2019

DISTRICT DEVELOPMENT PLAN - VARANASI

Final Report

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Executive Summary

Varanasi (or Benares, Banaras, Kashi), on the left bank of the Ganges, is one of the seven sacred cities of the Hindus. Among the oldest continuously inhabited cities in the world, its early history is that of the first Aryan settlement in the middle Ganges valley. By late 2nd millennium BCE, Varanasi was a seat of Aryan religion and philosophy and a commercial and industrial centre famous for its muslin and silk fabrics, perfumes, ivory works, and sculpture. The capital of the kingdom of Kashi during the time of the Buddha (6th century BCE), who gave his first sermon at nearby Sarnath, it remained a centre of religious, educational, and artistic activities as attested by the celebrated Chinese traveler Hsüan-tsang, who visited it in 635 BCE. Even now, there is a progressive trends observed in the tourist influx from the Buddhist circuit thus carrying the rich tourism legacy forward.

A centre of arts and crafts, it is also famous for its production of silks and brocades with gold and silver threadwork, as well as for wooden toys, bangles made of glass, ivory work, and brassware. The recognition as Geographical Indicators (GIs) of the region which came to fore in the year 2009 with Banaras brocades and Sarees has further increased the economic and aesthetic value of the place.

The district comprises of two tehsils, Varanasi and Pindara respectively at the time of Census 2011. Total area of the district is 1535.0 sq. km. The rural area covers 1371.2 sq. km and urban recorded 163.8 sq. km. There are eight community development blocks (Vikas Khand) in the district, namely Baragaon, Pindara, Cholapur Harhua, Sevapuri, Arajiline, Kashi Vidyapith and Chiraigaon. There are 702 Gram Sabhas and 1295 villages in the district, out of which 431 in Pindara tehsil and 864 in Varanasi tehsil. Total numbers of inhabited villages are 1258 in the district to say separately 423 in Pindara tehsil and 835 in Varanasi tehsil. In Census 2011 the district covered 5 statutory Towns and 34 census towns. Out of 5 statutory, Maruadih Railway Settlement is notified as Industrial Township. Varanasi Nagar Nigam (Municipal Corporation), is identified as one of the Mahanagars of U.P.

Findings

Primary Sector: The significant findings in the Primary sector are as follows:

(a) **Agriculture** is the main occupation in Varanasi and is dominated by small and marginal land holdings. Sugarcane, rice and wheat are the main crops of the district accounting for the major portion of the gross area sown. Sorghum and Maize is also grown in the region. The overall agricultural land use in Varanasi (for the year 2014-2015) comprises of the sown area of 95700 hectare. Out of the sown area 62123 hectares is sown more than once. In horticulture practices, marigold flower is widely grown in the region, which is used in the religious offerings.

(b) **Fisheries**: The community fishing is dominant. The private sector representation in the fishery sector is negligible in the region. The culture system named **Recirculatory Aquaculture System** (RAS) is becoming more popular in the region and the practice of natural riverine fisheries is declining. Owing to huge demand, the RAS system should be encouraged and the untapped resources present in the form of unleased community ponds must also be brought under fisheries.

(c) **Livestock**: The breeding of the local cow Ganga Tiri is dominant in the region as the breed symbolises sacred Ganga. The high yielding breeds of Gir and Sahiwal are found less in the district. There are 1.5 lakh cows and buffaloes in the district, the yield through them is not ample enough to meet the demand. In order to meet the utmost potential in the milk production, the government has allocated Rs 10 crores in GOKUL scheme. The local dairy in the region Parag is operating at less than 10 percent of its capacity which is a matter of concern. The underperformance of Parag is countered by the proactive supply of milk by Amul through its pockets.

Secondary Sector: Manufacturing is one of the important components found giving employment to both organized and unorganized workforce.

Manufacturing: There are nine large scale private and public sector undertakings. The major exportable items are from M/s DLW Varanasi. Among the micro and small enterprises: cotton textile, woolen and silk, readymade garments and embroidery, wooden based furniture, chemical based units and repairing and servicing are the, major contributors. According to the MSME profile, there are 6 medium scale enterprises, which include beverages, oil mills, agro processing and woolen yarn. In the services sector, coaching centers, hotel industries, travel, repair works, embroidery are some major promising sectors. There are around 15 clusters categorized by the Ministry of MSME. There are also eight GIs found in the region and their manufacturing gives employment to a lot of artisans and weaver from the unorganized sector.

Tertiary Sector: In the tertiary sector transport and real estates are the primary contributors. However both of them had declined to some extent. From the year 2012-13 to 2015-16, the contribution of the transport, storage and communication has declined to 29.84 % from 31.31 % whereas the real estate declined from 27.21 % to 22.23 %. The financial services contribution also declined to 10.53% in 2015-16 from 11.17% in 2012-13. However there is some growth observed in the contribution of Trade, Hotel and restaurant which increased from 9.11 % in 2012-13 to 9.60 in 2015-16.

The BCG Analysis suggests that only transport other than railway and livestock falls under Star category. The analysis showed representation of industries under categories: Cash-cows, Dogs and Question Marks as well. Relatively, higher number of industries fell into “Cash cows” and ‘Dogs’ category.

a) Short-listing of Key Sectors for GDP Growth

- The silk products, one of the GIs of Varanasi gives huge employment opportunity to a large number of weaver’s group from the unorganized sector. The exquisite silk sarees and fabrics showcase the skilled workmanship and rich cultural heritage. At present, there are 15000 handlooms and 10,000 power looms working on silk in Varanasi cluster. It is estimated that around 3500-4000 MT of raw silk is consumed by the Varanasi cluster at present and there is a gap between the demand and supply of quality raw silk.

- Glass beads sector in Varanasi has a huge export regime of Rs 75 crore. The business is primarily done in USA, Europe and Africa. The glass beads sector is led by Banaras Beads Limited, which is an Export house recognized by Government of India, established in the year 1940. The company has approximately 500 employees & it is a Public Limited company having more than 6000 shareholders. It is listed in leading stock exchange of India BSE&NSE

- The religious and cultural tourism at Varanasi has evolved over a period of time. The location of Varanasi in close proximity to Buddhist circuit and itself a place of cultural heritage makes it an important tourist destination. The tourist influx in the region is growing at a rate of more than 4 percent per year. This growth often is turning into a formidable challenge against the carrying capacity of the region.

- The agriculture landholdings at Varanasi is generally small belonging to marginal farmers, however the lands support diversification. The seed replacement rate of 41 % also supports productivity. There exist a large potential to bring more than 50000ha of land under Zaid crop. There is a demand for marigold flowers too which are widely grown across the river banks. In the spells of deficit the flowers are imported from Bengal.

- The total population of cows and buffaloes is around 1.5 lakhs in the ratio of 2:3. The yield at a time is 3.5 and 6 litres respectively. However, the yield through them is not able to cater to the needs of the region. The supply is met through the depot of Amul at Kanpur and Lucknow. Amul is also coming up with its pocket in the region. The regime is same in the poultry as well the 8 poultry units of 10 thousand birds and 1 poultry unit of 30 thousand bird are not able to meet the needs. The deficit requirement is met through import of eggs.

- Fisheries sector is hit badly by the lack of entrepreneurship in the region despite of the prevalence of the huge untapped community pond resources. There are 80 unleased community ponds which can be brought under fisheries. This can do away with the daily import regime of 4 tons. The **Recirculatory Aquaculture System** (RAS) which are total eight in the region also has tremendous potential to increase productivity with less water utilization.

- The traditional economic activity of stone carving gives employment to around 1800 artisans. The 800 functional units makes an annual turnover of Rs 3.75 crore and export goods worth Rs 1 crore. The wood carving comprises of an important GI named "Wooden lacquerware". The wood carving gives employment to more than 5000 artisans of the region.

- The most popular form of metal repoisse is Gulabi Meenakari. It is one of the GI at Varanasi. It requires abundant utilization of silver. It is often threatened by the fake products in the local market like Jaipur Meenakari. The sectors give employment to around 200 workers and the annual turnover made from the product is around 10 crores.

- The nylon and polyester fabric supplier in the region is Reliance. The yarn is obtained from Gujarat and thereby it is circulated in the local market. There are yarn distributors found in Chowka-ghats and other part of the city. They are Mahalakshmi yarn and Meena traders. The polyester work is done on power-looms particularly at the High tech silk cluster at Umrai Faizer Marg. Thus they have potential for long term growth.

- The major business group operating in the regions are Aravind Textile and Dreamland creations. There are showrooms of brand like Pantaloons, Globus and Max as well. The most impactful business player among them is Aravind which is based in Ahmedabad. The Aravind textile does not only have a market in India but it also have export regimes as well. Thus they have potential for long term growth.

Recommendations

1. Silk Products

- **Strategic action to curb the dominance of Chinese silk**: Efforts to identify or manufacture the indigenous alternative that can serve the utility of Chinese yarn or find out the ways through R&D or alternate supply chain to lower down the dependence on Chinese yarn.

- **Identification of the alternate supplier groups or building capacity of existing supplier group to bridge the demand and supply gap in power looms**: The immediate steps aims at the delineation of the factors responsible for the deficit supply to the power loom. There is a latent policy-driven support to take the supply of silk in priority but this differential priority at the cost of jeopardizing the stakes of power-loom is neither equitable nor justified. There is a need to find out the reason behind the deficit supply to the NHDC. If the procurement from the primary supplier is a problem, then the alternate supplier groups need to be found. The working groups whose contribution can be sought for interventions are Department of Handloom and textiles and National Silk Board.

- **Orientation and acquaintance of weaver's group and society towards the best business practice:** After the introduction of GI, silk and handloom mark the silk sector which is dominated by unorganized weaver force has been oriented to some extent. However, the pursuit to excellence shouldn't stop here. The road map ahead comprises of the adherence and compliance to the standards and renewal. Trend to imprint consumer with the respective mark validation should be set while campaigning. The stakeholder and consulting group should find out the way such that the end consumer can find out the origin of the product. At present there are third party business group who have been selling the silk products obtained in bulk to the seller with their own barcode. Through the barcode of the third party seller origin of the product (weaver's group or society) is not ascertained. The support can be extended through the corporate communication, operations and interpretation groups within IIM.

- **Facilitation through Special Purpose Vehicle (SPV)**: There are three silk clusters operating in Varanasi. Steps should be taken to ensure facilitation to the existing and proposed SPVs. Identification of the clusters with adequate stakes to transform into an SPV need to delineate. Likewise and existing SPV with ample stakes can be supported to update itself into a Common Facilitation Centre (CFC).The support can be sought from Banking institutions and Non-Banking Financial Companies (NBFCs). The scope of micro-financing under ODOP can also be sought.

- **Consumer Education pertaining to handloom and silk mark need to be campaigned, especially to tourists**: Through a joint venture of Handloom, textile and tourism department an initiative either through blended learning method or direct interactive session. The trade facilitation centre can serve as an ideal venue for the direct interactive session. A demonstration sample with and without standard marks along with identifiable differences also need to be placed. Initiatives can be taken to promote customized livelihood tourism campaigning preferably in schools.

2. Glass Beads

- **The major recommendation in the glass beads sector is the formulation of strategy to do away with the Chinese dominance as a supplier**. The Chinese influence is not only limited to the supply of finished products but also as a service provider of the quality finished products to the former client base of Banaras beads. Although there is an establishment of SPV taking place, which aims at making the glasses as well but its inception to the operation stage is delayed to the considerable extent due to the government process. A single window clearance system can serve the purpose. Besides, a product check of the one delivered by China and a survey of the trend followed in glass beads can assist in leap frog. The proactive support from MSME is the need of the hour.

3. Tourism

- **Campaigning about the places of Heritage and GIs found in the region**: This can be done through signages at the important places of transit. The signages must ensure that the associated location of the places of cultural heritage is geo-tagged along with the trail. Outdoor interactive sessions like heritage walk and cultural trail assisted by volunteer's group can be organized to attract tourist. The events should be made open to the school participation. The geo-tagging of the places digitally can be done through the support of Department of Remote Sensing.

- **Transformation of Trade Facilitation Centre into a Fund raising model**: The trade facilitation centre is a place where all the handicrafts of Varanasi are put in display. It's inclusion in the tailor made itinerary of the Tour operators will unfold the spectrum of culturally driven economic activities of Varanasi to the visiting tourists. On the other hand the Trade Facilitation Centre can make efforts to exhibit the contacts of the dealers of the respective products in display. The joint intervention of Department of Handicraft and Tourism is required to realize it.

- **Identification of the tour operators rendering inferior services**: The issue can be addressed by the tourism guild and if situation demands tourism department can intervene.

- **Acquainting tourists about the timings and route so as to avoid congestion**: A description about the best timing and mode to visit a place to avoid congestion can be updated on the tourism signages at the major places of transit. To cite an example, if a tourist wish to visit Chowkaghat, it would help if he can be acquainted with the fact that the four wheeler will not serve the purpose. The digitally geo-tagged cultural location should also give real time updates pertaining to traffic movement and congestion around the place. The geo-informatics firms can be taken into consideration for this purpose.

- **Decongestion through infrastructure across the major place of transit**: Infrastructural support will serve the purpose in long run. Feasibility study to check how many ghats across the three rivers can be connected by the jetty needs to be undertaken. The commute via jetty will not only assist passenger transit but also goods across one place to other. The good supply will definitely help the unorganized sector to grow. Considering the increasing tourist influx, expansion of the Babatpur airport is the need of the hour. The accessibility to the airport should be ensured according to the arrival and departure of the flights in operations

- **Ease of doing business:** A single window clearance system preferably placed at trade facilitation centre can serve the purpose. There is a complex area in the TFC which is represented by only one company dealing with cottage industries. Considering the state of the art infrastructure, more companies need to be encouraged to come up with a unit at TFC.

4. **Agriculture and Horticulture Crops**

- **Render treatment to increase the productivity of small size landholdings**. In order to double farmer's income, the cost of cultivation has to be reduced and production and productivity needs to be increased. This can be assured of through Soil Health schemes. The remunerative prices can also be ensured by going for value added products.

- **Provisioning of irrigation facility in zaid season (March to June)**: In the spells of deficit rain the formation of water user groups in 4 hectare area is ideal. Such a command area along with shallow tube wells can serve the purpose of irrigation.

- **Stray animals particularly blue bull**: Solar fencing and khed-baad can help against vermin issue.

- **Introduction of new technology and training programs to the farmers**: The programme should orient the farmers to sow the seeds in line and avoid broadcasting method. The crop management strategies post-harvest and balanced usage of fertilizer should also be undertaken.

- **Miscellaneous points of Interventions**: They are as follows.
  - Most of the farmers in the region have small landholding of around 0.3 hectares. However these small landholding support crop diversification in the region with contiguous farming in large clusters to realize economies of scale.
  - The cropping intensity of the region is 164.91 which has further scope to increase in stages up to 250%.
  - There exist a large potential to bring more than 50,000ha of land under Zaid crop.

The sustained interference of the agriculture department can serve the above purpose.

5. Fisheries

- **Tapping of the water resources through community mobilization**: Identification and locating of the 80 community leased ponds where no fisheries practice is done. Once the location is geo-tagged then a transect walk to the place can help to identify the background details leading to lack of interest. If the mobilization within the community doesn't take place then the interested outside stakeholder groups can be called for participation

- **Introduction of a private player who can induce the fishing community to the best practices**: This will inculcate self-motivation towards sustained growth

- **Promote RAS technology to lower dependence on import and conserve water**: This will improve production with less water utilization.

- **Check for agriculture practices suitable with fishing so as to make a co-operative self-sustaining model**: Terrace farming along the slope of the pond. The feed for the fish if it can be obtained through local farming practice will make the model sustainable.

- **Prevent ruckus from nuisance creating investment group in production stage:** More induction of support staff can serve the purpose.

Some common treatments that can be rendered against the points mentioned above are:

1. Awareness and training programme in the village.
2. Inter-departmental exchange programme - especially agriculture and fisheries.
3. Outsourcing of staff on certain occasion of deficit.

6. Livestock and Dairy

- **Formulation of strategies to improve the performance of the local dairy:** Parag has been operating at less than 10 % of its capacity and this trend has been going on for the past three years. The issue can be addressed with Strategic marketing or by partnering with the other regional players who wish to carry out their operations in the plants.

- **Steps to meet poultry demand indigenously**: It has been found that the production through poultry is only 25% of total demand and the rest 75% comes from Punjab and South India. Cooperative farming model across the peripheral villages can serve this issue where ample land is not present. This will also cater to the high prices of the husk.

- **Financial support to the Veterinary Department**: The veterinary department is struggling with the shortage of manpower especially doctors, veterinary pharmacists, and petty staff. The department is short of budget to procure medicines and maintenance of the hospital building. A fundraising model can be made by charging for the outstation services

- **Miscellaneous point of interventions**

  - In order to reduce the prices of milk by lowering the cost of production, the concept of Milk to ATM should be adopted in the region.

  - For the well-being of foreign cows, cold shelters should be set up.

  - NGO's should be encouraged to collect urine and cow dungs for medicinal and other purposes.

  - The cattle owner doesn't have any right on the carcasses of the dead animal. The municipality makes money from the respective dead animal's part.

The Animal Husbandry department has a long term sustained role to play in this venture.

7. Carving on wood and stone

- **CFCs role in supporting wooden craft:** Fair distribution of finances should be ensured by CFC under equitable terms
- **Proactive support from DIC and CSIR to meet the export testing needs:** This will ensure the growth in the export regime
- **Forest Department's role** would ensure more supply through auction of the desired kind of wood, especially "Koraiya" wood.

The DIC, CSIR and Forest department have the capacity to take these measures in a span of not more than 10 months.

8. Metal Repoisse

- **Identification of factors leading to decline in quality of colours:** A visit to the factory based in Punjab will serve the purpose as to why they are not able to provision with the quality Meena colour.
- **Improvement of workers health:** The scope under Ayushman scheme need to be ascertained.
- **Local innovations**: There is a demand for electric furnace for the Meenakari work but there is an artisan group led by Kunj Bihari Singh who have come up with a portable innovation that can serve the utility of the electric furnace. There innovation is worthy of recognition.

The Start-Up India mission and DIC has a vital role to play.

9. Promising Sector

- A common intervention can be rendered to the **polyester weaving** and **readymade garments products** in the form of supply chain management to prevent loss in transit and business to consumer deal through e-commerce. The facilitation under SPV in the high tech silk cluster will assist in the further growth of the polyester weaving. The efforts to explore new markets should also be undertaken.

Chapter 1
Overview

1.1. Introduction

India has emerged as the fastest growing major economy in the world as per the Central Statistics Organization (CSO) and International Monetary Fund (IMF)[1] and it is expected to be one of the top three economic powers of the world over the next 10-15 years, backed by its strong democracy and market development. India's GDP is estimated to have increased to 6.6 percent in 2017-18 and is expected to grow up to 7.3 percent in 2018-19 and further to 7.6 percent as per latest estimates of Asian Development Bank[2].

India is on a high growth path and future forecasts are optimistic. However, in order to cater its large population India needs to push further on the growth trajectory. Keeping in view, India's desired trajectory, the Department of Industrial Policy and Promotion (DIPP) is working towards creating a conducive environment to accelerate annual growth of industries to double digits, on a sustained basis; improving the share of manufacturing in GDP and India's global share of FDI; and making India a preferred location for foreign investment.

In order to accomplish the accelerated growth regime a bottom up approach has been adopted by the Department of Industrial Policy and Promotion (DIPP). The initial process involves the formulation of plan and strategies to attain an incremental growth of 2-3 %. The role of IIM in strategic management is indispensable especially when the growth has to be attained in a stringent time framework. The plans are built around the local strength and economic activities. The projected growth regimes can be attained through equitable resource mobilization onto the beneficiary group through selective interventions. The inclusive growth can be further ensured through stakeholder's training and capacity building through participatory actions.

1.2. Objectives

To prepare a district plan and strategy for higher growth in Varanasi (Uttar Pradesh) with the objective to accelerate the growth of the district by 2-3% has been prepared with the following objectives:

- To develop a baseline profile of the District.
- To enumerate parameters/metrics that are relevant for the strategy prepared, and that will also enable tracking of progress in future.
- To map investments, resources, strengths of the district including skills available.
- To suggest sectoral interventions for Agriculture; industry, including MSME; and Services relevant for the District.

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[1]https://economictimes.indiatimes.com/news/economy/indicators/india-fastest-growing-economy-at-7-4-per-cent-in-2018-imf/articleshow/64089078.cms
[2]https://economictimes.indiatimes.com/news/economy/indicators/adb-sees-asias-economic-growth-at-6-per-cent-indias-at-7-3-per-cent-in-2018/articleshow/63707972.cms

- To suggest interventions for skilling based on demand in the District.
- To spell out interventions to improve business environment in terms of ease of doing business, access to credit, convergence of existing efforts in public and private sectors etc.

1.3. Scope /Coverage and Methodology:

This plan pertains to Varanasi district in Uttar Pradesh. We adopted a bottom up approach with adequate focus on micro-planning through participatory approach ensuring involvement of different stakeholders in the development process. A standardized common framework was developed and used across districts to ensure uniformity. The proposed plan is based on both primary and secondary data collected through field visits, stakeholder's feedbacks, interactions, and focus group discussions along with brainstorming sessions with the district administration, state governments and various ministries/department of the central government. Checklist/small formats were used for generating relevant information. The data collected has been processed and analyzed to study the relevant sectors and to devise strategy for higher growth. Step wise methodology undertaken is explained below.

Step 1: We studied the economic profile of the district with respect to the gross domestic product and the contribution of primary, secondary and tertiary sector in it. Sector wise analysis revealed that within the primary sector, agriculture and livestock has been contributing significantly. In the secondary sector manufacturing and construction have been the primary contributors. In the tertiary sector: real estate, trade and hotel industry has great potential. As regard the profile of manufacturing industry, we have, in all 9 large scale private and public sector undertakings. The major exportable items are from M/s DLW Varanasi and the growth is likely to increase. Among the micro and small enterprises: cotton textile, woolen and silk, readymade garments and embroidery, wooden based furniture, chemical based units and repairing and servicing are the, major contributors. According to the MSME profile, there are 6 medium scale enterprises, which include, beverages, oil mills, agro processing and woolen yarn. In the services sector, coaching centers, hotel industries, travel, repair works, embroidery are some major promising sectors. There are around 15 clusters categorized by the Ministry of MSME.

Step 2: The secondary data available with District and State Authorities and other reliable sources has been collated and a field survey was executed to develop a **District Profile**.

Step 3: This District Profile was used to carry out **SWOT analysis**.

Step 4: Based on this SWOT, District Portfolio analysis was attempted using the **BCG Growth Share Analysis** as depicted below.

Figure 1: BCG illustration

Step 5: In Varanasi, major core competency areas for economic activity (five to six) were studied in detail and **Porter's Five Forces Analysis was** done which is diagrammatically depicted below:

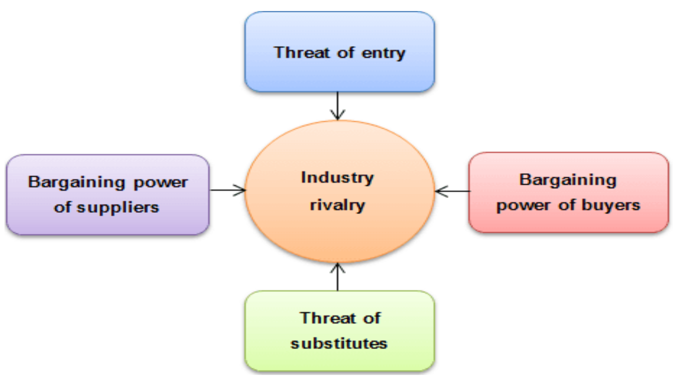

Figure 2: Porter's five forces diagrammatic representation

Based on the analysis, measures for achieving 2-3% annual growth rate over a five-year period have been suggested.

