

PRABODHINI- A RESIDENTIAL SCHOOL FOR TRIBALS

By

TANVEEZ MAKRANI

A REPORT

Submitted in partial fulfillment of the requirements for the degree of
Bachelor of Architecture.



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Sign of the guide:

Name of the guide: Professor Zaki Momin

Sign of the Dean: _____

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Signature of the Student:

Name of the Student: Tanveez Makrani

Roll No:

Date: 7th October, 2017

Place: AIKTC, SoA, New Panvel.

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ABSTRACT

The main object of education is to bring up the children as sensitive beings. But this attitude is not widespread in our country as yet and this is because the education system is so wrongly designed and is not inclusive for all. Here with 'all' I mean the deprived sections of the society like the tribal communities that live in the close vicinity in the outskirts of our cities. The weaker sections of society are always neglected as the privileged get newer and newer opportunities at the cost of the children which belong to the various tribal communities.

Maharashtra is the only state that allocates budget for tribal development in proportion of its tribal population, which leaves no scope for shortfall; even though the state runs 555 ashram schools and aids 554 of them. The tribal ministry is often accused of malpractices and the ground reality of ashram schools makes one wonder where the money goes. In 2008, the Tata Institute for Social Sciences (TISS) had submitted a comprehensive report to the then ruling dispensation, which highlighted similar infrastructural fallacies to what TISS did to the government in August 2015.

Although a number of programmes are being undertaken by the government, there are drawbacks, due to a number of loopholes in the system. The government of Maharashtra has established Ashramshalas, residential school for the tribal kids. But these are not taken care of properly and are poorly maintained or neglected. These Ashramshalas provide education to many tribal kids unlike private schools which do not provide admission to every kid and whose infrastructure is cordoned off for outsiders. In spite of these having specially designated for the tribals, the children of the katkari tribe are often seen dropping out of schools.

The dropout rate for the katkari kids is high because of the social stigma surrounding them. The other tribal group consider them to be alcoholic and untouchable. This is because of their eating habit and the way of living. They eat rodents and the rodents have a special significance in their culture to the extent that majority of their festivals revolve around rodents. Another very important point is the seasonal migration of these tribes in search of employment. It is because of which the children have to move with their parents and are unable to attend school.

By mapping various schools in the tribal areas of Thane and Palghar district, this dissertation examines the various spaces required in such schools which have residential zones within for

the karkari kids, understanding the role/ need of the school in the particular context and conjecturing alternate uses of such spaces for income generation.

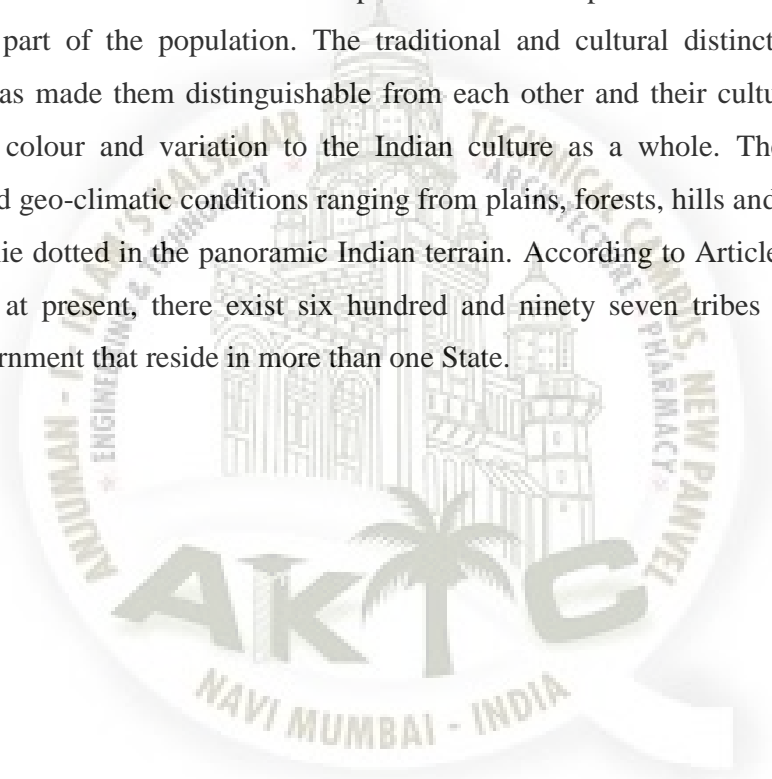
Taking the Ashramshala at Parali in consideration, which has about 700 children of the tribal communities living in the Wada taluka, which lacks basic infrastructure to accommodate all these kids, the dissertation attempts to redesign the school as a community hub so that it benefits a larger section of the community and the infrastructure provided is used to the fullest even after the six hours that the school is functional. The design dissertation thus concludes with proposing one such Ashramshala in the village of Parali in the Wada taluka of the Palghar district of Maharashtra for the upliftment of the karkari community.



2.1 INTRODUCTION

India is home to a number of indigenous people, who are still untouched by the lifestyle of the modern world. With more than 84.4 million, India has the largest population of the tribal people in the world. These tribal people also known as the *Adivasis* are the poorest in the country, that are still dependent on hunting, agriculture and fishing. Some of the major tribal groups in India include *Gonds, katkaris, Santhals, Khasis, Angamis, Bhils, Bhutias* and Great *Andamanese*.

The tribal population of India has played a significant role in constructing the cultural heritage of India. They occupy a major part of the history of India as they are considered the original inhabitants of the Indian sub-continent. Spread in different parts of the country, they form a considerable part of the population. The traditional and cultural distinction of each tribal community has made them distinguishable from each other and their cultural and traditional heritage add colour and variation to the Indian culture as a whole. They live in various ecological and geo-climatic conditions ranging from plains, forests, hills and inaccessible areas that perhaps lie dotted in the panoramic Indian terrain. According to Article 342 of the Indian Constitution, at present, there exist six hundred and ninety seven tribes as notified by the Central Government that reside in more than one State.



A. TRIBAL DEVELOPMENT AND GOVERNANCE ISSUES IN MAHARASHTRA:

Out of the total population of Maharashtra, 9.35% constitutes of the various tribal groups. This consists of 47 tribal communities those include three communities recognised by the government to be particularly vulnerable tribal groups. Considering all over India, the scheduled tribes in Maharashtra constitute the most deprived section of the population and in some indicators they are even placed below the all-India average for scheduled tribes. In a spatial context, it is the tribal districts and tribal talukas that majorly rank at the bottom in terms of various human development indicators. The disparity between the tribal and non-tribal population in the state is derived by the finding that in the undivided Thane district, 5 talukas were part of the top 15 ranked talukas in the state, while the adjoining 5 tribal talukas in the same district were part of the bottom 15 ranked talukas in the state (Government of Maharashtra, 2013). These statistics therefore, raise issues regarding the identification of structural lacunae in tribal development policies and administration, which are resulting in a continued state of deprivation for tribal people. The issues involved are hence extensive and various policy studies in the context of Maharashtra have sought to document the key aspects involved (Government of Maharashtra, 2013; TISS, 2015; Mutatkar, 2004).

A number of tribal communities - *Thakur, Mahadev Koli, Katkari, Warli, Kokna*, etc. live in Thane and Raigad District. Most tribal groups are socio-economically marginalised. Their livelihoods are totally dependent on agriculture and forests. Most of them are small farmers or landless labourers. A single rain-fed crop of cereals is unable to feed families for more than 6 months.

Forests are source of a wide range of uncultivated foods (vegetables, tubers/rhizomes, fish) for consumption as well as marketable Non-Timber Forest Products (NTFP)s like gum, *gunj* leaves, *gulvel*, *mahua* flowers, *tendu patta*, tubers, honey, wild fruits, etc. However, over the years, the availability of forest produce has declined considerably due to deforestation. This has had an adverse effect on the food security and livelihood of tribals.

There is no employment for the inhabitants of the region apart from felling trees for forest contractors or working as labourers in fields or on government jobs. Deforestation has resulted in decreased employment to those engaged in tree felling. In any case, tree felling benefits a minority of the population for a short period of time.

Cash is a scarce commodity and quite often the tribals do not have cash even for purchasing basic commodities like food grains. Unforeseen requirements or bigger problems like marriages, house construction or repairs, illness or death in the family, etc. are even more difficult to manage. The only alternative they have is to borrow cash from moneylenders at exorbitant interest rates. Tribals often find it difficult to repay the moneylender's loan.

In spite of its impact on social, economic, cultural and political life of an individual and family, the impact of seasonal migration has often been overlooked by concerned department, authorities and society at large. In recent years, there has been a significant increase in the rate of migration, which has adversely affected the lives of the tribes (especially the primitive tribes) in India.

These may be outlined as follows:

- a) More than 50% of the tribal population in Maharashtra lives outside the village and therefore are unable to benefit from many tribal development policies and programmes.
- b) The population and distance norms issued by the authorities are not applicable for certain tribal areas with geographical challenges.
- c) There is no awareness among the people of the tribal community about the various programmes and schemes intended for them, and even when aware, face great difficulties in getting benefits.
- d) The tribal development department is severely restricted owing to its lack of power, expertise and manpower.
- e) There is a lack of co-ordination and cooperation among the tribal development department and the sector departments.
- f) There is a problem of centralisation of powers in the administrative and financial structure of the department.
- g) Expenditures are the primary deciding factor in planning and therefore outcomes are not given importance. As a result, the process is often not linked to social indicators.
- h) The meetings held by The Tribes Advisory Council are not held regularly and the content of the meetings when held is unproductive.
- i) The above issues indicate structural problems in tribal development policies and administration in Maharashtra. The Tribal Cell of the Governor's office in Maharashtra, have also been taken note of these issues which has been activated in recent years. Moreover, recent media reports of malnutrition related deaths of tribal children and deaths of tribal students in Ashram schools have brought the attention of authorities, leading to a personal intervention and suggested policy measures from the Governor of Maharashtra.

B. THE KATKARIS

Katkari, Kathkari or Kathodi is one of the three 'Primitive Tribal Groups' in Maharashtra along with *Madhia Gond* and *Kolam*. The name Katkari is reported to have been derived from their profession of making "*Kath*" or catechu from the Khair tree (*Acacia catechu*). Katkaris are known for their physical strength, endurance and hunting-gathering skills. Katkaris are socially and economically on the lowest rungs of the development ladder. Most of the families are caught up in a vicious cycle of poverty, indebtedness and bonded labour. All able-bodied men, women and children work as bonded labour on brick kilns in faraway places.

The entire Katkari tribe has, at one time or another, been experts in specific professions. For instance, the occupation of making Kath was a speciality of Katkaris. The number of Katkaris practising this trade gradually declined as the population of Khair trees went down and a ban was imposed on the felling of the tree (around 1968). The Katkaris then collectively became expert charcoal makers until the Government of Maharashtra banned the making of charcoal from wood (around 1985). It was at this point of time that the Katkaris turned towards brick making. Today the Katkaris are considered expert brick makers and the entire group is engaged in this profession.

