

*FINAL*

**DISTRICT-DRIVEN GROWTH**  
**A PILOT STUDY FOR MAKING INDIA A \$5**  
**TRILLION ECONOMY**

**REPORT FOR RATNAGIRI DISTRICT**

**SUBMITTED BY:**  
**NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH**  
**JANUARY, 2019**



## ACKNOWLEDGEMENTS

The NCAER study team would like to thank the officials of DIPP and MoCI for their support and guidance through the course of the study. At DIPP, we are thankful to Mr. Anand S. Bhal, Senior Economic Adviser for his suggestions and cooperation. Our special thanks to his team members, particularly Mr. Sandip Kote, Ms. Kokila Jayaram and Ms. Supriya Malik for their support and for connecting us with the district officials.

At MoCI, the team had a privilege to interact with the Hon. Minister, Mr. Suresh Prabhu and get his valuable insights on the scope of the study. His officials, particularly Mr. Digvijay Sujlana and Mr. Abheet Dwivedi, have been a wonderful support in all aspects of the study, especially in arranging meetings with the officials from the district and state capital departments.

The team benefitted immensely from the insightful meetings with the district stakeholders. The team would like to express its gratitude to the District Collector and District Magistrate, Mr. Sunil Chavan, IAS, for having discussions with us on the district potential areas. We had rounds of extensive discussions – with Chief Executive Officer, Additional Chief Executive Officer, District Statistical Office, Maharashtra State Agricultural Marketing Board, Ratnagiri Zonal office: Bank of India (Lead Bank of the district), Associate Dean of College of Fisheries, Assistant Commissioner of Fisheries Department, District Industries Center, District Superintendent Agriculture Officer and District Planning Officer. At Mumbai, the team met the Joint Director, Department of Economics and Statistics and General Manager/Deputy General Manager of Maharashtra Tourism Development Corporation, who shared their valuable inputs and also relevant data for the report. We also had extremely useful discussions with different industry representatives. We are also grateful to Applied Environmental Research Foundation, a Pune based NGO for their valuable inputs.

At NCAER, we are thankful to Dr. Shekhar Shah (DG, NCAER), for his constant and critical support in compiling the report. Our sincere thanks to Dr. Anil Sharma (Director Operations, NCAER) and Dr. Rajesh Chadha (Director Research, NCAER) for providing their valuable inputs.

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# EXECUTIVE SUMMARY

## 1. Introduction

The Department of Industrial Policy and Promotion (DIPP), Govt. of India, has constituted a “\$5-Trillion-Economy Working Group” (2018), to prepare a strategy to make India a \$ 5 Trillion economy by 2025. The Working Group has recommended a bottom-up approach with districts as planning units, to help achieve additional 2-3 per cent economic growth in identified districts. The DIPP commissioned the National Council of Applied Economic Research (NCAER) to carry out these exercise for Ratnagiri and Sindhudurg districts (Maharashtra) and Solan (Himachal Pradesh). The first phase (3 months) involved analysis of secondary data, field visits, and consultations with key district stakeholders, to prepare a draft Strategic Plan identifying the key thrust areas for detailing in the second phase<sup>1</sup>. This document presents the findings from the exercise conducted in Phase 1, for **Ratnagiri** district.

## 2. District Overview

Ratnagiri is one of the famous districts in the Konkan region of Maharashtra, known as the land of Vardamuni, Parshuram. The district has produced eminent persons, has been declared as the Horticulture District in Maharashtra, being home to the world-famous King of mangoes, Alphonso. Ratnagiri’s cashew nuts are also famous for earning ‘Dollars’ for Konkan.

Ratnagiri is home to a population of 16.2 lakhs (Census 2011), with a population density of 200 persons per sq. km in comparison to Maharashtra’s average of 365 persons per sq. km. With 82 percent literacy, high rainfall, a long coast-line, and soils suitable for cultivation of cashew and mangoes, Ratnagiri also boasts of good forests and fauna around its Sahyadri ranges. The district has 5 sub-divisions with 9 tehsils housing 1,543 inhabited villages in 844 Gram Panchayats, and 9 municipalities. There are two parliamentary and five assembly constituencies in the district. The sex ratio is 1122 females per 1000 males owing to migration, and high female work participation ratio.

Ratnagiri fares better than most other Maharashtra districts in terms of education, health and other amenities, and reports having made considerable progress in literacy, water and sanitation services. The district however has an unenviable record in not being able to generate local employment, and stagnation of industries. The

<sup>1</sup> Phase 2, of 9 months duration, shall involve mentoring and hand-holding the District Administration in the detailing and implementation of identified sectors and actions, including capacity building and skilling initiatives.



mango and cashew enterprises have also come under strain in recent years owing to a variety of market, climate and competition from elsewhere. Nevertheless, Ratnagiri has the sectors and activities that promise to accelerate its economic growth rapidly and make full use of its potential.

### 3. Recommendations for Areas Identified for Accelerating Economic Growth

The key sectors and activities with potential in the future include:

#### i. Cashew

- Promotion of cashew production and processing on a cluster basis: has been done in some locations, and stakeholders suggested more organized functioning in clusters bring benefits to producers, labourers as well as for processing and marketing.
- Awareness programmes are needed for improved production and processing practices for marketing of Cashew. Training in cashew processing is being provided on regular basis in Ratnagiri and Sindhudurg based institutions.
- Some stakeholders have suggested testing of contract farming can be solution for small and unorganized producers of cashew in the district.
- To store the raw cashew for longer period to make it available in off season, there are requirements of common warehouse and cold storage facilities in taluka on priority based.
- Demand for a branch of the Cashew Export Promotion Council of India in either Ratnagiri or Sindhudurg.
- Scope for cashew apple processing, as is being tried out in Goa and utilization of cashew apple in Brazil (See Box: VI.2).
- Port development to facilitate direct export from the district, instead of routing via Mumbai.

#### ii. Mango

- Cluster formation for mango cultivation for harmonizing production.
- Awareness about GI tag for the farmers so that they understand the GI rights and opportunities available for them.
- Awareness programmes for production and professionalized marketing among the farmers.
- Marketing awareness is essential in and outside the district.
- Separate *Mandi* for Alphonso mango in district/region
- The existing pesticides have become immune for pests, so there are demands for development of regimen for improved pest management and other inputs.



- Common storage facilities for Mangos on priority in distributed locations.
- Another highlighted observation during consultations was the increasing number and amount of Non-Performing Assets (NPA) in the district, about 17 percent in terms of amount and 26 percent in terms of accounts till September, 2018. Although farmers are getting loans and financial support in the district, Banks recommend better awareness and proper guidance for the farmers to invest wisely and manage their finances properly.
- Adoption of Ultra- High Density Plantation (UHDP): to improve per acre productivity and also increase the annual income of farmers and simultaneously decrease the quantity of water used per kilogram of mango produced.

Care needs to be taken to ensure that promotion of mango and cashew is done with care so that there is an emphasis on improving and managing the existing orchards through subsidy and capacity building rather than promoting new plantations at the costs of forests and biodiversity. Promoting native cashew and mangos that are far more resilient and could also be options for creating a win-win.

### iii. Tourism

- Tourism in Ratnagiri district can be multi-faceted: regional culture, natural beauty, religious and historical resources as well as emerging trends of health, weekend tourism and eco-tourism can offer new employment sources to local people while providing a source of recreation to visitors.
- Infrastructure development is the primary requirement of the tourism industry in the district. Improvement in the mode of travel – road/rail/airways is the primary requirement to develop the industry. This will also need to include better availability of banking, ATMs and forex facilities.
- To attract foreign tourists to Ratnagiri district, locations and experiences will need to be curated and positioned to be visible on international-tourist map.
- Improvement of quality of tourist infrastructure and services including greater number and variety of accommodation, eating houses, way-side facilities, and overall improvement in hygiene and cleanliness etc.
- Improvement of communication facilities, including easy access to telephones/ fax/ internet etc. and the availability of trained guides conversant with English and foreign languages. Also, better provision of signages and information kits.
- Attracting a higher number of tour operators establishments to have local spokes.
- Improvement of security and safety systems; better facilities' management like parking, site cleanliness and pilgrim management, etc.



- Development of environmentally sensitive tourism that also generates employment for local communities and does not exacerbate the man-animal conflict.
- Malvani branding: of cuisine, tourism locations and routers offer immense possibilities. Converging tourism with Mango, Cashew-nuts, and related economic activities can achieve co-benefits. There is potential for promoting Konkani cuisine and impart training and food-processing to create/extend the market for the Konkani products.
- Passenger cruise ship services can be considered for tourism attraction. As it has already been launched from Mumbai to Goa, there are also scope to develop this kind of services in Ratnagiri.
- Agency to local administration to promote tourism and attract private sector: some stakeholders suggest that the State department is not fully effective in facilitating tourism services promotion and regulation, at local levels. Hence, while strategic planning and infrastructure development may be retained in their remit, attracting private sector, finding local-population based innovations and solutions, and local level planning and services regulation may be better discharged if entrusted to local administration and private sector agencies.

#### iv. Fisheries

- Steps should be taken to increase the processing unit in the district since there are sufficient supplies of fresh fish in the area.
- Number of landing points should be increased in the district and facilities to improve.
- Cleanliness and hygiene must be maintained and the fisher folk working on ports, may be provided with basic facilities in the landing point including drinking water, toilet facilities, electricity, street light, fish drying area, action hall and regular cleaning facilities etc.
- Government should construct cold storages on the basis of public private partnership (PPP).
- To regulate illegal fishing, the Coast Guard may share information of the GPS data from light-house with district administration.
- Effluent Treatment Plants (ETP) may be provided to the processing units on PPP basis on a cluster basis.
- Skill training is required for fisheries sector for processing unit development.
- Port development is essential, which will help on only fish export but also development of cargo transport in the district.
- Since more women are involved in the fish market, so there should be some awareness and empowerment programme for the women engaged in this sector.



- Adequate attention is the role of state fisheries department in educating and creating awareness among fishing communities and societies about the impact of carrying out fishing activity during monsoon period. The district coastal zone management committee may prioritize the protection and restoration of coastal habitats and biodiversity on a priority basis.
- Quality ice, water and diesel to be provided to fisher folk at a reasonable price.
- Permanent arrangement should be made along the coast line of the district to remove accumulated silt from ports.
- Government should implement scheme to maintain and grow mangroves along sea and creek coast.
- Government should consider providing subsidy for construction of small units for separation of meat from fishes on the landing center so that self-help group will start production of value added items of fishes and this will lead to new employment generation in the region.

#### v. Other sectors and activities

Promotion of Coir has also been identified as a potential area, along with strengthening the existing base of fish and mango/cashew processing. Further, promotion of new industries such as handicrafts, gems and jewellery have also been proposed. This is apart from the planned investments in medium and major industries.

According to CSIR report (2018) training of people in ethnic leather footwear manufacture, establishment of cottage and small scale units for production of ethnic footwear and facilitation of establishment of market linkage. In addition to this, establishment, maintenance, up gradation and dissemination of national Standards of measurements support can be provided which is expected to contribute to the improvement in the quality of the product and an overall growth and development of several other industries in the district leading to growth.

#### 4. Capacity Building and human resource development

- Training programme for gem & jewellery sector at Sindhudurg: has conducted by the Gem & Jewellery Export Promotion Council (GJEPC). Similar programmes may also be conducted for Ratnagiri.
- Employment Exchange Registration: Maharashtra makes second largest contribution to India's population – thus becoming a large contributor to the India's demographic dividend. The Government of Maharashtra has set itself up a target of generating 4.5 crore skilled manpower by 2022. In order to achieve this target, 45 lakhs skilled manpower shall need to be produced every year by the state for 10 years. This has potential in Ratnagiri also.



- Role of NGOs: there are a number of NGOs that are taking up development activities in the Malvan region. While NGOs like Jana Shikshan Sansthan (JSS, based out of Sindhudurg) are carrying out activities to promote skills and multi-faceted development, NGOs like AERF<sup>2</sup> have been doing work on the ground to demonstrate conservation of biodiversity and building sustainable livelihoods. NGOs may be invited to partner closely with the district administration and the private sector, in the initiatives outlined above.

Further, skilling and training programmes will need to be developed depending on the sector and activities chosen for detailing and implementation.

## 5. Action Plan and Progress Yardstick

Table E.1 presents the proposed short-term plan of actions in the identified domains, and the indicators to measure progress.

| <b>Table E.1: Short Term Action Plan and Indicators of Progress</b> |   |  |  |  |
|---|---|--|--|--|
| <b>Area</b>   | <b>Action Points</b>                                      | <b>Progress Yardstick</b>  | <b>Departments</b>   | <b>Convergence with scheme</b>                                     |
| <b>Cashew</b>   | Develop Cashew Clusters for production and processing     | Change in level of production;<br>Change in output of processed cashew;<br>Change in income and welfare of labourers | Department of Agriculture                                      | Cluster Development Program (CDP), Ministry of MSME                |
|   | Awareness campaign and training programmes                | Number of persons trained,<br>Campaign awareness achieved amongst farmers and producers                              | Department of Agriculture                                      | Various skill development schemes by Central and State governments |
|   | Build common warehouse and cold storage facilities        | Number of facilities built; Availability of raw cashew in off-season   | Department of Agriculture                                      | Common Facility Centre under CDP                                   |
|   | Open a branch of Cashew Export Promotion Council of India | Benefit of government incentives to producers  | Ministry of Commerce, Cashew Export Promotion Council of India | -  |
|   | Cashew apple processing on experimental basis             | Results of experimental processing – benefits and costs assessed   | Regional Fruit Research Station, Vengurla                      | National Horticulture Mission                                      |
| <b>Mango</b>  | Develop mango clusters for cultivation                    | Change in level of production by variety;<br>Change in income of farmers and labourers                               | Department of Agriculture                                      | Cluster Development Program, Ministry of MSME                      |
|   | Awareness on GI tag                                       | Benefits availed due to GI tag by farmers and marketing agencies   | District Industry Centre                                       | -  |
|   | Marketing campaign  | Change in level of marketed produce;<br>Change in incomes of farmers, labourers                                      | Department of Agriculture                                      | APMC   |

<sup>2</sup> Applied Environmental Research Foundation (AERF), <http://www.aerfindia.org/cg.html>



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|                  |  |   |   |   |
|------------------|--|---|---|---|
|                  | Develop separate <i>Mandi</i> for Alphonso mango   | Change in volume and price-realization of mangoes sold by variety   | Department of Agriculture   | APMC  |
|                  | Improved pesticides to be developed  | Reduction in crop-loss and fluctuations in production - levels due to pest attacks  | Regional Fruit Research station, Vengurla                           | -   |
|                  | Build common warehouse and cold storage facilities   | Number of facilities built; Availability of mango/products during off-season  | District Industry Centre  | Common Facility Centre under CDP                                    |
|                  | Ultra- High Density Plantation (UHDP) to be tried on experimental basis  | Change in per acre productivity   | Department of Agriculture   | -   |
| <b>Tourism</b>   | Improve infrastructure – modes of travel; banking infrastructure; accommodation facilities; eating houses; and way-side facilities | Increase in the number of domestic (day/night) and international tourist arrivals<br>Increase in the number of rooms in Hotels by different price-class<br>Home-stay locations promoted<br>Number of new eating houses and recreational facilities opened<br>Number of new tourist operators, travel agencies and Banks/ATMs<br>Operations commencing at the new airport                        | State Government  | Maharashtra Tourism Policy, 2018                                    |
|                  | Beach and forest eco-tourism, regulation, better tourist facilities and signage's  | Number of beach locations secured for responsible tourism; Nodal officers appointed at the District Administration for local beach and forest tourism regulation and oversight; Number of tourist locations with improved signage; water and sanitation arrangements; and hygienic eating houses; <i>Malvani-branded</i> eating houses and handicraft / processed food outlets in key locations | Tourism Department  | Scheme of Rural Tourism   |
| <b>Fisheries</b> | Make available basic facilities at landing points  | Basic facilities available for fisher folks' welfare  | National Fisheries Development Board; District Fisheries Department | Blue Revolution: Integrated Development and Management of Fisheries |
|                  | Develop Cold storage facilities  | Number of new facilities developed  | National Fisheries Development Board; District Fisheries Department | Blue Revolution: Integrated Development and Management of Fisheries |



## 6. Next Steps

The following steps are recommended for the Second Phase (9 months):

- a) Agreement on the identified sectors and activities for detailing and development
- b) Preparation of Action Plan in consultation with DIPP, GoM, and District Administration
- c) Setting up a Nodal coordinating unit in the DC or CEO ZP office, and assigning personnel with powers to implement plans
- d) Outreach to Private Sector and Investors in the district and the state – organization of a workshop in the style of investor meets after due preparations
- e) Other action items as emergent

## 7. Report Outline

After introduction to the scope of the study in Chapter 1, Chapter 2 presents a brief overview of Ratnagiri district in terms of its geographical and social profile. The economic and infrastructural profile of the district, covering analysis of District Gross Domestic Product, employment, infrastructure and household amenities etc., are presented in Chapter 3. Chapter 4 identifies the key promising economic activities, and assesses the challenges and opportunities. Human resources and institutional capacity are outlined in Chapter 5. Chapter 6 presents the recommendations for Phase 2.