Step 6: SWOT analysis on the selected key focus areas has been done

Step 7: Suggesting intervention and action plan for growth based on the analysis above

The overall deliverables shall include a **Comprehensive District Plan** for Varanasi districts, outlining the investment required and strategies therein to achieve the desired growth rate of 2-3%. It includes a Baseline profile of the District and recognize resources, strengths and sources of investments for the District including the skills available. Along with the sectoral interventions needed for agriculture, including mapping of cropping pattern; industry, including MSME; relevant services and skilling based on demand in the district. It also includes measures to be undertaken to improve the business environment in terms of ease of doing business, access to credit, convergence of existing efforts in public and private sectors etc. The plan also have suitable indicators covering all three sectors for the review, mentoring and hand holding exercises to be executed in phase two.

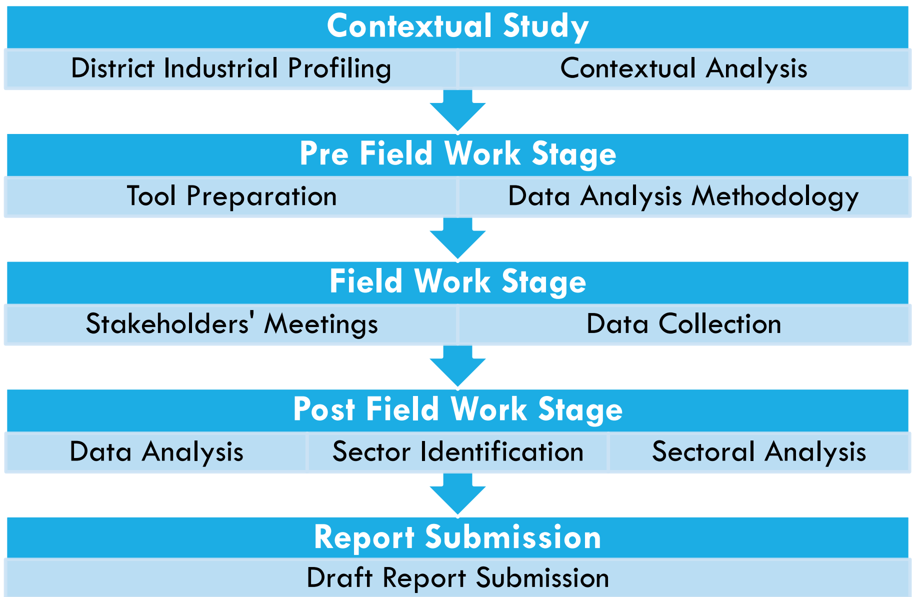

Figure 3: Methodology of Study

Subsequent to the development of the plan and strategy, handholding, mentoring and monitoring plan for phase two shall be formulated and submitted and shall be customized as per the plan and it needs in the district. A flowchart to the process adhered to is shown above.

Key Steps:

1. Studied about the industries from secondary sources
2. Meeting with various stakeholders on field
3. Report Writing for further analysis

Pre-fieldwork Stage: After preparation of district industrial profile, we ideated the flow of our study based on the contextual analysis done. Following the kick off meeting at Varanasi, list of respondents was prepared for designing unstructured interview schedule. Further, the tools for data collection and method for data analysis were also prepared. The BCG Matrix for sector identification and Porter’s Five Forces Analysis model and SWOT Analysis tools for sectoral analysis were pre-decided.

Key Steps:

1. Analysis of the report prepared during contextual study phase

2. Collection of secondary data
3. Preparation of data collection and data analysis tools
4. Coordinated with district administration and district industries centre

Fieldwork Stage: Before the actual fieldwork phase started, we had sent the data collection tools to the district administration. The research staff were oriented about the data collection process by the concerned faculty involved in the project. During our field work, data was collected from relevant government functionaries, factory owners, traders, people representatives amongst others. The team visited different government offices for quantitative and qualitative data collection.

Key Steps:

1. Meeting with government departments and some entrepreneurs in the district
2. Qualitative and quantitative data collection
3. Comparative study of the existing industries in the district
4. Data collection from secondary sources

Post Field Work Stage: Data analysis using pre-decided tools, identification of potential sectors/products based on data analyzed and in depth study of these sectors/products were part of the phase.

Key Steps:

1. Primary and secondary data analysis
2. Sector identification using BCG Matrix
3. Sectoral Analysis using Porter's Five Forces Analysis and SWOT Analysis tools
4. Report Preparation

Caveat:

1. For secondary data author has relied on the various agencies/secondary sources providing the data.
2. This study was commissioned by DIPP though the report does not necessarily reflect the view of the sponsoring agency.
3. Authorities not responsible for misrepresentation of results contained in this report.

Chapter 2
Baseline Profile

2.1. About

Varanasi in Uttar Pradesh is situated on the banks of river Ganga. It is a tract of holy land lying between the rivers Varuna and Assi. The spiritual capital of India has a rich cultural heritage. The setting amidst the serene Gangetic plain adds soul to the place. The entire town runs parallel to river Ganga and it is this bountiful location that makes Varanasi one of the oldest cities in the world to be continuously inhabited by people. The city is closely associated with the worship of Lord Shiva especially with the multitude of mathas established in the city and Ghats that dot the continuous waterline of the city. The city has evolved over a period of time from the site of pilgrimage to a place rendering conducive eco-system to the industries to flourish. **The foremost question that comes to the mind is, "What space is offered by the city to the inclusive equitable industrial growth**". Well! There are many, right from people to the rich cultural and geographical setting which provides abundant resources to the economy for growth.

The gangetic ecosystem has been offering valuable services from time immemorial. Its role in inclusive equitable industrial growth is inevitable. The fertile plain offers rich harvest to the agro-based industries to grow. The skilled human resources have been preserving the rich heritage in handloom, textile and handicraft industries. The link to the major highways acts as an impetus to the supply chain management and with the advent of e-commerce the major and allied textile and handloom sectors are progressing in leaps and bound. The efforts to improve the growth in productivity of the sectors that involve marginal community will act as an impetus to the success of the inclusive agro industrial growth.

Culturally, the city of Varanasi is also home to the Benares Gharana of Hindustani classical music that has produced marvels like Bismillah Khan, Sitara Devi, and Girija Devi etc. It is also famous for producing several liberal and forward thinking writers and statesman like Hazari Prasad Dwivedi, Acharya Shukla, Baldev Upadhyay and Devaki Nandan Khatri. The profound legacies of these great men are taken ahead by one of Asia's largest residential universities- the Benares Hindu University. The university has an important role in building capacities of the students aspiring to make career in the service sector. The university itself absorbs a lot of people in the tertiary sector. Thus the city has a unique blend of old school and new trends. (Singhania N, 2014)

2.2. Location and Geographical areas

The city is located in the middle Ganges valley of North India, in the Eastern part of Uttar Pradesh, along the left crescent-shaped bank of the Ganges River. It has the headquarters of Varanasi district. The "Varanasi Urban Agglomeration" — an agglomeration of seven urban sub-units covers an area of 112.26 km^2 (approximately 43 mi^2). The urban agglomeration is stretched between 82° 56'E - 83° 03'E and 25° 14'N - 25° 23.5'N. It is located in the Indo-Gangetic Plains of North India. The land is very fertile because low level floods in the Ganges continually replenish the soil. The mainland of Varanasi is located between rivers Ganges and Varuna at a mean elevation of 80.71m. As a result of absence of tributaries and canals, the main land is continuous and relatively dry. In ancient times, this geographic situation must have been highly favorable for forming settlements. But it is difficult to ascertain the original geography of Varanasi because the city's current location is not exactly the same as the one described in some old texts

The main river in Varanasi district is Ganga. Apart from Ganga river, Gomti and Varuna rivers are also flowing in the district and they are meeting in Ganga River from different angles. The sangam of Ganga, Gomti and Varuna is also situated in Varanasi district. The Map of Varanasi district is as under:

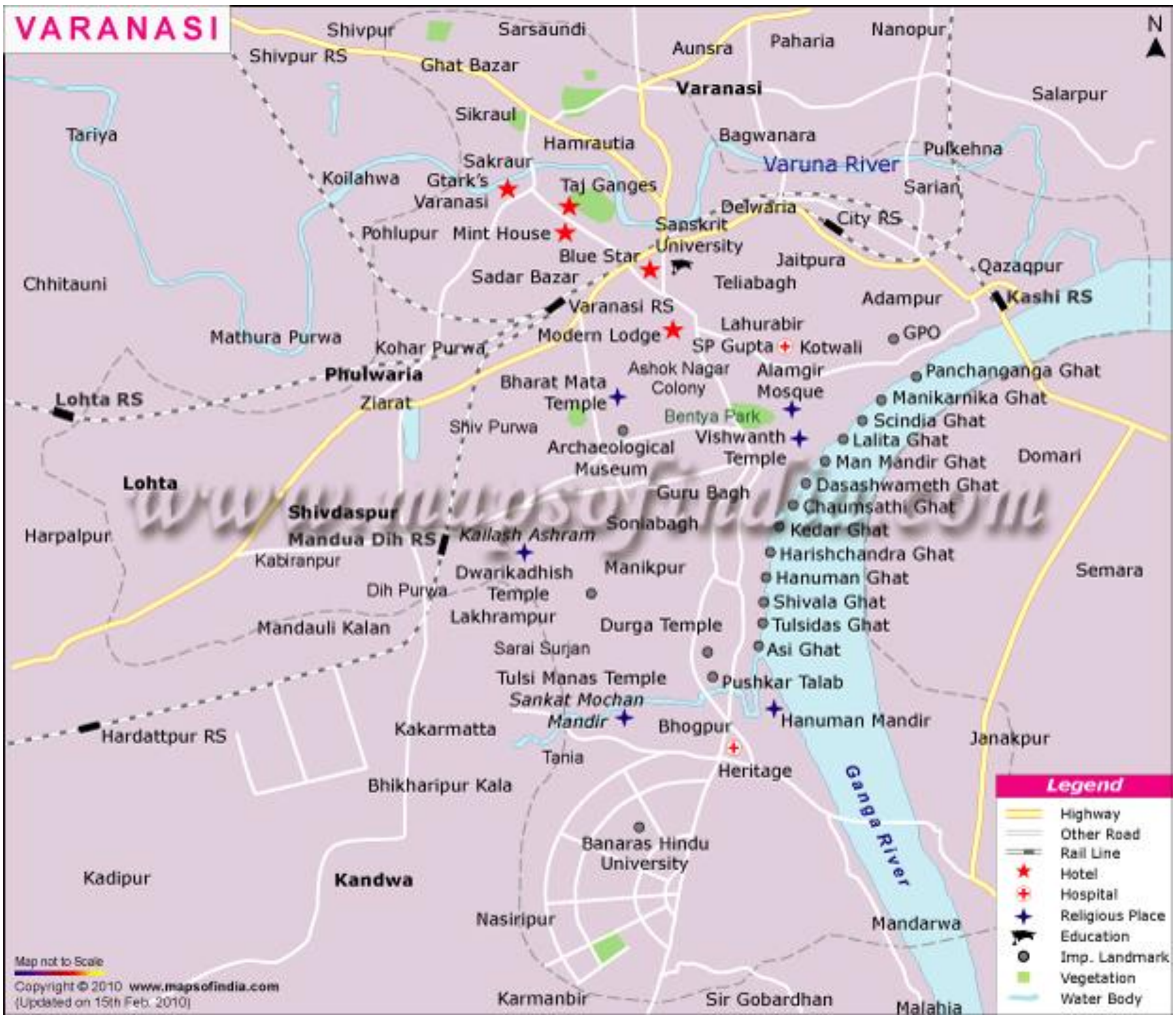

Figure 4: Varanasi Map

2.3. Climatic Condition

During summers, weather can be as hot as 45° C and humid too as Varanasi lies at the Tropic of cancer. Torrential rains and high humidity accompanies the monsoons that usually come in late June or early July for about two months. Delicious and juicy mangoes offer little relief from the sweating weather. On the other hand, winters are pleasant and temperature dips down to about 7°C. In Varanasi, the climatic conditions are most favorable for the tourists between Octobers to April particularly the spring season (sawan).

2.4. Demographic details

Its demographical profile shows that the total population is 36, 82,194 (Census 2011) where the gender ratio by and large showed males leading marginally. The gender ratio of 913 is greater than the state average of 912 per thousand males. The district stands at 18th position, in terms of population of the state. The percentage share of urban population in the district is 43.4 as against 22.3 of the population in urban areas of the state. Varanasi district has population density of 2,395 persons per sq.km which is more than the state average 829 persons per sq. km. The district ranks 9th in literacy with 75.6 percent which is higher than the state average 67.7 percent. Decadal growth rate of the district 17.1 is lower to the state average of 20.2 percent. There are 560,162 households in the district accounting for 1.7 percent of the total households in the state. The average size of households in the district is 6.6 persons.

2.5. Working Population

The total working population of the district is 12, 20,708. It is around 33.20 percent of the total working population of the district. The count of the working male and female population is 921,234 and 299,474 respectively. The count of marginal workers of 299,947 is lower than the count of main workers which are 920,761. The total number of women in the marginal workforce is 129541. The working population can be categorically divided as follows:

Table 1: Categorical classification of Labours

Categorical representation of Workers (Main and Marginal)			
Categories	**Male**	**Female**	**Total**
Cultivators	134,951	63,001	197,952
Agricultural Labourers	108,047	74,099	182,146

Workers in household industries	122,985	45,779	168,764
Other Labourers	555,251	116,595	671,846

2.6. Administrative Profile

There are three main tehsil in Varanasi district. They are Varanasi, Pindra and Rajatalab. The total area of district is 1535 sq. km. Out of this, 415 sq. km (27.4%) is in Varanasi tehsil, 415 sq. km (27.4%) is in Rajatalab, 705 sq. km (45.93%) is in Pindra tehsil. As per census 2011, there are 1327 revenue villages in Varanasi district. Out of this 1289 are inhabited villages and 38 are non-inhabited villages. There are eight blocks in Varanasi district. Out of 8, 3 blocks are in Varanasi tehsil, they are Chiraigaon, Cholapur, Kashi Vidyapeeth & partially Harahua. There are two blocks in Rajatalab tehsil namely Sewapuri, Arajiline & partially Kashi Vidyapeeth. The rest of the three blocks are in Pindra tehsil namely Baragaon, Pindra and partially Harahua. There are 108 Nagar Panchayat and 702 gram panchayat in Varanasi district and also 8 Assembly Area.

2.7. Economic Profile of the district

The district economic profile was analyzed with respect to the gross domestic product and the contribution of primary, secondary and tertiary sectors in it. The gross domestic product of the district and the contribution of different sectors are given below:

i. Primary sector: A brief overview of the economic activities under primary sector are as follows:

- **Agricultural Crops:** The overall agricultural land use in Varanasi (for the year 2014-2015) comprises of the sown area of 95700 hectare. Out of the sown area 62123 hectares are sown more than once. The respective areas under the three seasons are as follows:

Table 2: Crop season and corresponding area.

Crop Season	**Area (in ha)**
	2014-15
Kharif	74680
Rabi	80548
Zaid	2401

The crop found in the region along with the area under cultivation and the production taking place is mentioned in the subsequent tables. The tables B, C and D gives crop-wise area and production of Kharif, Rabi and Zaid crops until year 2013-14.

Table 3: Kharif Crop profile.

Kharif Crops	2012-13		2013-14	
	Area (hectare)	Production(Metric tonnes)	Area (hectare)	Production(Metric tonnes)
Arhar/Tur	4226	4061	4062	3537
Bajra	5283	5550	5430	5898
Dry chillies	356	288	291	240
Groundnut	8	7		
Guar seed	54	44	14	12
Jowar	2555	2065	2243	2195
Maize	2906	4902	2791	4446
Moong(Green Gram)	283	91	241	77
Rice	46938	100964	43862	101848
Sannhamp	349	99	357	137
Sesamum	638	94	336	66
Sugarcane	3901	236962	3996	252707
Sweet potato	29	383	43	533
Urad	2549	1147	2162	1431

In case of Kharif there is an increasing trend observed in production of bajra, jowar, maize, rice, sannhamp, sugarcane, sweet potato and urad in the year 2014 compared to the year 2013.

Table 4: Rabi Crop profile.

Rabi Crops	2013		2014	
	Area (hectare)	Production(Metric tonnes)	Area (hectare)	Production(Metric tonnes)
Barley	149	275	162	283
Coriander	17	9	23	11
Garlic	4	24	4	23
Gram	1919	1834	2078	1261
Linseed	1		1	1
Maize	6	21	22	52
Masoor	184	135	178	102
Onion	193	3925	84	1285
Peas & beans (Pulses)	2915	2408	2912	2097

Potato	3289	76160	3237	55612
Rapeseed &Mustard	751	762	705	547
Wheat	69399	188955	68617	127010

The Rabi crops exhibits an increasing trend in maize coriander and barley.

Table 5: Summer Crop profile

Crop	2013		2014	
	Area (hectare)	**Production(Metric tonnes)**	**Area (hectare)**	**Production(Metric tonnes)**
Maize	31	57	59	105
Moong (Green Gram)	85	69	61	36
Onion	160	2280	169	2382
Urad	97	79	90	51

The summer crops were represented by maize, moong, onion and urad. Among them maize and moong production increased compared to previous year.

- **Fishing**: The community fishing is dominant. The private sector representation in the fishery sector is just 1 %. The culture system named recirculatory aquaculture system (RAS) is becoming popular in the region and the practice of natural riverine fisheries is declining. The fish production in the regions covered under the gram sabha of Varanasi are as follows:

Table 6: Fisheries Profile

Year	Annual Target	Fish production in community pond (metric ton)
2017-18(till March)	5102	5102
2018-19 (till August)	5102	1167

There are total 897 community ponds found in Varanasi with a total area of 568 hectares. Out of them fisheries is practiced in only 519 community ponds with an area of around 488 hectares.

The production taking place in from the year 2014 to 2017 can obtained from the table given below:

Table 7: Community Ponds profile

Year	Departmental Ponds			Private Ponds		
	Number	**Area(ha)**	**Production (ql)**	**Number**	**Area(ha)**	**Production (ql)**

2014-15	8	14.30	379.60	347	289	11607
2015-16	8	14.30	355.80	347	289	11904
2016-17	8	14.10	365.75	344	287	12003

- **Livestock**: There are total 1.5 lakhs cows and buffaloes at Varanasi. Their respective count and yield are as follows:

Table 8: Livestock population

	Numbers	Yield(at a time)
Cows	60,000	3.5 litre
Buffalo	90,000	6 litre

The breeding of the local cow Ganga Tiri is dominant in the region as the word Ganga is attached with the name. The high yielding breeds of Gir and Sahiwal are found less in the region. In order to meet the utmost potential in the milk production, the government has allocated Rs 10 crores in GOKUL scheme. Amul and Parag are also coming forth with their units in the region.

The count of the local and mixed breed in the year 2003, 2007 and 2012 is given in the table below:

Table 9: Cow population

Year	Local breeds	Cross breeds	Total
2003	139146	36845	175991
2007	141953	44787	186740
2012	187661	53050	240711

- **Mining and quarrying:** The sand mining operations has ceased from the year 2010-11**.** Officer of Mines & Geology Department has informed that the no any tender has been issued for minor minerals (silica) since July, 2011.

ii. Secondary sectors: A brief overview of the economic activities taking place in the secondary sectors is given below:

- **Manufacturing**: There are nine large scale private and public sector undertakings. The major exportable items are from M/s DLW Varanasi. Among the micro and small enterprises: cotton textile, woolen and silk, readymade garments and embroidery, wooden based furniture, chemical based units and repairing and servicing are the, major contributors. According to the MSME profile, there are 6 medium scale enterprises, which include beverages, oil mills, agro processing and woolen yarn. In the services sector, coaching centers, hotel industries, travel, repair works, embroidery are some major promising sectors. There are around 15 clusters categorized by the Ministry of MSME.

The major large scale industries identified are as follows:

Table 10: Large Scale Industries

S. No.	**Large Scale Industries**
1	M/s Bharat Heavy Electricals Limited, Tarna, Varanasi
2	M/s Gyan Mandal Mudralaya, Kabirchaura, Varanasi
3	M/s Diesel Locomotive Works, Varanasi
4	M/s Hindustan Lever Ltd, Shivdaspur, Varanasi
5	M/s Bhargav Bhusan Press, Trilochan Mahadev, Varanasi
6	M/s Bholanath Industries Ltd., G.T. Road, Kachchawan, Varanasi
7	M/s Shree Agro Oils Pvt. Ltd., Agro Park, Karkhiwan, Varanasi
8	M/s A to Z Waste Management, Daffee, Varanasi

The major small scale industries are as follows:

Table 11: Type of Industries

S. No.	Small scale Industries	Number of Units	Investments (Crore Rs.)	Employment
1	Agro based	237	23.30	906
2	Soda water			
3	Cotton textile	715	71.01	3151
4	Woollen, silk & artificial thread based clothes	1163	110.60	4926
5	Jute and jute based	75	3.50	390
6	Ready-made garments and embroidery	720	78.335	4601
7	Wood/wooden based furniture	585	51.06	3526
8	Paper and paper products	90	29.40	581
9	Leather based	55	15.30	206
10	Chemical/ Chemical based	580	38.30	3031
11	Rubber, Plastic and Petro based	90	28.55	861
12	Mineral based	360	23.20	2101

There are also eight GIs found in the region and their manufacturing gives employment to a lot of artisans and weaver from the unorganized sector.

- **Electricity gas and water supply:** The electricity is supplied by Purvanchal Vidyut Vitran Nigam Limited and the water is supplied by Jalkal vibhag. In one of the initiatives taken on June 3, 2017, Power Minister Piyush Goyal challenged to make Varanasi a 100 per cent clean energy city to steal a march on Germany's Munich. The German city is scheduled to flaunt the tag by 2025.Several development works are on in Varanasi. At present, India does not have any city or town which is 100 per cent energised by renewables and Varanasi would be the first such city in the country. The major projects proposed by the water department (Jal Kal) is laying of 466 km distribution system and supply and installation of two lakh water meters.

- **Construction:** Varanasi city is predominantly an un-organised city; one of the key for the overall development of the city economy is **construction**. Over the years, there has been considerable increase in the proportion of workers engaged in 'construction'; between 1977-78 to 2011-12, the increase in the proportion of workers in 'construction' was about 11 percentage points for rural males, 6 percentage points for rural females, 7 percentage points for urban males and 2 percentage points for urban females. During this period, in the urban areas, proportion of male workers engaged in 'trade, hotel and restaurant' increased by about 4 percentage points and proportion of female workers engaged in 'other services' sector increased by 14 percentage points.

iii. Tertiary Sector: The tertiary sector comprises of the following economic activities.

- **Trade, Hotel and Restaurant**: Trade in terms of business to business and business to consumer has been taking place at Varanasi. With the advent of e-commerce, the restaurants and hotels are growing in leaps and bound. There are six hundred hotels in Varanasi. There is a tourism guild too which is headed by the President. The president of the guild is democratically elected. The minimum number of restaurant at Varanasi which are doing business through e-commerce are around 587. Their minimum count based of the type of establishment is as follows:

Table 12: Restaurant classification based on establishment

Bhojnalaya	Beverage shop	Fine Dining	Bars	Bakeries	Sweet Shops	Dessert Parlour	Cafes	Casual Dining	Quick bites
7	10	15	16	22	26	37	37	207	210

- **Transport, storage and communication at Varanasi:** The transport for the local travel comprises of the buses of the Varanasi City Transport Service Ltd, auto-rickshaws, OLA cabs and cabs of the other tour operators. OLA cabs has been operating in Varanasi for the past four years and there are around four thousand cars in their fleet.

- **Financial services in Varanasi:** There are around 190 financial service providers in Varanasi. The popular among them are KARVY, Bajaj, Mahindra and Mahindra, Neo, Barnwal and Barnwal Co. etc. The census count of the power loom and handloom weavers was done by KARVY for the Office of AD Handloom.

