

Re-Inventing the Potter's Wheel: Experiencing Craft Cluster Tourism in Gundiwali, Kutch

Thesis submitted in
Partial Fulfillment for
The Award of the Degree of
Masters of Urban and Regional Planning

By

Prithivi Gogoi

Second Semester, MURP II – 2020-21

Primary Guide: Mr. Pradeep Rajput

Secondary Guide: Dr. Binu Singh



Master of Urban and Regional Planning (MURP) Program

Department of Architecture

Faculty of Technology and Engineering

The Maharaja Sayajirao University of Baroda

D. N. Hall, Pratap Gunj, Vadodara, Gujarat, India

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CERTIFICATE

Re-Inventing the Potter's Wheel: Experiencing Craft Cluster Tourism in Gundiya, Kutch

The contents presented in this Thesis represent my original work and it has not been submitted for the award of any other Degree or Diploma anywhere else.



Prithivi Gogoi

This Thesis is submitted in partial fulfillment of the requirements for the
Degree of Masters of Urban and Regional Planning
at the Department of Architecture

Faculty of Technology and Engineering

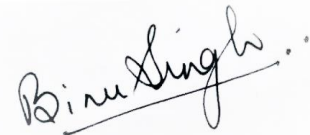
The Maharaja Sayajirao University, Vadodara, Gujarat, India

The present work has been carried out under our supervision and
guidance and it meets the standard for awarding the above stated degree.



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Preface

Kutch, a district of western India in Gujarat state, consists of 10 talukas, 939 villages and 7 municipalities. This semi-arid region is a mosaic of diverse landscapes, people, and cultures that together create a distinct identity. Also, it is an enormous growing Industrial region with rapid Urbanization with two Special Economic Zones (SEZ's) and numerous Chemicals, Construction and Power plants. Contrarily, Kutch is immensely well known for its fascinating handmade ethnic handicraft and textile by local artisans and craftsman. The rich and diverse creative traditions of the region is however diminishing under the influence of urbanization. Younger generation however, no longer interested in participating in the crafts making process which results in migration and extinction of skills.

One such skill is pottery making in Kutch. Pottery totality refers to the type of indigenous wares which are produced by firing clay at low temperatures of 600 to 850°C. They are unglazed, hand-made with simple tools and equipment. Throughout the ages, even before written history, pottery has been used as a medium of expression (Peterson, 2011). Pottery making is a well-known global practice and the most widespread practice of the indigenous people around the world (Kayamba and Kwesiga, 2016)

To tap the potential for local tourism in Kutch area, to provide adequate infrastructure to support their communities growing economic activities and industries to develop without endangering the ecology and adequate social lifestyle are the principal issues for concentration.

This report for Gundiyaali village in Mandvi taluka, Kutch contains scenario of reasons for dropout rate of artisans from pottery making craft, their population growth and projection, infrastructure status, Socio Economic characteristics and future requirements of infrastructure, key issues, plan proposals to induce craft cluster tourism in the village.

Dedication

"I DEDICATE THIS THESIS TO ALL THE DEPARTMENTS WORKING TOWARDS RURAL DEVELOPMENT AND ALL THE PRESENT AND FUTURE PLANNERS ASSOCIATED WITH IT."

To my Parent's

Who have been a great source of Inspiration and Support.

Acknowledgement

It is a genuine pleasure to express my deep sense of thanks and gratitude to my mentor, philosopher and primary guide Mr. Pradeep Rajput. His dedication and interest above all his overwhelming attitude to help his students had been solely and mainly responsible for completing my thesis. His timely advice and scientific approach have helped me to a great extent to accomplish this task.

I owe deep sense of gratitude to my secondary guide Dr. Binu Singh for showing keen interest at every stage of my research work. Her prompt inspiration, timely suggestions with kindness, enthusiasm and dynamism have encouraged and enabled me to complete my thesis.

It is my privilege to thanks my family, my parents for constant encouragement throughout my research period and at the times of pandemic.

Lastly, I would be thankful to the whole MSU, Vadodara department and my friends who supported me in each stage of my research work.

Contents:

PREFACE	1
LIST OF FIGURES:.....	6
LIST OF GRAPHS:	6
LIST OF MAPS:	7
LIST OF TABLES:	7
1. INTRODUCTION	9
1.1 POTTERY INDUSTRY IN INDIA:.....	10
1.2 POTTERY INDUSTRY IN GUJARAT:	14
1.3 SWOT ANALYSIS:	16
1.4 PROBLEM STATEMENT:.....	17
2. STUDY AREA.....	18
2.1 OVERVIEW OF THE VILLAGE:	19
2.2 BRIEF HISTORY OF GUNDIYALI:	20
2.3 GLIMSE OF GUNDIYALI CRAFTS	21
2.4 ZONING.....	22
2.5 ABOUT THE COMMUNITY.....	23
3. LITERATURE REVIEW	24
4. AIM, GOAL AND OBJECTIVES	35
5. RESEARCH METHODOLOGY.....	35
5.1 RESEARCH DESIGN:	36
5.2 STATISTIACL EVALUATION:	37
6.CASE STUDIES	38
6.1 KUMHARWADA:.....	38
6.2 DAKSHINACHITRA:	43
6.3 TERRACOTA CRAFT OF BANKURA:	43
7. ARTISAN’S WELFARE SCHEMES.....	46
7.1 NEW SCHEMES IN POTTERY MAKING:	51
7.2 GOVERNMENT OF GUJARAT SCHEMES:.....	53

8. DATA COLLECTION AND ANALYSIS	55
8.1 DEMOGRAPHIC PROFILE:	58
8.1.1 SEX RATIO:	59
8.1.2 LITERACY RATE:.....	59
8.1.1 DISTRIBUTION OF WORKERS:	60
8.1.1 MIGRATION:	62
8.2 LANDUSE LANDCOVER:	63
8.3 OBSERVATION MAPPING:IMPORTANT PLACES:	65
(PRIMARY DATA COLLECTION)	67
8.4 OBJECTIVE 1: VARIABLES ANALYSIS:	68
8.4.1 OUTCOME:.....	68
8.5 OBSERVATION MAPPING:	70
8.5.1 MARKET DYNAMICS:	71
8.6 OBSERVATION MAPPING:	72
9.RECOMMENDATION.....	74
9.1 ARTISANS WELFARE ACTION PLAN:	75
9.2 LANDUSE PROPOSAL:ACTION AREAS:	78
9.2.1 MUD TO MONEY:	79
9.2.2 SOLAR MUD HOUSE:	80
9.2.3 SOLAR POND:	81
9.3 PROPOSAL ON E-COMMERCE:ACTION AREAS:	82
9.3.1 AUGMENTED REALITY:	83
9.4 PROPOSAL ON TECHNOLOGY:ACTION AREAS:	84
9.3.1 SMOKELESS KILN:	85
9.3.2 SOLAR POWER PEDDLE WHEEL:	85
10. CRAFT CLUSTER: ACTIVITY MAPPING	86
11. CONCLUSION.....	87
11.1 FUTURE SCOPE OF STUDY:.....	89
12. REFERENCES.....	90

LIST OF FIGURES:

FIGURE 1 TERRACOTA CRAFT IN DIFFERENT STATES IN INDIA.....	12
FIGURE 2 SATELLITE VIEW OF GUNDIYALI	18
FIGURE 3 DRONE VIEW OF POTTER’S COMMUNITY	20
FIGURE 4 INTERCONNECTIVITY BETWEEN COMMUNITIES IN MANDVI	21
FIGURE 5 GLIMSE OF GUNDIYALI CRAFTS.....	21
FIGURE 6 RESEARCH DESIGN AND METHOD FOR SAMPLING	37
FIGURE 7 POTTER’S CRAFT-DHARAVI	40
FIGURE 8 POTTER’S KILN	40
FIGURE 9 POTTER’S HOUSEHOLD-DAKSHINACHITRA	42
FIGURE 10 TERRACOTA CRAFT- DAKSHINACHITRA	43
FIGURE 11 IMPORTANT PLACES-GUNDIYALI.....	61
FIGURE 12 MUD HOUSE AND CONCRETE HOUSE IN GUNDIYALI.....	63
FIGURE 13 WORKSPACE-GUNDIYALI-OTLA.....	64
FIGURE 14 ISSUES IN CRAFTMAKING-GUNDIYALI	73
FIGURE 15 ECOLOGES.....	79
FIGURE 16 CSEB BLOCKS.....	80
FIGURE 17 SOLAR PANEL INSTALLATIONS	81
FIGURE 18 SOLAR POND.....	83
FIGURE 19 E-COMMERCE	83
FIGURE 20 SMOKELESS KILN.....	85

LIST OF GRAPHS:

GRAPH 1 GLOBAL CERAMIC MARKET SHARE 2018	9
GRAPH 2 EXPORT OF HANDICRAFT.....	9
GRAPH 3 COUNTRY-WISE PRODUCTION OF CERAMIC.....	14
GRAPH 4 LEVEL OF URBANIZATION	17
GRAPH 5 GROWTH OF URBAN POPULATION.....	17
GRAPH 6 REGRESSION GRAPH	38
GRAPH 7 DISTRIBUTION OF TERRACOTA WORKERS.....	44
GRAPH 8 AGE OF ARTISANS.....	44
GRAPH 9 POPULATION PROJECTION-GUNDIYALI	55
GRAPH 10 SC,ST POPULATION	55
GRAPH 11CHILD POPULATION IN GUNDIYALI.....	55
GRAPH 12 CHANGE IN SEX RATIO	56

GRAPH 13 MALE AND FEMALE RATIO	64
GRAPH 14 DISTRIBUTION WRT OCCUPATION.....	64
GRAPH 15 EXPERIENCE AND PROFIT	65
GRAPH 16 AGE AND PROFIT	65
GRAPH 17 DURATION OF WORKING HOURS AND PROFIT.....	65
GRAPH 18 PERCENTAGE SOLD TO MIDDLEMAN AND CUSTOMER.....	66
GRAPH 20 ARTISANS QUALIFICATION AND INCOME	66
GRAPH 21 LITERACY RATE OF ARTISANS	66
GRAPH 22 MALE AND FEMALE COMPARISION OF VARIABLES	67
GRAPH 23 INTERVENTION GRAPH	67

LIST OF MAPS:

MAP 1 MAP SHOWING POTTER'S CLUSTER	11
MAP 2 POTTER'S CLUSTER IN GUJARAT	14
MAP 3 LOCATION OF GUNDIYALI	18
MAP 4 ZONING MAP	22
MAP 5 GROWTH PATTERN.....	22
MAP 6 POTTER'S CLUSTER IN GANTAL	23
MAP 7 LOCATION OF KUMHARWADA	39
MAP 8 GROWTH OF POTTER'S CLUSTER	39
MAP 9 POTTER'S HOUSEHOLD	40
MAP 10 PLAN OF CLUSTER- DAKSHINACHITRA	42
MAP 11 LANDUSE MAP-GUNDIYALI	59
MAP 12 LANDCOVER MAP-GUNDIYALI	60
MAP 13 IMPORTANT PLACES-GUNDIYALI.....	61
MAP 14 POTTER'S CLUSTER	63
MAP 15 SCHEMATIC MAP OF POTTER'S HOUSEHOLD.....	64
MAP 16 TRANSPORTATION OF GUNDIYALI FINISHED PRODUCTS	71
MAP 17 CRAFT-MAKING PROCESS	73
MAP 18 ACTIVITY MAPPING	86

LIST OF TABLES:

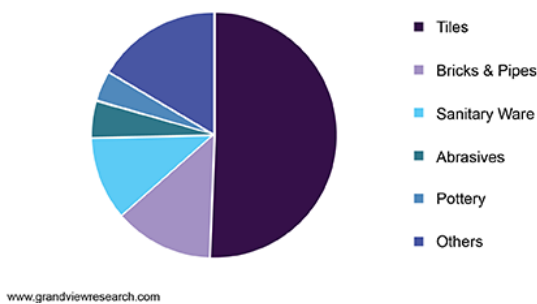
TABLE 1 PARAMETER AND INTERVENTION TABLE OF RESPONDENTS.....	68
TABLE 2 ACTION PLAN	74
TABLE 3 STEP-WISE VENTURE	75

Abbreviations

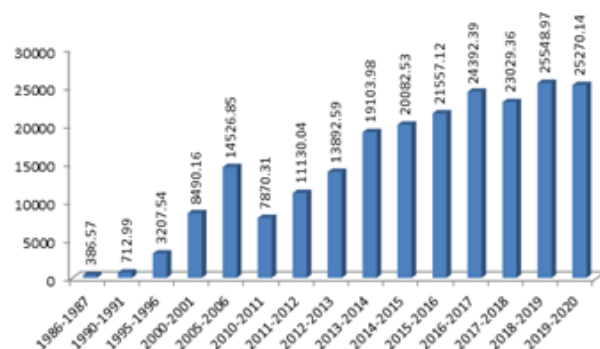
SEZ	Special Economic Zone
DRDC	District Rural Development Cell
S & T	Science & Technology
ICT	Information and Communication Technologies
MSME	Micro, Small and Medium Enterprise
SHG	Self- Help Group
CBDC	Craft Business Development
INDEXT-C	Industrial Extention Cottage
IMIAD	International Institute of Interior-Architectural Design
DMIC	Delhi Mumbai Industrial Corridor
DFC	Dedicated Freight Corridor
CO	Certificate of occupancy
TERI	The Energy and Resources Institute
CSEB	Compressed Stabilized Earth Block
NCSCM	National Centre for Sustainable Coastal Management
GPCB	Gujarat Pollution Control Board
NEP	National Education Policy
AI	Artificial Intelligence

1. INTRODUCTION

India’s industrialization and participation in the modern world and economy is decades old. Millions of Indians still stay upon local modes of production, traditional skills and techniques to make a living based on handmade products. These craftspeople and artisans are the pillar of the non-farming economy. Every state of India has its own unique set of traditional crafts that are now slowly dissolving due to absence of right infrastructure and platform to promote them. Corporate India too has shown little interest in promoting rural craft skills. Craftspeople form the second largest employment sector in India after agriculture. Handicrafts are rightly described as the crafts of people: there are twenty-three million craftspeople in India today.



Global ceramic market share 2018



Export of Handicraft

One of the biggest issues in India is that our markets do not recognize the true value of crafts. When this value is recognized, and people willing to pay higher price for craft-based products, it would translate into higher wages for weavers and craftspeople and act as a boost to millions of rural based livelihood opportunities associated with this sector. The economics however is not as simple, as finally it comes down to conflict between pricing and sales. If you out price goods, you sell only a limited number. If you don’t give craftspeople enough work, it kills the craft. Sustainable livelihood will ultimately depend on finding right balance between the two. Another, is the growing urbanization and installation of industries where wage labours are paid higher. Thus, younger generation in most of the villages those who are mostly deprived of right education quit their family tradition and no longer interested in crafts making process.

Kutch in western India, a semi-arid district in Gujarati is immensely known for its various handicrafts worldwide like leather and metal work, ajrakh block print, kala cotton weaving, tie and die, pottery making etc. It is a mosaic of diverse landscapes, people, and cultures that together create a distinct identity. But later after the earthquake in 2001 in Bhuj, artisans and craftsman are severely affected. Many *artisans* have suffered damage to their worksheds and houses and somehow it leads to the decline of craftsmanship in Kutch. Soon after the establishment of Special Economic Zone (SEZ's) in Mundra taluka, Kutch and existing Kandla port with rapid urbanization and migration in the district declined it further resulting in higher dropout rate of artisans from their craft.

This research incorporate the pottery making craft of Gundiyali village, Mandvi taluka in Kutch. It is a legacy from forefathers and the people in Gundiyali are still working and carrying on their tradition through continuing the pottery making craft. But due to modernization, the dropout rate is very high and existing only 25 families involved into the crafts making process. Hence, looking forward on the point of sustainability and to know the actual reasons of dropout, I visited the village to explore the craft and interacting with the existing crafts making families on which I can study on their sustainable living.

1.1 POTTERY INDUSTRY IN INDIA:

Pottery is nothing but a tangible and iconic Indian culture that often signifies ancient history. Its exquisite beauty and elegant features have made pottery, a modern form of Indian decor and utility, not just history. Like all other handicrafts and other arts, the tradition of pottery making is quite old in India. Roots of pottery can be traced back to the Indus valley civilization, Vedic, and also Mughal period. Pottery is pretty famous in most of the Asian countries and is spreading gradually all over the world. History says that India is the essential source and very much responsible for pottery art. Potteries were always in demand since time immemorial for storage and another purpose. There was a time when pottery was the primary source of income for the traditional Indian business class. Hence, the rise of pottery business in India is very evident. Handmade ceramics like a bowl, utensil, vessel, in different colors like was abundantly in demand and always available in India. Gradually pottery became a profession for Indians because of its utility factor.



Map showing the potter's cluster in India

India is dotted with various pottery firms, big and small pottery concerns have mushroomed in India like never before, thereby, making the Indian subcontinent self-sustaining in the manufacturing of various pottery products.

Among other states, Uttar Pradesh is responsible for taking this industry to new heights. Parts of Uttar Pradesh like, Khurja, Chinhar, Chunar, Phulpur, Mathura, Agra, Vrindavan, Ghaziabad, Jhansi, Moradabad, Kanpur, Etmadpur, Rampur, Aligarh are mainly engaged in pottery making. The pottery industry in Uttar Pradesh comprises 600 units altogether, out of which 570 are working actively. Furthermore, the working units are divided into independent units, Semi-independent units as well as dependent units.



Panchmura, West Bengal



Madurai, Tamil Nadu



Udaipur, Rajasthan



Imphal, Manipur



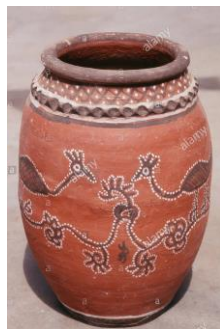
Dhubri, Assam



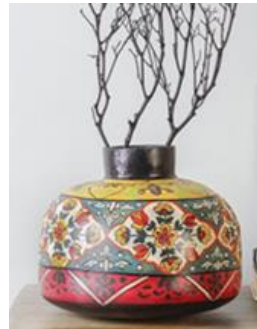
Koraput, Orissa



Mysore, Karnataka



Khavda, Gujarat



Khurja, Uttar Pradesh



Auroville, Tamil Nadu

India pottery industry, over the years, has bravely battled several hindrances and emerged as the proud winner. This profit-earning industry of India is without any application of modern day technical support, most of the technologies are outdated and are also inefficient at the same time. Moreover, this important industry has failed to taste success in respond to meet the present market demands. It has been estimated that over 40 lakhs rural potters still work with the help of conventional pottery wheels. Of the 15 lakhs traditionally skilled potters, about 95% are involved in the work of conventional red local pottery. In addition, the products made in the village pottery are only sold to a restricted part of the society.

However, the emergence of the Pottery studios has played a significant role in boosting the India pottery industry. More and more artists are getting involved with this kind of pottery

India along with several other developing countries of Asia is considered as one of the first Asian countries to manufacture as well as export products of pottery. The important markets for pottery products are USA, Mexico, Hong Kong, Japan, Germany, Italy and France. However, the share of global market of India in pottery products is believed to be less than 1%. The important suppliers list includes China, UK, Japan and USA.

The yearly production of pottery products in the Khurja units of Uttar Pradesh is slated to be around 85 crores. Out of this about 20% is exported in the international market. Among the pottery products that are exported from India, the most common ones are chemical porcelains, handicraft art ware and more.

In order to improve the overall condition of the India pottery industry, it is important to identify the various requirements of the manufacturing centers, technological development along with advancement of the centers with help structures have also become a necessity. Proper review of the industry, analyzing the need, gap and formulating of a proper plan are also important.

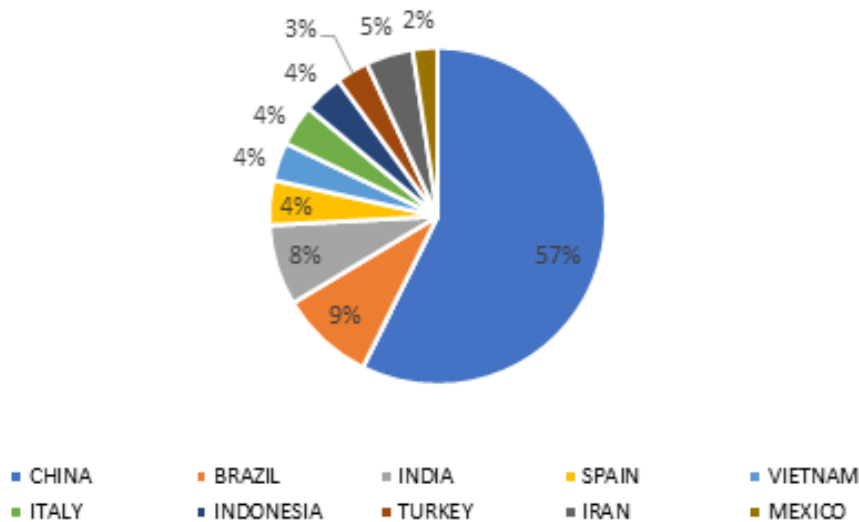
Pottery making business in India is a beautiful example of the journey covered by an entrepreneur from '**Mud to Money.**' Pottery in India has evolved over the years into magnificent ceramic art. It is not only a piece of clay for daily utility but is also the most significant factor of the source of income for many. Today entrepreneurs are not just exploring their creative side by manufacturing different pottery patterns but also building their careers based on this creativity. The pottery business in India provides mass employment to the people and the upgraded standard of living. Both the rural and city people comprise the massive workforce in the industry and have contributed tremendously to India's economy.

The pottery industry comes under the small-scale industry of India. Pottery is exported to over 140 countries from India. In the year 2019-20, India has exported pottery worth of 9.97 USD million. The volume of export in 2019-20 was around 5164429.

The pottery business in India has helped the budding entrepreneurs to uplift to reduce poverty. Artisans can work in all seasons and can produce craft in their leisure time. The cost incurred for manufacturing pottery items is less as most things are locally available and do not need to be imported. Because of this reason, the industry is classified as a small scale industry or household industry and even

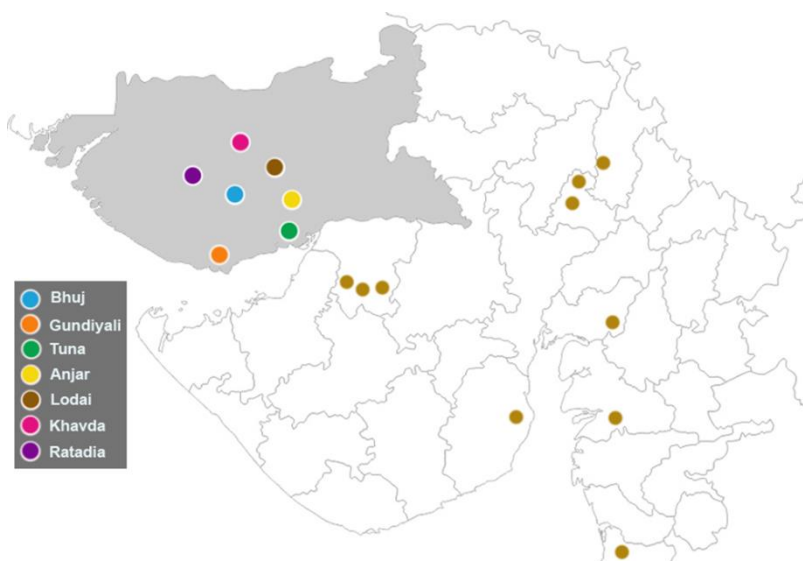
called women’s trade. The women can actively participate in the family income by working from home and doing their bit. They can balance their home responsibilities and use them very efficiently. This industry earns from both the domestic as well as international markets. The pottery items are produced in bulk, so the artisans have fulltime work. Capital investment for pottery business in India is less, so artisans can start their own business on a small scale. Demand and supply for the pottery products can be balanced well, as this product could be stored in their respective workspaces and sold whenever required. There is a massive demand for pottery items.

Country-wise production



Source: World Ceramic Review

1.2 POTTERY INDUSTRY IN GUJARAT:



In Gujarat, total 17 villages are involved in pottery making out of which 7 villages are in Kutch district.

Map showing Potter’s cluster in Gujarat

Business community engaged in pottery industry has appealed to the government to take steps for its survival and to remove multifarious problems of this old industry of Gujrat. They said that pottery industry is on the verge of collapse as many units have been closed due to lack of support from the government and the problems faced by the industry since long. According to reports, around 100 pottery units are functioning in Gujrat in which more than 10,000 persons' workforce is employed. The industry is producing 100,000 tons of different pottery products annually, of which 25 percent comprise mixed porcelains and 75 percent earthenware and stoneware. Industry sources told Business Recorders correspondent that the pottery industry was facing serious hardships due to the lack of research and development, patents, industrial designs, high cost and advanced technology.

