

# **NAGARPARKAR TALUKA PLANNING PROJECT**

## **Volume – One**

### **Existing Conditions and Future Scenarios**

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## **About This Report**

This report consists of two volumes. **Volume – One** consists of report text, contents, photographs and appendices. It documents existing physical, socio-economic and governance related conditions in the Nagarparkar Taluka as a whole and at key locations (Nagarparkar Town and Kasbo, Virawah, Bodisar, Ghori and Churio villages); analysis them; draws conclusions for future planning requirements; and develops scenarios for the future.

**Volume Two** consists of satellite imagery and digitized maps of Nagarparkar town, Nagarparkar to Kasbo corridor, Kasbo village, Nagarparkar town to Bodisar, Bodisar village, Virawah village and Churio village. The digitised maps show landmarks, landuse, land ownership, conservation elements, age and condition of buildings and scenic spots.

Volume 1 and 2 constitute Phase – 1 of the Research Project. Phase – 2, for which Volume – 3 will be prepared, will consist of identifying studies for future research; structure plans for Nagarparkar town and Kasbo village; landuse plans and projects for Bodisar, Ghori and Churio villages and guidelines for the preparation of: i) zoning regulations, ii) development of tourist related infrastructure; iii) conservation of heritage and natural environment; and iv) institutional arrangements to make this happen. Phase – 2 will be undertaken after feedback from Thardeep and other taluka stakeholders.

A number of people have worked on this report. They include: Architect/Planner Christophe Polak and architects Furqan Khan and Aqsa Mumtaz. They have developed Volume – Two and supervised and directed the field surveys and mapping exercises which were carried out by senior students of architecture (Adnan Ahmed, Danish Hasan, Sadiqa Bashir, Nabia Kausar and Samiullah Khan) from the NED University and the Dawood College, Karachi. Engineer Mansoor Raza transcribed the important points of the interviews that were held with Nagarparkar Taluka communities and NGO and government agency representatives and documented and extrapolated housing and population details from official documents.

Special thanks are due to the support that was provided by Thardeep and the local communities for this exercise. Harji, Dr. Laxman and Luxman Tharri accompanied the teams during the surveys, provided important information and acted as intermediaries between the teams and the local population. Important historic, governance related and sociological insights have been provided by Dr. Khatau and Narumal Sahib who accompanied me during my visits and also supported the survey teams with information and guidance.

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## Abbreviations and Local Terms

### Abbreviations:

ADEO	Assistant District Education Officer
BHU	Basic Health Unit
FIA	Federal Investigation Agency
JI	Jamat-e-Islami
LHV	Lady Health Visitor
PCDP	Parkari Community Development Project
PDC	<i>para</i> development committees
PVDP	Participatory Village Development Programme
SRSO	Sindh Rural Support Organization
TMO	Taluka Management Officer
ToR	Terms of Reference
UC	Union Council
VDC	Village Development Committee

### Local Terms:

<i>ashnan</i>	bathing
<i>baipari</i>	merchant
<i>chaliha</i>	or 40 days
<i>charpai</i>	cots
<i>churas</i>	round huts
<i>devi</i>	
<i>Eidgah</i>	place of prayers
<i>glim</i>	carpet
<i>gowcher</i>	pasture land
<i>gugur</i>	the gum of balsamodendron mukul
<i>imambargahs</i>	Shia Muslim place for performing rituals
<i>jageers</i>	land grants
<i>jageerdars</i>	to whose whom land grants are bestowed
<i>jahaiz</i>	dowry
<i>karo kari</i>	honour killings
<i>karyiana</i>	shop selling “kitchen” related items
<i>kekras</i>	local name for six wheel drive trucks
<i>haris</i>	tenant farmers
<i>khatta</i>	revenue records
<i>khata</i>	woollen blankets
<i>katchi</i>	unbaked, temporary
<i>malia</i>	agricultural tax
<i>mandir</i>	Hindu temple
<i>maunds</i>	local term for a weight of 40 kilos
<i>mawa</i>	sweet meat
<i>mela</i>	festival gathering
Menghwar	caste of artisans
<i>Mukhtarkari</i>	office of the Mukhtarkar, middle level revenue officer
<i>musafarkhana</i>	a hotel for travellers/pilgrims
<i>nala</i>	open drain

<i>nat</i>	used for camel saddles
<i>nazim</i>	mayor
<i>paras</i>	neighbourhoods
<i>pooja pat</i>	religious rituals
<i>punchayats</i>	council of elders
<i>pucca</i>	baked, permanent
<i>Qurankhani</i>	The formal reading of the Quran
<i>sardars</i>	chieftons
<i>shagirdi</i>	apprenticeship
<i>suthars</i>	carpenters
<i>taluka</i>	sub-district
<i>tarais</i>	depression in which rain water gathers
<i>thakur</i>	a Hindu upper caste, usually a landlord
<i>vanaspati</i>	industrially manufactured cooking oil
<i>zamindar</i>	landlord
<i>ziarat</i>	pilgrimage

## Chapter – One

### **BACKGROUND TO THE PROJECT**

Thardeep (as the Thar Rural Development Project is called) has been working in Tharparkar with local communities on development related issues since 1987. In addition, it monitors socio-economic and ecological changes that are taking place in the desert. So, after the completion of the metalled road from Mithi to Nagarparkar, Thardeep noticed that the number of visitors to Nagarparkar had increased considerably. These visitors are young men on motorcycles and families in cars. They come as tourists to visit Nagarparkar's historic sites (many of which are closely linked to Sindh's folklore) and to enjoy its scenic beauty. In addition, as a result of easier access to Nagarparkar, a sharp increase has taken place in the number of persons visiting Nagarparkar for Hindu religious rituals and festivals as many important Hindu shrines and temples are located here.

Thardeep felt strongly that this influx of tourists, if planned for, could be used for the economic well-being of the Nagarparkar population and if not planned for, could lead to massive environmental degradation and social fragmentation. With these concerns in mind, Thardeep contacted Arif Hasan, a Karachi based architect and planner, who has had a long association with Thar since Thardeep was established as the Thar Rural Development Project in 1987. Meetings with Thardeep and Arif Hasan were held in July and Arif Hasan and Architect Aqsa Mumtaz visited Nagarparkar in August 2008. On the basis of the discussions and the visit, it was decided that for planning for the future it was necessary to map the existing demographic, socio-economic, governance, land related and environmental issues along with emerging trends. Using this information, scenarios for future development could be developed leading to the preparation of a structure plan for Nagarparkar town and Kasbo village. Terms of Reference (ToR) were drawn up on this basis and are attached as **Appendix – 1**. A contract was signed in October between Hasan & Polak, architects and planners (of which Arif Hasan is a partner) and Thardeep for fulfilling these ToR.

Subsequent visits were made by Architect/Planner Christophe Polak, Architect Furqan Khan and Arif Hasan for a better understanding of the Nagarparkar town and Kasbo village situation and a number of meetings were held with local people and government officials. As a result of these visits, it became clear that the study and subsequent plan, to be a realistic, would have to have a larger vision which would not be limited to Nagarparkar town and Kasbo village but would have to include other important heritage sites and possible tourist attractions in Nagarparkar taluka as well. **As a result, the scope of work was expanded to include the villages of Virawah, Bodisar, Ghori and Churio and to document the Nagarparkar town-Kasbo and the Bodisar-Nagarparkar town corridor as well.**

For the mapping process a satellite image of the relevant areas of Tharparkar was acquired from ER Solutions, a Karachi based representative of Quick Bird Satellite Imagery. The mapping process, using this imagery, was carried out by an eight member team between 12 – 19 December 2008 and covered Nagarparkar town; and Kasbo, Virawah, Bodisar, Ghori and Churio villages and the area between Kasbo and Nagarparkar town and between Nagarparkar town and Bodisar village. Subsequently, Arif Hasan and Engineer Mansoor Raza visited all these sites and held meetings with the communities in the villages and with government officials between 03 – 07 January 2009. In all these meetings, Hasan & Polack teams and members were facilitated by Thardeep staff.

The digitized maps (which form a part of Volume Two of this report) and the analysis from the interviews and projections for the future are derived from the activities that have been mentioned above and are detailed in **Appendix - 2**. Literature on Tharparkar has also been consulted for the preparation of this report. A list of relevant documents is attached as **Appendix 3**.

## Chapter – Two

# NAGARPARKAR TALUKA CONTEXT

## 1. Administrative Divisions

Tharparkar district consist of four talukas. These are Chachro, Diplo, Mithi and Nagarparkar. The Nagarparkar taluka in turn consists of six union councils (UCs). These are: Nagarparkar, Virawah, Pithapur, Pilu, Sathiidera and Tigusar. Maps of Tharparkar district and Nagarparkar taluka are given as **Map No. 01 in Volume Two**. The total area of the Nagarparkar taluka is 3862 square kilometres and its population today (extrapolated from the 1998 Census is 153.106). There are no settlements classified as urban by the census reports in the Nagarparkar Taluka. However, given the existing population growth figures and the fact that it is the Taluka headquarters, Nagarparkar town, can be considered urban and is mentioned as such in this report. Its population and demographic details (along with those of Kasbo, Virawah, Churio and Adhigam villages along with extrapolations to the year 2020) are given in tables 2 – 6 in **Appendix 4**. Statistics regarding the Taluka as a whole are given in Table 1 in Appendix 4.

## 2. The Geographic and Historic Context

### 2.1 Geography

The geography of Nagarparkar for the most part is similar to the rest of Tharparkar. It consists of sand-dunes with valleys in between where subsistence rain-fed agriculture is carried out. After the rains, the desert supports extensive grass growth which provides high value feed to livestock. In periods of drought (which are common) communities are forced to migrate with their animals to the barrage lands. Water for domestic purposes and for cattle is acquired from the rain water aquifer through hand dug wells or through *tarais* which are depressions where rain water accumulates. Most of the *tarais* become dry in the “dry period” which is from January to August. Many of the wells also become saline in the dry season and as such migration also takes place as a result, even if there is no serious drought.<sup>1</sup>

However, the extreme south-east part of the Nagarparkar taluka is different from the rest of Tharparkar. It contains the Karunjhar range. These granite hills are 19 kilometres in length and rise to a height of over 300 metres. To their east are smaller hills which are covered with sparse jungle and pasturage. The hills are pinkish in colour and very dramatic. They have lovely scenic spots in them including springs of which two (Achleshwar and Sardharo) are well known since important Hindu shrines and local folklore are associated with them. The hills also contain deep gorges through which water rushes out to the Runn of Kutch. Two of these gorges become important seasonal rivers (Bhetiani and Gordhro) whenever it rains. In addition, the southern part of the Nagarparkar taluka borders on the Runn of Kutch. The Runn is a huge low lying area which during the monsoon is flooded by water from the sea. The surface of the Runn is covered with a thick layer of salt which has been left by evaporation of sea water over the centuries.<sup>2</sup> The water of the Runn from the west pushes into a depression towards Virawah village (see **Map No. 02** in Volume Two). The north-

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<sup>1</sup>. For details see the section on “*The Desert*” in Arif Hasan, “*The Unplanned Revolution*”; City Press, Karachi, 2002

<sup>2</sup>. For details see J.W. Smith; “*Gazetteer of the Province of Sindh, Tharparkar and Nagarparkar District, 1919*” reproduced by Sang-e-Meel Publications, Lahore, 2005

western part of this depression receives rain water from the higher areas around it and as such the area surrounding it is used extensively for agricultural purposes. According to local tradition, an earthquake in 1819 caused an in-rush from the sea turning the Rann into a salt lake and the region from Kori Creek to Nagarparkar town into a saline desert.

Because of the availability of water run-off from the hills and a granite layer below the surface, a larger volume of water accumulates in the rain water aquifer in the south-eastern part of the Taluka. This and the water run-off is tapped for agricultural purposes and as such, this part of the Taluka is greener than the rest of Tharparkar and has better and more varied agricultural produce.

## 2.2 The Historic Context

The history of the Nagarparkar Taluka and its relationship with power centres in Sindh, Rajasthan and Delhi are not dissimilar to that of Tharparkar. Tribal and caste relations along with ethnicity are also similar. However, there are two major differences. One, Tharparkar was dominated by the Jains who controlled trade and commerce in the region through the port of Parinagar, the ruins of which are adjacent to Virawah village. The Jain influence declined due to the shifting of the sea from Parinagar and because of the suppression of the Jains (who were sea going merchants) by the land owning Rajputs.<sup>3</sup> Most of the Jain temples (which are architecturally and artistically impressive) were built in the 12<sup>th</sup> and 13<sup>th</sup> centuries, which appear to be the high point of Jain culture. The second difference is that unlike the rest of Thar, Nagarparkar's trade and cultural relations were with Kutch and Gujrat and not with Sindh and Rajasthan. Cattle, ghee, *khata* (woollen blankets) were sent to Gujrat and Kutch along with *gugur* (the gum of balsamodendron mukul) and *nat* (used for camel saddles). Wool and hide and skins were also exported. In exchange, Nagarparkar received cloth, oil, sugar, dyes, tobacco, gold and silver (for jewellery), tea and some grain from Kutch and Gujrat. Local elders relate that this trade was carried out through camel caravans and was managed by the Baniyas and Lohanas. Two to five hundred camels per day crossed over to Kutch. Their resting place was under the trees (which have since disappeared) along the Godhra Nala in Nagarparkar town. The Gujrati language was extensively used. The majority population (about 80 per cent) were Hindus and most of the land was owned by the Rajputs.<sup>4</sup>

The importance of Nagarparkar taluka can be gauged from the fact that a municipality was established in Nagarparkar town as early as 1862. In 1919, the population was 3,354 and the town contained a Mukhtarkar's office, a police station, post office, a vernacular school of boys and another for girls, a district bungalow and a dispensary.<sup>5</sup>

All this changed. With partition the link with Kutch and Gujrat was broken. Due to the 1965 and 1971 wars, the Hindu upper castes and landlords migrated. Their tenants and artisanal castes became the de-facto land owners of the survey numbers they cultivated. This has laid the foundation for the development of a more equitable society. As a result, considerable social mobility has taken place, especially among the Menghwars (artisans) and the strict Hindu caste system in practical terms has almost collapsed.<sup>6</sup>

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<sup>3</sup>. Arif Hasan's and Mansoor Raza's interviews with Nawaz Khoso, Nagarparkar, January 04, 2009

<sup>4</sup>. Arif Hasan's and Mansoor Raza's interviews with Nawaz Khoso, Nagarparkar, January 04, 2009 and J.W. Smith; "Gazetteer of the Province of Sindh, Tharparkar and Nagarparkar District, 1919" reproduced by Sang-e-Meel Publications, Lahore, 2005

<sup>5</sup>. J.W. Smith; "Gazetteer of the Province of Sindh, Tharparkar and Nagarparkar District, 1919" reproduced by Sang-e-Meel Publications, Lahore, 2005

<sup>6</sup>. Arif Hasan's and Mansoor Raza's interviews with Nawaz Khoso, Nagarparkar, January 04, 2009

After the implementation of the Devolution Plan in 2001, the control over government land that the bureaucracy had previously has been considerably weakened. As a result, large tracks of government waste land have been taken over by influential people for cultivation purposes. This is a serious ecological problem that the Taluka now faces.<sup>7</sup>

## 2.3 Climate

The Nagarparkar taluka has a tropical desert climate but it is cooler than the rest of Tharparkar. Rainfall varies considerably and when the monsoons are good, Nagarparkar receives a far greater amount of rainfall than other locations in Tharparkar. Most of the rain falls between July and September and is often concentrated in a two to three day period. A second shower helps in producing a better crop. April, May and June are the hottest months (maximum temperatures 39 ° centigrade and minimum 20.12 ° centigrade) and January and February are the coldest (maximum temperatures 26.49 ° centigrade and minimum 5.42 ° centigrade). After the rains in August Nagarparkar is extremely green and pleasant and temperatures become bearable (maximum temperature 34.51 ° centigrade and minimum 13 ° centigrade). Between March and May there is a constant and strong breeze from the sea from the direction of south-west and west-south-west. This is accompanied by a lot of dust which makes life difficult and is called *chaliha* (or 40 days).<sup>8</sup> The area is also subject to periodic earthquake, especially in the hilly region. The traditional and colonial architecture of the Taluka responds to the climate and the earthquake factor. However, the new building being put up in concrete are climatically uncomfortable and not seismic resistant.

## 3. Demographics and Infrastructure

### 3.1 Population and Social Indicators

Table 1 in Appendix 4 summarises the demography and physical conditions of the Taluka. This table is derived from a detailed working of the 1981 and 1998 census figures. This working is given in **Appendix - 5**. From the table important figures and trends emerge which are given below. For working out extrapolations from the 1998 Census for 2008 and 2020, the growth rates and trends identified in the intercensal period of 1981-1998 have been used<sup>9</sup>. However, it is estimated that given the more recent government figures for Pakistan, population growth rates will continue to decline and as such for working out the 2020 extrapolations an 8.5 per cent decline in natural growth for Tharparkar can be assumed. In addition, in the text below information provided by officials and teachers of the education department has been used.

- The population of Nagarparkar taluka in 1998 was 153,106. In 2008 it was 191,613 and in 2020 it will be 250,811. **By 2020 the Taluka will have to cater to the need of an additional 59,198 population or about 11,400 households.**
- 59.12 per cent of the population in 1998 was Hindu and 40.63 per cent was Muslim. In 2008 the Hindu population was 57.03 per cent and in 2020 it will be 54.62 per cent.
- Population below 15 years of age in 1998 was 47.76 per cent (73,125), in 2008 it was 50.66 per cent (97,068) and in 2020 it will be 54.47 per cent (136,640). **By 2020 the**

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<sup>7</sup>. Conversations with Dr. Sono Khangharani and Dr. Khatau Mal during visits to Nagarparkar

<sup>8</sup>. Population Census Organization; “1998 District Census Report of Tharparkar”; Statistics Division, Government of Pakistan, Islamabad, 1999

<sup>9</sup>. Ibid

**Taluka will have to cater to the needs of an additional 39,572 adolescents the majority of whom will be literate if the present trend continues.**

- Primary school going age children in 1998, 2008 and 2020 are given in the table below.

	1998	2008	2020
Total	61,221	80,317	111,377
- Male	33,234	43,484	59,818
- Female	27,987	36,833	51,558

- The current school going population against school age going children is given below.