- **Real estate, ownership of dwelling, and professional services:** The real estate sector can be broadly classified based on availability, sale type and residential type. There are at least 295 under construction and 733 ready to move properties available at Varanasi. There are 908 properties put under resale and the new booking is taking place in 110 properties. The category wise count of the residential building which can be rented or sold are as follows:

Table 13: Real estate profile

Apartments	Builder floor	Villa	Land (residential plot count)	Farm house
117	24	132	753	2

- **Public Administration:** The public administration can be dealt with under two broad head

General Administration

Varanasi division consists of four districts namely- Varanasi, Jaunpur, Gazipur and Chandauli, and is headed by the Divisional Commissioner of Varanasi. The Commissioner is the head of local government institutions in the division. He is in charge of infrastructure development in his division; and is also responsible for maintaining law and order in the division.

Varanasi district administration is headed by the District Magistrate of Varanasi. The DM is assisted by a Chief Development Officer (CDO), five Additional District Magistrates (ADM) (Finance/Revenue, City, Administration, Protocol, and Civil Supply), one Chief Revenue Officer (CRO) one City Magistrate (CM), and four Additional City Magistrates (ACM).

The district is divided into 3 sub-divisions and 8 development blocks. Each sub-division headed by a Sub Divisional Magistrate.

Police Administration

Varanasi district comes under the Varanasi Police Zone and Varanasi Police Range. Varanasi Zone is headed by an Additional Director General (ADG), and the Varanasi Range is headed by Inspector General (IG).

The district police is headed by a Senior Superintendent of Police (SSP). Each of the several police circles is headed by a Circle Officer (CO) in the rank of Deputy Superintendent of Police.

- **Other Services:** The only economic activity in the tertiary sector that has a cluster which is Coaching Institution. The coaching is provided for engineering, medical, banks, railways entrance examination and also for IAS, PCS etc. The turnover from the cluster is 3.75 Crore and the employment generated is around 3,000. The average investment made annually is 0.10 Crore. The immediate needs of these coaching centers is induction to new and modernized technology, so that the service providers can render better coaching services to the eligible students for their better performance and development. The thrust areas are found in Lanka, Sigra, Pandeypur, Mahmoorgunj, Rathyatra, Cantt, Bhojubeer, Maldahiya and Bhelupur.

Chapter 3

Sector wise Analysis

From the table given below it is evident that the overall gross district domestic product (GDDP) has been growing consistently in absolute terms. It has increased from Rs 10364.06 crores in 2012-13 to Rs 15208.88 crores in 2015-16. The growth beyond the year 2015-16 till 2019-20 has been projected with the mean growth percent of 13.69. The GDVA to be attained in order to attain an incremental growth of 3 % in the year 2020-21 is around Rs29650 Crore. The projection has been depicted graphically below:

Table 14: Gross District Domestic Product By Economic Activity: Varanasi base year 2011-12 (Constant Prices) (in Crore Rs.)

S No	Economic Activity	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1	2	3	4	5	6	Projected GDDP				
A	PRIMARY	1461.21 {14.10%}	1425.54 {11.60%}	1574.83 {11.47%}	1924.76 {12.66%}	2118.85 {10.78%}	2332.51 {11.87%}	2637.69 {11.50%}	2826.64 {12.65%}	3111.68 {13.92}
B	SECONDARY	2752.69 {26.56%}	3222.37 {26.22%}	3383.41 {24.64%}	3793.83 {24.94%}	4176.39 {24.15%}	4597.54 {23.39%}	5199.07 {22.60%}	5571.50 {24.93%}	6133.33 {27.44%}
C	TERTIARY	6150.16 {59.34%}	7641.29 {62.18%}	8775.31 {63.90%}	9490.29 {62.40%}	10447.28 {60.42%}	11500.77 {58.50%}	13005.51 {56.70%}	13937.15 {62.36%}	15342.55 {68.15%}
D	GROSS DISTRICT VALUE ADDED (At Basic Prices)	10364.06	12289.20 {18%}	13733.54 {11%}	15208.88 {10%}	17291.00 {13.69%}	19658.18 {13.69%}	22939.18 {13.69%}	25409.12 {13.69%}	29649.96 {16.69%}

*Figures in parenthesis shows percentage of different sectors to gross district value added (at base price). However in row D it represents the percent growth compared to previous year

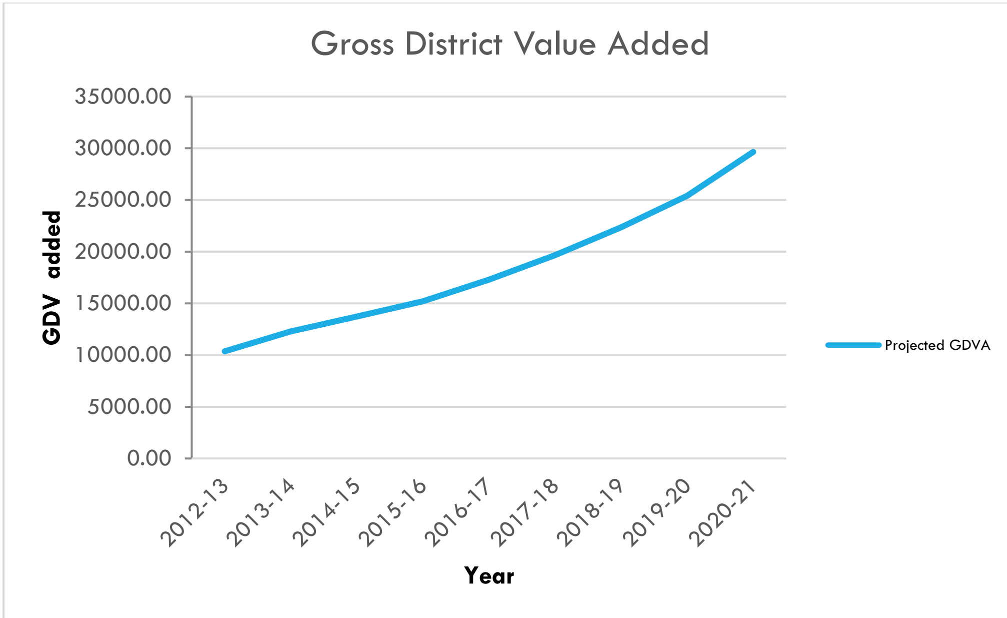

Figure 5: Projected GDVA

As regard sector wise contribution, it is observed that the primary and the secondary sector's contribution to GDDP has declined from 14.10% and 26.56% in 2012-13 to 12.66% and 24.94% in 2015-16 respectively. However the tertiary sector has been contributing largely. Its contribution has increased from 59.34% in 2012-13 to 62.40% in 2015-16.

The sector wise contribution in absolute terms (Rs crores) at base prices is presented graphically below.

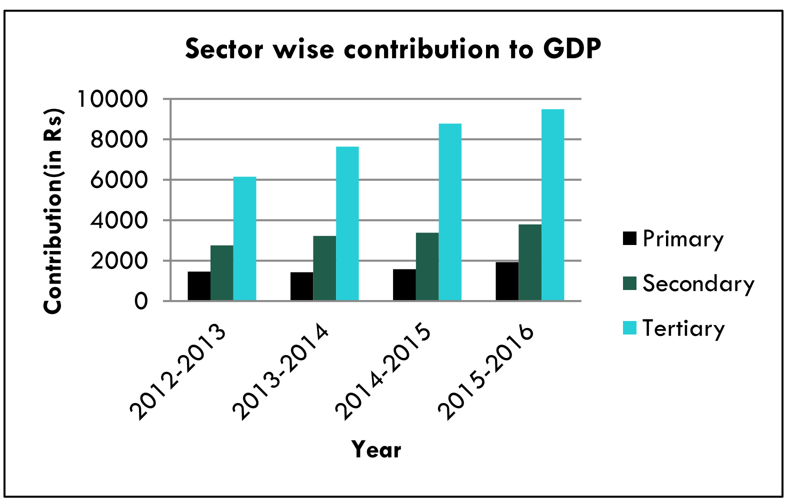

Figure 6: Sector wise contribution

A brief overview of the three sectors is given below:

3.1. Primary Sector

Sector wise analysis revealed that within the **Primary Sector**, agriculture and livestock have been contributing significantly. As shown in the table 2 given below, it can be observed that in 2012-13, agriculture, forestry and fishing contributed to about 96.81% in GDP; whereas mining and quarrying contributed a meager of 3.19%.The scenario in 2015-16 was somewhat different. The contribution of agriculture, forestry and fishing increased to 97.97% whereas contribution of mining and quarrying declined to 2.03%. Similarly, comparing the figures of 2012-13 and 2015-16 we find that the contribution of crops, forestry and fishery has declined from 38.99%, 11.31% and 1.58% to 30.42%, 8.14% and 1.35% respectively. Only in case of livestock we find significant increase from 2012-13 to 2015-16.

Table 15: Primary Sector Contribution in Gross District Domestic Product, Varanasi (From 2012-13 to 2015-16)

S.NO.	ECONOMIC ACTIVITY	2012-13	% to Total	2013-14	% to Total	2014-15	% to Total	2015-16	% to Total
1	**Agriculture, Forestry and Fishing**	**1414.6**	**96.81%**	**1370.93**	**96.17%**	**1545.61**	**98.14%**	**1885.75**	**97.97%**
1.1	Crops	569.77 {40.28%}	38.99%	544.10 {39.67%}	38.17%	702.45 {45.45%}	44.60%	585.46 {31.05%}	30.42%
1.2	Livestock	656.55 {46.41%}	44.93%	713.82 {52.07%}	50.07%	728.05 {47.10%}	46.23%	1112.60 {59.00%}	57.80%
1.3	Forestry and Logging	165.25 {11.68%}	11.31%	89.27 {6.51%}	6.26%	89.72 {5.80%}	5.70%	161.78 {8.58%}	8.41%
1.4	Fishing and Aquaculture	23.04 {1.63%}	1.58%	23.75 {1.73%}	1.67%	25.39 {1.64%}	1.61%	25.91 {1.37%}	1.35%
2	**Mining and Quarrying**	**46.61**	**3.19%**	**54.61**	**3.83%**	**29.22**	**1.86%**	**39.01**	**2.03%**
A	**PRIMARY TOTAL**	**1461.21**		**1425.54**	**-2.44**	**1574.83**	**10.47**	**1924.76**	**22.22**

*Figures in parenthesis in S.No.1.1 to 1.4 are percentage to gross domestic product from agriculture forestry and fishing.

The contribution of different sub components in the overall GDP of primary sector in absolute terms in Rs crores at base prices is presented graphically.

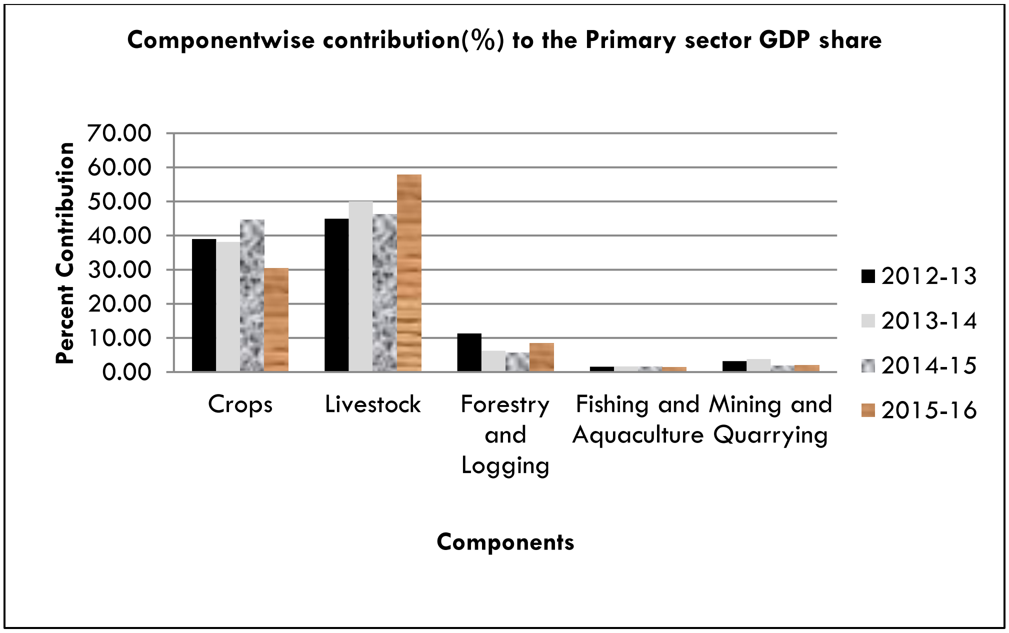

Figure 7: Primary component wise distribution to the primary sector GDP

Keeping the contribution and future prospects three components were selected for further analysis, viz **crop production, livestock and fisheries**. Though the contribution of fishery is very meager but still it is one of the promising sectors to enhance the GDDP of Varanasi.

3.2. Secondary sectors

The sector wise change in GDP (%), from the year 2013-14 to 2015-16 is as follows:

Table 16: Secondary Sectors

S.NO.	ECONOMIC ACTIVITY	2012-13	%	2013-14	%	2014-15	%	2015-16	%
1	**Manufacturing**	**996.45**	**36.20%**	**1328.93**	**41.24%**	**1392.76**	**41.16%**	**1493.07**	**39.36%**
2	**Electricity, Gas, Water Supply & Other Utility Services**	**254.21**	**9.23%**	**287.48**	**8.92%**	**305.89**	**9.04%**	**221.26**	**5.83%**
3	**Construction**	**1502.02**	**54.57%**	**1605.97**	**49.84%**	**1684.75**	**49.79%**	**2079.5**	**54.81%**
4	**SECONDARY**	**2752.69**		**3222.37**		**3383.41**		**3793.83**	

In the secondary sector manufacturing and construction have been the primary contributors. The construction sector has been contributing consistently from 54.57 % in the year 2012-13 to 54.81% in the year 2015-16. The manufacturing sector also exhibited consistent trends in terms of contribution. In 2012-13, the percent contribution of the manufacturing sector was 36.20 while in the year 2015-16 the percent contribution was 39.36. However there is some decline in the electricity, gas, water supply and other utility services. From the year 2012-13, the percent contribution has declined from 9.23 to 5.83.

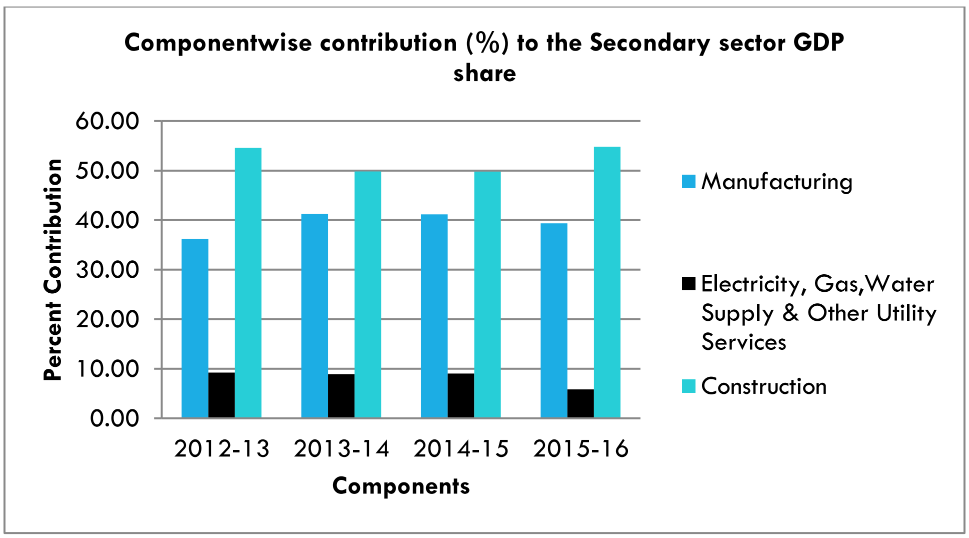

Figure 8: Component wise contribution to the secondary sector GDP share

From the graph, shown above only the Electricity, gas, water supply and other utility services show a declining trend in the year 2015-16 compared to the year 2012-13. However, the construction sector exhibits a progressive trend considering the infrastructure a priority area of the government.

3.3. Tertiary Sector

The sector wise change in GDP (%), from the year 2013-14 to 2015-16 is as follows:

Table 17: Tertiary Economic Activities

S.NO.	ECONOMIC ACTIVITY	2012-13	%	2013-14	%	2014-15	%	2015-16	%
1	**Trade and Hotel & Restaurant**	**560.09**	**9.11%**	**646.21**	**8.46%**	**733.85**	**8.36%**	**911.03**	**9.60%**
2	**Transport, Storage & Communication**	**1925.57**	**31.31%**	**2036.67**	**26.65%**	**2644.77**	**30.14%**	**2831.77**	**29.84%**
a	Railway	163.156 (8.47 %)	2.65%	174.49 (8.56%)	2.28%	184.53 (6.97%)	2.10%	195.10 (6.88%)	2.06%
b	Transport by Means Other than Railways	1624.89 (84.38%)	26.42%	1700.09 (83.47%)	22.25%	2252.32 (85.16%)	25.67%	2390.37 (84.41%)	25.19%
c	Storage	30.27 (1.57%)	0.49%	34.13 (1.67%)	0.45%	46.67 (1.76%)	0.53%	41.60 (1.46%)	0.44%
d	Communication & Services Related to Broadcasting	107.25 (5.56%)	1.74%	127.96 (6.28%)	1.68%	161.25 (6.09%)	1.84%	204.69 (7.22%)	2.16%
3	**Financial Services**	**686.91**	**11.17%**	**731.76**	**9.58%**	**761.79**	**8.68%**	**999.65**	**10.53%**
4	**Real Estate, Ownership of Dwellings and Professional Services**	**1673.37**	**27.21%**	**1807.32**	**23.65%**	**2022.6**	**23.05%**	**2109.32**	**22.23%**
5	**Public Administration**	**478.61**	**7.78%**	**1529.83**	**20.02%**	**1621.08**	**18.47%**	**1664.58**	**17.54%**
6	**Other Services**	**825.62**	**13.42%**	**889.5**	**11.64%**	**991.21**	**11.30%**	**973.93**	**10.26%**
	TERTIARY	**6150.16**		**7641.29**		**8775.31**		**9490.29**	

In the tertiary sector transport and real estates are the primary contributors. However both of them had declined to some extent. From the year 2012-13 to 2015-16, the contribution of the transport, storage and communication has declined to 29.84 % from 31.31 % whereas the real estate declined from 27.21 % to 22.23 %. The financial services contribution also declined to 10.53% in 2015-16 from 11.17% in 2012-13. However there is some growth observed in the contribution of Trade, Hotel and restaurant which increased from 9.11 % in 2012-13 to 9.60 in 2015-16.

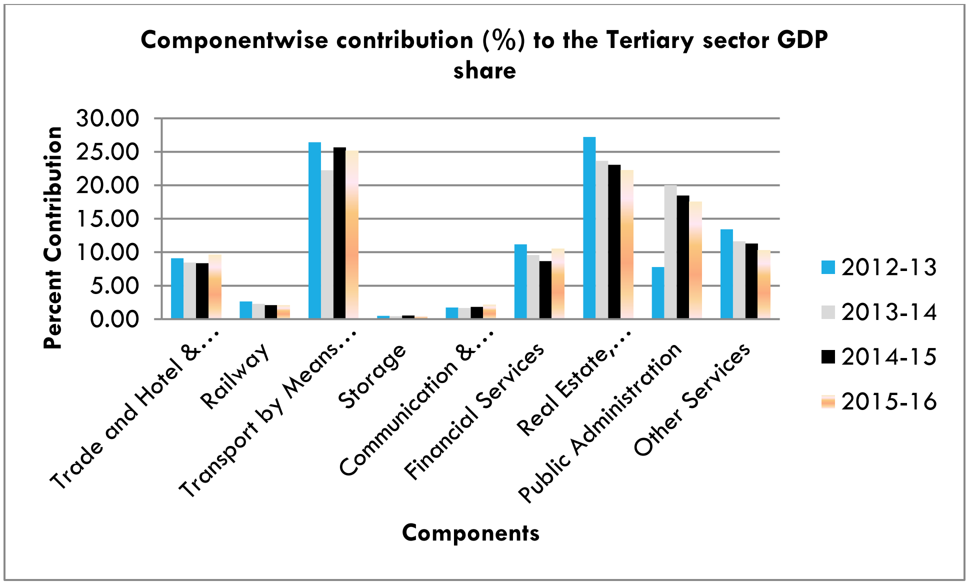

Figure 9: Tertiary sector trends in percentage change in GDP

The only declining trend observed is in the storage sector. The other significant observation is that the percentage increase in GDP has declined drastically in the field of public administration.

3.4. Overall Analysis of the sectors using BCG matrix

BCG analysis was carried out to identify the sectors which have growth potential and have enough market share in order to achieve 2 to 3 % annual incremental growth in the existing scenario. Growth share matrix is a business tool, which uses relative market share and industry growth rate factors to evaluate the potential of business brand portfolio and suggest further investment strategies. There are four quadrants, each explaining the potential and market share of industries being analyzed and categorizes those industries under four different labels. These categories are as follows:

Dogs: These are products with low growth or market share.
Cash Cows: Products in low growth markets with high market share
Question marks or Problem Child: Products in high growth markets with low market
Stars: Products in high growth markets with high market share.

The market share of the year 2015-16 in terms of turnover for the 14 components mentioned below has been taken into consideration.

Table 18: Economic Activities

Component wise Market share and growth in the year 2015-16			
S. No	**Components**	**Market Share in % of Total GDVA**	**Growth**
1	Crops	4.54	-116.99
2	Livestock	8.63	384.55
3	Forestry and Logging	1.25	72.06
4	Fishing and Aquaculture	0.20	0.52
5	Manufacturing	11.58	100.31
6	Electricity, Gas, Water Supply & Other Utility Services	1.72	-84.63
7	Trade and Hotel & Restaurant	7.06	177.18
8	Transport by Means Other than Railways	18.54	138.05
9	Storage	0.32	-5.07
10	Communication & Services Related to Broadcasting	1.59	43.44
11	Financial Services	7.75	237.86
12	Real Estate, Ownership of Dwellings and Professional Services	16.36	86.72
13	Public Administration	12.91	43.5
14	Other Services	7.55	-17.28
	Gross Value Added (At Basic Prices	12895.25	

The percent growth in the year 2015-16 with respect to the previous year has also been taken for the fourteen economic activities listed in the box above. Taking market share on the X axis and growth on the Y axis, each component is plotted in the Cartesian co-ordinate system through XY scatter diagram. On dividing the XY plane into equal halves across X and Y axis, we segregate Dogs, Cash cows, Question Mark and Star. The BCG Matrix led to the following observations

Table 19: Segregation through BCG

Star Performers	Question Mark	Cash Cows	Dogs
Transport other than railway Livestock,	Financial Services, Trade, Hotel and Restaurant	Public Administration Manufacturing Ownership of dwellings and professional services,	Crops, Electricity, gas and other utility services, Storage, Fishing and aquaculture, Other services, Communication service related to broadcasting Forestry and Logging

The BCG analysis supporting the above segregation into Star performers, Question marks, cash cows and Dogs can be seen in the graph given on the next page.

