CHAPTER III

SALT MAKING

IN GOA
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In order to understand salt production and the salt-makers of Goa, it is essential to have an understanding of the historical aspects related to this sector in the region. This includes the prominent place Goa's salt once commanded both in the local economy and among salt-exporting regions globally; the steady decline of the salt industry here together with the falling status of the salt-makers; and the factors responsible for such a decline. These themes will be discussed in this chapter.

To get a better understanding, what is also needed is an understanding of the various aspects of Goan society – geographical and historical facets too. This chapter will delve into such concerns. Empirical chapters dealt by the researcher later in this thesis, will be set in their context when these aspects, together with the prevalent nature of Old and the New Conquests are studied.

To reconstruct the past of any village requires a careful study of archaeological evidences, written records, as well as stories based on the oral history of that village. Dynasties and names of persons can confuse the researcher undertaking attempts to reconstruct history in chronological order, while not helping understand the bigger picture. In addition to written documents, one needs a careful study to understand contemporary society, the social and economic life of the people, their habits and uses, and their contacts with other regions. Systematic and skillful observation is required to understand the above facts (Rao 2003: 23).

Literature relating to the historical past of Goa is abundant, though much of this focuses on the period that is better documented, since the arrival of the Portuguese in the sixteenth century. Before the conquest of Goa by the Portuguese,
Goan society was subject to a long experience in political systems under the aegis of the ancient Mauryas, followed by the medieval Kadambas, the Hindu Vijaynagara empire, the Muslim kingdoms of Bahamani and Bijapur and the Maratha rulers (D'Souza 1975: 20).

The pattern of political system that emerged due to the interplay of several influences, ancient and medieval, Hindu and Muslim, on the eve of the Portuguese conquest of Goa was not characteristic of any particular type (D'Souza 1975: 20).

**Location of Goa**

Goa, currently the smallest state in the Indian Union, lies on the south west coast of India and its geographic position is 15-48' 00''N and 14-53’ 54” N latitude and 74-20” 13” E and 73-40’ 33” longitude. To the north lies Sawantwadi taluka of Ratnagiri district and the Kolhapur district, both of Maharashtra state. To the east and south lie Belgaum, Dharward and North Kanara districts of Karnataka state. Goa is bounded on the west by the Arabian Sea (Mascarenhas 1987: 53). See map

Goa is surrounded on the east, north–east and south-east by sub-mountainous region of the Sahayadri ranges, and by the Arabian Sea on the west (Rajendran(ed) 1971: 1). Goa is situated in the coastal belt known as the Konkan. This closeness to the coast is not incidental in the development of the traditional salt industry here. The salt industry in Goa first developed more than a thousand years ago. The area we today know as Goa in fact had virtually a complete monopoly over salt production in the region.

Out of the 29 states which currently form the Republic of India, Goa is amongst the smallest in terms of area. In comparison with the size and magnitude of India, Goa would certainly appear to be insignificant and not meriting any attention.
Yet, Goa has a special aura of its own and is already a major centre of national and international attraction. It has been a meeting point of different strands of history. Besides having a past which is untypical in the rest of South Asia, it is also one of the first and the longest-held European colonies in Asia. It comprises an area of 3702 square kilometers and is ensconced in the ecologically-sensitive hilly Western Ghats of India. The palm fringed coast is interrupted at places by the sparkling estuaries of the Mandovi, Zuari and a number of other small rivers (Bhandari 1999: 7). Today's coast of Goa extends over an area of 105 kilometers from Tiracol in the north to Galgibag in the south; and this coastline is conducive to this sector as salt is extracted from the freely available saline seawater.

In Goa, salt is produced in four talukas i.e. Pernem, Tisvadi, Bardez and Salcette taluka (see map). Of all the coastal talukas, it is not produced in Mormugao and Canacona sub-districts. All the villages that once had been known for their traditional salt pan production currently do not carry out the conventional salt-farming activity currently. (See map)

**Geographical Features of Goa**

Goa has an extensive riverine system, which drains major parts of its lands. The rivers are perennial in nature, and good sources of transportation. The topography of Goa shows an east-west tendency from the Western Ghats to the Arabian Sea and flows towards the west. The largest river, the Mandovi whose ancient name was the Gomati, is seventy seven kilometers long. Second largest among the rivers is the Zuari which is sixty three kilometers long. The River Terekhol and River Chapora drain the land of Goa on the north, and Rivers Zuari, Maina, Paroda, Dudhsagar, Kushavati,
Khandepar and Sanguem are present in the central part, and the Rivers Sal, Talpona and Galgibag in the south.

Goa's waterways have always been the main means of communication from the sea and also to inland settlements. These waterways developed fishing industries, transport and the systems of defensive forts (Rao 2003: 4).

This riverine system has been discussed here because of its relevance to the economics of both the fishing and the salt industry of Goa. Since the salt industry basically thrives on tidal influence which occurs twice a day in the estuarine rivers of Goa, and Goa has a lot of these estuarine rivers, a significant amount of salt production has been taking place here over centuries. Rivers such as the Ganga, Mahanadi, Godavari and Kaveri have no estuaries, but are delta rivers and as a result of which no salt production takes place there.