	2009 in School	School age going children		
		1998	2008	2020
<b>Primary:</b>	21,123	26,795	34,392	46,404
- Male	17,013	14,457	19,022	26,441
- Female	4,110	12,338	15,402	20,099
<b>Middle:</b>	1,860	20,924	27,371	37,780
- Male	1,550	11,490	15,302	21,580
- Female	310	9,434	12,083	16,202
<b>High/higher secondary:</b>	NA	13,492	18,554	27,193
- Male		7,277	9,358	12,656
- Female		6,215	9,348	15,257

The table shows a major lack of female education at all levels and male education above the primary level. **Any structure plan for the villages and the urban settlements of the Nagarparkar Taluka will have to set aside considerable space for the construction of educational institutions at appropriate places and determine the need for institutions of higher learning or vocational schools.**

- Problems of Educational Institutions in Nagarparkar Taluka: Interviews at various locations with school teachers in the Taluka and with officials established that the biggest problem that the education sector faces is the absence of school teachers, especially women, at all levels. For example, there is only one teacher each for the girls primary and high school in Nagarparkar town. She is from Islamkot. There are only two teachers for the higher secondary school against ten sanctioned posts. Some of the reasons given for this is that there have been no appointments for the last ten years; that in the Taluka there are no educated women<sup>10</sup>; no one was willing to come to the Taluka because of the absence of a road and electricity (the road came in 2006 and electricity to Nagarparkar town in 2002). In addition, there are severe problems for women since it is difficult for them to go and live in locations where higher schools (or even primary and middle ones) are located. **The need for women's hostels in larger settlements (such as Nagarparkar town and Virawah) was highlighted more than once.**

<sup>10</sup>. In 1981, there were only seven girls who had completed primary school and one who had completed middle school. In the 1998 Census, (17 years later) the figure had increased to 115 girls who had done their primary and 92 who had completed their middle.

- The population between 15 and 24 years of age will determine the future of Tharparkar. Its literacy figures along with extrapolations are given in table below if the present trends continue and consolidate.

	1981	1998	2008	2020
Literacy (Percentage)	6.4	18.86	40.02	100.00
- Male	10.76	31.34	58.76	100.00
- Female	0.48	5.38	22.23	100.00

Census figures also show a decline in the married population in Nagarparkar from 40.88 per cent to 36.22 per cent between 1981 and 2008. If this trend continues (though it is likely to accelerate), the married population will be about 34 per cent in 2020. **Therefore, taking literacy and marriage into consideration, the population of Tharparkar will be very different in the next generation in aspirations, family structure and world outlook.**

### 3.2 Ethnicity

The Nagarparkar taluka population consists of many different ethnic groups and castes. Until the early 1960's almost 80 per cent of the population was Hindu but (as mentioned before) because of the 1965 and 1971 wars with India, it had been reduced to 59.12 per cent in 1998. The population can be divided into Rajputs (which include Muslim and Hindu tribes), people of Baloch origin and "aboriginal" inhabitants of the Taluka. Rajputs have been the major power in the Taluka and owned most of the land that was granted to them as *jageers* by the British. The majority of these *jageerdars* were Hindus and almost all of them have migrated to India. The majority of the Baloch are from the Khosa tribe and have dominated the police force in Tharparkar since the British conquest in 1843.<sup>11</sup>

Among the non-Baloch the main group consists of the Samats and their sub-castes. Business and commerce is dominated by the Hindu Lohanas and Baniyas and the artisanal castes consist of Muslim *suthars* (who are carpenters and wood workers), Hindu *lohars* (metal workers) and Menghwar (who are traditionally leather workers and landless farm labourers). The Menghwars have taken to weaving and are also fiercely upwardly mobile, acquiring important positions as professionals and in clerical positions.<sup>12</sup>

The so-called aboriginal tribes are the Kohlis and Bheels. Traditionally they are landless labour and herders but with the migration of the land owning Rajputs many of them are de-facto owners of rain-fed agricultural land. The majority of them migrate in the dry season and in periods of drought to the barrage lands.

Caste and clans in the Taluka for the most part live in homogeneous neighbourhoods and traditionally their *punchayats* or their elders settled problems related to the community links with state institutions and most issues related to personal and property matters. However, with social and physical changes in the Taluka, these traditional systems of governance have weakened.

**What has clearly emerged from interviews at various locations is that the link between ethnicity, caste and profession is fast disappearing and people are acquiring new skills unrelated to their previous hereditary profession through the *shagirdi* system.**

<sup>11</sup>. Population Census Organization; "1998 District Census Report of Tharparkar"; Statistics Division, Government of Pakistan, Islamabad, 1999

<sup>12</sup>. Ibid

Increased mobility will further weaken the caste-profession link and fragment intra-caste relations. This will have an adverse effect on agricultural infrastructure maintenance and management. To overcome these adverse repercussions, the creation of new systems of governance, currently being promoted by Thardeep, becomes important to prevent environmental degradation, economic marginalisation and social anarchy.

### 3.3 Migration

Discussions at various locations in the Taluka show, that with the coming of the metalled road there is increasing trade and commerce between the Taluka and the rest of the province. In this connection people are migrating for jobs and businesses to Mithi, Naukot, Hyderabad and Karachi. In addition, there is a strong trend among the Bheels and Kohlis to settle in the barrage lands as *haris*, thus, securing relief from yearly migration and comparative poverty. **There is strong evidence to show that anyone with skills seeks job opportunities in the building and/or garment industry in Karachi and Hyderabad.**

Migration will introduce new lifestyles and aspirations in the Taluka communities. These changes have already taken place in Mithi and are in the process of taking place in Islamkot. Families will migrate for better job opportunities to Nagarparkar town and for education purposes. **Families who receive remittances from outside the Taluka will build better homes and will become the new rich irrespective of their clan or ethnic affiliations. Food, utensils, cloths, nature of festivities will also undergo a change and a new under class will be created.**<sup>13</sup> Keeping these changes in view, it is necessary to prevent the marginalisation of the more vulnerable groups in the Taluka. This can only be done through supporting the creation of community organisations and providing training for skills for new job opportunities that the social and economic transformation of the Taluka is creating.

### 3.4 Physical Conditions and Infrastructure <sup>14</sup>

In terms of infrastructure and housing, Nagarparkar taluka is one of the most under-developed regions in Pakistan. For details see **Item 9, Table 1 in Appendix 4.**

- **Housing:** In the 1998 Census, there were 29,537 houses in the Taluka of which 2.48 per cent were *pucca*; 9.44 per cent were semi-*pucca* and 87.47 per cent were *katcha*. However, it is the *katcha* houses that are climatically suited to the Taluka. These houses are round huts with sloping roofs. The walls are made of in-situ mud mixed with straw. The floor often consists of compacted earth mixed with cow dung. The major problem with these huts is that the roof structure (which consists of rough timber beams covered with stems from the *kip* plant) harbours insects which adversely effect health conditions. The roof sometimes also catches fire in periods of intense heat causing considerable damage. Small openings face west or south-west to let the air in and the larger openings are to the north and east so as to create a draft. In the Nagarparkar town area and neighbouring villages, houses in the rural areas often use elements of colonial architecture. These houses consist of mud or brick walls, with rectangular rooms covered with sloping roofs finished with clay tiles. In the more "*pucca*" construction steel girders and channels with bricks in between them are being used. These roofs are covered with a layer of mud for insulation purposes and require regular maintenance in the absence of which they leak.

<sup>13</sup>. For details see Arif Hasan; *Migration and Small Towns in Pakistan*; unpublished report for the International Institute for Environment and Development, UK, April 2008

<sup>14</sup>. This section is based on the 1998 District Census Report for Tharparkar and interviews with government officials, community and NGO members

Because of the high cost of timber, bamboo is increasingly being used in the new construction. Bricks, cement and steel girders and channels come from Naukot, Hyderabad and/or Karachi, and are exorbitantly expensive due to transport costs. Government and other formal sector buildings are being built as reinforced concrete structures and are climatically unsuitable to the Taluka.

Between now and 2002, 11,400 households will be added to the Taluka population through natural growth alone. Much of this growth will take place through densification of the existing neighbourhoods except in the core of the larger villages and Nagarparkar town.

**The requirements of this growth along with migration related growth (which has to be worked out) in terms of land and infrastructure have to be built into development plans. In addition, there is a need to develop an architecture that is climatically suitable and inexpensive enough for the people to use. This means that a research on local materials needs to be carried out. The Taluka has lime, china-clay, silica and stone deposits of various types. The promotion of light weight well insulated roofs for formal sector construction is a priority. For the huts, improvement in environmental conditions and prevention of fire and insects for the roofs is necessary. Whatever architecture is developed for the Taluka, it should be seismic resistant and in keeping with Tharri traditional and colonial architecture.**

- Water Supply and Drainage: Only 0.56 per cent of the Taluka housing units had access to some form of government and/or NGO supported potable water schemes. The rest of the households relied on dug wells from which water is extracted by women, sometime with the help of animals. According to conversations at the surveyed sites, there has been no major improvement since 1998 when the census was carried out. At many locations government provided water schemes have maintenance problems related to excessive operational costs, technical weaknesses and cost recovery.

Drainage and sewage are almost non-existent in the Taluka. In most cases, people go to the fields to answer a call of nature. In other cases, soak-pits are constructed for toilet purposes while the waste water is taken to a cesspool where it evaporates. Water consumption is low since piped schemes serve a very small percentage. Fears have been expressed during consultations with communities and officials that the soak-pits adversely affect the quality of the water in the rain water aquifer, especially where the aquifer is not at great depth.

**A survey of water and drainage schemes, their successes, potential and weaknesses needs to be carried out and on that basis policy changes need to be made. The solar energy option being introduced by Thardeep offers a solution to the water related energy crisis.**

- Roads and Street Paving: A road network linking major settlements in the Taluka is underway. As it progresses major social and economic changes will accompany it. At present, the road from Nagarparkar town to Kasbo is under-construction. As a result, economic changes will occur both in Kasbo and in Nagarparkar town. The Bodisar-Badin Highway will also bring about major changes which are discussed in Section e below.

**Street paving is being carried out by the TMO in many villages and in Nagarparkar town. Identification of where and to what extent this should be**

carried out should be based on the extent to which it can improve economic and social conditions. Also, a cheaper alternative to cement concrete can be investigated.

- Electricity: Only 0.93 per cent of the households in the Taluka had electricity in the 1998 census. Conditions have marginally improved in the rural areas except for the Nagarparkar town. **Given the energy crisis in Pakistan, the solar energy option is to be promoted.**

### 3.5 Changes

The migration of the Rajputs made social and economic mobility possible for the “lower” castes in the Taluka although the migration resulted in the collapse of the feudal system that managed the maintenance and development of agricultural infrastructure and the imposition of rules and regulations that determined relationships between different communities. As a result of the Rajput migration, most tenants became de-facto owners of the land they tilled and many artisanal and aboriginal families (who traditionally were not allowed to own land) also became de-facto land owners.<sup>15</sup>

The building of the metalled road and the coming of electricity to Nagarparkar town has made it an attractive location for people from outside the Taluka seeking jobs, businesses and for tourism. Possibility of granite and coal mining and a desire for increased China clay extraction are already attracting Karachi businessmen. Much of the land between Bodisar and Nagarparkar has been purchased by outsiders and there is also pressure on land along the under-construction Bodisar-Badin road. There has also been a major increase in transport related activities due to the building of the road. This will certainly increase in the future and has been quantified in Section 3 of this report. The people of the Taluka will be marginalised both politically and economically unless they develop the skills for the opportunities that are being opened. **One of the ways to prevent marginalisation is through the promotion of their folk culture, arts, handicrafts and history. For this a vision, physical space and the prevention of environmental degradation is required.**

## 4. The Emerging Economy and its Repercussions

### 4.1 Traditional Economy

The traditional economy of Nagarparkar taluka is around rain-fed agriculture and livestock. As has been mentioned before, agriculture is dependent on erratic rainfall, in the absence of which communities migrate to the barrage lands. Livestock is dependent on range land rejuvenation which again is dependent on rainfall. In the dry period or droughts, the animals are taken to the barrage land as well. Thus, the traditional economy of Nagarparkar taluka is closely linked to the irrigated areas.

Sale of agricultural produce and livestock is managed by roving *baiparis* (merchants) who arrange for transport to Naukot, Hyderabad, Karachi and the Jhuddo livestock market. The scale of this trade is at various locations visited by the survey teams is given in Chapter 3. Wool from animals to *baiparis* is also a source of income to the herders.<sup>16</sup>

Shopkeepers selling household necessities (such as grain, tea, sugar, oil, etc) purchase these from Naukot and now increasing from Mithi. Much of this purchase is done on credit and the shopkeepers give it to the households on credit as well. The interest rate on this

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<sup>15</sup>. Arif Hasan’s and Mansoor Raza’s interviews with Nawaz Khoso, Nagarparkar, January 04, 2009

<sup>16</sup>. Interviews with community members in Kasbo, Virawah and Nagarparkar town, January 04-06, 2009

credit works out to between 5 – 10 per cent per month. Much of this is settled after the harvest or sale of animals. **The advantages and disadvantages of the credit system are well known to Thardeep. However, there is a need to project this process into the future and find ways whereby its disadvantages can be minimised.**

Remittances are an increasing source of income for many households and are changing inter and intra family relationships. These changes have already been described in Section 3 of this Chapter. These remittances are not invested in any economic activity. Much of them go into improving or building “modern” houses and buying crockery and gadgets for the house. There is a strong desire to invest in the education of children but due to an absence of educational institutions in the Taluka, these investments cannot be made on a sufficient scale to bring about rapid social change. **There is a need to try and identify economic activity that can be financed by remittances and which can at the same time generate employment.**

Before the road was built, for all of the trading activities transport costs were very high and time consuming since all movement on the desert tracks was by *kekras*. Animals invariably walked and so did the *baiparis* for long distances for negotiation purposes. The use of camels for transport was common. It is generally agreed by the people interviewed at various locations that due to building of the road, there has been a saving of 10 to 15 per cent economic benefit for them in the sale of agricultural produce and livestock. In some cases, such as, Virawah a higher percentage has been mentioned. The road has also brought in savings in transportation of patients to hospitals in Mithi. **The transport sector brings with it immense environmental degradation. By provision of related infrastructure (such as space for workshops, depots, terminals and storage and loading and unloading facilities) this degradation can be minimised and economic gains increased.**

Cost of water extraction through tube wells is high and farmers have complained that it eats up a major part of their income (20 to 30 per cent). Thardeep’s solar energy systems and pumps offer an alternative.<sup>17</sup>

## 4.2 Mining

Nagarparkar Taluka has large quantities of unexplored natural resources which can be mined for the benefit of its population. Some of these items are discussed below.

- **Granite:** This has been mined by Karachi based businesses since 1989. However, due to high costs of extraction and transportation, the Nagarparkar products could not compete with imported granite being used in the building industry in Karachi. Still later, various types of litigation between the various actors in the extraction drama, brought an end to this mining initiative. However, with the building of the Bodisar-Badin road new opportunities have opened up and a number of mining enterprises are setting up offices along the under-construction road.<sup>18</sup> One such enterprise was visited. It is bang on the Bodisar-Badin Highway. **If a series of such enterprises are created along the Highway they will adversely affect the scenic beauty of the area in addition to creating severe environmental problems along the corridor. There is a need to develop proper byelaws and zoning regulations for the corridors and the institutional arrangements through they can be implemented.**

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<sup>17</sup>. Interviews with farmers in Kasbo Village.

<sup>18</sup>. Arif Hasan’s and Mansoor Raza’s interviews with Nawaz Khoso, Nagarparkar, January 04, 2009 and interviews with community members at Bodisar Village.

- China Clay: China-clay extraction is taking place at 12 to 14 locations in the Taluka and employees approximately 2,000 persons in management, extraction and transport. It is in decline due to the closure of ceramic factories in Karachi. A major part of the sale was to the Karachi Master Ceramic Plant which has closed down as well. Consequently, sales have diminished by more than 50 per cent and with the importation of cheaper Italian and Chinese glazed tiles, they are likely to decline further.<sup>19</sup>

Silica, which is a by-product of the china-clay extraction process, can be marketed for purposes of road building. It can also be used as aggregate for cement plaster and for earth filling purposes in building sites. **The possibility of using china-clay for purposes of plastering in the building industry needs to be studied along with the potential for the use of china-clay in other sectors.**

- Coal: No coal mining sites have been identified in the Nagarparkar Taluka. However, between Islamkot and Mithi 200 billion tons of lignite is available for power generation.<sup>20</sup> The power generation project based on these deposits has been initiated and delayed or cancelled a number of times. Recently, it has been reactivated. Environmental concerns have been expressed by Thardeep regarding this project in its reports. Due to the wind direction from the south-west for nine months of the year, the environmental damage caused to the Taluka will not be as severe as for the area between Islamkot and Mithi and the areas north-east of them.