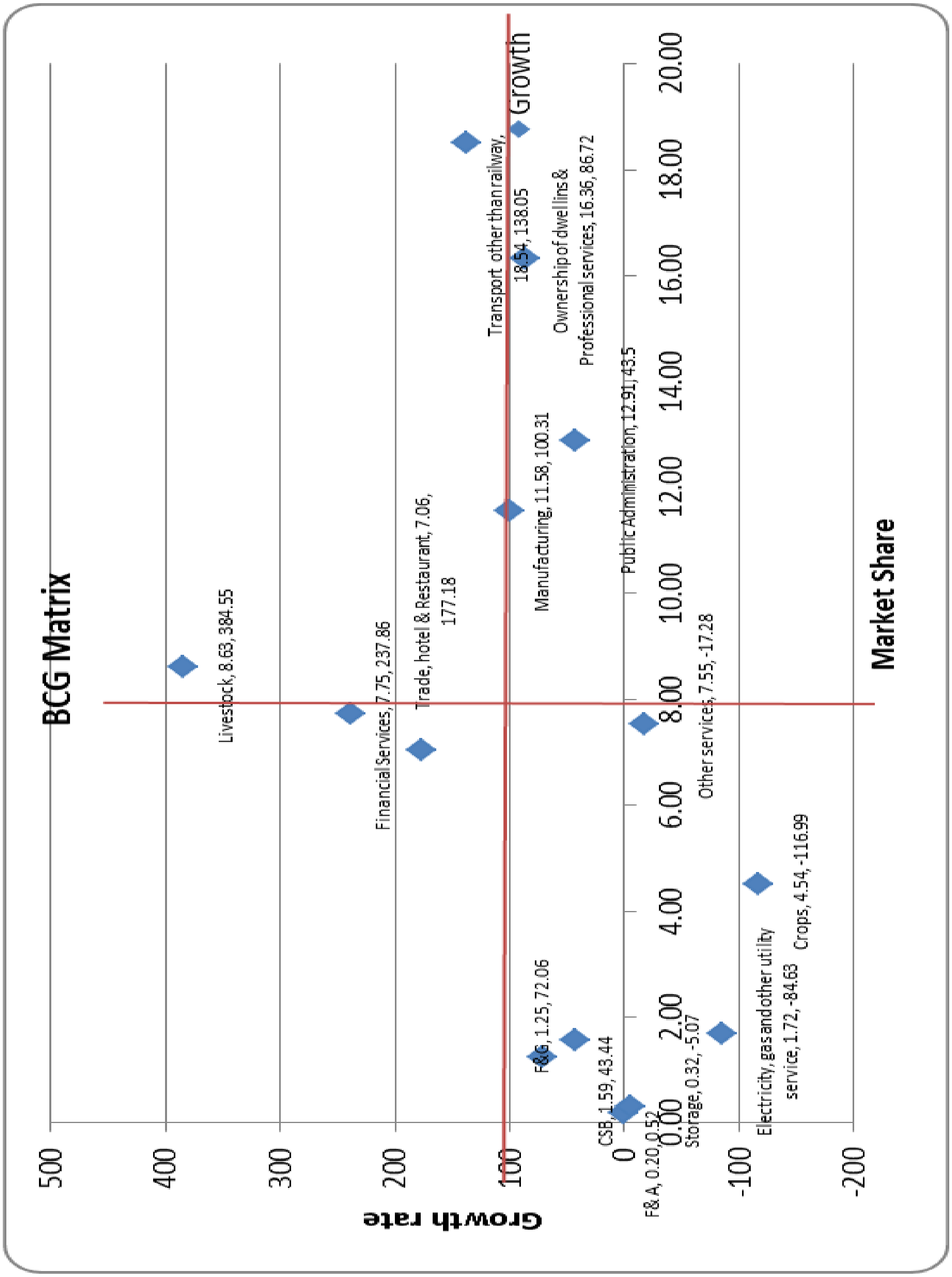

Figure 10: BCG matrix taking market share in terms of turnover into consideration. F &G stands for forestry and logging, F&A for forestry and aquaculture, CSB for Communication and broadcasting.

On applying BCG to the industries classified based on type mentioned below, it has been found that except Agro based industries majority of them were either cash cows or dogs. However instead of turnover, employment is taken into consideration in order to find the market share and growth. The market share in terms of employment is taken on the X axis and the employment growth is taken on Y axis.

Table 20: Industries based on type

Industrial Employment in the year 2013-14 and 2015-16			
S. No.	**Type of Industry**	**Market Share (in 2015-16)**	**Growth in % (from 2014-15 to 2015-16**
1	Agro based	5.29	251.99
2	Cotton textile	7.51	43.64
3	Woolen, silk & artificial Thread based clothes	11.63	42.25
4	Jute and jute based	0.94	45.64
5	Readymade garments & embroidery	8.11	6.28
6	Wood/wooden based furniture	6.82	16.56
7	Paper and paper products	1.65	71.43
8	Leather based	0.34	0.00
9	Chemical/Chemical based	5.08	0.92
10	Rubber, Plastic & Petro based	1.44	1.05
11	Mineral based	3.69	5.95
12	Metal based (Steel Fab.)	4.79	21.51
13	Engineering units	13.22	123.07
14	Electrical machinery and transport equipment	3.06	41.97
15	Repairing & servicing	12.41	24.65
16	Others	1.88	0.00

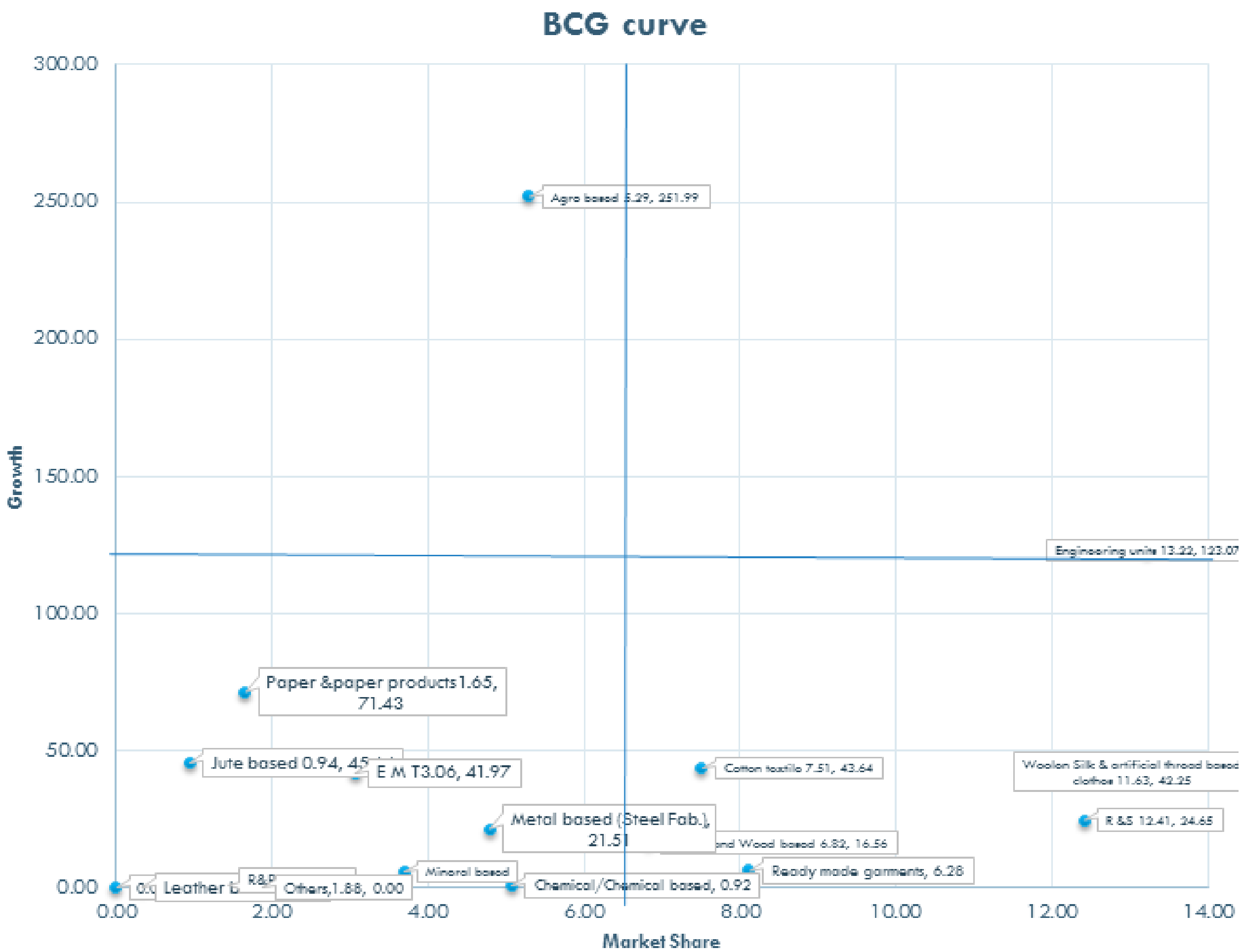

Figure 11: BCG matrix taking market share in terms of employment into consideration; R&S represents the repairing and services; RP: Rubber and plastic and EMT: Electrical Machinery and Transport

Through BCG analysis, no star performer was found. The rest of the groups are mentioned below:

Table 21: Segregated products based on type

Question mark	Agro based industries
Cash Cows	Engineering units, Repairing and services, woollen silk and artificial thread based clothes, Readymade garments, Cotton textile
Dogs	Jute and jute based, readymade garments and embroidery, wood/ wooden based furniture, paper and paper products, leather based, chemical/ chemical based, rubber plastic and petro based, Mineral based, metal based, Electricity machinery and transport equipment.

Thus, BCG served as a tool to segregate the relatively better performing economic activities from the one in doldrums. The industries type in cash cow and question mark can cater to the challenges of growth if selected.

3.5. Short listing of Key sectors for GDP growth:

The products and economic activities selected for the further intervention are as follows:

1. Silk products
2. Glass beads
3. Tourism
4. Agriculture and horticulture crops
5. Fisheries
6. Dairy and Livestock
7. Carving on wood and stone
8. Metal repoisse

There are two economic activities that have potential for long term growth

9. Ready-made garments
10. Polyester weaving

The selection of the products is not confined to the BCG analysis. The primary research, aesthetic and cultural relevance also led to the above selections. Varanasi being a heritage city, the certain factors like GIs presence, Buddhist circuit setting and livelihood given to the unorganized sector were also taken into consideration.

The selection of Silk products, metal repoisse, glass beads, carving on wood and stone has been done on the basis of geographical indications of the region, export potential and livelihood generation. The setting close to the Sarnath makes Varanasi makes Varanasi and important place of tourism. The tourism is activities pertains to both pilgrimage and cultural awakening. The ethos associated with tourism cannot be compromised with hence its selection is inevitable.

The growth of the primary sectors like agriculture dairy and fisheries is vital for the self-sustenance of the economy. It also assists in reducing expenditure on supply chain. Similarly, the readymade garments are in trend as the demand based supply are met by the e-commerce. The high tech cluster dealing with polyester has a potential to transform into an SPV, thus supporting its selection.

Chapter 4

Detailed analysis of selected sectors/components, products or economic activity

The criterion for the selection of products was not limited to the BCG analysis but the preliminary observation and direct personal interviews were also taken into consideration. Considering the presence of eight GIs which primarily absorb weavers and artisans in the unorganized sector, it becomes challenging to estimate their accounted wealth contributed to the economy. The sector/products or economic activity selected for the detailed analysis are as follows:

4.1. Silk Products

There are three identified clusters in silk. They are Brocade, yarn dyeing and high tech silk weaving. An overview of the employment, turnover, export and number of functional units is given in the table below:

Table 22: Silk cluster profile

SILK Cluster	Employment	Turnover (in Rs Crore	Export (in Rs Crore)	No of Functional units
Hi-Tech Silk Weaving & Designing Cluster of Varanasi City	6000	10.00	3.00 crore	2000
Silk Furnishing & Yarn Dyeing Cluster of Varanasi	40000-50000	1.00	50-55 crore	30000
Silk Brocades Cluster of Varanasi	7000	12.00	9.00 crore	2000
Total	58000	23	64.5	34000

The maximum employment and export is generated in the silk furnishing and yarn dyeing, however the silk brocade cluster leads in the turnover. In terms of number of functional units both high tech silk weaving and silk brocade have equal representation of 2000.

The exquisite silk sarees and fabrics showcase the skilled workmanship and rich cultural heritage. At present, there are 15000 handlooms and 10,000 power looms working on silk in Varanasi cluster. It is estimated that around 3500-4000 MT of raw silk is consumed by the Varanasi cluster at present and there is a gap between the demand and supply of quality raw silk. The rate of the silk per kg is around Rs 4000. The city encompasses a wide canopy of weavers and textiles weaving clusters throughout the length and width like—Bazardiha, Pilikothi, Natilmli, Badi Bazar, Alaypura, Madanpura, Teliyana & Mehmoorganj etc.

Varanasi specializes in Brocade weaving. The weave rich varieties of sari are—Jangla, Tanchoi, Vaskat, Cutwork, Tishuand, and Butidar. The main products of Banaras handloom cluster is saree, as only 10-15% are the other products viz, dress material, furnishing fabric, fashion accessories (stole, scarves) etc. Silk saree having butis, buttas, Kalgha motifs, Turanj, bels, geometrical designs, floral and animal motifs, Charkhana, Doriya, Khanjari, Salaidar, Mothra and Jal are the common patterns produced constitutes Banaras silk sarees.

The saree segment typically consists of two subsequent works:

a. Satin-based work (largely Bengaluru yarn) used at North Varanasi- Badi Bazar, Alaypura, and Pilikothi
b. Organza type work (largely Chinese yarn at South Varanasi- Madanpura). The above areas are known as traditional base for silk weavers who are practicing traditional method weaving/ dyeing.

Approximately 70% of weaver-force is located in Benaras city, out of which around 90% weaver force is Muslim.

Current Status of the silk industry in Varanasi cluster:

Varanasi is predominantly a weaving cluster having facility for silk twisting, silk weaving, designing, wet processing and marketing. The cluster needs around 3000-3500 MT of silk per year for the Varanasi cluster i.e. 1000-1250 MT of silk for the handlooms and 2000-2250 MT of silk for power looms. NHDC supplies around 400 MT of silk to only silk handlooms i.e. 40 % of the total requirement for silk hand looms through its depot under Mill gate scheme whereas it does not cater to the requirement of silk power loom sector. Most of the silk is supplied in the form of warp or weft in the twisted form.

Market Size

The value of the Varanasi handloom products is estimated at about Rs 700 crore. But, when this product is sold at the retail level in various metros, the estimated revenue is about Rs 1000 crores. Of this 1000 crore worth of revenue, domestic while exports account for just Rs 100 crore. Destinations are US, EU and Australia. Market accounts for almost Rs 900 crore.

Findings through Primary Research

The number of registered weavers in the Ramnagar and Chandauli region where silk brocade work is primarily done is as follows:

Table 23: Weaver Profile

Place	No. of Weavers
Ramnagar	1000
Chandauli	100-150

The society named **Angika Hathkargha Vikas Udyog** has been dealing in silk since 1994. There are **180 people employed** in the society. Out of 180 people employed in the society, 90 are skilled and 90 are assistants. With office staff the total count of the employees in the society is 200. Last year the society made a turnover of Rs 4.28 crore with an investment of Rs. 5.25 crore. The expected turnover for the present year is 6 to 7 crore. The raw material is obtained from the NHDC Ltd (GOI). The remuneration of the workers varies according to the skills. It has been shown in the table below.

Table 24: Kind of weavers.

Type of worker	Remuneration (for 8 hrs)
Skilled Master weaver	Rs 500
Assistant	Rs 150

The saree making involves intricate and meticulous work with zaris. There are total 6 varieties of zaris used in silk saree making process. Out of them all are found in Ramnagar except plastic zari. The cost of the different zaris are shown in the table below

Table 25: Zari Prices at Varanasi

Zari	Cost per bundle (in Rs)
Powder	400
Tested	2000
Real	10000
Gold	13000
Silk (resham)	16000

Lehenga is generally made from real zari. The investment in real zari is 15-20 lakh per month. The suppliers of real zari are Bishwanath Prasad Zhilman Sahu and three others but their quality is inferior. Metallic and powder zari is obtained from banwarilal, bhaiyalal, and ravichhavi and Sushilji zari wale at the rate of 2 lakh / month. Cotton is obtained from NHDC, generally 40-50 kg per month. A bundle (4kg and 540 g) costs around Rs 2000 to 2200. The dyeing required is around 8-10 kg/month. It costs around Rs 800 per kg

There are 25 firms with whom the society has been doing business with. Some of them are as follows

1. Ahalya Sonu Mukherjee
2. Ratan Shree Kharej
3. Fab India
4. Good Earth
5. Adyam Singh

The society has been growing overall at the rate of 10-15%. However, considerable decline in business is observed in Fab India and Good Earth who have started trading with Power loom (because it is cheaper)

The amount of silk used in a month is around 350 kg which is procured as follows:

Table 26: Silk suppliers at Varanasi

NHDC	Warp (China)	Spun silk
250 kg @Rs 4500/kg	150 kg @ Rs 5000/kg	20-25 kg @Rs 4300/kg

Challenges: The government process of obtaining raw material is often time taking due to lot of processes and paperwork (red tapism). The government support in terms of marketing is lacking in UP. The state marketing incentive-does not exists (It was there until 2011). In rest of the states, the incentive is 10 %. It has been found that after the silk products are obtained in bulk from the society, the companies mentioned above put their own barcode before selling it. The employees of the society does not have any clue whether the final consumer can find the origin of the product through barcodes.

Other Findings

There is another company which has been primarily working in **silk kashtkari** through pit looms named **Adarsh Bunkar Sahkari Samiti Ltd, Gram Kotwa Dima.** There are total 8 to 10 thousand weavers who work in 1500 to 2000 handlooms in the block of Kashi Vidyapeeth. The samiti too abounds in creativity but is not able to market their product well due to lack of literacy in the villages. The weavers in this region are highly skilled and they have the reputation of doing the work outsourced to them in very less time.

Porter's Five force Analysis

Table 27: Competitive rivalry

Competitive Rivalry					
Name of the unit	No of competitors	Quality difference	Other differences	Switching cost	Customer loyalty
Angika Hathkargha	Power looms	Superior to the other handloom players	They are adhering to the certification policy, like GI mark, handloom mark		Some of the old customers like fab India are going for power-loom products as they are cheaper
Adarsh Bunker Kendra		They have the capacity to deliver large orders in less time.	They deal in duplicate silk as well		

Table 28: Supplier Forces

Supplier Power					
Name of the unit	No. of Suppliers	Size of suppliers	Uniqueness of service	Ability to substitute	Cost of changing
Angika Hathkargha	6		The real zari supplier Biswanath Prasad Zhilman Sahu quality cannot be matched by the other suppliers of the region	There is choice while dealing in Metallic and powder zari: banwarilal, bhaiyalal, ravichhavi, Sushilji zari wale. Hence one can substitute the other but in case of real zari only Zhilman Sahu dominates	They haven't thought of changing real zari supplier

Table 29: Buyer Forces

Buyer Power						
Name of the unit	No. of customers	Size of each order	Differences between competitors	Price sensitivity	Ability to substitute	Cost of changing
Angika Hathkargha	25 major	Annual business done by the society is around 5 crore. The contribution made by the major clients in percent are as follows: Woven threads, Calcutta (25%) Ahalya (10%) Ratan (10-15%) Weaver Story (10 %) Mallika Mathur (5%) Prabha traders Sarees Ltd (15-20%) Others (Rajni Saree, Fab India, Good Earth and 17 rest companies) (Remaining percent share)	There are power loom products in the market which are cheaper	Power-loom products are lot cheaper	The three clients have already started switching (Fab India, Good Earth and Rajni sarees	

Table 30: Substitution cases

Name of the unit	Threat of Substitution	
	Substitute performance	**Cost of change**
Angika Hathkargha	Performance substitution through power-loom is not possible as the intricate work cannot be done through it	Cheaper, but quality is compromised

There is a monopoly of real zari supplier Biswanath Prasad. There are few other suppliers but their quality is no match to the Biswanath Prasad. Efforts can be made to build the capacity of the rest of the suppliers. There are certain business players like Fab India and Good Earth that have stopped patronizing silk and are going for profit making through power loom. This trend is contrary to the policy of at least Fab India, which supports the culture driven ethnic wear.

SWOT Analysis

Table 31: SWOT for Silk Products

Strength	Weakness
• Demand in local and international market • Patronization as a GI product	• The government process of obtaining raw material is often time taking due to lot of processes and paperwork (red tapism). • The government support in terms of marketing is lacking in UP. The state marketing incentive-does not exists (It was there until 2011). In rest of the states, the incentive is 10 %. • Gap in demand and supply of quality raw silk. • NHDC supplies around 400 MT of silk to only silk handlooms. i.e.40 % of the total requirement for silk hand looms through its depot under Mill gate scheme whereas it does not cater to the requirement of silk power loom sector.
Opportunities	**Threat**
• Pool of skilled master weaver who render training to the inducted weaver	• It has been found that after the silk products are obtained in bulk from the society, the companies in the client group above put their own barcode. The owner is unaware if the origin of the product is detected through barcode • Considerable decline in business is observed in case of two business group who have started trading in Power loom. (because it is cheaper)

Conclusion

There is an immediate need of orientation session for the weaver's group who need to be awaken about the brand value of their products. The third party seller are able to market their products well through endorsements via celebrities. There is a need of transformation from business to business deals to business to consumer sale.

4.2. Glass beads

The products obtained from the glass bead clusters are mostly exported. As shown in the table below the total export of Rs 75 crore has been done.

Table 32: Glass bead cluster profile

GLASS BEAD CLUSTER	Employment	Turnover	Export	No. of Functional units
Glass Beads Cluster of Varanasi	20000	102.00	75.00 crore	8000

The most popular company found in the Glass bead cluster is Banaras Beads Limited

Banaras Beads Limited

Banaras Beads Limited is an Export house recognized by Government of India, established in the year 1940. The company has approximately 500 employees & it is a Public Limited company having more than 6000 shareholders. It is listed in leading stock exchange of India BSE&NSE.

Banaras Beads is India's largest manufacturer of Glass Beads, Fashion Jewelry & Accessories. It also deal in Beads made from Clay, Brass, Aluminum, Copper, Resin, Ceramics, Horn, Bone, Semiprecious stones, Agate, Lac, Hand Painted Beads, Spray Painted Beads etc. The company also trade in Leather Cords, Cotton Wax cords & Misc. Handicraft Products out of India.

The Glass Beads are Handmade (Lamp Work) as well as Machine made (Pressed Beads and Tube cutting Machine). There are latest machines used for producing beads from India, Japan, China, Israel, and Czech Republic & Germany. In last many decades, the company has grown every year & today it is one of the biggest in the trade.

Findings through Primary Research

There are around 80% women working in the company and many workers are handicapped. Total production per day is 2 ton which are all exported (100% export). The value of the production ranges between Rs 500 to Rs 1000 per kg. The place from where the raw material is obtained is Firozabad and China. The MSME supports the company in terms of training expertise and marketing. Total Cost of the Unit is more than 20 crore.

Glass is made from silica, soda, and colour with trade secret. The glass is brought from the suppliers at Firozabad, Shikohabad and China. The cost of the glass is Rs 50 per kg (inclusive of transportation cost). The monthly consumption of glass is 50 ton. Hence average expenditure on glass procurement per month is around Rs 2500 thousand. The average monthly wage of the staff employed at the company is Rs 12000. The operation cost per kg of production is around Rs 2000.

There are other company in India too who make glass beads. They are as follows: Pundalpur, Loni, Firozabad and Shikohabad. In Varanasi, earlier there was Prashant glass which has closed operations now. Benaras Beads is about to start their own SPV at Mohansarai in which they will make glass as well. Total 160 workers will be employed in the Mohansarai plant.

Porter's Five forces Analysis

Table 33: Competitive rivalry in Banaras beads

Competitive rivalry	
Name of the company	**Customer's Loyalty**
Banaras Beads	The glass beads export house has been doing business from Europe (20-25%), USA (60-65%) and African countries like Kenya (remaining share 10-20%). **Caisin corporation**: This is the oldest business partner (30-35yrs) and has been giving maximum business to the company, however there is a decline in the trend of business done and the company is increasing its business with China.