# I. INTRODUCTION

## I.1. Context of the study

The Department of Industrial Policy and Promotion (DIPP) constituted a “\$5-Trillion-Economy Working Group”, which held its first meeting on 15<sup>th</sup> March, 2018. This Working group has set an agenda to prepare a strategy to make India a \$ 5 Trillion economy by 2025. One of the key highlights that has emerged from the first meeting of the Working Group is that for a sustained high growth, a bottom-up approach with districts as planning units is the need of the hour. With so many innovations in IT, we are at a unique stage of development where decentralized and more participatory planning, which has been articulated over a long period of time, can be effectively implemented. For better outcomes, plans that are relevant to local areas will be successful if these are owned and led by district and local governments, with the support of local entrepreneurs, farmers, traders, and citizens.

This approach would involve the districts more actively in the future growth of the Indian economy, allowing policymakers at all levels to formulate a development vision starting from the district-level. Keeping the above in view, there is a need to undertake action-oriented policy research at the district level to enable districts to achieve an additional 2-3 per cent growth.

The DIPP has commissioned the National Council of Applied Economic Research (NCAER) to carry out the exercise for Ratnagiri and Sindhudurg districts (Maharashtra) and Solan (HP). It has been further decided by DIPP that:

- The work will be completed within a period of one year and carried out in two phases.
- Phase I, to be completed within three months from the date of agreement, shall involve preparation of the Plan in consultation with the District Administration and relevant stakeholders.
- Phase 2 of the work, over 9 months, shall involve mentoring and hand-holding the District Administration in implementation and capacity building and skilling initiatives.

## I.2. Objectives

As provided in the Terms of References (ToR), the overall aim of the study will be to develop District Strategies for accelerating growth by about 2-3 per cent. The objectives of the Phase I of the study were:

- To prepare a Baseline profile of the District.



- In consultations with the district administration and various stakeholders:
  - To identify key areas to prepare the detailed strategy.
  - To identify resources, strengths and risks including skills available.
  - To suggest interventions for key economic sectors; for skilling; and for improving the business environment in the district.

### **I.3. Method and Data Sources**

The limited three-month time-frame permitted only an initial identification of strategic thrust areas, and in particular, the following limitations may be noted:

- Lack of reliable district level economic data: Although basic socio-economic and demographic profiles of the district are available from official data sources, data on specific economic activities is available only at the State level, e.g. NSS data. Further, economic data like GDDP estimates for the district are available only as a composite but not at disaggregated in terms of primary, secondary and tertiary sectors, making it difficult to assess the sectoral growth and its contribution. District level estimates for specific economic activities too (e.g. tourism, fishing, etc.) are dated or not available. This has necessitated estimations and dependence on anecdotal evidence.
- Selective interactions with Stakeholders: The data and analyzed information on trends in different sectors have been discussed with a wide range govt. stakeholder agencies and departments, as well as with private sector agencies. Despite many in number, these interactions have been selective and may not be fully representative of the large variety and number of economic agents active in the district. Therefore, some of the claims and issues reported may be subject to revisions during the detailing of strategies and action plans in Phase 2.



## II. RATNAGIRI DISTRICT OVERVIEW

### II.1. Background

Ratnagiri district, historically known as the land of Vardamuni, Parshuram, is the district that possesses a remarkable distinction of producing three Bharat Ratna laureates- Dhondo Keshav Karve, P.V. Kane and B.R. Ambedkar. Lokmanya Bal Gangadhar Tilak was also born in Ratnagiri. Ratnagiri is declared as the Horticulture District in Maharashtra. The world-famous King of mangoes, Alphonso, is grown here. Ratnagiri's cashew nuts are famous for earning 'Dollars' for Konkan.

### II.2. Geographical Location and Area

Ratnagiri district has a geographical area of 8,208 sq. km that forms 2.7 per cent of the total geographical area of Maharashtra state. A coastal district with average elevation of 11 m amsl, it has north-south coastline of about 180 km and average east-west extension of about 64 km. This district comes between 16.30 and 18.04 N latitudes and 73.02 and 73.53 E longitude. (cf, Map 1)



### II.3 Physiography

According to the District Administration ([/ratnagiri.gov.in/](http://ratnagiri.gov.in/)), Ratnagiri has three broad topographical zones:

The Coastal Zone – that extends about 10-15 km east from the seacoast, has low altitude and a rainfall of about 2,500 mm. This area has a plethora of beaches, creeks, sea forts, harbours, hot water springs, caves, temples and other places of scenic beauty. These areas are the most suitable for sea-based developments including fishing, tourism etc.

The Hill area Zone – comprises the western slopes of the Sahyadri ranges, and extends up to about 10-15 km. With a medium to high altitude and rainfall of about



3,500 mm, this zone has good forest-cover but that is denuding fast. This zone has locations with panoramic views, hill forts, ghat roads, forests, wildlife, etc. that also promise potential for tourism and locally suitable economic activities.

The Middle Zone is sandwiched between the above two zones, has a medium altitude, and provides the passage for transportation networks both roads and railways.

On the eastern boundary of the district, there are the upper rows of the Sahayadri mountain range, with heights ranging between 400 m and 2,000 m amsl.

The major rivers in the district include the Washishi, Jagbudi, Savitri, Baw, Ratnagiri, Mukchundi, Jaitapur etc. They rise from the Sahyadris and flow west-ward to the Arabian Sea. But their shallow basins and high rainfall intensity during monsoons offers limited use of the waters.

According the groundwater information provided by the Central Ground Water Board, in spite of the high rainfall in the district, water scarcity in non-monsoon season is reported from many villages. Water level decline in the range of 0 to 0.20 m/year is observed in northern eastern parts of the district (in parts of Khed and Chiplun talukas) and in southern part of the district (in Rajapur taluka). The profile notes industrial pollution of groundwater too in certain areas due to industrial effluents. (CGWB, 2014).

## Climate & Rainfall

The climate of the district is very humid and relative humidity seldom goes below 50 percent. With maximum and minimum temperatures between 18.7 and 33.3 degrees C, the temperature variations during the day and across seasons are not large. The maximum temperature at the coast rarely crosses 38 degrees C and seldom exceeds 40 degrees C in the interior areas too. The normal annual rainfall over the district varies from 2,658 mm (Guhagar) to about 3,973 mm (Mandangad). It is lowest in the western part of the district along the coast and gradually increases towards east and northern parts. (CGWB, 2014)

## Soil

The physiography of the area has given rise to five characteristic landforms, namely 1) coastline 2) estuarine plains and river basins 3) lateritic plateaus 4) residual hills and 5) scarp faces of the Sahayadri proper. Based on the physical characteristics of the soils, they can be classified into five major groups (CGWB, 2014):



- 1) Coarse Shallow Soil: - reddish brown in colour, occur on the slopes of the hills and are partly eroded, poor in fertility, shallow in depth and coarse in texture. These soils are used for plantations of cashew and mango.
- 2) Medium Deep Soil: - reddish yellow in colour and have various names depending upon the place of occurrence. These soils are used for growing paddy, as well as pulses.
- 3) Deep Soil along river banks or valleys and are of mixed origin and yellowish red to brown in colour. They are fairly fertile and used for areca nut and coconut.
- 4) Coastal Alluvial Soil: along the coastal strip are sandy used for growing areca nut and coconut.
- 5) Coastal Saline Soil: They are formed due to the inundation of the sea, where by part of coastal soils become salty.

## Forests

About 48.8 sq. km of the district's area is classified as reserve forests, 16.4 sq. km as unclassified forests (including on private lands), and a small 4 sq. km as protected and other (acquired) forest lands. The common species being teak, Nilgiri, Khair, Cashew, Mango, Fanas, Mother, Dhaman, Shivan, Sugar, Khayar, Jambhul, Chinch and Shivari, etc. (Dept. of Forests, Govt. of Maharashtra, 2014). Ratnagiri forests are home to many species of mammals, and especially in forested areas of Sanagmeshwar, Lanjha and Khed Talukas situated in eastern Ratnagiri in the Sahaydri ranges. Fauna includes rabbits, barking deer, wild boars, foxes, hyenas, and bears, and so on. Maharashtra's State animal the Indian (or Grizzled) Giant squirrel, state bird Hariyal (yellow-footed green pigeon) can be found in the Ratnagiri district. ([ratnagiritourism.in/en](http://ratnagiritourism.in/en)).

## II.4 Administrative Setup

The district is a part of Konkan Division of the state. Ratnagiri city is the district headquarters of Ratnagiri. The district has 5 sub-divisions with 9 tahsils of Mandangad, Dapoli, Khed, Chiplun, Guhagar, Sangameshwar, Ratnagiri, Lanja and Rajapur. The district has 1,543 inhabited villages in 844 Gram Panchayats, and 9 municipalities. There two parliamentary and five assembly constituencies in the district.

The District Collector (DC) is administrative chief of the district, assisted by the Superintendent of Police, for law and order. For development activities, the Chief Executive Officer of Zilla Parishad (CEO, ZP) is the administrative head, and heads the executive arm of the District level elected self-government or the Zila Parishad, headed by an elected Chairman and elected representatives. Municipal



Councils/Nagar Palikas, also elected bodies with executive arms, are responsible for urban services in the urban areas.

## II.5 Demographic and social profile

As per census 2011, the population of Ratnagiri was 16.2 lakhs which is 1.4 per cent of the total population of Maharashtra. The district's population density is 200 persons per sq. km in comparison to Maharashtra's average of 365 persons per sq. km. The sex ratio is 1122 females per 1000 males. (Census of India, 2011)

The major religions in the district are Hindus and Muslim constituting 81 percent and 12 percent of the population respectively in 2011. Average literacy rate is 82.2 percent, with male literacy rate at 90.9 percent and female literacy rate at 74.5 percent. Marathi is the main language, while a few people speak the Konkani language. Ratnagiri has 16.3 per cent of people residing in urban areas, lower than Maharashtra average of 45.2 per cent.



## III. ECONOMIC AND INFRASTRUCTURE PROFILE

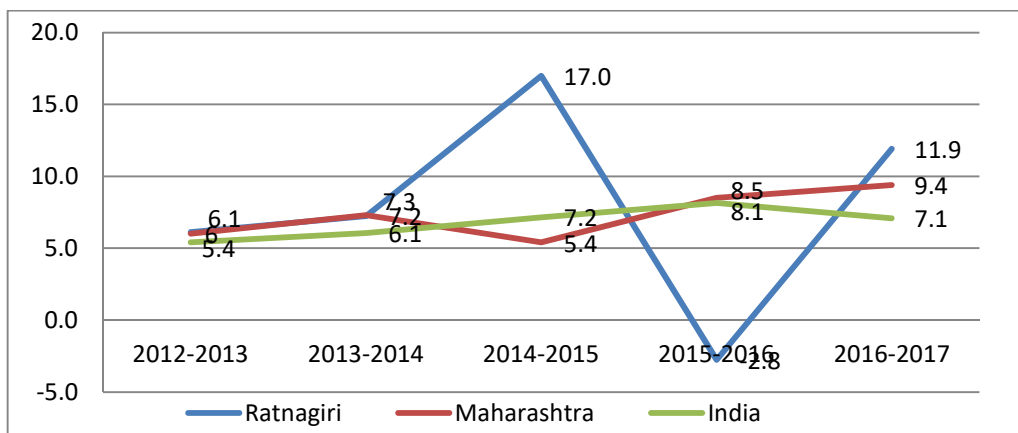
### III.1 Gross Domestic Product

In Maharashtra, nearly 40 percent of the GSDP (or the State’s GDP) is contributed by only the three districts of Mumbai, Thane and Pune. The rest of the districts contribute less than five percent each to the GSDP. According to the estimates for 2016-17, as many as 13 districts accounted for less than one percent each of the state GDP.

Ratnagiri contributes just about one percent to the economy of Maharashtra, according to the latest Gross District Domestic Product (GDDP) series available in Maharashtra Economic Survey for 2017-18. Among the total 34 districts of Maharashtra, Ratnagiri has stood at 20th or 21st position (since the new base year of 2011-12) with respect to its size of economy or its Gross Domestic Product. The growth has since been volatile.

The annual growth in the district GDP stood at a healthy 11.9 percent in 2016-17, only a tad lower than the State growth of 13.2 percent. However, it may be noted that this growth is accomplished on a very low base of a negative of 2.8 percent in the previous year, when the state grew by 8.5 percent. The decelerated growth in 2015-16, in turn is achieved on a high base of 17 percent. In a nutshell, district’s growth has been fairly volatile. The district further shows GDP growth of nearly 12 percent in 2016-17, quite close to state growth of 13.2 percent, as presented in Fig. III.1.

**Figure III.1: GDP growth at constant price (% , y-o-y)**

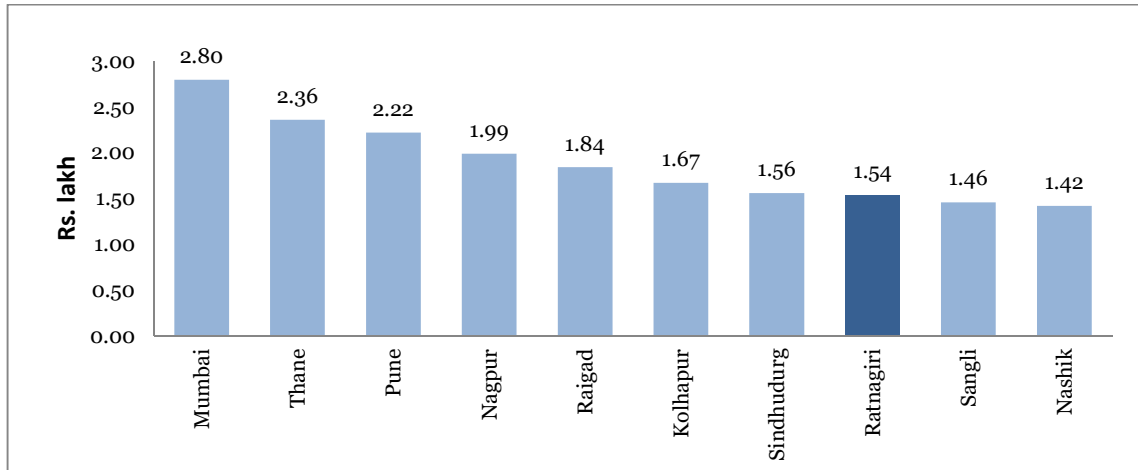


Source: Calculated from Economic Survey of Maharashtra, 2016-17; and Ministry of Statistics and Programme Implementation (MOSPI, Govt. of India)



On the other hand, with respect to per capita income, the district figures among top 10 districts in the state, occupying 8th position in 2016-17 (Fig. III.2).