This famous industry of Gujrat was totally ignored by the concerned authorities as a result of which the pottery industry has not been tracked on modern and scientific production lines. The industry currently is producing its wares through traditional manufacturing techniques and has badly failed in producing quality and standard pottery. It is faced with hard-hitting competition with low priced smuggled Chinese products and plastic utensils in the market. In the presence of low priced and quality products the domestic consumers and big hotels prefer to purchase smuggled goods. Pottery is one of the oldest industries of Gujrat but its advancement and growth had become stagnant due to lack of support from concerned departments. Therefore, many owners of pottery units are considering closing down their units. It is felt by them that the government should help them in the process of modernisation and guide them in bringing their production on scientific enabling them to compete in the local and international markets. Besides, the government should provide some incentives and concessions to the pottery industry for upgrading these units. Among their major problems is the excess billing of Sui gas. Many a time the issue of excess billing was raised with the concerned authority but no remedial step was taken. Pottery manufacturers express fear that closures of pottery units would create unemployment of four to 5000 skilled and semi-skilled workers.

The business community engaged in pottery industry is otherwise capable of improving the quality of its products in accordance with international standards and at present the industry was fulfilling the domestic demands despite serious hurdles and hardships. They streamline the need of obtaining modern technology

from Japan, France and China for the promotion and expansion of domestic pottery industry. At present the industry is using outdated technology. Some pottery manufacturers said that they were facing tough competition because of plenty of varieties of foreign crockery and plastic wares. They called upon the government to announce reduced tariff for Sui gas for the pottery industry to bring it out of the crisis. They said that the government should take steps to stop smuggling of crockery, which might infuse new blood in the ceramics industry of the country.

1.3 SWOT ANALYSIS OF POTTERY SECTOR:

Strength:

- i. Traditional and ethnic craft.
- ii. Skilled artisans.
- iii. Easy availability of raw materials.
- iv. Environmental friendly.

Weakness

- i. No marketing awareness and dependence on other organization to sell the products.
- ii. Lack of finance caused because of low product diversification.
- iii. Lack of unity and trust.
- iv. Lack of advance skills and tools due to Illiteracy and lack of awareness.

Opportunities

- i. Huge market potential.
- ii. Support from Government to Handicrafts sector.
- iii. Vast innovation possibilities.

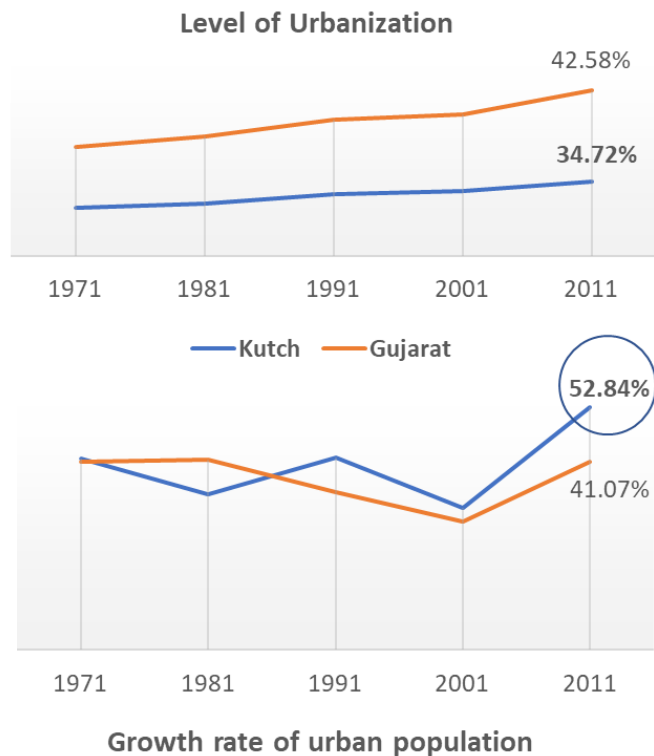
Threats

- i. Localized availability of raw materials which may be gone dry in the future.
- ii. Confinement of the skill to some villages and the younger generation are not interested to adopt the traditional skill for their livelihood.
- iii. Seasonal employment in Crafts.

1.4 PROBLEM STATEMENT:

In the craft community, 57% of the artisans are dependent on craft and other 43% of the are serving more as their Secondary source of Income. About 74% of artisans continue their profession where as 26% of the artisans wants to discontinue the profession.

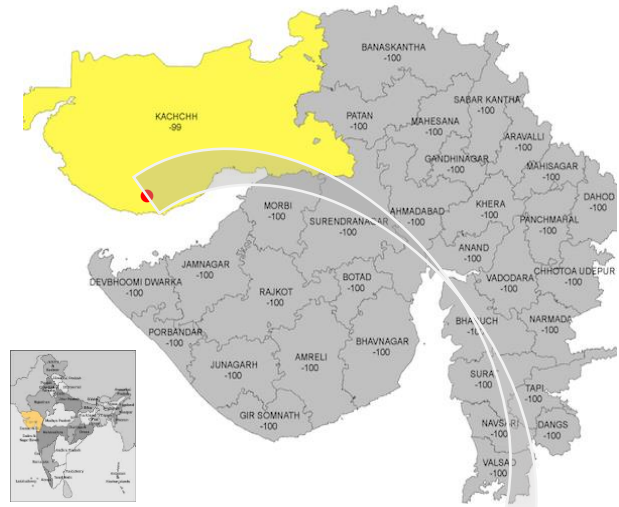
The reason most of them wants to discontinue their profession is mainly due to other job opportunities where they are paid higher wages.



In Kutch, Gujarat the growth rate of urban population which is much higher than the state's average. It means a lot of people are migrated to the major towns of Kutch mainly the installation of Coastal economic zones i.e. Mundra port, Mundra taluka and Kandla port, Gandhidham taluka. Another graph shows the level of urbanization in Kutch and Gujarat from 1971 to 2011 which is increasing at the rate of around 3% per 10 years.

"Dropout rate of Artisans from their Craft under the Impact of Urbanization in Coastal Economic Zone, Kutch".

2. STUDY AREA:



Location of Gundiya

Gundiya is a village close to Mandvi in Kutch, near the shore of Arabian sea. Located 60 km towards South from Bhuj and 6 km from rural



Satellite view of Gundiya

Gundiya is located 60 km towards South from Bhuj and 6 km from rural Mandvi, located close to the Arabian sea. Mandvi was once a major port of the region and has a 400-year-old shipbuilding industry, which was practiced by the Kharva community that still builds small wooden ships.

There are more than 72 terracotta craft families in Gundiya, Kutch (near Mandvi), from which about 25 families are engaged in the craft practice today. They practice the craft as a family, and also independently.

2.1 OVERVIEW OF THE VILLAGE:

Gundiyali is a village in Mandvi Taluka in the Kutch district of Gujarat State, India. It is located 60 km towards South from Bhuj and 6 km from rural Mandvi, located close to the Arabian sea. Mandvi was once a major port of the region and has a 400 years old shipbuilding industry, which was practiced by the Kharva community that still builds small wooden ships. The proximity of Gundiyali to the shore and a major trade route enabled export of the clay products in earlier times. A tight knit set of communities, Gundiyali has a lot of crafts practices including carpentry, pottery, textile crafts of tie-and-dye, and more. There is a blend of faiths in the area, with the Muslim community, Jain community and Hindu community together. The trades are often practiced amongst the members. The village is divided into various community zones.

A mosque between the cluster of small houses visible from a short distance marks the village of Gundiyali. On a usual day, people can be seen arranging matkas in open areas, preparing them to fire in open firing pits. The Kumbhar community of Gundiyali has been historically known for making matkas – earthen pots. These matkas are painted in red, white and black colours defining the local style and mark. Many craftspeople have also begun to innovate based on contemporary audiences, articulating craft practices into many different products other than matkas.

All clay craftsmen families are settled around one side of the village. Stories shared by potters show interlinkages between their religion and craft practices. Potters are said to be the descendants of the second son of Dhai Halima, who adopted Muhammad Paigambar. Gundiyali potters earn their living by selling products in local markets or to a fixed network of resellers around the nearby towns and villages. Majority of craftsmen are highly skilled and make matkas throughout the year. Some artisans are also making water bottles, cups, glass, lamps, plates, piggy banks or gullaks. Matkas were not only used as utensils but also used in many religious rituals and festivals, which has led to bringing together faith and their collective meaning.

There are more than 72 terracotta craft families in Gundiyali, Kutch (near Mandvi), from which about 25 families are engaged in the craft practice today. They practice the craft as a family, and also independently. Through the years, associations were

developed with all the craftspeople of the community, information about whom are documented and presented through an extensive mapping process.

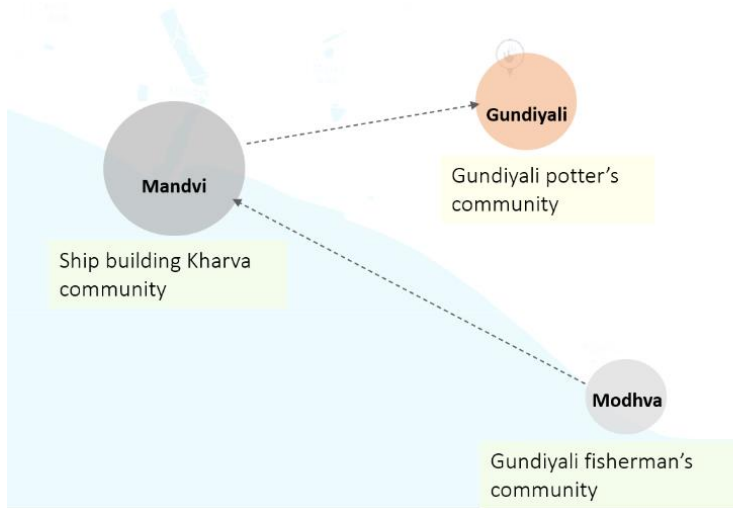


Drone view of the potter's community- Gundiwali

2.2 BRIEF HISTORY OF GUNDIYALI:

There is an oral anecdote in the region of Kutch saying “Char Shehr pan Gundiwali” meaning Gundiwali was the largest after the four major towns of Kutch. This gives a hint about the glorious past of Gundiwali village. In the past Gundiwali became home to many communities with its proximity to the then active port, Mandvi. The Kumhar community is a unique one amongst many communities still residing at Gundiwali since then. Various historical events have influenced the decline in Mandvi’s importance, leading to migration of various communities from nearby places including Gundiwali. However, across the time, the Kumhar community has been continuing their craft practice and currently their fifth to sixth generation is keeping the tradition alive.

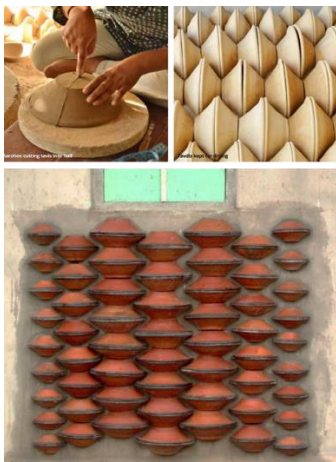
Mandvi, historically a major port, home to 400 years old ship building Kharva community. A ship sailing out for the first time were filled with terracotta matkas (pots) as sailing an empty ship was considered inauspicious. This is how the Gundiwali craft community came into existence.



Interconnectivity between the communities in Mandvi

This also shows an interrelation between the various communities. Boat making Kharva community that depends on Gundiyali craft community and also Modhva fisherman's community that depends on Kharva community for boats in Mandvi.

2.3 GLIMSE OF GUNDIYALI CRAFTS:



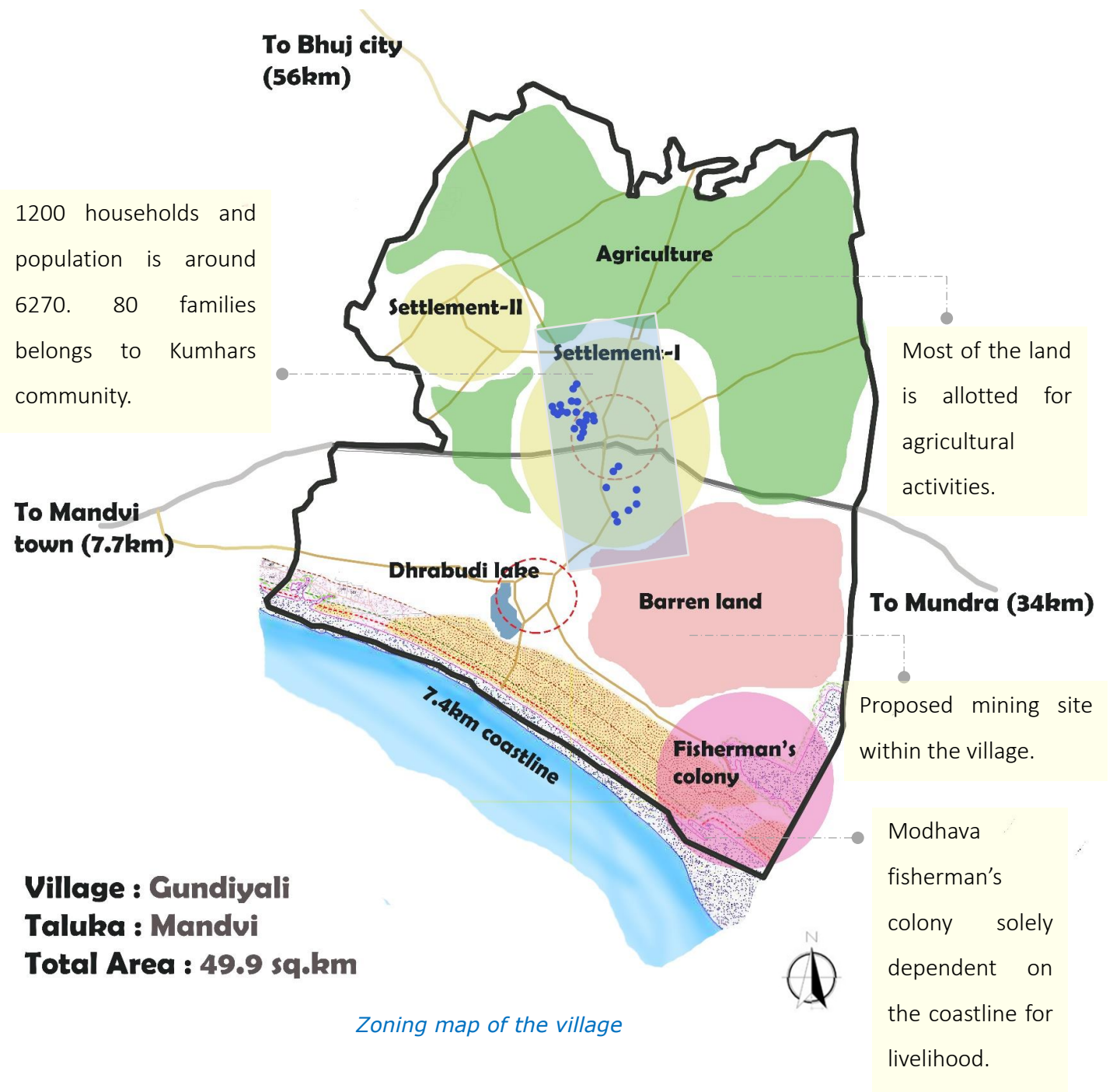
Gundiya pottery design and efficiency is time-tested. These earthen pots are living testimonies of design which has undergone very less or no rectification. The Gundiya pottery earthenware is characteristically adorned with patterns using different colours like white and red without any paint content.

'Aadh'- A modular partition system: Can be used as an architecture interior element. Created by artisans of Gundiyali.

'Tarkash'- A cladding system: Can be used for surface treatment in buildings. 'Tarkash' means a vessel that contains all wisdom, abilities and learning for a particular craft.

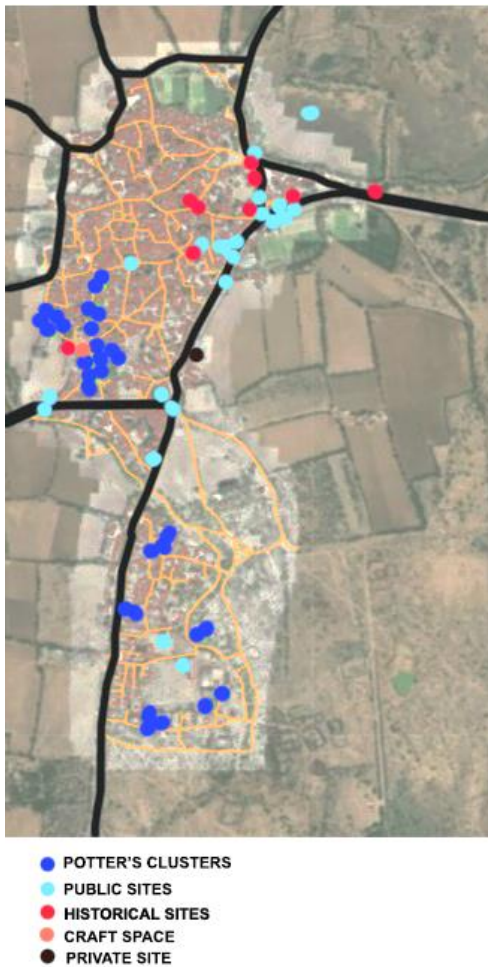


2.4 ZONING:



Growth pattern of gamtal from 1990, 2000 and 2020

Potter's clusters in Gamtal



Total area of the village is 49.9 sqkm. Whereas the gamtal covers an area of 1.2 sqkm. NH41 connecting Gandhidham to lakhpat taluka passes through the village. At the lower eastern edge of the village at the coast of Arabian sea, there is a fisherman's colony named Modhva, depends entirely on the Arabian sea for livelihood.

Most of the land is allotted for agricultural activities and there are 1200 households, and most of the households are engaged into animal husbandry.

Blue dots represent the potters cluster in the gamtal. The village is divided into various community zones, where each community along with the potter's community have their own meeting place and place of worship. Also, there is a proposed mining site within the village.

2.5 BRIEF ABOUT THE COMMUNITY:

The craft cluster of Gundiyaali, holds an immense historical, religious, economic significance. The terracotta craft community belongs to the Brar Muslim sect and are believed to be the descendants of Mohammad Paigamber's foster mother who have migrated from Arab countries to Sindh and further to Kutch. It is said that their forefathers migrated here from Sindh (Pakistan) a few hundred years back and now they are an integral part of Kutch folk craft tradition. There are many members of the community that are based in Pakistan today, since the partition. From generations, craftsmen have been making earthen pots (matka) with the same shapes and designs as those seen in Harappan excavations.

Every Friday, the men in the community gather to read the namaaz at the mosque. Traditionally, the gender roles within the community have been divided between men and women. Usually men are involved in the making process to create the products on the wheel, while women are involved in preparation of the clay, and later for painting the pots and ornamentation. Women and men are equally involved in the craft process and work together in producing outputs. Some elder women in the community work on the wheel to make big plates as well.

The local Jain and Hindu communities are consumers of the products for matkas to store water for day-to-day purposes and for diyas and garbo for festivities like Diwali and Navratri.

3. LITERATURE REVIEW:

<http://punjabgeographer.org/journals/readmore/vol9/punjabgeographer-vol-9-5.pdf>

Pottery is one of the most ancient and popular form of Indian village craft. The services of the potter are indispensable to the rural folk and to a smaller extent to the urban population. Hence in a predominantly rural country with a very low income and simple needs, pottery plays an important role (Meena et. al., 2005). Besides providing employment to artisans, the sector offer job opportunities to non-artisans during slack seasons of agriculture and to other tertiary sector employees.

An overwhelming majority of the pottery industrial units is found in Jalpaiguri district, in the state of West Bengal. These are mostly concentrated in rural areas. Traditional in nature, the industrial activities are carried on household basis and are characterized by low technology and low levels of production. The artisan himself is the proprietor and works on his own initiative and with his own capital. As scientific and technical knowledge is lacking due to illiteracy and poverty, the techniques of production remain inferior and the products lack standardisation. The market of the products is mainly local and partly extended to urban areas. Besides, middlemen play a powerful role in marketing these indigenous products. They usually place order with the artisan and collect materials at less than the market price. The competition from the

substitutes like plastic items is a major problem for its development. To increase productivity and to protect this traditional skilled based industry from decay, rational solution seems to develop forming the variate of independent variables and then examining the magnitude, sign and statistical significance of the regression coefficient for each independent variable.

The study is based on 67 sample units collected through field survey covering 30 villages of the district. The purpose of the study is to examine the relationship among the identified factors related to productivity of pottery and make predictions for the development of this industry in the study area. Multiple regression model is used in the present study with a set of eight independent variables. Based on the analysis some policy measures are suggested for the development of the said sector. The study is based on 67 sample units collected through field survey covering 30 villages of the district. The purpose of the study is to examine the relationship among the identified factors related to productivity of pottery and make predictions for the development of this industry in the study area. Multiple regression model is used in the present study with a set of eight independent variables. Based on the analysis some policy measures are suggested for the development of the said sector.

Productivity simply indicates the relation between the value-added (VA) or the quantity supplied and the inputs of production. Every incremental increase in productivity implies increased value-generation (value-added) with regard to inputs (Gurak, 1999). It is an involved process accounted for the actions and reactions of numerous social and economic factors or operators. Some of these operators directly determine the above mentioned process while some others operate indirectly. These factors are again closely interconnected with one another and a change in one is reciprocated by the others (Sao, 2009). Multiple regression provides a means of objectively assessing the degree and character of the relationship among these factors

[Problems of pottery industry and policies for development: case study of Koch Bihar district in west Bengal, India \(IJARMSS- Vol. 3 | No. 7 | July 2016\)](#)

In the present day, the pottery industry in India has been put forward as a major cottage industry in both small and big pottery concerns. In a predominantly rural country with a very low income and simple needs, pottery plays an important role. Besides providing employment to artisans, the sector offer job opportunities to

non-artisans during slack seasons of agriculture and to other tertiary sector employees. An overwhelming majority of the pottery industrial units is found in Koch Bihar district, in the state of West Bengal. The artisan himself is the proprietor and works on his own initiative and with his own capital. As scientific and technical knowledge is lacking due to illiteracy and poverty, the techniques of production remain inferior and the products lack standardization. The objective of the present paper is to study the characteristic features of the pottery industry in the study area, problems of development of the sector and suggest suitable policy measures for its development. The present study is based on sixty eight sample units collected through primary survey. Cobb-Douglass production function method is used to study the nature of production function of pottery industry.

Pottery is an age old handicraft in India. The roots of the Indian pottery industry can be traced back to the earliest times of civilization. The beginning of pottery making trails back to the Neolithic era. During the time of the Indus Valley Civilization, this effective art form improved with technology. In the present day, the pottery industry in India has been put forward as a major cottage industry in both small and big pottery concerns. In a predominantly rural country with a very low income and simple needs, pottery plays an important role (Meena et. al., 2005). Besides providing employment to artisans, the sector offer job opportunities to non-artisans during slack seasons of agriculture and to other tertiary sector employees. An overwhelming majority of the pottery industrial units is found in Koch Bihar district, in the state of West Bengal. These are mostly concentrated in rural areas. Traditional in nature, the industrial activities are carried on household basis and are characterized by low technology and low levels of production. The artisan himself is the proprietor and works on his own initiative and with his own capital. As scientific and technical knowledge is lacking due to illiteracy and poverty, the techniques of production remain inferior and the products lack standardization (Kasemi, 2014 PG). The market of the products is mainly local and partly extended to urban areas. Besides, middlemen play a powerful role in marketing these indigenous products. They usually place order with the artisan and collect materials at less than the market price. The competition from the substitutes like plastic items is a major problem for its development (Lakhsman, 1966). Under such a situation the decay of this particular sector of employment poses a serious problem and obviously the

rational solution seems to develop and make viable the household industries (Reddy, 1998)

The objective of the above paper was to study the characteristic features of the pottery industry in the study area, problems of development of the sector and suggest suitable policy measures for its development. The present study is based on sample units collected through primary survey. Cobb-Douglas production function method is used to study the nature of production function of pottery industry. As scientific and technical knowledge is lacking due to illiteracy and poverty, the techniques of production remain inferior and the products lack standardization.

