CHAPTER IV
NON-GUJARATIS' CONTRIBUTION TO THE KNOWLEDGE & INFRASTRUCTURAL SECTORS OF KACHCHH

I
Knowledge Sector

Yogesh Bhandarkar:

Mr. Yogesh Bhandarkar, a native of Maharashtra, has been successfully paving the path of Kachchhi people as has been working hard for the constitutional rights of Kachchh and its people. Mr. Bhandarkar is an ex-Dist. Government Pleader resolving many Govt. cases as well as private cases of Kachchhi people.

Mr. Dattatray Bhandarkar, his Father, came to Kachchh in 1967 as an Agricultural Officer and his contribution to the agricultural Field is fabulous as he was the first person to bring “Kesar Keri” from Junagarh to Kachchh for the first time and now it has become the taste of not only Gujarat but of the whole nation.¹

Mr. Yogesh Bhandarkar has born on 5th July, 1965. He devoted his whole life to enrich the legal administration of Kachchh after he came here in 1989. He was appointed as an Additional District Pleader on 1st January, 2001 in Bhuj Kachchh. Then the most prestigious place was provided to him as he was appointed as a District Govt. Pleader. And he served at the place for consequent 13 years which is most presumably the longest time for any govt. pleader in Gujarat.

His knowledge has benefited Kachchh in all the directions as he is an all-rounder who can solve civil, criminal, revenue and motor Accident claims Tribunal cases. He participated actively in many of the most talked cases, i.e. the 6 acre land near Ring Road, Bhuj was ransacked by one party, and it was again handed over to the Govt. with the help of the efforts of Mr. Bhandarkar only. One of the Pakistani agents who tried to spy in India was sentenced for 10 years due to the wisdom of Mr. Bhandarkar only.
Thus he has contributed enthusiastically in the knowledge sector of Kachchh as injustice has never been at large in Kachchh. He has been working as a penal Advocate for Additional Standing Govt. Counsel, National Insurance Co. Ltd., Life Insurance Corporation Reliance Communication Ltd., Dena Bank, Dena Gujarat Gramin Bank, Syndicate Bank, HDFC Bank Ltd., Axis Bank, Kotak Mahindra Bank, IndusInd Bank, Punjab National Bank, Mahindra & Mahindra Financial Services Ltd., MAS Finance Ltd., Shree Swaminarayan Finance Co., DCB Bank Ltd., and so on as he is showering his seeds of knowledge everywhere in the area of the Kachchh and thus helping the Natives by becoming one of them.

Dr. V. Vijay Kumar (GUIDE) :

Gujarat Institute of Desert Ecology (GUIDE) is a name very well known in Kachchh which has been researching its level best the fruitfulness of the region. The team of GUIDE is filled with a variety of Non-Gujaratis who have been continuously contributing towards the findings. The details of one of the Non-Gujaratis are given hereafter:

Dr. V. Vijay Kumar

Dr. V. Vijay Kumar, a native of Tamil Nadu, Joint Director is a Ph.D. in Biosciences from Saurashtra University, Rajkot and has an experience of 27 years in the field of wetland ecology, herpetology, wildlife conservation and management,
grassland and saline land restoration/reclamation. He has research experience in Wildlife Institute of India, Dehra Dun and teaching experience in Saurashtra University, Rajkot. He has brought out about 50 research publications and scientific reports. He is a member of IUCN commission on Ecosystem Management and IUCN/Species Survival Commission (SSC) - Crocodile Specialist Group. He is actively associated with different academic committees at national and state level institutions.

“Gujarat Institute of Desert Ecology (GUIDE), stepping into its 18th year, continues to function as a pioneering dry land research institute striving to address the needs of community through its research agenda. In order to fulfill its avowed mandate to achieve a synergy of science and community in the field ecology and environment, GUIDE has made added process. The stewardship and unflinching effort rendered by our Chairman Shri S.G. Mankad, IAS (Retd.) and the Board of Governors of GUIDE are enabling us to function with vigor and quality over the previous years,” says the annual report.

The contract tenure of Prof. G. Agoramoorthy as Honorary Director of GUIDE has come to an end on 2nd June 2012. The Chairman, Board of Governors (BOG) of GUIDE has appointed Shri R.V. Asari, IFS (Retd.) as Advisor in GUIDE during July 2012 and later appointed as Director of GUIDE from 29th September 2012. Further, the Board of Governors has constituted a Management Committee for monitoring the day to day administrative programmes of GUIDE under the Chairmanship of Ms. Vijayalaxmi Sheth.

In yet another attempt to acquire global eminence and to draw worldwide attention towards Kachchh dry land issues, GUIDE has signed an MoU with STEPS Centre of Sussex University, Brinton, UK and initiated a collaborative research programme on “Climate Change and Uncertainty from Below and Above”. As part of this initiative, Dr. V. Vijay Kumar (Joint Director of GUIDE) attended the inception meeting of the project partners at Kolkata during the period between 21st and 26th August 2012. Another follow-up meeting was conducted between 25th and 28th
January 2013 at Ahmedabad for finalizing a common methodology for the study areas in India. The workshop was attended by Dr. Lyla Metha, IDS, Sussex University, UK; Mrs. Uapsona Ghosh, IMHR, Kolkata; Dr. Alankar Jun, Delhi; Shri Shibaji Bose and GUIDE was represented by Director, Joint Director and Scientists. A follow-up field trip to project locations in Kachchh, Gujarat was organized between 31st January and 4th February 2013. The team consisting of Dr. Lyla Metha, Director of Joint Director of GUIDE visited Kanmer village at Rapar Taluka, Jakhau village at Abdasa taluka and Bhirandiyara village in Banni in Kachchh in connection with the project.

To add a feather in the GUIDE’s cap, Dr. V. Vijay Kumar, Joint Director of GUIDE participated in the 4th international Conference on Drylands, Deserts and Desertification held between 12th and 15th November, 2012 at Bluestein institutes for Desert Research, Sede Boqer Campus of Ben-Gurion University Israel. He had presented a paper on “Reclamation of the Greater Rann of Kachchh, Gujarat, India - A pilot approach” under the theme “Soil and Land Restoration in Drylands.”