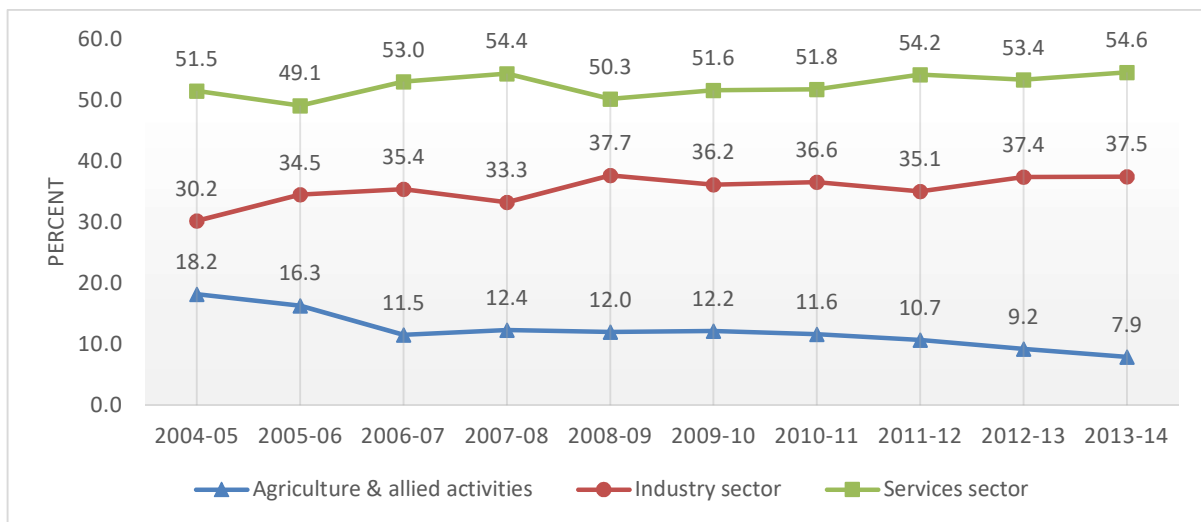
**Figure III.2: Top 10 districts on per capita income in 2016-17 (at current price)**



Source: Directorate of Economic and Statistics, GoM, 2016-17

The sectoral breakup reveals that agriculture sector, though the largest employer, is gradually losing steam. Its share in total GDDP fell from 18.2 percent in 2004-05 to only 7.9 percent in 2013-14 (Figure 3.3). Both industry (comprising of mining, manufacturing, construction and electricity) and services (comprising trade, transport, hotels, restaurants, financial, community & personal services and public administration) sectors have gained by this loss and their shares have improved from 30.2 percent to 37.5 percent and 51.5 percent to 54.6 percent respectively during the same period.

**Figure III.3: Share of major sectors in total GDDP (%)**



Source: Calculated from Economic Survey, 2016-17

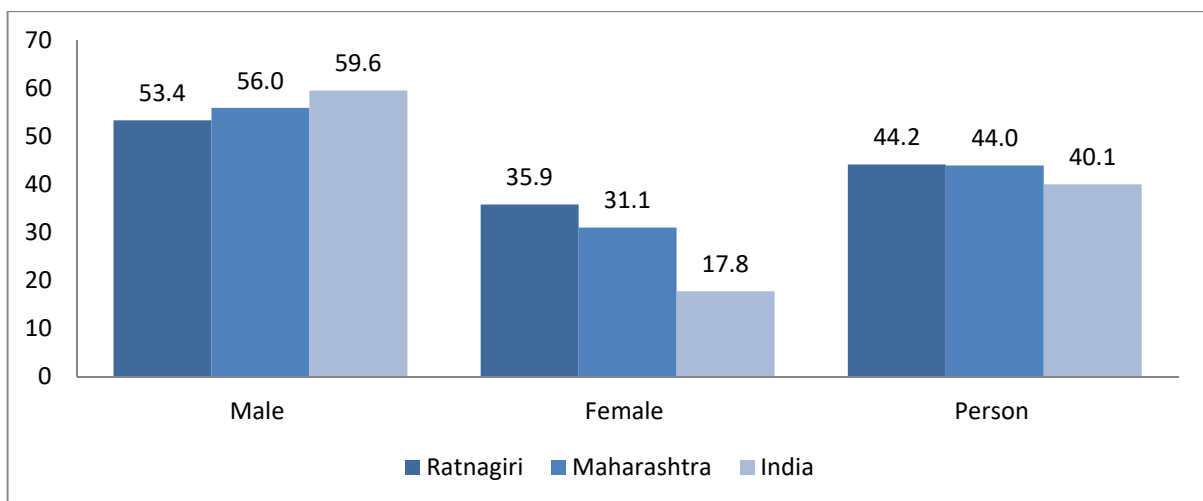


## III.2 Employment

### Work Participation Rate (WPR)

According to the Census 2011, the work participation rate of the district or the number of persons in active workforce as percent to total population, was 44.2 percent, higher than both state average of 44.0 percent and national average of 40.1 percent (Fig. III.4). However, this above-average work participation rate is on the back of high female participation rate while male participation rate is lower than the State and national averages. Increasing out-migration of the male population from the district is the main reason behind high female WPR.

**Figure III.4: Work Participation Rate (WPR) (2011-12)**



Source: Calculated from NSS Data Round 2011-12

Migration is recognized as a “well-established tradition” in Ratnagiri<sup>3</sup>. Whereas the whole country is struggling with “missing women” due to preference for sons and discrimination against daughters, the extraordinary statistics of the districts in the region including Ratnagiri, show the phenomenon of “missing men” persisting for more than a Century.

### Sectoral breakup

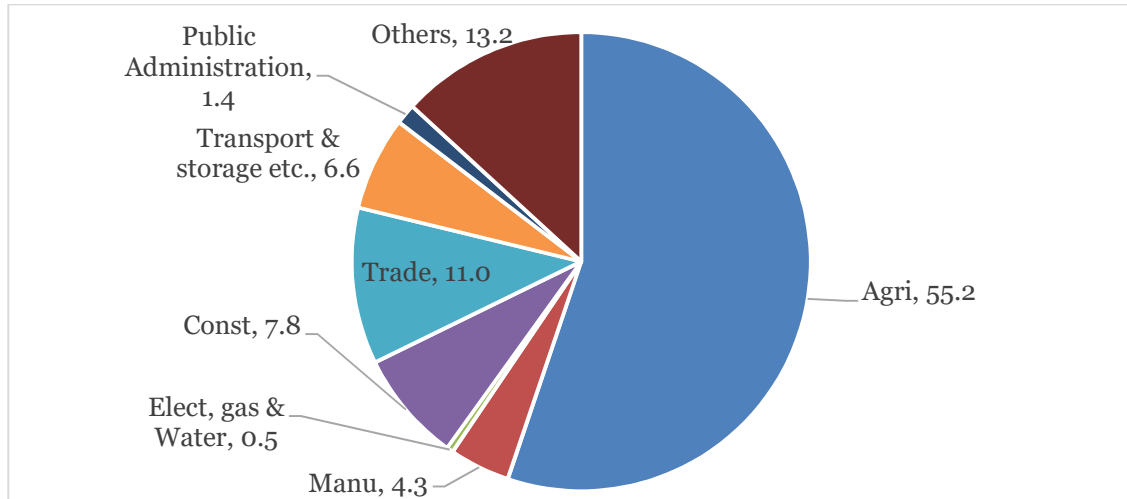
For the sectoral break-up of employment, the unit level NSS data on Employment-Unemployment was analyzed, the latest available being for 2011-12. This analysis reveals that 55 percent of the workforce is employed in agriculture, 13 percent in

<sup>3</sup> The “missing men” phenomenon of Ratnagiri persists as men being migrating in large numbers to Mumbai and other neighbouring districts (Tumbe, 2018) <https://qz.com/india/1328610/migration-leaves-mango-belt-ratnagiri-grappling-with-adult-male-absence/>



industry and 32 percent in services. Fig. (III.5) presents the distribution by broad sectors.

**Figure III.5: Distribution of workers by broad sectors**



Source: Calculated from NSS Data Round 2011-12

Other key findings of NSS data, in respect of labour-force participation rate, employment, dependency ratios include the following:

- According to the 2011-12 NSS estimates, the labour force participation rate of Ratnagiri is 34.4 percent. Of this, 32.9 percent are in the active workforce and the remaining are unemployed or available/willing to work.
- Of the total employed persons, as many as 43.6 percent are either not educated or educated only till the primary level. The remaining 56.4 percent are educated beyond primary education.
- About one-fifth of the employed persons are skilled or have acquired some kind of vocational training – formally or informally.
- One-third of the employed persons belong to the young age group of 15 to 35 years.
- About 60 percent of the population in Ratnagiri district belong to age-group of 36 to 59 years.
- The unemployment rate<sup>4</sup> of the district is 4.2 percent, as compared to 1.5 percent for the State as a whole.
- The dependency ratio, i.e. the number of persons not working to those working is 2.04 in the district, which means that each working person supports 2 more persons, besides her own self.

<sup>4</sup> Unemployment rate refers to the potentially employable population and is the proportion of persons not employed but willing to work, if work is made available to them.



- Taking the ratio of unemployable persons (children and old) to employable persons (all persons belonging to employable age-group of 15 to 59 years), the dependency ratio works out to be low at 0.54.

A further dis-aggregated analysis reveals that:

- Amongst those in agriculture and allied sectors, rice cultivation is predominant. Coconut, kokam, mango and cashew are the other main crops. There is also some proportion involved in fisheries.
- Construction dominates the industry sector, food products and garments also employing a large portion of workers in the sector.
- In services, retail trades employ a quarter whereas land transport and education have a sizeable population. The hotels, restaurants and related activities indicate the salience of the tourism sector in employment.

**Table III.1: Employment break-up within broad sectors (2011-12)**

| Sectors               | Particulars                                | % share |
|-----------------------|--|---------|
| <b>Agriculture</b>    | Rice                                       | 73.6    |
|                       | Coconut                                    | 6.7     |
|                       | Mangoes                                    | 4.7     |
|                       | Edible nuts                                | 2.8     |
|                       | Others                                     | 12.1    |
|                       | Total                                      | 100     |
| <b>Manufacturing</b>  | Food Products                              | 28.9    |
|                       | Garments                                   | 13.3    |
|                       | Others                                     | 57.8    |
|                       | Total                                      | 100     |
| <b>Other Industry</b> | Construction                               | 94.4    |
|                       | Electricity, Gas & Water supply            | 5.6     |
|                       | Total                                      | 100     |
| <b>Services</b>       | Retail sale of food, beverages and tobacco | 24.1    |
|                       | Land transport                             | 20.1    |
|                       | Education                                  | 23.6    |
|                       | Others                                     | 32.2    |
|                       | Total                                      | 100     |

Source: Calculated from NSS Data Round 2011-12

### III.3 Infrastructure

The socio-economic growth of any region is greatly dependent on the infrastructural facilities, both physical and soft infrastructure. In the following sections, the status of social as well as physical infrastructure in the district is presented. These are based on the Census, 2011 data and it can be surmised that most of the indicators would have enjoyed improvements over the past 8 years.



### III.3.1 Social Infrastructure

The access to social infrastructure (like educational and medical facilities, financial institutions, and electricity connections) is presented in Table (III.2). The indicators show that Ratnagiri’s rural and urban areas both fare better than the Maharashtra rural and urban averages for most of the education, health and other amenities.

**Table III.2: Social Infrastructure in Ratnagiri and Maharashtra**

| Particulars of Social Infrastructure                         | Ratnagiri |       |       | Maharashtra |       |       |
|--|-----------|-------|-------|-------------|-------|-------|
|  | Rural     | Urban | Total | Rural       | Urban | Total |
| <b>Education Facilities (per lakh population)</b>            |           |       |       |             |       |       |
| Primary schools  | 376.9     | 63.3  | 325.7 | 263.4       | 32.5  | 159   |
| Other schools  | 129.8     | 77.7  | 121.3 | 96.1        | 52.3  | 76.3  |
| Colleges/Professional Institutes                             | 1.9       | 11.4  | 3.4   | 1.5         | 7.7   | 4.3   |
| Vocational Training Institutes                               | -         | 15.5  |       | -           | 14.8  |       |
| <b>Education Facilities (per village/town)</b>               |           |       |       |             |       |       |
| Primary schools  | 3.3       | 10.4  | 3.4   | 3.7         | 30.9  | 4     |
| Other schools  | 1.1       | 12.8  | 1.3   | 1.4         | 49.7  | 1.9   |
| Colleges/Professional Institutes                             | -         | 1.9   |       | -           | 7.3   | 0.1   |
| Vocational Training Institutes                               | -         | 2.6   |       | -           | 14.1  |       |
| <b>Medical Facilities (per lakh population)</b>              |           |       |       |             |       |       |
| Hospitals/Dispensary/Family welfare centers etc.             | 57.9      | 13.3  | 50.6  | 38.4        | 6.5   | 24    |
| Number of Beds   | -         | 396.2 |       | -           | 144.4 |       |
| Number of doctors  | 36.6      | 39.4  | 37.1  | 27.1        | 21.8  | 24.7  |
| <b>Medical Facilities (per village/town)</b>                 |           |       |       |             |       |       |
| Hospitals/Dispensary/Family welfare centers etc.             | 0.5       | 2.2   | 0.5   | 0.5         | 6.2   | 0.6   |
| Number of Beds   | -         | 65.3  |       | -           | 137.2 |       |
| Number of doctors  | 0.3       | 6.5   | 0.4   | 0.4         | 20.8  | 0.6   |
| <b>Financial Institutions</b>                                |           |       |       |             |       |       |
| Financial Institutions (per lakh population)                 | -         | 91    |       | -           | 66.2  |       |
| Financial Institutions (per village/town)                    | -         | 15    |       | -           | 62.8  |       |
| <b>Number of towns with Firefighting service</b>             | -         | 4     |       | -           | 183   |       |
| <b>Electricity - Domestic connection (per 100 household)</b> | -         | 85.6  |       | -           | 77.8  |       |

“-not available for rural areas

Source: Census of India, 2011

### III.3.2 Physical Infrastructure

- **Road Connectivity**

According to Census 2011, the overall urban pucca road density (pucca road length in Km per 100 sq. km of area) of the district was 320.6. This ranges from near-zero in Gimhavane to 1,407.9 km per 100 sq. km in Kuwarbav. The State average urban pucca road density was reported to be 397.3.



**Table III.3: Road Connectivity in Towns (2011)**

| Town Name             | Area (sq km)  | Pucca Road Length (km) | Pucca Road Density (Road length in km per 100 sq km) | Kutcha Road Length (km) |
|-----------------------|---------------|------------------------|--|-------------------------|
| Dapoli Camp           | 4.5           | 23.1                   | 512.2  | 14.1                    |
| Gimhavane             | 8.1           | 0                      | 0.0  | 5.0                     |
| Jalgaon               | 4.6           | 26.0                   | 566.4  | 0                       |
| Dabhol                | 9.0           | 4.5                    | 50.3   | 0                       |
| Khed                  | 3.2           | 26.6                   | 828.7  | 0                       |
| Chiplun               | 14.8          | 69.0                   | 466.5  | 0                       |
| Kherdi                | 6.6           | 10.0                   | 150.6  | 4.5                     |
| Mouje Anjanvel        | 3.7           | 0.2                    | 6.4  | 0.4                     |
| Ratnagiri             | 10.5          | 79.6                   | 758.8  | 0                       |
| Zadgaon               | 3.7           | 15.0                   | 406.5  | 5.0                     |
| Nachane               | 5.7           | 27.0                   | 472.0  | 1.0                     |
| Karle                 | 1.1           | 0.6                    | 52.6   | 0.9                     |
| Kuwarbav              | 2.8           | 39.0                   | 1407.9   | 16.0                    |
| Devrukh               | 16.6          | 14.0                   | 84.4   | 0                       |
| Lanja                 | 17.1          | 9.0                    | 52.6   | 10.0                    |
| Rajapur               | 6.2           | 35.2                   | 568.7  | 0                       |
| <b>District Total</b> | <b>118.17</b> | <b>378.83</b>          | <b>320.6</b>   | <b>56.84</b>            |

Source: Census of India, 2011

### III.4 Household Amenities

According to Census 2011, about 90 percent of households, in both rural and urban areas of Ratnagiri district, used water from tap and well for drinking purpose. In contrast, this proportion is only 54% at all-India level and 82% for Maharashtra. Tap-water is the main source of drinking water, both in rural and urban areas. Rural proportion of households using tap-water (59.0%) is higher than state proportion (50.2%) and almost double the national proportion of households (30.8%).