Katkari are categorised among the most primitive scheduled tribes. They are among the 75 tribes identified as Primitive Tribal groups (PTGs) by the ministry of welfare (Kulkarni & Deshpande, 2011: 554). In fact, it has been categorised as one of the three primitive tribes of Maharashtra, the other two being *Kolams* and *Madia*. Katkaris are predominantly found in districts of Raigad, Thane, Pune, Nashik and Ratnagiri. (Robin, 2004:62).



Fig1.0 Temporary shelter

The Katkaris are known for their physical strength, endurance and hunting-gathering skills and are socially and economically on the lowest rungs of the development ladder. Most of the families are caught up in a vicious cycle of poverty, indebtedness and bonded labour. All able-bodied men, women and children work as bonded labour on brick kilns in faraway places. They continue to work as bonded labour and their exploitation by non-tribals is total and absolute. They have been converted into cheap and bonded labour force by their fellow human beings. They are cheated, exploited and made to work under sub-human conditions on the brick kilns. Sexual exploitation of Katkari women is common while men are often beaten up, and even killed and such 'accidental' deaths of Katkaris are never reported or investigated.

The life expectancy of Katkaris has reduced in recent years due to which the Katkaris, as a tribe, may be on their way out. To make matters worse, the custom of early marriage is still common amongst the Katkaris. Girls are married off at an age of 10-14 years; those who are not, remain to take care of their young siblings when the parents work at brick kilns. It can therefore be noted that educating the adults and the children of the tribe is a way to minimise the grief and help them at-least partially protect them and raise their standard of living.

Well over half of the Katkaris migrate out of their villages to work as contract labourers in Brick Kilns, Coal Making or Wood Cutting. Katkaris being a nomadic tribe historically have continued to deal with the poverty facing them by looking at newer opportunities of work and labour in and around their villages, neighbouring Talukas and Districts and at times out of state. Chapter 4 deals with the Migration and the challenges and opportunities it provides for Katkaris.

Migration has the most adverse effect on education of Katkari children. Schools in and around have limitations in meeting the educational needs of Katkari children therefore. According to 'Socio-Economic Issues Facing Katkaris' a report by Tata Institute of Social Sciences (TISS) in 2014, the present literacy rate amongst the Katkaris is lower than 40% reported for males and 18% for females aged 7 and above. On an average, only 5 men and 1 woman are literate in each of the Katkari hamlets of three talukas. Those who go to school manage to complete very few years of schooling. None of the schools are in the hamlets and are located in the upper caste localities [referred to as *gaav*]. Most villages (86 %) have school till the fourth grade. *Balwadi* and *Aanganwadi* located in non-tribal villages are open to Katkaris but many Katkari children do not attend these. The overwhelming absence of Katkaris in AshramShalas has always been a matter of concern. Emphases on Marathi language, lack of Katkari teachers,

Migration in search of work are the various factors that affect Katkari education. Residential Schools popularly known as AshramShalas appear to be the way out for Katkari Education. But of lately, Ashram schools have been in news for their terrible living conditions and death of tribal children.



2.1.1 BACKGROUND STUDY

The most backward tribe in India, Katkari is settled in Raigad and Thane districts of Maharashtra. This primitive forest tribe is commonly known as 'encroachers'. A majority of the people are labourers and firewood sellers and are experts in hunting and gathering. Stone crushing, tree felling and charcoal making are some of the other occupations. Today, most of the people are engaged in brick making. Many also work as bounded labourers, an institutionalised form of slavery that forces them to toil in brick works for extremely poor wages under sub-human conditions. Almost all the money earned is spent on alcohol and entertainment during whatever free time is available which proves their carelessness about their unsecured future. They follow the custom of child marriage. The katkaris eat all sorts of flesh, except the cow and the brown faced monkey. It is the only tribal group in Raigad-Thane region who eat rodents. They even celebrate festivals that involve rodents.

The people of the community do not have fixed and proper houses and hence get settled wherever they find a place to stay. They are extremely poor and live in unhygienic conditions. A majority of them are uneducated due to which they do not have any kind of support from the Government. Government has plenty of Schemes for such communities but due unavailability of documents like Ration Card, Caste Certificate, Below Poverty Line Certificate etc. they are isolated. There is no Birth & Death record with Government of the Katkari community. Whatever records are available are those that are obtained from the surveys done by various NGO'S. Many of the families of the community have never gone to schools from generations.

A. GEOGRAPHIC LOCATION OF KATKARIS

The primary research has focussed on two districts Maharashtra, namely and Raigad and Thane due to concentration of Katkari population in these Districts.

Table 1.0: Distribution of Katkari Population in Maharashtra

Sr.no	Name of the District	%age Population
1	Raigad	43.34
2	Thane	32.91
3	Ratnagiri	12.12
4	Pune	5.09
5	Nashik	2.55
6	Others	3.99
	Total	100.00

*Source Patnaik(2004)

Above disaggregated figures from Patnaik (2004) provides us a break up of the areas where most Katkaris reside. Katkaris are found mostly in the districts of Raigad, Thane, Ratnagiri, Pune, Nashik. Raigad and Thane together account for around 76% of Katkari population.

B. SOCIO-ECONOMIC AND DEVELOPMENT STATUS OF KATKARIS

The Katkari community is teetering on the brink of extinction. The people of the community live in abject poverty. They continue to work as bonded labour for their "*sheth*" (master). Their exploitation by non-tribals is total and absolute. The Katkari hamlets are situated at the periphery of the non-tribal villages. Partially their livelihoods depend on these non-tribal villages by selling their labour. Katkari hamlets are very often located on Dali land or forest land as forest villages. As a result, Katkari tribes are victimised by mother villages or forest department. The forest department does not permit to dig wells under development schemes of the government. The dominant groups of Gram Panchayat create hindrance to get their housing entitlements (Indira Awas Yojana). Their generations old settlements are claimed either by the forest department or powerful groups of the village. Katkaris hence always live under psychological pressure and fear. The issue of land ownership in Katkari settlements needs to be addressed on a priority basis.

They have been converted into a cheap and bonded labour force by their fellow human beings. The police department harasses them at will and treats them like a "criminal tribe". While the Indian Government would deny the presence of slavery, the Katkaris are slaves and much more. All development programmes, Government or Non-Government, bypass the Katkaris.

The life expectancy of Katkaris has reduced in recent years and the Katkaris, as a tribe, may be on their way out, unless urgent efforts are made to reverse the trend. While animals, plants, insects and even microbes attract a lot of attention (and resources) for conservation and rehabilitation, nobody seems to be bothered about the unique and unusual Katkaris. An important observation regarding the different vocations followed by Katkaris is the fact that each profession has been 'owned' and 'controlled' by non-tribal outsiders. The Katkaris have always participated as "workers" and even "slaves".

Katkaris are cheated, exploited and made to work under sub-human conditions on the brick kilns. Sexual exploitation of Katkari women is common while men are often beaten up, and even killed and such "accidental" deaths of Katkaris are never reported or investigated. On the contrary, whenever Katkaris try to protest against the exploitation, brick kiln owners file cases of robbery and theft against the Katkari families in the police station. The Katkaris are then harassed by the Police and treated like a "criminal tribe". The treatment of Katkaris as a

"criminal tribe" and their harassment by police are major reasons for the continuing subjugation of Katkaris.

Families migrate to brick kilns for 6-7 months during the dry period, returning to their villages in the months of monsoon. Men, women, adolescent girls and small children work in the harsh conditions. Each Katkari family is allowed to build a small makeshift hut. The living conditions are squalid, to say the least. A Katkari family is deprived of a minimum of Rs. 450,000 of its rightful wages during its lifetime.

The Government does not make any efforts to ensure proper work and payment norms for Katkaris on brick kilns since the brick units are owned by the powerful builder lobby. The money earned on brick kilns is not enough to support families during monsoon. Katkaris are paid wages once in a week. The actual wages are Rs.160 per 1000 bricks, but the owners give a rate of Rs.160 per 1150 bricks, assuming 150 bad bricks per thousand.

Katkari men, women and children have a strong affinity for alcohol. Katkaris spend whatever money they have earned on alcohol and on watching Hindi movies. These are the two major obsessions of Katkaris. It is estimated that a Katkari family spends between 60-70 % of its income on alcohol and entertainment. Barely 30% is spent on food. Alcoholism is taking a heavy toll of the Katkaris; as a result, one can already see a weak and wasting lot of Katkaris in the villages. The life expectancy of Katkaris has declined in recent years and the Katkaris. To make matters worse, the custom of early marriage is still common amongst the Katkaris. Girls marry at an age of 10-14 years. The Government of Maharashtra does not have any data on child mortality, deaths during pregnancy, etc. but these are common amongst Katkaris.

The distressed seasonal migration of Katkari families along with their children is deprived of access to education. The migrant children are assisted to enrol in schools nearby brick kiln find the syllabus unfriendly and pushing them to drop out. Even the Integrated Tribal Development Programme – ITDP bypasses the development of Katkaris. Interestingly, the large number of Katkari hamlets are not eligible to gain entitlements under ITDP as their hamlets are located either in forest land or Dali land hence they don't get the benefits of the Tribal Sub Plan (TSP).

Katkaris continue to reside in smaller hamlets. Most of these are close to but outside caste villages. The average number of households per hamlet is around 50 and the mode is 18. Buckles and Khdedkar (2013) study of Katkaris in Karjat, Sudhagad and Khalapur has similar findings and reports mode of 15 households per hamlet. Most hamlets fall under the 40 households per hamlet. The smallest hamlet had 4 households. Exceptionally some Katkari

hamlets had households more than 100. The small number of households makes the Katkari hamlets vulnerable to political dominance of numerically stronger social groups in the village. It particularly affects their access to civic amenities like water, education and health.