Some 50,000 persons would eventually be employed in the coal project by the end of the next decade. The jobs generated will be for professionals, administrators and for skilled and unskilled labour.<sup>21</sup> In addition, the services sector related to the mining process will also generate job and economic opportunities. It is feared that the miners who will be employed may not be from the region but imported from the NWFP and Balochistan. **The services sector economic activities that will develop as a result of the coal project need to be studied and supported so that the people of the region can initiate them in a sustainable manner. In addition, the recommendations of Thardeep's reports on the subject should be implemented.**

- Sulphur Deposits in the Karunjhar Hills: There are considerable sulphur deposits in the Karoonjhar hills. These have not yet been exploited. **There is a need to identify the economic opportunities that the mining of sulphur can bring to the region.**
- Fisheries: With the Bodisar-Badin road fishing will develop along the coast and given the present situation, Karachi companies will dominate this trade. With fisheries ice factories, middlemen from outside of Tharparkar and possibly even labour will inundate the coastal region. **How will this affect Nagarparkar Taluka and its people and its physical and social environment? A study to determine this is required.**

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<sup>19</sup>. Interviews with Wali Muhammad Rahmoon, Manager China Clay Plant, Nagarparkar town, January 05, 2009

<sup>20</sup>. Population Census Organization; "1998 District Census Report of Tharparkar"; Statistics Division, Government of Pakistan, Islamabad, 1999

<sup>21</sup>. TRDP-NOVIB, *Socio Economic and Environmental Aspects of Coal Mining in Tharparkar*; TRDP, Mithi 2003

### 4.3 Tourism

Since the building of the roads, there has been an enormous increase in the number of persons visiting Nagarparkar taluka as tourists and for religious functions and festivals. According to Thardeep's figures, 35,000 persons visited the Nagarparkar area in the long weekend of Independence Day in August. Figures from Kasbo, Virawah, Bodisar and Ghori suggest a much larger figure. Details for these locations are given in Chapter 3 of this Report. In addition, 15 to 20 thousand people (some say 50 thousand come for religious rituals every year at Sadhro where the Hindu population disposes the bones and ashes of its ancestors. At a modest estimate, more than a 75,000 persons per year currently visit Nagarparkar for tourist purposes and the same amount for religious functions and festivals. It is estimated that this will increase to about 400,000 by the year 2020. As such tourism will become a major part of the economy in Nagarparkar taluka. **If tourists spend Rs 500 each in Nagarparkar taluka then their total spending will amount to Rs 200 million per year. If a proper service sectors can be developed for this influx, this figure can be more than tripled to Rs 600 million.**

Tourism has a number of negative aspects if not planned for. It will cause damage to heritage sites, unplanned additions to temples and religious places, encroachments by hotels and rest houses on scenic spots, development of large volumes of garbage and immense pollution by the growth of ad-hoc transport service facilities. In addition, there are also serious social consequences of tourism such as begging and if outsiders take over the provision of tourist facilities, the local population will be marginalised.

**Therefore, the physical and social impacts of tourism need to be studied on the basis of which scenic spots, heritage sites and their surroundings, need to be identified and protected from environmental degradation and vandalism; the impact of transportation on the physical and social environment has to be understood and mitigation measures planned for; training of local people in providing tourist related services has to be carried out; locations for tourist related facilities have to be identified keeping the natural and social environment in mind; a system of garbage disposal has to be worked out; the promotion of Tharri arts, handicrafts and folklore has to be promoted for the tourists; an appropriate architecture for tourist related buildings has to be developed which does not adversely affect the natural and built environment of the Taluka and is climatically friendly; and for all this the necessary institutional arrangements have to be made.**

### 4.4 Real Estate

The development of mining, fisheries and tourism and a services sector that will service these economic activities will require the construction of a considerable amount of real estate. If this is not planned for, through proper zoning and building byelaws, it will adversely affect the natural, built, social and heritage related environment of the Taluka. **Therefore, it is necessary to develop the principles on which zoning regulations and building byelaws can be developed along with the institutional arrangements that can monitor them.**

## 5. Governance and Related Issues

### 5.1 Government Institutions and Their Functions

There are a number of government institutions that are functioning in the Taluka. Their head offices are located in Nagarparkar town. These institutions are listed below.

- **Local Government:** This is represented by the Taluka Nazim. The Taluka has no income. However, its budget (provided by the district) is Rs 100 million of which Rs 60 million is spent on development. Most of this development is on the building of roads and paving of streets. None of the three China clay factories pay any taxes to the local government.<sup>22</sup>

The Taluka management organisation is under staffed. They do not have any draftsman or maps of the Taluka or any of its settlements. However, they do have one computer which they use as type writer. In the last eight years, they have spent Rs 20 to 30 million on concrete street paving in the Taluka. A major expense has been on the development of hand dug wells.<sup>23</sup>

**Building the capacity of the TMO for surveying, mapping, planning, account keeping and supervising development is a priority without which the environmental degradation of the built, heritage and natural environment of the Taluka cannot be prevented.**

- **Mukhtarkar's Office:** All construction and property related matters come under the domain of the Mukhtarkar. All survey maps of the Taluka were lost in the 1971 War and so there are no land ownership maps available and as such it is difficult to settle property disputes. Records of enemy (property left behind by Hindus in 1971) and evacuee (property left by Hindus in 1947) property are however available. Due to an absence of records and land register, there are major conflicts resulting in court cases. The Mukhtarkar's office is also forced to collect revenue on the basis of possession and not on the basis of ownership due to an absence of records.

As a result of the Devolution Plan, the Mukhtarkar's magisterial powers have been transferred to the judicial magistrate who has an office in Nagarparkar town.

**For future landuse planning, land settlement is necessary. Also, for prevention of encroachments and land grabbing, a closer working relationship between the Mukhtarkar's and judicial magistrate's office is required along with the need for establishing a process of consultations with communities and groups.**

- **Rangers:** Rangers have an important presence in the Nagarparkar Taluka. They are deployed to manage security and related issues along the India-Pakistan border and most development related issues have to be cleared with them. They also keep records of all vehicles and visitors that visit the border regions with India.
- **Health:** There is one taluka hospital in Nagarparkar town. It was established in 1984 and has three doctors, a 24 hours emergency unit, an OPD, 24 beds, laboratory, two machines for ultrasound and an X-Ray facility. In addition, it has a tuberculosis clinic which treats about 80 patients per year, dais (that are appointed and trained by the staff), a mother and child clinic and it has immunization vaccines made available on demand from Mithi. It also sets up family planning camps and has two ambulances. However, it has no female doctors or nurses as a result of which for the treatment of women and for delivery cases people go to Mithi. Blood transfusion facilities also exist at the hospital but due to damage to the equipment they have been discontinued.

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<sup>22</sup>. Arif Hasan and Mansoor Raza's interview of the Nazim, Abdul Ahad Samoon, Nagarparkar town, January 5, 2009

<sup>23</sup>. Arif Hasan and Mansoor Raza's interview with the TMO, Wali Dad Samoon, Nagarparkar town, January 5, 2009

In addition to the hospital, there are four private clinics, two of which are operated in the evenings by doctors working in the Taluka Hospital.

Seasonal illnesses consist of diarrhoea (mostly of children), skin infection (common in summers), scabies, malaria, hypertension, diabetes and cardiac illnesses. The cause of illnesses is given as poverty, malnutrition and lack of awareness. Most of the emergency cases are related to dog-bites or snake-bites in summer or the rainy season. In women emergency cases are related to child malnutrition or delivery. In case of serious illness the patients are referred or transferred to the government hospital in Mithi.

Death rate during transportation of patients has decreased since the road was built and death occurring due to snake-bites have become negligible due to availability of anti-viral.<sup>24</sup>

- National Programme for Primary Health: Under this programme one lady health visitor (LHV) for every 1,000 population is being trained and employed in the rural areas. The presence of LHVs in the villages visited was noted.
- Irrigation Department: The Taluka office of the Irrigation Department is situated in Nagarparkar town. Its main work is the paving of water and drainage channels. In addition, there is a small dams department which is engaged in the building of check dams.
- Assistant District Education Officer (ADEO): Office of the ADEO of the Taluka is in Nagarparkar town. Teacher training is conducted at Mithi. There are 523 primary boy's schools and 92 primary girl's schools. In addition, there are 29 mixed middle schools and three boy's high schools and one girl's high school. Three higher secondary schools are located at Nagarparkar town and at Danodhamal and Mitirohalapota villages.<sup>25</sup>
- Police Station: There is one police station in the Taluka which has a station house officer. Most of the cases are around livestock, land ownership and border crossing with India. There are no registered crimes involving women and children or *karo kari*. The Central Jail is in Hyderabad. Due to strong inter relationship within communities, most disputes are resolved among the residents through their respective *sardars* or *punchayats*.<sup>26</sup>
- Social Welfare Department: The Social Welfare Department at the Taluka level deals with the setting up of citizens-community boards and also runs one sowing and stitching centre for women.
- In addition to the above, there is a National Bank, post office and a veterinary dispensary of the Animal Husbandry Department in Nagarparkar town.
- The Member of National and Provincial Assembly pay a visit to the Taluka villages regularly. However, most of these visits are limited to Nagarparkar town. The local population complain that they do not meet with their constituents and simply hold meeting with officials and contractors while staying at the Circuit House.

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<sup>24</sup>. Sadiqa Bashir's interview of Dr. Mewaram Sanjo, Medical Superintendent of the Hospital, December 15, 2008

<sup>25</sup>. Arif Hasan and Mansoor Raza's interview of ADEO Kalaram Weerwani, January 06, 2009

<sup>26</sup>. Sadiqa Bashir's interview of police official at Nagarparkar town, December 15, 2008

- With the building of roads, the development of trade and commerce and related socio-economic and political changes there will be an expansion of government departments. It is also possible that Nagarparkar town might become the headquarters of a new Nagarparkar district. Space for future government offices and/or physical and social infrastructure has to be identified and provided.

The architecture of the new buildings has to be responsive to sociology, climate and local materials. There is a need to develop this architecture and promote it. In addition to being comfortable and energy saving, it will also promote the development of local building materials and skills.

## 5.2 NGOs <sup>27</sup>

There are a number of NGOs and religious missions operating in the Taluka. Some of them are listed below.

- There a Catholic Mission in the Taluka which works on education and provides food and shelter to converts. Most of the converts are from the Kohli community. At present, there are 20 children from the rural areas that live and receive education and food at their hostel in Nagarparkar town. The Mission established its presence in the Taluka in 1985.
- An Ahmedi Mission was established in the Taluka in 1985. The Mission has just built a hospital in Nagarparkar town which will soon be operative. In addition, they operate 12 dispensaries in the Taluka. All of these dispensaries have doctors from outside of Nagarparkar Taluka (most from the Punjab) who live in the villages with their families. The Ahmedi Mission also runs a computer centre. Community members complain that there is discrimination against non-Ahmedis in the facilities provided by the Ahmedi Mission.
- Press Club: There is a press club which has representatives of four newspapers. These are Ibrat, Kavish, Khabroon and Tameer-e-Sindh. It is a small and unimpressive building.
- Participatory Village Development Programme (PVDP): The PVDP is a Tharri organisation and caters only to the Kohli community. It is operating 10 schools in the rural areas.
- Parkari Community Development Project (PCDP): The PCDP office is at Ratanabad. They are operating 17 schools in the rural areas.
- Bahn Beli: This organisation was established during the drought and famine relief efforts in 1987. Currently, it is operating a micro credit individual lending programme and a free and fair election education project.
- Jamat-e-Islami (JI): JI has an office in Nagarparkar town and under their Zam Zam Project they have so far provided one Al-Kidmat dug well in Nagarparkar town from which people can receive potable water.

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<sup>27</sup>. Much of this section is drawn from Arif Hasan and Mansoor Raza's interview of Harjilal, Nagarparkar Town, January 05, 2009

- Al-Mazhar Organisation: This is Karachi based and sets up yearly health camps in the Taluka. At the last health camp 500 persons attended and the organisation performed 30 operations.
- Edhi Trust: The Edhi Trust established a centre in Nagarparkar town seven years ago. The function of the Centre is to transfer gynaecological cases from Nagarparkar town and adjacent areas to the hospital in Juddho. Seven to eight cases are registered every month. For this purpose the Edhi Centre has an ambulance, a driver and persons in-charge on a rotation basis.
- Thardeep Rural Development Project: Thardeep office was established in the Taluka in August 2006 but the organisation has been working in the area since 2002 and its first village organisations were formed in 2004. The organisation has a programme for social mobilisation (it forms *para* development committees (PDCs) at the neighbourhood level; village development committees (VDCs) at the village level and local support organisations at a village cluster level), micro credit, community physical infrastructure, livestock management, child rights, energy relief, human resource development, micro-drip-irrigation and non-formal education. Under their social protection programme, they also provide loans to destitute women, *jahaiz* money and adopt girls for schooling.
- **There is a lot of NGO activity in the Taluka. If a network could be formed of all the NGOs, it would act as a powerful pressure group for negotiating and promoting development in the Taluka.**

## Chapter – Three

### CONTEXT OF IMPORTANT DEVELOPMENT LOCATIONS

#### 1. Preamble

A number of locations in the Taluka were studied through interviews with village communities, local businessmen, government officials and NGO representatives. They were also physically surveyed with respect to landmarks, landuse, land ownership, conservation and heritage locations and sites. These findings have been mapped on satellite images and form Volume Two of this report. **These locations are: Nagarparkar town, the Bodisar-Nagarparkar town corridor, the Nagarparkar town-Kasbo corridor and Kasbo, Virawah, Bodisar, Ghori and Churio villages.**

#### 2. Nagarparkar Town (For locations see Map Nos. 01 and 02 in Volume 2)

##### 2.1 Demography and its Demands

The population of Nagarparkar town in 1998 was 6,318. On extrapolation using the 1981-1998 growth rate, it is 7,919 today and it will be 10,386 in 2020. However, given the building of the coastal highway to Badin, the expansion of granite and coal mining and the building of tourist related infrastructure, along with the possibility of Nagarparkar taluka becoming a separate district with the town as its headquarters, it is more than likely that the population of Nagarparkar town will be at a modest estimate about 40,000 in 2020.<sup>28</sup>

At present, the Hindu population of the town is 69.74 per cent. However, with the influx of mining and tourism (and possibly fisheries) the Hindu population is likely to decrease in percentage terms. **Therefore, it is necessary that the town and the Taluka maintain and further develop a tolerant political and social culture. This can be achieved through the promotion of its folklore, history and its places of religious heritage.**

The increase in population will have to be catered to. Some of the issues are given below.

- Extra Households: By 2020 an additional 30,000 persons are likely to be added to the population. This means 3,680 households. In addition, about 100,000 tourists per year will be passing through or visiting Nagarparkar town. **Although, housing requirements through natural growth can be accommodated in the various *paras* along the core of the town, housing and related facilities for the migrant population and the tourists will have to be provided.**
- Education: At present the population below 18 years of age is about 4,300 or 55.14 per cent. In 2020, it will be about 12,800 (if growth creates a population of 40,000) and the school age going population will be about 9,000. At present, the school age going population is about 2,700 (1,400 boys and 1,300 girls). However, there are only 620 boys from the town in the four boys primary and secondary schools and 150 girls in the girls primary and secondary school. In addition, there are about 200

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<sup>28</sup>. See table 2 in Appendix 4.

students from other areas of the Taluka.<sup>29</sup> **To cater to the needs of the 2020 population, considerable land will have to set aside for educational purposes including the building of colleges and hostels for out of town students, especially women.**

At present, there is only one teacher for the girls school and only two teachers for the higher secondary school.<sup>30</sup> Teachers will have to be inducted and accommodation for them will also be required. **If the school age going children have to be catered to, teachers' training institutions and hostel facilities for the trainees and accommodation for the teachers will also have to be built. Since Nagarparkar town is the Taluka headquarters, these institutions will have to be built here. This again, will require land.**

- **Health:** Government health facilities will have to increase, especially related to women's and children's requirements. **Private institutions will certainly develop and their appropriate locations will have to be determined and land allocated for them.**

## 2.2 Landuse Related Issues

From Bodisar to Nagarparkar town land along the road corridor is or has been purchased from village communities and/or government for purposes of development and/or speculation by private parties. From conversation with government officials of the Revenue Department and communities, it seems that this land will be used for CNG stations, hotels, rest houses and other commercial enterprises. Near to Nagarparkar town, the Nazim wishes to make a park along this corridor; a provincial government hotel facility is also being built; and government and NGO establishments (and those of the Christian and Ahmedia Missions) are located here. The Nazim and the Mukhtarkar both are of the opinion that all land along this strip is up for sale except for six to eight acres around the Circuit House which is in government control.<sup>31</sup> Also, opposite the new developments taking place on this road and at the foot hills of the Karunjhar range are three china-clay factories. **It is almost certain that Nagarparkar town will develop along this corridor as a strip and that the road junction (Bodisar-Mithi, Bodisar-Badin, Bodisar-Nagarparkar town) will develop into a commercial and transport hub. This development, unless guided, will destroy the natural beauty along the corridor and hide the view to the Karunjhar hills** (for details, see **Map Nos. 3 to 7** In Volume 2).

The core of the town lies between the Bhetiani and the Gorehro nalas. After crossing the nala on your left are government department houses and the Circuit House and on your right are the offices of the Nazim, UC administration, Irrigation Department and the Federal Investigation Agency (FIA). Just beyond this is the Ranger's check-post. At the check-post the road divides into two, one to the left (marked **Road - 1**) and the other to the right (marked **Road - 2**) (for details see **Map Nos. 8 to 12** In Volume 2)

Road - 1 joins up with the road to Kasbo village. On the right hand side of this road is the rapidly developing service sector to transport. This contains hotels, tea shops, offices of mobile phones, hawkers and small shops serving commuters and transporters, and space for the parking of taxis and buses. Some of this activity is also present on the left hand side of this road. Beyond this strip on the left are government institutions (schools, hospitals, police station, judicial magistrate, forest department), and beyond that to the east, upto the Bhetaini Nala are large parcels of land belonging to the Shaikh community. Also, in a large

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<sup>29</sup>. Interview of Kalaram M. Weerwani, ADOE, January 06, 2009, Nagarparkar town

<sup>30</sup>. Ibid

<sup>31</sup>. Interview of Zahid Hussain Mehr (Mukhtiakar), Nagarparkar town, January 05, 2009

compound adjacent to the Circuit House plot is the old *Mukhtarkari* built in 1913. It is a beautiful heritage building and needs to be conserved and adapted for reused.

**The existing space occupied by this government enclave, is very low density and can be further densified. In addition, the Shaikh lands can be used for the further expansion of this government enclave.**

Road – 2 that branches off to the right from the Ranger’s check post leads to the old bazaar that was built in the 1920’s. It is extremely attractive and has lovely open spaces within it. It is single storeyed, the walls are of granite covered with lime plastered and the roofs are of timber finished with clay tiles. From the bazaar a road leads west to Sadhro. A 13<sup>th</sup> century Jain temple is located near the bazaar at the commencement of this road. It is of exceptional architecture quality but is in a bad state of repair. **The bazaar, the temple, and another temple within the bazaar and the old Mukhtarkari, definitely constitute heritage and need to be conserved.**

### **2.3 Land Ownership**

**Map No. 06** shows land ownership long the Bodisar-Nagarparkar town corridor. From the map it is clear that apart from small parcels of government land and private land (recently sold by communities to developers and speculators) land ownership rests with different ethnic communities. In addition, the map identifies the land owning communities.