**Table III.4: Percent distribution of households by main source of drinking water**

| Main Source of Drinking          | Ratnagiri  |            |            | Maharashtra |            |            | India      |            |            |
|----------------------------------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|
|                                  | Rural      | Urban      | Total      | Rural       | Urban      | Total      | Rural      | Urban      | Total      |
| Tap Water                        | 59.04      | 68.4       | 60.46      | 50.25       | 89.13      | 67.89      | 30.81      | 70.63      | 43.54      |
| Well                             | 29.79      | 24.07      | 28.92      | 24.27       | 2.6        | 14.43      | 13.31      | 6.15       | 11.02      |
| Hand Pump                        | 1.44       | 0.18       | 1.25       | 15.7        | 2.83       | 9.86       | 43.63      | 11.86      | 33.48      |
| Other Sources                    | 9.73       | 7.35       | 9.37       | 9.79        | 5.44       | 7.82       | 12.25      | 11.36      | 11.97      |
| <b>Total Number of Household</b> | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b>  | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b> |

Source: Census of India, 2011



Under the National Rural Drinking Water Project, considerable progress has been reported. About 88 percent of the 8,954 rural habitations were reported to be “Fully covered” and the remaining 12 percent was classified as “Partially Covered” by April 2018 (MDWS, 2018)<sup>5</sup>.

In respect of rural sanitation coverage, Ratnagiri reported achieving 100% household coverage by toilets in 2018-19. This includes 9,344 households dependent on community toilets, the balance 97 percent households (about 3.1 Lakh households) having individual household toilets. With this, Ratnagiri has declared 100% its villages being open Defecation Free (MDWS, 2018)<sup>6</sup>.

Over 80% of the rural households in Ratnagiri still use firewood as type of fuel for cooking. The equal proportion uses LPG in urban areas. Use of LPG in rural areas is only 16%. Nonetheless, this proportion is higher than national average of 11.4%. Other sources, used by only 3.9% of Ratnagiri households, include kerosene, electricity, bio-gas, crop residue etc. These indicators are likely to have changed with the implementation of national programmes for making available LPG cylinders to households.

In table III.5, number of villages electrified under Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) in different blocks of the district is shown. Mostly all the blocks are covered with equal numbers of villages in the district. However, Ratnagiri, Sangameshwar are the blocks with highest numbers of villages completed for electrification.

**Table III.5: Number of villages electrified in Ratnagiri district under Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) (as on December 2018)**

| Block        | Villages Covered | Villages Completed |
|--------------|------------------|--------------------|
| Chiplun      | 164              | 145                |
| Dapoli       | 176              | 89                 |
| Guhagar      | 121              | 83                 |
| Khed         | 215              | 126                |
| Lanja        | 120              | 51                 |
| Mandangad    | 108              | 39                 |
| Rajapur      | 234              | 117                |
| Ratnagiri    | 199              | 159                |
| Sangameshwar | 198              | 148                |
| <b>Total</b> | <b>1535</b>      | <b>957</b>         |

Source: Official Website of DDUGJY ([http://www.ddugjy.gov.in/portal/dcompleted\\_11p2.jsp?stcd=27](http://www.ddugjy.gov.in/portal/dcompleted_11p2.jsp?stcd=27) accessed 12/11/2018)

<sup>5</sup> [https://indiawater.gov.in/IMISReports/Reports/Profile/rpt\\_DistrictProfile.aspx?Rep=2](https://indiawater.gov.in/IMISReports/Reports/Profile/rpt_DistrictProfile.aspx?Rep=2), accessed on Dec 09 2018

<sup>6</sup> [https://sbm.gov.in/sbmReport/Report/Physical/SBM\\_TargetVsAchievementWithout1314.aspx](https://sbm.gov.in/sbmReport/Report/Physical/SBM_TargetVsAchievementWithout1314.aspx), accessed on Dec 09, 2018



**Table III.6: Percent distribution of households by type of fuel used for cooking**

| Type of Fuel used for Cooking | Ratnagiri |       |       | Maharashtra |       |       | India |       |       |
|-------------------------------|-----------|-------|-------|-------------|-------|-------|-------|-------|-------|
|                               | Rural     | Urban | Total | Rural       | Urban | Total | Rural | Urban | Total |
| Fire-wood                     | 80.52     | 14.26 | 70.46 | 68.94       | 10.81 | 42.56 | 62.55 | 20.12 | 48.99 |
| LPG/PNG                       | 16.03     | 79.31 | 25.64 | 17.88       | 74.06 | 43.37 | 11.40 | 65.03 | 28.54 |
| Others                        | 3.45      | 6.44  | 3.90  | 13.18       | 15.13 | 14.07 | 26.05 | 14.85 | 22.47 |
| Total number of Household     | 100.0     | 100.0 | 100.0 | 100.0       | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Census of India, 2011

### III.5 Ownership of assets

An analysis of use of banking services and ownership of assets for households in Ratnagiri shows that:

- About 59 percent of the household in Ratnagiri avail banking services which is lower than 69 percent in Maharashtra but higher than national average of 58.7 percent.
- Television ownership is high across rural and urban parts of the district, comparable to the Maharashtra average and better than the national ownership.
- This is followed by mobile phones. On the contrary, ownership of mobile phones is higher than TV in rural Maharashtra and even all-India rural sector.
- Vehicle ownership and telephone connectivity lags State and national averages.
- More than a quarter of the rural households do not report owning any asset – this is much higher than the State and national averages.



**Table III.7: Percent households availing banking services and owning types of assets**

| Item   | Ratnagiri        |       |       | Maharashtra |       |       | India |       |       |       |       |
|--|------------------|-------|-------|-------------|-------|-------|-------|-------|-------|-------|-------|
|  | Rural            | Urban | Total | Rural       | Urban | Total | Rural | Urban | Total |       |       |
| <b>Availing banking services</b>   | 54.9             | 81.98 | 59.05 | 62.95       | 76.02 | 68.9  | 54.43 | 67.77 | 58.7  |       |       |
| <b>Ownership of Assets</b>   |                  |       |       |             |       |       |       |       |       |       |       |
| Radio/Transistor   | 9.56             | 14.38 | 10.29 | 12.15       | 28.3  | 19.47 | 17.32 | 25.31 | 19.87 |       |       |
| Television   | 35.1             | 77.59 | 41.56 | 37.91       | 79.45 | 56.76 | 33.37 | 76.7  | 47.22 |       |       |
| Computer/  | With Internet    |       | 1.14  | 6.64        | 1.97  | 0.84  | 11.74 | 5.79  | 0.71  | 8.27  | 3.12  |
| Laptop   | Without Internet |       | 4.68  | 12.88       | 5.93  | 3.94  | 11.86 | 7.53  | 4.44  | 10.4  | 6.35  |
| Telephone/   | Landline only    |       | 20.8  | 7.92        | 18.83 | 5.25  | 7.51  | 6.27  | 3.12  | 5.93  | 4.02  |
| Mobile Phone   | Mobile Only      |       | 30.7  | 58.8        | 34.9  | 45    | 64.16 | 53.71 | 47.94 | 64.33 | 53.18 |
|  | Both             |       | 9.98  | 22.07       | 11.82 | 4.38  | 14.74 | 9.08  | 3.28  | 11.74 | 5.98  |
| Bicycle  | 9.53             | 29.12 | 12.5  | 30.2        | 30.77 | 30.5  | 46.16 | 41.94 | 44.81 |       |       |
| Scooter/Motorcycle/  | 11               | 41.59 | 15.65 | 18.54       | 32.63 | 24.93 | 14.34 | 35.24 | 21.02 |       |       |
| Moped  |                  |       |       |             |       |       |       |       |       |       |       |
| Car/Jeep/Van   | 2.72             | 10.26 | 3.86  | 2.4         | 10.13 | 5.91  | 2.26  | 9.75  | 4.65  |       |       |
| households with TV, Computer/Telephone, Mobile phone and Scooter and Car | 1.54             | 13.67 | 3.38  | 1.34        | 14.35 | 7.24  | 1.05  | 12.23 | 4.62  |       |       |
| None of Assets   | 31.4             | 6.39  | 27.62 | 29.76       | 5.98  | 18.97 | 22.9  | 7.02  | 17.82 |       |       |
| Total number of households   | 100              | 100   | 100   | 100         | 100   | 100   | 100   | 100   | 100   |       |       |

Source: Census of India, 2011



## IV. SECTORAL PERFORMANCE & CHALLENGES

This Chapter discusses the three broad economic sectors of the district – Agriculture and allied activities, Industry and Services. For each sector, a broad overview is presented, followed by a description of the identified potential areas or activities within each sector. These activities have been identified on the basis of secondary data research and consultations with the district stakeholders. These activities promise to deliver additional impetus to the overall district economic growth. Further, the Strengths, Weaknesses, Opportunities and Threats (SWOT) of each potential area has been presented.

### IV.1 Opportunities in Mango and Cashew

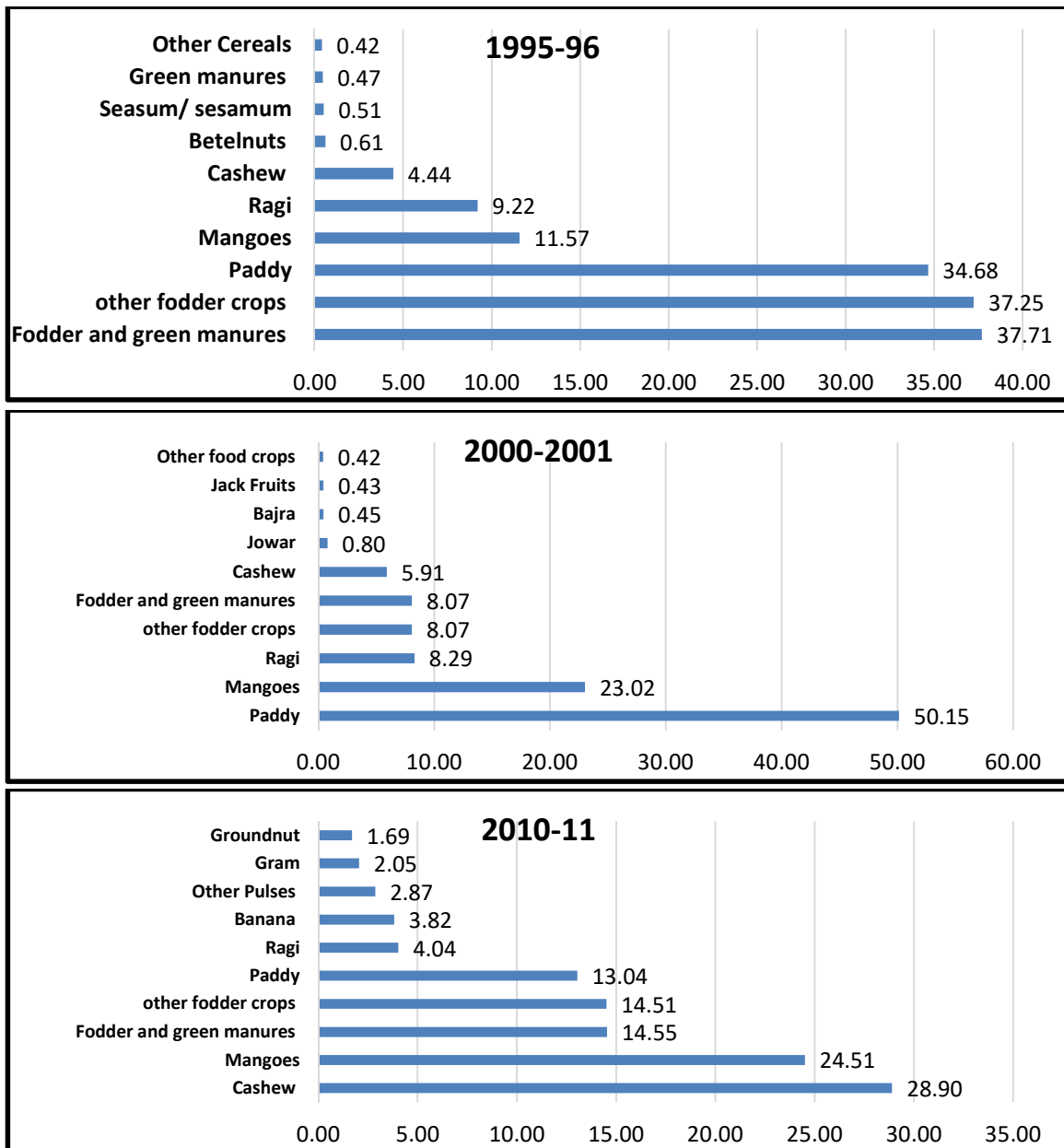
#### Overview of Agriculture

Agriculture is mainly a subsistence activity in Ratnagiri. Since it is a mainly rainfed, kharif is the major activity in the agricultural calendar in this district. The gross cropped area in the district is of the order of 338,000 hectares. Rice, Ragi (Nagli), and Wari are the principal crops. Other major crops grown are finger millet, proso millet, pulses and groundnut. The horticulture is the main growth driver of the district.

The economy of the district is mainly dependent on the agricultural sector, with more than 50 percent of persons engaged in agricultural activity. The gross cropped area is about 338,000 hectares and most of the land holdings in the region are held by small and marginal farmers. Ratnagiri district is covered with top fertile soil which includes shallow, medium and deep red sandy loam and lateritic soil. Shallow and medium deep soil accounts for 92% of soil type. The district's soil and climatic conditions are most suitable for cultivation of horticultural crops like mango, cashew, coconut, sapota, kokum, ramphal, karwanda, jamun, jackfruit, areca nut, banana and pineapple. Major crops are cashew, paddy, mango, ragi and coconut, which together account for 78% of the gross cropped area in the district. Fig. (4.1) presents the percentage share of top ten crops in terms of area under crops in Ratnagiri district.



**Figure IV.1: Percentage share of Top 10 crops with respect to area under crops**



Source: NCAER calculation from Agriculture Census

In 2010-11, which is the latest available Agriculture Census data, Cashew and Mango are the two crops having highest share in all crops area. The figure 4.1 also shows increasing share of area under crops for both Mango and Cashew over the period of time. From the interaction with different farm and private sector stakeholders and private sector also, the importance of Cashew and Mango in the economy of the district has been observed.

The region is bestowed with soils and climate suitable for crops like cashew, mango, coconut and coir, etc. The world famous alphonso variety of Mango has been grown



and promoted in Konkan since many generations and has been the back bone of orchard based economy in these districts. Later, the improved varieties of cashew nut developed by Agricultural Universities also found a place in the economy and were accepted by local communities as a commodity with promise of production and processing to serve markets far and wide. Over time, livelihoods in the region have been dependent on Mango and cashew based economy, amply supported by Govt. subsidies. There are concerns that most of the Mango and cashew orchards are subsidy driven and developed at the cost of biodiversity rich forests that are located mostly on private lands, and hence at the mercy of land-owners who are lured by the apparent attractive gains in the short-run but run the risk of failures and falling returns if not careful.

As identified by the Secondary analysis and validated by the field visits in the district, two main cash crops are Mango and Cashew nut. The agriculture officers recommend strengthening the marketing system for these cash crops by including the Agriculture Produce Market Committees (APMCs) and other marketing channels. Farmer will need to be trained to produce good quality raw material for the processing units too. According to the Marketing Strategy Supplement (MSS) for Ratnagiri District under the World Bank-assisted Maharashtra Agricultural Competitiveness Project<sup>7</sup>, the district required two primary intervention *viz.* improving extension support to farmers, and improving the agricultural marketing system. The report also mentions that because of heavily focusing on increasing agricultural productivity, market-led extension has been lacking and this has resulted in a poor understanding of agricultural marketing by the concerned departmental agencies and the producers.

#### IV.1.1 Cashew Nuts

The cashew nut, a native of Brazil was introduced by the Portuguese to India during 16th century<sup>8</sup>. Cashew trees can thrive in hot humid regions. Therefore cashew cultivation are mostly distributed in countries near the equatorial region and near coastal areas.

In 2015-16, India reported 10.34 lakh ha under cultivation, an estimated production of 6.70 lakh tons. Maharashtra is the highest Production State with 2, 20,000 tons in 2015-16, followed by Andhra Pradesh and Odisha at 95,500 and 80,500 tons respectively. The total area under cashew cultivation in Maharashtra is 1.60 lakh ha of which more than 80 per cent (1.30 lakhs ha.) is in the South Konkan region of Maharashtra, mainly in Sindhudurg and Ratnagiri district.

<sup>7</sup> [http://macp.gov.in/sites/default/files/user\\_doc/Ratnagiri%20MSS.pdf](http://macp.gov.in/sites/default/files/user_doc/Ratnagiri%20MSS.pdf)

<sup>8</sup> [http://www.cashewinfo.com/pdf/Geographical\\_Distribution\\_of\\_Cashew.pdf](http://www.cashewinfo.com/pdf/Geographical_Distribution_of_Cashew.pdf)



## Challenges and Potential

In Ratnagiri, non-availability of labour on time, high wages, and problems of pest and diseases are reported as the most common problems faced by farmers. However, some of the seasoned producers opine that farmers have not been able to keep abreast of developments in cashew production practices, and improved processing technologies necessary for shorting up yields.