Table 34: Supplier Power of Banaras beads

Supplier Power					
Name of the unit	No. of Suppliers	Size of suppliers	Uniqueness of service	Ability to substitute	Cost of changing
Banaras Beads	3		The supply from china cannot be compromised with as it is best in quality	After the start of SPV, they will make their own high quality glass	

Table 35: Buyer Power of Banaras beads

Buyer Power						
Name of the unit	No. of customers	Size of each order	Differences between competitors	Price sensitivity	Ability to substitute	Cost of changing
Banaras Beads	11 major customers	The five countries from USA are doing maximum business around (60-65%); 20-25%	China is giving superior quality material at a cheaper price		There is a substitution taking place whereby the demand is met by China. (Caisin Corporation)	

The dominance of China as a quality glass supplier need to be curbed. Efforts should be made to explore more markets in the globe like Kenya, with whom the Banaras beads have been doing business for the past one year.

SWOT Analysis

Table 36: SWOT of Banaras beads

Strength	Weakness
• Huge production potential • Export house • Reputation in the International market	• Dependence on China for glass • The process of establishing an SPV is time taking. (Red tapism)
Opportunities	**Threat**
• All set to establish SPV at Mohansarai, where they will make glass. • The new SPV will give more employment	• China is giving superior quality material at a cheaper price • Some of the old business clients have started taking products from China.

Conclusion:

The menace of China can only be curbed after there is a support from the local administration for quick process of compliances. The company has a reputation in the international market and through this reputation, efforts should be made to market the products to the other regions and win the loyalty of the clients.

4.3. Tourism

The rich culture and heritage of Varanasi attracts tourist not only from India but also from the world. The place is an important part of Buddhist circuit and as a result a lot of tourists comes from China and Sri Lanka.

A brief profile of the tourist visit can be obtained from the graph shown below:

Table 37: Tourist influx in Varanasi

Annual Tourist Visit in Varanasi						
Year	**Indian**	**% Change**	**Foreign**	**%Change**	**Total**	**%Change**
2013	4966161		285252		5251413	
2014	5202236	4.75	287761	0.88	5489997	4.54
2015	5413927	4.07	302370	5.08	5716297	4.12
2016	5600146	3.44	312519	3.36	5912665	3.44
2017	5947355	6.20	334708	7.10	6282063	6.25

The number of tourists visiting Varanasi from both India and Foreign countries are increasing every year from the year 2013 to 2017.

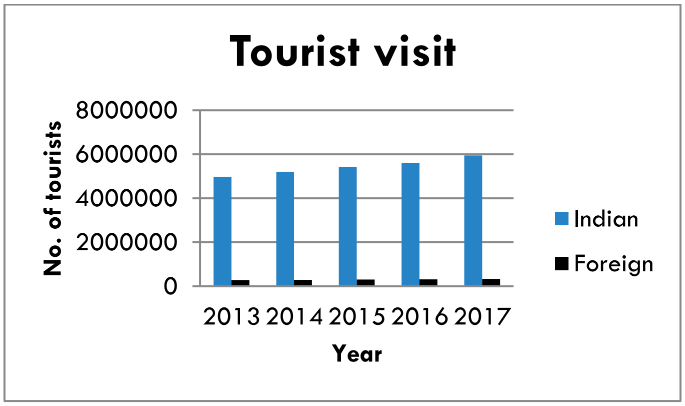

Figure 12: Tourist visit trends

The domestic tourist increased from 4966161 in the year 2013 to 5947355 in the year 2017 whereas the foreign tourist increased from 285252 in the year 2013 to 334708 in the year 2017.

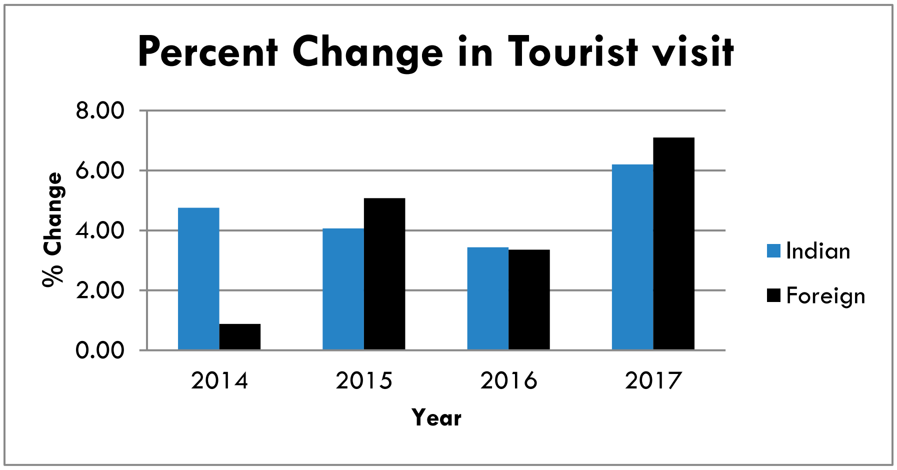

Figure 13: Percentage change in tourist

The increase in domestic tourism in the year 2013-14 was 4.75 % while in the year 2016-17, it rose to 6.20 %. The increase in foreign tourism in the year 2013-14 was 0.88 % while in the year 2016-17, it rose to 7.10 %.

Figure 14: Total tourist visit

The total number of tourists rose from 5251413 in the year 2013 to 6282063 in the year 2017. The presence of Sarnath nearby considerably affects the tourist influx at Varanasi. This can be learned from the table given below:

Table 38: Tourist visits in Varanasi

Place under Buddhist circuit	2016			2017		
	Indian	**Foreign**	**Total**	**Indian**	**Foreign**	**Total**
Sarnath	957320	409242	1366562	1024589	430682	1455271

There are around 600 hotels in Varanasi. Out of them, more than 50 hotels have started their operations from 2015-16 onwards. There are around 100 hotels identified by L&T which have the potential of doing annual business of more than 50 crores. It is a popular saying of the tour operators of Varanasi, that a tourist visit to the city offers opportunity to 34 people of allied economic activity.

In order to encourage tourism the roads are improved and proper sewer lines are laid. The tourism sector is marketed through advertisement in signages, hoardings, electronic media and social media. The following events were also concluded in order to promote tourism in the state.

1. **U.P. Travel Mart**
   It has been organized by FICCI and government of U.P. Around 70 foreign and 30 domestic travelers visited different cities in UP where they looked into the quality of hotels, roads, hygiene, cleanliness, and air and rail connectivity in order to attract tourists.

2. **Buddhist Conclave**
   About 250 operators including monks, preachers and important members of the Buddhist community around the globe were invited to showcase Buddhist heritage in India and boost tourism to Buddhist sites in the country.

3. **Travel Writer's Conclave**
   The Travel Writers' Conclave, aimed at promoting the Heritage Arc of UP—the cities of Lucknow, Agra, and Varanasi—by depicting them through the words of numerous travel writers all over the world. The primary aim of the event was to promote the culture and heritage of Varanasi. It also aimed at bringing together the experts on conservation, environment, food, textiles, agriculture and other industries so as to draft a road-map that would attract more tourists to the state. Varanasi has been chosen as "The city of music" by UNESCO under Creative Cities Network. This has helped boost tourism in the city. The variety of handicraft work like black pottery, glass beads, zardozi badge making, terracotta works, metal repoisse, chunar sandstone etc. attracts tourist from around the globe. On important occasion behavioral training is provided to auto drivers, policeman, waiters etc.

There are certain weak arenas too in the hospitality sector of Varanasi. The city lacks quality deluxe hotel. The connectivity to the place from the major cities needs to be improved both via air and railways. On some occasions, tourist were cheated by the local people but due to the strong surveillance system of the police department the cases get solved easily.

Findings through Primary Research:

One of the popular players in the tourism industries is Jatak Travels. Their annual number of services rendered to Varanasi is around 6-7 thousand. Out of them 90% are from Buddhist circuit and rest of them are primarily from European countries like Italy, Spain France, Holland and British. There are other players as well who work as dummy agent in the region. They are as follows: Nobel travel, Super travel, Tornos tourism and Kushinagar travel. All three of them comes under the category of intercept and handling sub agent. The subagents jeopardize the reputation by rendering inferior services to the client. The major hotels covered by the tour operator are as follows: Taj gateway, Class Clark, Rabada Plaza, Radisson, Madim, Amaya, Rivatas, Hindustan Int, Costa Rivera etc. The owner suggested campaigning about the heritage place of Varanasi. Campaign in the form of signages can be put in the major places of transit. To cite an example, the ghats named after the saints and poet can be campaigned with an overview in the signage.

Table 39: Competitive rivalry in the tourist sector

Competitive Rivalry					
Name of the unit/Place	No of competitors	Quality difference	Other differences	Switching cost	Customer loyalty
Varanasi	5	Superior as it is close to Sarnath	Accessibility is better	Cheaper but time taking	Preference is to Varanasi than other 5 Buddhist circuit
Jatak Travels	53	Superior to the other as they are best in Buddhist circuit	They do not operate like an intercepting agent and give tailor-made packages as well	Almost at par in terms of packs prices	There is a growth found in the client base.

The reputed operators are the part of the guild. The presence of a tourism guild in Varanasi ensures that the operations proceed harmonically. The president of the guild is democratically elected. At present there are around 54 tour operators under the guild.

SWOT Analysis

Table 40: SWOT of the Tourist sector

Strength	Weakness
• Varanasi is close to the Buddhist circuit. • Religious tourism practices are dominant.	• Traffic congestion
Opportunities	**Threat**
• Cultural trail • Heritage sites • Well oriented people towards native culture • Gastronomic tourism	• Un-oriented tour operators who defame the city to the tourist.

Thus, a campaign to awaken the tourists about the heritage and culture of the Varanasi is the need of the hour. The campaigning should comprise of the catchy signages across the important places of transit. A signage depicting the cultural trail of the Varanasi can be put across the major places. The services of the support staff or a volunteer group well versed with the baselines, culture and heritage of Varanasi can be taken. Considering the presence of eight GI in the region, a trail based on livelihood can also be taken into consideration.

4.4. Agriculture and Horticulture crops

Crop Production:

The overall agricultural land use in Varanasi (for the year 2014-2015) comprises of the sown area of 95700 hectare. Out of the sown area 62123 hectares are sown more than once. The respective areas under the three seasons are as follows:

Table 41: Crop seasons and respective area under cultivation

Crop Season	Area (in ha)
Kharif	74680
Rabi	80548
Zaid	2401

Status of major crop in Varanasi:

- **Status of Rabi crops**

The following table 42 shows the percentage increase in the area, production and productivity of Rabi crops under the heads Food grain, Pulses and Oilseeds in 2016-17 as compared to 2015-16. As observed from the table, the highest percentage increase in production and productivity is witnessed in oilseeds. The pulses witnessed the highest percentage increase in the area.

Table 42: Rabi Crop Details of Food grains, Pulses and Oilseeds

Years	Food grain			Pulses			Oilseeds		
	Area (‘000 ha)	Production (‘000 mt)	Productivity (ql/ha)	Area (‘000 ha)	Production (‘000 mt)	Productivity (ql/ha)	Area (‘000 ha)	Production (‘000 mt)	Productivity (ql/ha)
2015-2016	68.935	165.79	21.06*	5.187	9.008	9.55*	0.71	0.283	2.52*
2016-2017	71.26	239.946	29.56*	5.682	11.9748	12.0375*	0.722	1.398	11.31*
Percent Increase	3.37	44.73	40.35	9.54	32.94	26.05	1.69	393.99	348.81

*the average has been worked out by adding the productivity of different crops and dividing it by the number of crops.

The percentage is shown graphically below:

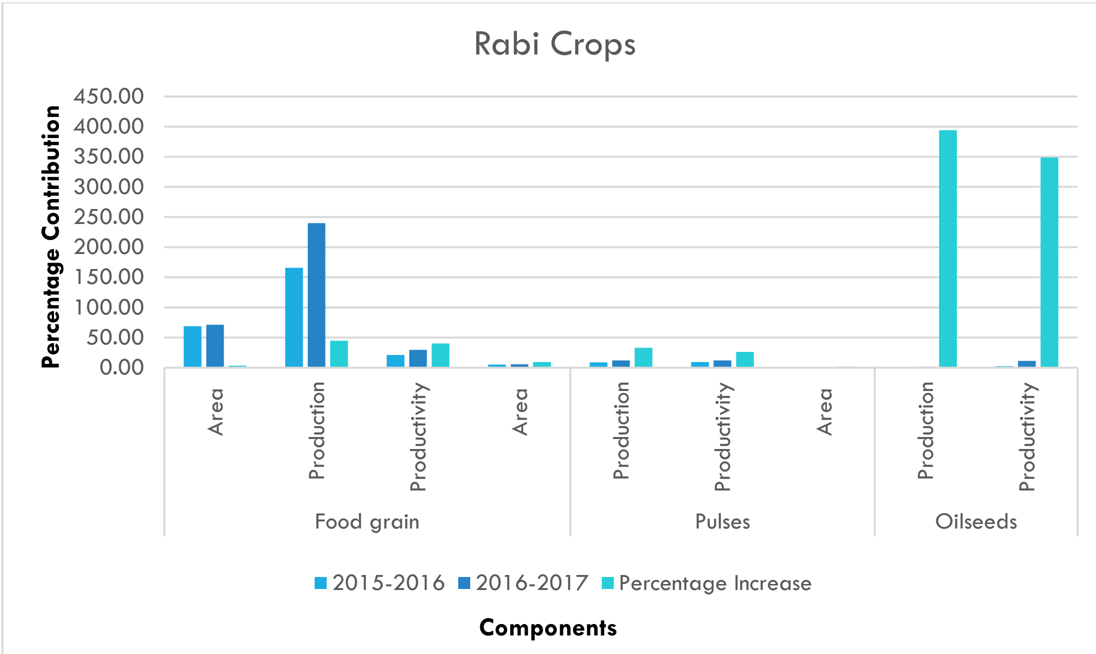

Figure 15: Rabi crop profile

Table 43 shows the crop wise distribution of Rabi crops under the heads area, production and productivity for the year 2015-16 and 2016-2017.

Table 43: Area, Production and Productivity of Rabi Crops

Sr. No.	Crops	Area('000 ha)		Production('000 mt)		Productivity(ql/ha)	
		2015	**2016**	**2015**	**2016**	**2015**	**2016**
1	Wheat	68.502	70.914	165.021	240.146	24.09	37.72
2	Barley	0.374	0.334	0.64	0.766	17.11	22.93
3	Maize	0.059	0.012	0.129	0.034	21.98	28.02
Food grains	Total(A)	68.935	71.26	165.79	240.946	21.06*	29.56*
4	Chick Peas	2.07	2.516	2.21	4.238	10.68	16.84
5	Split Peas	2.93	2.969	3.147	4.222	10.74	14.22
6	Red Lentil	0.187	0.197	0.155	0.177	8.28	8.99
7	Pigeon Peas	0	0	3.496	3.3378	8.5	8.1
Pulses	Total(B)	5.187	5.682	9.008	11.9748	9.55*	12.04*
	Mustard	0.704	0.72	0.282	1.397	4.01	19.4
	Linseed	0.006	0.002	0.001	0.001	1.03	3.22
Oilseeds	Total(C)	0.71	0.722	0.283	1.398	2.52*	11.31*
Grand Total		74.832	77.664	175.081	254.32	11.04	17.63

*the average has been worked out by adding the productivity of different crops and dividing it by the number of crops.

Source: Department of Agriculture, Varanasi

- **Status of Kharif Crop**

The following tables shows the percentage increase/decrease in the Area, Production and Productivity of Kharif crops under the heads Food grain, Pulses and oilseeds in the year 2017-18 as compared to 2016-17.In case of Pulses it can be observed that there is percentage decline in all the three sections i.e. area , production and productivity. The productivity of oilseeds has also declined in 2017 as compared to 2016 though the area and production under oilseeds has increased respectively. Whereas food grains witnessed the percentage increase in all the three sections by 4.98%, 8.78% and 13.78%.

Table 44: Kharif Crop Details of Food grains, Pulses and Oilseeds

Years	**Food grain**			**Pulses**			**Oilseeds**		
	Area (‘000 ha)	Production (‘000 mt)	Productivity (ql/ha)	Area (‘000 ha)	Production (‘000 mt)	Productivity (ql/ha)	Area (‘000 ha)	Production (‘000 mt)	Productivity (ql/ha)
2016-2017	60.632	134.045	13.9875*	9.505	3.671	5.59*	0.235	0.097	6.555*
2017-2018	63.651	145.813	15.915*	6.877	1.111	4.660*	0.34	0.101	6.15*
Percentage Increase/ decrease	4.98	8.78	13.78	-27.65	-69.74	-16.64	44.68	4.12	-6.18

*the average has been worked out by adding the productivity of different crops and dividing it by the number of crops.

The percentage is shown graphically below:

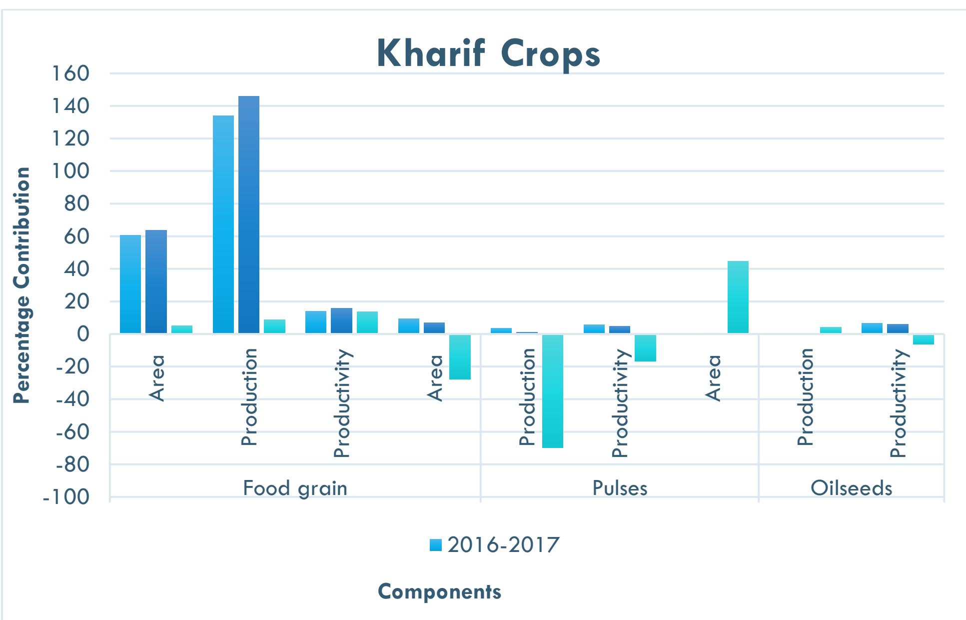

Figure 16: Kharif crop profile

Table 45 shows the crop wise distribution of Kharif crops under the head area, production and productivity for the year 2016-17 and 2017-18.

Table 45: Area, Production and Productivity of Kharif Crops

S. No.	Crops	Area('000 ha)		Production('000 mt)		Productivity(ql/ha)	
		2016	**2017**	**2016**	**2017**	**2016**	**2017**
1	Paddy	50.28	51.718	123.457	131.832	23.27	25.49
2	Sorghum(jowar)	2.405	2.839	1.951	2.95	8.11	10.39
3	Pearl millet(bajra)	5.045	6.195	3.55	5.888	7.04	10.04
4	Maize	2.902	2.899	5.087	5.143	17.53	17.74
Food grains	Total(A)	60.632	63.651	134.045	145.813	13.99*	15.92*
5	Black gram(urad dal)	5.045	1.863	3.55	1.002	7.04	5.38
6	Moong	0.292	0.277	0.121	0.109	4.14	3.94
7	Pigeon Peas	4.168	4.737	0	0	0	0
Pulses	Total(B)	9.505	6.877	3.671	1.111	5.59*	4.66*
8	Sesame seed	0.235	0.339	0.096	0.1	4.07	2.59
9	Peanuts	0.001	0.001	0.001	0.001	9.04	10.31
Oilseeds	Total (C)	0.236	0.34	0.097	0.101	6.555*	6.45*
Grand Total		70.373	70.868	137.813	147.025	8.71	9.01

*the average has been worked out by adding the productivity of different crops and dividing it by the number of crops.

Source: Department of Agriculture, Varanasi

Findings through primary research

The vegetables such as cauliflower and tomatoes are dominant in the region. The flowers such as marigold is also found. (Marigold is grown across river bank). The marigold is also imported from West Bengal. There is a demand owing to its role in religious offerings. There is a provision of subsidy in poly-house (50%) to support horticulture but it is still beyond the finances of marginal farmers (95%), they can benefit only if the subsidy is increased to 70-75 %.

Till now, there are only 4-5 poly-house found in Maroi, Pindra and Kashi Vidyapith. There are three block where expansion of land under horticulture is not possible due to urbanization. They are Chirigaon, Haraunga, and Kashi Vidyapith. It has been found that the cost of cultivation is increased, while the figures of costing in cultivation is considered according to the year 2005. There is a demand in subsidy in mechanization too.

In horticulture, supplier power can be found in the procurement of marigold. The supply takes place from Bengal and it adds to competitive rivalry.

SWOT Analysis

Table 46: SWOT of the agricultural sector

Strength	Weakness
• The seed replacement rate is 41 % which is above the state average of 37%. • Indo-gangetic plain with fertile land. • Multiple cropping can be practiced on the agricultural landholdings of the region.	• Small size landholding. • Lack of irrigation facility during zaid season (March to June). • Soil Health is neglected which leads in deterioration of productivity
Opportunities	**Threat**
• Site of terrace farming. • Ample Irrigation availability. • Quality Seed availability.	• Stray animals particularly blue bull.

Conclusion

In order to double farmer's income, the cost of cultivation has to be reduced and production and productivity needs to be increased. Step should be taken to ensure remunerative prices for the crops. The farmers should sow the seeds in line and avoid broadcasting method. Introduction of new technology and training programs should be rendered to the farmers. The crops harvested should be stored and managed well. The use of fertilizer should be done in a balanced manner.

The cropping intensity of the region is 164.91 which has further scope to increase in stages up to 250%. On comparing the figures i.e. obtained from table A above, it is evident that there exist a large potential to bring more than 50000ha of land under Zaid crop. The area to be sown under zaid crop are equally divided into moong and black gram crop. Considering the productivity of moong 3.94 ql/ha and black gram 5.38 ql/ha, the production of the respective crops in the area of 25,000 ha is 98,500ql for moong and 1, 34,500 ql for black gram. The proposed MSP for the year 2018-19 for moong and black gram is Rs 6975 per ql and Rs5600 per ql. Thus, the total value of production for moong would be Rs 68.7 crores and for black gram Rs 75.32 crores.

Most of the farmers in the region have small landholding of around 0.3 hectares. However these small landholding support crop diversification in the region with contiguous farming in large clusters to realize economies of scale.

4.5. Dairy and Livestock

a. Livestock

There are total 1.5 lakhs cows and buffaloes at Varanasi. Their respective count and yield are as follows:

Table 47: Cow and buffalo population

	Numbers	Yield(at a time)
Cows	60,000	3.5 litre
Buffalo	90,000	6 litre

The breeding of the local cow Ganga Tiri is dominant in the region as the word Ganga is attached with the name. The high yielding breeds of Gir and Sahiwal are found less in the region. In order to meet the utmost potential in the milk production, the government has allocated Rs 10 crores in GOKUL scheme. Amul and Parag are also coming forth with their units in the region.