Pottery industry of Koch Bihar district are characterized by small size of the units, familybased operation, predominance of skilled workers, use of primitive tools, and wide prevalence of illiteracy among the workers. The present study shows that the pottery industry in the study area is suffering from irregular supply of raw materials, lack of working capital, obsolete technology, lack of diversification of products, Competition from the organized sector, good marketing facilities, management problems and Lack of Research and Development Efforts etc. The artisans are often exploited by the middlemen who always squeeze the profit. The need of capital for increased productivity of the sector is clearly recognized from Cobb-Douglas production analysis. The Government and nongovernment initiatives can solve the problem and develop the industries at its best level. It goes without saying that realization of policies will need very efficient and committed functionaries. Since the artisans are in the hands of stereo type machinery it may be necessary that the entire programme for the development may be marshaled through various governmental institutions.

[file:///C:/20234-Article%20Text-64267-1-10-20180612%20\(1\)%202018.pdf](file:///C:/20234-Article%20Text-64267-1-10-20180612%20(1)%202018.pdf)

This research is based on the descriptive method. The results show that there is good scope in this industry but the people involved in this industry are facing different kinds of challenges or problems like shortage of raw materials, manpower, and lack of space to dry the formed pottery, firing pottery, to store the finished goods along with the different raw materials. The sales of the product in the national and international markets are being increased. This industry is being affected by the change in lifestyle and different substitute products. The intermediaries get good profits but they face the problem of getting the products

damaged, demand dependent on the festive occasion, problem of transportation, etc. Study shows that there is a huge demand for Nepali handmade ceramic products in the international market due to their improved quality. Buyers are willing to pay a premium for handmade goods, which are propelling exports.

The major objectives of this study is to examine the challenges associated with pottery industry and scope of the pottery industry in international market.

According to Federation of Handicraft Associations of Nepal (FHAN), Bhaktapur is the major supplier of ceramic products, and accounts for more than 70 percent of the exports. That's why Madhyapur municipality and Bhaktapur municipality are selected for the study. Both the producers and the intermediaries are selected for the study. The producers are selected to know the condition and the problems related with the production where as intermediaries are selected to know the market condition. This study is based on the convenient sampling method. Questionnaires were distributed to 40 producers and 40 intermediaries. But only 60 of them replied. Data has been collected from both primary sources and secondary sources. The primary sources of data were the questionnaire prepared separately for the producers of the pottery and the marketing intermediaries involved in pottery industry. Similarly field observation and interview with different people were also conducted.

This study shows that all the family members in the potters (producers of pottery) are not involved in pottery industry. It shows that the charm in this industry is slowly being faded away due to many more problems. Hence this industry is slowly in the threat of disappearance. It is found that all the respondent being involved in this business from the period of their parents. It shows that this is the family and the traditional business. There are numbers of problem in this business both for the producers and the sellers. The producers are facing the problems of raw materials, good storage, and firing place. Similarly the expansion of the industry in modern context is not there. There is not organized group for the solution of the problem related with this industry. The only one cooperative related with this industry named Nepal Ceramic Cooperation is trying to solve some of the problems related with this industry, but it is not sufficient. There is lack of training for production of the products similarly lack of idea for export of the products. Most of the ceramics products are exported through different intermediaries. Then the producers are not well benefited. That's why there is need of training about the export of the products to the producers of pottery. This industry has witnessed

tremendous demand for and utilization of its products and, in turn, has provided means of livelihood to a large numbers of workers employed directly or indirectly in it. In spite of its vast potentialities, the industry still suffers form several limitation resulting in its improper, unbalanced and inadequate growth. That is why it deserves the attention of economists, planner, researchers and authorities concerned. This study shows that there are scopes and opportunities in the pottery industry but the people involved in this industry are facing different kinds of challenges or problems like shortage of raw materials, manpower, and lack of space to dry the formed pottery, firing pottery, to store the finished goods along with the different raw materials. The sales of the product in the national and international markets are being increased. This industry is being affected by the change in lifestyle and different substitute products. The intermediaries get good profits but they face the problem of getting the products damaged, demand dependent on the festival, occasions, problem of transportation, etc.

[Induction and Impact of Technology in Pottery Industry: A Study at Matigara Block of Darjeeling District in West Bengal, India \[Imperial Journal of Interdisciplinary Research \(IJIR\) Vol-3, Issue-6, 2017\]](#)

This study is an attempt to probe the factors of sustainability in a potter community (Palpara) of Matigara in the Darjeeling district of West Bengal. They have improved on the basic tools like induction of ergonomically compatible pedal driven wheel. The important experiment, they collectively pursued, was their endeavor to use a modern kiln. The conventional kilns are fired by the dry leaves or plant twigs or wood or saw dust. Experience of firing helps proper heating for obtaining the products. The potters of Palpara were aware of the modern kilns which use fossil fuels to overcome the irregular supply and ever-increasing price per unit of fuel woods. Therefore, they felt the need to improve upon the traditional furnaces.

With rapid urbanization, a sea-change has been observed in the demand for pottery products; for example, now the demand for clay utensils has been totally replaced by the demand for decorative items. Pottery products for interior decoration including dias (lamps), 'murti'(idols), flower vases, earthen tubs for indoor plants, earthen water filters, light shades for interior and gardens, are in high demand. Products of pottery industry have become a part and parcel of nursery and indoor horticulture (including floriculture) in urban set-up.

Entrepreneurship among the potters of Matigara is thus evident from emulation of design, use of color, and novelty in product diversification. Behind every innovation, the basic procedure remained tedious as before. In certain stages of product formation, they have resorted to modernizing their tools. This industry is also dependent on the climatic factors as air-drying (direct sun-drying is detrimental) of nascent clay products requires lesser humid conditions in their productive months. After air-drying the products are baked in furnaces called 'bhati'. The second most important limiting factor of this industry is the supply of fuel wood. The basis of settlement of the potter community in Matigara was primarily due to availability of river water and fuel woods and saw dust from the neighbouring timber industries. Furnace is fuelled by wood and packed sawdust. Construction of 'bhati' is done very carefully. It is made by digging the ground in a circular shape followed by lining with bricks and coating with diluted cow dung. The interior of the furnace is fuelled with different types of combustible agents including cow-dung cake, rice husk, saw dust, and firewood. The clay objects were then carefully placed in the furnace, against one another. Finally, the furnace is fired and the opening of the bhati sealed. The degree of heating (normally 8- 10 hours of controlled heating) depends on the products and the potter's choice of color and strength of the desired items. Thereafter the furnace is opened, and the baked products are taken out carefully and left to cool for 4-5 hours. The art forms have by now acquired brick-red color or dark black of certain items that we see in the market. To cope up with quantities of products, they sought for electrically driven equipment. The most successful adoption of technology was made in the potter's wheel. The traditional potter's wheel was an invention that changed the face of the world thousand years ago. At present the potters' family worship this traditional wheel in the morning just before entering into the production process. They have brought in innovation by introducing ergonomically efficient pedal driven wheel as well as electrically driven wheel. The output per hour per wheel has increased. Use of electrical power in glazing machines has been noticed. Spray machines, used in modern carpentry, are also being used to bring finesse to the colour of the products. The most progressive step that the potters took was trying an alternative to traditional 'bhati'. They realized, well ahead of time, that the shrinking supplies of even low grade of firewood could be a serious limitation of this industry. Again, overheating or under-heating had large financial implications.

Hence, they decided to construct a modern furnace that can be advantageous to overcome the limitations of 'bhati'.

Finally, a pilot diesel furnace was installed by the District Rural Development Cell (DRDC) of the Siliguri Mahakuma Parishad at a cost of around Rs 7.10 lakh. Approximately 1,500 medium-sized flowerpots can be baked in the furnace at one go, as against the 1,200 to 1,300 pots that a traditional furnace can accommodate. The furnace was set up under the centrally-sponsored Swarnajayanti Gram Swarajgar Yojana. A committee comprising members from the 16 self-help groups was in the charge of running the furnace on day to day basis. However, the running and the cost of furnace including the expenses for diesel and electricity were to be borne by the potters through the committee.

Matigara stands as a classic example of 'Survival of the fittest'. The place is at present commercially recognized for its clay-ware production. The potters of Matigara have elevated their production with adoption of affordable technology to a great extent in order to satisfy the market demand for clay-art forms and utilities of several urban centres of India. More Science & Technology (S & T) inputs are required in this sector for minimizing wastage of energy from burning Carbon (wood) in 'bhati's, awaiting introduction of large-scale controlled drying and cooling units (before and after the phase of loading into the furnaces), and adequate measures to reduce air and water pollution.

[Pottery industry and its development by effective marketing through information and communication technologies \(ICT\) \[Akilandeewari et. al., Vol.4 \(Iss.4: SE\): April, 2016\]](#)

Globalization has opened up the economy at a very high speed, as a result of that information technology has opened the sphere a global village and have facilitated global communications network that transcends national boundaries. Due to ICT, there is a dramatic change in the society. Handicraft industry is the second largest industry which provides employment to rural and underemployed agricultural laborers. But large group of artisans are in the unorganized sectors like handicraft and cottage industry and these handicraft artisans are in inaccessible area of rural India. Majority of artisans are still bounded to traditional way of living so they are not enjoying the modern world benefits and adopted to modern scenario. These artisans are not access to available technology or participation and to promote for the contribution of societies development and these artisans are less engaged with Information and Communication Technologies (ICTs) than common man.

Information and Communication Technologies are for everyone and handicraft artisans should equally benefit to the advantages offered by the technology to the products and processes. Almost in all the States of the India, people are expert in producing handicraft items traditionally. The worth of Indian handicrafts in the international market was realized when the exports crossed Rs. 300,274.12 crores in 2012-13. The handicrafts sector has made considerable contribution to the Indian economy through exports. ICT brings success to marketing and export activities and production part of the craft. But knowledge on marketing technology was poor for artisans. So, an attempt has been made in this paper to bring out the problems and opportunities of artisans in the handicraft industry with the usage of ICT, and the opportunity for exporting to foreign countries and to help artisans improving their standard of living and thus the economy.

The main objectives of the paper are to know the present socio-economic conditions of the pottery artisans. To analyze the production and marketing of pottery products in the market economy. To identify the avenues of adopting ICT among the pottery artisans. Also, to suggest suitable strategy for sustenance and survival of the pottery artisans.

The primary data was collected directly from the pottery artisans through a well-structured interview schedule and focus group discussions with pottery artisans in Dindigul, Madurai, Sivagangai districts. Secondary data was collected from Handicraft Development Commissioner, reports on handicrafts by the Government of Tamilnadu and EPCH websites, reports of Planning commission, Handicrafts Marketing and Service Extension Center, Magazines, Journals, Periodicals, Newspapers, Previous work of scholars, Internet and Books. The data was collected from all the artisans in the selected area by following Census Method as the artisans are small in number and they are in a particular place as a group. It is estimated that there are around 325 families who are carrying out the traditional pottery work till date. For the study, 41 families from Dindigul, Vedapatti, 122 families from Manamadurai and 142 families from Villacherry were chosen. So, all the pottery artisans were contacted for survey. The entire artisans family was contacted to find out the socio economic condition, production and marketing problems, knowledge on ICT for their improvement and their contribution towards the family improvement were analyzed by focused group discussion and interview. The data collected through schedules was edited, coded, classified and tabulated

to make necessary analysis and interpretation with the help of SPSS package of 16.0 version.

ICT has benefited only the upper society of people as they have knowledge and understand it to adopt the new things quickly. These people enjoy the ICT facilities and have developed themselves in their socio and economic status. The breadth of areas in which ICT's are continuously expanding. ICT in convergence with other forms of communication or other form of media have not been reached those artisans, still they do direct marketing or rely on the middlemen/agents for their marketing activities. Thereby they are not empowered themselves to participate in economic and social progress of the nation. Other issues like upgradation for new technology, empowerment in knowledge become even more significant and strategic for the survival of pottery artisans. They have not upgraded because of their locality and the society, economic and environmental situation of their communities. Artisans are powerless and poor access to information on many matters and this is because of their economic and geographical reasons. The main reason for poor access to information is illiteracy and lack of proper education. The wants and needs of pottery products are changing regularly, people are becoming health conscious, so the customer has to be targeted and position their product with proper use of technology like television, e-commerce, internet, mobiles and publicity (Akilandeewari. 2014).

https://www.researchgate.net/publication/332525502_SelfEmployment_and_Economic_Empowerment_A_Case_of_Pot_Makers (Vol-3, Issue-6, 2019)

The economic activity which is having profit motto called a business and person who engages in an economic activity termed as an entrepreneur. The livelihood of an individual always depends on earnings through paid employment or Self-employment. The risk with functionalism in paid employment is completely different, compared to self-employment. It is alternative employment which creates a platform for the development of an individual in their ways by creating new ideas, initiating with bearing the risk, assembling all factors of production with proper management, thereby an individual created first employment to him only. The term economic empowerment significantly promotes the individual capacity of women and men active involvement in economic activity; thereby they sustain themselves and get benefit from that growth. Here the present study mainly focused on the role of self-employment in economic empowerment of pot

makers. The present attempts to analyse pot making activity, its cost structure, marketing of pots, and economics of pot making. For this, a structured questionnaire will be prepared to collect the primary data by the pot makers.

In that handcraft is a special and creative small scale sector. Which has the power to create many self-employment opportunities and it is passed from generation to generation? The kumbara community has the skills of pottery making, so they are started this creative art to lead their life by selling pots. Pottery making becomes a traditional occupation and it is sources of employment. It has become a solely depends activity. The pottery makers are not adopting any new technology and trends in this creative art. They are adopting the culture and traditional art still, they are following the traditional methods of production of pots.

Half part of the respondents stated that they are earning income and enjoying profit, and other 50% of people say that they do not earn any profit due to more expenditures and cost of production. Majority of respondents said they want to continue their business because they got this from traditionally so they don't want to leave that job, 40% respondents' state it is difficult to lead a life based on this so for that they don't want to continue this work.

The finality of the study confined role of self-employment in economic empowerment in the changing global business environment. It has been significantly attributed by the rise of neo liberals with free entry and exit, the borderless relationship between countries enacted as globalization, and the new dimension with a pivotal role in the economy called as financialization, alternatively financial inclusion by covering all people in financial administration by providing opportunities to become self-employed or paid employed. The organization for economic cooperation and development defines the self-employment as the employment of employers, workers who work for themselves, members of producers' co-operatives, and unpaid family workers. The latter are unpaid in the sense that they lack a formal contract to receive a fixed amount of income at regular intervals, but they share in the income generated by the enterprise (OECD). In Indian scenario there is a requirement to promote conventional self-employment activities by assisting in technological now-how, finance, and other infrastructural facilities.

4. AIM, GOAL AND OBJECTIVES

Aim:

To sustain traditional livelihood and community strengthening to promote Self-Sustenance and Identity.

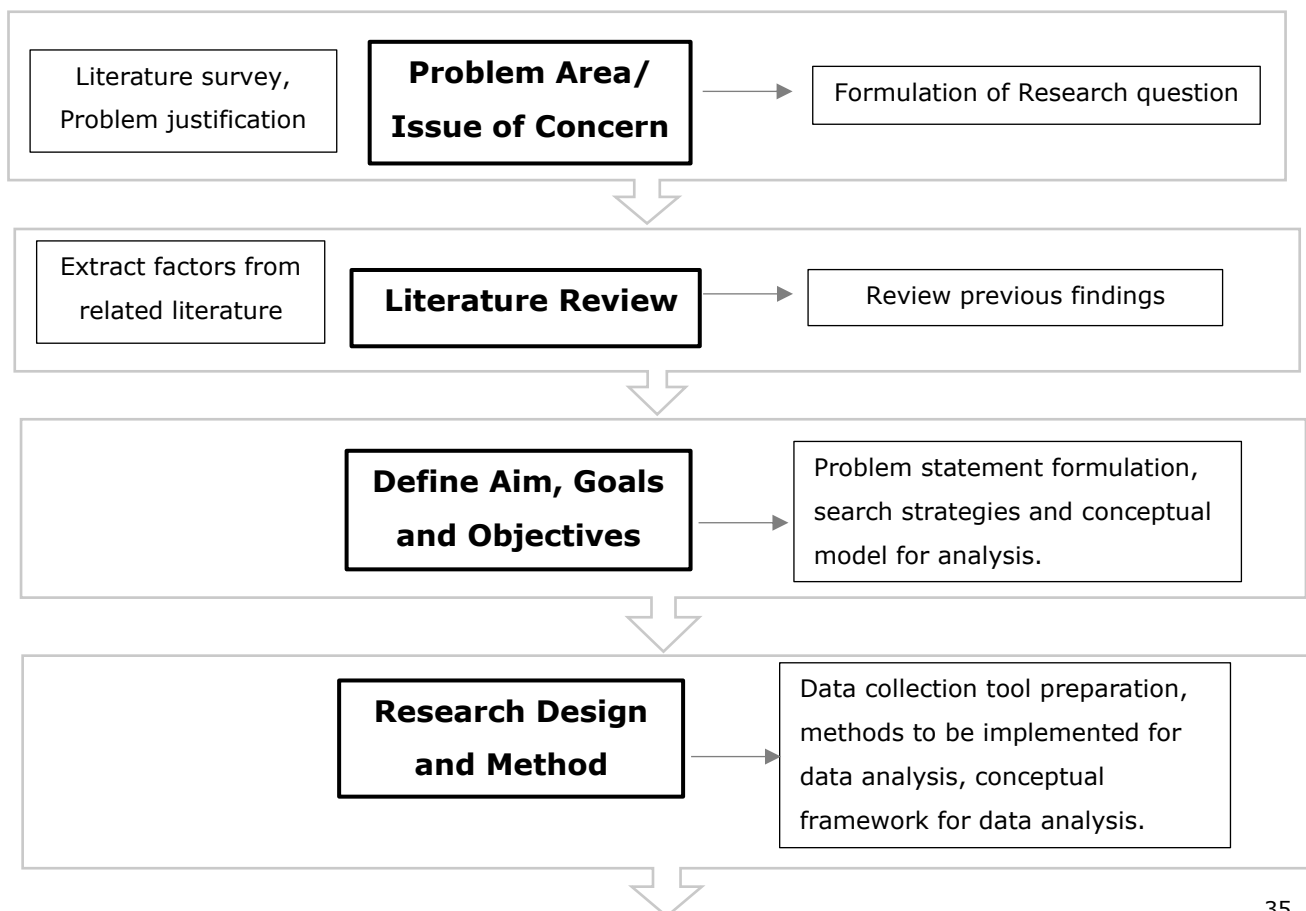
Goal:

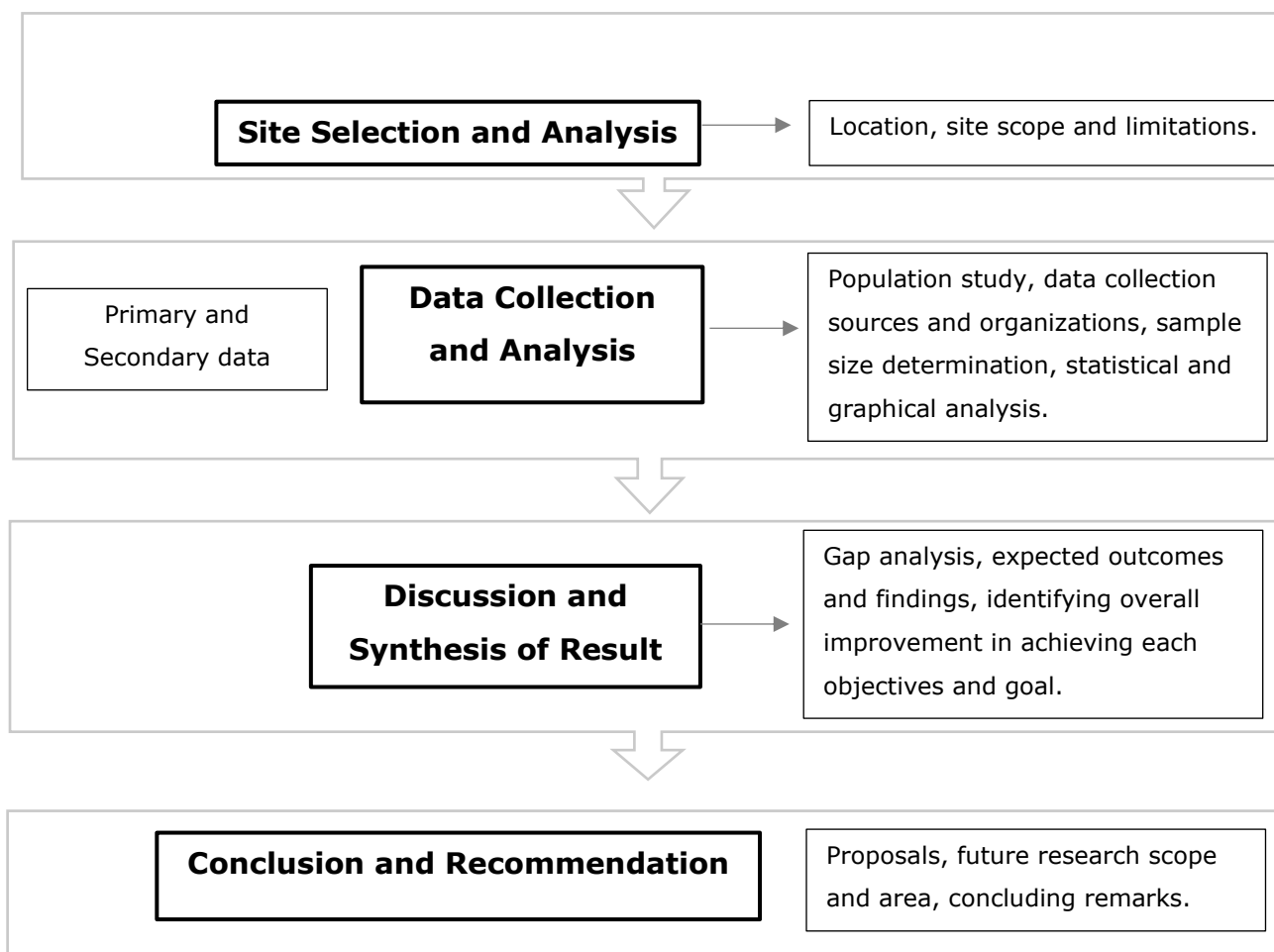
To sustain the intangible knowledge for future generation and how craft culture of a place can enhance culturally sustainable tourism.

Objectives:

- To examine relationship among various socio-economic and environmental factors affecting productivity in the study area.
- To Identify the implementation of schemes and policy making for preservation and revival of pottery industry and their impact at grass root level.
- To examine design innovation and technology used in craft making process.

5. RESEARCH METHODOLOGY





5.1 RESEARCH DESIGN

Quantitative and Qualitative research approach for analysis of socio-economic and environmental parameters. Questionnaire to be prepared and Semi structured interview to be conducted with the artisans in the community. Communicative approach to be initiated to understand the social and economic condition and to identify the local economic opportunities of the artisans. Also, to promote sustainable and healthy practices, observation mapping and participatory planning to be implemented in the research.