To augment the rigor of the academic activity of GUIDE, Director and Joint Director had attended the meeting of “International Academic Institutions” held between 9th and 10th January, 2013 as part of Vibrant Gujarat. GUIDE had signed MoUs with Pandit Deenadayal Petroleum University, Gandhinagar; Gujarat National Law University, Gandhinagar; SANDHAN, Gandhinagar and Knowledge Consortium of Gujarat, Gandhinagar in areas of research technical, training, faculty and students exchange programme. GUIDE had also arranged a stall in the Education Pavilion during the Vibrant Gujarat 2013 event.

Research and academic collaboration with Yobe state University and Desert Research Monitoring Control Centre (DRMCC), Nigeria is also afoot. As a follow up, a team of four members visited GUIDE during April 2012 under the leadership of Prof. Musa Alabe, Vice Chancellor, and Yobe State University, Nigeria and signed an MoU with GUIDE, This MoU facilitates both the organizations for faculty exchange, collaboration between professionals working within the same field, joint research and development for controlling desertification and training of facilities.
As a follow-up of the MoU, Dr. V. Vijay Kumar had visited DRMCC during the period between 16th and 26th February 2013 for initiating collaborative research academic and training programmers, Prof. Musa Alabe, Vice Chancellor, Yobe State University arranged meetings with high level officials at DRMCC, Yobe State University and Government of Nigeria. During the trip, Dr. V. Vijay Kumar visited desert areas and Oasis in Yobe, Abuja and Kano states of Nigeria.\(^5\)

As a part of the collaboration with CASII, initiatives have been taken to conduct CoHab project for Early Stage Researchers (ESRs) in GUIDE during the month of November 2013. Another MoU was signed with Gujarat State Forest Development Corporation (GSFDC), GoG, Vadodara for undertaking NTFP analysis of GSFDC and APSEZL for characterization of soil, water, air in APSEZL, Mundra, National and State level collaborative research programmes were proposed to NEERI Nagpur, GEER Foundation, Gandhinagar and S.P. University, Anand on different biological and ecological aspects.

Dr. V. Vijay Kumar attended the consultation workshop on “Strategies for disaster risk reduction of vulnerable occupations” at Ahmedabad jointly organized by CEPT University, Ahmedabad and Kyoto University, Japan.

In order to strengthen its scientific manpower and to enhance its accomplishment, GUIDE has recruited a team of qualified and experienced scientists (Dr. G. Thirumaran, Dr. Shalini Dhyani Dr. Nimisha Tripathi and Dr. Deepak Dhyani) and researchers (Ms. Dipa Lalwani, Ms. Bhoomi H. Bakori, Ms. Anasuya Rawat, Mr. Rajesh Choudhari and Mr. Mayur Goswami) with multi-disciplinary background who will work on different aspects of diverse ecosystems, biodiversity and livelihood opportunities in Kachchh and other places of Gujarat. Most of the above stated team members are Non-Gujaratis which actually is a pleasant surprise for the native people.

Gujarat Institute of Desert Ecology (GUIDE), Bhuj, ever since its establishment in May 1995, has been working steadfastly to address different ecological issues pertaining to arid and semi-arid regions of Gujarat in general and Kachchh in particular. In continuation of this, GUIDE organized a national awareness
programme in collaboration with Gujarat State Biodiversity Board, Gandhinagar and K.S.K.V Kachchh University, Bhuj-Kachchh on “Biodiversity Conservation and Management with Some Emphasis on Guggal” on 22nd January 2013 at K.S.K.V Kachchh University, Bhuj-Kachchh. The main objective of the symposium was to bring a conglomeration of research and academic institutions, government and non-government organizations, policy makers and various stakeholders dedicated to research, conversion and restoration of wetlands with an aim to establish a nationwide awareness on biodiversity Act and biodiversity conservation and its management.⁶

As a part of its recognition by K.S.K.V Kachchh University, Bhuj, GUIDE has jointly undertaken teaching programme of M.Sc. (Environmental Science) course and the third batch of students passed out during May 2012. A plan to commence integrated master's programme with the Kachchh University is also on the avail. A proposal for integrated Environmental Biology course was submitted to the K.S.K.V Kachchh University for further processing at Education Department, Gandhinagar. Apart from teaching, in the areas of research guidance students from J.S.S University, Mysore; S.P. University, Anand; Gujarat Vidyapeeth, Gandhinagar; Shri Sarvajanik College, Mahsana and K.S.K.V Kachchh Universtiy, Bhuj.

Demonstrating their presentation capability, GUIDE scientists and researchers have attended several national and international seminars and symposia and presented research papers. Many of the scientific papers were published in international journals.

The GUIDE laboratory has been recognized as “State Air & State Water Laboratory” by the GPCB, Gandhinagar on 3rd September 2010 and the recognition is extended up to 2nd September 2013. The laboratory and infrastructure facilities developed during the previous year have further been strengthened by adding equipments like New Brunswick shaker, Deep freezer, Millipore ultra pure water, Geographical Positioning System, Rotary vacuum flash Evaporator (Total Cost Rs. 12 Lac) from the project grant of DST, New Delhi. A team of well-trained analysts is working full time and the laboratory is now poised to undertake a broad range of advanced ecological research envisaging the lab-to-field approach. Laboratory facilities, besides serving different project requirements also meet analytical
requirements of GPCB, industries, farmers and other NGOs. Further, GUIDE has signed an MoU with APSEZL, Mundra for operating an environmental laboratory at APSEZL, The laboratory is operational since July, 2011.

Another significant milestone is the publication initiatives of “State of Environment Report on Rann of Kachchh, Gujarat State” (State of Environment of Gujarat) through Gujarat Ecology Commission, Gandhinagar. In an effort to fortify the research endeavor of the institute, many research proposals have also been framed, included the international research proposal in collaboration with BAIF, Pune; Critically endangered species and Mangrove proposals to IUCN, and study of marine and terrestrial biodiversity of Gujarat to Gujarat State Biodiversity Board, Gandhinagar.