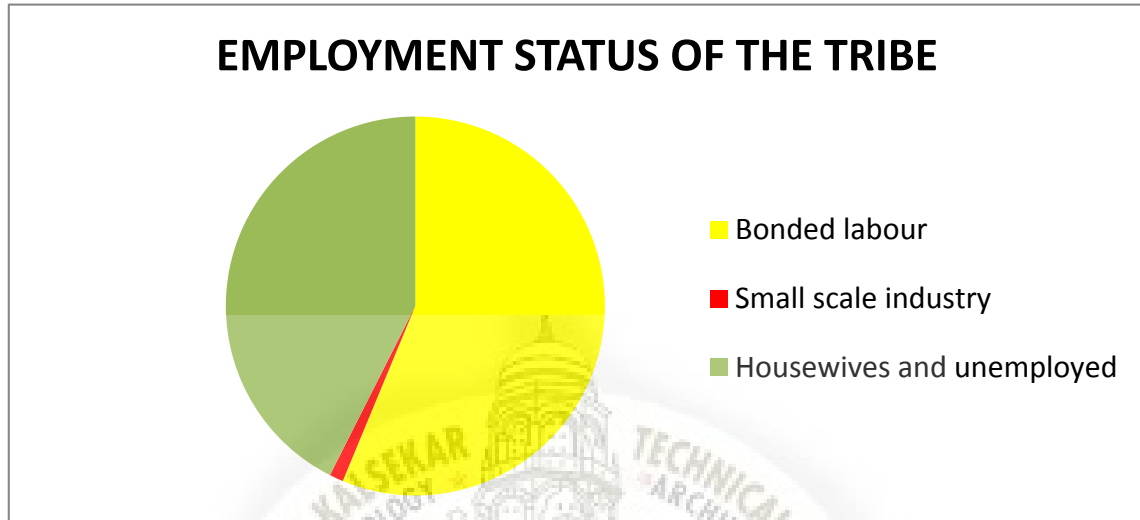


Table 1.1

The socio-economic characteristic of Katkari tribes in five hamlets shown in the table 1.1, the total population of these hamlets is 700. It is necessary to analyse the unskilled labour of Katkari tribes that would reveal their tendency to migrate for livelihoods.

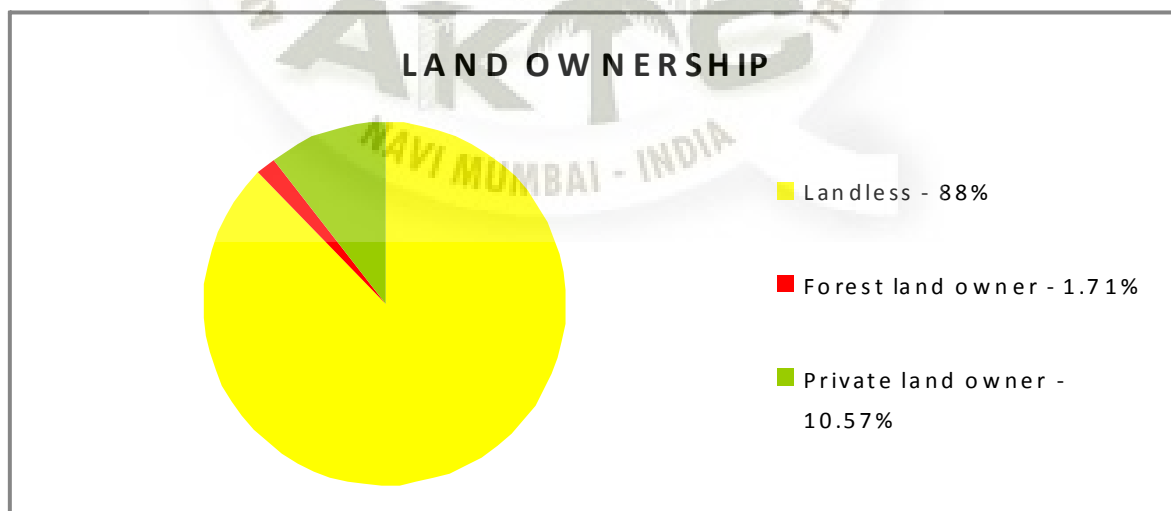


Table 1.2

C. SKILLS

Katkaris are experts in stone crushing, tree felling and charcoal making. Some of the families are known to migrate seasonally to distant regions for employment (and survival). A majority of the Katkari families are landless. Those who own land generally do not have any paddy fields. As a result Katkaris have not turned towards agriculture for their livelihood. However, some of them have been cultivating crops on forest land. Katkaris continue to be hunter-gatherers when they are not working as bonded labour on brick kilns. They have tremendous knowledge about uncultivated foods like fish, crabs, animals, birds, tubers/rhizomes, wild vegetables, fruits, nuts, etc. It is indeed amazing to see Katkari women drawing out crabs from their hole during summer months by rubbing two stones to imitate the sound of cloudbursts.

Katkaris are expert fishermen, swimmers, divers, archers and marksmen. They are famous for their strength, endurance and hunting-gathering skills. Katkaris are the only tribal group (in Raigad-Thane region) who eat rodents (they even have a religious festival pertaining to rodents). Katkaris not only catch rodents, they also track down the food grains stored by rodents in their burrows. Food grains collected from the burrows are an important source of nutrition during food deficit periods.

The loss of forests has had an adverse effect on the diets of Katkaris due to the diminished availability of uncultivated foods.

Fig 1.1 Katkaris working as bounded labourers



D. HEALTH

Masoom, a non-profit organisation undertook a survey in 2009 to study Child Mortality and Health Related Issues amongst Katkaris, Summary of Katkari Health Issues is follows:

- Of all the children born, one third died either as infants or in their early childhood.
- 121 women (87%) out of 139 lost one or more children while 55 women (40%) lost two or more while 19 women (14%) lost three or more children born to them.
- 41 women (30%) had one or more still births or pre-natal death (during delivery).
- Causes of death as reported were low birth weight, fever, pneumonia, measles /mumps, diarrhoea and a few cases of tetanus. If a child dies within first six days for unknown reason, 'satevi' is reported as the cause of death

There were a couple of shocking cases like:

- Out of the total 8 pregnancies, a woman had six abortions and only two surviving children.
- A woman lost her new born because she delivered while walking to the doctor and the new born fell on the ground.

Some other findings / observations were:

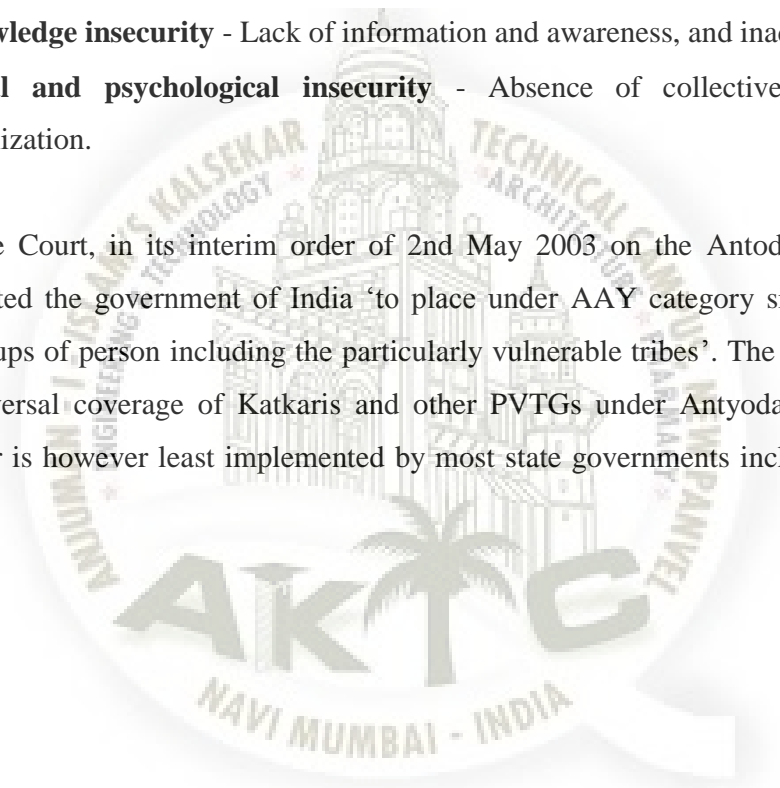
- Traditional birth attendants (TBAs or suins/dais in Marathi) handle majority of the deliveries without proper medical supervision.
- The TBAs / suins many a times cannot handle breech presentations or difficult deliveries as a result children die during delivery in such cases.
- During delivery, the umbilical cord is cut only after the placenta is expelled, resulting in pre-natal deaths due to delayed expulsion of placenta.
- The new-borns are not given colostrums, the breast-feeding starts after three days.
- The girls are married at an early age of 10 to 12 years and the couples start cohabiting from the day of engagement.
- Most abortions occur from early age pregnancies. Causes of abortion reported are lifting of heavy material at their place of work in brick kilns or construction sites, and fall due to slipping.
- The women start going for work on 5th day after delivery.
- The women do not eat any special (nutritious) food during pregnancy or in the postpartum period. On the contrary, they are given only rice with salt before and after delivery.
- The only meal that most Katkaris (including men, women and children) eat during the day is the evening meal that they cook after coming back from work.

E. INSECURITIES FACED BY KATKARIS IN PRESENT TIMES

In a study done by Milind Bokil, Activist and Scholar (at TISS Consultation) the katkaris face the following problems in current times

- **Tenure insecurity** - Lack of ownership rights (private as well as community) over land, water bodies and forests
- **Livelihood insecurity** - Loss of access and control over natural resources traditionally harnessed, coupled with a lack of alternate options (assured wage labour and employment)
- **Existential insecurity** - Threat of evictions and displacement
- **Knowledge insecurity** - Lack of information and awareness, and inadequate education
- **Social and psychological insecurity** - Absence of collective mobilization or unionization.

The Supreme Court, in its interim order of 2nd May 2003 on the Antodaya Anna Yojana (AAY) directed the government of India 'to place under AAY category six groups of most deprived groups of person including the particularly vulnerable tribes'. The interim order thus requires universal coverage of Katkaris and other PVTGs under Antyodaya. The Supreme Court's order is however least implemented by most state governments including the state of Maharashtra.



F. GOVERNMENT SCHEMES AND ITS IMPLEMENTATION

The government provides numerous programmes and schemes for tribal development, which are supposed to give priority to particularly vulnerable tribal groups. In this context, perceptions of the people regarding government programmes and schemes become important to understand. The katkaris however have not been able to take benefits of government public work programmes. Katkari households have reported access to the Maharashtra Employment Guarantee Scheme (EGS) only in stone-breaking activity and not in agriculture related work. This is due to the fact that they believe that the number of work-days available in the EGS is too little to address their livelihood concerns. Delays in receiving wage payments are also perceived as a drawback of work in the scheme, due to which people prefer to work for a private contractor.

Further the National Rural Employment Guarantee scheme popularly known as NREGS is also in operation in the area, but for the Katkari households this is not a dependable livelihood option yet because of their perception regarding the uncertainty of the timing and duration of works if provided at all and also their past experiences in delays in receiving payments, due to them not yet having a bank account. They do not have confidence in this scheme being better than their past experiences of working in public works programmes. The Katkaris believe all the government schemes are biased and are in favour of the landed households.

The Katkari were categorised as Antyodaya under the government's poverty classification. Study over a period of time, indicated that the Katkari people were disempowered in the local power structure and not represented in the local Gram Panchayat. The Katkari people believe that all the government schemes intended for them were diverted elsewhere and taken advantage of by people from other scheduled tribe ethnic groups, including those landowners for whom they were working as attached labourers.