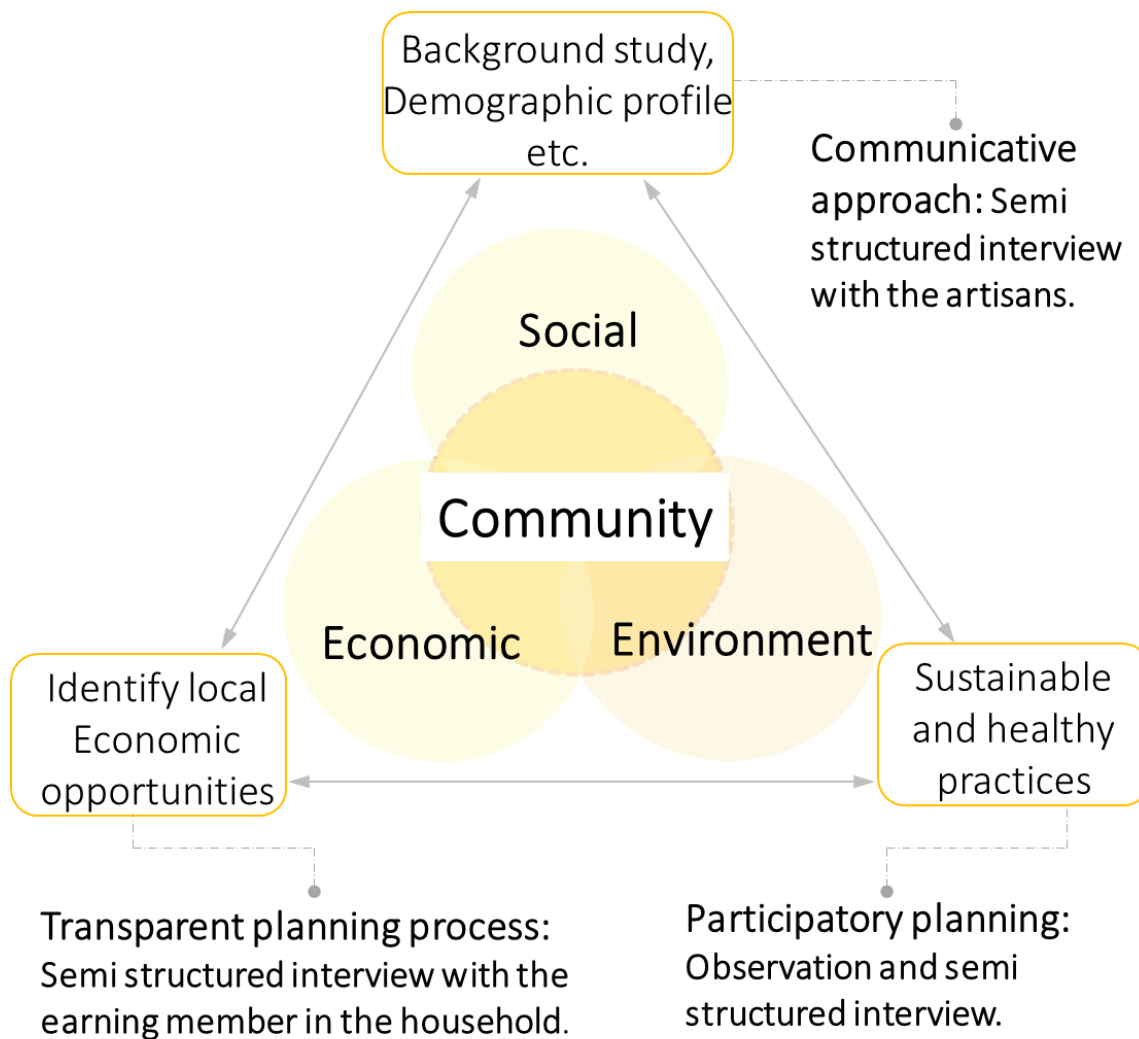


Fig. Research design and method for sampling

5.2 STATISTICAL EVALUATION:

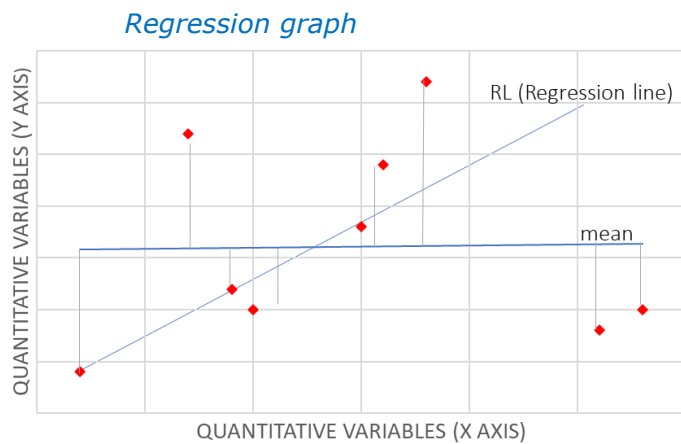
- I. **Multiple Regression Model** for predicting productivity in pottery in Gundiya.
- II. **Co-relation (R)** among the various variables affecting productivity.
- III. Simple random sampling to be adopted.

Y: Productivity per unit (defined by total revenue from sale minus cost of goods and services bought) in Rs.

X1: Standard mandays: total man-hours worked per unit / 8 (taking as standard shift hour)

- X2:** Duration of daily working in hours.
- X3:** Value of working capital in Rs.
- X4:** Age of the workers in years (point scale (1-5)).
- X5:** Experience level of the workers (point scale (1-3)).
- X6:** Educational level of the workers (point scale (0-4)).
- X7:** Percentage of finished products sold to customers.
- X8:** Percentage of finished products sold to middlemen.

Where, **Y is the dependent variables and X are the independent variables.**



$R^2 = 0.00$, there is no co-relation between the variables.

0.7 to 0.9, there is strong co-
 $R^2 =$ relation between the variables.

$R^2 = 0.1$ to 0.5, there is negligible correlation between the variables.

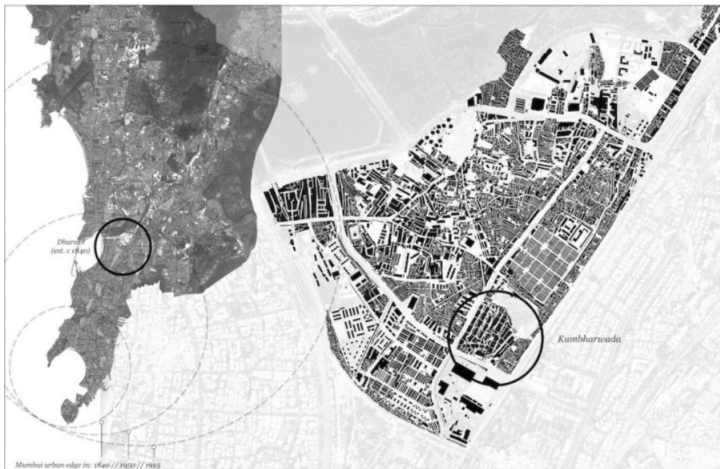
$$R^2 = \frac{\text{Variation around (mean)} - \text{Variation around (RL)}}{\text{Variation around (mean)}}$$

Also, upwards slope shows positive corelation and downward slope shows negative corelation.

6. CASE STUDY 1: KUMBHARWADA- A POTTERY VILLAGE OF DHARAVI, MUMBAI

Kumbharwada is one of the first settlements in Dharavi, built by migrants from Gujarat in the second half of the 19th Century. It's home to the pottery industry, one of Dharavi's most famous local crafts. In the small gaps between their houses, artisans throw and fire pots of all shapes and sizes, from small cups for yoghurt to diya candles, larger water pots or ornamental vases. The potters brought their family trade with them, and maintain – like many in Mumbai – strong ties to their ancestral villages. They're in constant communication (physical and online) with

their families in the North, collaborating to improve kiln designs, visiting their villages regularly, and significantly, importing their clay from there.



Location of Dharavi, Mumbai



Growth of Potter's cluster in Dharavi

In the 1800s, Mumbai's municipal authorities moved the potters, who had previously settled in the Southern tip of the city, to what was then its Northern fringe. In the wealthier parts of town, the smoke from their kilns was deemed a nuisance. When they arrived, Dharavi was a no-man's land between two railway lines, dotted with a few villages, which have since expanded into one large settlement.

As Bombay grew, Dharavi ended up in a more central location, prompting property speculation and a cultural, touristic and academic interest in the neighbourhood.

As is the case throughout Dharavi, this multiple use of space is both a blessing and a curse. On the one hand, social circles are very localised and hybridised, with friends, colleagues, extended families, employees and business rivals all close by. For example, childcare can be shared between extended family members, or else parents are able to work and keep an eye on their children at the same time. Otherwise, if a potter requires help to fire their kiln, they can call upon a relative to help out. If they're not able to fulfil an order, they can pass it onto a cousin. Around here, everyone is an 'auntie' or an 'uncle'.



Kumbharwada is made up of five lanes, dotted with over 120 kilns, with houses and workshops crowded around them. Most buildings here are *tool-house* – with workshops on the ground floor with residential space above.

Potter's household

On the other hand, residents have to tolerate the noxious smoke spat out by the small brick kilns that they've built near their homes. To fire pots, fabric scraps from the nearby textile industry are stuffed into a fire-pit at the base of the kiln and lit. This produces an acrid smoke which chokes the lanes and covers the houses in black soot. Unfortunately, this space is also the primary public, social and open area for this community. Although each kiln isn't used daily, there is always one being fired up nearby, and it's pretty clear that this practice is unhealthy and unpleasant for Kumbharwada's residents.

Suggested plans for Dharavi are an orgy of Public-Private Partnerships, Transferable Development Rights and high-rise 'solutions'. The Development Plan envisages chopping up Kumbharwada with wide avenues (a dated, car-centric approach).



Crafts of Dharavi



Dharavi workspace and wood burning kiln

6.1 CASE STUDY 2: DAKSHINACHITRA HERITAGE VILLAGE, TAMIL NADU

The site museum occupies ten acres overlooking the Bay of Bengal, at Muttukadu, 25 km south of central Chennai, on the east coast road to Mamallapuram, Tamil Nadu, India. Site and Contextual Response The concept was an evolution of understanding the traditional elements integrated in a contemporary context while sensitively approaching factors like climate, location, and availability of materials. Laurie Baker planned to represent architecture of each southern state as a village with its small streets and walkways. Baker did not want to have grand buildings in the campus. He thought that 'this place' should deal with Arts and Crafts of ordinary people. He pursued his philosophy of 'Small is beautiful'. Benny Kuriakose, the Architect who carried out the work later, recalls in one of his articles that Laurie Baker said; "the idea is to abandon the big exhibition pavilion system entirely. He brought in a touch of contemporary style to the main entrance block which sets as an example for visitors to understand the ways in which traditional elements can be used in the present-day architecture.

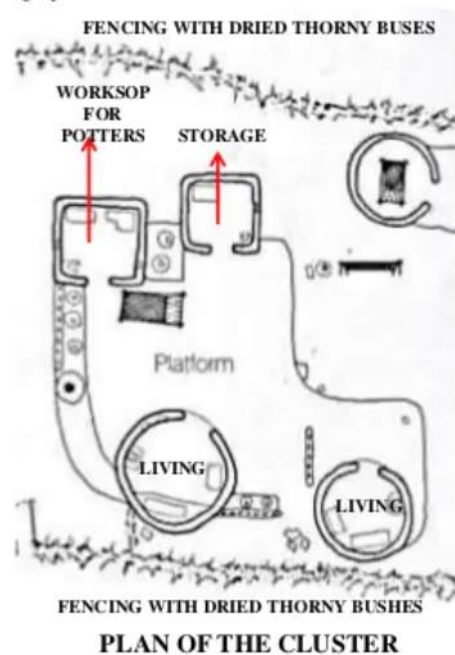
The turn of the 20th century house of a practising potter is from the village of Tiruvallur, in Chengelpet district. The house in the rear was originally mud. It has

been made here with compressed mud blocks, more durable than plain mud, and a technique now being introduced to villages to upgrade their mud construction. The blocks are stabilized with 5% cement. They are constructed by all communities. Since the materials and labour are local this building represents the most economical means of initially building a house. However, upkeep of the house is both material and labour intensive.

The house in front is made of mud. The thatch is a reed found near the banks of ponds and rivers. The structural supports are from palmyra trees. The house is given a protective and antiseptic finish with a slurry of cow dung which is repeated weekly.



Potter's house



The original house, though built for one family, was occupied by two brothers and their families, each living on one side of the house with a separate kitchen. The house depicts the actual lifestyle of the potters, with space for living and working. The backyard originally had space for cooking and for cows; at Dakshin Chitra, a separate work shed behind the living quarters has been added for demonstration purposes. Thatched roofing supported by wooden poles with low eave projection to dry their mud products Interior of the workshop where the potter's wheel is present with storage space for mud and paddling deck.

6.2 CASE STUDY 3: TERRACOTA CRAFT OF BANKURA, WEST BENGAL

Panchmura, a village located in the Bankura district in the state of West Bengal, 200kms from Kolkata is famous for its 'Terracotta Craft'. Most of us will find it

easier to familiarise ourselves with this place and the art form that has existed and grown here if I simply mention the Bankura Horse. This is where the typical horse, proudly displayed in many homes, is crafted. But Bankura Horse is only one of the artifacts that churn out of the hands of the *kumbhakar*s or artisans of this village.



Panchmura craft-making

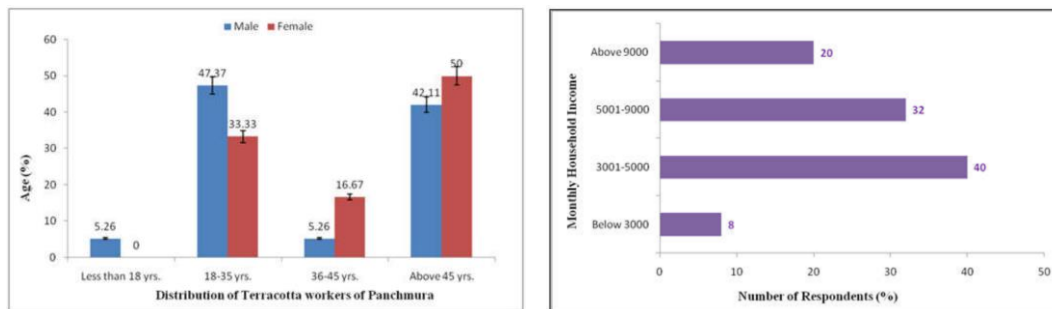
In our country, handicraft items are sold at prices above reasonable in showrooms. It is a fact though that these art forms are in a miserable condition in most parts of India. A considerable lot has been said about this, but significant little done for their survival and glorification.

It was under such dire circumstances that the *kumbhakar*s (potters) of Panchmura, together with enterprising individuals, realised that they have to be the masters of their destiny if they wanted to prevent the extinction of the centuries old Bengal terracotta art. And thus, the struggle for existence began.

Pottery items were generally used for household and ritualistic purposes. With time, the artists slowly got into the business of selling it. "We had to get into this trade to support our families," says Laltu, one of the *kumbhakar*s. But has the process also undergone a change along with this? Laltu has the answer.

"The most important raw material for pottery is clay." Terracotta is the hard, partially burnt clay without any moisture, used for pottery. Panchmura artisans have always taken care that even when operating under losses, no compromise should be made on the *mati* or clay. They use the finest quality of clay available on the banks of the Ganges near Kolkata, commonly known as *gangamati*. It is

quite interesting that the artists even take care of the age of the *mati*. “The older the alluvial clay, the better the quality.”



Once the *mati* (clay) is received, the actual work begins. It is a long process, taking up days, and at times even months, to complete. Even today, the age-old potter’s wheel or *chak* is used. Initially, few selective articles were made. These consisted of various types of pots and other usable products. With innovation and experimentation, the artists began the production of other shapes which were decorative in nature. This was the stage of moving away from satisfying basic requirement to being an art for the market. It no more remained restricted to the village. Complicated designs were introduced, and the infamous Bankura Horse created. The characteristic feature of this is that the entire product, say the horse, is not made together, unlike the pots that were simpler to make. It consists of various pieces which are constructed individually, on the wheel, and then joined together to give the final shape. They are then scraped and made even to give the smooth finish. Smaller and intricate parts are handmade and joined to the main body. This therefore marked the beginning of an art form that required great skill and expertise.

The tedious procedure does not get over here. After the basic products are made, they must be dried. But not under direct sun, as it may lead to minute fractures and result in easily breakable forms. They are left in an open space for days for the moisture to completely evaporate. When this is done, the final baking takes place.

The furnace or *bhati* used for baking has to be carefully constructed. Authentically, the *bhati* is made by digging the ground in a circular shape (nowadays electric furnaces are becoming popular though that saves labour as well as cost and can be used repeatedly unlike the handmade furnace that can be used only once).

Then it is lined with bricks and filled with coal (by well to do artisans), cow dung cake or wood and *bhusa* (by poorer artisans). The art pieces are then carefully placed in the furnace, against one another. It is then lit and the opening of the *bhati* sealed. Depending on the products and the artists' choice of color and strength, the heating takes place. Usually under normal circumstances, this is an overnight procedure, taking about 8-10 hours. Then the furnace is opened, the baked products taken out carefully and left to cool for 4-5 hours. The art forms have by now got their color that we see in the market, the true orange color of terracotta. And it is ready for sale.

The Bankura Horse has been a favourite amongst patrons of Bengal terracotta art. When I visited Panchmura, and the retail outlets, I was pleasantly surprised at the range of designs available today. We have heavenly beings on one hand, all animals possible, and self-designed objects on the other. We also have very delicately made pieces of jewellery. Anyone will be delighted by the attention paid to intricacy and perfection by the *kumbhakar*s; each and every piece crafted to its best.

"For a very long time, Bengal terracotta art was restricted within the state and in select places only," Bipin, who has a shop selling Panchmura pottery, says. "One could purchase only at the time of annual fairs". Unarguably, the art form was losing its prominence and popularity due to lack of availability and an organised market. The re-emergence of this art took place when groups of people formed cooperatives and came to the forefront. These self-financed small groups studied the market, the demand for terracotta, and deduced that a profitable business could thrive. This would not only provide a regular source of income to the skilful *kumbhakar*s but also to the sellers. Retail outlets were thus set up at various places. Today many cities in West Bengal, as well as other parts of the country, have outlets which sell Bengal terracotta artifacts. The heartening fact is that these are also being exported now, and the market is only becoming larger and more diverse, as art lovers all over are recognising and appreciating the delicately and beautifully made forms.

During the initial phase though, profit was minimal, and hardly anything would be left of the sales. Today, in most places, these outlets are making considerable profits, and the artists are getting a reasonable and expected share. "Profit

depends on a variety of factors. But on an average, we usually make around 30-40% gain," says Bipin.

This happened when these groups realised that the demand of the market has changed. Customers no more want the traditional artifacts nor the authentic terracotta color products. These have a restricted desire today. People want trendy and fashionable products. They also want to order specific products according to their liking. Deities and animals have taken a back seat. Modern designs are in vogue. Whereas age old forms have suffered a setback, this norm of ordering and designing for the market, has also increased sales and popularity of the art.

Much to the dismay of the traditional artists, terracotta is being colored today. Metallic color has become quite common, apart from stone and red brick colors. Terracotta is always colored under direct sunlight to acquire the glaze and shine that results from color mixed in proportion to spirit. For some *kumbhakar*s, who have lived with the art, "coloring is a loss of self-respect", or as they say it, the *morjada*, of the art form. As mere, most of the times, helpless artisans, they have no choice but to meet the demand of their customers.

Survival of the fittest, the law of the world, is witnessed in this instance. The constant effort to keep afloat goes on. If we agree that compromise is the rule of any game, then for these artists it is a mode of life. As patrons and lovers of this art form, we can at the least make an effort to help keep this art alive. The next time I go to one of these outlets, I will definitely get them as gifts for my friends and family members. And I am sure they will only be too happy to flaunt authentic Bengal terracotta in their homes and be noticed and appreciated by everyone.

7. REJUVENATION OF ARTISANS THROUGH PROGRAMMES AND SCHEMES IMPLEMENTED BY GOVERNMENT

Government has been encouraging and supporting the sector through policies for infrastructural support, technology up-gradation, accessing credit; it has been offering packages of schemes and incentives through its specialized institutions in the form of assistance in obtaining finance; help in marketing; technical guidance; training and technology up gradation, etc. SCHEMES UNDER 12TH FIVE YEAR PLAN (2012-2017) As given in the preface of this report, five subgroups had been

constituted for deliberations on the handicrafts sector. Based on the recommendations of the subgroups, the existing DC (H) schemes were modified, and two new schemes have been introduced. The modifications made in the existing schemes can be classified broadly into four categories, and the justification for these changes is as follows: Increase in the financial allocations: This modification has been made in all components of all schemes. All members of the sub-groups had unanimously demanded for this change owing to the inflation observed in the markets. It is essential to align the schemes to the current market trends to make them sustainable for the future. Modifications to the eligibility criteria and number of participants in some scheme components.

This change has been made in view of:

- (a) performance of the Working group report on components in the previous financial year.
- (b) the challenges faced by the DC(H) staff and implementing partners in implementation of the components e.g. ensuring the requisite number of Enhancement of allocation for each cluster from Rs 20,000/- per artisan to Rs 30,000/- per artisan for 5 years. Repositioning of infrastructure components from the schemes: All infrastructure components have been clubbed under the new 'Infrastructure and Technology development scheme' This ensures focused approach to development of infrastructure which is the most important need of the handicraft sector today. Renaming some of the scheme components to reflect the true nature of the activities being undertaken in the component and remove complexity.

Along with these modifications, the key set of recommendations for each scheme are summarized as follows:

1) Baba Saheb Ambedkar Hastashilp Vikas Yojna:

Focus on a strong marketing strategy; hiring qualified and committed designers Design Workshops to be conducted based on proper market research and creation of a digitized design bank. Stress on improving baseline surveys – increase time period from 3 to 6 months. All components given in the scheme can be implemented departmentally also by the offices of DC(H) at any point in time. Classification of clusters into 3 categories:

- Tier I: Small clusters with 100-1000 artisans;
- Tier II: Mid-sized clusters; No of artisans - >1000 & 5000 artisans.

2) Design and Technology up-gradation scheme:

- I. The prototypes developed in the design workshops and integrated projects must be allowed to be showcased.
- II. Young designers should also be sponsored to attend these marketing events.
- III. Revamp the process of empanelment of designers at DC (H).
- IV. Introduce Young craft persons award/scholarship (under 35 years of age) to encourage and give recognition to the younger generation of crafts persons.
- V. Scholarship scheme for children to be extended to children of all craftsmen.
- VI. Exporters may be considered for financial assistance for engaging national & international Designers.

3) Marketing Support and Services scheme Domestic

Marketing:

Initiate new consumer awareness scheme for domestic markets. Well managed, authorized kiosks/ shops at museums, airports, hotels, railways stations, metros etc may be supported. Introduce component for artisans to tie up with big retail chains and display their products. Make provision of hiring expert event management companies to organize the marketing events. Craft bazaars/melas to be planned in advanced to ensure participation and avoid repetitive locations/participants. TA may be given to all artisans participating in fairs and exhibitions on actual basis. International marketing: Budgetary provisions under each head have to be modified to meet the current market trends and cost. Budget for overseas exhibitions should also account for interpreter cost along with the cost of contributing factor in the respective countries. Provisions for setting up of warehouses abroad for use by Indian exporters may be considered. Special focus on the development of products to meet the export market requirements. Other areas of special focus addressed in the MSS scheme are **Brand Building:** Focus on creating the 'Handcrafted in India' brand and promotion through dedicated campaign. Geographic Indications: supporting post-GI and pre-GI activities at various levels.

Marketing of handmade carpets: CEPC to be made eligible for seeking funds under the scheme. Entrepreneurship development.

4) Human Resource Development Scheme:

To Improve effectiveness of training programs

- I. Guidelines should be developed for syllabus/training modules.
- II. Concept of participatory training may be adopted.
- III. Publicity of training programs.
- IV. Introduce computer-based training programs.
- V. Strengthening monitoring and feedback mechanisms. Improve infrastructure provision at training centres Only agencies that display demonstrable capability of market linkages, network relations with technology institutions, should be provided sanctions for such programmes. Procedures for processing of applications for sanction of various programmes must be streamlined.

5) Handicrafts Artisans Comprehensive Welfare Schemes:

- I. Increase number of OPD/IPD facilities: Empanelled list of hospitals needs to be revised to cover Government Hospitals.
- II. Increase financial coverage
- III. Reducing medi-claim settlement period: All claims should be settled within 30 days and in exceptional circumstances, 45 days.
- IV. Improve identification and monitoring mechanisms
- V. Sum insured to be increased from the existing Rs.15,000/- to Rs.30,000/ and Rs.50,000/- in case of critical illness.
- VI. The limit of Rs.7,500/- should be increased to Rs.15,000/- for OPD
- VII. Introduction of new pension scheme Focus on creating synergy with programs of other ministries and departments to avail benefits for the Handicraft artisans on a priority.
 - i. The areas of synergy are:
 - ii. Housing and infrastructure in the locality.
 - iii. Support for up-gradation of sanitation.
 - iv. Equipments like solar lighting to improve living condition. Non plan scheme of 'Financial assistance to artisans.

6) Research and Development Scheme:

Regular studies to be commissioned for gathering market intelligence on saleable designs and trends. Various areas of research that are proposed to be the focus for the next 5 years are:

- I. Environment impacts of craft processes and compliance.
- II. Occupational health and safety issues.
- III. Low-cost tools and equipments.
- IV. Regulatory compliance issues.
- V. Geographic Indication.

7) Infrastructure and Technology Development Scheme:

The scheme aims at the development of world class infrastructure in the country to support handicraft production, and enhance the product quality and cost to enable it to compete in the world market.

The objectives of the scheme are as follows:

- I. To develop infrastructure in an equitable manner to support handicraft industry in the country.
- II. To ensure availability required technology, product diversification, design development, raw material banks, and marketing & promotion facilities in nearest vicinity possible.
- III. To enhance the competitiveness of the products in terms of increased market share and ensuring increased productivity by higher unit value realization of the products.
- IV. To improve the resource pool of skilled persons in the country by developing high class institutes those provide certified courses and degrees in Handicraft field – enhancing skill development in the country.

7.1 NEW SCHEMES FOR POTTERY INDUSTRY Ministry of MSME re-activates the micro-industrialization process in Rural India. To rejuvenate the grass root economy, Ministry comes out with new expanded versions of

beneficiary-oriented Self-Employment schemes.

