CHAPTER – 7
Finding, Conclusion and Suggestions

7.1 GENERAL FINDING AND CONCLUSIONS

From the hypothesis testing and its result the researcher would like to give following concluding remarks:

1. Kutch suggests that tax breaks for a disaster - hit district can catalyze a virtuous cycle of investment and growth that is sustainable, that gains rather than loses revenue in the long run, and not only rehabilitates victims but raises them to new heights.

2. Manufacturing sector depends on either import or export of goods. Logistics and transportation from port to factory and vice versa always plays a key role for viability of many projects. Kandla and Mundra are two major ports in Kutch. Manufacturing industry where logistics and transportation plays a key role can be developed very well in and around the Kutch.

3. ‘Kutch nahi dekha to kuch nahi dekha’, a slogan given by a millennium star ‘Amitabh Bachchan’ has opened up the prospects of tourism industries in a huge scale.

4. In earlier years many migrants from Kutch went to Mumbai, Ahmedabad, other Metro Cities and East African Countries for employment and business purposes, are coming back to home district by attracting Socio-Economic growth of the district. The systematic research will provide the proper guidelines for employment and business purpose.
5. Over populations in metro cities and towns is a major constraint of economic growth of the country. It is essential for the country to develop the more number of areas rather than major development in one single area. The present development of Kutch is not restricted to the one or two town. The detailed research will give some contributions to the nation by giving right directions towards Economic growth.

6. Increase in average rainfall in last decade resulted into massive agriculture and horticulture production. It has opened up the prospects of cold storage, food processing and distribution sector.

7. Reserves of bentonite and limestone are huge enough to cater the need of big projects of that industry.
7.2 AGRICULTURE

7.2.1 General Finding and Conclusion

- Semi-arid climate with very scanty rainfall does not support extensive and water intensive agriculture in the region. However, black soil types in the south and western coastal areas and red loamy soil types in eastern parts provide considerably better conditions for agriculture. Only 14 percent of the total area in the region is cultivated. But considering 2.71 percent fallow land and around 37.97 percent uncultivated land, total land can be converted into agricultural land is a massive 39.68 percent of the region’s total.

- Agriculture development is mostly concentrating in following taluka of the district:
  1. Bhuj
  2. Anjar
  3. Mandvi
  4. Mundra
  5. Nakhatrana
Despite having constraints, Kutch has made significant achievements in following crops:

<table>
<thead>
<tr>
<th>SR NO</th>
<th>NAME OF CROP</th>
<th>YEAR</th>
<th>AREA (IN HECTARES)</th>
<th>PRODUCTION IN (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Groundnut</td>
<td>2012-13</td>
<td>68,000</td>
<td>1,54,300</td>
</tr>
<tr>
<td>2</td>
<td>Castor</td>
<td>2012-13</td>
<td>1,29,100</td>
<td>2,44,500</td>
</tr>
<tr>
<td>3</td>
<td>Millet</td>
<td>2008-09</td>
<td>-</td>
<td>77,200</td>
</tr>
<tr>
<td>4</td>
<td>Conventional, B-T and Organic Cotton</td>
<td>2012-13</td>
<td>62,800</td>
<td>49,691</td>
</tr>
<tr>
<td>5</td>
<td>Vegetables</td>
<td>2014-15</td>
<td>16,906</td>
<td>2,88,243</td>
</tr>
<tr>
<td>6</td>
<td>Spices</td>
<td>2014-15</td>
<td>46,279</td>
<td>36,274</td>
</tr>
<tr>
<td>7</td>
<td>Flowers</td>
<td>2014-15</td>
<td>462</td>
<td>3,986</td>
</tr>
</tbody>
</table>

- Development of oilseeds (Castor seed, Cotton seed, Groundnut, Rapeseed and Sesame) crops and improving its productivity with availability of irrigation in existing and additional areas.

- In non-food crop there is potential for development of cotton (conventional, BT and organic) crop in larger scale.