As noted earlier, in Goa, salt is produced in four talukas: Pernem, Bardez, Tisvadi and Salcette. These talukas or sub-districts are separated from each other by rivers descending from the Western Ghats. In Pernem, the saltpans are situated on the banks of the river Tiracol. Pernem has the river Chapora to the south. Saltpans in the taluka of Bardez are on the banks of the River Baga at Arpora. In Tiswadi taluka, the salt pans are located on the banks of the river Mandovi in Panaji, Ribandar, and Santa Cruz and on the banks of the Zuari River at Siridao, Curca and Batim. Salcette lies south of Tisvadi and is separated from this taluka by the river Zuari in the north and from its neighboring eastern and southern regions by the river Sal. (See map on rivers and distribution of Mitagars.)
Map No. 3.1
GOA: Rivers and Distribution of Mitagars
Original Settlers

Ancestors of the majority of the present Goan population, according to various beliefs and myths, originated around the 4th century from elsewhere in India (DeSouza 1979: 55-7). Multiple roots seem likely when we find that Goa has several diverse folklores, each spontaneous and distinct from the other, which vouch for more than one set of original settlers. They speak the same language but the intonation is sufficient to tell from where, and even from what social class, one comes. There is historical evidence that castes have an ancestry which may be based on ethnicity as much as functional (Mascarenhas 1987: 15).

The technique of salt extraction in Goa was discovered by primitive man from periodic notices of sea-salt formation on rock and cliffs and encrustations left by receding salt-water on land. The secret of salt making was monopolized by the ‘Shamans’ of the ancestors of Mithgauda community of Goa. Primitive salt works probably began in the late megalithic period in the South Konkan, Goa, Gokarna and Kumta. From these works salt trails were laid out to the ghat areas for marketing surplus salt. Halts on these trails became the salt-camps and later on nuclei of trading post (Mhamai 2000:11).

As the rest of India, Goa too has been a witness to the Aryans entry (or invasion) from the north and settling down in the region. There still exist some tribes who were the original settlers much before the Dravidians invaded and occupied the Konkan region. At a later part the Aryans descended into the Konkan area and Goa (Bhandari 1999: 135). It is not certain whether, or which of, the tribals were the original inhabitants of Goa (Saldanha1952: 3).

Goa went through a natural evolution with other tribes coming in, subjugating the locals and imposing their imprint. The Asuras came from Chota Nagpur region of
Madhya Pradesh in Central India. They brought their deities with them. The Asura tribes were subsequently subdued by the Kol tribe who also brought their own deities and modified those of the Asuras. It was around 3,000 BC, soon after the Kols, that the Mundaris and the Kharwas came to Goa from the same area as the Asuras. It was Kols who appear to have first introduced the fertility cult as a form of worship. Their main goddess was Ro-en (the ant-hill). This goddess was later termed Santer by the Aryans and is the origin of goddess Santeri who is still widely worshipped in Goa (Bhandari 1999: 22). The Mithgaudas of Agarvaddo worship the goddess Santeri till today.

Goa under Portuguese Rule

With the 451 years of Portuguese rule in parts of Goa, many locals were converted to Christianity. The Inquisition ensured that those who converted stayed within Christianity; but changing one's culture and lifestyles was not very easy. In spite of all these factors there were many rituals and practices associated with salt making which continue till date even in the Old Conquest areas with some modifications. This will be discussed in detail in the empirical chapters.

Goa is often perceived from the outside as being predominantly Christian. This impression probably comes about because of the area most often visited by tourists. But this perception is not accurate; and here the difference between the Old and the New Conquests comes into the story yet again.

At the end of the last century, out of Goa's population some 65% were Hindus belonging to diverse caste groups, 32% Catholics and 3% belong to other religious persuasion (Bhandari 1999: 145). Census of India 2001 says Goa has a population of 13, 47,668. Of these, the Hindus form the largest religious community, constituting
65.8 percent of the total population while Christians account for 26.7 per cent and Muslims 6.8 per cent of the total population. Other religious communities like the Sikhs, Jains, Buddhists, form the remaining part of the total population (Census Department, Panaji).

However, the Christians are concentrated in the Old Conquests and although even here they are still not a numerical majority, except in the sub-district of Salcette. Changing religious compositions in the Old Conquests have come about due to the migration of Hindus from outlying sub-districts into areas like Mormugao, Vasco, Bardez and Tiswadi. Salcette, with its Christian majority, is the only taluka where this position has been maintained. In contrast, in the New Conquests, some eighty five percent of the population is Hindu. These statistics are reflected in the character of the different areas (Hall 1995: 57).

Various factors in the history of Goa changed the status and economics of the once-prominent salt making occupation in Goa. The salt makers of Goa are spread both in the New as well as the Old Conquests. As mentioned earlier, in the introductory chapter, the characteristics of the salt makers differ in both these areas, so the proceeding section will focus on building an understanding of the two diverse areas of Goa.

Old Conquests, New Conquests

The present territory of Goa consists of two divisions, called the Old Conquests and the New Conquests that are a legacy of the different histories of the region. The Old Conquests form all the four talukas that were conquered by the Portuguese between 1510 and 1543 – the Goa Island and its outlying villages (called Ilhas, and now Tisvadi or Tiswadi), Salcette, Marmagoa and Bardez. The New
Conquests consists of the remaining seven talukas or sub-districts forming the north-eastern and south-eastern hinterland of Goa. They are Pernem, Bicholim, Sattari, Ponda, Sanguem, Quepem, and Canacona (D'Souza 1975: 18). The "Old Conquests" lies almost at the centre of the west coast of Goa. The three provinces (Salcette and Marmagao were a common province earlier, but now four (De Souza 1979: 51) (See map). Tisvadi, Bardez, Salcette and Mormugao talukas cover an area of less than seven hundred square kilometer (two hundred and seventy square miles), only one-fifth of the total area of modern Goa. The conquered themselves already had a long history and a well-founded culture of their own (Hall 1995: xii)

