

# *Topography - Village of Arossim, Goa*

(An Example of Ancient Wisdom in Land Development)

- **Themistocles D'Silva** -

**Village Name:** Attributed to a regional chieftain - Arassu

**Coordinates:** Longitude – 73.903<sup>0</sup> E; Latitude – 15.337<sup>0</sup> N

**Adjacent Villages:** To the north – Cansaulim; to the south – Utorda;  
to the east – Verna, and to the west - the Arabian Sea.

**Total Area:** 340 hectares. About half of which are low-lying rice-growing areas.

**Habitable Area** – 15 to 20 meters above sea level. (Federal Law prohibits coastal development within 200 m. from high tide line.)

**Population:** Approximately 1720 eligible voters. Males: 808; Females: 913.  
(2011 Census). Total population is estimated to be about 3500 to 4000, living in 426 homesteads.

## **Physical Features of the Land.**

In the Land Survey Map (fig.2), the low-lying rice growing areas are shown in green. River Sal and the many ponds are seen in blue. It is also noteworthy that River Sal has its origins by the conjunction of the tributaries near Arossim. This is also clearly seen in fig.2. Its significance will be discussed later.

The habitable area is located on higher grounds in the center of the village, the farming community occupying the eastern part – adjacent to the rice fields towards the river, and the fishermen along the coastal belt – both closer to their workplaces.

Two railway lines now cross the village. The earlier SWRly., built in 1888 passes through the populated center of the village and the Konkan Railway built in 1997 crosses through the *Comunidade* (community owned) fertile rice fields to the East. (Now SWR wants to build an adjacent parallel track against the will of the people.)

The properties belonging to the Chapel of St. Lawrence are shown in red and the location of the Chapel is indicated by a cross in fig.2.