- Since, Kutch has most of the land free from use of chemical fertilizers and pesticides, there is potential for organic cereals and pulses crops, provided that necessary irrigation facilities are available in the district.
7.2.2 Suggestions for Agriculture Sector

- There will be availability of water for 37,000 hectares of land from Kutch Branch of Narmada Canal, as per plans of the state irrigation department and Narmada Nigam. Furthermore, there is also possibilities of getting additional water in Kutch Branch of Narmada Canal, due to relatively lower demand in monsoon period in canal upper end areas, and this surplus water can be stored in high land areas of Kutch for distribution to other water starved areas through link canals, or pipelines or storing in lakes/ check dams or by releasing in seasonal rivers. This will certainly be a leap forward in development of Kutch.

- Recycle part of the 200 MLD drinking water proposed to be supplied to Kutch, for reuse in agriculture irrigation and fodder growing for animal rearing.

- Continuing support for use of micro irrigation techniques will optimize use of water and make available water for increased crop areas in Kutch.

- There is need for improvement in soil quality, specifically reduction in salinity in many areas, to increase the productivity of land.

- Setting up of value added processing units in Kutch will increase the market potential for agriculture commodities being produced in Kutch and thereby to increase the net realization of agriculture produce in the district.

- Imparting training in high tech agriculture in Kutch will increase the agriculture productivity with the increase in irrigation facilities.

- Creating Kutch as a hub for organic products will open up newer market opportunities for farmers in domestic and export markets.
• Appropriate marketing infrastructure for agriculture produces (incl. for organic produce) and thereby increases the net realization of agriculture produce in the district.

• Development in agriculture will have significant impact on economy as larger section of workforce is involved in this activity. Development in agriculture will also support indirectly development in allied sector like animal husbandry, which will have further positive impact on development of economy of Kutch, especially in semi-urban and rural areas.

7.2.3 Findings and Conclusions for Horticulture Development

7.2.3.1 General Findings for Horticulture

• Despite having constraints, Kutch has made significant achievement in area of the horticulture development specially in Mango, Date palm and Papaya. Summary of production of fruit is given in Table No.: 7.2.3.1.1
Table No.: 7.2.3.1.1 Summary of Production of Fruits (2014-15)

<table>
<thead>
<tr>
<th>NAME OF FRUITS</th>
<th>AREA (IN HECTARES)</th>
<th>PRODUCTION (IN MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mango</td>
<td>9,165</td>
<td>77,850</td>
</tr>
<tr>
<td>Chikoo</td>
<td>1,524</td>
<td>16,887</td>
</tr>
<tr>
<td>Banana</td>
<td>1,957</td>
<td>98,690</td>
</tr>
<tr>
<td>Lemon</td>
<td>472</td>
<td>3,750</td>
</tr>
<tr>
<td>Coconut</td>
<td>985</td>
<td>838</td>
</tr>
<tr>
<td>Date</td>
<td>17,339</td>
<td>1,51,718</td>
</tr>
<tr>
<td>Amla</td>
<td>39</td>
<td>254</td>
</tr>
<tr>
<td>Papaya</td>
<td>3,642</td>
<td>3,02,286</td>
</tr>
<tr>
<td>Bor</td>
<td>503</td>
<td>4,544</td>
</tr>
<tr>
<td>Pomegranate</td>
<td>3,437</td>
<td>44,681</td>
</tr>
<tr>
<td>Guava</td>
<td>399</td>
<td>6,412</td>
</tr>
<tr>
<td>Cashew</td>
<td>105</td>
<td>352</td>
</tr>
<tr>
<td>Custard Apple</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Others</td>
<td>196</td>
<td>1,506</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39,767</strong></td>
<td><strong>7,09,793</strong></td>
</tr>
</tbody>
</table>

- Potential of further enhancing of Mango cultivation area as irrigation will be available in more areas.
- There is also potential for increasing area under the Date palm in Kutch.
- Potential for increasing the productivity of Mango and Date palm in Kutch by taking integrated actions in improving agronomy practices as well as providing efficient extension services for horticulture development in Kutch.
- Potential for development of Mango, Date Palm, Papaya and amongst existing horticulture crops.
- Potential for development of Aloe Vera, Henna, Jojoba, Amla, and Pomegranate as new horticulture crops in Kutch.
• Due to availability of vast fallow land there is also potential for development of new horticulture crop like Jatropha, which is the raw material for bio-diesel.