In the sixteenth century, Goa experienced a strong cultural transformation - a more violent, alien conversion of the Lusitanian brand of Christianity (Kamat 1999: 41). The conversions to Christianity in Goa saw three fairly distinct phases. The first when, on the one hand, pressures were exerted through destruction of temples, confiscation of properties and expulsions, as sanctified by edicts and laws, and on the other hand, through allurements given by way of jobs, lands and other benefits. The second phase was when the missionaries were able to break the resistance earlier sustained by the upper caste, particularly the Brahmins. They were the ones who had set an example to others in resisting conversion. Once this had been achieved, several others followed in hoards without the sense of being ashamed as to what their neighbors and associates would think of them. The third phase is when it was found that in spite of being converted to Christianity, the converts continued to adhere to the customs, practices and even rituals of their earlier religions. It marked the advent of Inquisition in Goa (Bhandari 1999: 62).
MAP NO. 3.2
GOA: Old and New Conquest

LEGEND

OLD CONQUEST
Tiswadi — 1510
Bardez — 1543
Salcete — 1543
Mormugao — 1543

NEW CONQUEST
Ponda — 1763
Sanguem — 1763
Quepem — 1763
Canacona — 1763
Pernem — 1788
Bicholim — 1788
Satari — 1788
One theory prevalent in the oral history of the area is that the Gauddis of Arpora might have got the salt pans as an allurement from the Portuguese. Incidentally, the customs and practices and the rituals of earlier practices among the Agris of Batim have continued till date.

Thus the island of Goa was under the Portuguese rule from 1510, Bardez, Salcette and Marmagoa from 1543 and parts of the hinterland New Conquests from as late as the eighteenth century. It was in this period that the Portuguese permanently annexed the talukas of Ponda, Bicholim, Sanguem, Quepem, Canacona, Sattari and Pernem (D’Souza 1975: 19).

Thus, the New Conquests were not added to Portuguese territory till more than two hundred and fifty years after the first invasion. Not only therefore they were subjected to Portuguese influence for a much shorter period of time compared with the four-and-a-half centuries of the Old Conquests, but, in addition, were acquired almost unintentionally and at a time when Portuguese administrative vigor and religious fanaticism were considerably diminished. As a result, these outlying areas were left relatively unaffected in religious terms by their new masters. Most of the people were Hindus and, together with a small number of Muslims, were put under little pressure to change their religion - a far cry from what happened during the early years of conquest. All of this, together with geographical differences, results in two areas contrasting in atmosphere to the extent that one can sense, quite distinctly, the crossing from one to the other (Hall 1995: xii, D’Souza1975: 19).

Whatever the original motives and methods, the historic encounter has resulted in something which, in time, proves to be not altogether deplorable: a mixture of cultures, like a mixture of races, leaving a beauty and richness that ‘pure ‘cultures’ and races lack. Today, when the Goan boasts of the uniqueness of his culture, it is just
to this mixed culture that he is, perhaps unconsciously, referring” (Menezes 1977: 11-32). The transition that occurred among the salt makers of the Old Conquest villages among the salt making community was different as compared to the New Conquest villages of Goa.

The researcher in her study selected three villages from Goa - two from the Old Conquests and one village from the New Conquests. The differences between these areas became evident. (See map).

The split between the coastal region and the hinterland closely, but not entirely, parallels the historical division of Goa into the Old Conquests and the New Conquests (Mascarenhas 1987: 59).

Salt in Goan History

Goa has been called a once glorious entrepot of the commerce between East and the West, a centre through which merchandise was imported and re-exported. But this dwindled into insignificance over time. Its export trade was limited to Bombay, the bulk of its cargo being coconuts' and salt, areca nuts, poultry and fruits (Pinto 1994: 219,220).

Celsa Pinto's (1996) study deals in a comprehensive adverse impact of the Anglo-Portuguese Treaty of 1878 on the Goan salt industry. She mentions the workings of the main elements of the Treaty of 1878, under which Custom barriers existing between the British and the Portuguese dominions were demolished, so as to smoothen the flow of goods across the frontiers. However, an exception was made in the case of articles like salt, opium, liquors, arms and ammunitions.

By another treaty concluded in 1880, the manufacture of salt in Portuguese India was placed under British control and supervision for a period of 12 years. The
British salt monopoly had severe consequences on Goan society, since the quota of salt assigned to a person annually was very low. Some people had no other option but to extract salt from the sea water and also from the silt of sea water inundated fields, which let to health problems. Such was the distressing state of affairs in every household in Goa. The salt monopoly came down heavily on the Goan economic system and even provoked widespread resentment and hostility in Goa, which even the British officials present in Goa could not turn a blind eye to (Pinto 1996:121).

In accordance with the stipulations of the treaty of 1878, Custom barriers existing between British and Portuguese dominions were got rid of, so as to smoothen the flow of goods across the frontiers. But salt was an exception – together with opium, liquors, arms and ammunition (Pinto 1996: 114).

Salt was one of the chief items of export of the Estado da India, as the Portuguese colonial state was called. In February 1808, Thomas Dineur, a long-time resident of the French territory of Mahe, requested the prominent trading house of the Mhamais in Goa to help Vithoba of the coastal vessel Laxmy to buy salt from Nerul. In June 1811, Dineur enquired whether the Mhamais were willing to enter into contract to supply four hundred cumbos [a local measure of the time] of Nerul salt at the rate of rupees twelve per combo before the year terminated and that the penalty for every maon short supplied would involve a deduction of rupees five. The payment would be made in three installments: the first at the time of signing the contract, the second when half of the delivery was made, and the last one when the entire order was executed. In February 1822, Suba Kamat dispatched 376-1/2 cumbos of salt to Allepey. In 1844, Goa’s salt exports totaled 59,579 candis and six maons while in 1849 they amounted to 74,284 candis (Pinto 1994: 220). These figures from history
give an indication of the importance of Goan salt to markets in diverse parts of the sub-continent.