There are total 8 poultry units. Out of them there are 10,000 birds in 8 units and one unit has around 30,000 birds. The production of eggs through the established and non-established firms are as follows:

Table 48: Production of eggs

Establish firms production	16 lakh
Non Establish firms production(small and private)	4 lakh
Total production of eggs	20 lakh

An overview of government support can be obtained from the fact that the investment in the unit comprising of 10 thousand bird is 70 lakh (49 lakh paid by bank and rest amount is on recipient). Total land is 1 acre. The investment in the unit comprising of 30 thousand birds is 1.8 crore (66% financed by bank rest by the recipient). Total land is 3 acre. The interest for five years is paid by the department. The insight of the suppliers around in the poultry practices can be obtained through the supplier forces analysis through table below:

Table 49: Porter’s five forces analysis of Poultry sector

Supplier Power					
Name of the unit	No. of Suppliers	Size of suppliers	Uniqueness of service	Ability to substitute	Cost of changing
The poultry units at Varanasi	10	8 units with 10 thousand bird and one unit with 30 thousand birds. Rest of egg requirement is met from Andhra Pradesh.	The supply is not met locally hence import is necessary	In lieu of poultry expansion, the import will increase from Andhra Pradesh	Not too much prohibitive as, the present stakes from export is high

The dependence on the import regimes can be curbed only if the capacity of the local resources are built to cater to the supply of the region.

SWOT Analysis

Table 50: SWOT analysis of poultry sector

Strength	Weakness
• Strong veterinary base. • State of the art infrastructure for poultry establishments	• The production through poultry is only 25% of total demand and the rest 75% comes from Punjab and South India. • The consumption of buffaloes' milk is very less. • Another problem for the cattle owner is the high prices of the husk. • The veterinary department is struggling with the shortage of manpower especially doctors, veterinary pharmacists, LDOs and petty staff. The department is short of budget to procure medicines and maintenance of the hospital building. • There is not ample land for the poultry. Even for industries there is no land. However, the investors are ready. The people of Varanasi are also reluctant to go outside.
Opportunities	**Threat**
• Easy micro-financing available to set up poultry units	• There is less availability of land. • The native people are reluctant to go outside.

To increase the prices of milk and decrease the cost of production, the concept of A to milk should be adopted in the region. It is for the well-being of foreign cows if the cold shelters can be set up. NGO's should be encouraged to collect urine and cow dungs for medicinal and other purposes.

The cattle owner doesn't have any right on the carcasses of the dead animal. The municipality makes the following sum of money from the respective dead animal's part.

Table 51: Amount obtained in exchange of dead parts

Dead Animal Parts	Amount obtained (in Rs)
Bones	1000
Skins	1000
Horn	2000

This sum of money should belong to the cattle owner.

b. Dairy

Parag Dairy, Ramnagar

The parag dairy has been dispensing milk to the eight block around Varanasi. The average milk procured from the eight blocks is 10000 litres per day. However, the capacity of the plant is 40 lakh litres. The milk is procured @ Rs 35 per litres.

Table 52: Growth profile of Parag dairy

	2015-16 (in crore Rs.)	2016-17(in crore Rs.)	2017-18(in crore Rs.)
Investment	13. 79	11.65	12.35
Sales turnover	35.13	29.00	35.00

The staff has reduced from 250 to 45. Less investment is made on marketing somewhere around 12 to 15 thousand per day compared to 45 to 60 thousand by Amul. The amount given to distributor is miniscule only Rs 2 per litres compared to Rs 4 per litres given by Amul

The plant also obtain milk from other plants in UP like Mirzapur. The milk obtained is around 10-12 thousand. It is used to make around 34 value added product like rasgulla, gulabjamun.

Out of the total milk (11000 litres) taken 60% is used in full cream milk, 30 % in skimmed milk and rest in standard milk.

Table 53: Cost regime at Parag dairy

Operations	Cost
Transport	Rs 2 per litre
Labour	Rs 1.5 per litre
Processing	Rs 4 to 5 per litre

The demand for Ghee, matha, chhaas is declining. Parag collects 7-8 thousand litres of milk daily from the eight blocks around Varanasi.

The other players in the region are

- Amul collects 2-4 thousand from the region which was once under parag rest all they bring from outside from their collection centre at Lucknow and Kanpur.
- Out of total 9 famous dairy two of them named Paras and Purvanchal dairy does not supply any more. Even mother dairy is in a dormant state. The other famous one are Gyan and Shyam.
- According to Dr. VB Singh, Amul has developed pocket and through that pocket they have been circulating milk in the region.

Porter's Five Analysis

Table 54: Porter's five forces analysis of dairy sector

Competitive Rivalry					
Name of the unit	No of competitors	Quality difference	Other differences	Switching cost	Customer loyalty
Parag	8	Good quality	Parag has more value added products but they are in a declining state due to lack of marketing.	Amul offers more incentive (Rs 4 per litres> Parag's of Rs 2 per litres) to the distributor.	Profit and marketing driven

Amul has been investing around Rs 40,000 per day towards marketing whereas Parag invests only Rs 10-15000 per day to market their products. Thus lack of marketing is acting as an impediment to growth despite of a range of value added products.

Table 55: Supplier power in Parag dairy

Supplier Power		
Name of the unit	**No. of Suppliers**	**Size of suppliers**
Parag	Through 8 blocks around Varanasi	The amount of milk procured daily is around 8000 litres from the suppliers in the 8 blocks of Varanasi.

The suppliers are gradually shifting towards Amul.

Table 56: Buyer power in Parag dairy

Buyer Power			
Name of the unit	Size of each order	Differences between competitors	Ability to substitute
Parag	Around 10000 litres	The other competitors like Amul are marketing their product well	Amul's ability to market their product well is helping them to substitute

The effective marketing strategies seek attention of the buyer. The distributor group plays a more proactive role when more incentives are given. Amul has also managed to partner with some hotel group as a product supplier.

Table 57: SWOT analysis of Parag dairy

Strength	Weakness
• Huge infrastructure. • Wide range of value added products.	• Lagging behind in marketing. • Lack of staff.
Opportunity	**Threat**
• Huge supply of milk across the eight block. • Sophisticated treatment and process plants. • Skilled manpower.	• Acquisition of Market from Amul.

The utility of huge infrastructure is at stake when the optimum capacity of operations is not attained. The partnering with the local distributor and proactive marketing can serve the purpose.

4.6. Fisheries

The community fishing is dominant. The private sector representation in the fishery sector is just 1 %. The culture system is becoming more popular in the region and the practice of natural riverine fisheries is declining. The fish production in the regions covered under the gram Sabha of Varanasi are as follows:

Table 58: Fish production regimes through community ponds

Year	Annual Target	Varanasi Fish production (in metric ton)
2017-18(till March)	5102	5102
2018-19 (till August)	5102	1167

There are total 897 community ponds found in Varanasi with a total area of 568 hectares. Out of them fisheries is practiced in only 519 community ponds with an area of around 488 hectares.

The fishes found in the culture system are as follows:

Table 59: Fishes found in Varanasi

Native	Catla, Rohu, Meghal
Exotic	Silver carp, grass carp, common carp

The fishes predominant are Catla, Rohu and Meghal. They are produced in the ratio approximate to 3:4:3.

The exotic fishes are of Chinese origin. There is new variety of fish named pangasious which are locally consumed. It is also called “Pangaas” or “Pyaseer”. Beside this other fishes are Tilapia nilotica and mossambica. In terms of consumption in volume/ weight pangasious is the leader and it accounts for around 75% fish consumption in Varanasi. Mola and potos are two more pangasious varieties consumed in the region.

The culture ponds are under the governance of Village Panchayat. Out of the total culture pond found in the region 99% are community based and 1 % are private owned ponds. The breeding season starts from July 15 and lasts until September 15, (onset of monsoon to the end of monsoon).

The seed used in the culture is called ‘fried’. It is a good practice to allocate 10% of the pond area to the nursery. The seed is transferred from feed to the pond when it grows by 70% or 70 mm. The stalking process takes place after the transfer to the main pond is done. The feeding is done as per the reports from the lab. The natural food is consumed by carps while the pangasious feed on artificial feed such as Murga and Magur.

The availability of seed is more in captive breeding. In captive breeding the Sindhi variety weighs 60 to 70 gm but it lacks viability. There are popular cat fish named Wellego Attu and Lanchi that are highly carnivorous, they are also not able to breed in captivity.

The seed is not available in March. That's why it is advisable to stock the seed in the 5-10% nursery area in the pond. However the current area allocated for stocking is very small and as a result the fingerlings are stunted. The stunted fingerlings have to be supported with more food. It has been observed that from a seed weighing 70 g, 1kg of carp and 1.5 kg of pangasious variety is obtained.

The rate list of the fishes found in the region are as follows:

Table 60: Rate list of the fishes at Varanasi

Fish Breed	**Rate**
Catla, Rohu (approx. 1kg size, locally produced)	Rs 150/kg
Pangasious(approx.700 gm, locally produced)	Rs 105/kg
Pangasious obtained from Andhra Pradesh (average yearly consumption in volume 5 ton/day	Rs 105/kg
Catla obtained from Andhra Pradesh	Rs 105/kg
Meghal	Rs 110

The packing of the fishes is done very immaculately. The cost of the packing is bear by the fisheries department. The annual budget for fisheries is around 1 crore which it receive through different schemes. Thus, the total contribution from community fishing is around 70.4 crore

Apart from the community fishing culture system, the **Recirculatory aquaculture system** (RAS) also exists in the region. In this technology more fishes are produced in less area. There are total 8 cemented tanks of dimensions 25*25 sq.ft. Constructed in the region. The unit comprises of the filtration tank as well. In a single unit 6 to 7 thousand juvenile pangasious fishes are stocked. The water used in the tank is changed every day and sometimes twice a day. It has been observed that from a single tank of 25*25 sq. ft. dimension 8000 fishes are obtained in a year. The total production in a year from 8 tanks is 24000 kg, the land used is around 400 to 500 sq. mother cost of production varies around: Rs 80-85/kg and the average selling price of the fishes varies around Rs 105-115/kg. The profit made is around Rs 20 per kg. The turnover is around 26.4 lakhs.

Generally wasteland is used to set up the RAS system. The number of filtration tanks can be increased. Generally the high stock gangetic culture consists of a lot of fatal ammonia which need to be changed. The production of 1 kg fish requires 1200 to 1500 liters of water in the community pond but in the RAS same production can be achieved in 12 to 15 liters of water. The total turnover made through the indigenous fisheries practices is around 70.70 crore. However there is an import worth Rs 15.33 crores taking place.

The advantage of the Varanasi region in fisheries sector is widespread. The availability of untapped water area provides tremendous opportunity to the growth of fisheries. The water area under aquaculture has not reached the optimum utility level and there is plenty of scope for improvement. The present production per hectare is 4000 kg which has the potential of 6000 kg/ha. With the sophisticated technology 10000 kg/hectare can be reached. The decline in the real estate business has shifted the investor's interest to fishery sector.

Challenges:

The foremost challenge of the fisheries sector in is lack of entrepreneurship. However the investment from the real estate players exists but their investment often lead to nuisance. It is also threatened by the changes in government policies and multiple ownership of the water bodies which often lead to conflict.

Out 568 hectares of water bodies to be leased out to the community pond only 488 hectares are leased out. The production through 488 hectares is 4000 kg but potential is 7000 kg. When people are not coming forward to take the role in fisheries the preferential selection of people is taking place in giving lease. The fisheries department is also short of workers especially extension workers and field staff. Their offices are also not computerized. The department is short of funds to cater to the training inputs, execution and monitoring activities.

The SWOT analysis of the fisheries sector is given below

Table 61: Fisheries sector SWOT

Strength	Weakness
• The availability of untapped water area provides tremendous opportunity to the growth of fisheries. The water area under aquaculture has not reached the optimum utility level and there is plenty of scope for improvement. The present production per hectare is 4000kgwhich has the potential of 6000 kg/ha. With the sophisticated technology 10000 kg/hectare can be reached.	• The fisheries department is also short of workers especially extension workers and field staff. Their offices are also not computerized. The department is short of funds to cater to the training inputs, execution and monitoring activities.
Opportunities	**Threat**
• The decline in the real estate business has shifted the investor's interest to fishery sector.	• The foremost challenge of the fisheries sector in is lack of entrepreneurship. However the investment from the real estate players exists but their investment often lead to nuisance. It is also threatened by the changes in government policies and multiple ownership of the water bodies which often lead to conflict. Out 568 hectares of water bodies to be leased out to the community pond only 488 hectares are leased out. The production through 488 hectares is 4000 kg but potential is 7000 kg.

Conclusion

The identification of the private players who can come up with a business model by intercepting the local resources available in terms of pond and manpower is an immediate need of the hour. The tapping of the utmost community pond potential and RAS technology support can lower down the dependence on import through other states.

4.7. Carving on wood and stone

a. **Stone Carving**: The traditional economic activity of stone carving gives employment to around 1800 artisans. The 800 functional units makes an annual turnover of Rs 3.75 crore and export goods worth Rs 1 crore.

Table 62: Stone carving cluster profile**.**

	Employment	Turnover(in Rs Crore)	Export (in Rs Crore)	No. of functional units
Stone Carving Cluster of Varanasi	**1800**	**3.75**	**1.00 crore**	**800**

The marble sculptures are very famous in all over the world. The stone art is much common in every state of India. In India most of the marble sculptures are employed for sacred purpose. The creative artwork of marble sculptures allows admirable style and designs of best artistry that are accomplished with quality. Indian marble sculptors are recognized for refined proportion that is attained in the figures and the elegant designs in the architecture with the evenness.

Following are the tools and raw materials required for Marble Stone Carving:

Table 63: Tools and materials in stone carving

Tools & Raw Materials	Usage
Ganga Mitti (clay)	It is used to build 3D model for reference.
POP (Plaster of Paris)	POP is mixed with water for mold casting.
Pottery Tools	To detail the clay model.
L-shaped Scale	To measure the stone according to the required size.
Customized Tools	An improved tool for marble carving.
Riffler	It is used to form details such as folds of clothing, hair, side lock etc.
Buffing Machine	To remove the unwanted marble chunks.
Hammer	To sculpt the stone by striking tools.
Batti	A piece of stone to rub and smoothen the marble sculpture.

Marble is also known as Royal stone especially prized for fine art sculpture. Marble is very admirable stone because of its brilliant white in colour and easy to carve. Mr. Arun Kumar Sharma is a renowned artisan, who has 30 years of experience in this field. Apart from marble they use cement, sandstone and soapstone for sculpture. The size of the idols, which is made by the artisan, is from one foot to 6 feet. The group of artisans also makes traditional god and goddess's idols, marble name boards and relief sculptures that depends on the order placed by costumers.

b. **Wood Carving:** Varanasi is still known for lacquered toys and miniature utensils. The sets of birds, animals, orchestras, soldiers and dance ensembles are made in wood, gaily painted and packed in boxes. The toys can be found in all sizes and prices- from a 1 inch mobile to a large 2 feet tall doll, and with prices ranging from Rs 10 upwards. These toys are made in many centers in Varanasi by local craftsmen but for selling them, the popular sites are the Ghats and the galis near the river bank which attracts thousands of tourists.

Findings through Primary Research: The raw material used in one of the company named Balaji Toys are as follows: Laha (Laksha), textile colour, wood and organic colours.

The place from where the raw material is obtained and their extent of consumption is shown in the table given below:

Table 64: Places to obtain Raw material in wood carving

Raw material	Supplier	Consumption and investment
Laha (Laksha)	Star (Bilaspur), Moti Lal Banka (Darteganj, Bihar)	Daily consumption of 100 kg takes place @ Rs 500/ kg
Textile colour	Equitable Market Association, Kolkata	Varies according to the demand
Wood	Amethi, Sitapur, Lucknow and Kanpur.	Rate of the wood is Rs 1300-1500 per quintal and its daily consumption is around 200-300 quintal

Recently the owner has purchased a laser cutting machine worth Rs 4 lakh to increase the production. There are total 100 workers in the toy workshop. Out of 100 workers, 50 are the active workers and 50 are the dormant ones. Total wood craft artisans in Varanasi is around 1500.

There is a shortage of organic color in the market nowadays which is acting as an impediment to export. The other factors which hampers export are lack of investment security as artisan lacks money, testing report of the wood, export quality design and lack of awareness about trend particularly the in demand products. An overview of the major client base is given in the table below:

Table 65: Clients of wooden toys

Name	Place	Remarks
Mala Rai Society	Madras	They are the oldest patrons
Delhi Haat, Suraj Kumar	Delhi	There are more rivals coming up.
NABARD Mela	Bombay	There used to be huge demand of Lakdi ki bead (BOPA) ten years back which has declined now. Their three packets each having 5000 beads used to be sold in a day.
Equitable Market Association (EMA)	Kolkata	The business share is declining in this case
Heera Creations	Ahmedabad	They are new clients, they started business last year.

The owner is of the opinion that the illegal trading of GI is also taking place which can be curbed by stringent immigration process.

Porter's five Point forces

Table 66: Supplier forces in wood carving

Supplier Power					
Name of the unit	No. of Suppliers	Size of suppliers	Uniqueness of service	Ability to substitute	Cost of changing
Balaji Toys	7		Equitable Marketing association at Kolkata is the only source of textile colours.	In case of wood they have ample option for substitution except the auction of Koraiya wood at Chitrakoot	The procurement of Koraiya and textile is through single supplier, hence change not feasible

The alternate avenues to procure textile colours is the need of the hour. The forest department too has a monopoly in the provisioning of the Koraiya wood.

SWOT

Table 67: SWOT analysis of wood carving

Strength	**Weakness**
• Closer proximity to resources. • Patronization is taking place after 2014.	• Lack of electricity subsidy like power-loom • Less spells of auction of a special kind of wood named "Koraiya" • Could not meet the export standards
Opportunities	**Threat**
• CFC s role in supporting wooden craft.	• Women participation is lacking

Conclusion: The wood craft sector has grown in leaps and bound after the endorsement support given by the government. However this zeal shouldn't stop unless a self-sustaining export regime is established.

4.8. Metal Repoisse

The most popular form of metal repoisse is Gulabi Meenakari. It is one of the GI at Varansi. It requires abundant utilization of silver. It is often threatened by the fake products in the local market like Jaipur Meenakari.

Findings through Primary Research:
Popular meena colours are white, blue, and pink. Once upon a time there was gold colour as well but it doesn't come anymore. A revelation by a popular artist Kunj Bihari Singh states that the rate of the Meena colour is Rs 2000 to Rs 3000 per kg and the per month consumption of meena colour is around 2kg.

It has been found that the quality of white meena colour is deteriorating. They use to buy around 5 to 10 kg together. Earlier, the Meena colour used to be acid proof but it is not the case anymore.

Meena is obtained from Radheshyam jewellery and tools. Most of the raw material is obtained from Chowk. The silver is obtained from SRK traders. Generally 5kg is bought per month at the rate of Rs 2 lakh. The yearly investment on tools is Rs 10,000/yr. The tools are reti, chimti, plaas, and brush. Meena is brought to the market from Amritsar, Rambagh from the company named American polishing company.

There are total 200 to 250 people employed with them. This year the training programme is being conducted by TITAN. The owner is of the opinion that the training sessions of TITAN are better than the one rendered by the government.

They (Kunj Bihari Singh) have a website and they use e commerce too to sell their products.
The popular clients are based in America, Riyadh, Italy, England and France. US is the oldest and has the maximum business. Riyadh is the new client. The annual business in rest all of them are same.

The sale in India is mostly confined to UP, the clients are around 50 in number. Four years back it has reduced to 4 in number, and the Singh family was looking for an alternate livelihood. It has been found that no one in Varanasi match their quality. There is a growth of 25 % taking place. The remuneration of the artisans are Rs 10000. The annual business of the company is around Rs 10 crore.

There are two expectation of the owner. The first one is the health privileges under Ayushman yojana for workers and assistance under CFC.

Porter's five point forces

Table 68: Supplier power in Gulabi Meenakari

Supplier Power					
Name of the unit	No. of Suppliers	Size of suppliers	Uniqueness of service	Ability to substitute	Cost of changing
Meenakari work led by Kunj Bihari Singh	2		Only Meena colour supplier is Radheshyam jewelers	The other suppliers in the chowk are of inferior quality	Less but the quality of the finished product will be compromised

The Meena colour quality need to be improved by approaching the company based in Amritsar. A direct business to business deal can support the supply chain.

SWOT

Table 69: SWOT analysis of Metal repoisse

Strength	Weakness
• Self-motivated workers, who are coming up with indigenous innovative technology	• Lack of good quality meena colour
Opportunities	**Threat**
• Large pool of patron who keep on demanding products. • There sale is through one to one person interaction, without any investment in marketing	• Meenakari is threatened by the fake products

Conclusion: The meenakari has the least number of recognized artisans less than 300, which was even less four years back. Since then the sector has grown in leaps and bound thanks to the efforts made under GI recognition. Some local innovations like portable furnaces has done away the requirement of electrical furnace for mass production. The training programme under CSR needs to be continued with as they are giving better results.

4.9. Promising sector with potential for growth in the long term:

There is a demand for the trendy garments in the market besides the traditional garments. The supply is met both locally and through imports**.** The nylon, polyester and linen weaving is primarily done on power looms. Under the handloom prohibition act the power-loom sector cannot work under pure silk but the silk can be mixed with the other fabrics. This blending of silk in power loom is gradually getting attention in the market. The patrons of handloom have slowly started shifting towards power loom blended products. The textile yarn and fabrics is procured from Ahmedabad

4.9.1. Polyester weaving:

The nylon and polyester fabric supplier in the region is Reliance. The yarn is obtained from Gujarat and thereby it is circulated to the local market. There are other yarn distributors found in Chowkaghat and other part of the city. They are Mahalakshmi yarn and Meena traders. The polyester work is done on power-looms particularly at the High tech silk cluster at Umrai Faizer Marg. The cluster is proposed to become an SPV, however the export regimes can be found in the beginning stage in the cluster

4.9.2. Readymade Garments:

The popular business group operating in the regions are Aravind textile and Dreamland creations. There are showrooms of brand like Pantaloons, Globus and Max as well. The most impactful business player among them is Aravind which is based in Ahmedabad. The Aravind textile does not only have a market in India but it also have export regimes as well. The readymade garments suppliers dealing in bulk can be found in Chowkaghat. The suppliers group are widespread and almost all kinds of fabric from cotton, polyester, linen and silk are dealt with at Chowkaghat.

Overall Conclusion: The cultural linkages and aesthetic zeal abounds in safeguarding the interests of the majority of the selected economic activity and products. The counterfactual baselines of the Varanasi economy without the culturally driven economic activity would be abysmal. The entire economic structure would perish without them. Henceforth, the support in terms of patronization and renewal is inevitable. Besides the culturally driven selection there are Primary economic activities which cannot be compromised, if the status of a self-sustaining economy has to be attained. However, a closer look on trend is also required and it shouldn’t be limited to fabrics driven livelihood but the three sectors of the economy.

Chapter 5

Recommendation

The recommendations for the selected products are widespread. The networking of the stakeholders group with the agents, departments and NGOs who can render trainings so as to build the capacities of the recipient is one of the major treatments suggested. On taking the selected economic activities and products into consideration, the intervention based recommendations are cited below.

5.1. Silk Products

It has been found that there is a declining trend observed in the patronization of silk products. This can be observed through the less demands compared to the previous year from a particular business groups. It is a unanimously accepted fact that the silk products made on power-loom are cheaper than handloom but it fails to attain the finesse ensured by handloom. These quality compromised power-loom silk products are sold under reputed brands with glossy packaging without acquainting the consumer with the authenticity of the product. The consumer group who are particular about authenticity should be oriented by making them aware about the handloom and silk mark. There are certain societies whose actions are convergent in terms of GI campaigning particularly Human welfare society. One of the policy convergent to the silk products is *one district one products (ODOP*). When the scope is limited to silk, the points of intervention should be confined to the following:

Strategic action to curb the dominance of Chinese silk: The working group comprises of the, CSIR, Start UP India, Department of Handloom and textile and District Industries Centre. The stalwarts from the working groups will be made responsible to either identify or manufacture the indigenous alternative that can serve the utility of Chinese yarn or find out the ways to lower down the dependence on Chinese yarn. The overall timeline may extend around 8 months for formulation and synthesis and a year for field trials.

