan is the leading producer of Guar in India • Guar is very drought-tolerant and sun loving crop highly suited for semi-arid climate of Rajasthan. • Being a leguminous crop, guar fixes nitrogen, making the soil fertile. 	<ul style="list-style-type: none"> • Low productivity as cultivation on marginal lands in states like Rajasthan • Non-involvement of community level organizations in value chain of Guar resulting in maximum share of crop value going to the pocket of traders/ processors/ speculators/

<ul style="list-style-type: none"> • Guar as a plant has a multitude of different functions for human and animal nutrition but its gelling-agent containing seeds (guar gum) are today the most important use • Demand is rising rapidly due to industrial use of guar gum in hydraulic fracturing (oil shale gas) • Guar meal korma and Guar meal Churi are widely used as prime raw material for producing various kinds of Cattle feeds, Aqua feeds, fish feeds, poultry Feeds, dairy feeds. • Only 10% of Indian production stays within the country and remaining 90% is exported for shale gas and oil industries 	<p>exporters</p> <ul style="list-style-type: none"> • No community processing i.e. on guar split, powder etc. All processors are private enterprises. • Trade mostly controlled by speculators. • Large number of intermediaries in the chain leads to low producer's income. • No grading on the farm level
<p>Opportunity</p>	<p>Threat</p>
<ul style="list-style-type: none"> • Scope for FPCs to undertake joint input sourcing activities for seeds, fertilizers, pesticides, etc. under the umbrella of FCSC reducing cost of cultivation • FPCs to also undertake custom hiring services and hence lead farm mechanisation through FCSC • Scope for establishment of quality processing facilities by FPCs as part of Farmers Common Service Centre (FCSC), along with facilities for storage, packaging and vehicle to facilitate transportation. • Scope for tie up of FPCs through FCSC with guar processors/MSME firms • Scope for facilitation of start-ups from amongst FPCs or individual entrepreneurs, in secondary processing of value added products of Guar like guar gum, guar vegetable, etc. 	<ul style="list-style-type: none"> • Adverse climatic conditions like frost can impact crop production and productivity • Lack of higher remuneration in guar may reduce farmer's interest from cultivating it. <ul style="list-style-type: none"> • Unpredictability of the market due to speculators

Action plan for Export promotion of Guar Gum

1. 5% GST which refundable on export be waived off or GST refund may be simplified.
2. 1.6 Rs. Mandi fee and Rs. 1 Krishi Kalyan tax be waived off on 100% Exporting units.
3. 100% exporting units be given 10% subsidy.
4. Electricity duty be waived off from 100% Exporting units.
5. Units which can establish Solar energy plant in any another place be accommodated in electricity bill in same proportion.
6. 5% exemption be given in Remission of Duties or Taxes on Export products or it be included in Vishesh Krishi Upaj Yojana.
7. Inland container depot be established at Sriganaganar or Hanumangarh where ever it is feasible.
8. Indian guar gum industry is loosing to Sudan and Pakistan as more initiatives are given there.
9. DLC rates of RIICO is 4700Rs./M. which is very high as compared to market rate which is of the ton of 3000 Rs./M.
10. Seminars, awareness camps be arranged for promotion of Exports.
11. As ports are quiet far from Sriganaganar. Some freight subsidy be provided.

(B) WAXED KINNOW

IDENTIFICATION OF PRODUCT OF EXPORT POTENTIAL IN SRIGANGANAGAR- WAXED KINNOW

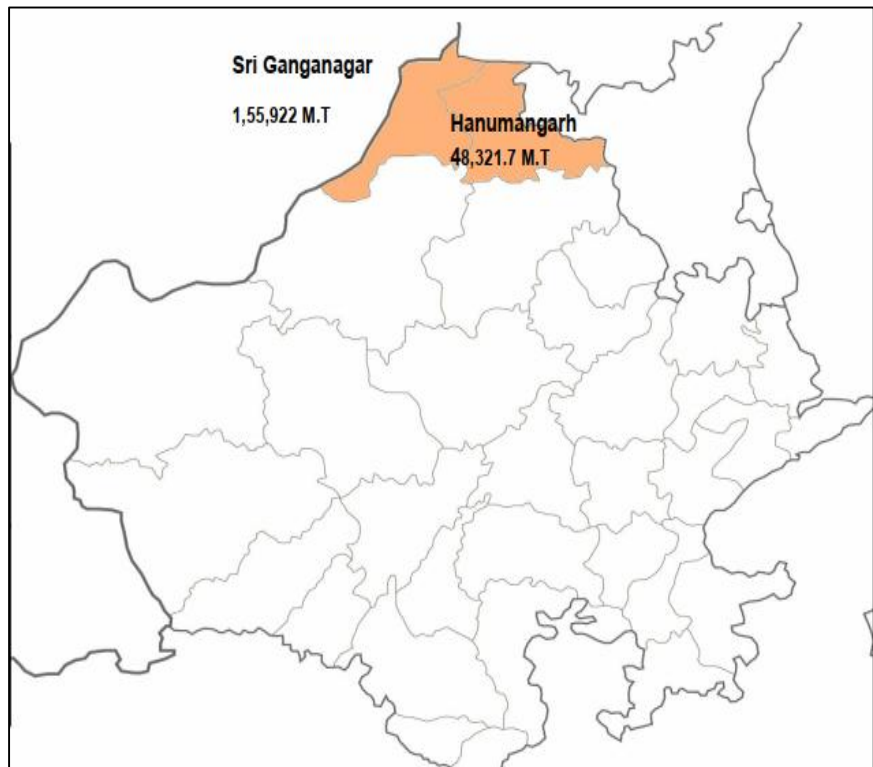
Sriganganagar is kinnow growing area and adjoining area of Punjab is also kinnow growing area. There are around 30 kinnow waxing and grading units in Sriganganagar district some industrialists export to Nepal and Bangladesh by the exporting agency.