There are no Anganwadi in the Katkari hamlets and are usually located in a nearby hamlet of another scheduled tribe ethnic group, inspite of that hamlet having lesser population. Some hamlets in the region which have mini- Anganwadis, however do not have adequate space of their own and its activities remain confined to distribution of occasional morning food supplements. Accessing these Anganwadi is also minimal. In the agricultural season, there tends to be low attendance of children, since parents are engaged in wage labour and there is no one to accompany children to the Anganwadi. Additionally, there is low attendance of after the agricultural season, due to seasonal migration of the parents with their children.

G. NON GOVERNMENTAL ORGANISATIONS WORKING FOR THE TRIBALS OF MAHARASHTRA:

1. Academy of Development Science (ADS):

Located in the Karjat Tribal Block (KTB) of Raigad District, Maharashtra State in collaboration with NGOs and individuals in Raigad and Thane District is striving to address basic survival issues facing the community. It has partnered with NGOs in Raigad and Thane and is keen on implementing a comprehensive development programme for the Katkari community in collaboration with NGOs from Raigad and Thane District. The other organisations in Thane district that work for the upliftment of the tribal communities of Maharashtra are

- 2. Van Niketan (Murbad Taluka)**
- 3. Shramik Mukti Sanghatna (Murbad, Shahpur Taluka)**
- 4. SOBTI (Sudhagad Pali Taluka)**
- 5. Adivasi Yuva Seva Sangh:** An NGO working to ensure tribal success
- 6. Durvankur Samajik Sanstha:** Training tribals in the field of health/nutrition, youth development, livelihood and commerce.
- 7. MAULI - Ek Shaikshnik Dhyas:** A social, educational institute providing education, social support and motivate tribal children to develop their inherent arts and sports.
- 8. Lions Club of Thane:** Serves the underprivileged section of society in health, eye care, education, child welfare, adivasi upliftment etc.
- 9. National Rural Research and Development Association (NARAD):** Rural development like forest & environment, children and Tribal education
- 10. Sangeeta Darvekar Charitable Trust:** Working to prevent dropouts of tribal students from school.
- 11. Shoshit Mukti Abhiyan Sanstha (SMAS):** Working for the Katkari Community by creating awareness their Rights & enrolling the children into School

EDUCATION AND LITERACY

The seasonal migration of families of the tribes leads to the Katkari children being bereft of access to education. People who manage to travel to varsities notice the course of study therefore tight and unfriendly that they drop out at an early stage. Government programmes for the upliftment of tribal communities like the Integrated Tribal Development Programme (ITDP) skip the Katkaris. Interestingly, a large number of Katkari hamlets are not eligible for support under ITDP since they are located outside the Tribal Sub Plan (TSP). Katkaris are forced to stay outside the TSP for the purpose of employment from non-tribal villages.

In 1997 the literacy amongst Katkaris was around 16% (TRTI 1997). The literacy rate amongst the Katkaris is found to be as low as 21% (Kurane 2009).

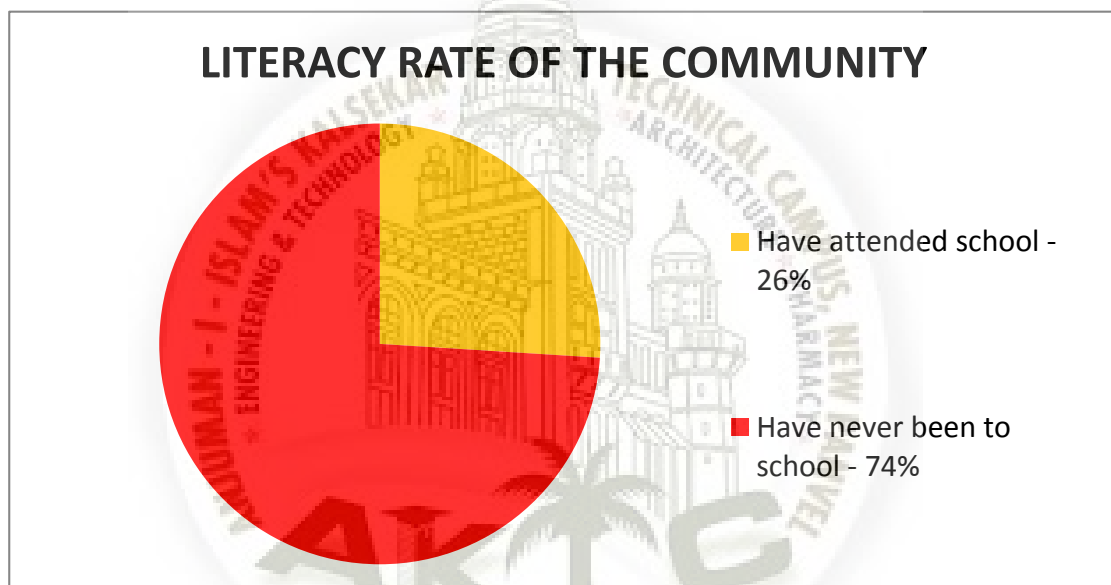


Table 1.3

Only 26% population have primary education and 74.7% in the Katkari have never been to a school. There is a trend in Katkari tribes living in joint families rather than nuclear families.

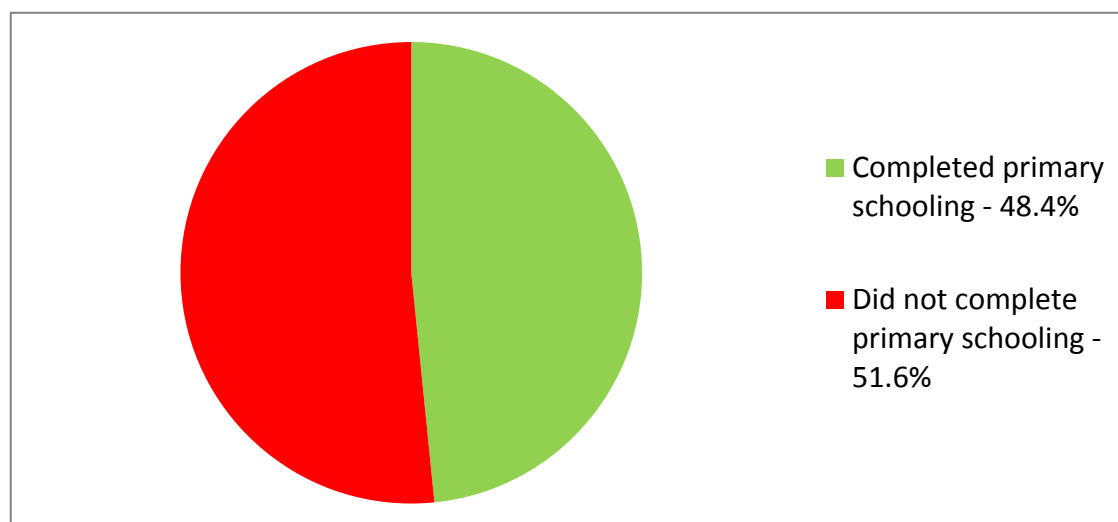


Table 1.4 - %age of children completing primary schooling

The present literacy rate amongst the Katkaris continues to be far lower than the 40 % literacy rate reported for males and 18 % for females aged seven and above. On an average, only five men and one woman are literate in each of the Katkari hamlets (Buckles and Khedekar 2013).

Findings of survey of 100 Katkari hamlets in Wada Taluka:

Table 1.5: POPULATION

Men	Women	Children	Total
2773	2865	4601	10239

Source: censusindia.gov.in

Table 1.6.1: LITERACY RATE - MALE

Age	No.	% age
6-14	512	5
15-18	276	2.69
18+	392	3.82
TOTAL	1180	11.52

Source: censusindia.gov.in

Table 1.6.2: LITERACY RATE - FEMALE

Age	No.	% age
6-14	299	2.92
15-18	90	0.87
18+	111	1.08
TOTAL	500	4.88

Source: censusindia.gov.in

The slow achievement of functional literacy amongst is a matter of concern; however what is further more serious is Katkaris exclusion from higher education. Those who go to school manage to complete very few years of schooling. This in many ways reflects the shortcomings of our school system to sustain the interest of Katkaris in education, particularly higher education. RTE (2009) is resulting in Katkari children being marked present in schools even if they are not attending. Katkari children moving onto to higher grades would not mean that they have achieved quality and satisfactory education.

The Rapid appraisal findings by TISS further unravel the problem of schooling for the Katkaris. Majority of these schools are not in the hamlets where they reside and are located in the upper caste localities (referred to as *gaav*). Further not many villages have school till higher grades. Most villages (86 %) have school till the fourth grade.

2.1.2 PROBLEM STATEMENT

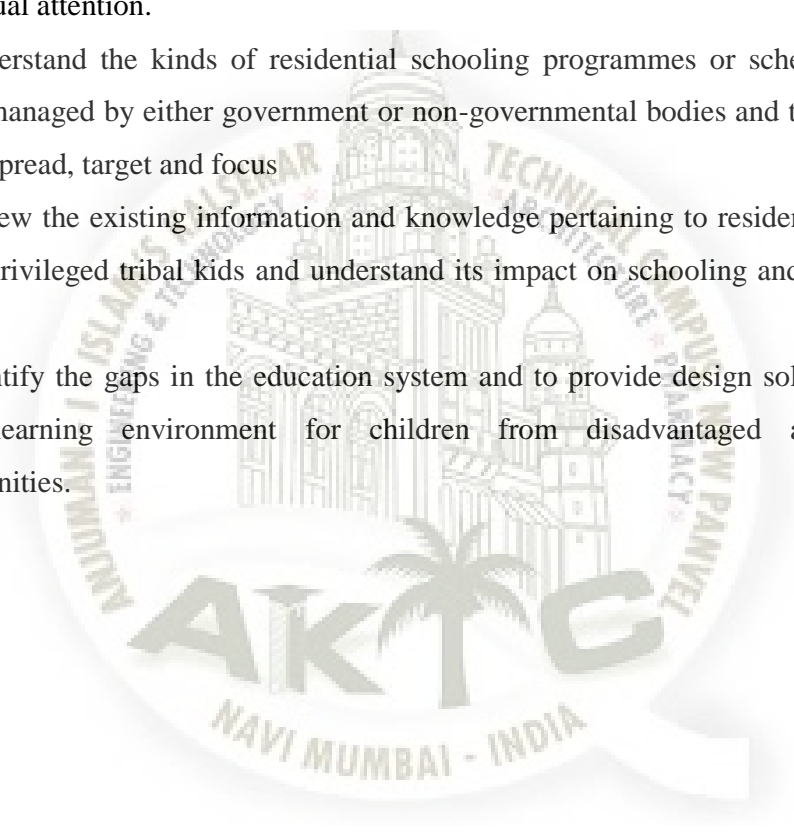
THE NEED FOR EDUCATION

As studied in table 1.3 and table 1.4, the highest level of education in a *Katkari* household is below middle school level in two-third of households. The gross enrolment ratio indicated that only about half of the children in the school-going age groups were actually attending school, with not a lot of difference between boys and girls in this regard. Qualitative data on perceptions concerning education ascertained that the *Katkari* were unable to relate education of their kids to their immediate survival issues. A group of daily wage labour also contributed towards a perception that education was of no use to them. A lack of any success story regarding completion of education and education as an instrument to uplift the quality of living, in a familiar cultural setting of *Katkari*, which adversely impacted their capacity to aspire, further discouraged them to send their children to school. Most of the *Katkari* kids attending school were doing thus in the *Zilla Parishad* (Z.P.) primary school within the hamlet, and not in *Ashram* schools, that are residential schools set up by the government for tribal kids. Qualitative data indicated that this could be a result of social discrimination from children belonging to other scheduled tribe ethnic groups resulting in a fall out in enrolling kids in *Ashram* schools.

