“The house is more than just sheltering us from rain, sun, dust and other elemental affections, it shelters us from the world. The house is a private world dependable, unchanging, and a constant kindly refuge in the cultural world that were pleased to call civilization.”

Hassan Fathy
Since their arrival they proceeded to develop irrigated agricultural lands. Over the centuries, various groups of Mahas continued to arrive from the North and settle in the Island and Khartoum. Their dominance in Tuti began to decline following the growth of Khartoum and Omdurman in the 19th century, and Khartoum north early this century (Lobbon, 1980; Ibu Sin and Davis, 1991).

Ethnically, the population of the Island is very homogeneous, although Mahas is the dominant ethnic group, the Island accommodates some other minorities of non-Mahas origin. Other ethnic groups inhabiting the Island are from Western and Southern Sudan, for its geographical location and its relatively good provision of public and social services.

The Tutians major fear is the possibility of eviction from the Island. In 1944, the colonial administration considered setting up an agricultural research station on the Island, and planned to take 350 acres for this purpose. Although these plans were not carried out, the inhabitants still live with the fear that one day they may be forced to leave their Island.

Tuti is described as a rural settlement within an urban locality, a rural “eye”, but the provision of the public and social services are quite enough to classify Tuti as an urban locality. The Island is linked to Khartoum city and Khartoum north by ferry transportation. The Island is 8 km sq; it developed its shape as a result of the river bank erosion due to the fast flow of the Blue Nile, that turned the Eastern part from a convex to a concave shape (Ibrahim and AL Burea, 1991). It has been formed as a result of the deposition of silt that has been taking place through the history of the Nile. The natural rate of growth was very slow compared to the modern deposition rates which is enhanced by human activities, for instance, the transformation of the beaches to agricultural lands and the clear-follow to a residential areas. The Island was accreted to Khartoum North and people used to cross on foot in the dry seasons. During that period the silt accumulation continued below the confluence which impeded the normal flow of water. The Island increased in its overall area by 30% due to the changes in the water flow. The aggressive attack of the Blue Nile encouraged the separation and widening between the Island and Khartoum North, while there is a great deposition on the West side of the Island. That will encourage the theory of the emerging of Tuti Island and Khartoum city in the coming 3-4 decades.

The surface of the Island is flat with a gentle slope that runs from the North west towards the South east of the Island. Tuti fluctuates in height ranging from 75.6 ft. to 78.7 ft. (Izzadin, Tuti’s settlement problems, 1975). The center of the Island where the houses rest is elevated, and surrounded by low flood plain. Tutians tried to solve that problem by elevating their walls and entrances about 1.00 m high to prevent the water from penetrating into the houses, fig (2).

Most of the land on the Island is agricultural and is a source of supply of fruits and vegetables for Khartoum city, although most of the lands were transformed to residential areas due to the fortuitous growth of population.
The profile of the Island

Tuti follows the usual features of an Arab urban settings of low, horizontal and extended buildings.

Tuti village is divided into two parts:

**The old village**: which represents the core of the Island, is characterized by its crowded and compacted houses, which is the main reason behind the absence of greenery in that specific area. The tremendous need for housing was due to the high growth of population. Most were eager to reside near and around the mosque, which was the first building in that area. This was probably one of the main reasons for the crowded nature of the area. The houses are arranged in a clustered form but in a indigenous shape. This concentration of houses generated narrow and tight roads, ranging from 2.00 to 3.50 m wide, and 5.00 to 6.00 m wide, leading to the mosque. The majority of houses in the old village part are one storey, some are build of mud walls others are from red brick or mud mixed with dried grass. The roofs are mostly made of animal dung mixed with mud, others are made of steel and brick (jack arch). The walls in some houses are plastered internally and externally, others maintained the original texture of the material used.

The main characteristic of the houses is the courtyard that is surrounded by scattered rooms, some have a semi-covered courtyard which is called the verandah.

The village suffers from the absence of open spaces, and the roads are shaded by the high walls which are 2.00 m high, emphasizing the concept of privacy that is essential in Islam. Each house has one to two doors that lead to two different spaces for men and women.

**Around the old village**: This area is less crowded and accommodates wider roads. Most houses are modernly build, two to three stories, constructed of brick and concrete, finished with plaster and ceramic tiles, and painted internally and sometimes externally. These houses areas ranges from 400.00 to 600.00 m sq.

The walls maintain the same height and it my embody one door. The courtyard concept is maintained, although it has changed in shape according to the change in house design, where the scattered rooms have been gathered within one block. The roof of these houses is used as a sleeping area to take the advantage of the cool breathe. For this reason the parapets are usually elevated up to 1.50 m to prevent overlooking the neighbors especially if the surrounding houses are one story. The houses in this area are less congested and scattered more widely towards South and Southeast.

Tuti has always faced an internal and external transportation constraints, due to the fact that externally it is totally separated from the three cities, Khartoum, Khartoum North and Omdurman. The only link between Khartoum and Tuti is the ferry which travels regularly between both. The functioning of the ferry is usually influenced either by the changes in the Nile flood situation or by frequent mechanical breakdowns. This makes life inconvenient for commuters and supplies run short. As a result there were a strong arguments in favor of a bridge. On the other hand a bridge would make it virtually impossible for the Island to retain its distinct character as it would immediately be drawn into the daily life of the capital.

Most of the inhabitants own cars that are parked in Khartoum city because the internal roads of the Island are too tight and narrow to handle volume of traffic. Tutians find it easier to walk all around the Island, for example, distances range from 2-4 km from the edge of the Island, where the ferry dock, to the center of the village. Some estimate the distance from the center to the farthest point in the Island to be about 4 to 5 km.

The build up area ( the houses) expand Southwards and Eastwards on the sandy areas away from the congestion, therefore, with more open and wide spaces. Most of the residential areas are surrounded by agricultural lands which decreased with the encroachment of residential areas. This caused difficulties in draining rain water concentrated in the center.
The only connection between the edge of the Island and the center is through an unpaved road, while minor roads radiate to connect the main road to the other parts of the Island. The inner roads range in width from 2.00 to 5.00 m according to their location. The wider roads lead to the mosque, while the narrower ones connect the village together, acting as a net work. The periphery roads are wider and open; all roads are unpaved.

Social changes: Although Tutians can be considered to be “conservative” i.e. they wish to maintain their distinctness, yet considerable changes have taken place over the past 30 years. The Island has increased by 75% which is less than the overall rate of 86% increase in rural areas in the capital region. The Islanders are welcoming more new inhabitants from different places.

Materials: The materials used are burned brick, the production of which is the other source of income for the Islanders. The rapid growth of the village sustained a good demand for brick. Although in few areas the brick kilns compete with the agricultural lands.