- The district of Sriganganagar produces approximately 76.3% of total Kinnow in the state, where as adjoining district of Hanumangarh produces 23.65% of the total Kinnow of the state.
- Kinnow is produced in 10888 hectares in Sriganganagar.
- Approximately 2.10 lac metric tonnes of Kinnow is produced every year at Sriganganagar.
- Among the varieties of citrus produce not only in the state but also in the country. Kinnow bears highest place in juice content and fruit quality.
- 70% of Kinnow production comes from Punjab, 16% from Haryana, 13% from the state of Rajasthan and some from Himachal Pradesh.
- India is the third country to come up with seedless Kinnow.
- Kinnow, a high yield mandarin citrus fruit is a hybrid between sweet orange and willow leaf mandarin as developed at the California research center, Riverside by H.B. Frost in 1915.
- It was introduced by Punjab Agriculture College and Research Institute, Lyallpur (Pakistan) in 1940.
- The fruit was brought to India by J.C. Bakshi in 1954 at the Punjab Agriculture University.

- The plantation of Kinnow has to be done on the onset of the monsoon season i.e. starting of July and going upto September and harvesting of this fruit is done in January or February.
- High temperature and high intensity of slow radiation are the two environmental factors which are causing injury to the fruit and tree.

The district of Hanumangarh attributes to approximately 23.65% of total Kinnow production of Rajasthan

Total Production for the state of Rajasthan is 204,243.7 M.T divided between Sri Ganganagar and Hanumangarh.



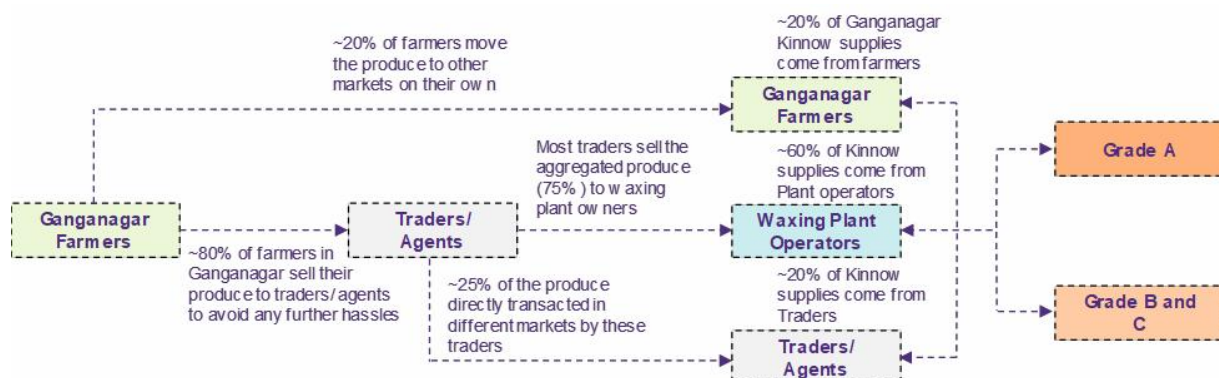
Demand for Kinnow.

Kinnow's demand has witnessed a positive growth trajectory due to its health benefits that come along with the consumption of citrus fruits and the enhanced quality and juice recovery further adds to the demand of the product.