The shops in the bazaar are either evacuee or enemy property. The evacuee property shops are occupied and looked after by the evacuee trust. The enemy property shops are unoccupied. In both cases they are in an advance state of decay. The people who run businesses in them have no ownership rights and many of them pay no rents either. To the north of the Bhetiani Nala and behind the Christian Mission establishment is a large chunk of Kolhi land and smaller parcels of Kashkheli and Menghwar settlements. However, the largest settlement is that of the Baloch which lies to the north-east along the Nala. On the south of the market there are small Kumhar (potter) settlements.

The ownership of land between Road – 1 and 2 is unclear. However, its future use is crucial for a structure plan for the town. At present, it is being used for transport related activities and for the expansion of the old bazaar.

### **2.4 Water, Sanitation and Drainage <sup>32</sup>**

Water: There are three parallel systems of water provision in the town.

- The municipal system consists of two wells from which water is pumped out by 16-24 horse power diesel operated pumps. The system is operated for three hours in a day. However, these are shallow wells and because of granite below them, they get flooded during the rains, disrupting the water supply. Also, since only the aquifer above the granite layer can be tapped, water usually runs out, especially during the dry season. The system only serves 5 to 6 per cent of the population (and that too erratically) and costs the TMO Rs 125,000 per month on diesel. Cost recovery from the users is negligible due to the inefficiency of the system itself and the lack of capacity and will on the part of the TMO to recover user charges.

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<sup>32</sup>. This section is based on interviews with the Taluka Nazim, Abdul Ahmad Shamoor, and TMO Wali Dad Shamoor, at Nagarparkar town on January 05, 2009

- The second system is operated by the private sector. There are a number of dug wells in the different *paras* of the town and in *imambargahs*. Camels and donkey carts are used to extract, carry and sell water to households. The cost of water works out to about Rs 30 for 25 litres.
- The third system is whereby households individually extract water from wells (where they are permitted to) and from wells in the *imambargahs* and carry it home. There is no cost to this water.

Sanitation: There is no municipal sewage or waste water disposal system in the town that is functioning. In almost all cases, people dig soak-pits which they claim damage the quality of the water in the rainwater aquifer. Since there is no piped water supply, the absence of a sewage system does not create severe environmental pollution.

Solid Waste: Recently, the TMO has set up containers for disposal of solid waste and acquired the vehicles to transport solid waste out of the town. However, there is no landfill site and the waste is deposited in an ad-hoc manner at different locations outside the town. Solid waste, especially plastic bags is visible all over the town. In addition, proper facilities for the long term maintenance of the vehicles and produce have not been put in place.

Drainage: Rainwater simply flows down the slopes into the natural drainage system. Due to this, there is flooding in certain areas of the town but not for a long period. In areas where there is clay soil, there are problems of movement which last for no more than two or three days after the rains.<sup>33</sup>

**There is a need to study the water, drainage and sanitation systems as one since they are closely related. Untreated sewage should not be disposed into the natural drainage system. The possibility of primary treatment and use of affluent for agricultural purposes needs to be developed.**

**Piped water systems without sewage and drainage will cause immense environmental damage. For water supply there is a need to establish deep bore wells (below the granite layer) and operate them through solar energy (as Thardeep is doing elsewhere). A system of cost recovery also has to be put in place.**

**For solid waste disposal a system that creates jobs for the local population needs to be studied and landfill sites at appropriate locations need to be developed. An awareness programme and recycling (once the waste is in sufficiently large quantities) needs to be promoted.**

## 2.5 Transportation

With the building of the road from Mithi, *kekras* have been replaced to a large extent by coasters and normal trucks. There has also been a considerable increase in the number of vehicles that now enter and leave the town and in public transport. They are now 18 jeeps and taxis when in 1995 there was only one and their number is fast increasing. They are owned by local *zamindars* (landlords).<sup>34</sup>

Around 11 buses leave for other parts of Sindh every day out of which seven are 60 seaters and the rest 25 seaters. The fare from Nagarparkar town to Mithi is Rs 150. In addition, four to five buses come from Kasbo to Nagarparkar town carrying passengers who come for

<sup>33</sup>. Conversations with shopkeepers in the old bazaar, August 2008, Nagarparkar town

<sup>34</sup>. Interview of Baseer Ahmed Khoso, transporter, January 05, 2009, Nagarparkar town

employment and patients as there is no hospital in Kasbo. These buses also provide services to Churio.<sup>35</sup>

There is a fast evolving services sector to transport developing along Road – 1 which caters to the needs of transporters and commuters. This consists of eating places which also act as *charpai* (cots) hotels for drivers and visitors. At present, there are five such establishments in the area in addition to eight shops of vegetables and *karyiana*.<sup>36</sup> One such establishment is owned by Muhammad Rafiq Mehr and its details are given in **Box – 3.1** below.

### **Box 3.1: Muhammar Rafiq Mehr’s Teashop**

Muhammad Rafiq Mehr’s home is in Sundar 40 kilometres away but his business keeps in Nagarparkar town. His “hotel” is a shack on land that belongs to a Khosa and he pays rent for it. The daily consumption of edibles at his establishment is 4 kilos of vegetables, 1-1/2 kilos of lentils, 10 kilos of flour and 25 kilos of milk. Rice is not consumed but mutton and/or chicken is cooked once a week. Flour and chicken are purchased from a nearby shop and milk comes by bus from nearby villages.

40 to 50 people eat here every day and 250 cups of tea are consumed daily. 10 to 12 people spend the night at the “hotel” of which about 50 per cent are transporters and the rest are visitors. This is the biggest night staying *charpai* facility in the vicinity and can provide *charpais* to about 26 to 30 persons. The number of people who stay at the facility increases to well over 100 per cent during the Sadhro and Kasbo festivals; during relief distribution processes; or when a tender for public works has to be opened. In such cases, numbers increase to an extent that mats have to be spread out on the floor for persons to sleep on.

Source: *Muhammad Rafiq Mehr’s interview, January 05, 2009 at Nagarparkar town*

Transportation and its services sector is going to increase rapidly with the development of tourism, mining and related businesses. This will cause immense environmental degradation and will make conservation of heritage almost impossible. **It is therefore necessary to create a bypass on the northern side of the Bhetiani Nala and locate a well planned bus terminal that caters to the establishment of hawkers and small businesses in an aesthetic and environmentally and socially friendly manner.**

## **2.6 Economy**

Currently, the economy of the town, except for agricultural activity on the periphery, is related to trade, commerce and the services sector consisting of jobs in government, transportation, rapidly increasing building industry and in private businesses. Shopkeepers in the bazaar arrange for getting items they sell from Naukot and now increasingly from Mithi. The *baiparis* in the towns put the wares in boxes, put them in buses or *kekras* and the shopkeepers retrieve them in Nagarparkar town. **Map No. 15** in Volume 2 shows the age and conditions of construction in the town. From the map it will be seen that a very large percentage of buildings are of recent reinforced concrete construction. This points to the fact that building industry is a major part of the economy and job market. **With the development of mining and tourist industry and the construction boom, new jobs will be created and a demand for Tharri handicrafts can also be generated. It is necessary to understand the skills required for these jobs, establish training facilities for them, and space for the establishment of these economic activities.**

<sup>35</sup>. Interview of transporters carried out by survey team, December 15, 2008, Nagarparkar town

<sup>36</sup>. Interview of Muhammad Rafiq Mehr, teashop owner, January 05, 2009, Nagarparkar town

## 2.7 Places of Interest

There are a number of places within a few kilometres of the town which attract a number of tourists and pilgrims. Two of these are of considerable importance (for details, see **Map No. 19** in Volume 2).

About three kilometres to the south-west of the town is Sadhro temple. A concrete road has been constructed to within 1-1/2 kilometre of the temple. The rest is in the process of being built. The road to Sadhro from the town passes through extremely beautiful landscape in the Karunjhar Hills in which there are a number of historic sites. Below the temple to the north is a pool of water at which the Hindus perform ceremonies for the dead. At a distance of one kilometre from Sadhro to the south is a stone statue of a cow against the rock out of which water flows into a tank. The tank is always full of water.<sup>37</sup> There is a legend attached to the temple. This is given in **Box - 3.2** below.

### **Box – 3.2: The Legend of Sadhro Temple**

It is believed that in the village of Sadhro, a girl was born to a *thakur* (landlord) who was blind by birth and often suffered from headaches as she was growing up. On reaching adulthood, she was married into a noble family of the neighbouring village. After she had settled there, a bedouin presented her with peanuts. On touching them, she exclaimed that they were from her native village. Everyone was amazed at her ability to tell the origin of the peanuts without even looking at them. On being asked, she told them that she was actually a deer in her previous life, and when grazing on a hill she had lost her balance and fell into a valley. But her fall was broken by a tree.

Since a doe has exceptional memory, so that is how she could still recognise the peanuts with just a touch. She further said that the skull of the deer is still stuck in the dense thorny branches of that tree and if someone after untangling it, disposes it in the Sadhro pond, she would regain her sight. When the word reached her father, he at once ordered as her daughter had wished and hence the legend says she was able to see as any normal person could. The locals hold this mythology in very high esteem and hence the religious importance of the Sadhro pond.

Source: *Interview with Haq Nawaz, a local resident*

The religious festivals of Shiva ka Mela (on March 23 and 24) and Kathi Katak Ashnan Mela (on November 15) bring over 50,000 pilgrims from all over Sindh to the site. During the Ashnan Mela relatives dispose off the ashes of their dead in the pond and take a bath (ashnan) here. There is also a bathroom near the temple for women to bathe from the holy water. A few guest houses have been built by local communities which they rent out during the Melas. However, they can accommodate no more than a very small fraction of the visitors. Since there are no facilities provided to the pilgrims, they cannot stay overnight during these festivals unless they sleep in the open. Toilet facilities are also inadequate. A bazaar is set up on these occasions near the Nala in Nagarparkar town.

**The Sadhro site is a very important place of Hindu pilgrimage. New and inappropriate construction on it is damaging it aesthetically and environmentally. A plan for the expansion of its facilities in an organised with conservation consistence architecture needs to be developed along with facilities to cater to the increasing numbers of tourists and pilgrims. Development of appropriate and adequate systems for sanitation and solid waste also need to be developed along with a financial plan to make these possible.**

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<sup>37</sup>. From the Internet

The other important site is Anchlisar where there is a ling of Mahadev. The site is in the Karunjhar Hills, 1-1/2 kilometres from Nagarparkar town and has three tanks that are filled by natural springs. Hundred steps built into the rocks lead to the site.<sup>38</sup> **The site needs to be protected from construction, desecration and solid waste accumulation.**

## **2.8 Vision for the Town**

Nagarparkar town is expanding at present along the Mithi and Kasbo corridors. Important new functions, both public and private, are shifting to these corridors. Even older functions plan to shift from the existing town core to these locations. There are also plans to build a bus-cum-transport terminal on the Mithi Corridor. A lot of commercial activity will shift to the vicinity of this terminal. All these plans will kill the old town economically and socially and will make conservation and protection of its heritage difficult. The town has important links with culture, religion, folklore and history of the Taluka and its people. The shifting of these functions (old and new) to the corridors will marginalise the existing settlement economically and degrade it socially and environmentally. A large number of Sindh's historic towns, including Mithi and now Islamkot, has suffered a similar fate.

As a tourist attraction and for the promotion of its natural environment, folklore, history and arts and crafts, the town will certainly require a museum, a centre for performing arts, a town hall and also a zoo. In addition, it will also require space for the making and sale of its handicrafts and for the training of its artisans. Hotels and rest-houses will also be required.

**Keeping the above in mind, it is proposed that:**

- **Scenic spots along the Ghori-Nagarparkar town, Nagarparkar town-Kasbo and Nagarparkar-Churio corridors, should be identified and construction prevented on or next to them so as to preserve the natural beauty of the region;**
- **No construction should take place within 150 metres of any archaeological or heritage site in the Taluka. If such construction is required for functional purposes, it should be conservation consistent;**
- **Government, educational institutions and parks should be developed within the existing town between Road – 1 and the Bhetiani Nala, making use of the land belonging to the Shaikhs along the Bhetiani Nala;**
- **The old Mukhtarkari should be converted into a museum and a town hall, and a conventional centre along with an amphitheatre should be constructed on the land behind it;**
- **Transport related activities should be shifted from their present location to a bypass on the northern side of the Bhetiani Nala and a road over a check dam on the Nala should connect the transport terminal to the area containing the government offices;**
- **The land between the old bazaar and Road – 1 should be used for the development of commercial activities, handicrafts workshops (which tourists can visit), small residential hotels, bazaars and eating places. Areas of this should be pedestrianised and the architecture should be no more than two**

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<sup>38</sup>. Population Census Organization; “1998 District Census Report of Tharparkar”; Statistics Division, Government of Pakistan, Islamabad, 1999

**floors. Bylaws and building regulations to make this architecture environmentally and heritage responsive, should be developed;**

- **A zoo and botanical gardens should be developed at an appropriate location between Nagarparkar town and Sadhro. Places of historic value along this corridor should become part of the zoo and/or botanical gardens; and**
- **The necessary institutional arrangements to make the above possible should be created over time. This would mean a major investment in developing and maintaining the necessary required human resources.**

### **3. Kasbo Village** <sup>39</sup>

#### **3.1 Location**

Kasbo village is located 15 kilometres south-south-east of Nagarparkar town and is connected to it by a *katcha* track (for location see **Map No. 1 and 2** in Volume 2).

#### **3.2 Demography and its Demands**

The population of Kasbo in 1998 was 3,534. On extrapolation, using the 1981-1998 growth rate it is 4,200 today and will be 5,158 in 2020. In 1998 the Hindu population of the village was 98.11 per cent and is likely to remain more or less the same till 2020. The increase in population will have to be catered to and some of these issues are discussed below.

- **Extra Households:** There will be an increase of about 1,000 population through natural growth. If Kasbo develops as an important tourist attraction, another 1,000 persons will be added to it. In addition, about a 100,000 tourists and persons participating in religious festivals at the Kasbo temples, will visit the village. Two thousand persons means about 330 households. **Natural increase can be accommodated within the existing village through densification. However, space for migrants and the services sector to tourism and transport will have to be allocated at appropriate locations.**
- **Education:** At present the population below 18 years of age is 56.55 per cent or about 2,000. The school age going population is about 2,000. In 2020 it will be about 2,700, which means an addition of about 700 students. The village has one primary, one middle and one secondary school for boys and one primary school for girls. At present facilities are available for about 400 students but average attendance is no more than 125 students per day. The government secondary school is for boys but some girls also attend the school. About 40 to 60 girls out of 900 school age going girls, attend school at present. The primary school classes are conducted under a tree since there are no class rooms, while the secondary classes are conducted in three rooms provided by the NGO Shirkat. Children from the neighbouring villages of Lakarkhadi, Surachand, Sabusun and Choriyan also attend classes at this school. Students from Sabusun and Choriyan come and live their families in Kasbo to attend this school since their villages are at a distance from Kasbo and have only primary school facilities. For higher secondary education, students from Kasbo and the neighbouring villages go to Nagarparkar town or to Mithi. The schools suffer from normal problems of not having enough teachers, especially women.

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<sup>39</sup>. This section is based on discussions in a meeting with the village community, Kasbo village, January 04, 2009

**A study of the educational requirements of the village and its catchment area population along with a school mapping exercise is a requirement. Land at appropriate places will have to be developed to accommodate this requirement along with getting educated locals (men and women) to become teachers.**

- **Health:** Apart from one government dispensary the village has no health facility. The dispensary however has no doctor. Much of the children's diseases are of an environmental nature. **This means that a preventive health programme would be more appropriate than a purely curative one.**

### **3.3 Landuse Related Issues**

From Nagarparkar town to Kasbo, land along the road corridor has increased in price and nearer to Nagarparkar town, sale of land for development and speculation is taking place. A large mining department complex is being constructed on the corridor beyond the Gorehro Nala, which means other institutions will also be built adjacent to it. The Nagarparkar town-Kasbo road is being built and after it is completed this process will increase. Land along the corridor for the most part is agricultural and belongs mainly to the Kohli community. There are also large pockets of government land along the corridor (for details, see **Map No. 23 to 23** in Volume 2)

As one travels from Nagarparkar town to Kasbo, to the east there are some beautiful scenic spots dominated by the hilly landscape of the Karunjhar Hills. A specially attractive site is the Lorlai Terai (see **Map No. 24 to 27** in Volume 2) which is visited by tourists for picnicking and is used by the neighbouring villages for watering their animals.