Other constraints to education among the *Katkari* included affordability for daily wage labour for their children; school dropout or low school attendance due to seasonal migration of families; discrimination by children of other tribal groups; neighbourhood effect; and structural problems related to quality of education in the government primary school. The native farmers of other ethnic groups from surrounding villages are exclusively dependent on the *Katkari* for their labour requirements. Education and the upward mobility of the *Katkari* tribal group therefore is against the interest of such farmers, as they perceive it would lead to a shortage of labour and their loss.

2.1.3 OBJECTIVES

- Providing a basic learning centre and accommodation for the young kids of the Katkari tribe to encourage them to learn to tackle the discrimination they face in society.
- Uplifting the status of the Katkaris in the society through education.
- Enhancing the skills of the children which will enable them to sustain in society.
- Encouraging the tribal traditions like folk songs and dances so that the schools are not only learning places but also centres of cultural activities, to reduce the drop-out rate and to improve the retention capacity of the school.
- Providing close interaction between the teacher and the students through the increased individual attention.
- To understand the kinds of residential schooling programmes or schemes that exist in India, managed by either government or non-governmental bodies and to understand their reach, spread, target and focus
- To review the existing information and knowledge pertaining to residential schooling for under privileged tribal kids and understand its impact on schooling and empowerment in India
- To identify the gaps in the education system and to provide design solution to create an ideal learning environment for children from disadvantaged and marginalised communities.



2.1.4 METHODOLOGY OF CASE STUDIES

a. Mapping residential and non-residential schooling programmes for tribal kids

a mapping of all residential schemes and programmes, run by either government (central and state governments) or NGOs was done.

b. Comparative analysis of different schools visited

The comparative review looks at the dimensions like infrastructure, basic facilities available, planning and standard of living.

c. Interviews conducted

Interviews have been conducted of Teachers, Principals and a few with the children of the Katkari community. With the students, questions were asked about the difficulties they face while studying, the importance of education for Katkari children and their aspirations after getting educated. Points kept in view were basically, the important objectives that the various skills of girls of the Katkari should be promoted and how their personality should be developed on physical ground; Also, thoughts of training that can be being given to the uniquely talented students of the school through various activities like Training centres, Music training, Stitching classes, computer training, etc. apart from educating were emphasised by the teachers.

Tools used for site visits:

Different tools were developed for site visits and key informant interviews. These include:

(i) School profile: This tool was used to map infrastructure, teachers profile, students profile, living/dining/security arrangements and enrolment. Through the school profile, assessment of the adequacy, quality, suitability and use of space and infrastructure was conducted.

(ii) Principal's Interview: Questions relating to selection and training of teachers, interaction with parents, performance of students from different backgrounds, grievance redressal mechanisms (for teachers and students), special provisions for children with special needs, teaching learning materials and methods, assessments, expenditures on different heads, improvements in the students, governance, security and safety of students was examined through personal interview of the principal. The questionnaire also tried to capture the principals' perspective on residential schooling.

2.1.5 SCOPE

According to the Ministry of Tribal affairs, The Maharashtra government has set up 123 schools for the tribals in Thane district educating 25,544 boys and 17,038 girls. To uplift the socio-economic status of tribal children, the Central and State Governments have initiated several welfare programmes including the school education in remote tribal area in the country. The existing residential schools for tribal children are managed by the government, local body, private-aided and private un-aided organisations.

The residential schools, popularly known as 'Ashram Shalas' are particularly important to Katkari children due to its residential nature, on account of the large scale migration their parents undertake in search of employment. When parents migrate, most of the time they take children with them because there is no one in the home to take care of them. This leads to discontinuation of education and disinterest towards school among Katkari children. So if the children stay in the residential schools then there will be less chances of discontinuation from school. Consequently, the schools are expected to reduce the incidence of absenteeism, wastage and stagnation and improve the standard of education at primary level. Moreover, in the residential schools, the inmates are provided with facilities of boarding and lodging, which can function within highly structured and systematic framework in terms of timings of school and food, ensuring good health as well as effective use of time and skill of the children.

The scope of the site chosen is that, there already exist a residential school where around 700 kids of the katkari community study. The site is easily accessible to the kids from surrounding villages. Also, the school is government aided .i.e. the salary of teachers and food as well as other requirements of the children is partially fulfilled by the government. Apart from that, various NGO's fund for books as well as for fulfilling various infrastructural requirements if any.

2.1.6 LIMITATIONS

- The Katkaris live in extreme poverty and isolation. They are considered to be the lowest even among the scheduled caste and scheduled tribes, and are considered untouchables. Due to all these factors, creating an all-inclusive kind of environment inside the school and encouraging the members of the other tribe to interact with them is a limitation.
- Secondly, the most important and governing factor that runs an organisation is capital. Unlike, the other schools, the parents of the children are unable to fund their children's education, it becomes the sole responsibility of the management and the governing authorities to manage the school efficiently without much obstacles.
- **Limited Information and Information Asymmetry:** The information available is very poor or non-existent for residential schools for Scheduled Caste children, especially those run/supported by the state governments. This is directly related to the lack of education.
- **Limited Research:** Uneven information available for various programmes and initiatives has resulted into uneven treatment in the analysis.
- **Trends:** Despite substantial investments made in residential schools by various departments, there is no evidence of their performance and impact at macro-level being captured by researches. As a result, these have not coalesced to advocate or promote an accepted model or a range of accepted principles for residential schools. There is no ideal parameter to which one can look upto while designing an Ashramshala.

Despite these limitations, the available information definitely helps in tracing a trend and provides important pointers and proves to be a scope in the development of a residential school with adequate infrastructure that will enable the members of the katkari tribe lead a better way of life.

2.2 LITERATURE REVIEW

The Review Framework

Mapping and review of government schemes and programmes is based on the following framework. The desk review conducted initially informed the choice of criteria for identification of good as well as bad practices.

Table 1.7: Classification for analysing

Criterion	Indicators for the criteria
1. Reaching kids from marginalised sections	a. Representation (e.g. SC, ST, working children, girls married early, etc.)
2. Management	a. Basic infrastructure and opportunities for living, dining, bathing, studying, play/ sports and leisure b. Security and safety aspects c. Management practices in tandem with teaching learning approach
3. Curriculum/Teaching Learning	a. Emphasis on empowerment b. Methods used for teaching-learning and evaluation (classroom and outside classroom) c. Use of residential space for increasing the time and enhancing the variety in learning experiences
4. Cost effectiveness	The application of cost effective technique in design by using sustainability in designing.

As a review based study, it relies heavily on existing reports, documents and research studies on residential schools; particularly for the tribal community. The documents reviewed have been classified as follows:

a) Policy and Programme Documents:

Residential Schools as an access strategy for girls from marginalised communities has been part of programmes under the Department of Education. Besides, residential schools are also included in policies under the Department of Social Welfare, Department of Tribal Affairs and Department of Women and Child Development. Kasturba Gandhi Balika Vidyalayas (KGBV) and Ashramshalas are the two most important residential school programmes for tribal kids. KGBV in particular is important for its focus on empowerment. The documents pertaining to programmes run by NGOs are also studied.

b) Programmes:

Periodic Joint Review Missions (JRM) was introduced under large programmes like District Primary Education Programme (DPEP), as a 'review' or 'monitoring' mechanism. The tradition continued under 'Sarva Shiksha Abhiyan' (SSA), Government of India's flagship programme for universalisation of elementary education. These reports, have given an insight about different schemes.

c) Articles and Narratives: Wherever available and accessible, the articles based on a study of small sample or following the JRM mode, where authors base their observations on short visits to residential schools have been reviewed.

d) Research and Evaluation Studies: All research and evaluation studies available in public domain or accessible through networked sources were studied. In the Indian context, researches on residential schools that are based on robust research methods, both quantitative and qualitative, are few. Most of the studies reviewed have limited scope and small size. Most were small surveys on a specific theme like infrastructure, pedagogy or profile of children in residential schools. Research tools ranged from observation and, interviews of select people.

Analysis of data from Secondary Sources

Data from several sources including the Census of India, DISE, UDISE and programme websites etc. were used for analysis. Limited data is available and large scale discrepancies exist in data from various sources.

2.2.1 DEFINITIONS AND DESCRIPTIONS

- 1. Scheduled Tribes:** (in India) an indigenous group of people officially regarded as socially disadvantaged. A community of people who lived in tribal areas (mainly forest). They make up to 7-8% of Indian population. They have traditionally been marginalised and not in the mainstream of the society. They are also known as Adivasis. (in.one.un.org)
- 2. Katkari:** Katkari, Kathkari or Kathodi is one of the three 'Primitive Tribal Groups' in Maharashtra. The name Katkari is reported to have been derived from their profession of making "*Kath*" or catechu from the Khair tree (*Acacia catechu*).
- 3. Ashram Shala:** Residential school for the tribal kids living in the remote areas all over Maharashtra. (maharshikarve.ac.in)
- 4. Antyodaya:** It means upliftment of the weakest section of the society.
- 5. Gram Panchayat:** A gram panchayat is the cornerstone of a local self-government organisation in India of the panchayati raj system at the village or small-town level and has a sarpanch as its elected head.
- 6. Indira Awas Yojana:** IAY that came in effect in came in 1985-86 is one of the programmes of the Ministry of Rural Development that fulfils the housing need of poor, rural and below poverty line (BPL) people. The purpose of the scheme is to provide financial assistance to some of the weakest sections of society for them to upgrade or build a house of respectable quality for their personal living. (www.mapsofindia.com)
- 7. Non-Timber Forest Products:** (NTFPs) are any product or service other than timber that is produced in forests. They include fruits and nuts, vegetables, fish, medicinal plants, resins, essences and a range of barks and fibres such as bamboo and a host of other palms and grasses. (www.cifor.org)
- 8. Integrated Tribal Development Programme:** ITDP is socio-economic development programme for the tribal communities which help them in income generation through schemes allied with Infrastructure Development programmes and protection of the tribal communities against exploitation. (agropedia.iitk.ac.in)
- 9. Traditional birth attendants:** A person, especially one in a developing country, who assists a woman during labour and delivery with skills learned by apprenticeship or personal experience rather than by formal training.