Identification of the alternate supplier groups or building capacity of existing supplier group to bridge the demand and supply gap in power loom: The immediate steps aims at the delineation of the factors responsible for the deficit supply to the power loom. There is a latent policy-driven support to take the supply of silk in priority but this differential priority at the cost of jeopardizing the stakes of power-loom is neither equitable nor justified. There is a need to find out the reason behind the deficit supply to the NHDC. If the procurement from the primary supplier is a problem, then the alternate supplier groups need to be found. The working groups whose contribution can be sought for interventions are Department of Handloom and textiles and National Silk Board. The timeline taken into consideration is around 8 months.

Orientation and acquaintance of weaver's group and society towards the best business practice: After the introduction of GI, silk and handloom mark, the silk sector which is dominated by unorganized weaver force has been oriented to some extent. However, the pursuit to excellence shouldn't stop here. The road map ahead comprises of the adherence and compliance to the standards and renewal. Trend to imprint consumer with the respective mark validation should be set while campaigning. The stakeholder and consulting group should find out the way such that the end consumer can find out the origin of the product. At present there are third party business group who have been selling the silk products obtained in bulk to the seller with their own barcode. Through the barcode of the third party seller origin of the product (weaver's group or society) is not ascertained. The support can be extended through the corporate communication, operations and interpretation groups within IIM. The stakeholder's group need to explore the emerging trends in the digital marketing as well.

Facilitation through Special Purpose Vehicle (SPV): There are three silk clusters operating in Varanasi. Steps should be taken to ensure facilitation to existing and proposed SPVs. Identification of the clusters with adequate stakes to transform into an SPV need to be delineated. Likewise an existing SPV with ample stakes can be supported to update itself into a Common Facilitation Centre (CFC).The support can be sought from Banking institutions and Non-Banking Financial Companies (NBFCs). The scope of micro-financing under ODOP can also be sought

Consumer Education pertaining to handloom and silk mark need to be campaigned, especially to tourists: Through a joint venture of Handloom, textile and tourism department an initiative either through blended learning method or direct interactive session. The trade facilitation centre can serve as an ideal venue for the direct interactive session. A demonstration sample with and without standard marks along with identifiable differences also need to be placed. Initiatives can be taken to promote customized livelihood tourism campaigning preferably in schools.

Thus in order to strive excellence the silk products needs proactive support in terms of marketing and procurement of quality raw material. The role of start-ups and corporates in terms of capacity building and creative service provider also need to be explored.

5.2. Glass Beads

Formulation of strategy to do away with the Chinese dominance as a supplier: The Chinese influence is not only limited to the supply of finished products but also as a service provider of the quality finished products to the former client base of Banaras beads. Although there is an establishment of SPV taking place, which aims at making the glasses as well but its inception to the operation stage is delayed to the considerable extent, thanks to red tapism in the government process. A single window clearance system can serve the purpose. Besides, a product check of the one delivered by China and a survey of the trends followed in glass beads can assist in leap frog. The proactive support from MSME is the need of the hour.

The digital marketing definitely has a role to play considering the huge international client base. The role of start-ups as a creative service provider is inevitable

5.3. Tourism

The following are the immediate actionable points of intervention to ameliorate the state of tourism at Varanasi.

Campaigning about the places of Heritage and GIs found in the region: This can be done through signages at the important places of transit. The signages must ensure that the associated location of the places of cultural heritage is geo-tagged along with the trail. Outdoor interactive sessions like heritage walk and cultural trail assisted by volunteer's group can be organized to attract tourist. The events should be made open to the school participation. The geo-tagging of the places digitally can be done through the support of Department of Remote Sensing.

Transformation of Trade Facilitation Centre into a Fund raising model: The trade facilitation centre is a place where all the handicrafts of Varanasi are put in display. It's inclusion in the tailor made itinerary of the Tour operators will unfold the spectrum of culturally driven economic activities of Varanasi to the visiting tourists. On the other hand the Trade Facilitation Centre can make efforts to exhibit the contacts of the dealers of the respective products in display. The joint intervention of Department of Handicraft and Tourism is required to realize it.

Identification of the tour operators rendering inferior services: The issue can be addressed to the tourism guild and if situation demands tourism department can intervene.

Acquainting tourists about the timings and route so as to avoid congestion: A description about the best timing and mode to visit a place to avoid congestion can be updated on the tourism signages at the major places of transit. To cite an example, if a tourist wish to visit Chowkaghat, it would help if he can be acquainted with the fact that the four wheeler will not serve the purpose. The digitally geo-tagged cultural location should also give real time updates pertaining to traffic movement and congestion around the place. The geo-informatics firms can be taken into consideration for this purpose.

Decongestion through infrastructure across the major place of transit: Infrastructural support will serve the purpose in long run. Feasibility study to check how many ghats across the three rivers can be connected by the jetty needs to be undertaken. The commute via jetty will not only assist passenger transit but also goods across one place to other. The good supply will definitely help the unorganized sector to grow. Considering the increasing tourist influx, expansion of the Babatpur airport is the need of the hour. The accessibility to the airport should be ensured according to the arrival and departure of the flights in operations

Ease of doing business: A single window clearance system preferably placed at trade facilitation centre can serve the purpose. There is a complex area in the TFC which is represented by only one company dealing with cottage industries. Considering the state of the art infrastructure, more companies need to be encouraged to come up with a unit at TFC.

The tourist activity can be marketed digitally by partnering with the websites and apps frequently browsed by the users. A synergistic approach between the department of Tourism, Handicraft and culture can leverage the performance of tourism in Varanasi to its utmost extent.

5.4. Agriculture and Horticulture Crops

Render treatment to increase the productivity of small size landholdings. In order to double farmer's income, the cost of cultivation has to be reduced and production and productivity needs to be increased. This can be assured of through Soil Health. The remunerative prices can also be ensured by going for value added products.

Provisioning of irrigation facility in zaid season (March to June): In the spells of deficit rain the formation of water user groups in 4 hectare area is ideal. Such a command area along with shallow tube-wells can serve the purpose of irrigation.

Stray animals particularly blue bull: Solar fencing and khed-baad can help against vermin issue.

Introduction of new technology and training programs to the farmers: The programme should orient the farmers to sow the seeds in line and avoid broadcasting method. The crop management strategies post-harvest and balanced usage of fertilizer should also be undertaken.

Miscellaneous points of Interventions: They are as follows.

- Most of the farmers in the region have small landholding of around 0.3 hectares. However these small landholding support crop diversification in the region with contiguous farming in large clusters to realize economies of scale.
- The cropping intensity of the region is 164.91 which has further scope to increase in stages up to 250%.
- There exist a large potential to bring more than 50,000ha of land under Zaid crop

The sustained interference of the agriculture department can serve the above purpose. Opportunity can be given to agri-start-ups emerging on the principles of big data such that the production can be predicted in advance. The ICT support through e-NAM need to be strengthened for farmer's welfare.

5.5. Fisheries

Tapping of the water resources through community mobilization: Identification and locating of the 80 community leased ponds where no fisheries practice is done. Once the location is geo-tagged then a transect walk to the place can help to identify the background details leading to lack of interest. If the mobilization within the community doesn't take place then the interested outside stakeholder groups can be called for participation

Introduction of a private player who can induce the fishing community to the best practices: This will inculcate self-motivation towards sustained growth

Promote RAS technology to lower dependence on import and conserve water: This will improve production with less water utilization.

Check for agriculture practices suitable with fishing so as to make a co-operative self-sustaining model: Terrace farming along the slope of the pond. The feed for the fish if it can be obtained through local farming practice will make the model sustainable.

Prevent ruckus from nuisance creating investment group in production stage: More induction of support staff can serve the purpose.

Some common treatments that can be rendered against the points mentioned above are as follows:

1. Awareness and training programme in the village.
2. Inter-departmental exchange programme-especially agriculture and fisheries.
3. Outsourcing of staff on certain occasion of deficit.

In fisheries sector too digital marketing has a role to seek entrepreneurship for the unleased ponds

5.6. Dairy and Livestock

Formulation of strategies to improve the performance of the local dairy: Parag has been operating at less than 10 % of its capacity and this trend has been going for the past three years. The issue can be addressed with Strategic marketing or by partnering with the other player who can carry with their operations in the plants.

Steps to meet poultry demand indigenously: It has been found that the production through poultry is only 25% of total demand and the rest 75% comes from Punjab and South India. Cooperative farming model across the peripheral villages can serve this issue when there is not ample land. This will also cater to the high prices of the husk.

Financial support to the Veterinary Department: The veterinary department is struggling with the shortage of manpower especially doctors, veterinary pharmacists, and petty staff. The department is short of budget to procure medicines and maintenance of the hospital building. A fundraising model can be made by charging for the outstation services

Miscellaneous point of interventions

- In order to reduce the prices of milk by lowering the cost of production, the concept of Milk to ATM should be adopted in the region.

- For the well-being of foreign cows, cold shelters should be set up.

- NGO's should be encouraged to collect urine and cow dungs for medicinal and other purposes.

- The cattle owner doesn't have any right on the carcasses of the dead animal. The municipality makes money from the respective dead animal's part.

The Animal Husbandry department has a long term sustained role to play in this venture. Inter-department synergistic support will also assist the sector to grow.

5.7. Carving on wood and stone

CFCs role in supporting wooden craft: Fair distribution of finances should be ensured by CFC under equitable terms

Proactive support from DIC and CSIR to meet the export testing needs: This will ensure the growth in the export regime

Forest Department's role would ensure more supply through auction of the desired kind of wood, especially "Koraiya" wood

The DIC, CSIR and Forest department have the capacity to take these measures in a span of not more than 10 months. Besides, supply side support can be ensured through the intervention of e-commerce and start-ups providing creative service.

5.8. Metal Repoisse

Identification of factors leading to decline in quality of colours: A visit to the factory based in Punjab will serve the purpose as to why they are not able to provision with the quality Meena colour.

Improvement of workers health: The scope under Ayushman scheme need to be ascertained.

Local innovations: There is a demand for electric furnace for the Meenakari work but there is an artisan group led by Kunj Bihari Singh who have come up with a portable innovation that can serve the utility of the electric furnace. There innovation is worthy of recognition.

The Start-Up India mission and DIC has a vital role to play. The supply side support in terms of quality raw material can be ensured by building the capacity of the firms involved in operations.

5.9. Common action plan to support the promising sectors of readymade garments and polyester weaving

A common intervention can be rendered to the **polyester weaving** and **readymade garments products** in the form of supply chain management to prevent loss in transit and business to consumer deal through e-commerce. The facilitation under SPV in the high tech silk cluster will assist in the further growth of the polyester weaving. The efforts to explore new markets should also be undertaken.

List of Tables

List of figures

List of Abbreviation

S. No.	Acronym	Full Form
1	DLW	Diesel Locomotive Work
2	HERP	Heavy equipment Repair Plant
3	DIC	District Industries Centre
4	MSME	Micro Small and Medium Enterprises
5	BCG	Boston Consultation Group
6	GI	Geographical Indication
7	DIPP	Department of Industrial Policy and Promotion
8	GDP	Gross Domestic Product
9	GDDP	Gross district domestic product
10	GDVA	Gross district value addition
11	DES	Directorate of Economics and Statistics
12	SPV	Special Purpose Vehicle
13	CFC	Common Facilitation Centre
14	TFC	Trade Facilitation Centre
15	ODOP	One District One Product
16	NBFC	Non-Banking Financial Companies

References

Singhania, N. (2014): Indian Art and Culture

Census Handbook Varanasi 2011

http://www.censusindia.gov.in/2011census/dchb/0966_PART_B_DCHB_0966_VARANASI.pdf

Geographical Indicators of Varanasi

http://www.ipindia.gov.in/about-us-gi.htm

One district one product

https://www.odop.in/pages/odop-policies

UP krishi darshan website

http://upagripardarshi.gov.in/StaticPages/CropDisease.aspx

Ministry of Handloom and textile

http://handlooms.nic.in/writereaddata/List%20of%20Benf%20for%20distribution%20of%20BLILU%20in%20Varanasi%20Mega%20Cluster635815559714103086.pdf

UP Tourism portal

http://uptourism.gov.in/site/writereaddata/siteContent/Tourist%20Arrival%202013%20to%202017.pdf

Varanasi city governance

http://www.varanasionline.in/city-guide/ambulance-in-varanasi

BHEL heavy equipment repair parts

https://www.bhelherp.com/aboutus.jsp

Environment Justice Atlas

https://ejatlas.org/conflict/coca-cola-bottling-plant-mehdiganj-plant-uttar-pradesh-india0

A study on wooden toys by IIT Mumbai

http://dsource.in/sites/default/files/resource/wooden-toys-varanasi/downloads/file/wooden-toys-of-varanasi.pdf

A study on marble stone carving by IIT Mumbai

http://www.dsource.in/sites/default/files/resource/marble-stone-carving-varanasi/downloads/file/marble-stone-carving-varanasi.pdf

World Bank report on Construction worker in Varanasi

http://documents.worldbank.org/curated/en/751141468269412833/pdf/889670WP0URGEN00Box385254B00PUBLIC0.pdf

World Bank report on Congestion in Varanasi

http://documents.worldbank.org/curated/en/811261533850020988/pdf/WPS8546.pdf

Newspaper report to make Varanasi a clean energy driven city

https://energy.economictimes.indiatimes.com/news/power/varanasi-to-be-clean-energy-city-before-munich-piyush-goyal/58971311

IIT Kanpur study +on History of Varanasi

http://www.iitk.ac.in/designbank/Varanashi/History.html

Real estate at Varanasi

www.99acres.com/property-in-varanasi-ffid

Restaurants based on establishment

https://www.zomato.com/varanasi/restaurants?q=restaurants

MSME report

Silk Board report

Appendices

Appendix A

Direct Personal Interview with the following:

- AD Fisheries
- AD Animal Husbandry
- JD Agriculture
- JD Tourism
- AD Handloom
- Angika Hathkargha, Mr Amarnath Kushwaha
- Adarsh Bunker Kendra, Mr Anwar Raza
- Dy Director MSME
- Director, Jatak Travels, Mr Sushil P Singh
- President Varanasi Tourism Guild, Mr Rashid
- Banaras beads, Mr BD Singh
- District Horticulture Officer, Varanasi
- AD Handicraft
- Rameshwar Singh, Wooden toys
- Kunj Bihari Singh, Gulabi Meenakari
- Bholanath Maurya, UmraiFaizer Marg Lohta cluster
- Parag dairy
- Human welfare Society, Dr Rajnikant
- Silk Board, Mr Moon

Appendix B

Questionnaire for Porter's five forces analysis

1. Competition

1.1 How many companies are there manufacturing this product in

a. Varanasi

b. UP

c. India

1.2 Who are these companies?

1.3 How you place the quality of your product and services to the other manufacturers

2. Supplier Power

2.1 From where do you get your raw material?

1.

2

3.

4.

2.2 How unique is this raw material (product, services) that you get from them?

2.3 Is it possible to change your supply? Yes/ No

If yes, how expensive will it be to change your supplies?

3. Buyer Power

3.1 What is the size of your customer?

3.2 How big are there orders?

3.3 Can your buyers force you to lower your prices?

3.4 Can your buyers switch from your products and services to either player in the markets?

4. Threat of Substitution

4.1 Is your product/ service substitutable?

4.2 Is this substitution will be cheap or expensive for your buyers?

5. Threat of new entry

5.1 How easy is it to make an entry into your industry?

5.2 How easy it is to get a foothold in your market?

5.3 How much would it cost for the entry?

5.4 How much would it cost to capture a big chunk in the market?

5.5 Is your sector regulated? If yes, how tightly?

Appendix C

Recommendations: Key Thrust Areas				
Areas	**Interventions**	**Agencies concerned**	**Timeline**	**Impact sectors**
Credit Facility	1. Less cumbersome process. 2. Smooth coordination among stakeholders	Financial Institution (Microfinancing) District Administration, DIC (Monitoring and Evaluation)	S M	All products selected
Digital Marketing	1. Utilizing existing e-marketing platforms	Concerned Departments (Online Product brand development) NIC (Search Engine optimisation, web development, security certification)	S	All products selected
Synergistic Support	1. Inter-departmental Coordination – Convergence 2. Periodic Monitoring	Sectoral Heads, District Administration	M S/M	All products selected
E- commerce	1. Inviting competent e-commerce players/creative service providers/suppliers/marketing	DIC, UP-SRLM	M	All products selected
Quality raw material	1. Supply side support, Procurement of quality raw material, Demand side support	Concerned Departments Ground level stakeholders	M	All products selected

Incubation	1. Promote Entrepreneurial Culture, Demand Driven Training Programmes, Identifying Seed Funding Agencies	MSME, DIC	M	All products selected
Capacity Building	1. Training in Weaving, Marketing, Packaging, Design, Export Quality Testing.	Concerned Department with Partner Agencies	M	All products selected
S*: 9-12 months;* ***M*** *: 2-3 yrs;* ***L****: 5 yrs and more*				

Sector-wise Recommendations			
Area of Recommendation	**Intervention**	**Departments Concern**	**Timeline**
Silk Products			
Digital Marketing	Marketing through chargeable and free of cost digital platforms.	Dept. of Handicraft, NIC	S
Credit Facility	Financing through FIs MFIs and NBFCs	DIC, District Administration	S
E- commerce	Induction to e-commerce to promote business to consumer deal	DIC, UP-SRLM	S
Quality raw material supply	Synthesis of silk at par with Chinese quality	CSIR, Dept. of Handloom	L
Incubation	Start-ups as a creative service provider and supplier of raw material.	DIC, MSME	S
Capacity Building	Design support and induction to best practices and emerging trends.	NID, NIFT, NSDC and SSDC	S

Glass Beads			
Digital Marketing	Digital advertising in lingua franca of target region.	Dept. of Handicraft, NIC	M
Credit Facility	Facilitation through single window clearance	DIC, MSME, NBFCs, MFIs, FIs	M
E- commerce	Promote global business to consumer deal	DIC, MSME	S
Quality raw material supply	Facilitate indigenous glass production and circulation	DIC, MSME	S
Incubation	Creative support to manufacture trendin/g products	DIC, MSME, UPSRLM	M
Tourism			
Digital Marketing	Creative advertising on digital platforms	Dept. of Tourism, Dept. of Culture, handicraft	S
Synergistic Support	Inter-department facilitation to utilise common pooled resources	Dept. of Tourism, Dept. of Culture, handicraft	M
Fisheries			
Digital Marketing	Strategic marketing of the fisheries asset to promote entrepreneurship.	Department of Fisheries, MIB	M

Credit Facility	Promote seed funding, crowd funding and bootstrapping	NBFCs, FIs, MFIs and angel funds	M
E- commerce	Promote groceries e-commerce to meet demand	Department of Fisheries, District Administration	M
Quality raw material supply	Feed procurement through co-operative model.	Dept. of Fisheries, Dept. of Agriculture	M
Incubation	Identification of start-ups with conducive propositions	Dept. of Fisheries, District Administration	M
Livestock and dairy			
Digital Marketing	Video documentation of the selling propositions	Department of Animal Husbandry and dairy, MIB	M
Synergistic Support	Partnering with the local dairies to improve operations. Private player support in supply chain operations. Promote awareness about the state support in financing poultry.	Dept. of Animal Husbandry, MIB, UP-SRLM	M
Capacity Building	Induction and training to the operation process like (milching, breeding and feeding). Integrated fodder management will assist in quality feed to increase productivity	Dept. of Animal Husbandry, NSDC	M
Agriculture and Horticulture crops			
Digital Marketing	Real-time E- NAM updates. Promote climate resilient agriculture (NICRA).	Dept. of Agriculture (DoA), District Administration (DA)	S L

Credit Facility	Kisan Credit, Increase in subsidy on the farm machines.	DoA, DA	M
E- commerce	Promote farm to shop model	DoA, DA	S
Quality raw material	Support perishable cargo centre and agro based industries and food processing Industries (FPIs)	DoA, DA, DIC	M
Incubation	Segregation of agri-start-ups serving local utility	DoA, DA, DIC	M
Carving on wood and stone			
Digital Marketing	Proactive marketing of the trade exhibitions on digital platforms	DIC, DA, MoIB	S
Credit Facility	Equitable financing through CFCs	DIC, DA	S
E- commerce	Induction to e-commerce platform	DIC, DA	S
Quality raw material	Sustained supply of wood from forest	Forest department, DIC	S
Incubation	Start-ups have a role in design support, marketing and consultancy in export testing needs.	DIC, DA	S
Capacity Building	Immediate training is required to make export quality wooden carved products	DIC, NSDC	S
Metal Repoisse			
Digital Marketing	The utility of being given in the mega events can be marketed digitally as a selling proposition	DIC, DA	S

Credit Facility	Grant support to local innovation	FIs, MFIs, DICs, DAs	M
Quality raw material	Procurement of acid proof colours	CSIR, DIC	M
Capacity Building	CSR driven training programme	DIC	S
***S**: 9-12 months; **M** : 2-3 yrs; **L**: 5 yrs and more*			

Addendum

Summary of Intervention and actionable items

In order to attain the incremental growth rate of three percent eight products and economic activities were selected. They are silk products, glass beads, tourism, livestock and dairy, fisheries, agriculture and horticulture crops, carving on wood and stone and metal repoisse. Besides, polyester weaving and readymade garments were chosen as a promising sector. The recommendations under the products selected are widespread but there are certain specific actions that can be dealt with categorically under an ongoing government scheme. The table given below gives an overview of the identified categories, converging government policies and plausible skilling intervention

Specific actionable action points	**Existing Government schemes with possibilities of convergence.**	**Interventions pertaining to skilling for the focus sectors**
The actionable action can be broadly classified under following categories: 1. Digital marketing 2. Synergistic support 3. Financing/Micro-financing (Seed funding, crowd-funding, bootstrapping, converging policy grant, CSR funding) 4. Demand side support through e-commerce 5. Supply side support in terms of procurement of quality raw material 6. Induction to Start-ups in the growth of identified sectors products. 7. Training programme/ Design support	The policies identified are as follows: 1. ODOP 2. GOKUL 3. Electricity subsidy 4. Ayushmaan Health scheme 5. National Horticulture Mission 6. Scheme of Funds for regeneration of Traditional industries (SFURTI) 7. Make in India 8. Skill India 9. Partial Financing in poultry units 10. Industrial Investment and Employment Promotion Policy of UP, 2017 11. Pradhan Mantri Mudra Yojana 12. Policy for Integration of “Online Handicraft Webite at IRCTC website-2017” 13. PRASAD (Pilgrimage Rejuvenation and	Training programmes run by private sectors under CSR (eg. Samsung, TITAN) Design support by NID and NIFT

	Spiritual Augmentation drive) 14. Swadesh darshan 15. START UP India scheme	

The relevance and extent of interventions of the seven categories delineated under actionable actions to the identified products/ economic activity in Varanasi can be ascertained through the matrix given below. The product wise relevance can be ascertained through the presence of colour coding. The extent of intervention plausible under a given category with respect to an economic activity or product can be determined through the legends mentioned below.