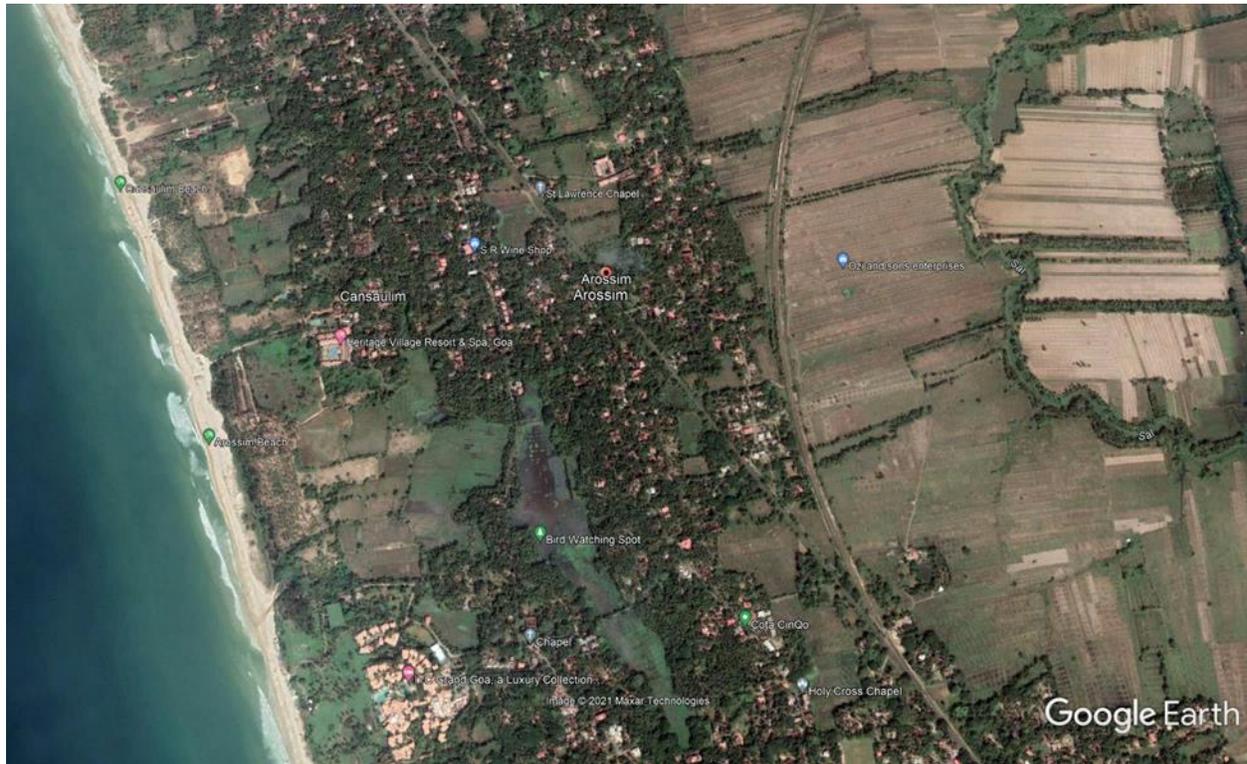


Fig.1. Satellite view of Arossim.

When viewed by air or from the ground, the topology of the villages along the coastal region of Goa is very similar. Sandy beaches are to the west, mountains, rivers to the east and in between green fields, dotted with ponds.

The village of Arossim, located approximately in the middle of the coastal belt, is considered to be typical of the terrain.

The planning and development of this strip of land for habitation and cultivation is considered an engineering a marvel of the first farmers-settlers. Such a large project undoubtedly required a large labor force under competent leadership.