• It will improve per hectare income in Kutch as horticulture crops gets higher realization as compared to other agriculture crops.

• It will generate new direct and indirect employment opportunities for youths specifically in the rural areas and will provide alternate source of income.

• This will open up opportunities in food processing and for value added processing.

• Mango, Isabgol and Date being export oriented crops; it will help in earning valuable foreign exchange for the country.

7.2.3.2 Suggestions on Horticulture Development

• Ensure availability of necessary farm inputs, pre and post harvest farm technology and training for the cultivators in newer technologies. Also provide quality planting material at competitive cost by creating nursery facilities in the district and arranging supplies from other government nurseries.

• Create value added processing facilities in the district which in turn will create market for increased horticulture produce and ensure remunerative prices for cultivators.

• Assured buy back or contract farming will increase the cultivation of horticulture crops. Amend APMC act to cover all horticulture crops and also to facilitate the contract farming in the district. Also encourage growers to produce export oriented horticulture produce.
- Provide training to youths from rural areas for cultivation of potential horticulture crops and encourage them for cultivation under Employment Generation Scheme (EGS) as similar way in Maharashtra.
- Funding agencies like NABARD, NCDC and NHB should support projects of horticulture development in Kutch on priority basis.
- Create necessary post harvest infrastructure: pack house, pre-cooling units.

7.2.4 Animal husbandry

7.2.4.1 Finding and conclusion for Animal Husbandry Development

- Animal husbandry is the second largest employment provider in Kutch after main agriculture. ‘Banni’ in buffalo, ‘Kankrej’ in cow and ox, ‘Patanwadi’ in sheep and ‘Kutchi’ in goat are proven important breeds of Kutch. Due to perennial shortage of water, animal husbandry sector is adversely affected. It also results in seasonal migration of livestock breeders with livestock.
- Due to large area of the district and scattered villages, distribution of animal breeding and healthcare facilities is difficult. There is also shortage of staff in animal husbandry department of state government for providing vital animal healthcare extension services.
- Potential for development of local Buffalo breed ‘Banni’, which is famous for its higher milk output and for development of cattle stock in Kutch, as local breed ‘Kankrej’ cow and bull are famous for their quality.
Sheep and goat rearing is being done by nomadic tribes of Kutch and with proper planning of extension services there is potential for development of these animals for milk, wool and meat purpose.

Potential for development of smaller project of value addition in animal husbandry based processing industries in Kutch. Due to larger size of the district it is not possible to have larger centralized facilities, instead it is more appropriate to have localized smaller primary processing unit.

Possibilities for rearing animals for production of organic milk should be explored in Kutch. This can also provide opportunity to have milk products from organic milk, which has demand in domestic and export markets.

Animal husbandry development will have direct impact on the development of rural economy. It will generate employment and additional income for rural people including of women. Animal husbandry development will also provide organic manure for development of organic farming in the region.

7.2.4.2 Suggestion on Development of Animal Husbandry

Integrate modern animal breeding techniques with age old experience of local caste and tribes which are rearing quality animals in Kutch since centuries.
• Ensure vital inputs for animal husbandry development such as water, fodder, green pastures for grazing, cattle-feed and animal healthcare facilities.

• Encourage value added processing of animal husbandry products such as milk, wool, meat and leather to have enhancement of value of overall sector.

• Strengthen the state animal husbandry department’s network in Kutch, which is unable to provide sufficient extension services due to scarcity of staff as well as longer distances in Kutch, due to large size of the district.

7.3 FINDING AND CONCLUSION ON CARGO HANDLING AT PORT SECTOR

7.3.1 General Finding and Conclusion

• Kutch has a long coastline with number of minor, developing and major ports with most amenable port conditions

• Ports of Kutch are already handing 23% of total port traffic and this likely to increase to 30% by next five years.

• It is located midway between the Western and Eastern markets and hence has a potential to act as transit point for international transshipment cargo and throws of potential for re -exports to some of the imported items for vast hinterland to countries in Gulf and middle-east.
• Adequate facilities available for handling container traffic (at Kandla and Mundra P&O Terminal)

• Vast hinterland of North West India, which can be served best by Kutch ports.