After Agarbatti, new schemes announced for Pottery making and Beekeeping encompassing over 8000 beneficiaries to begin with in 2020-21 with an outlay of over Rs 130 crore. Apart from beneficiary assistance, clusters with common facilities for these products also sanctioned; Centres of Excellence proposed. Expansion of Schemes aimed at contributing to **AtmaNirbhar Bharat Abhiyan**. For 'Pottery Activity' Government will provide assistance of pottery wheel, Clay Blunger, Granulator etc. It will also provide Wheel Pottery Training for traditional pottery artisans and Press Pottery training for pottery as well as non-pottery artisans in Self Help Groups. There is also provision to provide Jigger-Jolly training programme for pottery as well as non-pottery artisan in Self Help Groups. This is being done:

- I. In order to enhance the production, technical knowhow of pottery artisans and to develop new products at reduced costs.
- II. To enhance the income of pottery artisans through training and modern / automated equipment.
- III. To provide skill-development to SHGs of pottery-artisans on focused /decorative products, with new pottery designs.
- IV. To encourage the successful traditional potter to set up unit under PMEGP scheme.
- V. To develop necessary market linkages by tying up with exports and large buying houses.
- VI. To innovate new products and raw materials to make international scale pottery in the country.
- VII. Preparing them to graduate from pottery to crockery and Trainer's training programme for skilled pottery artisans who want to work as Master Trainers.

In case of the POTTERY improvements in the Scheme are:

- i) Skill-development training on focused products like garden pots, cooking-wares, khullad, water bottles, decorator products, mural, etc. to SHGs of pottery-artisans has been introduced.
- ii) Focus of the new Scheme is to enhance the production, technical knowhow of pottery artisans and efficiency of potter energy kilns to reduce cost of production.

- iii) Efforts will be made to develop necessary market linkages by tying up with exports and large buying houses.

A total of 6075 Traditional and others (non-traditional) pottery artisans/Rural Un-employed youth/Migrant Labourers will get benefitted from this Scheme. As Financial support for the year 2020-21, an amount **of Rs.19.50 crore** will be expended to support 6075 artisans with a Centre of Excellence, with MGIRI, Wardha, CGCRI, Khurja, VNIT, Nagpur and suitable IIT/NID/ NIFT etc, for product development, advance skill programme, and quality standardization of products. **Additional amount of Rs. 50.00 crore** has been provisioned for setting up of clusters in Terracotta, Red clay pottery, with new innovative value added products to build pottery to crockery/ tile making capabilities, under ' SFURTI' scheme of the Ministry.

Kumbhar Sashaktikaran Programme:

- I. To enhance the income of pottery artisans by providing skill development training and modern & automated equipment.
- II. To provide skill-development training to SHGs of pottery-artisans on focused products like garden pots, cooking-wears, khullad, water bottles, decorator products, mural, etc.
- III. To establish region-wise pilot projects of focused products and after successful outcome it will be replicated through-out country.
- IV. To enhance the production, technical knowhow of pottery artisans and to reduce cost of production.
- V. Efficiency of potter improve energy kilns to reduce cost of production.
- VI. To encourage the successful potter to setup his own unit under PMEGP scheme.
- VII. Develop necessary market linkages by tying up with exports and large buying houses.
- VIII. To innovate various new products and raw materials to create international scale pottery in the country.
- IX. Demonstrate international techniques/methods & train people accordingly.

- X. To create international design capability in the pottery by linking them with appropriate design houses also setup a COE for this purpose with CSIR labs/IIT etc.
- XI. Develop new small electric potter wheels.
- XII. Take the industry on the journey from Pottery to Crockery/ Tiles making & set up 10 clusters for the same.

7.2 GOVERNMENT OF GUJARAT SCHEMES

1) Craft Business Development Scheme (CBDC):

The State Government provides financial assistance of 70% on the project cost of up to Rs.7 Crores over a period of 10 years. The assistance is provided under following components:

- I. Diagnostic Survey and Detail Project Report
- II. Tools and Equipment Assistance
- III. Design Development and Product Diversification
- IV. Raw Material Bank
- V. Marketing Assistance
- VI. Advertising and maximizing outreach
- VII. Assistance in Export

Objectives of CBDC scheme are:

- i. To empower artisans by providing marketing and related assistance.
- ii. To promote design development through establishment of design studio
- iii. To strengthen marketing value chain.
- iv. To provide assistance for raw material procurement, design development,
- v. product diversification and marketing.
- vi. To establish PPP (Public Private Partnership) module with government, artisans and their groups and private ventures.

Clusters / Centers having 100 to 300 artisans are eligible for the scheme.

2) Gujarat Matikam Kalakari & Rural Technology Sansthan:

Mission is to Up gradation of Technology and Skill of artisans in the cottage and Rural Industries sector so as to improve efficiency, productivity and income level of the artisans.

To provide Electric Potter wheel and Pug Mill to clay art worker, the Institute is implementing Electric Potter wheel and Pug Mill Scheme on 75:25 basis. Under the scheme 75 % subsidy provided to clay art workers for purchase of Electric Potter wheel and Pug Mill.

3) Matikam Swarajgari Bankable Yojna (MSBY):

The Bankable scheme is implemented with a view to enhance the productivity, to occupy machineries, working capital and modernization of occupation for small artisans. The Nationalized Banks give loan up to the limit of Rs. 30000/- to the beneficiaries. The Institute gives subsidy up to 25 %, i.e. maximum of Rs. 7500/- . This is the important scheme for employment generation for small artisans in rural areas.

4) Electric Potter wheel and Pug Mill Scheme:

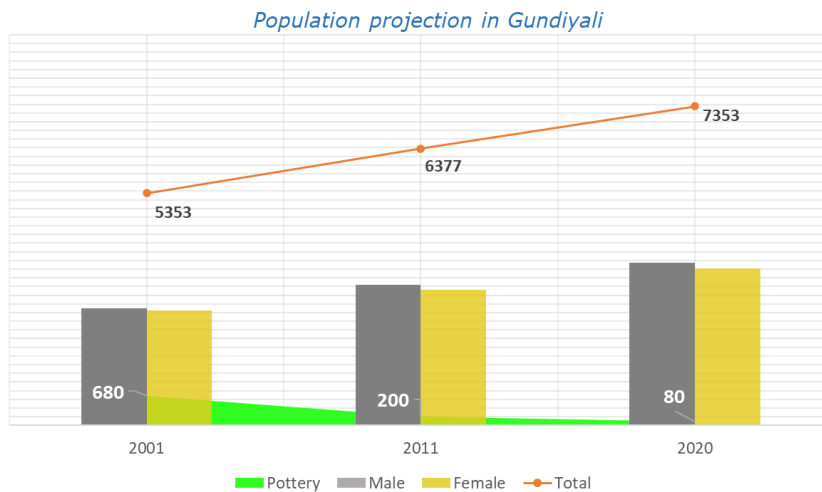
To provide Electric Potter wheel and Pug Mill to clay art worker, the Institute is implementing Electric Potter wheel and Pug Mill Scheme on 75:25 basis. Under the scheme 75 % subsidy provided to clay art workers for purchase of Electric Potter wheel and Pug Mill.

5) Skill Up gradation Training and Toolkit Assistance Scheme:

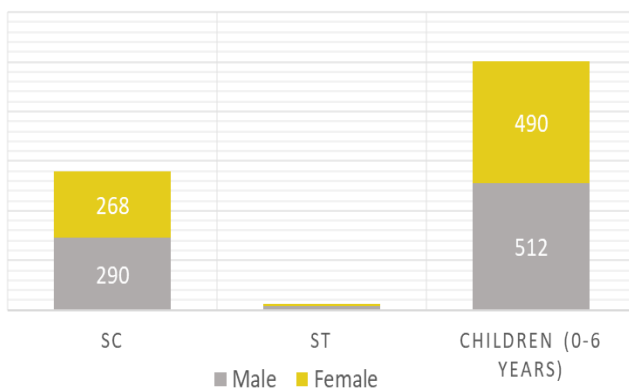
The Clay Artisans have been engaged by tradition and they do not have any specializations or the knowledge of modern production methods in their occupation resulted in the low productivity and value addition in the global marketing scenario. Taking into consideration this thing, the Board has started the Skill Up gradation Training Programme for Clay Artisan. The artisan also provided free toolkits of Rs. 3000 after completion of training.

8.1 DEMOGRAPHIC PROFILE-GUNDIYALI

Increase in the population every 10 years. Existing population of the village is 7353 and only 80 people (25 households) are completely involved into pottery industry.

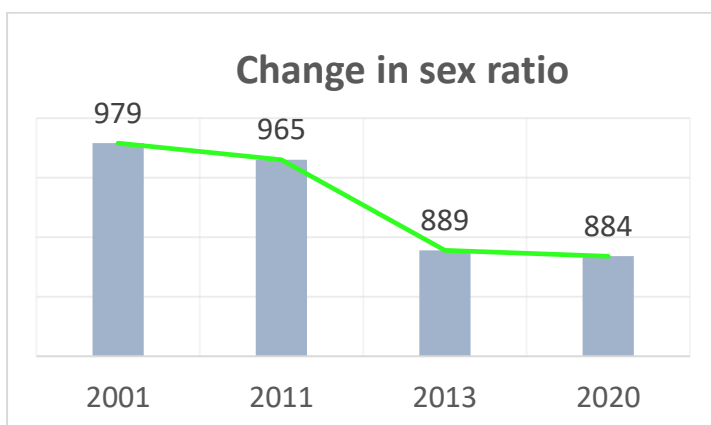


The Gundiwali village has population of 6377 of which 3246 are males while 3131 are females as per Population Census 2011. Gundiwali is a large village with total 1249 families residing.

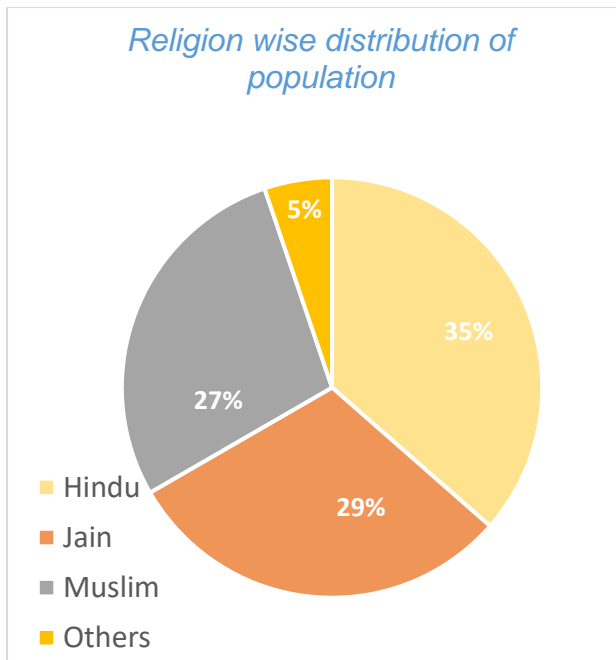


In Gundiwali village population of children with age 0-6 is 1002 which makes up 15.71 % of total population of village. Schedule Caste (SC) constitutes 8.75 % while Schedule Tribe (ST) were 0.25 % of total population in Gundiwali village.

8.1.1 SEX RATIO:



Gradual decline in the sex ratio from 2011 to 2013. The sex-ratio of Gundiwali village is around 884 compared to 919 which is average of Gujarat state.



In Gundiyaali, there is amalgamation of various religion in the village. Hindu and Jain religion is predominantly practiced in the village. Potter’s community in Gundiyaali mostly belongs to Brar Muslim sect originally migrated from Arab countries to Sindh and Kutch.

Gundiyaali village is administered by Sarpanch(Head of village) who is elected every five years.

A tight knit set of communities, Gundiyaali has a lot of other crafts practices including carpentry, pottery, textile crafts of tie-and-dye. There is a blend of faiths in the area, with the Muslim community, Jain community and Hindu community together. Jain community mostly give wholesale orders to Gundiyaali potters for terracotta utensils and thus show that there is always a helping hand and sense of unity between the communities.

One can find a lot of mosques and temples in and around Mandvi along with some old architecture. In 2010, the Government of Gujarat built a museum near the Mandvi beach in the memory of Late Shyamji Krishna Varma. The museum is dedicated to freedom fighters of India; it’s called Kranti Tirth.

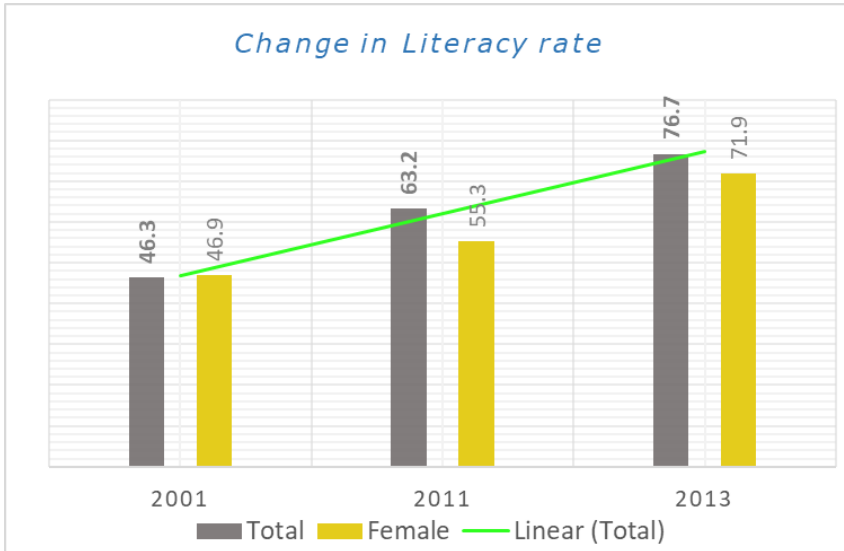
The village is divided into various community zones.

8.1.2 LITERACY RATE:

Increase in the literacy rate from 46.3% in 2001 to 76.7% for male in 2013. Female literacy rate also increases by 25% in 12 years.

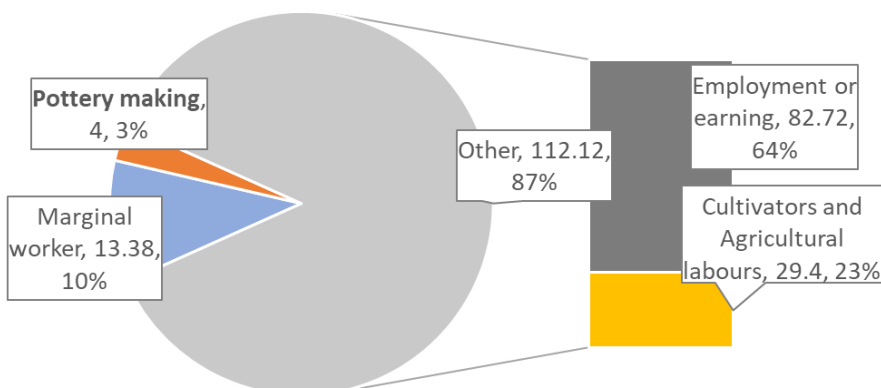
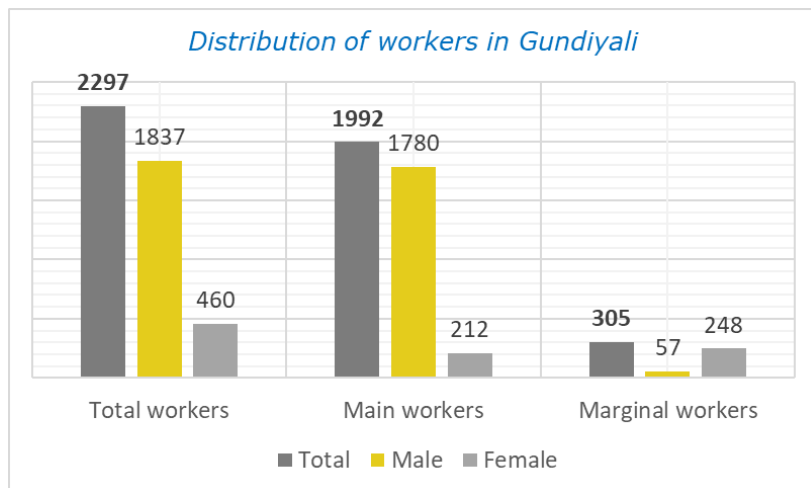
The literacy rate of Gundiyaali village is 60.34% out of which 70.53% males are literate and 48.81% females are literate.

In 2011, literacy rate of Gundiyaali village was 63.07 % compared to 78.03 % of Gujarat. In Gundiyaali Male literacy stands at 70.56 % while female literacy rate was 55.32 %.



8.1.3 DISTRIBUTION OF WORKERS IN GUNDIYALI:

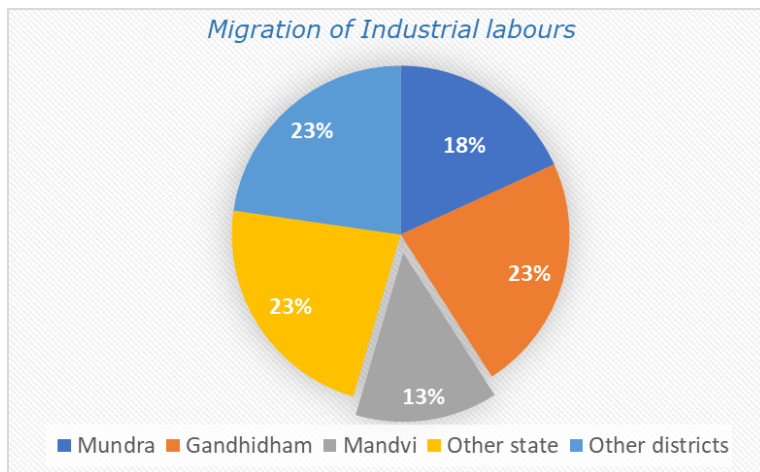
Total 265 Cultivators are depended on agriculture farming out of 239 are cultivated by men and 26 are women. 299 people works in agricultural land as a labour in Gundiylali, men are 251 and 48 are women.



Less than 4% of total population in Gundiylali is involved into pottery making.

Of main workers (87%), most of them (64%) are involved into employment in industries or construction activities. Remaining 23% involved into agricultural sector.

8.1.4 MIGRATION:



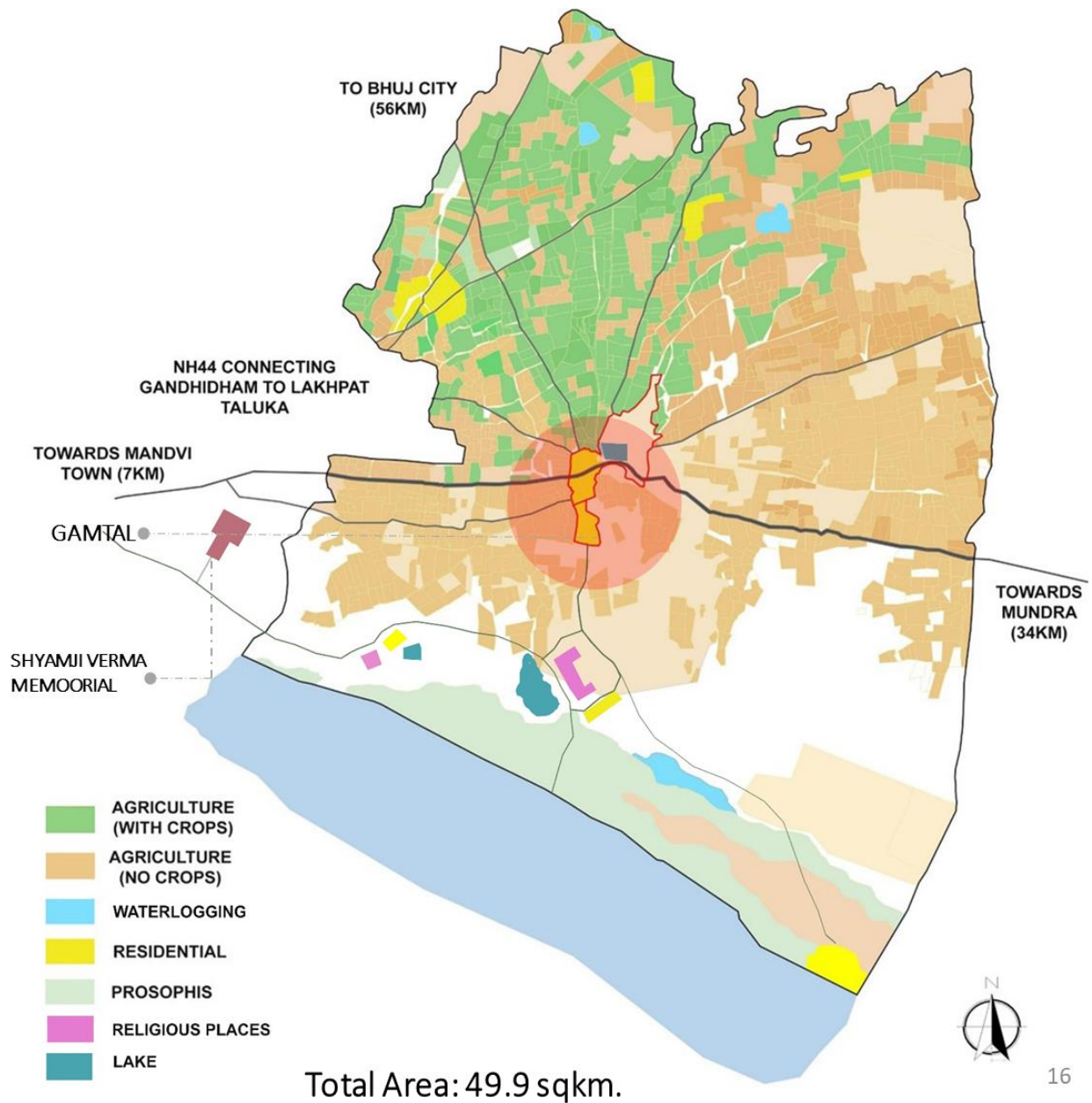
Seasonal Migration in the village.

Population in the district increased to 0.72 million during 2011 from 0.47 million during the year 2001 result of both outstate migration and within the state and talukas.

A seasonal and unpredictable migration is observed in the village. In odd months such as monsoon, when the potters are unable to persue their crafts, they tend to involve either in agricultural activities or move to the urban places to work as industrial labours or in construction sites.

Shortly after, the Kutch district was declared a 'Special Economic Zone', a lot of migration is noticed to Mundra and Kandla in Gandhidham especially from Mandvi and other parts of Kutch. 13% along from Mandvi taluka. From other states migration to work in SEZ is around 23% whereas within Gujarat state is 18%. This however, mostly affected the artisans and farmers, losing their regular profession as the industry paid higher wages.