- 10. Antodaya Anna Yojana:** is a Government of India sponsored scheme to provide highly subsidised food to millions of the poorest families. It was launched by the government on 25 December 2000 and first implemented in the Indian state of Rajasthan. (The Financial Express)
- 11. PVTG:** Particularly vulnerable tribal group (earlier: Primitive tribal group) is a government of India classification created with the purpose of enabling improvement in the conditions of certain communities with particularly low development indices. (www.indiantribalheritage.org)
- 12. NREGS:** National Rural Employment Guarantee Act is an Indian labour law and social security measure that aims to guarantee the 'right to work'. It aims to enhance livelihood security in rural areas by providing at least 100 days of wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. (nrega.ap.gov.in)
- 13. Anganwadi:** The word Anganwadi means 'courtyard shelter' in Indian languages. It is a type of rural mother and child care centre that were started by the Indian government in 1975 as part of the Integrated Child Development Services program to combat child hunger and malnutrition. A typical Anganwadi centre also provides basic health care in Indian villages. (www.encyclo.co.uk)
- 14. Tribal Sub Plan:** It is a programme meant to cater exclusively to Scheduled Castes (SC) and Scheduled Tribes (ST) to ensure benefits to the special groups by guaranteeing funds from all related development sectors both at State and Centre in proportion to the size of their respective population. (www.arthapedia.in)

Terminologies as per IS: 8827 - 1978

- i. **Air Change per Hour:** The ratio of the volume of outside air allowed into a room in one hour to the volume of the room.
- ii. **Canteen:** A place having facilities for cooking or warming of food, preferably attached to a place covered or uncovered where students and staff can assemble for meals or refreshment.
- iii. **Common Room:** A room primarily meant for use of students or staff during non-teaching school hours.
- iv. **Decibel [dB (A)]:** Sound levels as measured on a sound level meter with weighting network A.
- v. **Medical Inspection Room:** A room intended for carrying medical examination or providing health care facility to the students and staff.
- vi. **Pin-Board:** a panel or surface of suitable material on which any display material can be temporarily fixed.
- vii. **School Buildings:** These shall include buildings used for school or day-care purposes, involving assembly for instruction, education or recreation up to higher secondary level.
- viii. **School Hours:** The time period in hours for which the school is open for teaching including recess period.
- ix. **Use-Efficiency:** It is the ratio of the actual use to the ideal use of space taken as percentage.

It is expressed as:

$$\text{Use-efficiency} = \frac{\text{Area of space actually used} \times \text{Time used in hours} \times 100}{\text{Total area of space available} \times \text{School hours}}$$

2.2.2 ARTICLES BY OTHER AUTHORS

1. TRIBAL STUDENTS FACE DISCRIMINATION IN MAHARASHTRA SCHOOLS

Following the complaints, the department has decided to call a joint meeting of residential school directors with Tribal department officials at Vashi in Navi Mumbai.

Maharashtra government has received complaints that tribal students are given “secondary treatment” at some private residential schools, an official from the Tribal Development department said, not letting them mix with other students or teaching them in a separate class,” the official said. Following the complaints, the department has decided to call a joint meeting of residential school directors with Tribal department officials at Vashi in Navi Mumbai next week to address the issue, the official said, Taking note of the complaints, Tribal development minister Vishnu Savara has instructed the department to call a meeting and make schools aware of government’s intention behind the scheme, the official added. Confirming of the department receiving complaints, Savara said the government along with school directors will hold a meeting on Monday to hear their side as well. “But there will be action taken against them if found that tribal children being unnecessarily targeted,” he said.

Tribal children are admitted into private residential schools under ‘Namankit school programme’ (a reputed school admission) scheme, with an aim to tribals students into the mainstream. As part of the scheme, the government admits 25,000 tribal students every year into such residential schools for which the department has shortlisted 125 schools across the state. Last year too, the department had received complaints from tribal students but then they were transferred to other schools. “However, this cannot be allowed every time,” he said. According to the scheme, the department pays the fees of tribal students as per the categorised residential schools. For instance, A-Grade schools located in hill stations like Mahabaleshwar, Panchgani, Lonawala, Chikhaldara or Panhala are eligible to get Rs 70,000 per student. B-Grade (district or corporation level) and C-Grade (Taluka or council level) schools receive Rs 60,000 and Rs 50,000 respectively.

(Source:indianexpress.com/article/india/indianewsindia/tribalstudentsfacediscriminationinmaharashtra/schools/)

2. MINISTRY OF TRIBAL AFFAIRS INITIATIVE IN SETTING UP RESIDENTIAL SCHOOLS

29March2017

14:35 IST

Press Information Bureau

Government of India

Ministry of Tribal Affairs

Establishment of Eklavya Model Residential Schools

Ministry of Tribal Affairs has recognised 163 priority districts having 25% or more Scheduled Tribe (ST) population for implementation of tribal development programmes including establishment of Eklavya Model Residential Schools (EMRSs). Out of these 163 districts, EMRSs have been sanctioned for 112 districts in the country. These districts are located in Arunachal Pradesh, Assam, Chhattisgarh, Dadra & Nagar Haveli, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Rajasthan, Sikkim, Telangana and Tripura. Establishment of EMRSs is a demand driven project based on the proposals received from State Governments and subject to availability of land. This Ministry releases funds for construction and recurring cost of EMRSs. However, as per extant guidelines of EMRSs, each State Government/ UT Administration is solely responsible for the management and effective functioning of the EMRSs, school admissions, appointment of teachers/staff and personnel matters.

This information was given by Union Minister of State for Tribal Affairs Shri Jaswantsinh Bhabhor in a written reply in Rajya Sabha today.

(Source: pib.nic.in/newsite/PrintRelease.aspx?relid=160120 1/1)

3. This article emphasis the plight of members of the katkari community to fend even for the basic needs such as water



"Water So Close, Yet I Am Thirsty": Tribal Women Struggle for Water Rights

ALKA GADGIL

Friday, September 09, 2016

MOKHADA: They are young, gentle, soft-spoken and hardworking... all typically 'feminine' qualities. Yet, it's these very attributes that set them apart from the many 'social workers' campaigning for water rights in Mokhada tehsil of Maharashtra.

As one starts trekking the mountainous countryside with Sangeeta, Heera, Savita, Gangu and Pushpa, one can clearly discern the heady union of life and a strong sense of purpose among these energetic 'adivasi' (tribal) women. For them, equitable access to water is a burning issue and their most cherished mission. As the group makes its way towards the block office, women from different, some even far-off, 'padas' (villages) stop them to share their problems.

The group from Chikan Pada has come to them with a plan to charge the wells in their vicinity with water from the Waghnai River, around three kilometres from their village. Presently, they are all bone dry, compelling the women to trudge 12 kilometres daily to the river to fetch four pots of water to drink, bathe and wash clothes with.

After promising to pitch their proposal to block officials, Heera, Gangu and the others move on, taking stock of the water situation in the 'padas' that fall in their way. Like Chikan Pada, Sangeeta, who is all of 20, talks about another 'pada' that is facing tough times. The residents of Pada Shendyachi Meth just have access to a small well to meet all their water needs. This pada is situated uphill. There's a dead river downstream and beyond the riverbed is the well. The route is tortuous and rocky. There have been cases of women tripping over the rocks and seriously injuring themselves and one even succumbed to her injuries recently. Despite that, no one really discussed the possibility of repairing the trail until this group sprung into action.

"This is Mokhada. Nothing makes sense here," she remarks. Speaking to Sangeeta, who is a Katkari (an aboriginal tribe), a myth is broken: that the 'advasi' society is more egalitarian than the rest. Among the 'adivasis', the Mahadev Kolis are the dominant group while the Katkaris are lower down the social ladder. In Shendyachi Meth, it's the Mahadev Kolis who own the path.

Heera recalls how they had got a repair project sanctioned at the block office that couldn't take off because of the hierarchical tussle within the hamlet. Their group had presented a proposal for carrying out repairs to the pathway under the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) to the 'tehsildar' (block officer). The fact that no Non Government Organisation (NGO) activist had accompanied them to state their case struck him as unusual and amazing and he had signed the papers immediately.

However, this did not go down well with the Mahadev Kolis, who were livid that two Katkari women had gotten the sanction from the tehsil office. They refused to let the repairs happen. Though Heera and Gangu were in a fix at first, a fortnight later, they realised that there was a broken path leading to the well from the Katkari Wadi (cluster) as well. So they presented a second proposal and now the work has started.

(Source: www.thecitizen.in/index.php/OldNewsPage/?Id=8674)

4. The following article helps in understanding the efforts being taken by the government of Maharashtra to encourage the children of the tribal community to attend school

By introducing bilingual education, Maharashtra hopes to keep Adivasi children in school

It's a model that requires a fine balance between two languages. Few states have tried it out.



REUTERS/Arko Datta

Could Adivasi children be made to stay in school by teaching them in their own native language?

In a country where the primary school dropout rate among Scheduled Tribes is **31%** – 11% more than the total national figure – this question perhaps deserves more attention. But in the past decade, only a handful of states have attempted to introduce Adivasi languages in government schools, Odisha, Jharkhand and Andhra Pradesh the most prominent among them.

The latest to join the list is Maharashtra, which has **published** a series of 12 educational books for primary school children in ten Adivasi languages. According to officials at the Maharashtra State Council of Education Research and Training in Pune, the books were published in March and are now being distributed in 15 districts for Adivasi children speaking Gondi, Warli, Bhili, Pavri, Korku, Nihali, Bhiroli, Mawachi, Kolami and Katkari.

“The aim of these educational books is to reduce the dropout rates among tribal children,” said Vaishali Jamdar, a senior official at the MSCERT. “If children are able to learn in their own mother tongues, they will take more interest in school.”

5. Poverty and malnourishment taking a toll on the tribals can be studied in the article published in the Frontline

Malnutrition-related deaths in Palghar in Maharashtra are a pointer to the lack of employment and welfare measures for tribal people to keep the wolf from the door. By ANUPAMA KATAKAM in Mokhada, Thane Rural district

Two-year-old Sagar Wagh died of pneumonia on August 28. He is among the 255 children from Palghar district of Maharashtra who have succumbed to acute malnutrition-related illnesses since April this year. State government figures record 82 deaths in August and 47 in September in the district.

The Palghar deaths are symptomatic of a larger problem in the tribal belt in the State. Every year after the monsoon, the tribal regions see a spate of deaths, particularly among children, because of hunger and malnutrition which increase the risk of diarrhoea, tuberculosis and pneumonia.

Some 17,000 malnutrition deaths, including that of adults, occurred in 2015 across the State, points out a petition filed in the Bombay High Court. Recent figures from the Integrated Child Development Services (ICDS) scheme say there has been a 5.8 per cent increase in the number of underweight children in the State. According to State government figures, 7,000 children in Palghar suffer from various forms of malnutrition.