**Scenic spots along the corridor should be identified and views to them protected. At the Lorlai Terai no construction that destroys the natural beauty of its surroundings should be permitted. At best low sheds, hidden within the rocks in an un-intrusive manner, should be constructed in local materials.**

Kasbo is expanding both towards the south and to the north-east as vacant government property is available in these directions. The village can easily be divided into two. The northern part of the village is dense and is completely dominated by the Meghwar community. With the passage of time, it will acquire urban characteristics. Housing in the southern part of the village is spread out and gives the feel of a deserted rural area. Schools, temples, retail shops, dispensary and open toilet areas (space protected by bushes to guarantee privacy) are all located in the northern part of the village (for details, see **Map No. 28, 21 and 32** in Volume 2)

All transportation arrives from Nagarparkar town and passes through the Mehria, Bawani and Varsi chowks in the upper part of the village onwards to a chowk near the Khejnari Terai in the southern part of the village. This constitutes the main artery of the village. Along this artery are attractive open spaces, especially at the Mehria Bawani and Varsi chowks. **These spaces need to be protected from encroachment since they form important public spaces which can be used for tourist related functions. Similar spaces are located at Motiani, Jalum and Ram Bharti chowks. They too need to be protected** (for details, see **Map No. 29 to 32** in Volume 2)

To the east of the artery, there are very attractive walkways with beautiful architecture in the lots on either side. At the cross roads of these walkways there are small shops where people gather. These walkways lead to the school buildings to the north-east of the village and to the two important temples of Shri Ramapir and the Shive Mandir. Near the two mandirs, Thardeep have established two solar powered tube wells. **Both these temples have**

**immense cultural and historic value. Conservation consistent guidelines for their protection and construction around them should be developed along with institutional arrangements for their implementation.**

To the south and north of the village, there are government owned plots of land. These are being used by the village communities for storing their agricultural produce. People have also built their *churas* on these lots. This is considered by the locals as a process of occupying government land for residential and commercial purposes and hoping that it will one day be regularised. **A landuse plan for this land should be developed and the land should be protected for purposes allocated to it.**

Around the village are extensive agricultural fields, heavily dependent on subsoil water from dug wells and on rain. In addition, there are three major tarais, the Marghar, the Gamairo and the Khejnari. None of them contain water throughout the year and are used for watering cattle. **Development of the tarais to ease the watering for cattle and other related activities should be undertaken.**

**Map – 36 in Volume 2 shows the age and condition of building in Kasbo. The vast majority of building are either *churas* or have traditional pitched roofs. This traditional architecture is being replaced slowly with flat roof concrete construction. The traditional physical environment of the village needs to be preserved and guidelines for appropriate architecture need to be developed along with the institutional arrangements required for their implementation.**

### **3.4 Land Ownerships**

Out of 540 households in the village, 400 are Meghwars. They own about 80 per cent of the land in the village. The other important communities are Kohli, Rabbari, Baloch, Kumhar and Khosa. A large track of land in the southern part of the village belongs to the Ahmedi community. It is said that it will be used for health and education related amenities by the Ahmedi Mission. There are large pockets of government land to the north of the village (for details, see **Map No. 37** in Volume 2). Much of the land was originally a *jageer* belonging to a Hindu Rajput who migrated to India in 1971. The communities who are now de-facto owners of the land were his tenants. It is estimated that 20 to 30 per cent of households do not own any land and work as labour on other people's lands.<sup>40</sup>

### **3.5 Utilities**

- **Water:** The government has initiated a water scheme in the village. Under this scheme, water is pumped from wells into surface tanks located at different places in the village, from where people can collect water. However, water is almost never available in these tanks. The maintenance of the system is the responsibility of the government (it provides diesel for the generator and an operator) but it does not fulfil this responsibility. As a result, women extract water from the wells and carry it home on their heads. In rear cases, water is also extracted and transported by donkey carts on a commercial basis to people's homes. Since there are a number of wells that are used for agriculture, water availability for domestic use is not a problem - carrying it long distances is a problem for women. **A study for linking water supply systems to sewage, drainage and energy issues should be undertaken and institutional arrangement created to manage and maintain systems.**

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<sup>40</sup>. Arif Hasan and Mansoor Raza's interviews with Nawaz Khoso, Nagarparkar town, January 04, 2009

- Sewage: There is no sewage system in the village except for 17 latrines connected to soak-pits. These were built with the help of the World Food Programme. Since water runs 40 to 50 feet below ground level, it is felt that these latrines damage the water aquifer. In the northern half of the village about 40 per cent of the population uses the fields and/or plots protected by bushes for answering a call of nature. In the southern half, more than 70 per cent do the same. Villagers state that sanitation is a priority with them.
- Solid Waste Management: No management system exists and as such this is a serious problem for the village. Plastic bags and inorganic waste is destroying the natural environment of the village. **The creation of a community based solid waste management system is a possibility. This will bring income for those who are involved in it.**
- Electricity: There is no electricity in the village. Car batteries are used by about 50 to 60 households for generating some form of light. In addition, there are three generators in the village. Two of these are owned and operated by the flour grinding mills. 60 to 70 generators, however, are used for extracting water for agricultural purposes. Electricity is the first priority of the village.
- Other Services: The village has about 50 connections of V-phone. For fuel, cow dung and *devi* wood (or a combination of both) is used. Two or three homes have dish antennas but there is no video shop in the village.

### 3.6 Economy

The village economy is almost entirely dependent on agriculture and livestock. Agricultural produce goes to Karachi and Naukot. *Baiparis* come and negotiate purchases with individual farmers. They arrange for the transportation of the produce but the farmer bear the cost. For transport of 100 *maunds*, Rs 4,000 is the cost of a truck to Naukot and Rs 8,000 for a *kekra*. After the completion of the Nagarparkar town-Kasbo road, *kekras* will not be required so there will be savings. During good years (when rainfall is sufficient), 100 to 150 *kekras* come and leave the village. Their number depends on the rains. In addition to agriculture, 1,000 to 1,200 goats and 100 cows are sold for the Karachi market every year. *Baiparis* come from outside (there are local *baiparis* as well) and people get to know about them by words of mouth.

There are about 20 to 30 grocery and cloths/textile shops in the village. The owners of these shops collectively bring the material from the market and employ a *kekra* to transport it. The shopkeepers provide supplies on credit to the village communities at an interest rate of about 25 to 30 per cent for six months. People usually pay after the harvest. If they do not their debt increases and this has serious consequences for them.

There are no jewellers left in the village but a family of silver smiths is still in business. Earlier shawls, blankets and *glim* were produced in large quantities and sold in Naukot for onward sale to other destinations. However, the artisans have now shifted to Naukot. Since there is a Meghwar presence in the village, it is felt that given support, these handicrafts can be produced again. Women do good embroidery work but it is not done on a commercial scale. They also make fans of peacock feathers which are sold in the villages. This skill can be scaled up. Sales increase during the festivals. **Given the fact that skills exist in the village, the possibility of their revival along with a link with tourism should be studied along with who would do what and how in the process.**

There are other businesses in the village as well along with highly developed skills. Roof tiles are manufactured by the *Kumhars*. A few families are involved in this work. About 100 families of Menghwar masons also live in the village. Four to five boys are employed in the garment industry in Karachi and their number is increasing. There are also carpenters who manufacture donkey carts and timber building components. Timber and backed bricks come from Naukot.

### 3.7 Tourism and Pilgrims

The number of yearly visitors to Kasbo is in thousands. About 200 come daily during the monsoon season. About 20 per cent of these are families. They do not stay the night since there is no accommodation for them. The village communities have no objection to the developing of residential accommodation for them on the periphery of the village but not in the village itself. They have no problems with tourists walking through their villages, observing village life, eating and drinking at spots on the way.

The village houses two important temples around which festivals are held. One of these temples is the Shri Ramapir Temple. Its festival is held between August and October and about 3,000 people from outside stay the night here. The number is constantly increasing. Many of the visitors stay with their relatives in Kasbo for the night. It is felt that if accommodation for the pilgrims was available, they would stay longer. During the festival people come from Nagarparkar town and set up shops and stalls for the festival. Food, consisting of *dal*, *roti* and *lassi* is also served to the pilgrims. In Shiv Mandir, there is only *pooja pat* and people merely come for *ziarat*. However, about 3 to 4,000 people come to celebrate Shiv-Raat in February. In addition, the solar power tube wells installed by Thardeep are also tourist attractions and their being adjacent to the temples makes them all the more important. **There is a need to develop guidelines and criteria for identifying land for the building of tourist facilities along with their scale and appropriate architectural characteristics and on that basis allocate land for development.**

### 3.8 Transport

Four buses per day pass through Kasbo from Nagarparkar town. In addition, the village possess a truck, a *kekra*, two tractors and one motorcycle. These belong to "affluent people". With the building of the Nagarparkar town-Kasbo road, transportation pressure on the town will increase. More trucks and buses will ply between these two locations and if tourism develops this will increase further. At present, the buses enter the village from the north and stop at the Mehria Chowk. Their final destination is in the south near the Khejnari Terai. Trucks and *kekras* access the agricultural areas through the village to pick up agricultural produce. So far, they are not in a large enough quantity to create environmental pollution. **A transport terminal needs to be created at the southern end of the village near Khejnari tarai along with bus shelters, space for hawkers, cargo handling bags for trucks and *kekars* and appropriate vegetation. A similar arrangement needs to be made for a transit terminal at the northern part of the village at Mehria Chowk where arrangements for receiving and briefing tourists should also be created.**

### 3.9 Governance

Kasbo is a *deh* in the Pithapur UC and the agriculturists pay *malia* (tax to the *patwari*) at Nagarparkar town. The Mukhtarkar has no role in this relationship. Apart from this and the schools and dispensary, there is no other governance related departments in the village. Most of the intra and inter community disputes are related to property, livestock and politics. People try to avoid calling in the police because the police is corrupt and takes bribes.

Different castes have their own *punchayats* who try to resolve inter and intra caste disputes. However, increasingly the *punchayat's* decisions are not being honoured by the disputants.

Thardeep has a big presence in the village. It has a village development organisations and 28 VDCs. Their office bearers are involved in sorting out problems related to gowcher lands, education and health issues, and conflicts within the communities.

## 4. Virawah Village <sup>41</sup>

### 4.1 Location

Virawah village is located 15 kilometres north-north-east of Nagarparkar town. The village proper is about one and a quarter kilometres from the Nagarparkar town-Mithi Highway (for location, see Map – 1 in Volume 2).

### 4.2 Demography and its Demand

The population of Virawah in 1998 was 8217. On extrapolation, using the 1991-1998 growth rate, it is 9448 today and will be 11,175 in 2020.<sup>42</sup> However, given the strategic location of Virawah, its agricultural and livestock production potential, and given the likelihood of the expansion of granite, coal and china-clay mining, it is estimated that the population of Virawah in 2020 will be at least 15,000. The increase in population will have to be catered to and some of these issues discussed below.

- Extra Households: There will be an increase of about 1,700 population due to natural increase by the year 2020. This means about 300 households. In addition, it is assumed that there will be an additional increase due to commercial, business and tourism related activity of about 3,000 population. **Natural increase can be accommodated within the existing *paras* through densification. However, space for migrants and the services sector to tourism and transport will have to be catered to at appropriate locations.**
- Educational Institutions: At present, the school age going population are about 4,000. In 2020, through natural increase it will increase to about 4,500. Since Virawah has a large catchment area, it can be assumed that it will be in the neighbourhood of 5,000. This means an increase of over 1,000 by the year 2020. At present, the village has one boy's primary school and one girl's primary school. The total number of students in both these schools is about 200 of which about 60 are girls. There is one middle school which has about 150 students. More than 30 per cent of the middle school population is from other villages. The government has constructed a high school but it is not functioning due to a lack of teachers. Even in the girl's primary school, there are no female teachers. For further education students go to Mithi or to Nagarparkar town.

**Land will have to be allocated for the development of schools and residential accommodation for teachers at appropriate locations. Since Virawah has a large catchment area, a study of the educational requirements of the village and the catchment area, along with school mapping exercise is a requirement.**

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<sup>41</sup>. This section is drawn from a meeting with the village community on January 06, 2009

<sup>42</sup>. For details see Table 4 in Appendix 4.

- **Health:** Virawah has one Basic Health Unit (BHU) and a male and female doctor is deputed here. In addition, there is a lady health visitor from the Kohli community. The BHU is managed by the Sindh Rural Support Organization (SRSO) under the People's Primary Health Care Initiative. **Given the environmental degradation of the village and the absence of potable water and sanitation, a preventive health programme and the building of related infrastructure, is a priority.**

### 4.3 Landuse Related Issues

Virawah village is about 1-1/2 kilometre from the Mithi-Nagarparkar town road. At the junction of these two roads is a Ranger's camp. On both sides of the road is vacant land upto the village bazaar which is along this road. Midway between the junction and the village to the south is an old Jain temple and nearer to the village on the left hand side is the BHU complex. Also on the left hand side is located the veterinary dispensary and the primary and middle school. The bazaar is about three quarters of a kilometre in length and contains 30 to 40 shops including sleeping accommodation for transport operators who often spend the night here. In the north-western part of the village the girls' and the boys' primary schools are located. Around the village are large tracks of vacant government land which contain a number of important heritage sites and archaeological remains (for details see **Map No. 39 to 42** in Volume 2).

A lot of transport comes to Virawah. This consists of trucks and *kekras* that transport animals from Virawah to meat markets of Sindh. In addition, vehicles carrying china-clay from the nearby factories also stop over for the night in Virawah. The village population estimates that 20 to 25 trucks and *kekras* come to Virawah every day for transporting crush, china-clay and animals. Also, thousands of cars visit the village to see the temples and for religious festivals associated with them. According to them, about 3,000 cars and motorcycles came to the village during the last long weekend of August 14.

**It is obvious from the above and from observations that zoning for different usages for the government land around the village and on the access road to the village should be determined and the institutional arrangements to deliver it should be put in place. This is especially important since much of the surroundings of the village contain heritage sites and for which tourist related buildings and infrastructure needs to be developed.**

**Map No. 46** in Volume 2 shows the age and condition of buildings in Virawah village. The building in the bazaar, government buildings, recent construction put up by the Nazim, and a few houses in the north part of the village, are of reinforced concrete and recent. The rest are all *churas*. **It is feared that the village may use its architectural scale and character unless a conservation consistent architecture is promoted.**

### 4.4 Land Ownership

At present, the Hindu population of the village is about 68 per cent and is likely to decline over time. Village communities estimate that there are 400 households in the village and that over 200 of these belong to the Sammo tribe, 40 are Menghwars, 8 Khosos and 7 Maniars. Ownership of land is also in the same proportion. It is claimed that 40 per cent of the population do not own land and are *haris* or landless labour. Originally, almost all agricultural land was the *jageer* of Abay Singh who left for India after the 1971 War. The *jageer* was declared enemy property and the tenants of Abay Singh are the de-facto owners of the land

they tilled.<sup>43</sup> As mentioned earlier, the government own large tracks of land around the village (for details see **Map No. 47** in Volume 2).

#### 4.5 Utilities

- Water Supply: There are five dug wells in the village but the water is brackish. As a result, people collect water from the Ranger's post which is one kilometre away. There is a government water scheme but it works erratically and therefore it cannot be depended upon. The government scheme gets water from six kilometres away through a piped system and the water is stored in surface lands from which the village communities can access it. **There is need to look at the government scheme and identify the technical and management issues related to it. On the basis of this research, a sustainable participatory management model can be developed and technical improvements can be made.**
- Sanitation and Drainage: There is no sewage system in the village except for five to ten soak-pit latrines. The rest of the village goes to the fields due to which there are problems for women. There is no solid waste management system either. Since solid waste is not generated in large quantities, it can easily be burnt without causing much environmental damage. **However, the village community is aware that in the future they will require a solid waste management system of some sort. After the rains the bazaar and its neighbouring areas get flooded causing great inconvenience for the businesses in the bazaar. A drainage system needs to be put in place.**
- Energy: There is no electricity in the village. For fuel cow dung and *devi* wood are used. **Solar energy offers an option for electricity and for fuel. It needs to be explored.**

#### 4.6 Economic Activity

Major economic activity is agriculture and livestock related. There are about 6,000 animals in the village. In a year, 1,000 to 1,500 are transported to Karachi and Sanghar. There are 20 to 25 *baiparis* from the village who do this business. The village also has two points from which trucks and *kekras* load animals into their vehicles. **These points need to be developed so that this activity can be facilitated.**

The shopkeepers of the 30 to 40 shops in the village bazaar purchase their items from Islamkot and Nagarparkar town. Distributors of various companies (such as tea, vanaspati, rice, textile) also come to the village and provide their products. About 150 people work as labourers in the china-clay factories and an additional 100 in Karachi.

A major produce of the village is *mawa*, a milk based *halwa*. This is sold throughout Sindh and is purchased in a big way by visitors to the village and the neighbouring historic sites. Milk for the *mawa* is acquired from the neighbouring villages when increased demand makes village produced milk insufficient. The village has no jeweller, no carpenter who can produce good quality work and only one blacksmith.

**There seems to be considerable activity in local commerce in Virawah. Also, this activity has linkages with the transport and china-clay business. How local commerce can be supported to generate jobs and incomes needs to be understood and promoted.**

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<sup>43</sup>. Interview with Nabi Bux, old resident of Virawah, January 06, 2009

## 4.7 Heritage and Tourism

Virawah is a historical site. It contains the remains of Parinagar port, an important Jain temple (probably of the 13<sup>th</sup> century), site of old Virawah where the Dharampuri temple, and Hanuman Mandir are located along with the Shaheed Samma graveyard (for details see **Map No. 48** in Volume 2). Parinagar is supposed to have been founded in the 5<sup>th</sup> or 6<sup>th</sup> century and to have been destroyed in the 12<sup>th</sup> century.

The Jain Mandir is located at less than ½ kilometre on the access road from the Mithi-Nagarparkar town road. The temple is in a bad state of repair. An unpaved and difficult to use track leads from the road to the temple. The area around the temple has a number of mounds of broken brick and stone. It is evident that there was habitation or institutional buildings around this temple. One person from the Archaeological Department, who is stationed at Ghori village, visits the site once a month. **Access to the temple needs to be provided with trees on either side. Arrangements for preventing the further decay of the temple need to be made and neem trees should be planted around it at a distance of 25 metres from it. Subsequently, excavations of the mounds should be undertaken.**

South-east of the village bazaar is a large mound from which villagers have been excavating bricks and using them for constructing their homes. **Steps should be taken to stop the pillage of this mound. How this can be done in collaboration with the villagers needs to be developed.** The villagers call this mound “Old Virawah”. It contains the Samma graveyard where *Qurankhani* and a *mela* is held every year. This graveyard is supposed to be of the people of this village who fought along side of Mehmood Ghaznavi during a battle at this location. In addition, the site also contains the Dharampuri Mandir. The *baniyas* of Tharparkar and also of Sindh give great importance to this mandir and a *mela* is held here regularly. About 2,000 persons visit it during the *mela*. There is also a temple of Hanuman which is given considerable importance by the local Menghwar population. Another important location is the site of the Chandi (Silver) Sarnath which is on the main Virawah-Nagarparkar town road. It is visited by tourists in a big way and has a legend associated with it which is given in **Box - 3.3** below.

### **Box - 3.3: Silver Sarnath**

A girl named Sanunega from a Baniya family fell in love with a *thakur* boy named Sadivatra. They both studied together in Vudgaam, an old Jain settlement in India, but Sanunega was married in Parinagar by her family. As she was unable to forget her lover so she wrote him a letter and asked him to meet her out of her house in the disguise of a beggar. She told him to come at the house with the coconut tree (that was her house) and beg for something to eat, and she will come out. Sadivatra did as instructed and she came out with a plate of sweets. They kept staring at each other and the crows ate all the sweets. Sanunega died soon after this brief meeting and the temple built for her marriage in Parinagar was devoted in her name. The temple does not stand there any more but the place is still as famous and visited by tourists in a big way.

Source: *Interview with Nawaz Khoso, December 15, 2008*

Tourists come to see the mandirs and so do a large number of people for religious festivals and rituals. No definite figures are available but on 14 August weekend 2008, one *mawa* shop sold more than four *maunds* of *mawa* in a few hours in the morning and could not meet the afternoon demand or, due to an absence of milk, the next day's demand. The villagers say that the tourists pass through the village but do not stop here since there is no place for them to sit, relax and eat and drink. This is especially true for families.