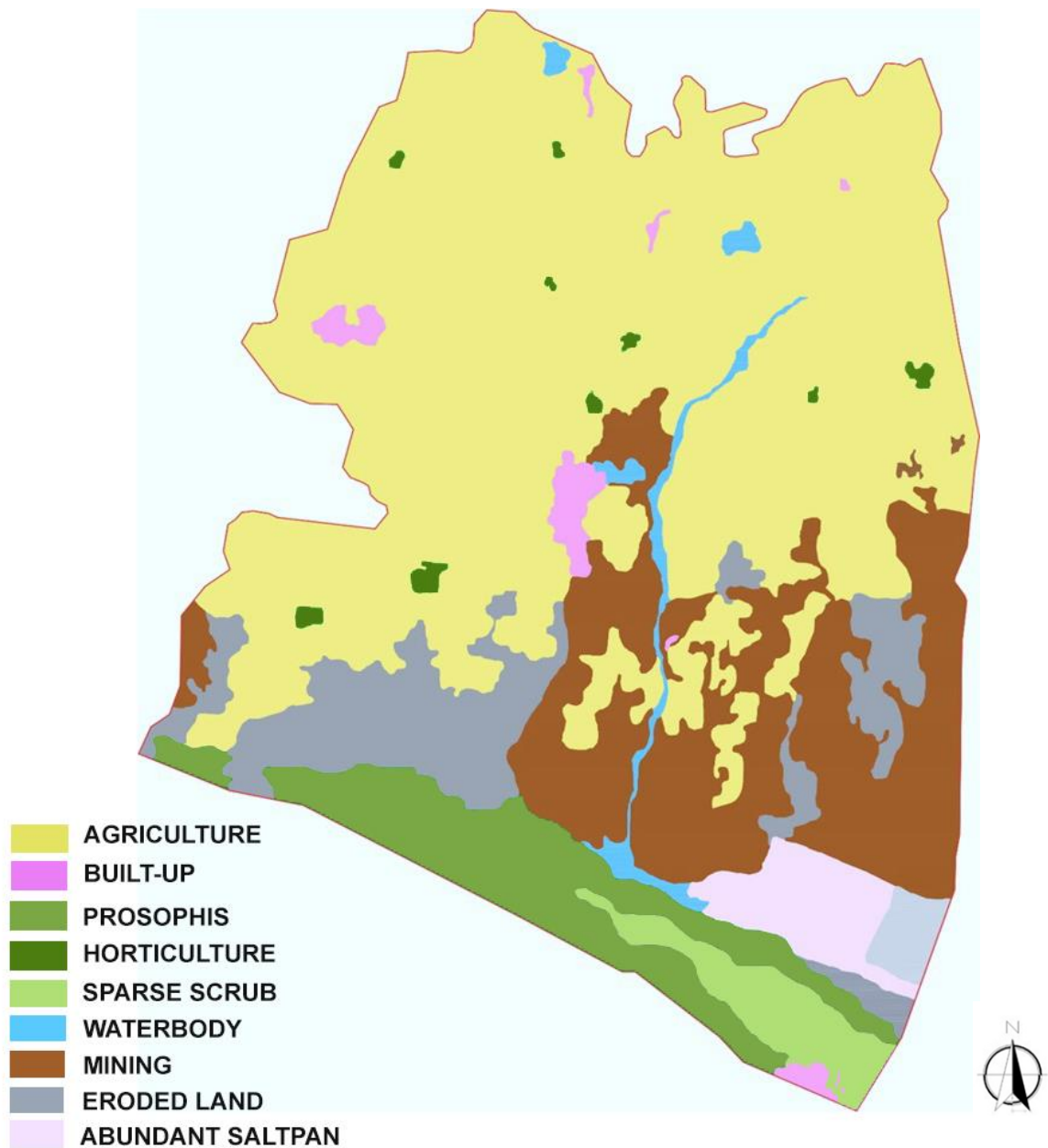
8.2 LANDUSE LANDCOVER:



Most of the land is allotted for agricultural activities but most of it is left barren with no crops. Most of the households are also engaged into animal husbandry. The village is divided into various community zones, where each community along with the potter's community have their own meeting place and place of worship. Also, there is a proposed mining site within the village.

There are many lakes situated beside a temple within the village.

The village is very well connected with the nearby urban areas. Mandvi town is 7kms around the gamtal.

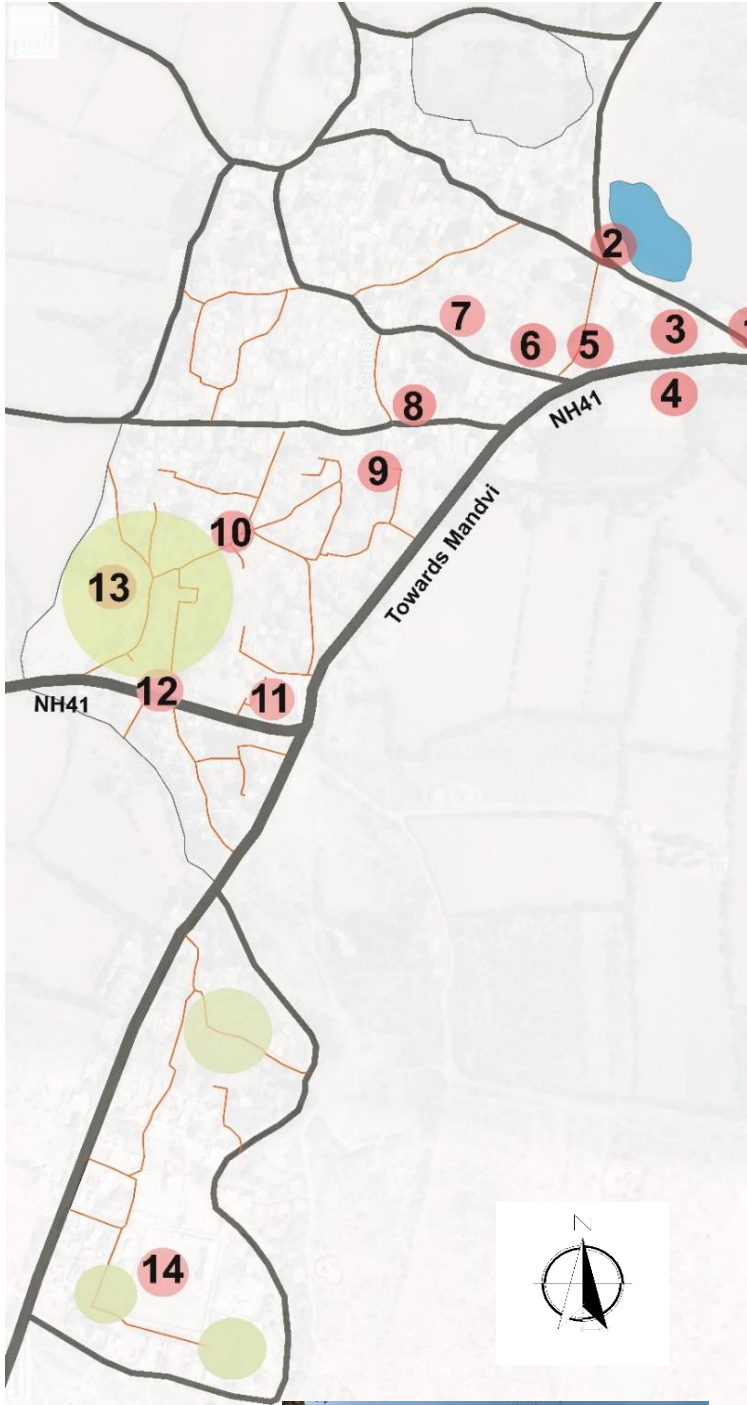


8.3 OBSERVATION MAPPING: IMPORTANT PLACES

The name Gundiya is derived after the name of Gundiya Mata, a goddess of the Darbar community, one of the oldest communities living in Gundiya.

Associated with all the craftspeople of the community, information about whom are documented and presented through an extensive mapping process. A diverse type of product ranging from traditional pots to contemporary terracotta water bottles were also mapped.

This basically gives us a glimpse of all the important places located within the village.



Gundiyalimata Temple



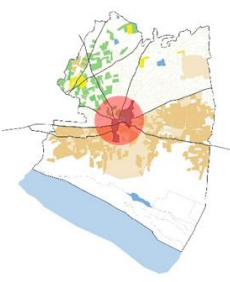
Gundiyal lake



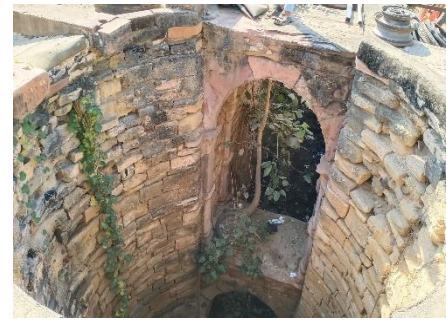
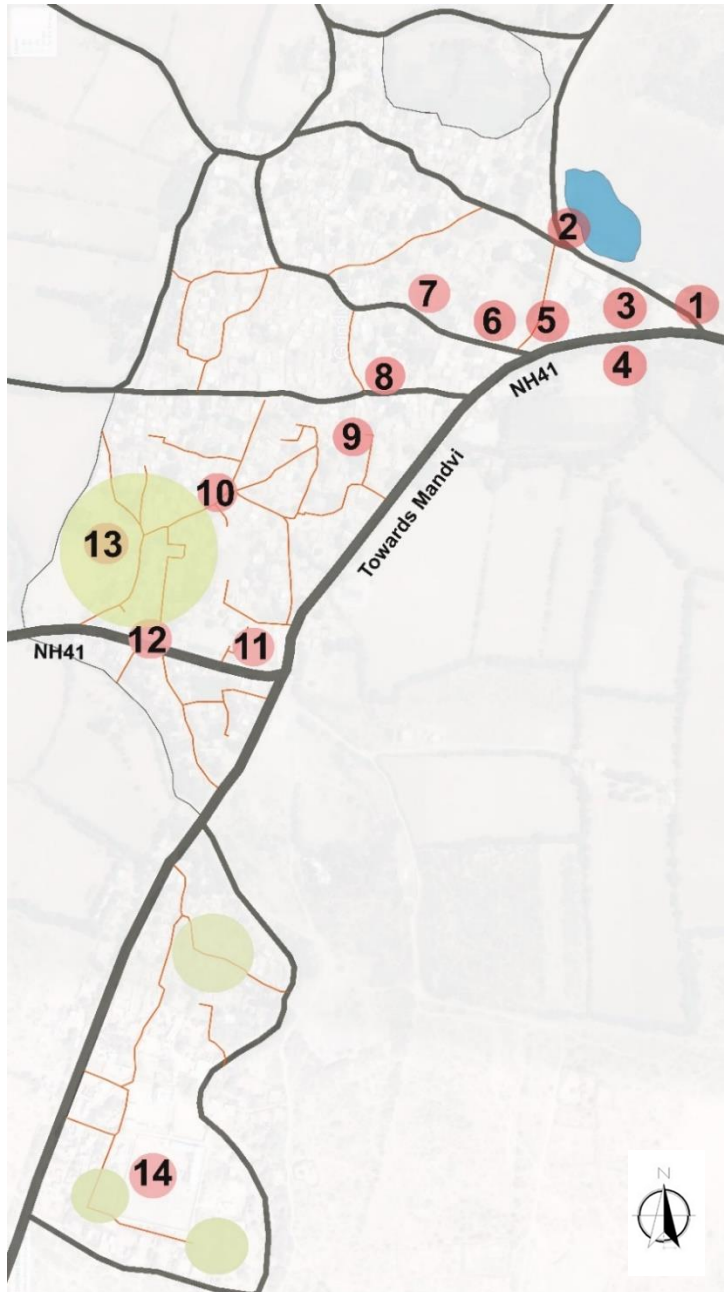
Lime plastered stepwell



Jain upshray



Darbar community hall



Stone built Stepwell



Cluster of traditional house



Masjid



Loading unloading space

Religious places: Gundiyali mata temple, Dhrabudi lake mandir, Wagher masjid,

Historical places: Two lime plastered stepwells, clustered of houses with crafted façade and Jain upashray were observed.

Educational Institutions: One H.S. School and one anganwadi.




Public Sites: Public Toilet, Bus stand, multiple tea junctions, ATM, Post office, Panchayat office, drinking water points for animals.

Community Hall or Meeting place: Darbar community hall and Kumhar masjid as meeting space.

8.3.1 OBSERVATION MAPPING: POTTER'S CLUSTER



Potter's cluster

-  Other communities
-  Potter's communities- total 70 households
-  Potter's communities still practising craft- total 25 households



Mud houses replaced by concrete houses

Schematic diagram of potter's household

1. Entry
2. Drying products
3. Painting space
4. Cooking/ Eating space
5. Product making space
6. Clay making space
7. Storage- clay and household
8. Raw clay storage
9. Finished product storage
10. Kitchen
11. Storage
12. Bathroom
13. Open platform
14. Wash yard

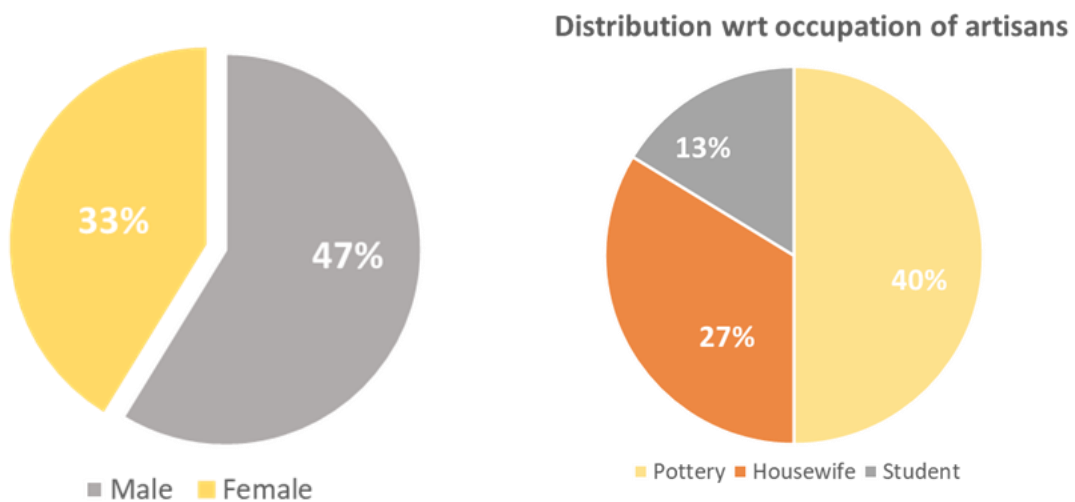


Domestic space like ota (front platform at entrance) is used to dry products, paint products, stack the products.

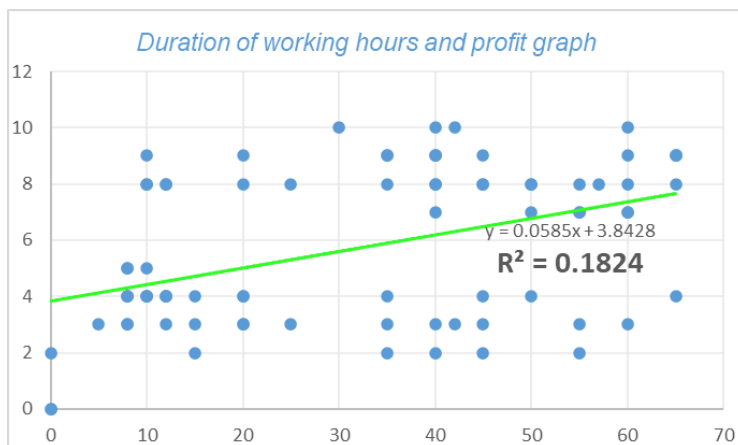
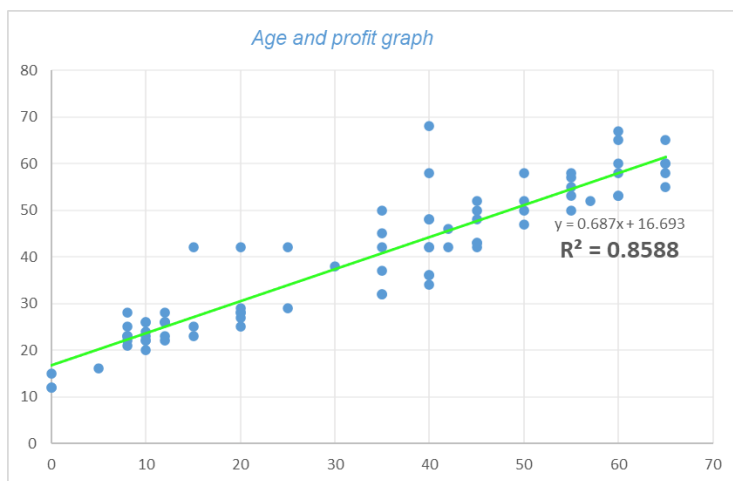
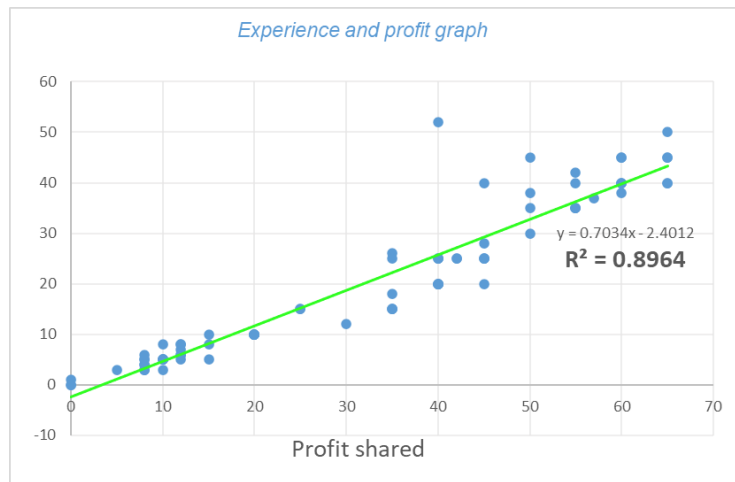


Lack of workspace observed and potter's community usually involve into animal husbandry as their secondary source of income. Not well organised and separate space is seen for craft-making instead the whole process of craft-making is messed up with the household activities.

8.4 OBJECTIVE 1: VARIABLES ANALYSIS



33% are female artisans and remaining 47% are male artisans. 13% of them are student and 40% are completely involved into the craft-making process.



Strong co-relation between profit gain (dependent variable) and experience (independent variable) of the artisans. Higher the experience or more skilful, higher the profit.

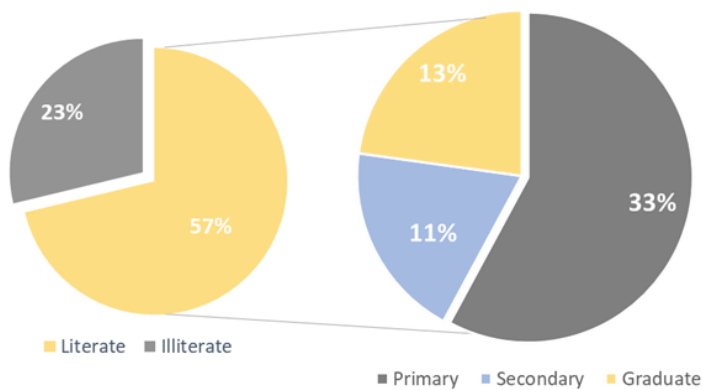
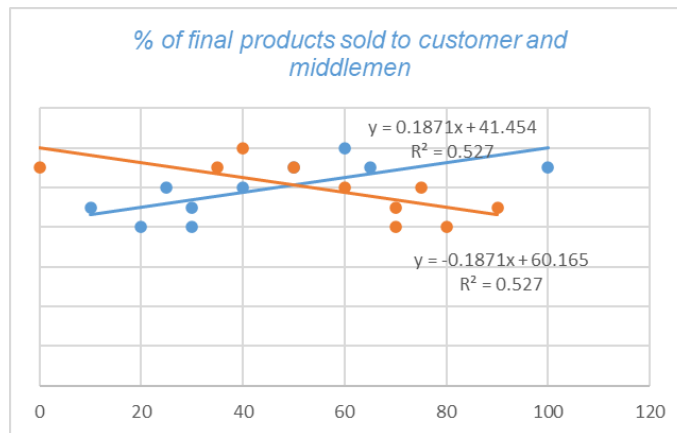
Strong corelation between age of the artisans and profit gained. Higher the age, more experienced thus more profit. Almost very moderate or no corelation between working hours per day and profit gained.

Thus, more focus to be on skill development and preservation rather than emphasizing on working hours.

Sample collected from 10 household.

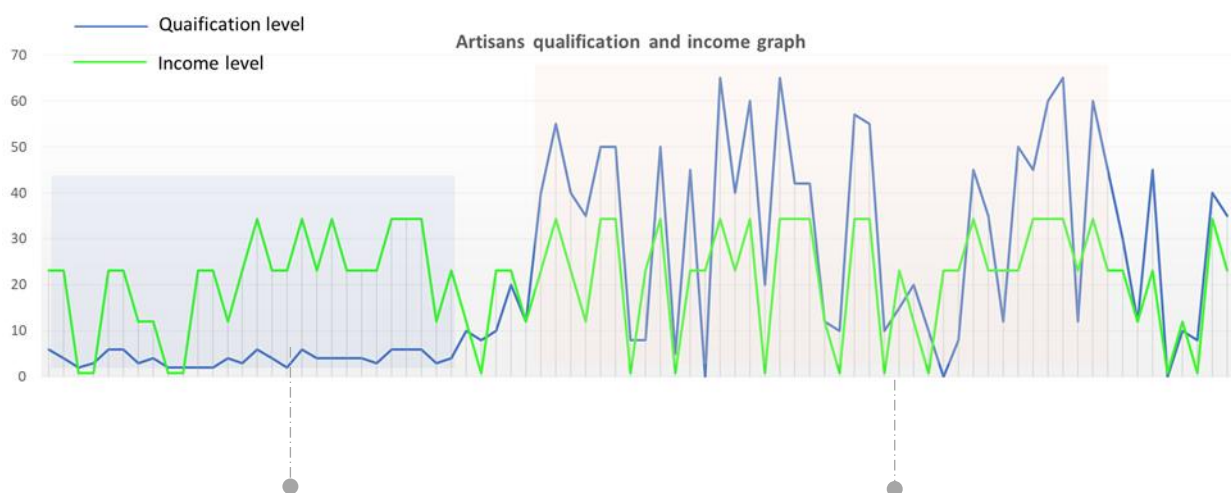
Shows that if finished products sold to the middlemen earns comparatively less profit than the final products sold to customers directly.

Negative correlation between middlemen and profit.



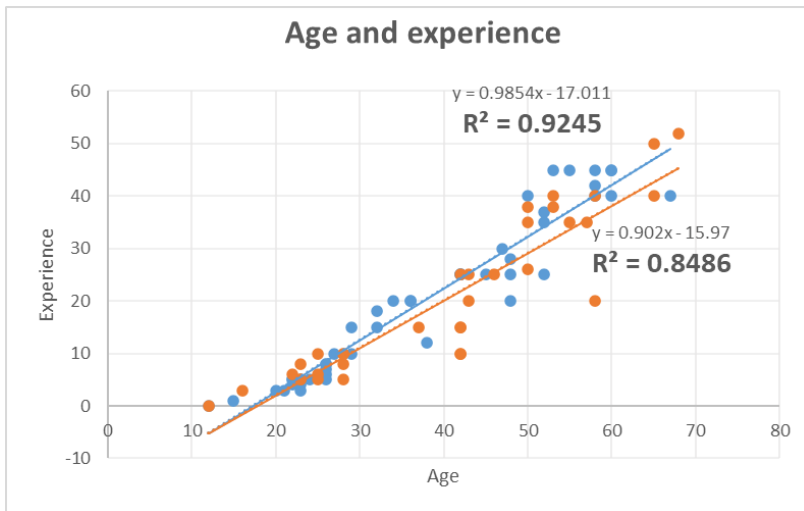
23% are illiterate and remaining 57% are literate in Gundiya.

Out of 57% literate, 33% have completed their primary education, 11% secondary and remaining 13% are graduate.



Mainly belongs to the age group 50-65 years, highly experienced and earning a decent income (30-40k) per month.

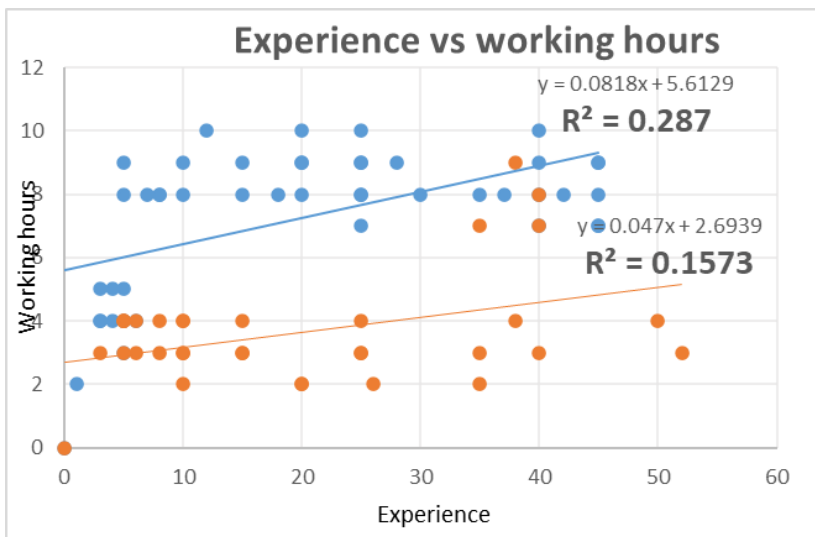
Highly qualified but comparatively earning less, mainly due to the lack of certain factors like skill, training or most of them consider it as their secondary source of income.