Activists say it is only a conservative estimate of the numbers. They say the problem is massive, but it is only when deaths begin to make news that the government rushes in with quick-fix remedies like a few additional meals. This too fizzles out owing to lack of funds.

Palghar and other affected districts are just a few hours from urban centres such as Mumbai, Thane City and Nashik. "It is baffling how hunger can exist when the region is so easily accessible," says a local social worker. "The obvious reasons lie in the bureaucracy, corruption, unemployment, the neglect of the marginalised, and sheer lack of sensitivity," he says.

Says Vivek Pandit, a social worker from the Shramjeevi Sanghatana, which has been working closely on employment issues in the district: "What is causing this gap and why has it not been addressed? This is Maharashtra, a significantly more developed State than others. It is 2016 where technology and modernity are meant to help in progress. Starvation and malnutrition deaths should not exist in these times."

Pandit asks how the same machinery that records the deaths is unable to visit the families and check if they are getting ration or other support. "The establishment knows that the problem exists. Yet no one does anything about it," he says. "The main issue here is that we are not able to address the root cause of the problem which is unemployment. Every tribal belt is struggling with unemployment issues leading to bigger problems of health, and eventually hunger."

(Source: www.frontline.in/cover-story/killing-poverty/article9265772.ece)

6. Withdrawal of government schemes and its impact on students of the tribal community

Students are unhappy with the state's decision to close down government-funded private hostels and give them a stipend for housing and food instead.



Maharashtra government's decision to close government-funded private hostels that house tribal students across the state will leave over 20,000 students homeless. Though the government says these students will be given a monthly stipend of Rs 6,000 for lodging and food, students do not find the option safe.

Over 1,500 students who stay in these hostels in Pune marched to the collector's office asking the government to reverse its decision.

The tribal development department of Maharashtra's social justice ministry has been in charge of running these hostels which house tribal students in junior and senior colleges and those enrolled in other higher education programmes.

The department has built an extensive network of hostels and it all started with offering grants from the government to privately-owned hostels for housing tribal students. Currently, 61,070 students stay in both government-run and government-funded private hostels across Maharashtra. But the state plans to shut down a third of the 491 hostels currently in operation.

Starting from the academic year of 2017-18, the government is going to close down these private hostels, leaving 20,535 students to fend for themselves. However, it has started the Deendayal Upadhyay Swayam Yojana to provide hostel and food facilities to tribal and poor students in Maharashtra. Under the scheme, the Maharashtra state government will provide financial assistance of Rs 6,000 per month for tier I cities, Rs 5,000 for tier II cities and Rs 4,000 for tier III cities. The scheme will be implemented in time for the beginning of the academic year of 2017-18. Now 20,535 students across the state have to find hostels and food facilities on their own.

Somnath Nirmal, a tribal student pursuing an M.Phil from Savitribai Phule Pune University, who lives in a government-run hostel for tribal students at Bhosari in Pune, said, "this is the first generation of tribal students who have taken admission for higher education. As tribals stay away from civilisation and at faraway places in jungles, they are not aware of how to survive with common people. Our languages, cultures, food habits are far different from common people. It will be difficult for us to stay with regular students at regular private hostels. We lack confidence and the knowledge to survive with people from higher castes and good economic backgrounds."

He added, "We can progress staying with other tribal students as there will not be inferiority complex and we share the same problems. Hence we want the government to not to close down hostels for tribals."

(Source: thewire.in/122378)

7. Another article on malnourishment and death of children of the tribal community

hindustantimes

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Malnourished Palghar hungers for answers

Until July 2016, 126 children have died in the district owing to various ailments, including low-birth weight, pneumonia, diarrhoea, dysentery and heart ailments

MUMBAI Updated: Sep 19, 2016 01:49 IST



Tanushree Venkatraman
Hindustan Times



9/11/2017

Malnourished Palghar hungers for answers | mumbai news | Hindustan Times

The Pawar family resides in Bambipada, a tribal settlement in the Jawhar taluka of Palghar, where 28 children suffer from acute malnourishment. Just 30km from Bambipada is Kalamwadi village, where two-and-a-half-year old Sagar Wagh died on August 30. Wagh also weighed just about five kilos. His death caused a major stir after his mother Sita Wagh refused to meet tribal minister Vishnu Savra.

Until July 2016, 126 children have died in the district owing to various ailments, including low-birth weight, pneumonia, diarrhea, dysentery and heart ailments. While a lack of nourishment continues to be a major problem, locals say the tribal settlements are also plagued with social and economic evils such as lack of employment, child marriage, gender inequality, multiple pregnancies in a short span, apathy from local authorities and a lack of maternal and pre-natal care.

"Girls as young as 14 get married and have four to five kids by the time they are 25," said Sarita Chaudhari, a local.

Manoj belongs to the Katkari samaj, which locals say is one of the most deprived communities among the tribes. The Katkaris do not own land. Manoj's father is currently unemployed. He gets work as a labourer in the adjoining districts of Thane and Mumbai whenever possible.

Life is no better for the other tribes, including Mahadev Kolis, Konkana, Thakurs and Warlis as well. Shradha Shringarpure from Arohan, an NGO working for the upliftment of the tribes said, "For the past eight years, there has been a spurt in child deaths during monsoon. These are the four months, where both the parents have to work in the fields to meet their requirements for the entire year. In the bargain, they are not able to tend to their children. In fact, children work on the fields making them vulnerable to diseases."

2.2.3. CASE STUDY

List of Case Studies done

Live Case Studies:

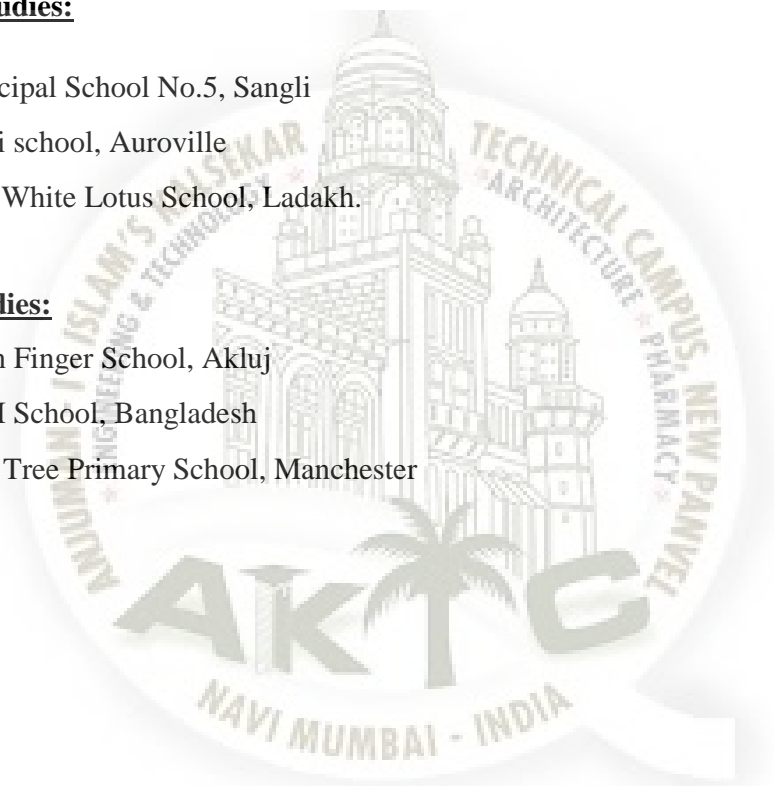
- Zilla Parishad school, Devali
- Ashramshala, Parali.
- Vidhayak Sansad's Eklavya Parivartan Vidyalaya, Usgaon

Book case studies:

- Municipal School No.5, Sangli
- Udavi school, Auroville
- Druk White Lotus School, Ladakh.

Net case studies:

- Green Finger School, Akluj
- METI School, Bangladesh
- Lime Tree Primary School, Manchester



i. ZILLA PARISHAD SCHOOL, DEVALI.

Year of construction: 2005

No. of floors: G+1

Location: Devali, Maharashtra, India

Climatic response: The roof is designed to overcome rain water percolation and windows for cross-ventilation.

Project Architect: Public Works Department, Thane district.

Landscape: Native to the area of Palghar district. Peepul tree, Drumstick tree and Banyan tree were seen in the surroundings.

Site area: 685sq.m

Built up area: 260sq.m

Construction system: Main building - framed structure, Other – load bearing, Roofing – Traditional Mangalore tiles.

Existing condition of the structure: Nicely maintained.