	No Relevance
	Partial Relevance
	Strong Relevance

Products/ Economic Activity	**Categories**						
	Digital marketing	**Synergistic support**	**Financing/ Micro-financing**	**Demand side support through e-commerce**	**Supply side support in terms of procurement of quality raw material**	**Induction to Start-ups in the growth of identified sectors products**	**Training Programme/Design Support**
Silk Products							
Glass Beads							
Tourism							
Fisheries							
Livestock and Dairy							
Agriculture and Horticulture crops							
Carving on wood and stone							
Metal Repoisse							
Areas with potential (Readymade garments and polyester weaving)							

The product-wise specific actions under the identified categories can be undertaken as follows

Silk Products			
Categories	**Specific Actions**	**Converging Policy**	**Skill development**
Digital marketing	A trending illustration of the digital marketing is found in the irctc website, where you need to type ICICI Home Loan in the captcha sections. Similarly, certain validation windows ask you to click on KOTAK 811 before taking you to the other page. The same strategy can be adapted to market silk products. The popular website can be partnered with, such that the validation process requires clicking on Silk mark or writing ODOP in the captcha. Such kind of tactics will definitely seek the attention of the masses and they are relatively cheaper. The popularity of mobile apps will give impetus to this initiative. The order of the actions are as follows 1. Identify the websites often browsed by the tourists like irctc, redbus, upsrtc, make my trip etc. Prior to this branding and obtaining product certification from the central silk board may be obtained. 2. Once the websites are identified Select the advertise with us or promotion option often given at the bottom of the web page. 3. The beneficiary groups which comprises of silk societies can either go for free online pages or chargeable online pages to market	Industrial Investment and Employment Promotion Policy of UP, 2017 offers assistance in free of cost marketing through UP business mart online portal Policy for Integration of “Online Handicraft Webite at IRCTC website-2017”	Cluster wise Training programme to market products on open source online platforms, business to consumer and government to consumer platforms. One of the online platforms which can serve the above purpose is UP Business Mart portal.

	their products. The link to them are as follows; 1. Chargeable: http://contents.irctc.co.in/en/irctc-advertisement.pdf 2. Free of cost: http://upbusinssmart.com/ The free of cost link is the new initiative of UP government. The details of the UPBUSINESSMART MSMEs portal is given below: https://www.slideshare.net/bqcellthis/up-business-mart 4. Partner with the popular web browsers for Search Engine Optimization (SEO). SEO tweaks the website so that it comes up naturally or organically for search results in Google, Yahoo Bing or any other search engine. The theme of the marketing should aim at promoting silk as 'Brand Benares'.		
Financing/ Micro-financing	The funding through micro-financing institution (MFIs) which needs repayment at short interval need to be provided to the generic beneficiary group. This will lower down the risk of money forfeiture by the beneficiary group. However to the deserving cases financing through banks and Non-Banking Financial Companies (NBFCs) can be provisioned for. Thus the immediate need of the hour is to segregate the beneficiaries in terms of financing agencies like banks, NBFCs and MFIs. After identifying the beneficiary groups under NBFCs and MFIs, an induction cum demonstration programme can be undertaken in the clusters which have the	Pradhan Mantri Mudra Yojana (PMMY) One District One Product (ODOP)	Induction to the process of MFIs and Non Banking Financial Companies (NBFCs) application.

	representation of the beneficiary group so as to acquaint them with the process of getting financial assistance. Fund routing is proposed under ODOP. The weaver group take loans for granted as on most of the occasion their debts were waived off. There should be responsible financing from banks and NBFI, with some stakes of the beneficiary before sanctioning funds.		
Demand side support through e-commerce	This will promote business to consumer dealing. The popular e-commerce websites need to be identified. There is an option in the websites and mobile applications to help sell one's product. One of e-commerce website named Amazon facilitate selling through the link given below https://www.amazon.in/b/?ie=UTF8&node=8362516031&ref_=flow_na_enabled_BCT_nmshop_6 The selling process can be done through mobile apps which gives you the option to register as a seller. The process is almost same in Flipkart which need the seller to register on the link below https://seller.flipkart.com/?utm_source=flipkart&utm_medium=website&utm_campaign=sellbutton Flipkart also assist selling through mobile apps.	Skill India scheme	Induction to the popular e-commerce platform is the need of the hour. A demonstration session to the link mentioned in the specific action columns can acquaint the society group to the best selling practice without middlemen
Supply side support in terms of procurement of quality raw material	CSIR and other institutes of excellence can be partnered with to synthesize silk at par with Chinese quality. The road map to attain the support is as follows A project notification with the objective to synthesize better quality of silk to serve the utility of Chinese thread can be done	Make in India scheme	Awareness and induction session post production to the indigenous silk

	by the Ministry of textiles. Corpus can be set aside from the working budget of the ministry to fund the research. The start-ups can also be invited to come up with proposals to synthesize better quality silk.		
Induction to Start-ups in the growth of identified sectors products	Start-ups have a role to play as a supplier, creative-service provider and marketing. The one dealing with either of them need to be given opportunity. The role of startup as a **supplier** can be attained through the following measures. Identify the suppliers which are capable or whose capacity can be built to deliver the raw materials required in the silk. The creativity of the start-ups can be supported to manufacture the tested, powdered, real etc zari used in silk products. A challenge can be put forth to the start-ups to see if they can come up with a silk at par quality with Chinese silk. Start-ups have a significant role as a creative service provider in the process stage especially in the designing. The weavers group can be introduced to the start-ups such that the weavers group can seek consultation from them in terms of trends and emerging technologies. The marketing support through start-ups can be sought in terms of glossy packings, digital marketing on the apps and websites of the start-ups. The media start-ups with mobile apps will be of utmost utility to market silk. One of the trending media app is inshorts	Start-up India scheme	Induction of the silk weaver group to the start-ups operating as a 1.Supplier of raw material 2.Creative service provider 3.Marketing support
Training Programm e/ Design support	The need of the hour is to keep a separate database of Master weavers. The services of the pool of Master weavers can be undertaken in the formal training programmes.	Skill India scheme	Plan and facilitate the execution of **Training of Trainers** along

	After the selection of the master weavers is done, an orientation session of the master weavers group to the best designing practice and emerging trends need to be done through support of NIDs and NIFT. Once the pool of master weaver's capacity is built to the best practises and emerging trends, they can take independent training sessions in their respective clusters. The spells of the training programmes can be regulated according to the count of the masters weavers. The strength of the master weavers pool can be decided in consultation with the stakeholder's group such that their primary work is not affected.		with NSDC and states

The scope of digital marketing in terms of target audience is different from the silk as Banaras Beads Ltd (the prominent export house of glass beads) has client base in USA, Africa and Europe only

Glass Beads			
Categories	**Specific Actions**	**Converging Policies**	**Skill Development**
Digital marketing	Considering Banaras beads an export house. The websites having a global client base need to identified and partnered with. The celebrity endorsements can also be looked at. The road map to market digitally is follows. Identify the websites which are most viewed in USA, Europe and Africa.	Policy for Integration of "Online Handicraft Webite at IRCTC website-2017	Training on multimedia documentation for campaigning through digital marketing platforms.

	Once the websites are identified an advertisement campaign can be put forth in the region wise lingua franca. There is a huge population base of the persons of Indian origin (PIOs) in most of the countries. Considering this fact, the advertisements on certain online Indian platforms should carry on. One of the popular Indian websites is irctc. IRCTC does not only have user base in India but also in the world. Thus its popularity can be tapped. Similarly, efforts should be made to see if an advertisement icon can be displayed on the wikipedia page of India if it is accessed through other country.		
Financing/ Micro-financing	Single window clearance to avoid delays in financing (DBTs) Assuming MSME as a facilitator to financing schemes under State government and Central government, the following actions can be undertaken. Setting up of an online registration portal. The online registration process will save time and resources. The appraisal and clearance process can be done by granting appointment to the beneficiary groups. The infrastructure of the Trade Facilitation Centre (TFCs) can be used to set up single windows	PMMY scheme SFURTI scheme	Induction to the online method of registration to the beneficiary group.

	so as to avoid congestion at the office place.		
Demand side support through e-commerce	Partnering with the popular e-commerce will induce the export house to business to consumer dealing at the global level. There are certain e-commerce firms operating in India which supports export regimes as well. They are Paytm and Amazon. Efforts can be made to identify the e-commerce firms popular outside India. One of the popular foreign e-commerce firm is ALI-BABA. Partnering with ALI-BABA can definitely assist circulation. The circulation will not only increase in USA, Europe and Africa but also in the east and south east asian countries. Immediate step requires the study of compliance required for the export regimes while operating through e-commerce as a business to consumer dealing. Once the compliance is done the e-commerce firms can be partnered with for product circulation. In case of an e-commerce firm operating outside India, an MoUs between the export house and e-commerce firms like ALI-BABA can take place	Skill India Scheme	Induction to the compliance one has to make to perform business through e-commerce firm operating outside India (eg. ALI BABA)
Supply side support in terms of procurement of	The alternate supplier of superior quality of glass other than China need to be identified. However this problem is short-	Make in India Scheme	Awareness and induction to the locally produce superior quality glass to the

quality raw material	lived as the Banaras Beads Limited will soon come up with its glass production units in the Mohansarai plant. Effort should be made to hasten the process of establishing the SPV Once the production of the indigenous glass starts, efforts can be made to ensure supplies in the native glass beads companies so that the Chinese monopoly can be done away		other glass beads manufacturing units in India such that the Chinese dependence can be curbed
Induction to Start-ups in the growth of identified sectors products	Start-ups willing to undertake the challenge of manufacturing glass can be promoted. Moreover the marketing start-ups with a viewer's base outside India can be partnered with to expand the export regimes of the glass beads. Besides the creative support of the start-ups can be sought to manufacture trending products	Start-up India scheme	Induction of Benaras beads to the start-ups manufacturing glass and providing creative service.

The tourist count at Varanasi is growing over 4 % each year. This brings both opportunities and challenges to the sector. Amidst such a scenario, the utmost potential of the tourist resources need to be harnessed

Tourism			
Categories	**Specific Actions**	**Converging policies**	**Skill development**
Digital marketing	The selection of the most viewed online platform and the picturesque or video documentation of the settings at Varanasi is vital for the tourism marketing of Varanasi. The following actions can lead to an effective marketing strategy.	PRASAD scheme SWADESH darshan Industrial Investment and Employment	Induction to the multimedia documentation through popular moviemaker softwares.

	The foremost step is to make a page on the social networking sites. Once the page is created the stakeholders involved should ask the people on their social circle to like the Varanasi tourism page created. Once the number of like goes beyond the threshold limit the page automatically pop-ups on the news feed section of the most of the social networking sites. The marketing through web browsers will also serve the purpose. An image of Ganga aarti on the internet browser run by the public wifi such as railway station will awaken the curiosity of the tourists. Similarly, a catchy picturesque on the digital platform (like Youtube, Netflix etc) can seek the attention of the masses. A location enabled setting on the browser will lead to the display of Varansi picturesque the moment a tourist is within a certain radius (say 100 km) from Varanasi	Promotion Policy of UP, 2017	
Synergistic Support	The inter-departmental cooperation can help in striving synergy in the development process. The departments identified to establish synergies for tourism growth are department of tourism and department of handicraft. The department of tourism and department of Handicraft need to partner with each other so as to transform trade facilitation centre (TFC) into a fundraising model. The TFC has state of the art infrastructure to assist ease of doing business. Strategic marketing of the place with the help of tailor made itineraries of the tour package offered at Varanasi can	Industrial Investment and Employment Promotion Policy of UP, 2017	Awareness programme about how to use the utmost potential of Trade facilitation centre

	serve the purpose of tourism growth to some extent. The lead to the seller of the product on the display samples can bring the patronising group (consumer) closer to the creative group (manufacturer). A small loyalty charged for the lead offered can assist TFC to operate in a self-sustaining model. The horticulture too is inter-wined with religious tourism. Especially to meet the demand of marigold for religious tourism, department of horticulture has a role to play. Besides, even the cultural events requires huge consumption of flowers and that can be assisted through inter-department co-operation.		

Fisheries has immense potential to grow owing to huge demand and untapped water resources

Fisheries			
Categories	**Specific Actions**	**Converging policies**	**Skill development**
Digital marketing	Digital marketing to campaign about the non operational ready to lease community ponds will attract entrepreneurs and willing public group to the Varanasi and start their operations. The scope is not only limited to the untapped community ponds but also to the Recirculatory Aquaculture System (RAS). The digital marketing of the two cases will be done as follows: 1. Advertising in the online property and real estate portals like magic bricks, 99 acres etc. so that people	Industrial Investment and Employment Promotion Policy of UP, 2017	Orientation of the fisheries department to the online mode of advertising

	throughout India can come across the presence of unleased community ponds at Varanasi. 2. Campaigning through video documentation about the profitability and productivity of the RAS system on the social networking sites and multimedia broadcasting sites.The campaign need to stress upon the profitability and productivity of the RAS technology.		
Financing/ Micro-financing	Considering the huge demand and large import regimes. The efforts to establish the Recirculatory Aquaculture system (RAS) and tapping the potential of non-operational community ponds need to be encouraged through seed funding, crowd-funding, bootstrapping and microfinancing. Even the fresh graduates from the field of pisciculture who wish to come up with an entrepreneurship model can take lead through the financing mentioned above. Such a vision can be attained by campaigning either digitally or in person about the profitability of fisheries at Varanasi in the Agriculture colleges offering pisciculture at the Post-Graduate level. The learning of these self-motivated student group can bring change.	PMMY	Induction of the beneficiary group to the emerging methods of financing
Demand side support through e-commerce	Demand side support can be facilitated through the introduction of e-commerce firms dealing in groceries like GROFUS and Big Basket. The circulation of the locally caught fishes to the adjoining regions	Skill India Scheme	Induction to the GROFUS and Big basket app as a seller and buyer

	of Varanasi can help to curb the import regimes.		
Supply side support in terms of procurement of quality raw material	A co-operative farming model which can assist fishing in terms of feed production and utilise the fishing by products can help attain mutual growth	Make in India scheme	An induction to the best practices of co-operative model can act as an eye opener to the beneficiary group.
Induction to Start-ups in the growth of identified sectors products	Identification of the start-ups dealing in fisheries and exploring their unique selling proposition (USP) commensurate to the fishing requirements at Varanasi can help the fisheries sector at Varanasi to prosper in leaps and bound.	Start-Up India scheme	Induction to the emerging trends in fishing sector
Training Programme/ Design support	An awareness and training programme to the best fisheries practice can build the interest of the reluctant population group	Skill India scheme	Induction and training of the beneficiary group to the emerging technology adopted like RAS and BIOFLOC (if adopted)

There is a huge demand of poultry and milk products. The demand is not only confined to the retail sector but also in the business to business deal of the hospitality sector.

Livestock and Dairy			
Categories	**Specific Actions**	**Converging policies**	**Skill development**
Digital Marketing	Marketing is a major issue for Parag. A video documentation along with the unique selling propositions can be put on the popular broadcasting sites and free social networking sites. If finances permit popular digital marketing	Industrial Investment and Employment Promotion Policy of UP, 2017	Multimedia documentation through movie maker softwares.

	sites like Surgestream, Geekschips etc can be approached to come up with a trending digital marketing campaign. Parag also make value added products like gulab jamun which needs to be marketed digitally because there is hardly any company which makes readymade gulab jamun..		
Synergistic support	The Parag dairy operating at less than ten percent of its capacity needs to partner with the other regional dairies and the milk suppliers operating in the unorganised manner. An ambitious partnership with Amul will help in reinstating synergies. An MoU between the two will benefit either of them. Amul can save funds in the transportation to meet the supply at Varanasi. Parag on the other hand can charge Amul for the processing of Amul's Product in their plant. The association with Sugma and Venky also assists operations. Besides Skylark builds awareness and induces to new technology. Skylar also assists in supply chain management. The poultry sector is also offered financing in a synergisitic manner. This can be judged from the fact that the investment in the unit comprising of 10 thousand bird is 70 lakh (49 lakh paid by bank and rest amount is on recipient). Total land is 1 acre. The investment in the unit comprising of 30 thousand birds is 1.8 crore (66% financed by bank rest by the recipient). Total	Partial financing of poultry	Induction and training to the operation process like (milching, breeding and feeding). Integrated fodder management will assist in quality feed to increase productivity

	land is 3 acre. The interest for five years is paid by the department		

Agriculture and Horticulture crops are taken into consideration so as to make economy self-sustaining.

Agriculture and horticulture crops			
Categories	**Specific Actions**	**Converging policies**	**Skill development**
Digital marketing	E- NAM platform should be updated realtime. NICRA platform need to be more interactive to acquaint farmers about Climate resilient agriculture. Farm marketing abiding by the steps on the link given can also be attained in the long run.	APMC Act	Induction and training programme to use E-NAM platform
Financing/ Micro-financing	Kisan Credit, Increase in subsidy on the farm machines.	Pardarshi Kisan Seva Yojana, UP government	Assist agricultural borrowing by acquainting with the processes of MFIs
Demand side support through e-commerce	From Farm to Shop concept supported by groceries start-ups like Grofus and big basket. APMCs support	Start-up India Mission	Induction of farmers to the start-up apps
Supply side support in terms of procurement of quality raw material	Extend support to the perishable cargo centre and agro based industries through food processing Industries (FPIs)	Skill India scheme	Induction to the best practises in food processing and storage

Induction to Start-ups in the growth of identified sectors products	Startups are providing missing links in the agri-value chain and delivering efficient products, technologies and services to the farmers on one hand and the consumers on the other hand, From ICT apps to farm automation and from weather forecasting to drone use and from inputs retailing and equipment renting to online vegetable marketing, and from smart poultry and dairy ventures to smart agriculture and from protected cultivation to innovative food processing and packaging, its proliferation of all innovations and technology driven powerful startups set to revolutionize the food and agriculture sector. 1. BIG DATA: Data, as we all know, is the new oil and going forward, development of farm specific, data-driven diagnostics to determine soil and crop health will be a big opportunity area. Startups are leveraging drones or tractor-based solutions to get data on field, pertaining to both weather and agricultural data to determine risk. Growing smartphone penetration will enable precision decision-making in farming activity to farmers and help drive increased productivity and revenue while reducing unit-costs. eg.: Agrostar, RML Agtech are investing INR 5 Cr ($776 K) each in building ground-breaking image recognition technology that enables farmers to receive real-time data on the pest or disease that has affected a crop. 2. FARMING-AS-A-SERVICE (FAAS): Agri equipment renting is another area likely to see market traction. As longer gestation periods are a typical feature for this sector and modern equipment is expensive and unaffordable for the average farmer, renting can take the burden of the input costs away from the farmer. eg.: EM3 Agriservices offers farming services and machinery rentals to farmers on a pay-for-use basis. Other startups include, Goldfarm, Ravgo, Oxen Farm Solutions and Farmart.	Start-UP India scheme	Segregation of the identified start-up groups according to the limiting factors. Once the segregation is done then the required orientation session pertaining to field trials need to be undertaken.

	3. MARKET LINKAGE MODELS: Innovations to help farmers with timely and accurate estimation of sowing and harvesting in sync with consumer demand patterns. eg.: MeraKisan.com helps consumers in India to order fresh food and goods sourced from local farmers. 4. FINTECH FOR FARMERS: Farm income is mostly in cash and it presents an opportunity for Fintech startups to digitize payments for farmers through payment gateways linked to their accounts. Such startups can also create the credit profile environment for funders and lenders. 5. IOT FOR FARMERS: Smart farming in agricultural business including concepts like high-precision crop control, data collection, automated farming techniques will remove inefficiencies and bolster productivity. Information on crop yields, rainfall patterns, pest infestation and soil nutrition can be used to improve farming techniques over time. 9 Eg.: Stellapps leverages cloud computing, data analytics and wearables to improve agri-supply chain parameters, including milk production, procurement, cold chain, animal insurance and farmer payments. Source: http://nmoop.gov.in/conference/docs/Background_Paper_Agri_Startups.pdf		
Training Programme/ Design support	Induction to Line dispersals, training on pruning and spanning	Skill India scheme	CommunityTraining programme need to be undertaken in a participatory manner

Carving on wood and stone is gradually coming to the fore after patronisation in the cultural events

Carving on wood and stone			
Categories	**Specific Actions**	**Converging policies**	**Skill development**
Digital marketing	The exhibitions where the products are sold need to be digitally marketed in advance. A proactive approach can be the creation of page on the social networking sites and blogging sites before an exhibition event. The page should aim at letting people know about the new products put for sale in the exhibition. A description of the popular products and their selling propositions can bring the patronising group closer.	Industrial Investment and Employment Promotion Policy of UP, 2017	Induction to the media documentation
Financing/ Micro-financing	The financing is expected from CFCs in an equitable manner. This can be ensured by Information and Communication technology (ICT). An online page of CFCs giving account of the important newsfeed pertaining to financing will help. The page should also consists of the registration window to assist hassle free process for the beneficiary. The subsidy on electricity something that has been granted to the handloom units is also expected by the workforce absorbed in the wooden craft.	SFURTI scheme	Induction and demonstration programme to ICT for the beneficiary group
Demand side support through e-commerce	Induction to the popular e-commerce platforms. A photography and video documentation workshop can assist in presentable display of products on the e-commerce.	Skill India scheme	Induction and demonstration to Photography and video documentation

Supply side support in terms of procurement of quality raw material	Support of forest department to make wood available to the beneficiary, especially Koraiya wood. If there is a deficient supply of wood in the region, other reserve forest areas closer to the dry deciduous forest can be approached to fetch the supply of wood	Skill India scheme	Induction to geo-informatics to identify the regions of the woods required
Induction to Start-ups in the growth of identified sectors products	Start-ups have a role in design support, marketing and consultancy in export testing needs. The design support can help in bringing beneficiary groups closer to the trend followed. The support for the testing needs can be rendered if the start-ups can be identified as a supplier, consultant or manufacturer of export quality colours and wood.	Start-up India	Induction to the best design and export practises
Training Programme/ Design support	Immediate training is required to make export quality wooden carved products.	Skill India scheme	Induction to the popular international practises which are abrasion free and involves zero usage of hazardous substance

Metal Repoisse generally requires abundant use of silver. One of GI named Gulabi Meenakari is quite popular one in the region

Metal Repoisse			
Categories	**Specific Actions**	**Converging policies**	**Skill development**
Digital marketing	The tie-up with the popular digital marketing firms can take the already flourishing business to the	Industrial Investment and Employment	Induction to media documentation

	next level. Since the metal repoisse products are given as a momento in most of the VVIPs events. This utility of being given in the mega events can be marketed digitally as a selling proposition. The immediate aim of the marketing should convince schools and academic institutions to start the practice of giving GI products like Meenakari as a momento.	Promotion Policy of UP, 2017	
Financing/ Micro-financing	The beneficiary group led by Kunj Bihari Singh has come up with an innovation of portable furnace. Considering the utility of this innovation which has done away the need of electric furnace should be recognised as a patent and offered grant.	CSR	Routing of CSR funds in skill developement
Supply side support in terms of procurement of quality raw material	The immediate step is a quality check by the designated official of the American Polishing Company at Rambagh, Amritsar. The factors which prohibits them in making acid proof Meena colours need to be eliminated. The alternate suppliers of acid proof Meena colour also need to be explored.	Make in India scheme	Induction to different methodology comprising of different ingredient which are acid proof.
Training Programme/ Design support	The beneficiary group is quite impressed by the training programme led by TITAN in designing. More training programme of same nature (CSR funded) can built the capacity of the workforce	CSR	Capacity building of the artisans to the best practises.

Promising sector with potential for growth in the long term: There is a demand for the trendy garments in the market besides the traditional garments. The supply is met both locally and through imports**.** The nylon, polyester and linen weaving is primarily done on power looms. Under the handloom prohibition act the power-loom sector cannot work under pure silk but the silk can be mixed with the other fabrics. This blending of silk in power loom is gradually getting attention in the market. The patrons of handloom have slowly started shifting towards power loom blended products. The textile yarn and fabrics is procured from Ahmedabad

A common intervention can be rendered to the **polyester weaving** and **readymade garments products** in the form of supply chain management to prevent loss in transit and business to consumer deal through e-commerce. The facilitation under SPV in the high tech silk cluster will assist in the further growth of the polyester weaving. The efforts to explore new markets should also be undertaken