Moreover, many projects were successfully completed within stipulated time. This includes Ecological and Economic Role of Forests, Kachchh Circle, Gujarat and Environmental Assessment of Kandla Port in collaboration with NIO, Mumbai. Other important ongoing projects include Environmental monitoring study with ESSAR and BORI, Jamnagar; Biodiversity study in Dholera SIR in collaboration with GEER foundation, Gandhinagar and Mangrove monitoring in Dandi and Kachchh. The new projects initiated during 2012-13 include; People’s Biodiversity Register, Study on Guggle in Gujarat, Forest resources of Kachchh, Tree Groves of Kachchh and publication of book on Forest of Kachchh, Gujarat.

As a matter of pride, GUIDE was facilitated with a precious accolade of “Kachchh Ratna” awarded by the Kachchhhi Chair of K.S.K.V Kachchh University, Bhuj-Kachchh for best performance in environmental research activities. The award was presented on 7th April 2012 in a special function Chaired by the Honorable Finance Minister of the Gujarat State-Shri Vajubhai Vala and Minister for State-Shri Vasanbhai Gopalbhai Ahir. The Important dignitaries included; the former Vice Chancellor of K.S.K.V. Kachchh University - Dr. S.G. Yadav; the Vice Chancellor of Ambedkar University-Dr. Manoj Soni; Editor of Kachchhmitra-Shri Kirthibhai Khatri, MLA of Abadasa Taluka of Kachchh - Shri Jayanthibhai Bhanushali, Dr. Dharshanaben Dholakiya, Dr. B. S. Patel, Members of Kachchhhi Chair and Faculties of K.S.K.V. Kachchh University.
During the year GUIDE has initiated an e-newsletter on a quarterly basis mainly to disseminate information on dry land ecology. E-Newsletters of GUIDE were circulated to many institutions, universities, scientific community and members of the Board & Society of GUIDE.

**Thrust Areas :**

- **Research & Studies :**
  - i. Biodiversity Assessment and Conservation Studies
  - ii. Desertification and Land Degradation Process
  - iii. Regional Environmental Assessment and Planning
  - iv. Socio-Economic Studies for Development Options
  - v. Natural Resources Management in Arid and Semi-Arid Zone (Rangeland Ecology, Agro Ecology)
  - vi. Impact of Invasion by Exotic and Introduced Species
  - vii. Remote Sensing & GIS Applications for Biodiversity Conservation & Environmental Planning
  - viii. Coastal Biodiversity and Coastal Monitoring

- **Teaching :**
  - i. M.Sc. in Environmental Science (In collaboration with K.S.K.V Kachchh University, Bhuj).

- **Natural Resource Management :**
  - i. Development and Conservation Options in Rann of Kachchh.
  - ii. Watershed Development and Management
  - iii. Restoration of Degraded Ecosystems including Grassland, Mangroves, Forests, Wetlands, etc.
  - iv. Development Options for Pastoral Communities
  - v. Improving the Management of Protected Area Networks
  - vi. Ecological Restoration of Mining and Industrial Areas
- **Technical Support To Action Programmes:**
  
i. Demonstration of Ecological Restoration Programmes

ii. Technical Support to Non-governmental Organizations and Governmental Agencies/Departments.

- **Resource Management:**
  
i. Environmental Impact Assessment (EIA)

ii. Environmental Management and Planning (EMP)

**Campus:**

The institute is spread over four acres of the land acquired from Government of Gujarat, where its own complex comprising well-furnished blocks for academics, laboratory, library, administration, meeting hall and hostel for research scholars is locate. In addition, residential blocks for scientists have also been constructed within the premises of the institute which make it possible to devote more time to their research activities.

**Hostel Accommodation:**

The hostel complex has eight rooms of double occupancy and special double occupancy rooms to accommodate important visitors. All the scholars of GUIDE are accommodated in the hostel. Dining and recreational facilities are provided in the hostel; which include television, table tennis and provision for outdoor games such as volleyball, badminton and cricket.

**Computer Facilities:**

Since, computers and relevant software are essential and integral part for quality research, it is constantly endeavored to procure new software and keep the systems updated. The institute is equipped with ample computer facilities for storage and processing of research data including an ecological data base.
Teaching And Research :

Research activities in different disciplines are in progress since the inception of institute through its multi-disciplinary team of scientists and research scholars. Apart from the routine research, GUIDE has also undertaken initiatives in creating ecological models in grassland restoration, community based mangrove restoration and saline land reclamation. Further, the institute has been recognized as Research and Education Centre by K.S.K.V. Kachchh University, Bhuj and is involved in conducting M.Sc. Environmental Sciences programme with the university. The institute has modern teaching aids and field research equipments with appropriate accessories to operate in-house and field programmes.

Analytical Laboratory :

The laboratory facilities at GUIDE meet all the requirements of Environmental Impact Assessment (EIA) of terrestrial and coastal areas. Regular analysis of the environmental samples is being carried out for industrial sectors, local agriculturists and NGOs. Analysis of all types of environmental samples i.e. soil, water (fresh water and sea), waste water, sludge are being carried out in GUIDE. In addition, the analysis of on-site air quality is also done using sophisticated air samplers.

All the analysis in this laboratory are carried out through standard methods using equipment such as Atomic Absorption Spectrophotometer, UV-vis Spectrophotometer, Flame-photometer, Dust Samplers, Stack Monitoring Kit, Fine Particulate Samplers, Spectro-flurometer and Ion Chromatography have also been added recently. With eminent scientific supervision and skilled technical staff, the laboratory is running as a self- sustained unit and is recognized as State Air & State Water Laboratory (First of its kind in Gujarat) by the Gujarat Pollution Control Board, GoG, Gandhinagar.9

Herbarium & Museum :

The institute possesses excellent collection of plant and animal specimens
(especially marine fauna) of Kachchh in particular and Gujarat in general. The floral specimens collected are properly catalogued with phyto-geographical information.

Extensive specimens of intertidal molluscan shells from Kachchh and Jamnagar coastal habitats are preserved and kept as ready reference materials in the marine laboratory which could be used by different school and college students. Specimen of terrestrial animals from Gujarat is also planned to be preserved and exhibited in the museum, which will cater the purpose of reference materials. The development of digital herbarium is in process which will function as a reference centre for students and researchers.  