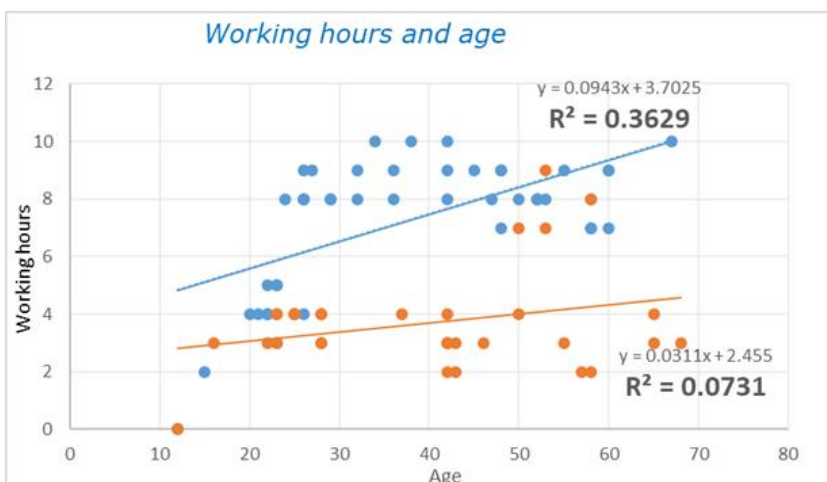
Strong correlation between the age and experience of both male and female artisans. Thus, it shows that female artisans with age are equally experienced.

— Male

— Female



Also, age group between 50-65 years and 15-25 years (students) denote very less working hours (less than 5 hours) that also leads to declining of preservation of skills.

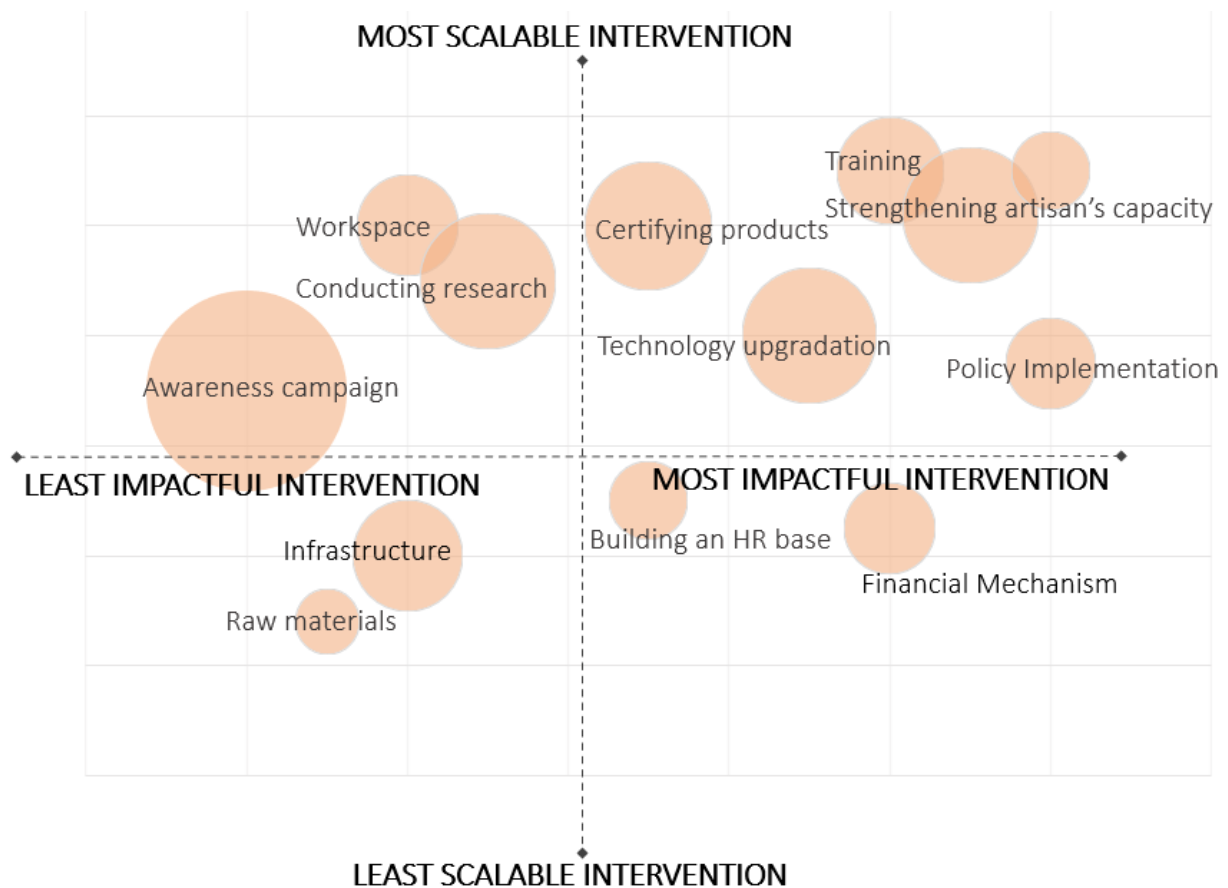


Although female artisans are equally experienced, there is no correlation for female artisans between age and working hours as they consider pottery more as a secondary activity.

8.4.1 OBJECTIVE 1: OUTCOME

Changes in the independent variables and certain other factors can increase productivity and profit. Skill development, institutional training, certifying products, policy implementation were found out to be most impactful and scalable interventions.

Sl No.	Parameters	Yes	No	Interventions
1	Availability of Raw materials	90%	10%	Easy transportation.
2	Configuration of workspace	50%	50%	Infrastructure.
3	Technology upgradation	46%	54%	Improving product design, online workshops.
4	Policy intervention	49%	51%	MSME Schemes, yojanas at state level.
5	Certifying products	18%	82%	Artisans Identity card for direct beneficiary transfers, recognition and branding.
6	Training (skill development)	15%	85%	Apprenticeship training.
7	Awareness campaign	55%	45%	Dissemination and design promotion.
8	Institutional training	25%	75%	Non govt. efforts NGO's, E-stores, colleges etc.
9	Strengthening artisan's capacity	25%	75%	Cluster development, Ecolodges, SHG's.
10	Conducting research	55%	45%	Feedback, surveys, monitoring, assessment.
11	Financial mechanism	65%	35%	Industry linkages, tie-ups and networking.



Upon analysis of these interventions, found that interventions are particularly well positioned to focus on overcoming challenges faced by artisans and build specialization in the first part of the value chain. In general, due to their strong field knowledge and presence, non profits are most effective at working with communities, building capacity and helping artisans develop skills. However, due to a lack of private sector retail opportunities, non profits have also been active on the marketing side and provide linkages to urban consumers typically through stores. In terms of scalability and sustainability, Partnerships with commercial entities with strong business acumen are more scalable ways to create market linkages.

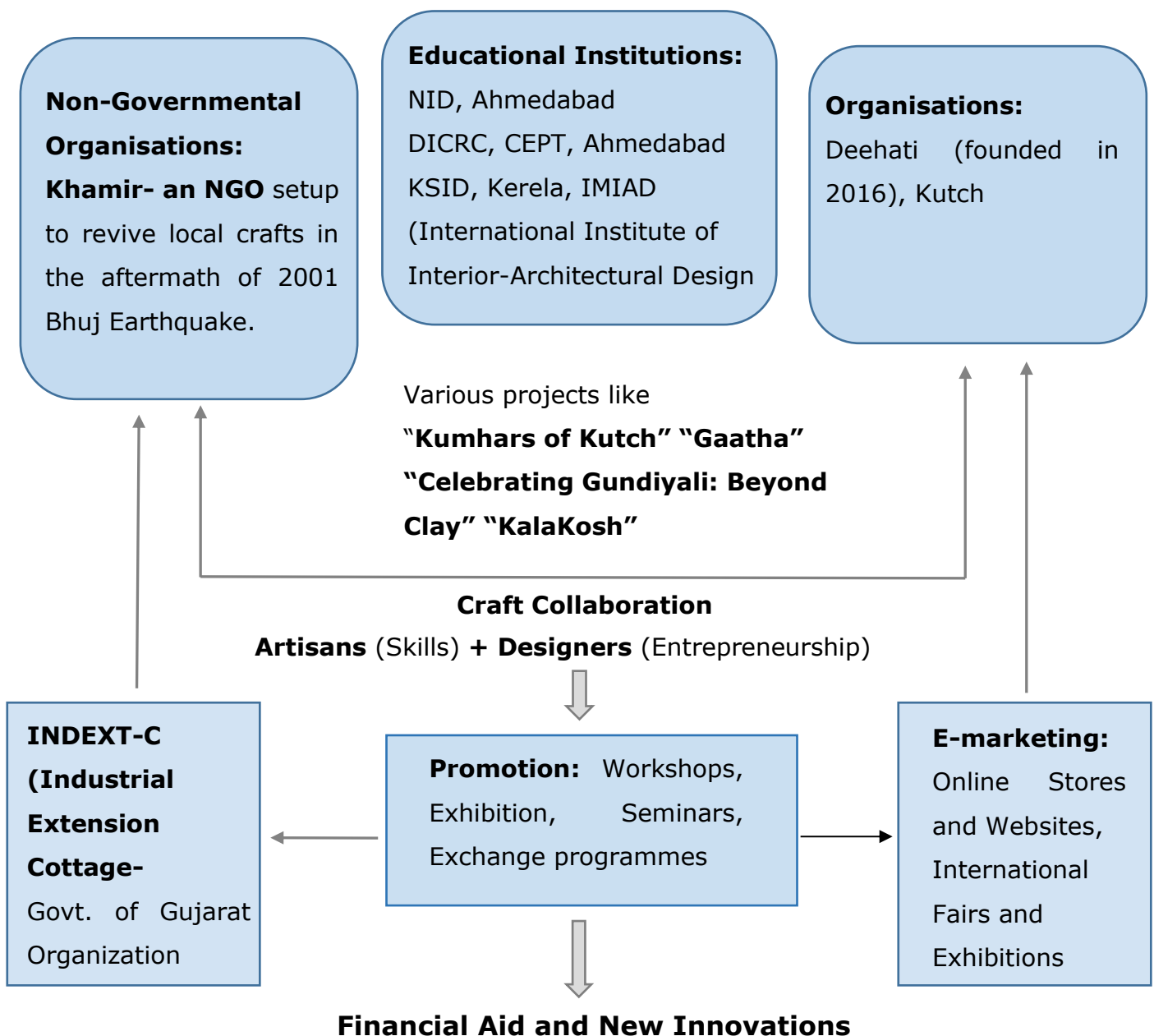
Due to the changing economics of the crafts sector, market-driven models implemented by private enterprise may be better suited to some of the areas such as retail outlets, providing access to financial mechanisms and raw materials. Therefore, More focused approach to, six high impact and scalable interventions found in the top right quadrant of the matrix, as described above.

Certifying products, technology upgradation however strengthen the artisan's community with effectively policy implementations.

8.5 OBJECTIVE 2: OBSERVATION MAPPING

NGO's and Educational institutions are involved in collaboration with INDEXT-C (Industrial Extension Cottage), the only Govt. of Gujarat Organisation for promotion of their crafts in international fairs and exhibitions.

The Advertising and sales promotion are the neglected areas of marketing activities of the terracotta products. Sales promotion of these art work is often informal and unorganized, and mostly done through instances of actual buying of these products by art lovers.

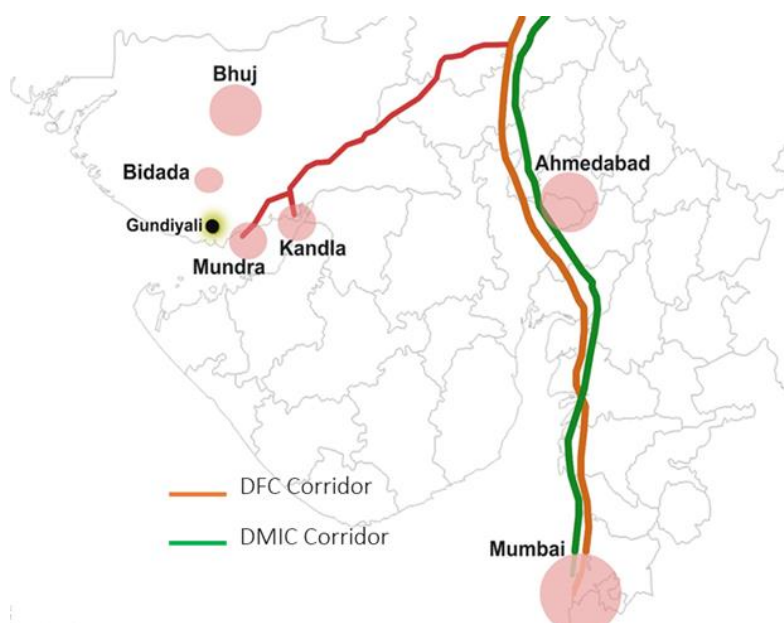


8.5.1 MARKET DYNAMICS: CONCEPTUAL FRAMEWORK

The main products of the cluster are idols of deities, decorative items, animal figures, utility items, goods for ritual purposes, etc. These artisans sell their products to showrooms in cities, houses and in government or private exhibitions. The demand for these goods varies according to the markets, as under:

- 1) Local Market - Religious Purpose, Utility Purpose
- 2) Exhibition - Direct to users
- 3) Nation Market - Exporter, Emporiums, Orders

The market for the terracotta product is determined according to the customers' aesthetic sense and love for tradition. The market segment for these products consists of middle-aged and high-income group and the high-middle-income group. The purchase behaviour of the customers is not continuous. It is spontaneous and purchasing pattern is not homogeneous. The buyers are value buyers rather than price buyers or loyal buyers. The market is scattered and unattended due to absence of appropriate middlemen and coverage. These products are often sold by the artisans in person. Door to door selling methods are adopted and local market days are the main selling days for the Gundiwali artisans.



Transportation of finished products through DMIC corridor

Gundiwali finished products are transferred to Mumbai and other nearby places by DMIC and DFC corridor. While transportation, a lot of wastage is produced by broken pots as mentioned by the Gundiwali potters.

8.5.2 LOGISTIC

All individuals and group artisans work around their houses or at a common place. A majority of the artisans do not have working sheds or storage facilities.

The storing pattern is very crude and traditional. The probability of breakage and spoilage is very high due to non-adaptation of scientific storing methods. They used the haystacks and dry grass layers to protect the finished products.

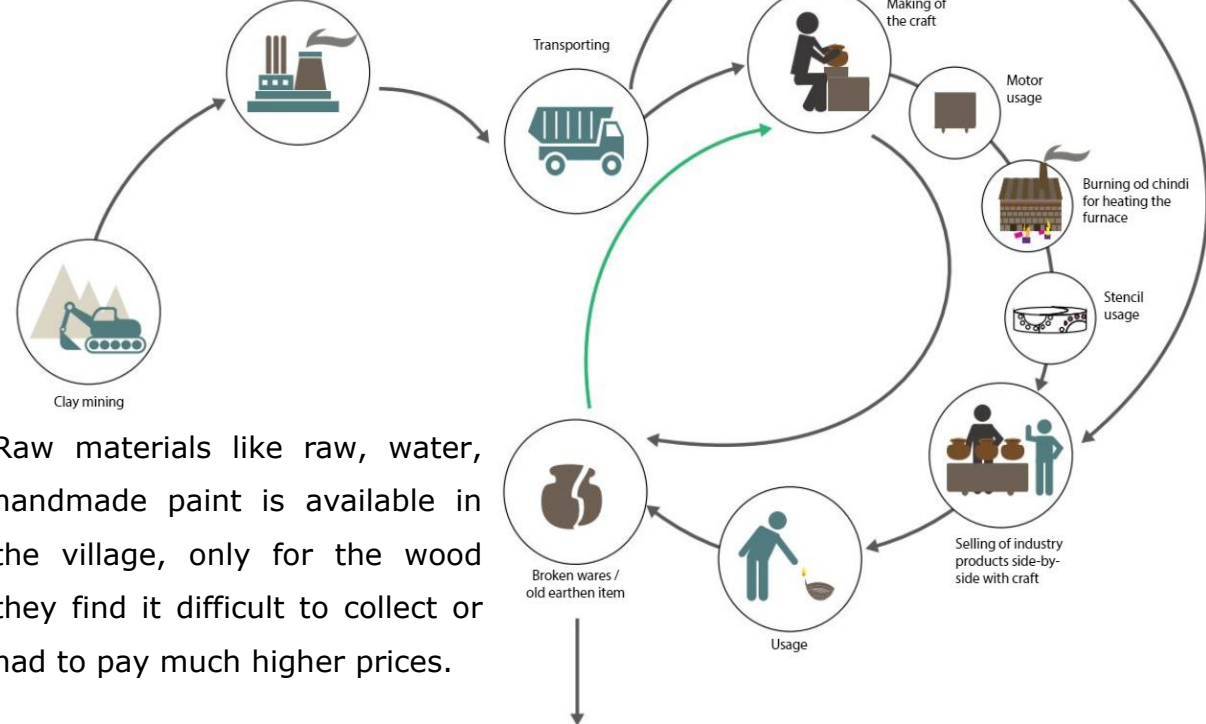
The packaging and labelling of the products are non-existing and unscientific. As basically, these artisans use the local markets for selling the finished products, the habit of good packaging has not been developed. Illiteracy is the cause for non-use of labelling practices. The distribution channels used by the Kumbhars (potters) of Gundiyaali have no intermediaries in their marketing activities due to lack of wide acceptance of these artifacts in comparison to other handicraft sectors in Kutch. Due to both seasonal production of the artifacts and limited market, the intermediaries do not show that much interest in these products. The products are transported to the local markets by 2 wheeler or for distant markets, they use trucks or van. The insurance service is completely absent due to ignorance and inability to pay the premium. The durability of the product depends on the careful handling of the same. So the artisans provide no guarantee and warranty for the products.

The artisans use very traditional but convincing method of fixing the price for their products. The pricing is based on the time consumed to make the finished product, the direct expenses made and the incidental expenses for other related activities. The pricing objective is less commercial but more to survive. The price of the terracotta product ranges from Rs.10/= to Rs.3000/=. The artisans also follow a differential pricing strategy basing on the locality and demand for their products.

8.6 OBJECTIVE 3: OBSERVATION MAPPING

Mapping of the craftsman workspace and identify the activities and technology used in the craft-making process through graphical analysis and schematic diagrams to understand the necessary changes execute to increase production.

Middleman taking advantage and artisans are getting exploited, whereas the same products are being sell to the customers and by companies like amazon, fabIndia at much higher prices.



Raw materials like raw, water, handmade paint is available in the village, only for the wood they find it difficult to collect or had to pay much higher prices.



Traditional practice: Smoke produced from the kiln



Burnt or broken pot generate waste after burning or in transportation

The above diagram depicts the craft-making process of Gundiya from clay mining to earthenware uses in day-today life, where I have listed all the problems and issues faced by the artisans and recommend solutions to overcome those.

Still, the traditional method of burning kilns are used in Gundiya which produce a lot of smoke in the gamtal. Also, a lot of wastage is produced by overburnt and broken earthen pots while loading unloading or transportation and this demotivates the potter's to exhibit their crafts in far off places.

On the one hand, while the artisans are working almost 10-12 hours a day and due to lack of proper space or advance technology, they aren't getting recognised nor they are issued any Craftmark of Identity card by the governmental organizations.

9. RECOMMENDATION

There is lot of scope to explore the rural hinterlands of India for profitable business practices. But none of them discuss about the ground level problems faced by local communities and the solutions to overcome those. Traditionalism with Rationalism to be initiated and Craft industry itself is Environment friendly with active people’s participation and decentralised decision-making opinion to be initiated. Pottery industry is “A work from home culture” also women artisans are able to earn themselves a daily income, rather than depending on others.

To Prepare an **Artisans Welfare Action Plan** to give proposals or activities done to achieve the given objectives, time taken, assigned person, sources of funding and stakeholders. Initiative taken will be in Macro or Micro level planning approach for each proposal. This planning process will focus on local characteristics and needs and builds local capacities with strategy, tactical, operational, and contingency.

Proposals given to fulfill each objectives and to achieve a common goal in the field of technological upgradation, skill development, infrastructure development with eco-friendly construction materials, coastal water desalination and energy generation and environmental friendly techniques to be implemented.

Goal	Main Goal of the Action Plan					
Objective	Objective 1		Objective 2		Objective 3	
Sub-Objectives	Sub-Objective 1.1	Sub-Objective 1.2	Sub-Objective 2.1	Sub-Objective 2.2	Sub-Objective 3.1	Sub-Objective 3.2
	Sub-Objective 1.3	Sub-Objective 1.4	Sub-Objective 2.3	Sub-Objective 2.4	Sub-Objective 3.3	Sub-Objective 3.4
Outputs	Output	Output	Output	Output	Output	Output
Activities	Activities		Activities		Activities	

9.1. REVIVAL IN POTTERY INDUSTRY

It is evident that the pottery industry is one of the most critical sectors, especially for developing countries like India. These sectors generate more employment in rural areas and help in the economic development of a nation. The Central and State governments are boosting and supporting this sector through policies. They are all geared up to provide infrastructural support, up-gradation in technologies, reservation of handicraft products, incentives, etc. through its specialized institutions in the form of assistance in obtaining finance, marketing, training, and development. Though this industry has a rich heritage and tradition, the artisans are still in stale condition because of individual components. To improve the overall state of the pottery business in India, we, as a step towards Aatmanirbhar, are at the forefront of helping the budding entrepreneurs identify the various requirements of the manufacturing centers, technological development, and advancement of the centers with help structures. Also aiding them to conduct a proper review of the industry, analyze the need, gap, and formulating an adequate plan essential for business growth.

These steps will ensure that new venture is well rolled out, appropriately registered, and is legally compliant in all manners:



- I. **Efficient business plan** – A clear business plan is vital for the success of a budding entrepreneur. It will help to mark out the specifics of business and discover some unknown truths. It will help to analyze the market and plans of the company. A few essential topics are considered before starting the new venture of pottery, like the ongoing and start-up costs of the business, the target audience, the company's name, location, etc.
- II. **Necessary Licenses and permits** – Few states demand a specific license be obtained before starting a pottery business without which a business enterprise might end up paying hefty fines or subject to legal actions. Entrepreneurs can directly contact the concerned authorities to know in detail about the necessary license to start the pottery business in India. Businesses operating out of a physical location at times require a certificate of occupancy (CO), which confirms that all the required building codes, zoning laws, and government rules and regulations are necessary.
- III. **Business insurance** – Just like permits and licenses, business insurance must protect business from any uncertainty or unseen events. This insurance protects the company's wellbeing from the covered losses. Various insurance meant for small scale business enterprises include; workman compensation fund, general liability insurance, etc.
- IV. **Location for the venture** – Once you have obtained the necessary licenses and got the insurance done, procure a safe place for carrying out pottery business in India. Prefer to start the business at home if low on budget or can also take any particular workspace on rent for the day-to-day activities in the pottery business in India. However, if decided to open a public studio, several other expenses related to it, like insurance, electricity, rent, etc.
- V. **Picking up on necessary equipment and tools** – Once determined the workspace, there are few types of equipment and tools that need to start with pottery business in India like clay, hand tools, colorants, wheels, mud, shelves, work table, kiln, pug mill, etc.
- VI. **Pottery making process** – There are different ways by which artisans are willing to make potteries. Some prefer to make it by hand while some prefer machines, kilns, or other equipment by which it is fired chemically to convert it into a ceramic form—after that, decorated for its final sale.
- VII. **Sale of the finished product** – Last but not the least is how the finished pottery items up for sale. There are myriad ways by which can sell products;

get it listed with the crockery stores, gift shops, and plan to sell it online through various portals, or make website.

9.2 ARTISANS WELFARE ACTION PLAN

It has to be a detailed plan outlining actions needed to reach one common goal. Alternatively, it can be defined as a "sequence of steps that must be taken, or activities that must be performed well, for a strategy to succeed".

This action plan sets out the breadth of work we are undertaking, and intention to drive forward reforms across these key strands:

- I. An expert committee on artisans welfare will report on government decisions, holding ministers accountable for welfare in policy making. The Central Government shall constitute a Board to be known as the Artisans (Welfare and Promotion) Board for the welfare and promotion of cultural and traditional handicraft art and to provide institutional and financial assistance to artisans to get better price of their art products and deeper market exposure. The Board shall consist of a Chairperson and such other members to be appointed by the Central Government in such manner as may be prescribed.
- II. It shall ensure high artisan's welfare standards and protection of rights and are not compromised in trade negotiations.
- III. It should promote set up of art centres on the basis of studies carried out; provide better opportunity to the artisans for marketing and ensuring fair price for their art works; and organise exhibitions at regular intervals; also facilitate online portal of art works to enable artisans to avail better prices of their art products.
- IV. The Central Government shall constitute a Fund to be known as the Artisans (Welfare and Promotion) Fund to provide financial assistance for welfare of artisans and promotion of cultural and traditional handicraft art. The State Governments shall contribute to the Fund in such ratio as may be prescribed. Any sum received by way of donation, contribution or grant shall be credited into the Fund. The Fund shall be administered by the Board for carrying out the purposes of the Act.