Virawah has a number of important historic sites and as such a preservation-cum-tourist promotion programme is required for it. The programme should include: i) protection of the historical sites leading to their preservation; ii) creation of infrastructure to make the sites accessible; iii) developing information (literature and sign boards) to create an interest for tourism; iv) to identify sites where tourist related infrastructure (residential accommodation, museum) could be built; v) the development of the bazaar and transport systems to make the environment conducive to welcoming tourists; and vi) to develop the institutional arrangements to make the above possible.

#### 4.8 Governance

Except for the health and educational institutions and the water supply system, there are no governance related institutions in the village. However, the Nazim of the Taluka comes from Virawah and because of this he has constructed an *Eidgah* and a *musafarkhana*, built a wall around a graveyard, and sunk wells (which have brackish water in them) for the use of the village population. Thardeep has three PDCs in the village but none of them are active. The people of the village say that conditions would be better in the village if from among them persons were in government, politics or in the professions. But that is not so. The only educated people they claim they have are four to five school teachers.

### 5. Bodisar Village

#### 5.1 Location

Bodisar village is 5 kilometres north-west from Nagarparkar town. It is on the junction of the Nagarparkar town-Mithi and the Bodisar-Badin highways (for location, see **Map No. 01 and 02** in Volume 2).

#### 5.2 Demography

The Tharparkar District Census Report 1998 does not give population details for Bodisar village. However, a meeting was held with the community in the village, the details of which are given in this section.<sup>44</sup> There are 50 households in the village and a population of about 800 persons. This is almost entirely a Menghwar village. There is one Kohli and two Lohar families. **Given the location of Bodisar at the junction of the Badin and Mithi highways, demographic change that will occur here needs to be studied in detail and future trends at the junction identified.**

#### 5.3 Education and Health

There is one primary school building for both boys and girls in the village but the girls do not have a teacher since the last one died during child birth. About 35 girls and 35 boys attend this school which has two male teachers. Earlier there was one middle school in the village but due to a lack of admissions, fund and cooperation by the villagers it was closed down. For middle school education students now go to Nagarparkar town. 20 to 25 boys and 7 to 8 girls are studying in Nagarparkar town which is six kilometres away. Their trip to Nagarparkar town and back costs them to Rs 15 per day. This is a large sum for the villagers and is a disincentive due to which many children are deprived from further education. Few

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<sup>44</sup>. Meeting held on January 06, 2009. Most of the talking was done by Behrual, the village primary school teacher and a resident of the village

students from the village did get admission to a university but due to a lack of finances, they could not continue. That is why there is no engineer, doctor or lawyer from the village. Regarding health issues: there is no doctor resident in the village. When there is a requirement, he is called from Nagarparkar town or the patients are taken there. However, there are two LHVs and they belong to the village. **The future requirements-for-education and health depend very much on the shape that the junction takes between the two highways and its physical and social repercussions on the village.**

#### 5.4 Land

The Bodisar village lands were originally owned by the *thakurs* who left for India in 1971. Peoples are sitting on these lands. They have no ownership papers but they do pay *malia* on the basis of their possession. The village is surrounded by large tracks of vacant government land on the west and south of the village. On the southern side, within two kilometres of the village, Karunjhar hills are located (for details see **Map No. 49** in Volume 2). Of the 50 households in the village, 10 do not own land. Land originally belonged to the *thakurs* who migrated to India in 1971. There is a lot of pressure on the people of the village to sell their land to powerful interest groups who realise the strategic importance of the location. Some land has already been sold and the original landowners have moved to Nagarparkar town and some even to Mithi. Villagers believe that ultimately they will all be driven out. **Without an understanding of the shape and form the settlement at the junction will eventually take, it is not possible to develop a landuse plan for the village. However, how best the interests of the villagers can be safeguarded needs to be understood and implemented.**

#### 5.5 Utilities

The village has electricity. However, 20 households do not. This is because the charges of the meter connection have increased from Rs 1,200 to 7,000 and the people cannot afford them. Electricity is available only eight hours in a day. According to the villagers, 400 acres in the neighbourhood belong to ex-Chief Minister Arbab Rahim and that is why electricity has come to their village. The village has a water supply system provided by the local government. The water source is six kilometres away. As a result, donkeys, which every household had previously, have been sold off. There is no sanitation system in the village and two households have television.

A dam is being built by the Irrigation Department to increase the capacity of the 600 year old tank west of the village. **The villagers are afraid that in case of excessive rains, the dam will overflow and flood the village out. This fear needs to be studied and if correct, mitigation measures need to be taken.**

#### 5.6 Economic Activity

Since this is a Menghwar community, women have skills of embroidery and men can weave. However, these skills are not being made use of for commercial purposes. Instead people are working in Nagarparkar town as shopkeepers and about 15 persons from the village work as masons in Mithi and Badin. Livestock in the village is about 400 and every year 150 animals are sold for the Karachi market. There are few livestock *baiparis* in the village. In addition, there are three grocery shops who purchase their product from Naukot.

#### 5.7 Heritage and Tourism

To the south-west of the village, there are important heritage sites and a historic tank which is now being converted into a large reservoir for water. Next to the tank is a mosque built in

1505. South-east of the tank is a Jain temple, probably of the 13<sup>th</sup> century, and further to the south along the hills are two other exquisite temples (for details, see **Map No. 50 and 53** in Volume 2). The legends and descriptions associated with these monuments are given in Box – 3.4 below.

#### **Box – 3.4: Bodhisar Heritage Sites**

Bodhisar is a popular site due to its small, yet charming mosque, built by one Mahmud Shah bin Muzaffar in 1505 AD. It is built with marble brought all the way from Gujrat.

Mahmud Shah was the ruler of Ahmedabad. His mother was from Jamshoro. A caravan was going to Thatta and she became a part of it. When the caravan reached Bodisar, it was robbed by the locals. In revenge Mahmud Shah attacked and killed Raja Veedrah of Bodisar and took his son Chandar Ram with him to Ahmedabad. He built this mosque on the site of the battle and handed back the governorship of the area to Chandar Ram when he came of age.

Source: Interview of Nawaz Khoso, Nagarparkar Town, December 15, 2008

One kilometre from this mosque is a stunning temple belonging to Jain. But its back walls have fallen over during earthquake, idols have long vanished, even the stones are being removed by the locals, who according to one source, use them for their home construction.

The temple is built on a high platform and reached by a series of big, flat steps which gives an added magnificence to the temple's structure. Karunjhar and red stones have been used to build this temple but unfortunately it is in rather a bad condition. Absence of any care or maintenance work is to be blamed. Needless to say, if nothing is done immediately the entire edifice might collapse on the slightest provocation.

Source: *Internet*

Close by is a tank 400 feet by 200 feet, said to have been built 600 years ago by Boda Parmar, son of Prince Jeso Parmar, who finding that it would not retain water remedied the defect, under the advice of the Brahmans, by sacrificing his son to the goddess of the town.

At this place, there is also a mosque built of marble with pillars and said to be of the same age as the temple. It is also been declared a protected monument under the Ancient Monuments Preservation Act.

Source: *Gazateer of Sindh; Thar and Parkar District – 1919, page no. 3*

According to the villagers, about 1,500 people visited these monuments on the long weekend on August 14, 2008. They just pass through the village on the way to the monuments. The village does not benefit from tourism in anyway. However, there is the Sunat Khati Ram Mela every year which 1,500 to 2,000 Menghwars attend. The mela takes place at night. Khati Ram was a Bhugat from the village who died in 1978.

**The track to the mosque and the temples needs to be developed and lined with trees. No construction of any sort should take place in an area of 500 metres around the monuments. The construction that does take place should follow environmental and conservation consistent bylaws and zoning regulations that need to be developed. Tourist related residential accommodation should be provided keeping this in mind. This accommodation could be built on the hills or near the tank. Government land for this is available. What is being suggested above should form an integral part for the future vision for the Nagarparkar town-Mithi Highway and the Bodhisar-Badin Highway junction.**

## 5.8 Governance

The village has five Thardeep PDCs that provide credit for businesses and the PDCs currently have a saving of Rs 3,500.

## 6. Ghori Village<sup>45</sup>

### 6.1 Location

Ghori village is 14 kilometres north-west from Virawah. The village proper is about one kilometre from the Nagarparkar town-Mithi Highway (for location, see **Map No. 01 and 02** in Volume 2).

### 6.2 Demography

The Population Census 1998 report on the Tharparkar district does not give detailed demographic data on Ghori village. What has been reported below is from a meeting held with the village community. There are 300 households in the village and a population of about 2,000. All the households are Bheels except four or five households that belong to the Otha Muslims. There are no Menghwars in the village. The village residential areas can be densified to accommodate natural growth. It is unlikely that there will be any migration related growth in the village.

### 6.3 Education and Health

At present, the school age going population is about 800. But no more than 220 students are enrolled in the schools of the village. There are four primary boys' schools, one primary girls' school and a middle school for boys. About 100 boys are studying in the primary schools and 50 to 60 boys in the middle school. About 60 girls go to school. **On the basis of raw data acquired from the Population Census Department, requirements for the construction of schools will have to be determined and space allocated for it.**

The most common diseases in the village are related to malnutrition and TB. Patients are taken to Islamkot for treatment while snake bite cases are taken to Nagarparkar town. There is a TB clinic run by Christian missionaries. The village has six LHV's under the National Programme for Primary Health. Their presence is appreciated by the community. **A need for a preventive health programme and a female doctor is strongly felt by the community.**

### 6.4 Utilities

The Nazim has provided a tube well which taps the aquifer at 300 feet. Water is extracted by diesel operated pumps. The cost of the diesel is born by the village community and the operator is employed by the local government. Water is pumped to surface water tanks. According to the village community, the tanks do not work and the well has brackish water in it which is used only for the washing of cloths. However, there are 22 hand pumps installed through a Thardeep/Uni Liver programme.

Twenty to twenty-two pit-latrines are being constructed with support from Thardeep. Most of the houses, however, use the fields. There is no solid waste management system in the village. There is no electricity and the villagers consider it to be their major problem.

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<sup>45</sup>. This section is drawn from a meeting with the village community held on January 06, 2009

According to them, many households would be willing to spend Rs 10 to 25 thousand if a solar option could be provided.

**A study of the local government provided water supply system is required to determine and rectify its shortcomings and to develop a sustainable participatory management model for the future. In addition, a participatory solid waste management programme also needs to be put in place. The solar energy option needs to be developed and promoted.**

## 6.5 Land

Majority of the population own land and only about 10 per cent are landless labour or *haris*. According to the village community, they have *pucca khata* from the Revenue Department which is based on the 1860 records. Between village and the famous Ghori Mandir are gowcher lands and beyond that are government lands. **A landuse plan for the village is required so as to accommodate the new functions that are envisaged for utilities and social sector developments.**

## 6.6 Economic Activity

The village has a large livestock population of 4 to 5 thousand. 1,000 to 1,500 are sold every year for the Karachi and other Sindh town markets. Last year 200 camels were traded by Tharri traders, most of them for the Balochistan market. There are four or five shops in the village who sell household items such as tea, flour, sugar and textiles. The shopkeepers acquire this from Mithi or from visiting representatives of manufacturing companies. Agriculture is dependent on rains and as such about 70 per cent of the male population migrates in period of drought. About 25 persons are employed in various garment factories in Karachi and in additional 22 are in government jobs (5 teachers, 11 policemen and 6 LHVs). There are four small flour mills in the village and they belong to local people. They are run by diesel engines. Very few women in the village have craft related skills. However, the village has two jewellers and carpenters who can make low skill items. There are no carpet weaving skills in the village. **From the discussions held, it seems that this village is sociologically and economically upwardly mobile. As such, an alternative to the agriculture and livestock related economy is a felt need of the village population. Tourist related developments can be an option.**

## 6.7 Heritage and Tourism

One and a half kilometre east of Ghori and about three kilometres from the main Mithi-Nagarparkar Road, is a very famous Jain temple known as the Ghori Temple, According to some records, it is 200 years old and according to others, it dates back to the 14<sup>th</sup> century. It attracts a very large number of visitors and has an important folk legend related to it. The legend and the description of the temple are given in the **Box - 3.5** below.

### **Box - 3.5: The Legend and Architecture of Ghori Temple**

Ghori contains a very fine 200 years old Jain temple measuring 125 by 50 feet and built of marble. There used to be an image in this temple which disappeared some years ago and about which there was the following tradition. About 500 years ago, one Manga Oswal of Parinagar went to Patan to purchase merchandise. There a spirit appeared to him and told him of an image buried under the house of a certain Musasalman, which he managed to secure and brought to Parinagar. Again the spirit appeared and told him to put the image in a cart built of *neem* wood, drawn by two calves and go without looking behind him. He went until the cart broke down and he fell asleep from sheer weariness. Then the spirit appeared for the third time and told him that the image was under the ground, and he should build a worthy temple on the spot. This he did. The account compiled by

Captain S.N. Raikes from traditions. Manuscripts and personal narratives, shows that this idol of Parasnath was brought at Piran Patan for Rs 100 by a Baniya who no doubt invented the legend given above to enhance its value and established it at Ghori. This was in 1376. It had a diamond of inestimable value between the eyebrows and two on the breasts. After some centuries it was removed to Virawah, the chief of which place kept it buried and exhibited it at intervals in different places collecting much money from the crowds who came to see it. It was last exhibited in 1824 at Virawah. In 1832, the chief died suddenly without revealing where he had buried it, and its lost. The temple though much defaced is very fine. It has now been declared a protected monument under the Ancient Monuments Preservation Act. It is visited annually by the Jains of the district.

Source: *Gazetter of the Sindh; Thar and Parkar District – 1919, page no. 34*

#### **Architecture of the Temple:**

The Temple contains 54 domes, all beautifully built with complete balance. The focus of the temple is the main chamber which is not built in the centre, but rather towards one side and is indicated by the presence of a larger dome. On both sides of the temple are small cubicles where once the holy men stayed and meditated.

Today this temple is in ruins with many domes having fallen. There are cracks on the walls of the temple, perhaps due to the mild earthquakes that have hit the area in recent times. The idols have vanished. Not one of them remains. The ones carved on the walls have been played upon by pranksters.

But the highlight of this temple is the dome on the entrance. It is well rounded but not deep. From inside it has been painted with black paint which fortunately still clings to it. The painting is done in circular band style, each strip showing courtiers, drum beaters, angels, warrior, rulers and the ruled, in many different conditions.

There is a tunnel in the periphery of temple which is said to lead the other temple at India. It is not in use now as it is full of bats. The legend attached to it says that there is a huge snake which guards the temple and is harmless for the pilgrims and visitors.

Source: *Interview with Haq Nawaz, Nagarparkar town*

According to the village community, thousands of tourists come to the temple every year, especially on public holidays. During the rains 50 or 60 cars and/or motorcycles visit the temple but they do not stop at the village since there is no attraction over here for them. People who attend the Sadhro Mela, invariably visit the temple in transit. Their number “is in thousands”. Sometimes they also visit the five Devi mandirs in the village. One person from the Archaeological Department is employed to look after the Ghori Temple.

**The community feels that if shops and resorts were made for the tourists, the village residents would benefit enormously. The Sindh Antiquities Department is desirous of building a rest house near the temple. This could be located on a sand-dune, one kilometre east of the temple to the south of the road. In addition, facilities for tourists can be provided near the temple. The villagers feel that these facilities could include a tea shop, a shed for housing horses and camels, so that tourists would come from the village to the temple on camel or horse back. It is important that the location and architecture of these facilities should not adversely affect the natural environment around the monument or impinge on its historic importance. Guidelines for such architecture and its location need to be developed along with institutional arrangements to implement them.**

## 6.8 Governance

The Thardeep has four active PDCs in the village (two male, one female and one mixed PDCs). There is no VDO as yet. **From the meeting that was held one gets the feel that the PDCs and a future VDO could be involved in future social, utilities and tourist related development schemes for the village.**

## 7. Churio Village

### 7.1 Location

Churio village is located 22 kilometres east of Nagarparkar town on a protrusion that juts out as a peninsular into India (for details, see **Map No. 01** in Volume 2).

### 7.2 Demography

The population of Churio village in the 1998 Census was 1,722<sup>46</sup>. On extrapolation using the 1981-1998 growth rate it is 2,276 today and will be 3,158 in 2020. This means an addition of about 1,000 persons or about 170 households. Given the location of Churio, it is unlikely that it will have an in-migration related growth. The natural growth can easily be accommodated in the *paras* of different communities.

55.6 per cent of the population is Hindu and is likely to remain as such. The school age going children today is 900. By 2020, about 500 will be added to this number. **Space for schools and health facilities will be required for the village. At present, a number of village children study in Kasbo where they live with their relatives.**

### 7.3 Heritage and Tourism

Churio village has a big tourist potential. It has granite protrusions to the south and east of it which are very dramatic, rising out of the agricultural plain. These overlook the Indian border to north, south and east (see details, see **Map No. 02, 54 and 55** in Volume 2). A beautiful view of the Rann of Kutch is also available. The Indian's light up their side of the border at night. The movement of vehicles and settlements is clearly visible. **Tourism could be built around providing view points on the hills for looking into neighbouring India. Binoculars and telescopes could be made available for this purpose. The architecture of these view points could merge into the natural environment so as to be unobtrusive.** Tourism could also be built around two important mandirs in the village. One of these is the Shiv Mandir in the village proper. It was visited by over 2,000 pilgrims every year at the time of religious festivals before Partition. The visitors now have been reduced to less than 200. There is another temple on the granite hill south of the village (for details see **Map No. 55** in Volume 2). It is dedicated to Samat Devi and commands a beautiful view of the Indian border and the Rann of Kutch. **Both these temples, if facilities are available, would attract tourists from all over Sindh because of the views they offer. A rest house would also be very popular in Churio, especially if it is built on the granite hill east of the village. However, for this security clearances would be required.**

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<sup>46</sup>. Population Census Organization; "1998 District Census Report of Tharparkar"; Statistics Division, Government of Pakistan, Islamabad, 1999

## Chapter - Four

# POSSIBLE SCENARIOS FOR THE FUTURE

## 1. Preamble

There are three possible scenarios for the future. The first scenario is the “do nothing scenario”. Here, the market is left to determine the future physical and socio-economic shape and form of the Taluka and its settlements. This has happened to a number of towns and settlements in Sindh with devastating ecological, economic and social repercussions. The second scenario is one of “muddling through”. In this case, government departments tackle problems as they arise. This is done either through stakeholder pressure or through the interest taken by politicians and/or interested government functionaries. This process regularises unplanned development and also makes a rational and sustainable solution difficult, if not impossible. It also creates a conflict between de-facto ownership of land and functions and the proposals that are put up for mitigation of environmental and physical conditions that have emerged due to an absence of planning. The third scenario is if “plan for the future scenario”. However, such a scenario cannot be effectively implemented unless the necessary institutional arrangements are put in place. A brief picture of the Taluka on the basis of the three scenarios is given in the sections below.