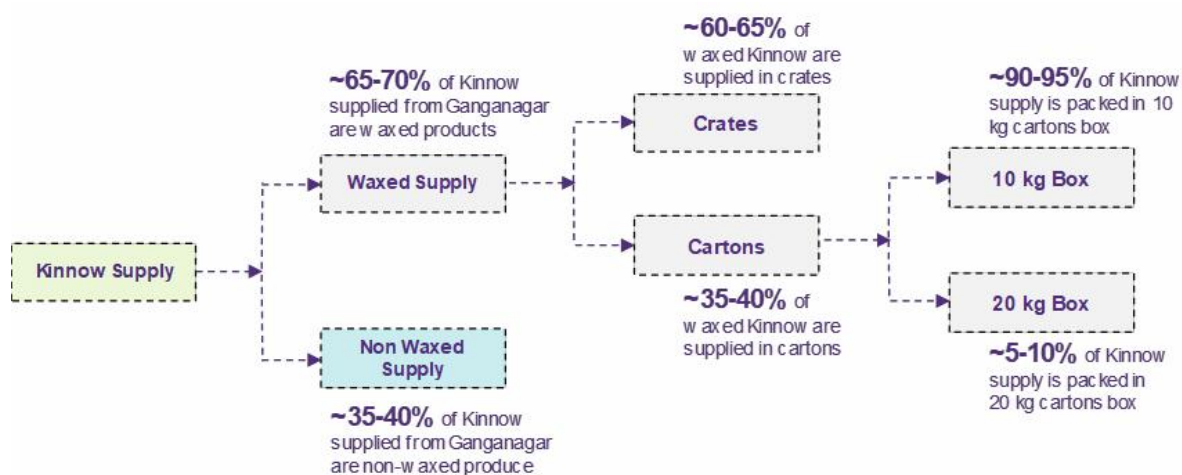
The table below highlights the categories of the product elaborating further on the juice content, size and end markets for Kinnow.

Grades	Juice Content	Sizes	End Markets
Grade A	High	Large	Export Market: Bangladesh (GradeA Small Size), Sri Lanka, Dubai, Russia etc. Domestic Market: Chennai, Bengaluru, Hyderabad, and other parts of South India
Grade B and C	Medium to Low	Medium to Small	Domestic Market: Mumbai, Delhi, Kolkata, UP, Bihar, Vadodara, J&K, Other parts of India

Supply Chain Network of Kinnow



Kinnow Suppliers for Waxed Kinnow



Kinnow/Orange Producing countries

Brazil is the largest Orange growing country followed by China, India, USA, Mexico and Spain. It contributes 4.39 % of total production of Oranges in the world. India stands fourth in the world for production as in year 2014-15.

Major Orange producing countries of the world

Sr. No.	Country	Production (In Tonnes)
1	Brazil	1,69,28,457
2	China	79,86,083
3	India	73,17,610
4	United States of America	61,39,826
5	Mexico	45,33,428
6	Spain	34,94,471
7	Egypt	31,35,931
8	Indonesia	19,26,560
9	South Africa	17,88,694

Worldwide Export data of Oranges⁸

Rank	Exporter	2015 Oranges Exports	% World Total
1.	Spain	US\$1.3 billion	28.9%
2.	South Africa	\$589.6 million	13.2%
3.	United States	\$568.6 million	12.8%
4.	Egypt	\$492.7 million	11.1%
5.	Netherlands	\$198.4 million	4.5%
6.	Turkey	\$167.3 million	3.8%
7.	Australia	\$143.6 million	3.2%
8.	Greece	\$120.8 million	2.7%
9.	Italy	\$99.6 million	2.2%
10.	Portugal	\$94.6 million	2.1%

Action plan for Export promotion of WAXED & GRADED KINNOW

1. Inland container depot be established at Sriganganagar as it's far from the ports.
2. Proper marketing of the products on the lines of Punjab government.
3. Promotion of export oriented awareness by seminars, workshops, fairs and exhibitions.
4. Export infrastructure to be developed under Trade Infrastructure for Export Scheme(TIES)
5. Center of excellence for Citrus fruits be set up, including a food testing lab.

6. Geographical Indication be sought for Ganganagar Kinnow.
7. Scope of tie up with large companies like pepsi, coke, I.T.C, Haldirams.
8. Kinnow entrepreneurs wish payment mode in form offline of credit, so that there is security of there payments.
9. Kinnow entrepreneurs wish for permission to use fungicide in waxing.
10. Govt. assistance be provided in automatic grading plant.
11. Farmers needs scissors from Israel to cut kinnow in orchards.
12. Kinnow entrepreneurs want that GST on packaging material be reduced as it is waste, and GST is very high of the tune of 18%.
13. Kinnow entrepreneurs wish one large scale juice unit of around 100-200 crore on the line of unit at Nanded in Maharastra be established.

If these conditions are fulfilled there is bright future for kinnow exports.

(C) PHARMACEUTICAL INDUSTRY

ANANTA MEDICARE LTD:- It manufactures ayurvedic medicines and export to C.I.S. countries ie.Ukraine, Russia,Azerbaijan and Moldova .It is hundred percent exporting unit. The volume of export made by the above given unit is as follows.

s. no.	years	value(in crore rupees)
1	2017-2018	6
2	2018-2019	12
3	2019-2020	20