• Nearness to Middle East / Northern Africa

• Critical multi-model connectivity already existing and also being upgraded.

• Cargo handling at Kandla is increased from 406.33 MT in 2002-03 to 936.19 MT in 2012-13.

• Cargo handling at Adani Port is reached upto 962.19 MT in FY 2013-14 from almost NIL before the decade.

### 7.3.2 Suggestions for development of Cargo handling at port sector

• Enhance current facilities at Mundra and Kandla port (possible enhancement areas could be addition of 5-6 berths of adequate lengths to offer suitable linear wharf, allowing berthing of super post panamax vessels; Expansion of container terminal facilities, i.e. making it adequate enough to increase throughput to 5 million TEU, Matching facilities at container terminal (i.e. quayside cranes having 22-box outreach capable of catering to next generation super post panamax vessels, yard cranes utilizing Differential Global Positioning System (DGPS) ensuring productivity, safety and security; Create facilities to make port a onestop -
shipping-centre, i.e. creation of facilities to assure full range of services, including container handling dry-docking, ship repair, bunkering, pilotage services, tug services, arbitration, insurance, and comprehensive financial services, and even, training and education in port operation and management, logistics and distribution management, and other transport studies.)

- Set up advanced telecommunication infrastructure offering International Direct Dialling (IDD) with links to major trade destinations, Integrated Service Digital Network (ISDN), data communications, video conferencing, sky-phones and services. Information Technology (IT) in logistics management is essential, and calls for electronic data interchange (EDI) network for streamlining processing procedures for import and export and transshipment documents within minutes.

- Set up highly sophisticated and automated warehousing and distribution facilities catering to wide range of storage and distribution needs.

- Attract large distribution companies (like Keppel, Schenker, BMW, PTP, Kenwood) doing distribution after value added processing and leading international logistics operators specialized in integrated logistics, providing quality service to clients in the region (i.e. Federal Express, DHL, UPS, AEI, TNT Express Worldwide, Burlington, Airborne, Nippon Express, and Mitsui-Soko).

- Attract MNCs (such as Sony Corporation, General Motors, Eastman Kodak, Dupont, Caterpillar, Hewlett Packard, AT&T, Ciba Geigy, Fuji
Xerox, and General Electric) to establish their central distribution centres (CDCs) to serve their regional and global operations.

- Create excellent Rail & Road connectivity between Warehousing facilities and industrial areas / ports.

- Extend support and incentives.
7.4 MINING SECTOR

7.4.1 Finding and Conclusion of Mining Sector

- Kutch is an extremely rich region for non-metallic minerals. The region has the largest reserves of limestone, kaolin, bauxite, silica sand and bentonite in Gujarat and these reserves are also significant as far as India’s reserves for these minerals are concerned.
- Figures of production of different minerals in Kutch show that the mining and mineral industry has grown significantly after the earthquake.
- Presence of the art ports and logistics and good reserves suggest a strong potential for mineral based industries in the region.
- Mineral strength of the region is yet not exploited fully.
- Coastal regulation zone notification 1991 and Environmental Impact Assessment Notification (1994) restrict exploitation of minerals within 500 meters from high-tide mark as well as minerals within sanctuary areas.
- Ceramic grade china clay, high swelling bentonite deposits, cement grade limestone are locked up within “Narayan Sarovar Chinkara Sanctuary and Wild Ass Sanctuary”.
- No Broad -gauge linkage up to power projects and cement project sites.
- Shortage of qualified processors, erectors and technology suppliers.
- Distance from consuming markets of western sector.
- Shortage of water for china clay and silica sand processing units.
- Lack of analytical mineral testing laboratory within the district.
- Lack of judicious & balanced study reports for environment impact on mining activities for locked up mineral resources within sanctuaries.
7.4.2 Suggestions on Development of Mining Sector

- Conventional processing of Bentonite, China clay and Silica Sand with a poor recovery and huge wastage of exploited minerals cut down the profit margins and increase the cost of production. There is a need to implement high-tech processing to manufacture of value-added products using proven technologies.