Most of the cashew producers in Ratnagiri and Sindhudurg districts are small producers and they are unorganized. As a result of the promotion by the government programmes that subsidized cashew production, a number of small cashew processing units also mushroomed but those had not the requisite investments or knowledge. Therefore, even though the area under cashew increased for some time, the quality parameters declined and poor processing further compromised the returns from the market.

Our interaction with the district stakeholders revealed that Cashew nut cultivation provides employment to more than 5 lakh people both directly and indirectly, particularly in the rural areas of Ratnagiri district. The production period of cashew is from 6th to 40th year after plantation. Raw nut, cashew kernels and cashew nut shell liquid (CNSL) are the three main cashew products while the cashew apple is generally processed and consumed locally in Ratnagiri district.

An analysis of the strengths, weaknesses, opportunities and threats to the development of cashew cultivation and processing in Ratnagiri is presented in Table IV.1.

**Table IV.1 Ratnagiri Cashew: A SWOT Analysis**

| <b>Strengths</b>  | <b>Weaknesses</b>  | <b>Opportunities</b>   | <b>Threats</b>  |
|---|--|--|---|
| <ul style="list-style-type: none"> <li>•Temperature, soil, rainfall and humidity are the competitive strength of the region for cashew cultivation.</li> <li>•Maharashtra is the second in cultivated area under cashew, and Ratnagiri one of the main producing areas with established processing units, market linkages, and availability of credit and subsidies.</li> <li>•Innovations of different cashew varieties by Regional Fruit Research Centre, Vengurla, Sindhudurg nearby.</li> <li>•Major area under cultivation is naturally organic. Wild flora and fauna – area blessed with variety of aromatic and medicinal plants. This assist in retaining quality of cashew.</li> </ul> | <ul style="list-style-type: none"> <li>•Most producers are small and unorganized. Fragmented land and land litigation mars development of cashew.</li> <li>•Rapid growth of area but attention to quality production, processing, and market linkages not commensurate leading to losses.</li> <li>•Lack of R&amp;D in cashew apple utilization.</li> <li>•No direct export facilities for cashew at the district level.</li> <li>•Lack of timely availability of cheap labour</li> <li>•Insufficient infrastructure for storage and marketing.</li> <li>•Poor transportation facilities in small villages.</li> <li>•Middleman lobby</li> <li>•Lack of strong political representation of cashew farmers and processors.</li> </ul> | <ul style="list-style-type: none"> <li>•Scope for increasing processing unit, if the cold storage and other facilities are improved in the district.</li> <li>•All parts of the cashew tree can be used as product or by-product. Leaves, apple, cashew shell and cashew kernels can be utilized with different method.</li> <li>•High export potentiality</li> <li>•Possibility of area expansion under fruit crops, spices, aromatic and medicinal plants</li> <li>•Scope for Cashew Apple Liquor Industry</li> <li>•Contract Farming / Cooperative Farming</li> <li>•Value addition &amp; Processing in Clusters</li> </ul> | <ul style="list-style-type: none"> <li>• Mismatch of production and processing seasons - need to import raw cashew from Africa and South East Asia, etc.</li> <li>• The cheaper raw cashew import from other countries hurts local production.</li> <li>• Lack of labour both in cultivation and processing of cashew.</li> <li>• Subsidy-driven cashew promotion may result in loss of forest and biodiversity since forest are on private lands</li> <li>• Changing weather patterns have resulted into onset of pests on cashew further contributing to decrease in production.</li> </ul> |



### IV.1.2. Alphonso Mangoes

India is the largest mango producing country in the world with annual mango production of 16 million tons a year, which accounts for 42.2 percent of the world's total production of mango. The Konkan Alphonso is also one of the most expensive varieties of mango and is also called Hafoos, Hapuz or Aapoos, considered to be among the most superior varieties of mango in terms of sweetness, richness and flavour. The Alphonso mango is named after Alphonso de Albuquerque, a Portuguese general and military expert. The Portuguese also introduced grafting on mango trees to produce extraordinary varieties like Alphonso. Portuguese introduced this variety in Ratnagiri district. It is grown mainly in western India including places such as Sindhudurg, Ratnagiri and Raigad districts. The Alphonso is a seasonal fruit, available mid-April through the end of June in Konkan region. Alphonso usually weigh between 150 and 300 grams.

In Maharashtra, Konkan region is the major contributor of mango cultivation, occupying an area of about 1.65 lakh ha with production of 2.47 lakh tons and the average productivity is around 2.50 tons per ha. The region is characterized by humid, sub-tropical and monsoonal climate which is very much favourable for growing plantation crops. The Ratnagiri Alphonso mango has been identified as a unique fruit in nature that its aroma, flavours, and colour differs according to the area that is grown. The fruit is being sold in the market as Ratnagiri Alphonso and they command a premium price in the market based on their unique size, quality and colour not seen in Alphonso Mangoes grown elsewhere. Since Mangoes do well in humid environment, major part of Ratnagiri district's coastline is covered with Mango orchards. The wind coming from sea carries micronutrients along with it which aids in inflorescence of the Mango tree during the flowering season. High moisture content in the atmosphere adds to the juiciness of Mango.

Mangoes are cultivated on a large scale in Ratnagiri, Guhagar, Lanja and Rajapur where the 'Mango Festival' takes place every year. There are some mango processing units in Ratnagiri and several mango products are delivered all over India and exported to European and other countries. The export zone for Alphonso mangoes in Ratnagiri is at Nathane which handle tasks like washing, grading, packaging and pre-cooling of mangoes besides providing cold storage facilities.

### Geographical Indication Tag to Alphonso (2018)

In October 2018, the Alphonso mango from Sindhudurg and Ratnagiri received the Geographical Indication tag, certifying that it has a specific geographical origin and possesses qualities or reputation that is due to the geographical origin. The Alphonso is prized in domestic and international markets for its taste, fragrance and vibrant



colour, and is one of the world's most popular fruits. It is exported to various countries, including Japan, Korea and Europe.

An import ban imposed in 1989 by the United States on Indian mangoes, including the Alphonso, was lifted only in April 2007. The ban was imposed on the argument that the mangoes needed to be treated before entering the country in order to stop the introduction of non-native fruit flies, destructive fungi, and other pests that could harm American agriculture. The European Union imposed a ban beginning in April 2014 on import of mangoes after finding "non-European fruit flies" in some consignments, creating a significant threat to UK salad crops. The Indian government had described this decision as arbitrary and businesses claimed they would suffer financial losses due to the ban. In January 2015, the European Commission lifted the ban following significant improvements in the Indian mango export system.

Stakeholder's interactions under this Study revealed that the "export potential of mango is also recognized but there is a lack of skills and knowledge regarding the international food standards and specifications. Therefore, people from the district concentrate mainly on the domestic market. Support in terms of training and educating the people is strongly recommended."

The positive impacts of GI system includes: structuring of the supply chain around a common product reputation, increased and stabilised prices for the GI product, added value distributed through all the levels of the supply chain, preservation of the natural resources on which the product is based, preservation of traditions and traditional know-how, linkages to tourism etc. These need to be realized by implementation of necessary practices and systems.

### Challenges in Mango cultivation

Mango farmers in Maharashtra's coastal districts of Ratnagiri and Sindhudurg, report challenges of production alongside depressed market rates. In the last five years, increased pest attacks, abnormal changes in the temperatures, and excessive use of fungicides and other chemicals have led to a dip in yields. Wholesale market statistics in the State suggest a declining trend in arrivals. In 2012, 3.4 lakh tonnes of mango reached the market, but in 2017 it has been just 15,602 tonnes. The reason has been inter alia:

- The flowering and fruit-setting cycles have been disrupted by temperature rise, humidity, pest attack and use of chemical fungicides that has affected its production.
- There is stiff competition in Konkan region for mango growers due to heavy promotional measures undertaken by the district marketers. The problem of mango farmers has been further compounded by arrivals Alphonso look-alikes



from Karnataka; the fruit looks similar to Alphonso, but tastes very different. In large markets such as Mumbai, Navi Mumbai and Pune, mangoes from Karnataka are deceptively branded as Ratnagiri or Sindhudurg Alphonso and retailed.

- There are already few mango processing units in Ratnagiri making processed items like Mango sorbet, ice cream, lassi, soufflé, mousse, and puree. However alphonso mango is mostly used here for table purpose and not for processing and therefore efforts should be made to set up more mango processing units in the districts to improve its profitability and potential.

An analysis of the strengths, weaknesses, opportunities and threats to the development of mangoes in Ratnagiri is presented in Table (IV.2).

**Table IV.2 Ratnagiri Mangoes: A SWOT Analysis**

| Strengths  | Weaknesses   | Opportunities   | Threats   |
|--|--|---|---|
| <ul style="list-style-type: none"> <li>• The Ratnagiri Alphonso Mango has distinguished qualities due to Morphological, Physio-chemical as well as genetic level.</li> <li>• Alphonso received the GI tag, certifying the specific geographical origin and possesses qualities or reputation.</li> <li>• There are some mango processing units in Ratnagiri and several mango products are delivered all over India and exported to European and other countries.</li> </ul> | <ul style="list-style-type: none"> <li>• Alphonso look-alikes from other states of the country and abroad</li> <li>• Manipulation of prices by the middleman /suppliers cause producers to suffer market-based losses</li> <li>• Lack of an organized system for production and harvest marketing</li> <li>• Lack of knowledge about GI tag among farmers and consumers.</li> <li>• No separate market <i>mandi</i> for Alphonso</li> <li>• Lack of upgradation in inputs like pesticides</li> <li>• Lack of proper common storage facilities</li> </ul> | <ul style="list-style-type: none"> <li>• Export potential especially if adherence to safety and quality norms can be achieved</li> <li>• GI tag can help enhance the tourism of the region.</li> <li>• Potential for inter-cropping with spices that can double the benefits for the farmers</li> </ul> | <ul style="list-style-type: none"> <li>• Deforestation to cultivate mango trees might result in reduced forest cover.</li> <li>• Changing weather patterns have resulted into onset of pests on mango further contributing to decrease in production.</li> <li>• Vulnerability to climate variabilities due to subsidy-led promotion of cultivation leading to productivity fluctuations and forests' loss</li> </ul> |

## IV.2. Opportunities in Tourism

The District Tourism Plan for Ratnagiri 2013, has dwelt in detail about the current situation, and has made recommendations for improvements. It underlines that Ratnagiri’s natural beauty, historical places and temples, beautiful beaches, creeks, forts etc. offer considerable potential for promoting domestic and international tourism. Many of these locations especially beaches are already witness to thronging tourists from other districts in Maharashtra, but the potential remains to be capitalized upon for employment generation, and sustainable promotion of tourism that conserves natural and marine habitats while generating revenues for local populations. The tourism survey undertaken by Market Research Division of Ministry of Tourism, showed Ratnagiri to be one of the poorest tourist destinations in Maharashtra, with the following features:



- a) Total number of tourist / visitor arrivals in the district of Ratnagiri during the period of 1st July 2009 -30th June 2010 was 924431.
- b) Out of the total number of visitors, domestic tourists in Ratnagiri accounted for 99.95% (923926).
- c) Total number of foreign tourist arrivals in Ratnagiri during the period of 1st July 2009 - 30th June 2010 was 505.
- d) Foreign tourists in Ratnagiri accounted for negligible 0.05% of the total tourists/ visitors to the district.
- e) Share of Ratnagiri district in total tourist arrival

**Table IV.3: Present Tourist Population in Taluka of Ratnagiri**

| Taluka          | Tourist during fairs | Local Tourist (in lakh) | Outside Tourist (in lakh) | Total tourist per year (in lakh) |
|-----------------|----------------------|-------------------------|---------------------------|----------------------------------|
| Mandangad       | 0.16                 | 0.1                     | 1.03                      | 1.29                             |
| Dapoli          | 0.25                 | 0.4                     | 2.66                      | 3.31                             |
| Khed            | 0.395                | 0.05                    | 0.26                      | 0.71                             |
| Chiplun         | 3.91                 | 0.71                    | 2.65                      | 7.27                             |
| Guhagar         | 0.205                | 0.59                    | 2.55                      | 3.35                             |
| Sangameshwar    | 3.15                 | 0.48                    | 8.89                      | 12.53                            |
| Lanja           | 0                    | 0.1                     | 0.08                      | 0.17                             |
| Ratnagiri       | 9.23                 | 2.57                    | 13.26                     | 25.05                            |
| Rajapur         | 1.5                  | 0.23                    | 0.77                      | 2.5                              |
| Total (in lakh) | <b>18.8</b>          | <b>5.23</b>             | <b>32.14</b>              | <b>56.17</b>                     |

Source: District Tourism Plan for Ratnagiri District -August 2013

### Major Challenges in Tourism

Being close to Goa, Ratnagiri could have capitalized on its natural capital but the potential remains locked due to the following factors:

- *Lack of proper marketing:* with little promotion of tourist circuits, cultivation of good tourism sector operators within and outside the district to attract foreign and domestic tourists, the value from tourism has not been materialized for the districts beyond ad hoc tourist arrivals that remain unplanned and unregulated.
- *Poor Transportation linkages:* current tourism is based on tourists having their own vehicles as public transportation is not oriented toward promoting tourism. Rail linkages are not adequate to serve tourism needs, and the nearest airports are at some distance.
- *Lack of Infrastructure, particularly in tourist areas:* the absence of adequate services like a good range of hotels and eating houses, besides related water and sanitation, public transport and reliable electricity services have constrained the



tourism industry. Tourists are also deprived of good banking services, poor signage’s and tourist information, and a lack of tourist operators.

- *Existing tourism products are underutilized:* even though there are good locations naturally, and some that have been developed to some extent, their potential has not been systematically harnessed. On the other hand, there may be a rush of tourists to some locations, but the parking and local traffic and hygiene management is wanting.
- *Limited Integration of Local Communities:* leading to opportunities lost for realizing the benefits of tourism for local people. The exposure and training to local people on how to promote and manage tourism has been limited and larger operators seek to maximize the potential in areas like Goa and Karnataka. Local biodiversity conservation committees can be constituted and operationalized to regulate specific locations and promote local stakes in tourism.
- *Tourism has been inadequately resourced and funded:* despite declaring this as a Tourism district, govt. funding made available to provide infrastructure and promote tourism has been vastly unequal to that required to harness the district’s potential. Even when plans were drawn up, these were not funded well or prioritized for implementation.

### SWOT Analysis

An analysis of the strengths, weaknesses, opportunities and threats to the development of tourism in Ratnagiri is presented in Table (IV.4).

**Table IV.4 Ratnagiri Tourism: A SWOT Analysis**

| Strengths   | Weaknesses  | Opportunities  | Threats   |
|---|---|--|---|
| <ul style="list-style-type: none"> <li>• Presence of tourist attractions catering to varied interests like religious, beaches, creeks, forts, adventure places, waterfall, nature, heritage, monuments etc.</li> <li>• Proximity to Goa, the regional tourism hub</li> <li>• Good rail and road connectivity with major cities of India</li> <li>• Famous as the Alphonso mango and cashew cultivating region.</li> <li>• GI tag for Alphonso mango.</li> </ul> | <ul style="list-style-type: none"> <li>• Road infrastructure and public transport connectivity issues in the district</li> <li>• Hotel accommodation for the tourists is not properly developed.</li> <li>• Lack of marketing of the tourism sector.</li> <li>• Inadequate showcasing of tourism products and experiences</li> <li>• Lack of facilities and wayside amenities for tourist in the district</li> <li>• Low levels of awareness among stakeholders regarding the potential for tourism in Ratnagiri.</li> <li>• Little role at present, played by local governments and communities in planning and providing tourism services, and regulating tourist activities</li> </ul> | <ul style="list-style-type: none"> <li>• The varied mix of tourist spots can be promoted as circuits to provide a complete tourism experience</li> <li>• Tourist travelling from Mumbai and Pune to Goa traverses through Ratnagiri. They need to be pursued to stay at Ratnagiri.</li> <li>• Existing beaches and creeks can be utilized for promotion of water based tourism, adventure sports and related recreational facilities</li> <li>• Eco-Tourism can be promoted in nature and forest ecosystems in partnership with local communities</li> <li>• Large number of tourists visiting Ganpatipule and Marleshwar could be encouraged to visit other destinations in the district</li> </ul> | <ul style="list-style-type: none"> <li>• Travelers may opt for Sindhudurg and Goa which have more scenic and developed beaches</li> <li>• Infrastructure development may be delayed leading to loss of momentum</li> <li>• Local oppositions and/or reticence to promote tourism may dissuade potential investors and tour operators</li> </ul> |



### IV.3.1 Fisheries

(A review of the industry status in the district is provided in later section. Since activities holding promise for economic development are reviewed, fisheries and coir products are assessed in the sections below.)