**Library & Documentation :**

A library with a wide range of multi-disciplinary collection viz., arid and semi-arid ecology, different ecosystems, plant and animal ecology, biodiversity, management techniques, environmental economics, interpretation and education is being actively built up. In addition to reference works and text books on these subjects, a massive stock of monographs and reprints on ecology, ecosystems etc. is also available. The JSTOR subscription for a period of five years helps in accessing over 370 international journals in the fields of Botany, Environment, Agriculture, Ecology, Biodiversity etc.

Currently the reference collection comprises of over 1,600 books, monographs, report, etc., that are now being computerized for easy review and retrieval. An important part of all library services is also envisaged through computerized database and literature search facilities, enabling rapid survey of existing information on a particular topic. An amount of Rs. 2-2.50 Lac is spent every year on journals and books for the library.

**GIS & Remote Sensing Cell :**

“GIS & RS facilities research activities related to biodiversity, land use, soil and geo-hydrological, regime, Natural Resource
Mapping (NRM) and Participatory Resource Mapping (PRM). The cell is well equipped with GIS software Arc GIS 9.31, Cartanlinx and Image processing software ERDAS Imagine 9.3. We are also focusing on Open Source GIS software like QGIS, GRASS, Map Window and Multispec. The cell also has database of LANDSAT and IRS Satellite imageries. The cell has mapped thematic layers of landscape features of Gujarat in general and Kachchh in particular,” says the annual report.

**Technical Services :**

Institute provides various kinds of technical and analytical facilities on soil, water and air to the academic and research institutes, industries and NGOs. The various services include:

i. Environment Impact Assessment (EIA)

ii. Marine Environment Monitoring (MEM)

iii. Environmental Management and Planning (EMP)

iv. Training programmes on Natural Resource Development and Management, Biodiversity, etc.\(^\text{12}\)

---

**Dr. V. Vijay Kumar Attending A Seminar In Kachchh University**
Research Areas Of GUIDE
Dr. Bisht:

DR. Ravindra Singh Bisht, the Joint Director General (Retd.), Archaeological Survey of India is one of the most fruitful Non-Gujaratis in the history of Kachchh. Dr. R. S. Bisht was born on 2nd January, 1944 in Ghaziabad, U. P. He did his M.A. in Ancient Indian History & Culture from Lucknow University in 1965. And the most importantly his doctoral research was done titled ‘Emerging Perspectives of the Harappan Civilization in the Light of Recent Excavations at Banawali and Dholavira’ from Kumaun University in 2002. He is also a Visharad in Hindi Litt. and Sanskrit from Hindi Sahitya Sammelan,Prayag in 1958. He has also been awarded Sahityaratna in Hindi Litt. from Hindi Sahitya Sammelan,Prayag in 1960. One of his most famous excavations is titled as under:  

Dholavira, District Kachchh. Gujarat:

A unique Harappan city known for its exquisite planning, architecture, amazing water management system, for two multi-purpose grounds (stadiums, too), funerary architecture, besides providing a cultural sequence of 1500 years from early third millennium to second millennium BCE.

Meticulous planning and architectural brilliance in the layout of the city are the established and striking features of the Harappan civilization. The excavations at the small township of Dholavira, in Kachchh, Gujarat, have presented to the world some of the oldest stadiums and sign board. One of the stadiums is huge. The multipurpose structure, with terraced seats for spectators, around 800 feet in length (around 283 metres) can accommodate as many as 10,000 persons. The other stadium is much smaller in size.

“It is believed that the bigger stadium was used for a variety of purposes, maybe for makeshift bazaars. This would be similar to exhibition grounds coming up these days,” said former joint director general of Archeological Survey of India, Dr R S Bisht who was delivering a special lecture on “Dholavira revisited' at Panjab University in 2004.
He visited the city to take part in the three-day international seminar on cultural heritage and Indian art, which was organized by the department of ancient Indian history, culture and archeology. Apart from the world's first stadiums, Bisht also talked about what could be the world's oldest signboard which was also discovered at the site. The “signboard”, with undecipherable inscriptions of the Indus valley civilization, dates back to the 3000 BC to 1500 BC.\textsuperscript{16}

“It is believed that the stone signboard was hung on a wooden plank in front of the gate. This could be the oldest signboard known to us,”\textsuperscript{17} said Bisht. The excavations began under Bisht's stewardship in 1990. The dimensions of the town of Dholavira (777.1 metres in length and 668.7 meters in width) establish that the Harappans had great knowledge of trigonometry. They were also mathematical experts as all the dimensions at the site are based on squares and cubes, he added. “The site is between the two rivulets, Mansa and Manhar. Harappans had also built dams to conserve the precious commodity of water,”\textsuperscript{18} added Bisht.

He said, “Harappans never allowed vehicular traffic inside their cities which explains the condition of their roads which remained as they were for a long time.”\textsuperscript{19}

While natural calamities are widely believed to be the reason for the decline of civilizations, for Dholavira it is believed that the damage was due to frequent earthquakes.

“The first quake hit the township around 2800 BC, the second around 2500 BC, and the third around 2000 BC,”\textsuperscript{20} said Bisht.

Apart from a variety of excavations, Dr. Bisht has many other important things to his credit such as Conservation of Monuments, Setting up of the Museums and Organizing Exhibitions.
As the Deputy Director of Haryana Government, he conserved considerably eleven monuments of Narnaul.

As the Superintending Archaeologist of ASI of different Circles, he supervised conservation on numerous monuments of Bihar, eastern Uttar Pradesh, Jammu and Kashmir, Himachal Pradesh, Haryana, Punjab and Gujarat.