- Chin clay processing for rubber grade product is ideal with dry processing. Air-floated product can be marketed to Rubber industries.

- Initiate judicious & balanced study (by multi-disciplinary committee) for the assessment of environment impact of mining activities for locked up mineral resources within sanctuaries (GPCB, MoEF, GMDC).

- Identified inventory gaps for china clay, Bentonite, White clay, Silica Sand can be filled up by launching schemes for prospecting. (GMDC).

- Common Mineral Testing Laboratory can be erected by GMDC on a commercial scale on a no-profit-no loss basis (GMDC).

- Regularise the export of Bentonite, China clay, silica sand, low grade bauxite; a separate berthing facility at Kandla can be considered (GMDC, GMB, KPT, GIDB, IC Office, and Private Sector).

- Bentonite, China Clay clusters technology up gradation, personnel training, sponsored R&D projects can be taken up in co-operation of
existing Association of individual minerals. (GMDC, iINDEXTb, IC office).

- “Mineral Wealth” District web site can be launched by the Government showcasing profiles of identified viable projects (GMDC).

- Special package for transport subsidy on mineral value-added items of export can be considered (Revenue Department).

- Royalty concession can be considered for processed minor minerals export (Revenue Department).

- A separate wing in the GMDC with mineral engineering experts be instituted to implement Value-added mineral product, enhance exports of processed minerals, sourcing and tie-up of high-tech mineral processing technology sponsoring R&D trouble shooting projects and to attract suggested investments (GMDC).

- Techno-commercial viability studies need to be carried out for specified Value-added propositions in minerals and mining sector (GMDC, iINDEXTb, IC office).

- Export oriented Fly ash value-added projects (e.g. Tiles, Blocks, Cable-brick) can be considered based on Panandhro and Akrimota Power Project (GEB).
7.5 FINDING AND CONCLUSION ON INDUSTRIAL DEVELOPMENT

7.5.1 General Finding and Conclusion

- After the earthquake of 2001, the Government of India and the State Government of Gujarat have provided incentives with relaxations in excise duty and sale tax to promote rapid industrialization in Kutch. Incentives given by the governments have facilitated a boom in the number of attracted industries and investments in the region.
- Kutch has got vast land available for development.
- Kutch has less environmentally sensitive region (Ideal for Chemical / mining Industry).
- Kutch has large reserves of minerals.
- Kutch has ports & SEZs providing Excellent Infrastructure for importing raw materials and exporting finished products.
- Kutch has many projects (Small, Medium and Large) in the process implementation /planning.
- Kutch has long maritime coastline-offering immense potential for expanding port and port related facilities.
- Kutch has possibility of expanding existing SEZs and creating new SEZs.
- Kutch has limited availability of skilled manpower.
- Kutch has lack of Social Infrastructure facility.
- Kutch has low value addition in the region.
- Kutch has environmental issues in some mining pockets.
7.5.2 Suggestions for Industrial Development

- Industries in general are of the view that land allocation to industries and seeking permission from various authorities is cumbersome and time consuming. A single window clearance is expected by the industry.

- As per the feedback, the industry widely believes that in spite of improved road / rail connectivity recently much is remaining to be done even along Bhuj, Kandla-Gandhidham, and Bhachau triangle. Specific upgradation and strengthening needs in promising corridors have been identified in road sector potential analysis.

- Special attention / institutional arrangement may be put in place for allocating water allocation to industries, including to Industrial Estates.

- Extend Sales tax exemption / deferment for a longer period at a stretch to attract mega and large projects.

- Similarly, excise exemption time limit be extended for a longer period at one go to facilitate planning of Large Trigger Projects—say for 5 years.

- In addition, grant electricity duty exemption/ concession for 5 years to select industries which are power cost sensitive including for captive power plants, may be with limits linked to investment, employment and local content in terms of man and materials.
The views have been expressed that certain well developed industries (and their entrepreneurs) in Gujarat would be attracted to expand their capacities in Kutch, if there is an incentives in terms of electricity duty exemption / concession. The units in SEZ in Kandla are already enjoying this benefit.

Mineral mines and Salt producing centres are located in interior regions of Kutch, which are not well connected with arterial roads, ports, rail heads and consuming centres. The high cost of transportation needs to be taken care of till such time the connectivity improves.