According to the Brief Industrial Profile of Ratnagiri (MSME, GoI), fisheries has a very important position from the viewpoint of employment generation in Ratnagiri. The district has a coastal line of 167 kms with 17,085 sq. km of continental-shelf. There are 99 fishing villages in which more than 67,000 fisher folk population reside, mainly in the coastal areas. There were about 60 primary fisheries Co-Op. Societies reported in the district, along with a district federation too.

In Maharashtra, there are only three harbours of which two are in Mumbai and one in Ratnagiri. At present, more than 600 fishing vessels (of which 534 are mechanised and 66 non-mechanised) are reported to be operating from this harbour generating considerable employment directly and indirectly. The fish varieties include prawns, sharks, skates, rays, mackerals, sardines, tuna, surmai, pomfret, karel, dagol and catfish. Prawn processing is carried out in a big scale that has a great demand abroad.

The fisher folk population live in three different settlements of Ratnagiri town viz. Mirkarwada, Rajiwada and Bhatkarwada. Most of the people engage in the activity for eight months, since fishing is prohibited during the four monsoon months. The fisher folk in Ratnagiri town mostly do marine fishing. The traditional boats constructed out of the local timber are used along with a large number of mechanized, modern boats. Jetties and landing sites are provided with facilities for docking and unloading and transportation of fish. In recent years, private players have started Ice factories and cold storage which have become important resources for fishermen. Nylon nets and floats, and other materials are provided by modern industry. In recent years, the use of Purse seine<sup>9</sup> nets has also increased. Traditional fishing used sail boats while the contemporary boats use diesel as fuel for running the boats.

An analysis of the strengths, weaknesses, opportunities and threats to the development of fisheries in Ratnagiri is presented in Table (IV.5).

**Table IV.5 Ratnagiri Fisheries: A SWOT Analysis**

| Strengths   | Weaknesses  | Opportunities  | Threats   |
|---|---|--|---|
| <ul style="list-style-type: none"> <li>The district is known for its long coast line and convenient harbours, together</li> </ul> | <ul style="list-style-type: none"> <li>Unorganized character of fisheries sector, with little infrastructure, equipment, training and skilling support to the fisher folk.</li> </ul> | <ul style="list-style-type: none"> <li>Employment generation potential along with providing</li> </ul> | <ul style="list-style-type: none"> <li>Lack of effluent treatment might increase the water</li> </ul> |

<sup>9</sup> Seine fishing is a method of fishing that employs a fishing net called a seine that hangs vertically in the water with its bottom edge held down by weights and its top edge buoyed by floats. Purse seine uses a line to pass through the rings at the bottom of the net, to prevent the fish from escaping. (Wikipedia, [https://en.wikipedia.org/wiki/Seine\\_fishing](https://en.wikipedia.org/wiki/Seine_fishing), accessed Dec 12, 2018)



| Strengths   | Weaknesses  | Opportunities   | Threats   |
|---|---|---|---|
| <p>with its comparative nearness to the Arabian Coast. * Fishing industry in the district is mainly dependent upon the exploitation of marine resources, and the indigenous population of fisher folk are skilled in fishing.</p> <ul style="list-style-type: none"> <li>Existing fish-processing units in the private sector have demonstrated the economic viability of fishery-based industries in the region</li> </ul> | <ul style="list-style-type: none"> <li>Lack of basic services, facilities and infrastructure for poor fisher folk</li> <li>Major trawler activity (including illegal fishing) that is left unregulated</li> <li>Lack of economical cold storage facilities</li> <li>Government schemes provide subsidy support for diesel, financial support to buy boats, cold storage and market development but implementation has not been effective.</li> <li>Infrastructure facilities like boat repairing centre, diesel pump, toilets, water supply, arrangement for supply of ice, market for local sale, cold storage system and other requirements for fishing activity have not been provided in the landing points.</li> <li>Non-availability of Effluent Treatment Plant (ETP) reduces the capacity of the fish processing unit.</li> </ul> | <p>nutritional security.</p> <ul style="list-style-type: none"> <li>High export potential of the processed fish.</li> <li>Since women are mostly involved in this sector, its development will contribute to their welfare.</li> <li>Fish are available in the deep sea, may be possible to harvest sustainably if proper training, equipment, and facilities are made available to fisher folk / societies.</li> </ul> | <p>pollution in the region due to fish-processing.</p> <ul style="list-style-type: none"> <li>Excessive fishing by trawlers and use of Purse seine net, may result in unsustainable over-fishing</li> </ul> |

### IV.3.2 Coir Industry

Even though coconut has a prime position as a plantation crop in the country, it faces many problems like vagaries of nature and markets, and sudden outbreak of pest and diseases. The coconut palm is attacked by a number of insect pests at all stages of its growth. The coconut palm has been attacked by 200 insects and non-insect pests (Rabindra, 2000). Among these, the rhinoceros beetle, red palm weevil, black-headed caterpillar, eriophyid mite and rats are serious pests and found in many coconut gardens in Konkan region of the Maharashtra.

According to the consultations held with district stakeholders, coir in this area appears to have less potential than Kerala due to a number of reasons, including the fact that coconut plants are smaller in number and highly dispersed. Nevertheless, they also recommended developing some ornamental goods from coconut that could have employment potential and tourist attraction. The profit margins of the coconut ornaments are also reasonably high.

The total area under coconut plantation in Maharashtra has been reported about 28,880 hectare. The major area under coconut is found in Konkan region of Maharashtra comprising of districts viz. Thane, Raigad, Ratnagiri and Sindhudurg. The Konkan Region has a coastal area of 720 km, having coconut plantation on large scale giving scope to coir industries. Area under coconut plantations largely remains unchanged over the years, as typically once planted, they continue to bear fruits for long years. The Maharashtra government has sought the technical guidance of Coconut Development Board to enhance coconut production in the Konkan region.



The area covered under the coconut plantation in the state and coastal districts in 2012-13, is presented in Table (IV.6).

**Table IV.6: District-wise Area under Coconut plantation (Ha) 2012-13**

| District             | Area under Coconut plantation (in Hect.) | % to total  |
|----------------------|--|-------------|
| Thane                | 1910                                     | 6.61        |
| Raigad               | 1320                                     | 4.57        |
| Sindhudurg           | 17555                                    | 60.79       |
| <b>Ratnagiri</b>     | <b>4882</b>                              | <b>16.9</b> |
| Total area of Konkan | 25667                                    | 88.87       |
| Maharashtra          | 28880                                    | 100         |

Source: Coir Board, Ministry of MSME, GoI

Table IV.7 presents the trend in coconut production in Ratnagiri district from 2009-10 to 2016-17, and shows levelling-off in the last five years.

**Table IV.7: Coconut Production (2009-16)-Ratnagiri**

| Years   | Per Hectare Produce (in kgs) | Total Produce (in tons) | Percentage change to previous year |
|---------|------------------------------|-------------------------|------------------------------------|
| 2009-10 | 7611                         | 21062.5                 | 0                                  |
| 2010-11 | 7611                         | 21062                   | 0                                  |
| 2011-12 | 7611                         | 21062                   | 0                                  |
| 2012-13 | 9706                         | 41253                   | 96                                 |
| 2013-14 | 9655                         | 41253                   | 0                                  |
| 2014-15 | 9500                         | 49658                   | 20                                 |
| 2015-16 | 9300                         | 49658                   | 0                                  |
| 2016-17 | 9000                         | 49658                   | 0                                  |

Source: Directorate of Economics and Statistics, GoM

According to Coir Board, MSME, Govt. in India<sup>10</sup> “Coir is a natural fibre that’s extracted from mesocarp tissue, or husk of the coconut. As this fibre is golden in colour when cleaned after removing from the coconut husk, it’s popularly known as ‘The Golden Fibre’. Coir has been traditionally used as yarn and rope, and for floor coverings like mats and mattings. It is hard and strong, resistant to rot, moulds and moisture. Its diverse products include coir carpets, tufted mats, garden articles, geo textiles, doormats, area rugs, coir mats etc.”

The total production of coir in the world is 350,000 tonnes and India accounts for more than two-thirds of the world production of coir and coir products<sup>11</sup>. Indian state of Kerala produces 60 percent of the world’s supply of white fibre and Sri Lanka

<sup>10</sup> [http://coirboard.gov.in/?page\\_id=60](http://coirboard.gov.in/?page_id=60)

<sup>11</sup> Coir Exports: On the Growth Path, [<http://efy.efymag.com/admin/issuepdf/coir-octo9.pdf> accessed on 29/11/2018]



produces 36 percent of the world’s brown fibre output<sup>12</sup>. The major coconut-growing states and union territories in India are Kerala, Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, Goa, Orissa, Assam, Andaman & Nicobar, Lakshadweep and Pondicherry. Being a cottage industry, coir industry has lots of scope for growth in Indian economy.

Since 2001, rising Chinese demand for coir, an expanding market for coir-based erosion control products, and the spread of coir pith as a peat moss substitute in horticulture resulted in higher production and prices<sup>13</sup>. However, to sustain and/or expand the market for coir industry as employer for the rural poor, there are requirements to innovate production, improve product consistency and in particular develop novel applications which are jointly with their customers in importing countries. Also there should be some necessary steps towards modernisation of the coir industry to boost productivity and ensure uniformity of coir rolls in the export market.

#### IV.4 Industry

The prominent industrial areas in the district are Ratnagiri, Mirjole Industrial Area, Lote Parshuram Industrial Area, Kherdi Chiplun Industrial Area, Gane Khadpoli Industrial Area, Dapoli Mini Industrial Area, Devrukh Mini Industrial Area, Dhabol-I Industrial Area, etc. Industries like e.g. electricity generating industry, cashew nuts factory, saw mill, chemical factory, fruit canning factory, wood work and metal industry exist in Ratnagiri.

Maharashtra State Finance Corporation (MSFC) provides loans with subsidized rate to encourage industries. There are various types of co-operative societies for this purpose in the district. Ilmenite, Silica, Bauxite and Feldspar are major mineral found in this district. Manganese and iron ores are found in the southern part of the district. Other minor minerals found in the district are Mica, Mineral pigments such as Clay, Asbestos, Building Stones, Glass Sand, Copper, Salt, Limestone etc. Radioactive minerals like uranium oxide are also found in some parts of the district. Laterite is the main stone in this area and it is used as a building material.

##### Maharashtra Industrial Policy (2013-2018)

Ratnagiri falls under the Taluka classification of C, D, D+. Under the Industrial Policy:

For large projects:

<sup>12</sup> ibid

<sup>13</sup> <https://www.thehindubusinessline.com/economy/agri-business/Coir-Vast-scope-for-growth/article20343954.ece> [accessed on 29/11/2018]



- In all areas other than A and B areas, the Industrial Promotion Subsidy payable was calculated at the rate of 60% to 100% of VAT on local sales + CST payable on eligible finished products.
- Also, for these areas, thrust was to be provided to Food Processing Sector. Eligible units were to be granted additional 10% incentives and additional 1 year towards eligibility period.
- Eligible new units in C, D, D+ areas to be entitled exemption from payment of electricity duty for tenure equal to the eligibility period.

For MSME projects:

- Power tariff subsidy for new units in some districts including Ratnagiri and Sindhudurg

The major minerals found in the district of Ratnagiri are The Bauxite deposits are located at Dapoli & Mandangad. In Dapoli deposits are found in Anjarle, Chikalgaon, Kavdoli & in few other places. Also deposits of Limenite, Silica & Clay are found in Ratnagiri District. The clay is used for making bricks, tiles and cheap red glazed wares.

**Table IV.8: Existing Status of Industrial Areas in the District Ratnagiri**

| Name of Indl. Area | Land acquired (in hectare) | Land developed (in hectare) | Prevailing Rate Per Sum (In Rs.) | No. of plots | No. of allotted plots | No. of vacant plots | No. of units in production |
|--------------------|----------------------------|-----------------------------|----------------------------------|--------------|-----------------------|---------------------|----------------------------|
| Mirjole            | 783.26                     | 653.95                      | 8500                             | 702          | 692                   | 10                  | 140                        |
| Zadgaon            |                            |                             | 7800                             |              |                       |                     | 13                         |
| Kherdi             | 86                         | 81                          | 7500                             | 105          | 104                   | 1                   | 28                         |
| Gane Khadpoli      | 98.68                      | 92.98                       | 7100                             | 129          | 111                   | 18                  | 31                         |
| Lote Parshuram     | 532.4                      | 519.4                       | 8700                             | 340          | 323                   | 17                  | 152                        |
| Sadawali           | 16.65                      | 114.95                      | 7200                             | 71           | 68                    | 3                   | 6                          |
| Walane             | 16.84                      | 16.4                        | 7500                             | 52           | 52                    | 1                   | 2                          |
| Total              | 1533.83                    | 1378.42                     |                                  | 1400         | 1350                  | 50                  | 372                        |

Source: Brief Industrial Profile of Ratnagiri District, Ministry of MSME, Mumbai

**Table IV.9: Industrial Units Registered in the District**

| Year    | Number of registered units | Employment | Investment (lakh Rs.) |
|---------|----------------------------|------------|-----------------------|
| 2011-12 | 142                        | 1477       | 4044.62               |

Source: Brief Industrial Profile of Ratnagiri District, Ministry of MSME, Mumbai

Table IV.10 presents the number of registered factories and workers employed in the district.



**Table IV.10 Number of Registered factories and workers employed in Ratnagiri district (1984-85 to 2014-15)**

| year                      | Number  |         | y-o-y growth % |         |
|---------------------------|---------|---------|----------------|---------|
|                           | factory | workers | factory        | workers |
| 1984-85                   | 44      | 421     |                |         |
| 1985-86                   | 56      | 324     | 27.27          | -23.04  |
| 1986-87                   | 39      | 468     | -30.36         | 44.44   |
| 1987-88                   | 38      | 446     | -2.56          | -4.70   |
| 1988-89                   | 72      | 455     | 89.47          | 2.02    |
| 1989-90                   | 60      | 495     | -16.67         | 8.79    |
| 1990-91                   | 45      | 243     | -25.00         | -50.91  |
| 1991-92                   | 34      | 267     | -24.44         | 9.88    |
| 1992 - 93                 | 44      | 349     | 29.41          | 30.71   |
| 1993 - 94                 | 58      | 374     | 31.82          | 7.16    |
| 1994 - 95                 | 110     | 971     | 89.66          | 159.63  |
| 1995 - 96                 | 47      | 363     | -57.27         | -62.62  |
| 1996 - 97                 | 43      | 263     | -8.51          | -27.55  |
| 1997 - 98                 | 62      | 576     | 44.19          | 119.01  |
| 1998 - 99                 | 91      | 726     | 46.77          | 26.04   |
| 1999 - 2000               | 60      | 517     | -34.07         | -28.79  |
| 2000 - 01                 | 56      | 493     | -6.67          | -4.64   |
| 2001 - 02                 | 56      | 375     | 0.00           | -23.94  |
| 2002 - 03                 | 45      | 238     | -19.64         | -36.53  |
| 2003 - 04                 | 45      | 328     | 0.00           | 37.82   |
| 2004 - 05                 | 55      | 491     | 22.22          | 49.70   |
| 2005 - 06                 | 53      | 408     | -3.64          | -16.90  |
| 2006 - 07                 | 65      | 657     | 22.64          | 61.03   |
| 2007 - 08                 | 64      | 733     | -1.54          | 11.57   |
| 2008 - 09                 | 71      | 1324    | 10.94          | 80.63   |
| 2009 - 10                 | 236     | 1295    | 232.39         | -2.19   |
| 2010 - 11                 | 114     | 335     | -51.69         | -74.13  |
| 2011 - 12                 | 142     | 1477    | 24.56          | 340.90  |
| 2012-13                   | 161     | 1194    | 13.38          | -19.16  |
| 2013-14                   | 114     | 1109    | -29.19         | -7.12   |
| 2014-15                   | 128     | 1084    | 12.28          | -2.25   |
| 2015-16 ( upto sept 2015) | 91      | 938     | -28.91         | -13.47  |

Source: Brief Industrial profile of Ratnagiri District

It is notable that even over a span of three decades, the number of industrial units, and employment have not shown a salutary growth. In fact, there have been many fluctuations, indicating closures and new starts during successive years. In 2008-09, there seems to have been a spurt but the next few years have again shown a decline. Disaggregated data will need to be analysed to assess the underlying reasons for such a trend. Among the industries pointed out to have potential under the first phase of this study has included:

- Fish processing
- Mango and other food processing
- Other food processing
- Other skill-based industries like handicrafts, gems and jewellery, etc.