As the Joint D.G. & Director Conservation, ASI, he dealt with the conservation of national monuments of India, besides making reconnaissance of Ta Prom, Cambodia and visited several other monuments in Angkorvat.

i. He set up a small museum at VVRI Hoshiyarpur which was inaugurated by the then Vice President of India, Dr. G.S. Pathak.
ii. He assisted in arranging a museum in the Darbar Hall, Sangrur of Punjab.
iii. He assisted in re-arranging museum in the Darbar Hall, Old Fort, Patiala, Punjab.
iv. He set up a small museum in the Deptt. of Archaeology and Museum, Govt. of Haryana in Chandigarh.
v. He managed and contributed towards organizing a special display of the excavated material from Banawali (Haryana).
vi. He organized exhibitions at SultanpurLodhi (Punjab) at Pinjore, Hissar and Kurukshetra (all in Haryana); at KamagataMaru-nagar (Punjab); Rani-Ki-Vav at Patan College of Architecture at Ahmedabad, Champaner and Dholavira (all in Gujarat).
vii. At Dholavira (Kachchh, Gujarat), the exhibitions on the excavated material from the site were set up six times in different years.
viii. He managed and contributed towards organizing a special exhibition on the Neolithic, Copper-Bronze age and Megalithic Cultures of India since Independence, at the National Museum, New Delhi, on the occasion of the World Archaeological Congress held at New Delhi in December, in 1994.
ix. As the Director, he set up at Red Fort the now famous Swamtrata Sangram Sangrahalaya which depicts 90 years of India's struggle for Independence from 1857 to 1947, of course with a prelude thereto. The museum was inaugurated by the then Prime Minister of India on 2nd October, 1995.
x. A large exhibition on the Dholavira material was set up by him in April 1997 at Bhuj, Kachchh, where it was inaugurated by the Finance Minister of the Gujarat State.\textsuperscript{21}

Dr. R.S. Bisht
B.R. Bawsay:

Well known as “Quiz Master” in Gujarat, Maharashtra, few other states and China, Bhalchandra Ramrao Bawsay is a retired Warrant Officer of Indian Air Force. He served for 26 years as a Radio Engineer and participated in four wars during his tenure. He has conducted 2159 Quiz programs as on 17th May, 2014. It is but natural that the journey of this quiz addict be made known to the world.

He is basically a domicile of Amravati in Maharashtra but has settled in Bhuj for last 32 years. For the empowerment of the youth, he has adopted this unique way of conducting quiz programs wherever he goes!

His first quiz program was conducted at the Rotary Club of Anjar on 01st May, 1991 and the first in Bhuj was held at the Leo Club of Bhuj on 12-Aug-1991. Apart from places in Kachchh, he has conducted quiz programs at Ahmedabad, Vadodara, Rajkot, Surat, Jamnagar, Patan, Anand, Junagadh, Vallabh Vidyanagar and Nadiad (DDIT) in schools, colleges and institutions. At the national level, he has been conducting programs in places like Delhi, Mumbai, Pune, Nagpur, Wardha, Akola, Jaipur, Jodhpur, Udaipur, Hyderabad, Alibagh and Panjim. During his visit to Beijing, China he conducted 16 quiz programs in 11 days of stay!

His achievements as a Non-Gujarati settled in Gujarat were highlighted in the weekly magazine Chitralekha dated 09th April 2008. He has released 2 books called “Dimaag Ka Tadka” and “Bheja Fry” that are especially useful for people taking competitive examinations. He also conducts special classes for brain development of the youth.

Mr. Bawsay has been conducting quiz programs on varied subjects like general knowledge, books and authors, Pandit Nehru, Gandhiji, Swami Vivekanand, Pandit Shyamji Krishna Verma, Mother Teresa, Dr Sarvapalli Radhakrishnan, Sardar Vallabhbhai Patel, Chhatrapati Shivaji Maharaj, My Country, Solar System, Traffic, Rotary International, Ramayan, Mahabharat, Shivpuran, Ganesh Puran
Before starting his quiz program, even today, he believes in doing the necessary home work. At the same time, he has been well known for doing programs extempore. His late wife Chhaya has been instrumental and the leading enthusiasm behind all his quizzing capabilities. He is known for his punctuality and the angle to look at each thing with a positive attitude.

He is just 18 years young with 53 years of experience. He has also been running his personal blog named ‘Sarjn Brain Development Academy’ in which he discusses the brain storming quizzes helpful to develop the mind in its true sense. He has also been conducting many workshops for teachers and mothers. He aptly says,

“The students of age group from 3 to 12 are too small and that is why it is called a tender age in brain development. You can mould them in a way you want and for that teachers & mothers are required to learn certain things. They are unable to understand the brain development exercises & its benefits so the mothers of such students require little guidance.”23

That is why a workshop for the teachers & mothers is conducted in which only the guidelines are given to increase the memory as well as concentration of the student. Different physical as well as educational exercises are taught to them. All the brain development exercises are only games and students do it with lot of interest. How to teach them in a different but interesting way is very important so he conducts a 3 to 4 hrs. seminar for them. In this workshop he provides some good question papers as well as shows them different power point presentations for creating interest in studies.

He was also praised by Rotarian Monish Rana, the President, Rotary Club of Mumbai Goregaon West as he said very aptly regarding Mr. Bawsay in the following lines,

“The way it is essential for every person going out of the country to have a passport, in the same way every child, every teacher, every entrepreneur, and every individual who wants to be a winner in life, to
essentially undergo your training for brain development.”

Regarding Sarjn Brain Development Academy, it can be said that it is a Bhuj based organization, headed by Bhalchandra Bawsay. It works on programs related to brain development and lateral thinking, regardless of the age of the student. Its mission is to spread awareness about lateral thinking and use of common sense in daily life. Having lot of Power Point Presentations on the subject to explain the students in a easy way, Mr. Bawsay does it easily. When asked in an interview what Brain Development is and why it is essential, he enthusiastically says,

“When we are born, we have a brain and the size of the brain keeps increasing till the age of 15. However, more important than the size is the development and you need to develop your brain. That is why our parents put you in the school and that is not enough. You have to work more to develop.”

He further explains that one needs to develop his brain and for that one requires five things and they are:

i. Self Confidence

ii. Presence of mind

iii. Psychology

iv. Common Sense

v. Lot of reading and good observation

So there are many physical as well as educational exercises that help in developing our brain. In some countries every day the brain development period is conducted for age 3 to 9 years as in this age the brain develops very fast.
“We all have two brains i.e. left and right. This is how you can find out about the left and right hemispheres of the brain. A test I read online for determining whether your left-brain or right-brain is dominant. You just hold your hands in front of you and clasp them together. If your right thumb is on top you are assumed to have a dominant left hemisphere, and if the left thumb is on top your right hemisphere is supposed to be dominant. Both our brains must work and for that there are many physical as well as mental exercises that can be taught in various ages,” he further explains.