According to local statistics, there were 658 salt extractors at Goa, 84 at Daman and 24 in Diu in 1850. Locally produced salt was extensively used in the fishing industry. On days when the catch was abundant, the fishermen found it impossible to dispose of all the fish. As the climatic conditions in India did not permit fish to remain for more than five hours without decaying, the surplus fish was salted and dried. A substantial quantity of salt was required to increase the fertility of the fields and palm groves. In Portuguese India, the cooking of rice and fish demanded the use of much salt. The actual average need of a person was a minimum of 32 lb annually (Pinto 1994: 219, 220).

Salt Monopoly

By a treaty concluded in 1880, the manufacture of salt in Portuguese India was placed under the control and supervision of the British government for a period of twelve years. On the expiry of the first three years, private manufacture was suppressed in all the salt works except those worked by the proprietors themselves under the British agents and those worked on behalf of the British government by the contractors and sub-lessees paid a price to the British government and sold on their own account (Pinto 1996:118).

Sub-lessees had to execute only the repairs of the salt work under their charge, while the contractors duly executed only the petty repairs. All extraordinary repairs of salt work under contractors were to be commissioned by the British agents. Fallow works were also kept in repair (pinto 1996:118).
The British Government not only monitored the production, but also the supply of salt in the Portuguese dominions. Economic historians like Pinto argue that the weaknesses of Portuguese colonialism of the later 19th century was revealed from its policy of accepting the Treaty of 1878, allowing British agents in their territory and "empowered them to suppress or cancel the working of a salt-work considered unnecessary or injurious to British interests, to enter and inspect places intended for the storage of salt, to search persons, animals etc., to seize any quantity of salt suspected of being smuggled, to arrest anyone engaged in smuggling activities and even to adopt legal proceedings and penalties in force in British India" (Pinto 1996: 118-120).

By capturing the monopoly of the manufacture and the sale of salt in the Estado da India, the British had taken a calculated step in the direction of safeguarding their interests. Salt was available in the Bombay Presidency and in the native state of Sawantwadi at the rate of two rupees and two annas per maund, inclusive of the tax and the ground rent; but in the nearby Portuguese territories the salt price was as low as one real per pound. Cheap salt from Portuguese India was very much sought after in the British territories and therefore the salt channel between the two dominions was quite active a lucrative source of income. Probably around three lakhs of maunds of salt were being clandestinely admitted into British India annually. This caused as annual loss of about six lakhs of rupees to the British exchequer (ibid 1996: 120).

**Consequences of the British Salt Monopoly**

The quota of 14 lbs of salt per person was far below subsistence levels in Portuguese Goa, where the cooking of rice and fish demanded using much salt – more
like 32 lbs. Faced with insufficient supply or highly-priced salt, some opted to extract salt from seawater or from silt of sea-water inundated fields. Others abstained from salt, facing health problems like anemia and other diseases.

The British salt monopoly had damaging consequences on the agrarian sector - the main stay of Goan economy - since quite some amount of salt was needed to increase fertility of fields and palm groves. British agents sold salt at prices too costly for farmers to use as manure. Rice production was seriously affected, so cheap rice was brought in from neighboring regions. Comunidades, landlords, fishermen suffered from this impact. Salt robberies were reported (Pinto 1996: 122-3).

Salt played a role in early Goan history too. A standing order (regimento) issued to the Salcette Customs in 1619 noted Maratha exchanges with copra, palm sugar, areca nuts and salt produced in Goa. When Shivaji established a salt monopoly in his lands and created salt depots at Manneri and Fatorpa in the vicinity of the Portuguese territory of Goa, it became difficult to find an outlet for the salt which was the main exchange commodity for Goan traders of the time. The Portuguese authorities began compelling the fisher folk of the Maratha territory who came to fish in the rivers of Chapora or Aldona to buy all the salt they required to salt the fish they caught (De Souza 1979: 42). Besides, Sambhaji's invasion in 1683 destroyed the palm-groves and paddy crops of Bardez and salt industry of Salcette (ibid : 43).

After demands came up from what was then the Portuguese territory, salt was allowed to be exported from Goa to the British India of pre-Independence times. It crossed Castle Rock, the railway station close to the border between Portuguese Goa and British India, where the duty on Goan salt was collected. Goan salt was in demand in Belgaum, Karwar and in adjoining Mysore and Nizam ruled areas. It came
into competition with Shiroda in Maharashtra salt in Belgaum and Sanikatta salt in Mysore.

Salt Industry in Goa

As seen above, Goa's salt production has long played a prominent role in the local economy. Salt production was a prosperous local industry in Portuguese India, particularly in Goa. Extracting salt from the saline sea water is today a traditional occupation of many descendants of the salt pan workers who, in the course of the last few centuries, have sustained this industry against all odds.

Nagvenkar (1999) says salt was an important traditional industry, and that Goa's salt production could have continued to play a significant role in the economy of this tiny territory, if certain steps had to be taken at the production, marketing and other fronts.

Among the obstacles that blocked the speedy growth of this industry, the outdated process of production of salt stands out as the most significant factor. Despite favorable natural conditions for the production for salt in Goa, the salt industry in this territory could not prosper on account of the primitive method of production which has survived till modern times with marginal changes incorporated (Nagvenkar 1999: 55, Lobo 1967: 22).

Nagvenkar's (1999) study deals with the Goa, Daman and Diu's balance of trade - the difference in the value of exports and imports of visible commodities only - which was during many points in its history, unfavorable. Exports' value was less than the value of imports. In this context, salt exports had played an important role on the export trade of Goa, Daman and Diu. During the economic blockade of the 1950s too, exports to the Indian Union were totally paralyzed, since trade with Portuguese-ruled
Goa was disallowed. After the year 1961, exports of salt totally stopped. The future of salt turned bleak. Since the main importer at that time was the Indian Union, salt could also not be considered as part of exports since Goa itself became a part of the Indian Union in 1961, and any sales of salt within the rest of India would be considered domestic sales. Besides this aspect though, the entire salt trade with India was in addition stopped. This was unfortunate more so given the fact that after the Independence and Partition, the Kherva mine was allocated to Pakistan, and what was indeed needed was a stepping up of salt production for India.