## V. HUMAN RESOURCES AND INSTITUTIONAL CAPACITY

This chapter briefly recapitulates the key characteristics of the human resources in the district, and educational and training institutions available.

### V.1. Literacy Rate

- In 2011, the literacy rate for Ratnagiri District was 82.4 percent, which increased from 62.7 percent in 1991 to 82.4 percent in 2011 growing at an average rate of 9.77 percent.
- In 2011, male literacy rate for the district was 90.93 and that of the females was 74.53 percent.
- Literacy rate of the district is higher than literacy rate of the country and male literacy rate of the district is higher than that of the state average.
- In urban area of the district 92.75 percent of the people are literate, which is highest in the state and in rural area 80.13 percent of the people are literate, which is among the top 15 in the state.

### V.2. Occupational Structure

- According to 2011 census, total worker of the district were 44.21 percent of which 34.36 percent were main workers and 9.85 percent were marginal workers.
- Male workers were 53.47 percent which is lower than State male worker average (56%) and female workers are 35.96 percent which is higher than state average of female workers (31.06%)
- About 42 percent of the workers were cultivators in the district which is higher than the state (25.4%). Male cultivators were 33.86 percent and female cultivators were 51.81 percent in the district.
- About 21 percent are agricultural labourers, 2.4 percent were workers in household industry and 34.6 percent were classified as other workers.

The economy of the district is mainly depends on cultivation and marine fishery is the most important non-agricultural economic activity of the district. The occupation data also highlights that most of the workers are cultivators.



### V.3. Institutional Capacity

According to the 2011 Census, there were a total of 41 vocational training institutes in Ratnagiri. These institutes include short-hand training institutes, type-writing institutes, MS-Office training institutes and others. The number of vocational education institutes located in Ratnagiri district and its institutional capacity is presented in Tables (V.1) and (V.2).

**Table V.1: Vocational Education Institutes in Ratnagiri**

| Years   | Technical And Vocational School |                 |              |            |
|---------|---------------------------------|-----------------|--------------|------------|
|         | Institute Nos                   | Intake Capacity | Applications | Admissions |
|         | (1)                             | (2)             | (3)          | (4)        |
| 2009-10 | 8                               | 840             | 888          | 742        |
| 2010-11 | 12                              | 1260            | 946          | 941        |
| 2011-12 | 14                              | 1750            | 1487         | 1487       |
| 2012-13 | 14                              | 1380            | 1159         | 1119       |
| 2013-14 | 14                              | 1390            | 1133         | 1124       |
| 2014-15 | 15                              | 1575            | 1117         | 1117       |
| 2015-16 | 15                              | 1395            | 1015         | 1015       |
| 2016-17 | 15                              | 1395            | 1083         | 1023       |

Source: Directorate of Economics and Statistics, GoM

**Table V.2: Number of received applications and Number of students admitted at starting of the year in Ratnagiri**

| Time Period | Type of Institution |            |             |            |          |            |                 |            |                  |            |              |            |          |            |
|-------------|---------------------|------------|-------------|------------|----------|------------|-----------------|------------|------------------|------------|--------------|------------|----------|------------|
|             | I.T.I.              |            | Polytechnic |            | M.C.V.C. |            | Science faculty |            | Commerce faculty |            | Arts faculty |            | Other    |            |
|             | Received            | Admissions | Received    | Admissions | Received | Admissions | Received        | Admissions | Received         | Admissions | Received     | Admissions | Received | Admissions |
| (2)         | (3)                 | (4)        | (5)         | (6)        | (7)      | (8)        | (9)             | (10)       | (11)             | (12)       | (13)         | (14)       | (15)     | (16)       |
| 2009-10     | 4031                | 1637       | 1310        | 385        | 867      | 629        | 0               | 2334       | 0                | 4673       | 0            | 4446       | 1173     | 955        |
| 2010-11     | 4031                | 1637       | 800         | 329        | 867      | 629        | 0               | 3962       | 0                | 4633       | 0            | 3594       | 1173     | 955        |
| 2011-12     | 5520                | 2613       | 2699        | 345        | 669      | 586        | 11327           | 8168       | 13153            | 10391      | 12035        | 8850       | 1427     | 1406       |
| 2012-13     | 6027                | 2475       | 2623        | 525        | 877      | 822        | 13500           | 8709       | 18751            | 13108      | 15386        | 10413      | 7400     | 8106       |
| 2013-14     | 4543                | 2367       | 2494        | 650        | 884      | 753        | 13315           | 10294      | 17668            | 13300      | 14262        | 10197      | 7512     | 6577       |
| 2014-15     | 4284                | 2177       | 2449        | 617        | 1008     | 803        | 13725           | 10257      | 17245            | 13261      | 14420        | 10300      | 7086     | 5864       |
| 2015-16     | 4279                | 2101       | 2252        | 697        | 1073     | 722        | 11363           | 9895       | 13680            | 12529      | 9184         | 8403       | 7091     | 6408       |
| 2016-17     | 4370                | 2180       | 2180        | 508        | 1142     | 773        | 11857           | 8658       | 14100            | 9268       | 9461         | 4088       | 7098     | 5324       |

Source: Directorate of Economics and Statistics, GoM



## V.4. Skill Development and R&D Potential at Ratnagiri

The district is well known as an abode of several reputed educational institutions. It provides a platform for higher education too for local populations. Some of the recognised educational institutions in the district are Mane's International School, Patwardhan high school, St. Thomas English Medium School, Maratha Mandir A.K. Desai High School, Gangadhar Govind Patwardhan English Medium School, Phatak High School, etc. Since the district has a good group of farmers, entrepreneurs and workers with good income and educational attainments, there is considerable potential of skill development in the district.

### Skill required for agriculture development and processing industries in Ratnagiri district

Practical short courses aimed at livelihood improvement and entrepreneurial skill development in agriculture and allied sector is popular in Ratnagiri district. Scitech Park is a place of modern infrastructure for conducting various training programs in the field of technology entrepreneurship. Scitech Park has successfully implemented a project supported by European Union & Dept. of Science and Technology, Govt. of India, where in skill training in New Emerging Technologies (NET) is imparted to the vulnerable and marginalized groups from backward areas in the Ratnagiri district. More than 600 persons have been trained involving school drop outs, youth and women from Akole and Sangamner tehsil of Ahmednagar district in Maharashtra under this scheme. The skill and entrepreneurship development center is being developed at Lanja in Ratnagiri district for this purpose. Courses for imparting labour skills and encouraging youth to take up skilled labour as career option are also good source of income potential. Entrepreneurial training would generate employment also through setting up of MSMEs. Other kind of training help in increasing employment and productivity of human resources. Good career options for semi-literate youth as farm managers in horticulture plantations and round the year work guaranteed in their own villages or near vicinity are other alternatives. A contrast is the out-migration of local labour to Mumbai and other locations where Ratnagiri has to now import migrant labour from UP etc. (for Cashew seed collection) and Nepal (for Alphonso mango orchards and fisheries). Human resource management in Ratnagiri includes other problems like e.g. non-availability of labour during peak periods, high wage rates, etc.

### Scope in Research and Development

In addition to skill development, there are few research centres located at Ratnagiri district of Maharashtra. Efforts could be made towards research and development initiatives in these research centres. Among others, these include:



- Agronomic research on different problems is conducted in Ratnagiri district. The coconut research centre was established in 1955 at Bhatye near Ratnagiri. The university Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth in Ratnagiri is an agricultural university established in 1972.
- The Maharashtra Government, under the Department of Fisheries (DoF), established the Marine Biological Research Station (MBRS) in 1958 at Ratnagiri, which is at present attached to Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth. The research station has a 10-hectare area field facility including a three-storeyed building at main campus, a well-equipped 'Aquarium and Museum', a modernised brackish water fish farm, a mechanized fishing and research vessel, seed production facilities and various laboratories at its disposal.



## VI. RECOMMENDATIONS

This Chapter summarises the recommendations and suggestions that flow from the analyses in the foregoing Chapters. Also presented are the key Action areas and the parameters to track the progress following these actions?

### VI.1 Recommendations for promotion and improvement of cashew Nuts

- Promotion of cashew production and processing on a cluster basis: has been done in some locations, and stakeholders suggested more organized functioning in clusters brings benefits to producers, labourers as well as for processing and marketing.
- Awareness programmes are needed for improved production and processing practices for marketing of Cashew. Training in cashew processing is being provided on regular basis in Ratnagiri and Sindhudurg based institutions.
- Some stakeholders have suggested testing of contract farming can be solution for small and unorganized producers of cashew in the district.
- To store the raw cashew for longer period to make it available in off season, there are requirements of common warehouse and cold storage facilities in taluka on priority basis.
- Demand for a branch of the Cashew Export Promotion Council of India in either Ratnagiri or Sindhudurg.
- Scope for cashew apple processing, as is being tried out in Goa and utilization of cashew apple in Brazil (See Box: VI.2).
- Port development to facilitate direct export from the district, instead of routing via Mumbai.

#### Box VI.1: Maharashtra's efforts to promote cashew

The Maharashtra State Horticulture and Medicinal Plant Board in 2011 brought an additional 2,000 ha of land in five districts of the state under cashew plantation to increase actual productivity of cashew. The Board recently received an aid of Rs. 107.10 lakh from the Central government's Kochi-based Directorate of Cashew nut and Cocoa Development to increase land under plantation in the districts of Raigarh, Ratnagiri, Sindhudurg, Thane and Kolhapur. Besides, the target is to increase productivity by up to three tons per hectare. These measures augur well for Maharashtra which has a commanding position in the export of this cash crop. "The amount has been distributed among the five districts. Raigarh, Ratnagiri and Sindhudurg are traditional growers. Thane and Kolhapur are being promoted as



potential districts lately”. According to this plan, the Board plans to bring about additional 900 ha of land under plantation in Ratnagiri. Normally, cashew plantation gets a subsidy of Rs. 30,000 per ha under the EGS-linked horticulture development programme. Under the new programme, the Directorate of Cashew nut and Cocoa Development has given a subsidy of Rs. 17,000 per ha while the balance of Rs. 13,000 will be met through EGS. Thus, convergence of the two programmes has been done for the benefit of farmers. National Horticulture Mission (NHM) provides incentives such as proper managerial techniques to the farmers for handling of processes such as procuring, harvesting and processing the fruit. The NHM will ensure that quality planting material reaches the growers in Ratnagiri.

Source: [https://timesofindia.indiatimes.com/city/pune/State-to-increase-cashewnut-production/articleshow/10109876.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](https://timesofindia.indiatimes.com/city/pune/State-to-increase-cashewnut-production/articleshow/10109876.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

## Box VI.2: Draft Field Study, African Cashew Initiative<sup>14</sup>

### ***Cashew Apple Processing: Case of Brazil***

Rich in vitamins, polyphenols, sugars, minerals, amino acids and dietary fibre; cashew apple can be considered as a functional food. Despite being highly nutritious, utilization of cashew apple has been very limited due to high perishability and astringent taste. In Brazil, about 12 per cent of the cashew apples are processed, including juice extraction (8 per cent), fresh and dried fruit, jams, wines, candies and animal feed made out of waste products (*Draft Field Study, African Cashew Initiative*).

Brazil’s Cashew harvest takes place between late September and early January. Each harvest step is important:

- **Picking not Plucking:** The cashew fruit should be picked from the ground or collected in nets hung under the trees, rather plucked from the trees. It is not easy to assess the ripeness of the fruit when it is still on the tree. Cashew fruits that have fallen to the ground and remain undamaged are sought after. Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA), the Brazilian Agricultural Promotion Agency, has developed a cashew tree variety that produces apples that can remain on the ground for one day without being damaged or beginning to ferment.
- **Timing and Transport:** Cashew fruit juice processing plants source from cashew plantations within a radius of up to 40km. The apples need to arrive at a storage site within 24 hours. If the nut is separated from the apple, this time reduces to six hours maximum. Harvest workers keep the apples on plastic trays. Transport to a storage facility is done in 20kg buckets. It is important to avoid exposure to the sun.

<sup>14</sup> African Cashew Initiative: Cashew Fruit Usage in Brazil

[[https://www.africancashewalliance.com/sites/default/files/documents/draft\\_apple\\_processing\\_study\\_brazil.pdf](https://www.africancashewalliance.com/sites/default/files/documents/draft_apple_processing_study_brazil.pdf) accessed on 17/11/2018]



- Storage:** Cashew plantations are usually located within a radius of up to 40km. If the nut is removed from the fruit, this time is reduced to six hours. Arrived at the processing plant, the apples are stored on plastic trays and deep frozen at -17 degree C. They can be kept all year-long for processing.

Cashew apples are also sold into the fresh fruit market together with the nut (to preserve the apple). Street vendors carry bundles of cashew apples attached with a string. For the wholesale and retail market, cashew apples are kept on small trays of four or five (500-800g per tray) and packaged with polythene plastic in a passive modified atmosphere. This packaging and cooling at 5 degree C with relative humidity ranging between 85 and 90 per cent, increases the shelf life of the apple from four to 21 days. As a result, fresh apples can be sold on the urban markets of Sao Paulo and Rio de Janeiro, more than 3, 000km away from the harvesting area. According to EMBRAPA experiment (*Draft Field Study, African Cashew Initiative*), (i) Mixing fermented cashew apples with manioc powder for animal feed however in limited volumes, since juice extraction produces a significant amount of waste products used for animal feeds. (ii) It has also patented a process of extracting pigments for the use as natural colorant. Cashew apple fibres can also be used for making bread, snack bars and meat-like products. (iii) It has also developed a natural colorant made of the apple waste (after juice extraction). The process is patented and market prospects are positive.

## VI.2 Recommendations for promoting Mangoes

In order to protect local farmers from market and production losses, and to protect the unique feature of the Alphonso mango area, proposed initiatives include:

- Cluster formation for mango cultivation for harmonizing production.
- Awareness about GI tag for the farmers so that they understand the GI rights and opportunities available for them.
- Awareness programmes for production and professionalized marketing among the farmers.
- Marketing awareness is essential in and outside the district.
- Separate *Mandi* for Alphonso mango in district/region.
- The existing pesticides have become immune for pests, so there are demands for development of regimen for improved pest management and other inputs.
- Common storage facilities for Mangoes on priority in distributed locations.
- Another highlighted observation during consultations was the increasing number and amount of Non-Performing Assets (NPA) in the district, about 17 percent in terms of amount and 26 percent in terms of accounts till September, 2018. Although farmers are getting loans and financial support in the district, Banks recommend better awareness and proper guidance for the farmers to invest wisely and manage their finances properly.



- Adoption of Ultra- High Density Plantation (UHDP): to improve per acre productivity and also increase the annual income of farmers and simultaneously decrease the quantity of water used per kilo of mango produced.

The program will use specialized buses with in-built classrooms to provide training at farmer’s doorstep regarding UHDP techniques in mango farming which can help farmers double their mango yields and thus significantly improve their livelihood. The project has an investment outlay of more than 50 crs, shared equally between HCCBPL and JFFFL. This project is operational in 3 southern states of India – Andhra Pradesh, Tamil Nadu & Karnataka.

### Environmentally Sustainable promotion of Mangoes and Cashew?

The Applied Environmental Research Foundation (AERF), a Pune based NGO working in Sangameshwar, observes that the impacts of climate change are clearly visible in the region as the cashew and Mango production is continuously on the decline since last five years. The monsoon pattern in the region is changing; and onset and retreat time are constantly shifting. Temperature fluctuations are common that affect the production of these two cash crops in the region. Changing weather patterns have resulted into onset of pests both on mango and cashew further contributing to decrease in production. The orchards and rampant use of chemical pesticides and fertilizers growth hormones within them is also adversely impacting the pollinators, which again cause decline in production. The pollinators also need diversity in the surroundings of orchards and crops; due to promotion of plantation, diversity is on decline and further affects the wellbeing of pollinators.