Some of the suggested study points regarding this exercise are:

1. The shortest complete sentence in the English language is “Go.”

2. Words with all the vowels in same sequence:

   Abstemious, Arsenious, Facetious & Caesious.

Mr. Bhalchandra Bawsay
Mr.s Usha Raghuram:

The knowledge sector of Kachchh consists of a variety of Non-Gujarati contributors which can be considered a landmark for the part of Non-Gujaratri. The Educational field has also played its part as the persons like Mrs. Usha Raghuram, the Principal of Kendriya Vidyalaya, IFFCO, Gandhidham have been serving the Native people their level best.

Originally belonging to the Southern part of India, Mrs. Usha Raghuram played her vital role in the western part of India. She was born on 5th January, 1956 in South India and in 1979, joined the Central Education Field as an assistant teacher. She holds the degree of M.Sc. (Maths) and B.Ed. and thus is able to serve the nation as the teachers are often called the nation builders. She has been working in the teaching field for 37 consequent years and has been serving as the Principal of K.V. IFFCO since last four years. She possesses great love for Gujarat and believes that it's a place worth living as the atmosphere here is quite peaceful.

Her commanding qualities as the principal of the school, has earned her a significant place in the hearts of the students as well as the teachers. Due to her manifold efforts in K.V. IFFCO, the native students as well as Non-Gujarati students have been shaped to the optimum level so that they can fly in the academic sky to pursue the rightful career. She has been handling the students since last four years in an effective manner so that the atmosphere has become education friendly. The children of Kachchh who get an opportunity to study in Kendriya Vidyalaya can avail the benefit of Mrs. Usha Raghuram’s services. In her fruitful presence and truthful guidance, each and every student excels to his/her best. And the most noteworthy thing is that most of the students studying in K.V. IFFCO are the Kachchhi students. Thus, they get the guidance under a Non-Gujarati talent and progress towards a prosperous career.
Though a Non-Gujarati, Mrs. Usha Raghuram possesses same feelings towards the Kachchhi people as unto her our natives. She has been serving Kachchh since last four years and while in an interview, she says

“I have planned out to retire in Kachchh only.”

As she is from Science background, K.V. IFFCO is benefited a lot since the school has science stream for the students. Under her leadership, the school has progressed to the optimum level as “the human touch” is the prime feature of her personality. The knowledge sector of Kachchh has been enriched through the contribution of such persons. The persuasive power of Mrs. Usha Raghuram is so immense that all the students are convicted easily in all the concerns regarding academic years. Thought it is compulsory for the invigilators to keep standing during the exams, she believes that “human touch” should be maintained and seating arrangements must be arranged to relax the invigilators. Such is the humanity instilled in the personality of her. She is kind and humane and just like a friend, guide and philosopher for the teachers as well as for the students. The desert like area of Kachchh has sure shot flowers like Mrs. Usha Raghuram and she has been shedding the flowers in the form of work constantly and unfailingly to enrich the knowledge sector of Kachchh.
II

Infrastructural Sector

S Rudreswar:

Sunamudi Rudreswar is an unusual entrepreneur of his liking. He is a “crane man” from Odisha permanently settled in Kandla, is the most complicated and high-precision business of erecting, testing and commissioning cranes of all kinds. No port could be thought of skipping its cranes which are its life-line. In fact, the best performance of any port solely comes from the type of sophisticated cranes it boats of. The sea-change in the traffic handling of the Govt. owned Kandla and its number one position in the country in the last five years including this year came only when it acquired what to a lay man looks, the port's long-necked gluttonous cranes. The man behind the erecting, testing and commissioning of the first ever heavy duty ELL (Electric Level Luffing ) wharf cranes is Rudreswar. He also does annual maintenance of these modern cranes as well as the old Mukund cranes.

S. Rudreshwar
“There are now more advanced versions of cranes: STS (Ship-to-Shore) or RMQC (Rail-Mounted Quay Cranes) and Stacker-reclaimers. STS cranes are installed at Kandla and Mundra. These cranes were imported in the assembled conditions and they were installed by the foreign manufacturing companies' own engineers. But, now they come in CKD (Knocked down conditions). We are the first and only to have undertaken their erection and testing and commissioning work at Pipavav port. We are also the first in installing reclaimers at Adani's Mundra Port” he said adding that in the country his company was second only to do this job.30

The important thing here is that though Rudreswar is owner of Gandhidham-based private company, R S Electricals, he himself personally attends to the work of erection, testing and commissioning of old and new cranes here and other parts of the country. He even undertook the job at most difficult places like Andaman and Nicobar islands.

Rudreswar, now 40, though holds degree in Electrical Engineering from Vishakhapatnam, has no formal education in erection cranes.

“I have been fascinated by cranes from my childhood days and learnt the work on my own and, as a saying goes, practice makes a man perfect, the same has happened to me. You name any crane, I can now do any work relating to its repairs and maintenance,”31 he said.

Rudreswar was born in Odisha, but his family shifted to Vizag when he was 12-year old. He had his education up to university level at Vizag. After graduation in engineering, he joined the Indian Navy and worked on its ship, INS Kalika as gunman. He left the job to start his own small business. His very first work as businessman was to repair the war ship's cranes. He then worked for the companies at Vizag in 1983 and then came to Kandla in 98 to repair Kandla's cranes which were badly damaged in the super cyclone in 1998. He then decided to make Kandla headquarters of his company which undertook all cranes related jobs all over the
country. It can easily be said that Infrastructural Sector of Kachchh owes in great deal to the manifold efforts and national intelligence of Mr. Rudreswar.