The salt makers of Goa

The technique of salt extraction in Goa was discovered by primitive man from periodic notices of sea—salt formation on rock and cliffs and encrustations left by receding salt-water on land. The secret of salt making was monopolized by the 'Shamans' of the ancestors of Mithgauda community of Goa. Primitive salt works probably began in the late megalithic period in the South Konkan, Goa, Gokarna and Kumta. From these works salt trails were laid out to the ghat areas for marketing surplus salt. Halts on these trails became the salt-camps and later on nuclei of trading post (Mhamai 2000:11).

The salt pans, salt manufacture and the salt industry are all a part and parcel of the reclaimed mangrove areas (Alvares 2002:158).

Salt making is a very ancient occupation for human society. Many in the coastal areas depend on salt making for their livelihood. The Mithgaudas, Gauddis and the Agris were traditionally engaged in salt-making in Goa. Salt making was an inherited occupation, it was mandatory that the descendants of salt makers would stick to the occupation of their ancestors.
The state of Goa entirely depends upon the natural salt, along the refined factory-based salts. Naturally extracted salt is prepared by different jatis in Goa. They are the Mithgaudas, Agris, Gauddis, Bhandaris and the Agers. There are also different castes among the Christians involved in salt making in Goa, such as the Gauddis in Bardez in the Old Conquests region. The Agris belong to the Shudra category whereas the Gauddi belong to the higher Varna hierarchy of the caste set-up.

Today, in many parts of Goa, there are communities of the descendents of the old salt pan workers. The salt they provided was of superior quality and large quantities would be exported by rail and country craft to the interior hinterland as well as to the coastal regions of India, and beyond the ocean i.e. to parts of Arabia and Africa (Nagvenkar 1999).

Salt Making Process in Goa

Being a traditional and labour-intensive industry, salt-making requires very few implements. The heat of the sun and the wind are the prime environmental factors that lead to the formation of salt. In Goa, conventional salt farming is carried out in man-made saltpans, on large, low-lying, khazan (riverine reclaimed) shallow land. These areas are located on the bank of estuaries, protected from the action of tides.

In the reservoir (also the heater or the Tapovanim) salt water gets heated and is left for heating in the brine. This heated water is then let in the pikechi agor or in the actual salt producing pans. The more the area kept for heating, the more is the salt produced. The ratio of the heating area to the salt-pan area is usually 70:30. Salt pans receive saline water from the nearest creek at high tides, via the flood gates or sluice gates. The bottom of this land is laid out perfectly even, and the soil is mostly clay like, and retains the water.
Fields used for salt farming are prepared during November or December, while the actual salt farming process takes place from January till the first showers of rain, sometime in the month of May or June.

The land is not used as saltpans for the rest of the year – as the salt process has to be suspended with the onset of monsoons. During this period, the salt-pan's get filled up with rain water and gets submerged or water-logged from the months of June to September. The water level is generally one or two meters above the soil, depending on the amount of rainfall received. Some of these saltpans are used for pisciculture of fish, mollusks and crustaceans. After the monsoon, in the month of October, the waters are drained (Fernandes 2006: 53).

**Various Stages in Salt Making**

- During the month of December, water is sucked out from the submerged fields (agor) with the help of a pump (bhom) which is hired every season at the cost of Rs. 2000 for 24 hours. During this period, a big pipe (mus) is inserted where the water is let in from the rivulet into the submerged fields. The pipe in the past was made out of a tree (maadi) but recently people have started using readymade cement pipes. The pipe is then blocked with a ghuddo made out of hay and clay like soil (thonn and chikol) for 4-8 days and the rivulet is opened. Even before this, however, the first and foremost task in the beginning of the salt activity is some repair of the bundh, then followed by digging or ploughing of the salt pans or Agor. Then the pans are leveled by stamping which is done with the help of “saalon” It is an instrument made of teak wood. It helps in leveling the salt pans and to collect the salt.
Then follows a process of putting in place the bundhs (*mero*). Two persons prepare them with the help of a *fhör* (*fhör marța*). The first stage wherein the bunds are being leveled and the bunds are formed. A third person does the *poshevop*, a work which involves the bunds being molded into a particular shape.

- The pans are levelled by stamping to make the bed flat and solid. The extra clay-like soil is removed with the help of the *fhör*, and the pans are levelled. This soil is beaten hard and smooth during the preparation of land for salt farming. The water in the reservoir (*tapovanim*), gets warmed in the sun’s rays, and begins to evaporate, causing the formation of brine or water saturated with salts.

- Now all is ready for saline water from the adjoining river to be let into the first bed (*caaw* or *caal*). Water is let in through one of the rows of three beds in the first two beds and each day in the *podshing* it gets heated up.

- After being let into the second bed (*podshing*) it is let through an opening from the second bed (*daaw*) to the third bed to a high level place (*antni*). The water is let through a (*paall*) which is a narrow passage in one corner of the salt pans. This passage is connected to the other salt pans. Through this, water is provided for each salt pan.

- It takes roughly about 22 days of some forceful stirring during which time the *chikol* (sandy clay/loam) in the salt bed is raked up. Meanwhile the natural process of evaporation goes on. As part of this, the teeth shaped tool (*daanto*) is used to mix the mud. The layer visible at the top is called the froth (*sai*) (see photo). After that, a slightly smaller tooth shaped tool (*nivddo*) is used to level the pan, which now consists of soft salt. (See photo)
At this stage of operations, some amount of salt which was stored in the hut (maangor or khop) is taken and sprinkled on the layer which looks like salt in the salt pans. (see photo). In some cases it is necessary to sprinkle two or three times.