Seek Income Tax exemption for (select) industries in Kutch.

The concept of setting up LNG terminal at Mundra is being evaluated by the State Government. Such LNG Terminal would trigger large scale investment by Gas based industries utilizing locally available minerals. The associated power plant of LNG terminal can to a great extent address the power needs of the region at affordable tariffs.

Encourage desalination plants put up by large / mega industries and estates

Promote 2-3 more specialized industrial parks and trading centres providing full infrastructure facilities besides 2 SEZs.
7.6 FINDING AND CONCLUSION ON TOURISM

7.6.1 General Finding and Conclusion

- The connectivity of district headquarter Bhuj to other parts of the state like Ahmedabad, Jamnagar, Rajkot, Baroda, Surat etc is very good. Other cities like Gandhidham, Kandla, Mandvi, Anjar etc are connected with Bhuj.
- There are four trains connecting Bhuj to Mumbai and many other trains from Gandhidham to Delhi, Jodhpur, Banglore and Kerala. Frequency of trains has to improve.
- Bhuj has an airport and operates daily flight to Mumbai. Bhuj has daily two flights from Mumbai by Jet airways and one flight per day by Indian airlines. Connectivity of Bhuj and other important destinations like Dholavira with rest of India has to be improved.
- Kutch has following tourist attractions:
  1. **Heritage** - Aina Mahal (Old Palace), Kutch Museum, Prag Mahal (New Palace), Cenotaph Complex, Mandvi and Dholavira.
  2. **Pilgrimage** - Swaminarayan temple, Lakhpat, Koteshwar, Bhadreshwar, Anjar
  3. **Wild Life**: Wild Ass Sanctuary, Chinkara Sanctuary, Narayan Sarovar,
  4. **Pleasure**: Marshes of Kutch, Mandvi Beach
  5. **Fairs and Festivals** – Rann Utsav, Dhrang Fair, Ravechi no Melo, Kutch Mahotsav, Navratri Fair at Mata no Madh, Nakhatrana Fair
  6. **Village handicrafts**: Bhuj, Anjar
Kutch has following Constraints and Challenges:

1. High travel time to reach Kutch from places like Mumbai, Surat and Delhi.
3. Service infrastructure in terms of Tourist Information Centres, Availability of trained guides, sign boards, Circuits etc.
4. Non availability of entertainment and shopping Centres, Emporiums/Gift Shops, Parks/Gardens, Theme Parks etc.
5. Non availability of good eating place and Restaurants/Eateries.
6. A five star accommodation/resort.

7.6.2 Suggestions for development of Tourism Sector

7.6.2.1 Short Term Strategy

- Aggressive marketing of the Kutch festival through print media in national newspapers, magazines (business & travel) and Television commercials is required.

- Monuments need to be maintained well, especially the Satardi.

- Beach at Mandvi needs to be maintained well by the involvement of private parties.

- There is an urgent need for budget hotel and deluxe hotel at Bhuj and Gandhidham.

- Accommodation, food and water facilities need to be improved at Dholavira.
7.6.2.2 Medium Term Strategy

- Banking facilities need to be improved. (Acceptance of travellers cheques and credit cards is absent in this region hence there is need for immediate action in this regard.)

- Speech, light and sound show during the evenings at Dholavira, and fort of Kutch Mandvi could be organised. The show must be properly designed and developed.

- Aina Mahal, Kutch museum and Chattaradi need immediate restoration from the damage caused due to the earthquake.

- Desert safari in small and greater Rann of Kutch should be planned and marketed more efficiently.

7.6.2.3 Long Term Strategy

- The projects suggested in the report should be implemented at the earliest possible time.

- Kutch should be developed as a separate brand for Gujarat Tourism. The Lagaan movie can be used to endorse this brand.

- The focus needs to be on the Kutchi lifestyle and culture that would attract the foreign tourists as well as the domestic tourists.

- There has to be an increase of train from Bhuj to various metro cities.

- There is a lacking in tourist guidance provided by the Gujarat Tourism Corporation Ltd. It has to be in a professional way like Rajasthan Tourism.