## 2. The Do Nothing Scenario

In this scenario the market forces and the socio-economic transformation that they bring about will determine the physical conditions of the Nagarparkar Taluka and its settlements. The picture painted below is similar to what is happening in many parts of Pakistan. The impact of this scenario is summarised below.

### 2.1 Physical Implications

- Land along the main corridors and at strategic locations will be occupied. As a result of this, views to scenic locations will disappear and many of them will be built upon for tourist or commercial purpose purposes.
- No land will be available for future physical and social sector infrastructure. As a result, much of this infrastructure will be built in inappropriate locations and as such its functioning will be inefficient in social and governance terms and expensive to construct and manage.
- Land values around heritage sites will increase and in the absence of conservation plans they will be built upon for tourist purposes. This will damage the heritage sites in environmental terms and make their conservation difficult.
- In the absence of landuse planning, the Bodisar-Badin Corridor in the Taluka will be occupied by granite mining companies, causing congestion and pollution. In addition, granite extraction, in the absence of appropriate locations, will cause immense environmental pollution.
- The architectural scale and character of the settlements will undergo a change because of environmentally inappropriate architecture which will be of cheap

reinforced concrete construction, un-aesthetic in nature and in sharp contrast to the existing physical environment and tradition.

- At the junction of the Badin-Bodisar and the Mithi-Nagarparkar town highways, a new town will develop with transport terminals and ad-hoc accommodation for the transport services sector at the junction. Katchi abadis will also develop around this junction. This junction will become a major congestion point.
- Government water and sewage schemes will not function as a result of which ad-hoc arrangements for their maintenance and operation will be created. This will cause inconvenience to the communities whose settlements will remain “semi-serviced” for generations to come in spite of huge investments.
- At locations where the subsoil aquifer is high, soak-pits, in the absence of sewage and drainage, will pollute the rain water aquifer causing an increase in water related diseases. Solid waste will litter the highways and settlements and plastic bags will cover natural vegetation and tourist sites.
- Land will become a object of speculation and landuse will be determined purely on land value and not on environmental and sociological considerations. This will create a further division between rich and poor communities and fragment society. This will also lead to the creation of katchi abadis in those settlements where jobs and businesses will be created.
- The flora and fauna of the Taluka will be damaged causing severe ecological imbalances.

## **2.2 Economic Implications**

- Outsiders, because of their financial power, will be the main beneficiaries of development. They will take over jobs in the coal, granite and fisheries industries and the tourist business. They will also make inroads into the transport sector.
- The local population will sell its land to outsiders and in the process become economically marginalised.
- Commercialisation of Tharri crafts will take place. However, there is a possibility that this too would be controlled by the Karachi and Hyderabad markets.
- Institutions for the development of skills to make use of the opportunities that the road and businesses offer, would not be created in the Taluka or the district. As a result, the local population would not be able to benefit from these activities but outsiders would.
- The market forces, in the absence of support to local agriculture and livestock development, will take over the financing and control of these activities. As a result, Tharri businessmen will certainly benefit, but the poorer sections of the population (who constitute the vast majority) will be marginalised.

## **2.3 Socio-political Implications**

- Karachi capital and local power groups will establish a close link with each other. This, rather than local concerns, will determine development programmes and

political positions. This will undermine populist interests in the decision-making process.

- The above will also create a local-outsider conflict which will express itself politically. This, along with migration into the Taluka of outsiders, will adversely affect its present culture of tolerance. This will have an adverse affect on non-Muslim communities living in the Taluka.
- The caste-profession link and the *punchayat* system will be destroyed without an alternative system of local governance emerging. This will make the settlement of disputes difficult. The victims of this change will be the politically marginalised communities and groups.
- A powerful private sector will emerge in health and education. As a result, public sector investments in these sectors will decrease and/or these sectors will become increasing inefficient. This process will make it difficult for the poorer sections of the population to access health and education.

#### **2.4 Area Specific Repercussions: Nagarparkar Town**

- Nagarparkar town will expand towards Bodisar along the Nagarparkar town-Mithi Highway. This will obscure the scenic views to the hills to the west and the valleys to the east.
- The transport activities will consolidate where they are located at present along Road – 1 causing immense environmental degradation and the growth of ad-hoc services sector developments. This will adversely affect the old market and its heritage sites.
- Katchi abadis will develop on government land and informal settlements as a process of densification of existing *paras*.
- A climatically and aesthetically inappropriate architecture will destroy the traditional atmosphere of the town.
- New government functions will develop along the Nagarparkar town-Bodisar road and as a result the old town will become the back waters. Economic activity as such will die in it and politically there will be little interest in developing infrastructure to service it. Water, sewage, energy and solid waste development and management for this area will become almost non-existent. This process is already taking place in Mithi.
- Unplanned development will also take place on the road to Sadhro, destroying the natural beauty of the Karunjhar hills.
- Sadhro itself will suffer if facilities to cater to the pilgrims are not planned for and if a vision for a conservation consistent architecture is not developed for it. Similarly, unless special care is taken, the Anchilisar spring site will also be damaged with an increase in tourist related activities.
- The repercussions of what is described above, will convert Nagarparkar town into an upstart entity without links to its history and culture and a serious division between local and non-local and between rich and poor.

### **3. Muddle through Scenario**

In this scenario, one waits till the problem arises and then one develops measures to mitigate it. The mitigation measures also require effective institutions that can plan, manage and maintain development. In the absence of such institutions, mitigation has meant ad-hoc solutions in which different agencies and departments, in the absence of a process of consultation and consensus creation, do not coordinate their work. This creates parallel and often conflicting interests and management systems. To make the muddling through process effective, consultations and institutional inter linkages are necessary. Muddling through also means that one has to deal with a de-facto situation which has no de-jure legality. The issues that emerge in the muddling through process are given below.

- Katchi abadis that will be created will have to be regularised and improved. If they are on private land, they will have to be shifted or negotiations with the land owners will have to be carried out. Due to the complex processes of regularisation and improvement, they will remain “semi-serviced” for generations.
- The environmental damage caused by the development of transport activities invariably results in building a transport terminal at a new location. In the process, environmental pollution is transferred to a new site. Generally, the informal sector activities, which are part of every transport terminal, are never planned for.
- As the scenario unfolds, new rules and regulations have to be developed. These impinge on realities that have developed in more recent times. This leads to conflicts between government agencies and the informal (and sometimes former) sector operators, making solutions difficult.
- Since land, in the absence of zoning, has already been formally or informally occupied before the mitigation process is initiated, there are immense problems acquiring it for social and physical infrastructure requirements.
- A need to regulate the private sector in health and education becomes a necessity for sociological reasons. Since it is already developed, negotiations with it, are difficult.
- In the absence of a landuse plan in the initial stages, regularising and/or mitigating landuse related environmental problems becomes a difficult exercise that can never be successfully concluded.
- In the absence of creating institutions for the provisions of skills, governments have often resorted to providing formal or informal job quotas to the local population. This results in inefficiency in government departments. Such quotas cannot be imposed on the private sector and hence the local population cannot benefit from this process.

### **4. Plan for the Future Scenario**

Given the problems associated with the two scenarios above, a “plan for the future scenario” is advocated for the Nagarparkar Taluka. Planning for the “plan for the future scenario” requires an understanding of the present physical and socio-economic condition and trends on the basis of which the development of a social and physical vision backed by institutional arrangements to implement that vision can be developed. The vision identifies programmes and projects as well. Some of these can be implemented by government agencies; some as a NGO-government partnership; some through NGO-community partnership; and some by

NGOs and/or communities themselves. The institutional arrangements therefore, will have to involve a number of actors, depending on who and how planned development is identified and implemented. These institutional arrangements will also have to have a major human resource development programme. Mapping of existing conditions, and developing the skills to manage and update it, is perhaps the most important long term exercise in this process.

**Chapter - 5 gives the vision, issues and possibilities that have surfaced in documenting and mapping the existing conditions in Nagarparkar Taluka and its selective settlements. Thardeep will have to decide as to the role it can play in building programmes around these issues and recommendations. This needs to form the basis of a consultation without Thardeep and with other actors in the development drama.**

## Chapter – Five

### PLANNING RELATED ISSUES AND POSSIBILITIES

#### 1. Preamble

In the previous chapters of this report planning related issues, possibilities, future research and projects, community perceptions and need for institutional arrangements have been identified for the Taluka as a whole and for different locations that were visited. These are summarised in the sections below for various locations and corridors.

#### 2. Nagarparkar Taluka

##### 2.1 Demographic and Social Sector Issues

- By 2020 the Taluka will have to cater to the need of an additional 59,198 population or about 11,400 households. In addition, the Taluka will have to cater to the needs of an additional 39,572 adolescents the majority of whom will be literate if the present trend continues.
- Any structure plan for the villages and the urban settlements of the Nagarparkar Taluka will have to set aside considerable space for the construction of educational institutions at appropriate places and determine the need for institutions of higher learning or vocational schools.
- The need for women's hostels in larger settlements (such as Nagarparkar town and Virawah) was highlighted more than once.
- Therefore, taking literacy and marriage into consideration, the population of Tharparkar will be very different in the next generation in aspirations, family structure and world outlook.

##### 2.2 Ethnicity

- What has clearly emerged from interviews at various locations is that the link between ethnicity, caste and profession is fast disappearing and people are acquiring new skills unrelated to their previous hereditary profession through the *shagirdi* system. Increased mobility will further weaken the caste-profession link and fragment intra-caste relations. This will have an adverse effect on agricultural infrastructure maintenance and management. To overcome these adverse repercussions, the creation of new systems of governance, currently being promoted by Thardeep, becomes important to prevent environmental degradation, economic marginalisation and social anarchy.

##### 2.3 Migration

- There is strong evidence to show that anyone with skills seeks job opportunities in the building and/or garment industry in Karachi and Hyderabad.

- Families who receive remittances from outside the Taluka will build better homes and will become the new rich irrespective of their clan or ethnic affiliations. Food, utensils, cloths, nature of festivities will also undergo a change and a new under class will be created. Keeping these changes in view, it is necessary to prevent the marginalisation of the more vulnerable groups in the Taluka. This can only be done through supporting the creation of community organisations and providing training for skills for new job opportunities that the social and economic transformation of the Taluka is creating.

## **2.4 Physical Conditions and Infrastructure**

- The requirements of natural growth in population along with migration related growth (which has to be worked out) in terms of land and infrastructure have to be built into development plans. In addition, there is a need to develop an architecture that is climatically suitable and inexpensive enough for the people to use. This means that a research on local materials needs to be carried out. The Taluka has lime, china-clay, silica and stone deposits of various types. The promotion of light weight well insulated roofs for formal sector construction is a priority. For the huts, improvement in environmental conditions and prevention of fire and insects for the roofs is necessary. Whatever architecture is developed for the Taluka, it should be seismic resistant and in keeping with the scale of Tharri traditional and colonial architecture.
- A survey of water and drainage schemes, their successes, potential and weaknesses needs to be carried out and on that basis policy changes need to be made. The solar energy option being introduced by Thardeep offers a solution to the water related energy crisis.
- Street paving is being carried out by the TMO in many villages and in Nagarparkar town. Identification of where and to what extent this should be carried out should be based on the extent to which it can improve economic and social conditions. Also, a cheaper alternative to cement concrete can be investigated.
- Given the energy crisis in Pakistan, the solar energy option is to be promoted.

## **2.5 Political Marginalisation**

- Given the increasing interest of outsiders in businesses, industry and real estate (which will certainly increase in the future), there is a possibility that the people of the Taluka will be marginalised both politically and economically unless they develop the skills for the opportunities that are being opened. One of the ways to prevent marginalisation is through the promotion of their folk culture, arts, handicrafts and history. For this a vision, physical space and the prevention of environmental degradation is required.

## **2.6 The Emerging Economy and its Trends**

- Wherever discussions with communities took place, the issue of living off credit surfaced. The advantages and disadvantages of the credit system are well known to Thardeep. However, there is a need to project this process into the future and find ways whereby its disadvantages can be minimised.
- There is a need to try and identify economic activity that can be financed by remittances and which can at the same time generate employment.

- The transport sector brings with it immense environmental degradation. By provision of related infrastructure (such as space for workshops, depots, terminals and storage and loading and unloading facilities) this degradation can be minimised and economic gains increased.

## **2.7 Mining**

- With a building of the Bodisar-Badin Road new opportunities have opened up and a number of mining enterprises are setting up offices along the under-construction road. If a series of such enterprises are created along the Highway they will adversely affect the scenic beauty of the area in addition to creating severe environmental problems along the corridor. There is a need to develop proper byelaws and zoning regulations for the corridors and the institutional arrangements through they can be implemented.
- The possibility of using china-clay for purposes of plastering in the building industry needs to be studied along with the potential for the use of china-clay in other sectors.
- The services sector economic activities that will develop as a result of the coal project need to be studied and supported so that the people of the region can initiate them in a sustainable manner. In addition, the recommendations of Thardeep's reports on the subject should be implemented.
- There is a need to identify the economic opportunities that the mining of sulphur can bring to the region.
- How will this affect Nagarparkar Taluka and its people and its physical and social environment? A study to determine this is required.

## **2.8 Tourism**

- At a modest estimate, about 400,000 persons will be visiting Nagarparkar taluka per year as tourists or for religious purposes by 2015. If each of them spends Rs. 500 in Nagarparkar taluka then their total spending will amount to Rs. 200 million per year. If a proper service sectors can be developed for this influx, this figure can be more than tripled to Rs. 600 million.
- Tourism has both positive and negative aspects. Therefore, the physical and social impacts of tourism need to be studied on the basis of which scenic spots, heritage sites and their surroundings, need to be identified and protected from environmental degradation and vandalism; the impact of transportation on the physical and social environment has to be understood and mitigation measures planned for; training of local people in providing tourist related services has to be carried out; locations for tourist related facilities have to be identified keeping the natural and social environment in mind; a system of garbage disposal has to be worked out; the promotion of Tharri arts, handicrafts and folklore has to be promoted for the tourists; an appropriate architecture for tourist related buildings has to be developed which does not adversely affect the natural and built environment of the Taluka and is climatically friendly; and for all this the necessary institutional arrangements have to be made.

## **2.9 Real Estate**

- The development of mining, fisheries and tourism and sectors that service them will require the construction of a considerable amount of real estate which will adversely affect the natural, built, social and heritage related environment of the Taluka. To prevent this from happening it is necessary to develop the principles on which zoning regulations and building byelaws can be developed along with the institutional arrangements that can monitor them.

## **2.10 Governance**

- Building the capacity of the TMO for surveying, mapping, planning, account keeping and supervising development is a priority without which the environmental degradation of the built, heritage and natural environment of the Taluka cannot be prevented.
- For future landuse planning, land settlement along with mapping is necessary so that revenue records can be updated. Also, for prevention of encroachments and land grabbing, a closer working relationship between the Mukhtarkar's and judicial magistrate's office is required along with the need for establishing a process of consultations with communities and interest groups.
- With the building of roads, the development of trade and commerce and related socio-economic and political changes there will be an expansion of government departments. It is also possible that Nagarparkar town might become the headquarters of a new Nagarparkar district. Space for future government offices and/or physical and social infrastructure has to be identified and provided.
- The architecture of the new buildings has to be responsive to sociology, climate and local materials. There is a need to develop this architecture and promote it. In addition to being comfortable and energy saving, it will also promote the development of local building materials and skills.
- There is a lot of NGO activity in the Taluka. If a network could be formed of all the NGOs, it would act as a powerful pressure group for negotiating and promoting development in the Taluka.

## **3. Nagarparkar Town**

### **3.1 Demography and its Demands**

- At present, the Hindu population of the town is 69.74 per cent. However, with the influx of mining and tourism (and possibly fisheries), the Hindu population is likely to decrease considerably in percentage terms. Therefore, it is necessary that the town and the Taluka maintain and further develop a tolerant political and social culture. This can be achieved through the promotion of its folklore, history and its places of religious heritage.
- Although, housing requirements through natural growth can be accommodated in the various *paras* along the core of the town, housing and related facilities for the migrant population and the tourists will have to be provided. Figures for the 2020 requirements have been worked out in Chapter 3, Section 2.

- To cater to the needs of the 2020 population, considerable land will have to be set aside for educational purposes including the building of colleges and hostels for out of town students, especially women. The school age going children population is given in Chapter 3, Section 2.
- If the school age going children have to be catered to, teachers' training institutions and hostel facilities for the trainees and accommodation for the teachers will also have to be built. Since Nagarparkar town is the Taluka headquarters, these institutions will have to be built here. This again, will require land.
- Private institutions will certainly develop and their appropriate locations will have to be determined and land allocated for them.

### **3.2 Landuse Related Issues**

- It is almost certain that Nagarparkar town will develop along the Nagarparkar town-Bodisar corridor as a strip and that the road junction (Bodisar-Mithi, Bodisar-Badin, Bodisar-Nagarparkar town) will develop into a commercial and transport hub. This development, unless guided, will destroy the natural beauty along the corridor and hide the view to the Karunjhar hills.
- The space occupied by the area where government related buildings are located is very low density and can be further densified. In addition, the Shaikh lands can be used for the further expansion of government related buildings.
- The bazaar, the temple, and another temple within the bazaar and the old *Mukhtarkari*, definitely constitute heritage and need to be conserved.