All one has to do now is to let in water from the second bed into the third bed each day. Depending on the heat of the sun, the water from the third bed dries up by evening and white crystals of salt are ready for the picking. (See photo).

This layer of crystals is created by gently pulling a flat shovel (fhoem). (See photo).

Then the place is dried up and water has to be let in for four to five days so that salt hardens. Then it has to be turned rapidly with the fhoem (bhauri).

Salt crystals are collected with the help of a shovel and rinsed with the brine water and later, sometimes kept in a place at the intersection of four bunds, whereas in Agarvaddo it is kept on the centre of the bund. These newly formed crystals are kept till the next morning.

These crystals are left overnight to dry and the next day they are piled into the big heap just off the salt pans with the help of a “pattlo” or “pahllo” (a basket made of bamboo which is used to carry the salt from the salt pans.)

This place were the salt crystals are collected is called fhoear or as foyaa in Arpora. (See photo).

The crystals are left overnight to dry (Nistovpaak) and, the next day morning, they are piled into a big heap (raas) in the salt pans on the bund. This salt is carried in a bamboo basket (pahllo). Actually it takes roughly five hours for the formation of the salt.
The local salt is now ready for consumption. Throughout the entire process great care is taken to maintain cleanliness and nobody is allowed to step into the pans with footwear on. In the olden days, the salt was transported to the nearby villages by bullock carts and sometimes through the use of canoes (vhodien) but later it was transported with the help of the railways to the neighboring states.

In the salting pans, brine soon begins to deposit salt, in the form of crystalline crusts, which is either collected with special wooden rakes as soon as they form, or allowed to accumulate at the bottom, until they form masses of salt several inches in thickness. These masses are then broken up and piled as small mounds at the intersection of the pans.

This process is then followed by the purification of salt. The method used consists in simply washing the crude salt with concentrated brine, which removes impurities of salt. The crude salt thus obtained, is collected in bamboo baskets and dumped as heaps on the bundhs, in a process called uttorni kaddop. Finally, the extracted salt is transferred in the store house called the “Khop”. This is a store house made of palm leaves specially to store the salt, before it is sold to the people who come to buy in the saltpans or it is sold in the market. In Agarvaddo this store house is referred to as Maangar.

This salt extracted for the first few days at the start of the season contains impurities like sand and mud particles, and is therefore not used for consumption purpose. It is used as manure for coconut trees, for the preservation of dry fish or in chemical factories in the industrial estates.
Building the 'mers' (separating walls between salt pans). These are built to compartmentalise the large pans.

The pans must be levelled by stamping.

The petnem, used very frequently in Agarvaddo to smoothen the dividing walls ('mero') of the salt pans.

A water pump or 'ghudgo' made of bamboo and ropes that is used to remove the excess water from the salt pans. It is lifted by two persons, one on either side.

A plug made of hay or a cement-bag (ghuddo) is used to block a leak of water entering into the salt-pan. This is opened or closed depending on whether the tide is flowing in or out.

Stirring the salt pans. A teeth-shaped tool (daanto) is used to mix the marshy soil (chikol).
Old salt is sprinkled in the pan at the start of the season to promote the growth of new salt.

Layering of the crystals done with a long, flat 'sallan'. Every morning, the salt needs to be raked, and by evening, some amount of salt is ready for collection.

Water is let in and out of the pans at the right time.

Gathering salt crystals at Arpora.

The 'nivddo', used to remove the salt, after it is accumulated in the centre/intersection of the 'bund'.

Salt formed in the pans at Agarvaddo.
Salt... just harvested

The 'mangor'/khop/'bimutt grass' where the salt is stored after harvesting in Agarvaddo, Arpora and Batim respectively.

Salt being packed in sacks, prior to selling in Agarvaddo

Salt being transported to the other villages from Batim

Repairing the broken bund at Agarpoin

Tidal variations occur everyday within a limit of 56 minutes, the sea water can be let in/when the rocks are seen in the sea.
Photos show the salt-making activities in other parts of Goa (Santa Cruz, Talaulim, Mercers, Cavelossim, Nerul) and the rest of India (Mumbai and Maharashtra). Also seen in the photos are beaumameter, used to read the density of sea-water and its ability to make quality salt; and Deputy Salt Superintendent of India Mr. Pansurang Kamat

Salt is then graded as follows: (i) market grade, for sale for human consumption, used as food seasoning; (ii) preservative grade, a lesser impure salt used for salting of fish, on account of its tendency to keep them moist; (iii) fertilizer grade, for fruit-yielding trees, as coconuts, mango, jackfruit etc. (Fernandes 2006: 54).

Labour is an important factor of salt production. In the salt panning season, the work usually starts at the early stages, where the nature of work is more tedious in the month of December to February. The laborers have to put in a hard physical work during these months. But once the actual salt production takes place in the month of February, work is much lighter than the early stages from November to February where the work is more tedious.
The brine on the salt-pans is renewed daily, or every two days, depending on the rate of evaporation taking place; whilst the reservoir as well as basins are constantly supplied with fresh brine. The concentration of the brines ("mother liquors") in the salting tables is carefully watched, and their density never allowed to exceed a certain level, as otherwise a deposit of sulfate of magnesia (Epsom salt) would be formed, rendering the salt impure. In case this happens, then the mother liquors are allowed to flow out as a run-off, three or four times during the season (Fernandes 2006: 54).