## MAP OF AROSSIM

LOCATING CHAPEL PROPERTIES,  
RICE FIELDS, PONDS, STREAMS AND  
RIVER SAL

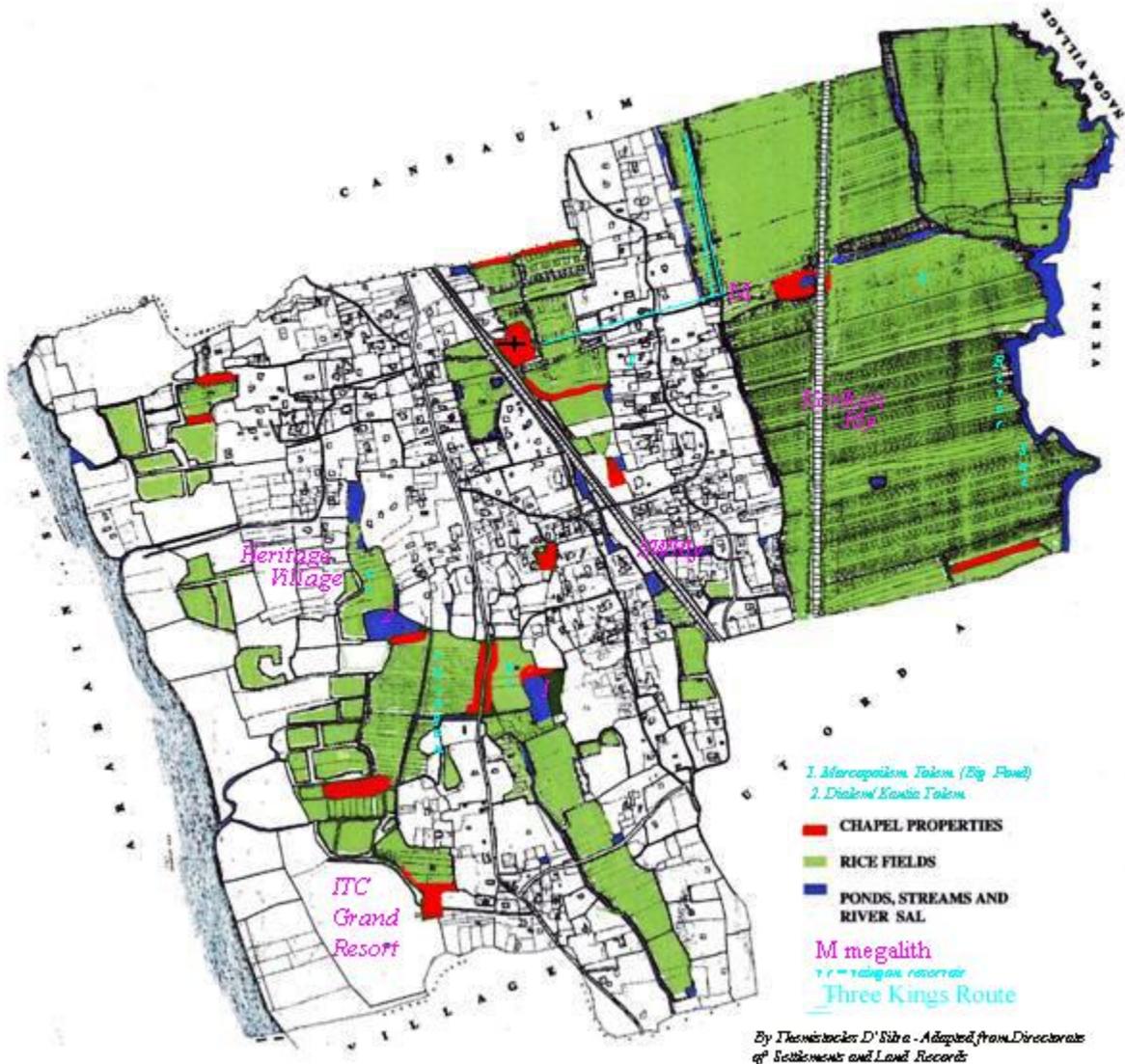


Fig.2. Physical Features Detailed.

The remarkable straight tracts of rice-fields of uniform dimensions – mostly rectangular – intercepted by parallel causeways or *bunds* lined with coconut trees, is a tribute to the genius of these post Neolithic early settlers. Besides serving as

barriers to control erosion, these *bunds* also served as pathways to travel within and between villages. Today, these ancient causeways have served as a base for paved roads. The photo shown below is a typical example.

The rice fields on either side of this *bund* show the engineering skills of the early land developers-cultivators. The green rice field seen in the above photo is the only one in the village where two crops of paddy can be harvested. The second crop (*vaingon*) is by irrigation.



Fig.3. A view of the *vaingon* rice fields seen from a *bund* in Arossim, which is now used as the main road connecting the coastal belt of South Goa.

This was achieved because the *bund* also served as a dam with a sluice. During the rainy season it collected and stored rain water that drained towards the big pond - *Marcopoilem tolem* (1), thus, creating a water reservoir that covered the entire

surrounding field. Presently, it is a bird watching favorite site.

At the NW corner of the *vaingon* is another pond - *Dian tolem* or *Kantia tolem*, (2), which also had a sluice.

These two ponds, shown in blue in the map, fig.2, are two of the major bodies of water in the village exclusively used for irrigation. In earlier times, *Dian tolem* or *Kantia tolem*, also served as water reservoir. The water was used to cultivate early rice seedlings (*thamb*) at this nursery, for hand transplantation elsewhere. Through lack of maintenance and neglect, the dam and the sluice are now in ruins – as seen in fig.4).



Fig. 4. *Kantia tolem* with broken sluice and in the process of eutrophication.

Interestingly, both the *bunds* that served as dams for the reservoir belong to the Chapel of St. Lawrence (shown in red).

The Chapel, founded in ca. 1599, initially described as a hermitage in the map of Old Conquests of 1610, is away from residential area surrounded by rice fields. Normally, the place of worship would be nearer to the households.

A closer inspection of the terrain in fig.2, indicates that the place of worship, perhaps a temple earlier, and still earlier a *maand* of the earliest settlers, aligns with the juncture of the tributaries (*Triveni Sangam*), marking the origin of River Sal. The confluence of three tributaries was and is a sacred site in India. Interestingly, the only megalith (M in pink fig.2) in Arossim is also aligned with the two sacred landmarks. This single standing stone, part of the dolmen now in ruins, may also have had a religious significance in antiquity. Respect for the stones has been observed every year by the tribal flagmen (an inherited right), leading the procession on the feast day of the Three Kings. (Note the route from the Chapel.)

The centrality of the *maand* /now a Chapel is also indicated by the many *bunds* that converge towards it from every direction. All the landmarks indicate that it was most likely a sacred place under open skies (without a roof or an idol), solely dedicated to conduct rituals and festivals; and for the elders to meet, deliberate, resolve quarrels and skirmishes and thus promote the common good. A practice still observed by the tribal communities in Goa.

The tranquility of this peaceful village is now shattered by two railways - SWR through the center of the village and the Konkan Railway through the fertile rice fields, with no easy access for the farming community to get to their fields.

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