According to AERF, there is a need to rethink and modify the subsidy-based model of Mango and Cashew cultivation, which is the main reason for deforestation. AERF has also demonstrated and scaled up sustainable value chains providing better income to local communities based on conservation of wild species. There are opportunities to improve and manage the existing orchards through subsidy and capacity building rather than promoting new plantations at the costs of forests and biodiversity. Promoting native cashew and mangoes that are far more resilient and could also be options for creating a win-win. (pers comm, Nov 2018)

## VI.3 Recommendations for improving Tourism

Despite being bestowed with scenic beaches and rich culture and cuisine, the tourism sector in Ratnagiri remains un-organized, and arrangements ad hoc. This has prevented the district from achieving the its tourism potential due to poor infrastructure and investments, lack of development and marketing, and lack of



empowerment of local agents to play more central roles in tourism. This is also in part due to the relative comfort and low poverty levels in the district. The following steps may be considered for giving an impetus to tourism development:

- Tourism in Ratnagiri district can be multi-faceted: regional culture, natural beauty, religious and historical resources as well as emerging trends of health, weekend tourism and eco-tourism can offer new employment sources to local people while providing a source of recreation to visitors.
- Infrastructure development is the primary requirement of the tourism industry in the district. Improvement in the mode of travel – road/rail/airways is the primary requirement to develop the industry. This will also need to include better availability of banking, ATMs and forex facilities.
- To attract foreign tourists to Ratnagiri district, locations and experiences will need to be curated and positioned to be visible on international-tourist map.
- Improvement of quality of tourist infrastructure and services including greater number and variety of accommodation, eating houses, way-side facilities, and overall improvement in hygiene and cleanliness etc.
- Improvement of communication facilities, including easy access to telephones/ fax/ internet etc. and the availability of trained guides conversant with English and foreign languages. Also, better provision of signage's and information kits.
- Attracting a higher number of tour operators establishments to have local spokes.
- Improvement of security and safety systems; better facilities' management like parking, site cleanliness and pilgrim management, etc.
- Development of environmentally sensitive tourism that also generates employment for local communities and does not exacerbate the man-animal conflict.
- Malvani branding: of cuisine, tourism locations and routers offer immense possibilities. Converging tourism with Mango, Cashew-nuts, and related economic activities can achieve co-benefits. There is potential for promoting Konkani cuisine and impart training and food-processing to create/extend the market for the Konkani products.i
- Passenger cruise ship services can be considered for tourism attraction. As it has already been launched from Mumbai to Goa, there are also scope to develop this kind of services in Ratnagiri.
- Agency to local administration to promote tourism and attract private sector: some stakeholders suggest that the State department is unable to facilitate tourism services promotion and regulation, at local levels. Hence, while strategic planning and infrastructure development may have to be their remit, attracting private sector, finding local-population based innovations and



solutions, and local level planning and services regulation may be better discharged if entrusted to local administration and private sector agencies.

## VI.4 Recommendations for improving fisheries

- Steps should be taken to increase the processing unit in the district since there are sufficient supply of fresh fish in the area.
- Number of landing points should be increased in the district and facilities improved.
- Cleanliness and hygiene must be maintained and the fisher folk working on ports, may be provided with basic facilities in the landing point including drinking water, toilet facilities, electricity, street light, fish drying area, action hall and regular cleaning facilities etc.
- Government should construct cold storages on the basis of public private partnership.
- To regulate illegal fishing, the Coast Guard may share information of the GPS data from light-house with district administration.
- Effluent Treatment Plants may be provided to the processing units on PPP basis on a cluster basis.
- Skill training is required for fisheries sector for processing unit development.
- Port development is essential, which will help not only in fish export but also development of cargo transport in the district.
- Since more women are involved in the fish market, so there should be some awareness and empowerment programme for the women engaged in this sector.
- Adequate attention is the role of state fisheries department in educating and creating awareness among fishing communities and societies about the impact of carrying out fishing activity during monsoon period. The district coastal zone management committee may prioritize the protection and restoration of coastal habitats and biodiversity on a priority basis.
- Quality ice, water and diesel to be provided to fisherman on reasonable price.
- Permanent arrangement should be made along the coast line of the district to remove accumulated silt from ports.
- Government should implement scheme to maintain and grow mangroves along sea and creek coast.
- Government should consider providing subsidy for construction of small units for separation of meat from fishes on the landing center so that self-help group will start production of value added items of fishes and this will lead to new employment generation in the region.



## VI.5 Enabling policy environment for attracting business in Maharashtra

Towards Ease of Doing Business, Maharashtra has been ranked at 13<sup>th</sup> place in 2017-18 at all India level. The state has taken following initiatives:

### Key initiative implemented:

- Single Window commissioned to address queries.
- Published procedures and timelines for land allotments. Comprehensively digitized all land banks in the state.
- Mandated a single joint inspection by various departments.
- Harmonised provisions for self-certification under a number of labour acts.
- Provided detailed information on procedures and timelines for obtaining various infrastructure connections
- Implemented online system for tax related processes.
- Introduced e governance initiatives in law and judiciary department and created specialised courts relating to commercial disputes.

The future areas of improvements for Maharashtra to promote industry are:

- Single window system
- Setting up a business and taxing in general
- Contract Labour inspection
- Payment of Wage & Gratuity
- Minimum Wage Inspection
- Environment general

Despite scoring above 90 percent on 7 out of 10 parameters, there exists potential for improvement on land and property registration, construction permits, and enforcing contracts.

According to CSIR report (2018) training of people in ethnic leather footwear manufacture, establishment of cottage and small scale units for production of ethnic footwear and facilitation of establishment of market linkage. In addition to this, establishment, maintenance, up gradation and dissemination of national Standards of measurements support can be provided which is expected to contribute to the improvement in the quality of the product and an overall growth & development of several other industries in the district leading to growth.



## VI.6 District Plan Action Plan and Monitoring

Table (VI.1) presents the proposed short-term plan of actions in the identified domains, and the indicators to measure progress.

| <b>TABLE (VI.1): SHORT TERM ACTION PLAN AND INDICATORS OF PROGRESS</b> |   |  |  |  |
|--|---|--|--|--|
| <b>Area</b>  | <b>Action Points</b>  | <b>Progress Yardstick</b>  | <b>Departments</b>   | <b>Convergence with scheme</b>                                     |
| <b>Cashew</b>  | Develop Cashew Clusters for production and processing                           | Change in level of production;<br>Change in output of processed cashew;<br>Change in income and welfare of labourers | Department of Agriculture                                      | Cluster Development Program (CDP), Ministry of MSME                |
|  | Awareness campaign and training programmes                                      | Number of persons trained,<br>Campaign awareness achieved amongst farmers and producers                              | Department of Agriculture                                      | Various skill development schemes by Central and State governments |
|  | Build common warehouse and cold storage facilities                              | Number of facilities built; Availability of raw cashew in off-season   | Department of Agriculture                                      | Common Facility Centre under CDP                                   |
|  | Open a branch of Cashew Export Promotion Council of India                       | Benefit of government incentives to producers  | Ministry of Commerce, Cashew Export Promotion Council of India | -  |
|  | Cashew apple processing on experimental basis                                   | Results of experimental processing – benefits and costs assessed   | Regional Fruit Research Station, Vengurla                      | National Horticulture Mission                                      |
| <b>Mango</b>   | Develop mango clusters for cultivation  | Change in level of production by variety;<br>Change in income of farmers and labourers                               | Department of Agriculture                                      | Cluster Development Program, Ministry of MSME                      |
|  | Awareness on GI tag   | Benefits availed due to GI tag by farmers and marketing agencies   | District Industry Centre                                       | -  |
|  | Marketing campaign  | Change in level of marketed produce;<br>Change in incomes of farmers, labourers                                      | Department of Agriculture                                      | APMC   |
|  | Develop separate <i>Mandi</i> for Alphonso mango                                | Change in volume and price-realization of mangoes sold by variety  | Department of Agriculture                                      | APMC   |
|  | Improved pesticides to be developed   | Reduction in crop-loss and fluctuations in production - levels due to pest attacks                                   | Regional Fruit Research station, Vengurla                      | -  |
|  | Build common warehouse and cold storage facilities                              | Number of facilities built; Availability of mango/products during off-season   | District Industry Centre                                       | Common Facility Centre under CDP                                   |
|  | Ultra- High Density Plantation (UHDP) to be tried on experimental basis         | Change in per acre productivity  | Department of Agriculture                                      | -  |
| <b>Tourism</b>   | Improve infrastructure – modes of travel; banking infrastructure; accommodation | Increase in the number of domestic (day/night) and international tourist arrivals                                    | State Government   | Maharashtra Tourism Policy, 2018                                   |



|                  |   |   |   |   |
|------------------|---|---|---|---|
|                  | facilities; eating houses; and way-side facilities                                | Increase in the number of rooms in Hotels by different price-class<br>Home-stay locations promoted<br>Number of new eating houses and recreational facilities opened<br>Number of new tourist operators, travel agencies and Banks/ATMs<br>Operations commencing at the new airport   |   |   |
|                  | Beach and forest eco-tourism, regulation, better tourist facilities and signage's | Number of beach locations secured for responsible tourism; Nodal officers appointed at the District Administration for local beach and forest tourism regulation and oversight; Number of tourist locations with improved signage; water and sanitation arrangements; and hygienic eating houses; <i>Malvani-branded</i> eating houses and handicraft / processed food outlets in key locations | Tourism Department  | Scheme of Rural Tourism   |
| <b>Fisheries</b> | Make available basic facilities at landing points                                 | Basic facilities available for fisher folks' welfare  | National Fisheries Development Board; District Fisheries Department | Blue Revolution: Integrated Development and Management of Fisheries |
|                  | Develop Cold storage facilities   | Number of new facilities developed  | National Fisheries Development Board; District Fisheries Department | Blue Revolution: Integrated Development and Management of Fisheries |



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## APPENDIX

**Table A1: Persons/ Officials we met in Ratnagiri District and Mumbai**

| Name of the Person                             | Designation  | Address   | Phone No.                   | Email.id   |
|--|--|---|-----------------------------|--|
| Sunil Chavan                                   | Collector & District Magistrate                        | Ratnagiri , Maharashtra   | 2352222301                  | <a href="mailto:sunilchavan24@gmail.com">sunilchavan24@gmail.com</a>   |
| Prasant Masaye                                 | Research Assistant,                                    | District Statistical Office, Ratnagiri  | 8779365854/<br>8779365858   | <a href="mailto:prasantrm18@gmail.com">prasantrm18@gmail.com</a>   |
| Milind Joshi                                   | Assistant General Manager                              | Maharashtra State Agricultural Marketing Board, Divisional Office: Alphonso Mango Export Facility Centre, APMC Campus, Shanti Nagar, Nachane, Tal. & Dist. Ratnagiri-415639 | 02352228377<br>/ 9422392238 | <a href="mailto:divrtn@msamb.com">divrtn@msamb.com</a><br><a href="mailto:joshi.mangoboard@gmail.com">joshi.mangoboard@gmail.com</a> |
| Pooja Khanwale                                 | Chief Manager-CSD, Bank of India                       | Ratnagiri Zonal Office, Shivajinagar, Ratnagiri-Kolhapur Highway, Ratnagiri-415639  | 0738761882/<br>02352-222615 | <a href="mailto:zo.ratnagiri@bankofindia.co.in">zo.ratnagiri@bankofindia.co.in</a>   |
| Dr. Hukum Singh Dhaker                         | Associate Dean (Fisheries)                             | College of Fisheries, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli A/p. Shirgaon, Ratnagiri 415629   | 02352232202<br>/ 9421230257 | <a href="mailto:hukamsingh69@yahoo.com">hukamsingh69@yahoo.com</a>   |
| Anand Palav                                    | Fisheries Department                                   | Assistant Commissioner of Fisheries , Ratnagiri   | 9422382752                  | <a href="mailto:anandpalav123@gmail.com">anandpalav123@gmail.com</a>   |
| Shri R. K. Bamane                              | Additional Chief Executive Officer                     | Zilla Parishad Office   | NA                          | NA   |
| Anchal Goyal                                   | Chief Executive Officer                                | Zilla Parishad Office, Ratnagiri  | 7620968768                  | <a href="mailto:aanchal.sood@ias.nic.in">aanchal.sood@ias.nic.in</a> ,<br><a href="mailto:ceozprtg@gmail.com">ceozprtg@gmail.com</a> |
| Santosh P. Kolte                               | General Manager, District Industries Center, Ratnagiri | DIC, Jail Road , Opp. Telephone Exchange, Ratnagiri-415612  | 9923424752                  | <a href="mailto:didicratnagiri@maharashtra.gov.in">didicratnagiri@maharashtra.gov.in</a>   |
| S.S Jagtap                                     | District Superintendent Agriculture Officer            | Ratnagiri , Maharashtra   | 7774895077                  | <a href="mailto:dsaortm@rediffmail.com">dsaortm@rediffmail.com</a>   |
| Subhas Junjare                                 | District Planning Officer                              | Ratnagiri , Maharashtra   | 9730159769                  | NA   |
| Amit Kumar , HR                                | Omega Fishmeal and Oil Pvt. Ltd.                       | Plot No. 43, Mirjole MIDC   | NA                          | NA   |
| Mr. M Gaibr, Owner                             | GMG Food & Beverages                                   | C-219, MIDC, Mirjole, Ratnagiri   | NA                          | NA   |
| Shrutika, Supervisor (vaibhav Patil, incharge) | Dash Agro  | Mirjole, Ratnagiri  | 8830913812                  | NA   |
| Mr. Baheti. P. General Manager                 | Exotic Fruit Pvt. Ltd.                                 | Mirjole, G-20, MICD, Ratnagiri  | 2352229653                  | <a href="mailto:baheti@exoticfruit.com">baheti@exoticfruit.com</a>   |
| S.H. Abu Bakar, Managing Partner               | Jeelani Marine Products                                | Plot No. G-6 & g-7/2, MIDC Area, Mirjole Block, Ratnagiri-415639  | 9881152630                  | <a href="mailto:abuthahir@jeelanimarine.com">abuthahir@jeelanimarine.com</a>   |
| Sandesh Dhondu Salvi, PR Department            | Gadre Marine Export Pvt. Ltd.                          | Plot No. FP1 & FP1 (Part) MIDC Mirjole Block  | 9823120188                  | NA   |



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|   |   |  |            |  |
|---|---|--|------------|--|
| Mr. Hrushikesh Paranjape, Managing Director | Paranjape Agro Products (1) Pvt. Ltd.               | G-1/1, MIDC, Mirjole, Ratnagiri-415639   | 9833641660 | <a href="mailto:hrushikesh.paranjape@gmail.com">hrushikesh.paranjape@gmail.com</a> |
| Jose PT, General Manager                    | SKR Exports India Private Limited                   | Plot No. 169, Bagwati Bunder Road, Mirkarwada, Ratnagiri 415612, Maharashtra State, India                                  | 9747555340 | <a href="mailto:josept321@gmail.com">josept321@gmail.com</a>                       |
| Mr. Jaywant Vichare, President              | Ratnagiri Krishi Prakriya Sahakari Sanstha Maryadit | P.O. - Gavane Village; Taluka - Lanja, Dist-Ratnagiri- 416712  | 9833394319 | <a href="mailto:info@rkpssm.com">info@rkpssm.com</a>                               |
| Mr. Vikrant Khanvalker                      | Cashew Farmer                                       | Gavane Village   | 9323273299 | NA   |
| Jagdish Chauhan                             | Regional Manager, Tourism department                | Ratnagiri , Maharashtra  | 8422822063 | NA   |
| Mr. Chaudhary                               | Joint Director                                      | Directorate of Economics & Statistics, 8th Floor, Administrative Building, Government Colony, Bandra (East). Mumbai-400051 | 9869080033 | NA   |
| Chandrashekhar S. Jaiswal                   | General Manager/Deputy General Manager              | Maharashtra Tourism Development Corporation , Mumbai, Maharashtra, India   | 8879222067 | NA   |

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