In times past, bullock carts were used to transport salt to the neighboring villages and to the market. The seller was called as ‘Ghaddiakar’, or bullock-cart driver (see photo). At present salt is transported with the help of pickups. The local people buy it from the ‘agor’ whereas it is transported for sale in neighboring villages by a pickup, or even via a bullock-cart sometimes maintaining the earlier tradition. Throughout the entire process, great care is taken to maintain cleanliness and nobody is allowed to step into the pans with footwear on. If they do so, it is believed that their foot will get burnt because it is very hot; in their words “bakar kashi bazun eta” (roasts like a chapatti).

Salt farming that is carried in Goa is simple, traditional, and highly economical. Among all the salt pans the researcher visited, the last one she came across is one known as Adso Agor situated in Nerul in Bardez belonging to the landlord Govind Usno Bhobe from Nerul, a practicing lawyer. Due to the renovations and improvements that he has made in the salt pan, Advocate Bhobe says salt production and its quality have tremendously increased. He had converted the small pans into big ones by removing the muddy ridges (mero) existing between them. This he said (personal interview) was done to minimize the number of small pans. Lot of
time is wasted by the salt makers who go all around the pans in order together or collect the crystallized salt formed in the pan. He converted seven or eight smaller pans in a row into only two large pans and thereby not only increased the production but also saved time. He has systematically removed all the mud ridges (mero) existing between the tapovanim (the bed for accumulating the heating of the salt water) in order to make beds of water (tapovanim) and thereby he claimed that he increased the salt production by 15% to 20%. As a result, this innovative change has helped him to produce 500 tones of salt annually, according to the informant.

Salt produced in Agarvaddo is brownish grey and there is a clay loam, while the salt in Arpora is of reddish color with a muddy texture and from Batim has brownish black salt with the texture of clay loam. At present, the findings of the study indicate that there are no records maintained by any government authorities in Goa about then estimates of salt production or the present day salt production in Goa. Hence the contribution of the Goan salt industry cannot be ascertained with any measure of certainty.

**Goa Assembly debates (1964 onwards)**

To track possible discussions on this issue in the Legislative Assembly of Goa, the researcher went through the legislative debates covering the period of 1964 to 1987 (when Goa was part of the Union Territory with Daman and Diu) and from 1987 till date, covering the post-Statehood period.

On April 6, 1964 the member of the legislative assembly (MLA) from Diu said that technical guidance to the salt producers was needed to be given on the basis of cooperatives.
On March 20, 1964, the issue of financial assistance was discussed and salt came under item No. 63, wherein three units were given financial assistance.

Chief Minister Dayanand Bandodkar stressed in the question and answer(s) session of April 6, 1964 that in order to give technical guidance to the salt cooperatives in Diu, the Government of India had posted a Salt Inspector in Diu.

A resolution was proposed by M.L.A. Orlando Sequeira Lobo dated March 23, 1968 regarding the appointment of a committee of experts to study the problems of the salt producers with an aim to improve the salt industry and expanding the scope of employment in the union territory of Goa, Daman and Diu. Mr Sequeira Lobo said that if this was done at some or the other stage, the salt industry in Goa would have flourished.

His aim was to propose a resolution: To improve the quality of salt produced to boost export of salt to other states and to provide the necessary technical and financial assistance to salt producers. With regard to this issue, Speaker N.S. Fugro suggested that a government advisor be appointed for salt production. In the year 2008, M.L.A Mrs. Victoria Fernandes of Santa Cruz constituency - an area which includes salt pans too - argued in favour of assistance to the Mitagars, saying they should be protected and assisted and the damaged enbankments should be repaired. In 1988, the member of The Legislative Assembly Mrs. Victoria Fernandes organized a committee of the Traditional Salt Producers of Goa for the first time in Goan history and formed the All Goa Salt Producers Action Committee to highlight the problems faced by Traditional salt Industry involving more than ten thousand salt workers as a result of which the state government invited experts from Gujarat to prepare a report on Goa’s salt industry. There was also salt makers committee in Agarvaddo called as the Pernem Mith Utpadak Sangha for assistance of salt producers of Pernem.
the above, it would appear that the salt issue has figured only infrequently, and on a few occasions, in the Goa assembly.

Salt, an industry or part of agriculture in Goa?

Salt as considered by the salt makers of Goa is a part of agricultural operations. But the fact is that it is not. This is a delicate matter, as it could have implications for tenancy relations within existing salt-pans.

The question of importance is whether salt-pans would be covered under the Goa, Daman and Diu Agricultural Tenancy Act, 1964. This issue has been exhaustively, elaborately and finally settled by the Supreme Court of India by the Division Bench in the case of Dharangadhara Chemical Works Ltd V/S State of Saurashtra and others reported in AIR 1957 Supreme Court Page 264.

Salt pans do not come within the ambit of the provisions of Agricultural Tenancy Act as they are specifically excluded from the definition of agriculture, allied pursuits, Garden and land etc.

‘Agriculture’ has been defined as including horticulture and raising of food crops, grass or garden produce, but does not include allied pursuits. “Allied pursuits” has been defined as rearing or maintaining plough bulls, breeding of livestock, dairy farming and poultry farming etc. Garden has been defined as land used primarily for growing coconut trees, areca nut trees, cashew trees or mango trees and “Land” has been defined as land which is used for agriculture.

This issue is of much importance, especially because salt pans are surrounded on all sides by protective bunds and embankments. Besides, the salt pans are sometimes used for fish-cultivation during the monsoons, giving a direct practical relevance to this debate.
Doubts had been raised in many quarters whether the protective bunds and embankments all around the salt pans can be considered as agricultural land and the salt pans as a whole should be brought within the purview of Agricultural Land.