### **3.3 Water, Sanitation and Drainage**

- There is a need to study the water, drainage and sanitation systems as one since they are closely related. Untreated sewage should not be disposed into the natural drainage system. The possibility of primary treatment and use of affluent for agricultural purposes needs to be developed.
- Piped water systems without sewage and drainage will cause immense environmental damage. For water supply there is a need to establish deep bore wells (below the granite layer) and operate them through solar energy (as Thardeep is doing elsewhere). A system of cost recovery also has to be put in place.
- For solid waste disposal a system that creates jobs for the local population needs to be studied and landfill sites at appropriate locations need to be developed. An awareness programme and recycling (once the waste is in sufficiently large quantities) needs to be promoted.

### **3.4 Transportation**

- Transportation and its services sector is going to increase rapidly with the development of tourism, mining and related businesses. This will cause immense environmental degradation and will make conservation of heritage almost impossible. It is therefore necessary to create a bypass on the northern side of the Bhetiani Nala and locate a well planned bus terminal that caters to the establishment of hawkers and small businesses in an aesthetic and environmentally and socially friendly manner.

### **3.5 Economy**

- With the development of mining and tourist industry and the construction boom, new jobs will be created and a demand for Tharri handicrafts can also be generated. It is necessary to understand the skills required for these jobs, establish training facilities for them, and space for the establishment of these economic activities.

### **3.6 Places of Interest**

- The Sadhro site is a very important place of Hindu pilgrimage. New and inappropriate construction on it is damaging it aesthetically and environmentally. A plan for the expansion of its facilities in an organised manner with conservation consistence architecture needs to be developed along with facilities to cater to the increasing numbers of tourists and pilgrims. Development of appropriate and adequate systems for sanitation and solid waste also need to be developed along with a financial plan to make these possible.
- The site needs to be protected from construction, desecration and solid waste accumulation.

### **3.7 Vision for the Town**

Keeping the above sections in mind, it is proposed that:

- Scenic spots along the Ghor-Nagarparkar town, Nagarparkar town-Kasbo and Nagarparkar-Churio corridors, should be identified and construction prevented on or next to them so as to preserve the natural beauty of the region.
- No construction should take place within 150 metres of any archaeological or heritage site in the Taluka. If such construction is required for functional purposes, it should conservation consistent.
- Government, educational institutions and parks should be developed within the existing town between Road – 1 and the Bhetiani Nala, making use of the land belonging to the Shaikhs along the Bhetiani Nala.
- The old Mukhtarkari should be converted into a museum and a town hall, and a conventional centre along with an amphitheatre should be constructed on the land behind it. This should become the cultural present of the town.
- Transport related activities should be shifted from their present location to a bypass on the northern side of the Bhetiani Nala and a road over a check dam on the Nala should connect the transport terminal to the area containing the government offices. Space for hawkers and small shops should be provided along this dam.
- The land between the old bazaar and Road – 1 should be used for the development of commercial activities, handicrafts workshops (which tourists can visit), small residential hotels, bazaars and eating places. Areas of this should be pedestrianised and the architecture should be no more than two floors. Bylaws and building regulations to make this architecture environmentally and heritage responsive, should be developed.

- A zoo and botanical gardens should be developed at an appropriate location between Nagarparkar town and Sadhro. Places of historic value along this corridor should become part of the zoo and/or botanical gardens.
- The necessary institutional arrangements to make the above possible should be created over time. This would mean a major investment in developing and maintaining the necessary required human resources.

## 4. Kasbo Village

### 4.1 Demography and its Demands

- Natural increase can be accommodated within the existing village through densification. However, space for migrants and the services sector to tourism and transport will have to be allocated at appropriate locations. Population figures for 2020 are given in Chapter 3, Section 3.
- A study of the educational requirements of the village and its catchment area population along with a school mapping exercise is a requirement. Land at appropriate places will have to be developed to accommodate this requirement along with getting educated locals (men and women) to become teachers.
- Much of the diseases in the village are of an environmental nature. This means that a preventive health programme would be more appropriate than a purely curative one.

### 4.2 Landuse Related Issues

- Scenic spots along the Nagarparkar town-Kasbo corridor should be identified and views to them protected. At the Lorlai Terai no construction that destroys the natural beauty of its surroundings should be permitted. At best low sheds, hidden within the rocks in an un-intrusive manner, should be constructed in local materials.
- The main artery of the village linking Mehria, Bawani and Varsi chowks in the upper part of the village to the Khejrani Terai in the southern part of the village, has extremely attractive open spaces. These spaces need to be protected from encroachment since they form important public spaces which can be used for tourist related functions. Similar spaces are located at Motiani, Jalum and Ram Bharti chowks. They too need to be protected.
- The village has two important temples, Shri Rama Pir and Shiv Mandir. Both these temples have immense cultural and historic value. Conservation consistent guidelines for their protection and construction around them should be developed along with institutional arrangements for their implementation.
- To the south and north of the village, there are government owned plots of land. A landuse plan for them should be developed and the land should be protected for purposes allocated to it.
- Development of the tarais to ease the watering for cattle and other related activities should be undertaken.
- **Map ...** in Volume 2 shows the age and condition of building in Kasbo. The vast majority of building are either *churas* or have traditional pitched roofs. This traditional

architecture is being replaced slowly with flat roof concrete construction. The traditional physical environment of the village needs to be preserved and guidelines for appropriate architecture need to be developed along with the institutional arrangements required for their implementation.

### **4.3 Utilities**

- A study for linking water supply systems to sewage, drainage and energy issues should be undertaken and institutional arrangement created to manage and maintain systems.
- The creation of a community based solid waste management system is a possibility. This will bring income for those who are involved in it.

### **4.4 Economy**

- Given the fact that skills exist in the village, the possibility of their revival along with a link with tourism should be studied along with who would do what and how in the process.

### **4.5 Tourism and Pilgrims**

- The solar power tube wells installed by Thardeep are also tourist attractions and their being adjacent to the temples makes them all the more important. In addition, the village has attractive lanes and domestic architecture that can make it an important tourist attraction. There is a need to preserve this ambience and to develop guidelines and criteria for identifying land for the building of tourist facilities along with their scale and appropriate architectural characteristics. The village has the potential of becoming a window to rural culture and life.

### **4.6 Transport**

- A transport terminal needs to be created at the southern end of the village near Khejnari tarai along with bus shelters, space for hawkers, cargo handling bays for trucks and *kekras* and appropriate vegetation. A similar arrangement needs to be made for a transit terminal at the northern part of the village at Mehria Chowk where arrangements for receiving and briefing tourists should also be created.

## **5. Virawah Village**

### **5.1 Demography and its Demands**

- Population growth figures and statistics for school going children and their requirements by the year 2020 are given in Chapter 3.
- From the survey maps and statistics, it can be seen that natural population increase can be accommodated within the existing *paras* through densification. However, space for migrants and the services sector to tourism and transport will have to be catered to at appropriate locations.
- However, land will have to be allocated for the development of schools and residential accommodation for teachers at appropriate locations. Since Virawah has

a large catchment area, a study of the educational requirements of the village and the catchment area, along with school mapping exercise is a requirement.

- Given the environmental degradation of the village and the absence of potable water and sanitation, a preventive health programme and the building of related infrastructure, is a priority.

## **5.2 Landuse Related Issues**

- It is obvious from the data generated on transport (given in Chapter 3) and from observations that zoning for different usages for the government land around the village and on the access road to the village should be determined and the institutional arrangements to deliver it should be put in place. This is especially important since much of the surroundings of the village contain heritage sites and for which tourist related buildings and infrastructure needs to be developed.

## **5.3 Utilities**

- There is need to look at the existing government water scheme and identify the technical and management problems related to it. On the basis of this research, a sustainable participatory management model can be developed and technical improvements can be made. If the scheme works, further hand pumps and dug wells will not be required.
- The village community is aware that in the future they will require a solid waste management system of some sort. After the rains the bazaar and its neighbouring areas get flooded causing great inconvenience for the businesses in the bazaar. A drainage system needs to be put in place.
- Solar energy offers an option for electricity and for fuel. It needs to be explored.

## **5.4 Economic Activities**

- Raised earth mounds have been erected to facilitate the loading of cattle onto trucks. They are inefficient and get washed away during the rains. These points need to be developed appropriately so as to save time and costs and improve the physical environment.
- There seems to be considerable activity in local commerce in Virawah. Also, this activity has linkages with the transport and china-clay business. How local commerce can be supported to generate jobs and incomes needs to be understood and promoted.

## **5.5 Heritage and Tourism**

- Access to the Jain temple needs to be provided with trees on either side. Arrangements for preventing the further decay of the temple need to be made and *neem* trees should be planted around it at a distance of 25 metres from it. Subsequently, excavations of the mounds should be promoted with the Sindh Antiquities Department.
- South-east of the village bazaar is a large mound from which villagers have been excavating bricks and using them for constructing their homes and shops. Steps should be taken to stop the pillage of this mound which is of significant

archaeological value. How this can be done in collaboration with the villagers needs to be developed.

- Virawah has a number of important historic sites and as such a preservation-cum-tourist promotion programme is required for it. The programme should include: i) protection of the historical sites leading to their preservation; ii) creation of infrastructure to make the sites accessible; iii) developing information (literature and sign boards) to create an interest for tourism; iv) to identify sites where tourist related infrastructure (residential accommodation, museum) could be built; v) the development of the bazaar and transport systems to make the environment conducive to welcoming tourists; and vi) to develop the institutional arrangements to make the above possible.

## **6. Bodisar Village**

### **6.1 Demography**

- Given the location of Bodisar at the junction of the Badin and Mithi highways, demographic change that will occur here needs to be studied in detail and future trends at the junction identified. Collection of government plans for evaluating this and of the status of land speculation will be required for this purpose.

### **6.2 Education and Health**

- The future requirements-for-education and health depend very much on the shape that the junction takes between the two highways and its physical and social repercussions on the village.

### **6.3 Land**

- Without an understanding of the shape and form the settlement at the junction will eventually take, it is not possible to develop a landuse plan for the village. However, how best the interests of the villagers can be safeguarded against eviction and forcible sale of their land needs to be understood and implemented.

### **6.4 Utilities**

- The villagers are afraid that in case of excessive rains, the dam will overflow and flood the village out. This fear needs to be studied and if correct, mitigation measures need to be taken.

### **6.5 Heritage and Tourism**

- The track to the mosque and the temples needs to be developed and lined with trees. No construction of any sort should take place in an area of 500 metres around the monuments. The construction that does take place should follow environmental and conservation consistent bylaws and zoning regulations that need to be developed. Tourist related residential accommodation should be provided keeping this in mind. This accommodation could be built on the hills or near the tank. Government land for this is available. What is being suggested above should form an integral part for the future vision for the Nagarparkar town-Mithi Highway and the Bodisar-Badin Highway junction.

## **7. Ghori Village**

### **7.1 Education and Health**

- On the basis of raw data acquired from the Population Census Department, requirements for the construction of schools will have to be determined and space allocated for it.
- A need for a preventive health programme and a female doctor is strongly felt by the community.

### **7.2 Utilities**

- A study of the local government provided water supply system is required to determine and rectify its shortcomings and to develop a sustainable participatory management model for the future. In addition, a participatory solid waste management programme also needs to be put in place. The solar energy option needs to be developed and promoted.

### **7.3 Land**

- A landuse plan for the village is required so as to accommodate the new functions that are envisaged for utilities and social sector developments.

### **7.4 Economic Activities**

- From the discussions held, it seems that this village is sociologically and economically upwardly mobile. As such, an alternative to the agriculture and livestock related economy is a felt need of the village population. Tourist related developments can be an option.

### **7.5 Heritage and Tourism**

- The community feels that if shops and resorts were made for the tourists, the village residents would benefit enormously. The Sindh Antiquities Department is desirous of building a rest house near the temple. This could be located on a sand-dune, one kilometre east of the temple to the south of the road. In addition, facilities for tourists can be provided near the temple. The villagers feel that these facilities could include a tea shop, a shed for housing horses and camels, so that tourists would come from the village to the temple on camel or horse back. It is important that the location and architecture of these facilities should not adversely affect the natural environment around the monument or impinge on its historic importance. Guidelines for such architecture and its location need to be developed along with institutional arrangements to implement them.

### **7.6 Governance**

- From the meeting that was held one gets the feel that the PDCs and a future VDO could be involved in future social, utilities and tourist related development schemes for the village.

## **8. Churio Village**

### **8.1 Demography**

- The population of Churio village in the 1998 Census was 1,722. On extrapolation using the 1981-1998 growth rate, it is 2,276 today and will be 3,158 in 2020. This means an addition of about 1,000 persons or about 170 households. Given the location of Churio, it is unlikely that it will have an in-migration related growth. The natural growth can easily be accommodated in the *paras* of different communities.
- Space for schools and health facilities will be required for the village. At present, a number of village children study in Kasbo where they live with their relatives.

### **8.2 Heritage and Tourism**

- Tourism could be built around providing view points on the hills for looking into neighbouring India. Binoculars and telescopes could be made available for this purpose. The architecture of these view points could merge into the natural environment so as to be unobtrusive.
- There are two important temples at Churio. Both these, if facilities are available, would attract tourists from all over Sindh because of the views they offer. A rest house would also be very popular in Churio, especially if it is built on the granite hill east of the village. However, for this security clearances would be required.
- The construction of a metalled road to the village is a priority.

## **Appendices**

# THARPARKAR PROJECTS

## Terms of Reference

### 1. **Structure Plans for Nagar Town and Kasbo Village**

(Output: Two reports)

#### 1.1 **Structure Plan for Nagar Town:**

1.1.1 Acquiring satellite images of Nagarparkar and Kasbo Village from the internet and digitising them. If they cannot be acquired free from the internet then they will be purchased from providers at the cost of TRDP.

1.1.2 The history of Nagar region and the evolution of the town

1.1.3 The existing situation with relation to

- Governance
- Demography
- Community, clan organisations and informal institutions
- Landuse
- Land ownership patterns and land values
- Utilities
- Vehicular traffic and its requirements
- Economy
- Tourism: Existing patterns
- Heritage and folklore
- Environment: Social, cultural and physical and its inter linkages

The above will be descriptive with statistics, maps, images and photographs. This section will be developed through government and other available records and literature, interviews of relevant persons/groups, and investigation and observation and will be accompanied with maps and photographs .

1.1.4 Scenario development

Three scenarios will be developed to show how the town can evolve in the future. These scenarios are:

- The no intervention scenario: This will describe what will happen to the town if its development is left to the market forces
- The muddling through scenario: This will describe what will happen to the town if interventions are made to tackle problems as and when they emerge.
- Plan intervention scenario: This will argue for the development of the structure plan for the town

All scenarios will be accompanied with images and layouts.

1.1.5 Projections for the future:

- Demographic projections and their land and utility requirements till the year 2020 and their rational locations
  - Water, sewage, drainage and solid waste
  - Health and education
  - Economic activity
  - Tourism

- Institutional and governance related
  - Traffic and transport
  - Cultural activity
  - Energy
- Environmental related social, physical and economic repercussions and mitigation measures
  - Identification of scenic and ecological sensitive areas and their ownership details
  - Tourist sites in the region and their linkages with Nagar
  - Archaeological sites and their conditions and potential

These will be accompanied with statistical tables, maps and photographs.

- 1.1.6 A participatory analysis of all the above items to identify social, physical and economic trends. This can be done through workshops which the TRDP can help organise with relevant interest groups. Out of this will emerge a future vision of the town on the basis of which principles for its development can be formulated.
- 1.1.7 Development of a structure plan based on an analysis of all the above items and the principles worked out of the workshops. This structure plan will consist of:
- Landuse plan
  - Principles for the development of building byelaws and zoning regulations
  - Institutional arrangements for the development and implementation of the structure plan and the subsequent O&M of the town and its various functions
  - Identification of projects related to:
    - Water, sewage, drainage, solid waste
    - Mitigation of environmental, social and economic repercussions of development
    - Tourism and the linkages with Nagar Town
    - Traffic management and transport
    - Culture, entertainment and recreation
    - Conservation, rehabilitation and reuse of built-heritage
    - Promotion of local commerce and trade

These items will be supported with maps, plans and photographs.

## **1.2 Structure Plan for Kasbo Village:**

- 1.2.1 Preparation/acquiring of a digitised map of the village and the development of an existing landuse plan
- 1.2.2 The history of Kasbo, its castes and clans, folklore and tangible and intangible heritage (supported with photographs)
- 1.2.3 The evolution of the village and its current dynamics of growth
- Actors and factors in the current growth paradigm and the existing formal and informal governance system
  - Trends and directions
  - Land ownership patterns and land values
  - Environmental, social, physical and economic repercussions of the dynamics of growth

The above will be supported by maps and photographs.

- 1.2.4 Physical and social infrastructure requirements of the village by 2020 and their preferred locations (supported by maps, plans and photographs)
- 1.2.5 Identification of places of tourist interest in the village

- Describing them and mapping their locations
- Creating a link between them through an identification of pathways
- Identifying resting places along the pathways
- Identification of an area for receiving tourists and the facilities that will be required with it
- The nature of architecture for the receiving and resting facilities
- Locations of ecologically sensitive and scenic areas

The above will be supported by maps, plans and photographs.

- 1.2.6 The development of no intervention, muddling through and intervention scenarios for the village.
- 1.2.7 A participatory analysis of all the above items through the holding of workshops between the different stakeholders
- 1.2.8 Development of a structure plan for the village incorporating the above along with the institutional arrangements required to implement and subsequently manage the O&M of the village. This will consist to text, plans, overlays and photographs.
- 1.2.9 Identification of projects to achieve the results of the structure plan.

**Visits by Hasan & Polak to Nagarparkar Taluka for Information  
Gathering and Mapping**

SR. No.	Date	Visitors
1.	August 17-20, 2008	1. Arch. Arif Hasan 2. Arch. Aqsa Mumtaz
2.		1. Arch. Arif Hasan 2. Arch./Planner Christophe Polak 3. Arch. Furqan Khan
3.	December 13-14, 2008	1. Arch./Planner Christophe Polak 2. Arch. Tooba Bint-e-Tahir
4.	December 12-19, 2008	1. Arch. Furqan Khan 2. Arch. Aqsa Mumtaz with survey team consisting of: 1. Adnan Ahmed 2. Danish Hasan 3. Sadiqa Bashir 4. Nabia Kausar 5. Samiullah Khan
5.	January 03-07, 2009	1. Arch. Arif Hasan 2. Engr. Mansoor Raza

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(Tables in Excel Format)