R Murugadoss:

R Murugadoss, short in height and thin in body but otherwise sound in health and sharp in mind will look like 'adolescent' if yours is the first meeting with him and you have still not started conversation with him sitting opposite him. He is currently 50 years old and as the country's youngest chief engineer at the major port, he is out to turn Kandla best in infrastructure-the one Kandla did not have in its 50 year existence.
By solely his own initiative that six major Public-Private Participation projects worth Rs.1827 Crore were undertaken two years ago and are in various stages of completion and seven more equally important ones are in pipeline and ready to be implemented within next three to four months. The total investments on these 13 PPP projects would be around Rs. 4000 Crore which will double the port's annual profit. What is to be noted here is that the port always had a net annual profit ranging between Rs. 100 to 200 cr. but the same amount of profit will accrue now because of these new projects which are again being undertaken as an additional work by him and his dream team of civil engineers. He is also simultaneously implementing regular plan and non plan projects.

Though Murugadoss has been with the port trust for past 17 years reaching the position of Superintendent Engineer, the chief engineer's post did not fall in his lap like a ripe fruit by way of promotion. He got the position in a direct all-India competition where both from the port and non-port sectors were his competitors. His selection was on two counts. He was highly qualified person having degrees of B.E.M, Tech, MBA and LL.B. He had a long and practical work experience of infrastructure projects which are being undertaken as PPP as a new policy of the Union Govt. adopted in 2008.

This dreamer chief engineer -yes, the adjective has been rightly and deliberately used for him as he is giving his vision practical shape-spends most of his time in his office. He comes to office at 10 in the morning leaves for home around this time at night. He works on holidays including week-ends ones. He never sees movies or any entertainment programs.

“I watch only news briefly on TV in the morning and late night to know happenings of the world.”

He drives his own vehicle and never forgets to switch off lights and fans in summer when he leaves office late. He has two daughters one of whom is studying in the 11th standard. His wife has post graduation degrees in arts and education.
Infrastructural Development of Kachchh is possible due to the variety of Non-Gujaratis working in various fields. Mr. Murugadoss is one of them who have been trying their level best to develop Kachchh and Kandla Port infrastructure wise. His contribution in the Infrastructural Sector in Kachchh is not negligible as a hardworking man like him has been gifted in the form of Non-Gujarati to Kachchh.

**Joseph Chacko:**

This is what 48-year old Joseph Chacko working as a civil engineer with KPT for the past two and half decades has done it-not once but thrice in a row. A hat trick of bonanza has been a coveted global recognition in providing best welfare services to seafarers visiting Kandla, a port in the corner of the country. The London-based International Committee for Seafarers Welfare (ICSW) after adjudging Kandla to be one of the first five world ports serving its seafarer-callers in the best possible way at its well-furnished and well-kept Welfare Centre inside the port in 2010 and 2011, declared that Kandla was the only best port in the world in 2012 entitling it for the Port of the Year award for the welfare of seafarers. There was one bigger announcement: Chacko was among the first five welfare personalities of the world in 2012. He not only brought honour to Kandla but to the country as he was the first Indian to have been chosen for it from this very maritime country.

This great personal achievement did not come to Chacko on platter. Given the number of ships calling at Kandla, there are more than 45000 seafarers from the world taking benefits of most of the basic free services at the state-of-the-art welfare center set up on 17 m by 9 m space housing communication centre, cafe, shop, health and help center. The most sought after service is however the internet for obvious reasons as every seafarer wants to talk to his family at home. Chacko who resides at Gandhidham, 14 km away daily goes to the centre in the morning and returns home some time very late. And he does it single-handedly.

“I do not do this as my duty. I get my reward when I find a smile on the face of foreign seaman who has been away from his family on sea and I had become instrumental in arranging the reunion
on the air through means of modern communication gadget”, he said recalling one incident when a Filipino sailor could know of his wife having delivered a beautiful child at home from here and his joy knew no bounds when he talked to his beloved on phone through SKYPE facility at Kandla.34

Joseph Chacko
When Joseph Chacko, the Administrator of the port welfare committee in the Port of Kandla was asked to say about its establishment and development, he smiled and replied positively,

“First of all, Dr Suresh Idnani, Regional Coordinator International Committee on Seafarers’ Welfare (ICSW) and I met in Mumbai and discussed the need for a centre at the Port of Kandla. In August 2007 Dr Idnani came to meet the stakeholders and the first port welfare
committee meeting was held. Bodies represented include the Kandla Port Trust, the Transport and Dock Workers’ Union, Jaisu Shipping, the Kandla Stevedores’ Association, Kandla Steamship Agents’ Association, St. Thomas’ Catholic Church and a prominent local medical doctor.35

In November 2008, with the support of ICSW, they submitted a grant application for equipment and a start-up fund to ITF Seafarers’ Trust which was approved and a bank account opened. In February 2009 they held the second meeting of PWC Kandla to discuss the use of funds.

In April 2009 the Centre for Seafarers opened at premises kindly provided by Jaisu Shipping. The third PWC meeting finalized details of vehicle, equipment and staff selection. In May 2009 and onward: the PWC was formally inaugurated and welfare activity for seafarers began. The Kandla Seafarers Welfare Association was registered in the District of Kachchh as a public trust and a charitable society, and recognized by the Income Tax Department of the Government of India. Training of existing trainee Ship Visitors and Voluntary Ship Visitors began.

When he was asked what things make PWC work, he replied in simplicity,

“Total love of seafarers, love of social work, dedication, humility, will power, transparency in financial matters, managing the trustees, managing the staff, computer knowledge, relationships, information management, publicity management, and mainly the grace and fear of God.”36

When he was asked how the PWC worked, he answered directly,

“We provide human contact, spiritual encouragement and assistance with communications. We have a fully furnished centre with two computers, a web camera, multimedia speakers, a headphone with microphone, and a laser printer. There’s a Wi-Fi system so seafarers can bring their laptops and use the internet. International telephones
are provided, both for Indian seafarers and others to use (we also provide the MTS international telephone card). There is a library and reading room with magazines and print-outs of daily international newspapers. Tea, coffee, soft drinks and snacks are provided.\(^{37}\)

They also have an air-conditioned bus to transport seafarers from the ship to the centre and back, free of charge. They visit ships daily with their WiMax equipment and the Wi-Fi router. Photos of their visits are uploaded daily to their Facebook page ‘PWC Kandla’. The port control tower officials inform ships arriving at the port of Kandla about their welfare services and the pilot takes leaflets about them on board.