As observed, it is very important to note that protective bunds are integral part of salt pans without which salt pans cannot exist. Besides, area of bunds form a small part of land in proportion to the actual salt pan area under the extraction of salt. However, the full bench of Supreme Court in the judgment referred to above held that the salt makers are workmen and they come under Industrial Dispute Act, 1947 holding that the extraction from the salt pan is an industry and the salt extractors employed do the work in the industry.

The Supreme Court judges have further held that there exists a relationship between the employer and the employee; in the Employer there exist a right to supervise and control the work done by the servant (salt extractor). So, the Industrial Tribunal came to the conclusion that the Agris are not an Independent Contractor but Workmen and judges of the Supreme Court in the above judgment endorsed the decision of the Industrial Tribunal.

In one such case that came up in Goa, the landlord argued that salt was an industry while the tenant contended that it was part of agricultural operations. This case was in Batim. The matter reached the court in the year 1978 and a decision remained pending till 2001. After twenty years, the landlord won the case as per the Supreme Court judgment of 1957. Salt pans are not included in the agricultural land since they are manufacturing lands. In the fields, paddy is grown so the product is not converted but in the salt-pans the sea water gets converted from sea water to salt, hence it is included as manufacturing. Ironically, in spite of salt being an industry, the state of the salt industry has only worsened over time (AIR 1957 Supreme Court
Salt Pans and Salt Production Industry in Goa

The table below indicates the deteriorating condition of salt pans and salt production in Goa. This is reflected both in terms of the shrinking number of villages actively producing salt and also the declining number of salt pans.

Table 3.1
The Deteriorating Conditions of Salt Industries situated in the Khazan Land Areas of Goa

<table>
<thead>
<tr>
<th>Year</th>
<th>Taluka</th>
<th>No. of Villages Producing Salt</th>
<th>No. of Salt Pans</th>
<th>Area Under Salt Pans</th>
<th>Total Production</th>
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<td>No. of Salt Pans</td>
<td>Area Under Salt Pans</td>
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<td>35</td>
<td>55</td>
<td>3000</td>
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</tbody>
</table>

**Note:** The figures for area are in hectares and for production in metric tons. Production figures are reasonable estimates only on the basis of production technique, season and salt content of feed water.

**Source:** Unpublished research data of Nandakumar Kamat on the Economics and cultural history of Salt Industry of Goa, Konkan and North Kanara.

In Goa the salt industry is suffering from a situation of long neglect. This is evident from the fact that there has been a consistent and overall decline in the salt pans in all areas of Goa leading to a further decline in the salt production and salt makers of Goa respectively. Telaulim in Salcette was the highest salt producing village in Goa; however all the salt pans in this village have become defunct. At present Batim village is the highest salt producing village in Goa. In Agarvaddo more than sixty families of Agarvaddo derive their livelihood from Salt-production. (http://www.peacefulsociety.org/env/salt.htm). But now out of the twelve saltpans in
the village only four are presently used for salt production and four are practically damaged.

There are many factors for the decline of the salt pans in Goa. Main factors are due to lack of availability of labour, destruction of outer protective embankment and sluice gates (manos), salt pans used for pisciculture, tourism, decline in the salinity of the water in the area- as a result, there is no yield of salt etc.

Survey maps of the salt producing villages of Goa also depict this decline of salt producing areas. The Land Survey Department had updated these village maps from the year 1967 to 1974. Different village was updated in different year. These village maps were prepared by the researcher with the help of talathis, sarpanchas, and secretaries of the village panchayats.

Salt makers of Goa who are into salt making and those that have left the business of the occupation of salt making were also consulted. In some cases like the Santa Cruz and Merces villages the salt pan area was deleted from the village panchayat area records and was included in the ODP (outline development plan). Some influential members of the village had also to be contacted with regard to the mapping. The succeeding chapters will consist of write ups of each of the three salt-making villages covered according to the scheme of research study described in the introductory chapter.

In the chapter on Batim, there will be a separate section on the migrant workers from Karnataka, who form part of this study. Where the village consists of different religious groups with substantial differences in social life, these will be highlighted separately. The process of salt making is almost the same in all the three villages studied, and so this aspect of salt making process will be taken up in the common chapter which will be dealt with after the three.
Map No.3.4
ARAMBOL: Salt Pans

LEGEND

- Non functional salt pans
- There are currently no functional salt pans in this village

Scale: 1:6000
Map No. 3.5
CORGAO: Salt Pans

LEGEND

- FUNCTIONAL SALT PANS
- THERE ARE CURRENTLY NO NON FUNCTIONAL SALT PANS IN THIS VILLAGE

SCALE: 1:5000
LEGEND

1=1 NON FUNCTIONAL SALT PANS
=I THERE ARE CURRENTLY NO FUNCTIONAL SALT PANS IN THIS VILLAGE
Map No. 3.11
MARRA: SaltPans

Legend:
- NON FUNCTIONAL SALT PANS
- THERE ARE CURRENTLY NO FUNCTIONAL SALT PANS IN THIS VILLAGE

Scale: 1:5000

OXEL

S. No. 27
S. No. 28
S. No. 29
S. No. 30

KEY MAP
LEGEND

- FUNCTIONAL SALT PANS
- THERE ARE CURRENTLY NO NON FUNCTIONAL SALT PANS IN THIS VILLAGE

BAMBOLIM

Scale: 6000

Map No. 3.14
CURCA: Salt Pans
LEGEND

- NON FUNCTIONAL SALT PANS
- THERE ARE CURRENTLY NO FUNCTIONAL SALT PANS IN THIS VILLAGE

Map No. 3.19
AMBELIM: Salt Pans

Assolna

S. No. 146

Velim

Scale: 1:3000

Key Map
THERE ARE CURRENTLY NO FUNCTIONAL SALT PANS IN THIS VILLAGE
THERE ARE CURRENTLY NO FUNCTIONAL SALT PANS IN THIS VILLAGE