9.2 OBJECTIVE 1: ACTION AREAS

OBJECTIVE 1: To examine relationship among various socio-economic variables affecting productivity in the study area.

SUB-OBJECTIVE 1.1: To generate better income opportunities for rural household in pottery industry and provide better facilities.

PROPOSAL: Infrastructure and Strategic LandUse planning

Infrastructure planning primarily relates to new infrastructure creation but also phasing out of deficient and outdated infrastructure when it is cost-effective.

Strategic land use planning is the process of planning for the future development of the village and identify and future land uses to meet growth and demand for housing, jobs and services and try to overcome the challenges faced by the artisans in the field of training, research, availability of raw materials or financial mechanism planning.

For Infrastructure Management and Strategic LandUse planning, action areas will be to provide Eco-lodges or Homestays within the village periphery with mesmerizing coastal view which on the other hand will promote tourism and encourage people to participate in the craft cluster and craft-making process.

Also, Resource and communication centre to be provided at various points within the village for training or skill development of the artisans which should be certified by the local government.

Key stakeholders or targeted groups/assigned persons will be TERI, Gujarat Matikam Kalakari & Rural Technology Institute, NGO's, SHG's, Village head (sarpanch), Gujarat Coastal zone management authority, NCSCM, Educational Institutions and Organisations.

Sources of Fundings: Gujarat Energy Development Agency, Gujarat Matikam Kalakari & Rural Technology Institute, Commissioner of Cottage and Rural Industries, Gujarat Rajya Khadi Gramodyog Board.

9.2.1 "MUD TO MONEY": ECO-LODGES WITH ECO-FRIENDLY CONSTRUCTION MATERIALS



Mud ecolodges with coastal view, will Conserve the environment, sustains the well-being and awareness towards the potter's community, and involves interpretation and education.

Mud's low cost and malleability makes it an ideal building material. But what gives the material so much potential importance in India, with its large population of homeless and ill-housed people, is its cheapness and widespread availability. Considering the scarcity and high cost of conventional building materials such as brick, cement and steel, one way to solve the country's severe housing shortage of an estimated 40 million units by 2000, is to switch to mud. Explaining mud-building's cost-effectiveness, it is noted that conventional brick construction can cost as much as Rs 1,614/sq m (Rs 150/sq ft), a mud house with modern inputs costs as little as Rs 215/sq m (Rs 20/sq ft).

Compressed Stabilized Earth Block (CSEB) give the opportunity of energy efficient, eco-friendly, agriculture friendly and sustainable development. The input of soil stabilization allowed people to build higher with thinner walls, which have a much better compressive strength and water resistance. CSEB can be compressed in many different shapes and sizes.



CSEB
(Compressed
Stabilised Earth
Blocks)

Reducing
Deforestation.

Inexpensive and
Energy Efficient

Resistant o fire
and pests.

Structural Strength
and Toxin free

Bio- degradable
and sound proof

Aesthetic and
Adaptability

Kerala, houses are often built with mud and laterite blocks, with tiled roofs on coconut timber rafters and purlins (horizontal beams). HUDCO and the Kerala government have jointly financed the construction of more than 1.4 lakh mud houses in the state, 70 per cent of them in rural areas.

9.2.2 "SOLAR MUD HOUSE": RESOURCE AND COMMUNICATION



- Common facility centre
- Communication network
- Design banks
- Resource centre
- Training and skill development
- Building marketing infrastructure
- Materials bank

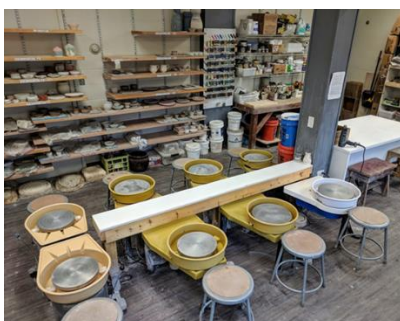


In Theory of Innovation (1934), Joseph Schumpeter stated that "Invention, Innovation and Diffusion are the bedrock for any growth and development. "Innovation is the first commercial application of an invention, while diffusion spreads the technology or process market-wide.

Skill development training Centre is a platform to enhance the skill and make the artisans and industry industry ready for organizational development. Education is not only an instrument of enhancing efficiency but is also an effective tool of widening and augmenting democratic participation and upgrading the overall quality of individual and societal life.



Terracotta roof with solar installation



Electric wheels to be installed which will operate with solar power

Terracotta roofs of the solar mud houses will be installed with solar panels and all the technological upgradation made such as electric potter's wheel and pug mill will run by solar power which is again a renewable source of energy.

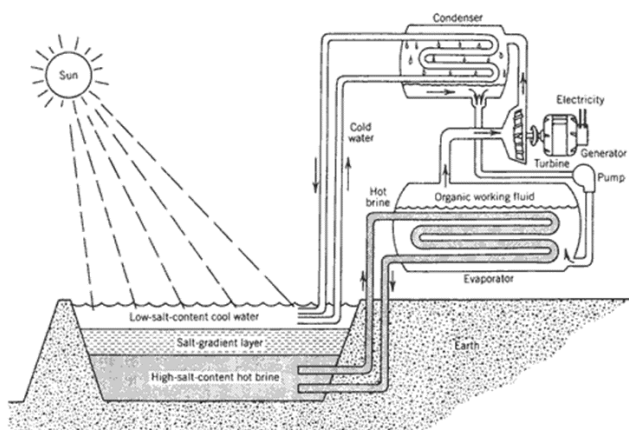
Some solar installers like to use a technique called a "comp-out" to more easily install solar on clay tile roofs. This technique involves removing all the clay tiles under the area where your solar panels will go, installing composite shingle in this area, then plopping in traditional solar roof mounts, rails and panels in that location.

9.2.3 "SOLAR POND": WATER DESALINATION AND POWER GENERATION

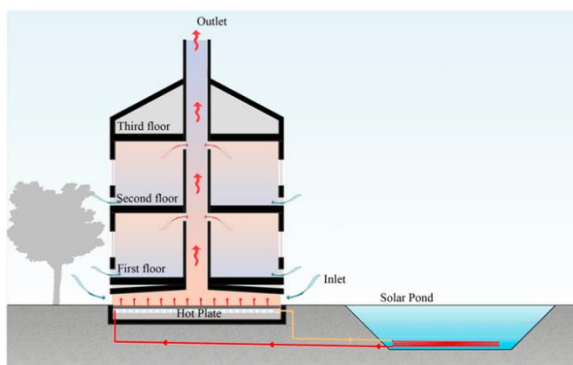


The smaller ponds have been used mainly for space heating and cooling and domestic hot water production, whereas the larger ponds are proposed for industrial process heat, electric power generation, and desalination. Can also be used for natural ventilation where there is sufficient temperature difference between day and night.

6000 sqm. (98 m X 61.25 m X 3.5m) dimension of solar plant can generate 22,000,000 kWh of Thermal energy annually. The total cost of construction of the Bhuj Solar Pond was US\$90 000 including heat exchanger and piping etc. which accounts for around 1200rs per sqm.



Solar ponds function effectively as solar energy collector is a salt-concentration gradient of the water. This gradient results in water that is heavily salinated collecting at the bottom of the pond, with concentration decreasing towards the surface resulting in cool, fresh water on top of the pond.



These ponds can also be used to generate electricity by driving a thermo-electric device or some organic Rankine engine cycle - simply a turbine powered by evaporating a fluid.

9.3 OBJECTIVE 2: ACTION AREAS

OBJECTIVE 2: To Identify the implementation of schemes and promotion making for preservation and revival of pottery industry and their impact at grass root level.

SUB-OBJECTIVE 2.1: To implement and adapt advance techniques for promotion of crafts to reach a higher section of consumers.

SUB-OBJECTIVE 2.1: To identify the gaps between the artisans, market and government bodies and steps taken to eliminate those.

PROPOSAL: Social- E-Commerce and Enabling Craft Ecosystem.

Shopping on the Web is inspired by what others purchase or recommend. Also called "social shopping," social e-commerce may be triggered by name brands that people mention in postings on their social networking sites or from group shopping sites that feature specials as well as user reviews. Still, there are opportunities for digital tools to catalyse a robust resurgence of India's crafts. India has over 60 lakh practising artisans. This is a ready talent pool that does not need vocational training. At the same time, market opportunities such as emerging handcrafted luxury lifestyle brands; ethical handcraft brands with traceable supply chains and travel experiences integrated with artisanal destinations are ripe for a seamless connect between a practising artisan and a patron.

Digital tools can be a powerful enabler for artisans to connect directly with markets and access affordable credit. An emerging ecosystem of online marketplaces, affordable communication tools, online consumer communities, entrepreneurship programmes, crowd-funding for artisan entrepreneurs and local digital design archives holds promise for change.

Key stakeholders or targeted groups/assigned persons will be NGO's, SHG's, Village head (sarpanch), Educational Institutions and Organisations.

Sources of Fundings: Gujarat Matikam Kalakari & Rural Technology Institute, R and D, Directory of ICT and e- Governance, Commissioner of Cottage and Rural Industries.

9.3.1 "AUGMENTED REALITY":VIRTUAL SHOPPING EXPERIENCE

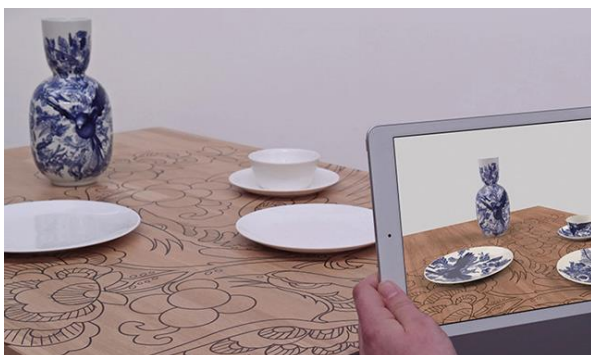


Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision.

Augmented Reality Creates unique customer experience, engagement and interaction and eliminates cognitive overload. AR is mobile and personal and, thus, hugely accessible to a rapidly growing smartphone market. It is also Inexpensive alternative to other media platforms as no specific media needs to be purchased. Widely used for Online communication and collaborations.

Enhanced by computer-generated perceptual information visual, auditory, haptic, somatosensory and olfactory.

3D content can increase conversion by up to 27.96% on retailer websites.



Machine Learning:

Attesting Provenance-Geo-chemical fingerprint and oral sources, can find the origin of potter's cluster.

Also, Predictive analysis and modelling to understand customer preferences.

9.4 OBJECTIVE 3: ACTION AREAS

OBJECTIVE 2: To examine design innovation and technology used in craft making process.

SUB-OBJECTIVE 2.1: To solve the issues noted in the craft making process

PROPOSAL: Technology Upgrade

A strong brand, innovative designs and upgradation of technology would be the key inputs of the governments new strategy for boosting handicraft exports that have declined by over 50%, to Rs 317 crore, this fiscal from Rs 677 crore last year. The focus of exports markets would be shifted from the US and European Union, which have been hit by slowdown to Latin America, South Africa, Middle East and Switzerland.

The initiative is expected to enhance the exports markets for handicraft from the current Rs 317 crore to Rs 1,000 crore in the next three years. About 7,500 artisans would be engaged per themes via cluster development in partnership with major corporate houses.

The industry is one the major generator of employment thus it has the economic advantage in India, but is going through a lot of challenges currently.

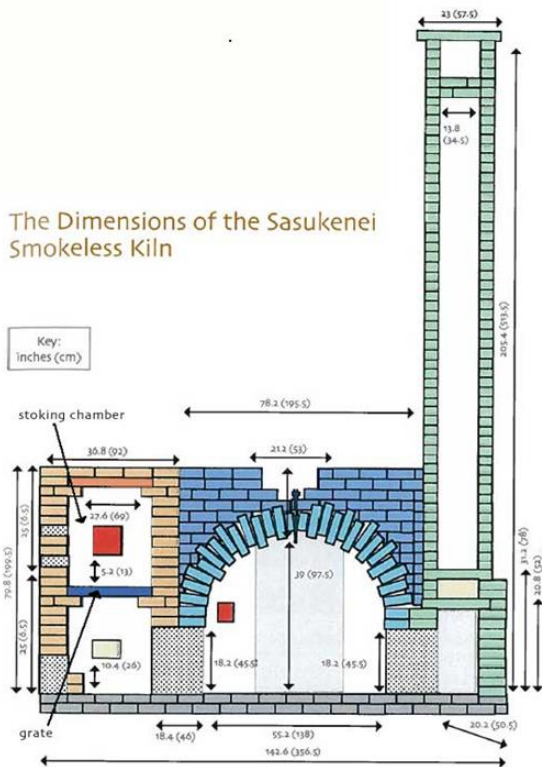
Gujarat Matikam Kalakari & Rural Technology Institute, NGO's, SHG's, Village head (sarpanch), GPCB, Gujarat Coastal zone management authority, NCSCM, Educational Institutions and Organisations are key stakeholders.

Sources of Fundings: Gujarat Energy Development Agency, Gujarat Matikam Kalakari & Rural Technology Institute, Commissioner of Cottage and Rural Industries, Gujarat Rajya Khadi Gramodyog Board

9.4.1 SMOKE-FREE KILN



Sasukenei Smokeless Kiln



Except for a light smoke, the whole burning process of highly-effective smoke-free wood fired kiln has truly realized the smoke-free effect.

The whole structure and furnace have been made locally, estimated cost is around ₹1 lakh for medium sized kiln.

It has around 33 sacks which makes 160 medium sized pots.

Stems and saw dust of Prosopis

abundantly available in Gundiyali can be used to fire the kiln that will solve the availability of wood to some extent.

Dharavi, Mumbai, Kumbharwada area, has switched from traditional chullas to smoke-free kilns to curb pollution.

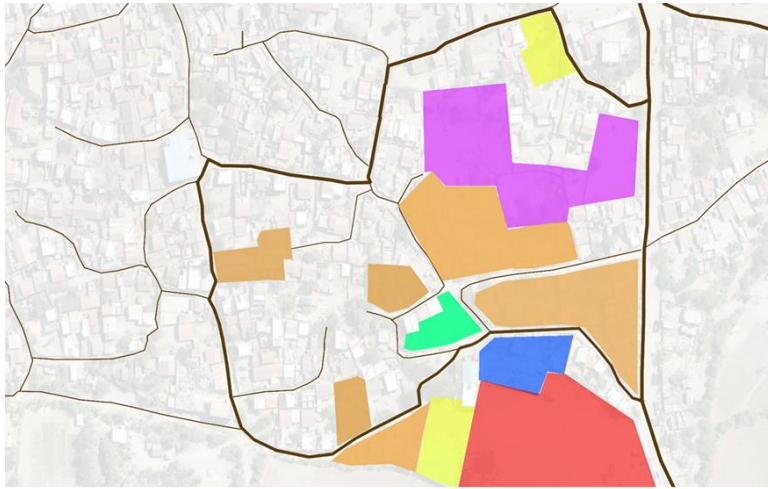
The finished pieces are of a quality associated with a much longer firing than in a traditional anagama kiln. The kiln fires almost effortlessly and quickly climbing naturally, sustaining high temperatures and achieving dramatic wood-fire effects in 24 to 36 hours. As the name implies, the Sasukenei Smokeless Kiln produces virtually no smoke during firing.

Controlled by digital kiln controllers. These allow you to pre-program the kiln to ramp through a carefully controlled firing schedule.

The results of firing is more Predictable and Repeatable. And colored glazes fired in oxidation will tend to be brighter.



10. CRAFT CLUSTER: ACTIVITY MAPPING



Potter's cluster in gamtal

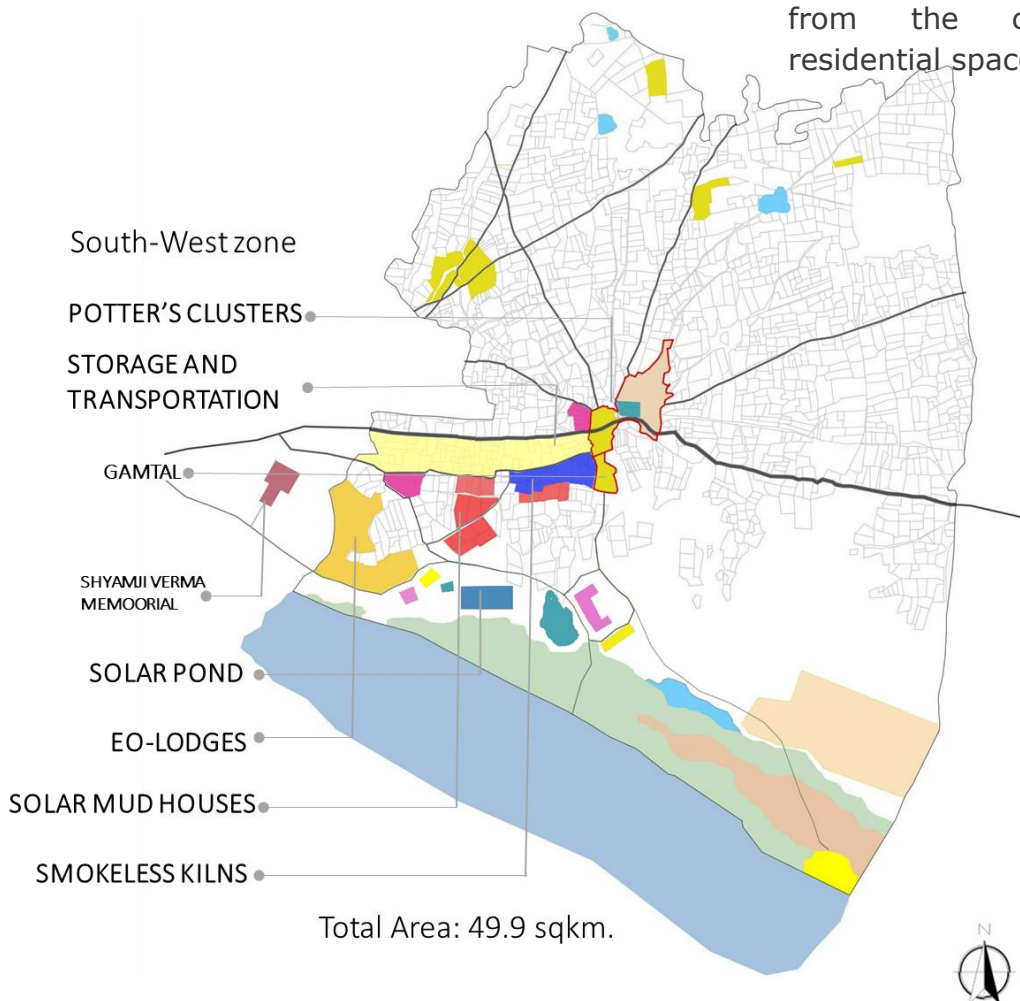


South-West zone to be proposed as the craft cluster hub.

NH41 passes through the village, which further adds benefit in easy transportation of final products. Mandvi town which is less than 3kms from the village, to be set up as a promotion hub.

Proper storage and loading unloading space provided, for easy of moment and reduce wastage.

Burning space provided far from the crowded and residential space.



Total Area: 49.9 sqkm.

11. CONCLUSION

Craft-making is an intangible heritage of our country and with time, it is losing its existence and skill in various regions. Along with it, losing is the community's identity and culture. Thus, it has to be preserved and encourage younger generations to actively take part for revival of crafts with new technology and ideas. Craft cluster tourism in a place is a way to strengthening community and making them self-sustenance and generate income and employment.

Pottery industry-400 years old "work from home culture": In times of pandemic, although Gundiyaali artisans were facing difficulties in selling products, they were still making products and storing them for their upcoming orders. Investment in pottery sector can undoubtedly be a huge success and move a step forward towards self-reliant India. This way not only make the community self-sustenance by providing economic opportunities but also uphold the rural identity which is diminishing with time as people tend to migrate more into urban places in search of better lifestyle and income.

Traditionalism with Rationalism is the key and craft industry itself is Environment friendly with active people's participation and decentralised decision making opinion to be initiated. With Availability of raw materials and re-configuration of workspace with advance technological support leads to employment generation and artisan's welfare. New technology such as solar power peddle potter's wheel, opportunities have greatly increased which makes the job easier with as little waste as possible.

Women Strengthening: Women artisans are able to earn themselves a daily income, rather than depending on others. This sector however proved to be very efficient for housewife as they can earn from their skills while doing all the household activities. On the other hand, they get an opportunity to build an identity and decision making.

Skills and training to be given much importance as it is the only way to make self-sustenance especially in the rural household which is luckily incorporated in National Education Policy (NEP), 2020.

The upgrading should be incremental and collaborative, and most importantly should be implemented by local actors i.e. the artisans community.

The mission of the artisans of Gundiya is to survive the artistic culture and to enhance self-sustenance. To fulfil the mission in the present changing marketing scenario, a divorce from the traditional outlook is inevitable. The change in the product design and marketing activities, the positive intervention of the district administration and the NGOs, establishment of Self-Help Groups (SHGs) and bank finance are the symbols of welcome change.

The manufacturing of the products is still done through traditional processes and tools. The use of hand-driven potter wheels, drying the products in the sunlight and burning them in the kilns, colouring the artifacts with traditional colours and storing them in their homes hampers the production capabilities of these potters. Absence of product standardization, proper packaging methods and tools, appropriate labelling, and insurance facilities block the way for modern marketing approach. A good artist is not a good marketer. Due to lack of specialized knowledge and skill, the personal selling process does not reap the expected results.

Today, therefore, when we talk of initiating modernity among this artisan community, what we imply is rekindling of confidence in their own creative abilities. Similarly, making their craft contemporary does not and should not involve a break from their traditional creative moorings. On the contrary, it should re-assert the strength and adeptness of their design and innovation capabilities to stand on its own against the glitter of modern kitsch. It is this resolute re-assertion of the inherent beauty of their creations even against the torrent of assembly line, mass produced, synthetic beauty that would lead to even the customers reassessing their choices and hopefully, rediscovering their sense of beauty.

All attempt

should be made by the socialistic nation to preserve them so also to bring a sustainable development of that culture. terracotta Craft and the artisans can survive across generations only when the following points are adhered to:

- I. Efforts to increase marketability of the produce
- II. Creating an enthuse among the new generation to adopt practice
- III. Economic empowerment of the artisans with a sense of security
- IV. Traditional craft imbued with modern hues
- V. Creating a buffer system to absorb shocks (market shocks / personal shocks)

- VI. Providing business development services
- VII. Equal social status with others in context of quality of life
- VIII. Ancillary facilities are ensured e.g.; transportation, storing, banking, training, R&D, advertising and publicity, subsidies and exemptions etc.
- IX. Have flexibility in product designing to cater to customer needs.
- X. Use of new tools and facilities.

12. FUTURE SCOPE FOR STUDY:

The studied carried out was to achieve Craft cluster tourism in Gundiyali village, Kutch for preservation of intangible knowledge and skills for future generation. Conducting primary survey, as interviewed with the artisans of Gundiyali, they find it difficult to sustain with the rapid urbanization and shift in occupational structure, their community is getting diminished and neglected. Although, they are quite skillful and trying to preserve their 400 years family tradition, younger generations no longer taking interest in carrying out further rather they would work in the agricultural fields or as industrial labour. A few of them, graduated are in search of better jobs in urban places.

If an Artisans Welfare Action and Promotion plan is prepared with government initiatives and Acts, their craft would reach a million and instead of going for odd jobs, they would prefer to continue with their craft-making. This in turn, will not only make them self-sustenance but will also have a recognition and self-identity in the society. This will encourage the younger generations to learn and participate in the craft-making process.

However, there is a huge scope of study in this field in terms of technology upgradation and e-commerce. Application and need of Craft-making and skill development in child education and Psychology for social upgradation. Experiments can be carried out in Contemporary craft process from ancient art for demand in the global market. Also, for rural development, studied can be carried out for heritage and preservation planning and revival of the craft industry.

REFERENCES:

<https://www.census2011.co.in/data/village/507284-gundiyali-gujarat.html>

<https://etrace.in/census/village/gundiyali-mandvi-district-kachchh-gujarat-507284>

<https://geoiq.io/places/Gundiyali/YBjhW6WWZH>

<http://www.onefivenine.com/india/villages/Kachchh/Mandvi/Gundiyali>

https://celebratinggundiyali.com/wp-content/uploads/2020/12/Phase-3_Unit-re-articulation_Final_HR.pdf

<https://gaatha.org/Craft-of-India/pottery-study-gundiyali-kutch/>

<https://cultureqisse.substack.com/p/4-pottery-village-in-kutch-gundiyali>

<https://cultureqisse.substack.com/p/4-pottery-village-in-kutch-gundiyali>

<https://gaatha.org/Craft-of-India/pottery-study-gundiyali-kutch>

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