When he was asked what their biggest challenges were, he said,

“\[
\text{“We have three main challenges. The first is recognition of our identity. When we visit ships, seafarers do not recognize the ICSW name. (They tend to know the names of the ITF and the Seamen’s Club or Mission.) The second is some of the shopkeepers and business people of the Port of Kandla. They fleece seafarers by charging high prices and they also spread rumours (mostly concerning money) about us so that some ships do not let us on board. Our third challenge is probably common to many. Fewer seafarers come to our centre because of ships’ faster turnaround time and because shore passes are not issued to seafarers from China, Pakistan, Bangladesh and Sri Lanka for security reasons. We are now trying to provide seafarers with all the centre’s facilities but on board ship.”}^{38}\]

After visiting the challenges, the appreciation is also to be recorded in his own words as he says,

“\[
\text{“We are very proud that the ICSW Regional Programme in South Asia declared that the welfare activities at the Port of Kandla were a role model for other ports. We is also very proud of our Wi Max equipment and the Wi-Fi router. These convert both officers’ and crew mess} \]
rooms and adjoining cabins into a Wi-Fi zone, allowing up to 25 seafarers at a time to use their laptops to access the internet. We usually leave the Wi Max on board overnight, for use by seafarers who were working during the daytime. The captain or the local agents take responsibility for the safety of the equipment. I haven’t heard of a similar facility at other ports so it may be unique.”

Such is the work of Joseph Chacko as he concludes,

"We have received more than 200 letters of appreciation and thanks from captains of different ships. We also keep receiving calls from seafarers when they know the next port of call is Kandla: they call to ask us to visit their ship immediately when it arrives at the port.”

K.P.T'S Highly Facilitated Sea Farers' Canteen
As he holds a powerful position at the port, many of the foreigners are attracted towards visiting Kachchh through a variety of motives, primarily of business. While visiting port, one can get attracted to visit urban and rural areas of Kachchh and thus tourism sector gets affected. And as being a civil engineer by profession, the infrastructural and economic sectors are also touched upon by him. The port is filled with Non-Gujaraties but Mr. Chacko is different and he has been serving the most important sectors of Kandla as well as Kachchh since 25 years which has earned him a great place in the hearts of Kachchhi people.

**Dr. G S Rao**

Kandla and Kolkata are estuary ports, the only major ports in the country facing perennial silting problems. They cause a great hindrance in smooth navigation and require constant dredging of the port's navigational channel.

While Kolkata, one time giant, has also to give fight against the national phenomenon, Kandla is emerging victorious by gradual deepening of its 27 km long navigation channel from Outer Tuna to the Oil jetties. The credit for maintaining the life line of Kandla goes to Dr G S Rao, an oceanographic expert who has spent most of his years as KPT's hydraulic engineer on this job. He is currently at KPT's satellite oil port, Vadinar heading as Chief Operational Manager. But, he continues to look after dredging related work of the main port Kandla as an additional work. Notably more than the half share in Kandla's total annual traffic is from this Off-Shore Oil Terminal, Vadinar.

In fact, 57-year Dr. Rao, who joined the port trust as its hydraulic engineer in 1990 has belied a widely spread an age-old belief at Kandla that the port being tidal, its draft cannot be increased.

“When I joined the port, 9.8 meters, but it was gradually first to 12.8 meter and now efforts were on to 14 meters within the next three years. The feasibility study is in progress and I have no doubt about the port achieving a new depth in draft to welcome post-panamax vessels
in the Kandla channel," he said with a great confidence at his chamber in AO building where he had come for this purpose.

Dr. G.S. Rao

The confidence of Dr. Rao is not unfounded. He has experience and deep study of the subject. Dr. Rao holds degree in Marine Sciences and is gold medalist in oceanography. When he worked with the country's prestigious Indian Institute of Technology, he was specially sent to the UK for study on ocean modeling (studying the oceanic currents through the use of super computer). Such kind of his knowledge is at work at Kandla.

Rao was born at Mahadevipura village of Odisha having two brothers and four sisters. His was a poor family and he was educated up to graduation level by his elder
brother and sister. When he studied at Behrampur University where new Department of Oceanography had started, he preferred to graduate in this new subject. He then went to IIT Delhi for Ph.D. in the same. Seeing him a bright student, IIT employed him as senior scientific officer. He has one son, Shrikant studying in 12th standard and daughter Pooja pursuing degree course in Electronics and Communication. Now only three years are left for his retirement. When asked what would happen to the port dredging in his absence, he said though he was for development for the port, someone else would come to do the job. The Economic growth of Kachchh can surely be linked with the success of Kandla and in making Kandla a great success, the contribution of the intelligent personnel like Dr. Rao can never be ignored. He has shed his sweat to help develop the port and in a way to develop Kachchh indirectly.

42
Notes and References:

(1) Bhandarkar, Yogesh, interviewed personally by the Researcher.

(2) Ibid.


(4) Ibid.

(5) Ibid.

(6) Ibid.

(7) Ibid.

(8) Ibid.

(9) Ibid.

(10) Ibid.

(11) Ibid.

(12) Ibid.

http://www.iitgn.ac.in/pdf/faculty/Dr%20RS%20Bisht.pdf


(15) Ibid.

(16) Ibid.
(17) Ibid.

(18) Ibid.

(19) Ibid.

(20) Ibid.

http://www.iitgn.ac.in/pdf/faculty/Dr%20RS%20Bisht.pdf

(22) Bawsay, B.R., The Retired Air Force Warrant Officer, interviewed personally by the Researcher.

(23) Ibid.

(24) Ibid.

(25) Ibid.

(26) Ibid.

(27) Raghuram, Usha., Principal, K.V.IFFCO., interviewed personally by the Researcher.

(28) Ibid.

(29) Ibid.

(31) Ibid.


(34) Ibid.


(36) Ibid.

(37) Ibid.

(38) Ibid.

(39) Ibid.

(40) Ibid.


(42) Ibid.