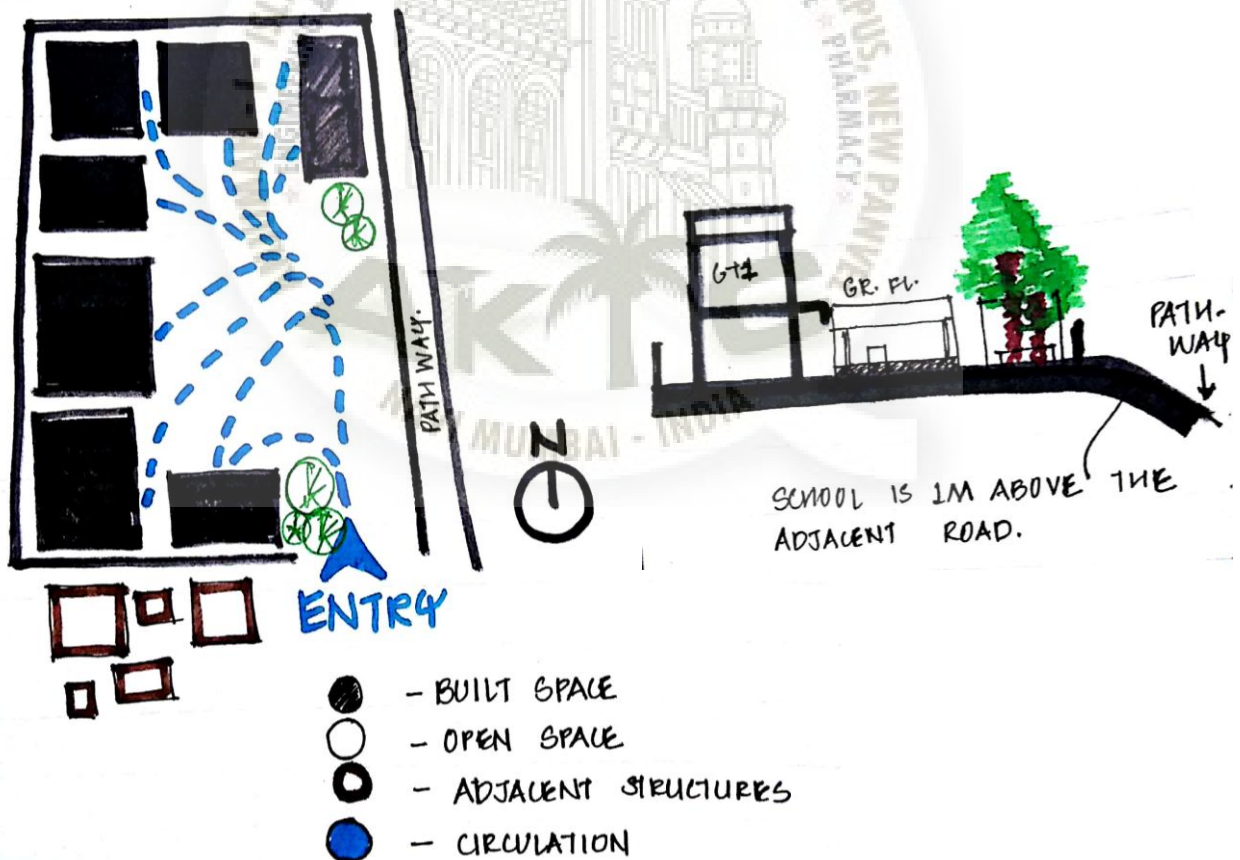


Fig1.2 Plan and section



Fig1.3 Building block

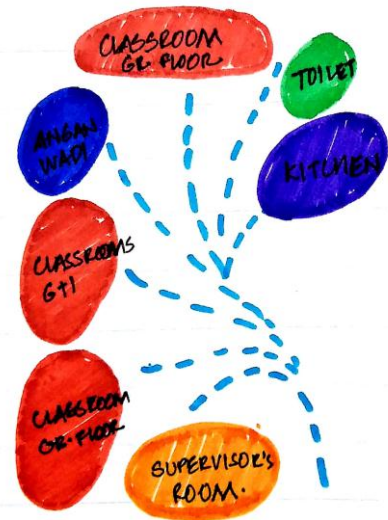


Fig1.4 Circulation

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Spaces are around a common open space • Linear pattern makes it easier for children's access 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Classrooms are not connected with each other with any common passage • No common enclosed gathering space to accommodate all
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • Planned spaces can be made and connected with a common covered passage , as space is available. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • No proper compound wall on one side near the toilet blocks which can give access to intruders easily. • Not regulated slope at the entrance can prove to be fatal

Architectural style: Vernacular architecture.

Material: Main building – RCC; Other - brick pier and brick wall.

ii. ASHRAMSHALA, PARALI.

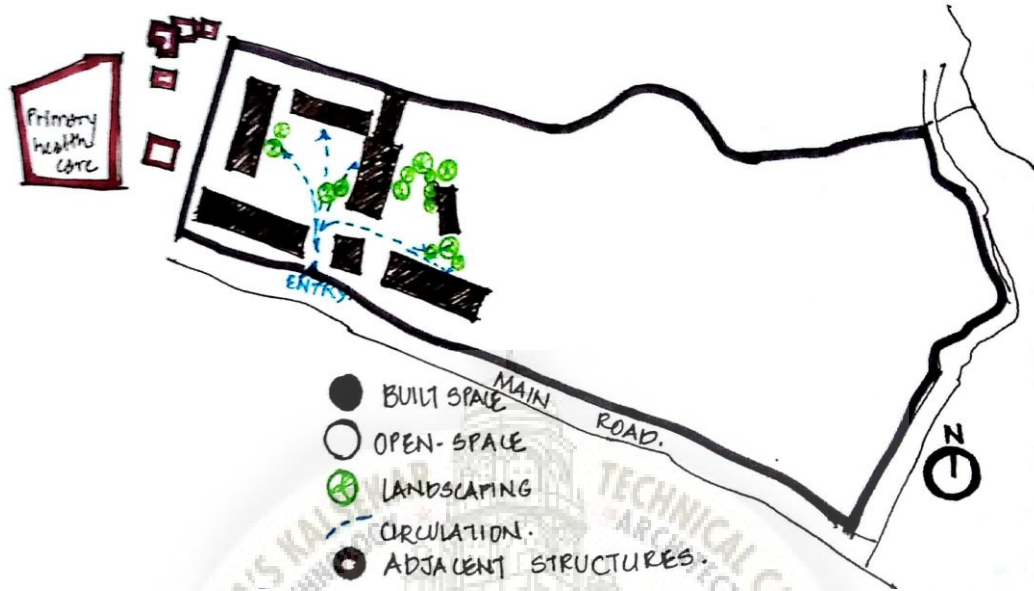


Fig 1.5 Site plan

Year of construction: 2005-06

Built up area: 733sq.m

Location: Parali, Maharashtra, India.

No. of floors: G+0

Project Architect: Public Works Department, Thane district.

Climatic response: The roof is designed to overcome rain water percolation.

Site area: 21600sq.m

Landscape: Native to the area of Palghar district. Trees of Gulmohar and Tamarind are seen on the site.

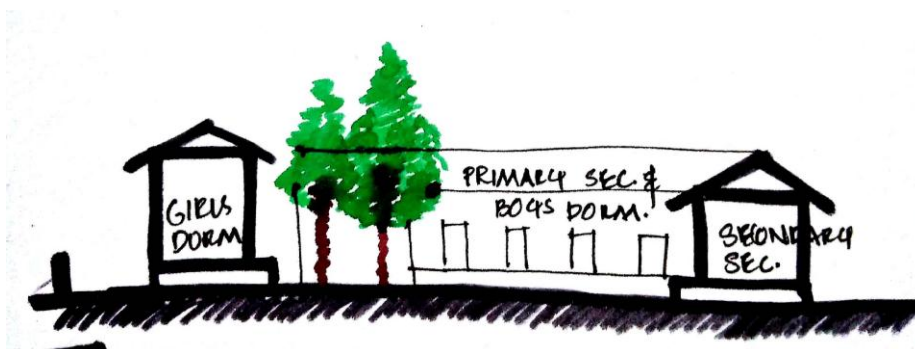


Fig1.6 Section

Architectural style: Vernacular architecture.

Material palette: Brick walls and Mangalore tiles roof.

Construction system: Load bearing structure with brick piers, Roofing – Traditional Mangalore tiles.

Existing condition of the structure: Not maintained and some parts in dilapidated state.

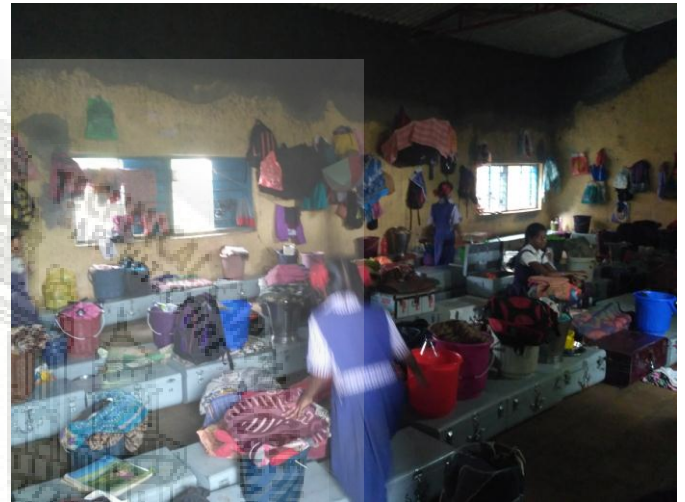


Fig1.7 - View of Girls Dormitory (exterior).

Fig1.8 – Interior view of Girl's Dormitory

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Build around a common open space which lets enough ventilation and light inside. 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Unplanned spaces • Small spaces even though large vacant area is available.
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • Since the ratio of build to open space is very high there is a wide scope for expansion. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • Congested space causes unhygienic condition as children are forced to live in cramped enclosed space.

iii. EKLAVYA PARIVARTAN VIDYALAYA, USGAON

Year of construction: 2001

Location: Usgaon, Maharashtra

Site area: 35000sq.m

Built up area: 1965sq.m

No. of floors: G+3

Climatic response: Atrium with skylight and openings enable effective cross ventilation which is efficient for warm and humid climate.

Material palette: Brick walls and RCC framed

Landscape: Natural vegetation typical to the area – deciduous trees. The administration believes that the trees should be untouched as they worship nature. The girls are taught farming on site hence small farms are seen on site

Construction system: Framed structure with flat roof.

Existing condition of the structure: Well maintained and in good condition

Feature: In order to incorporate contours, the floor space is divided into different heights. All room face towards the atrium which has a skylight. Hence, adequate lighting and ventilation is provided.

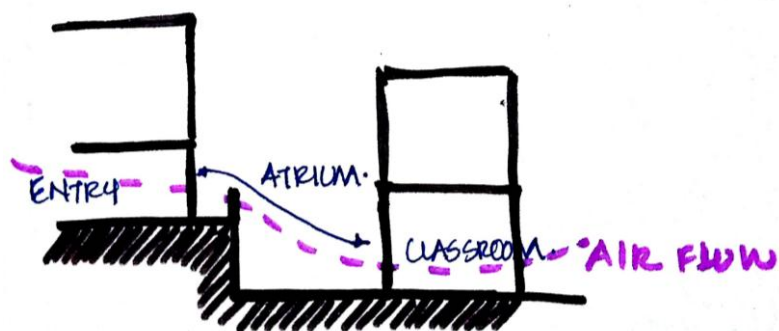


Fig2.0 Sketch showing ventilation

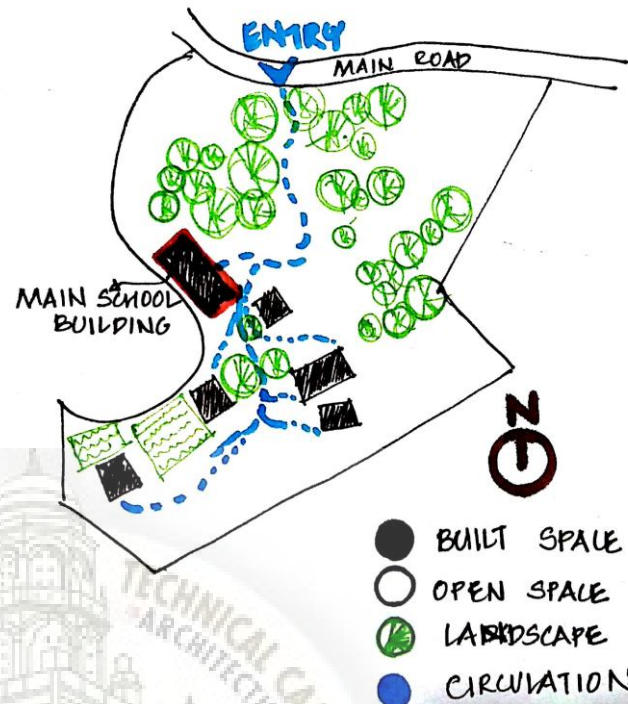


Fig1.9 Site plan

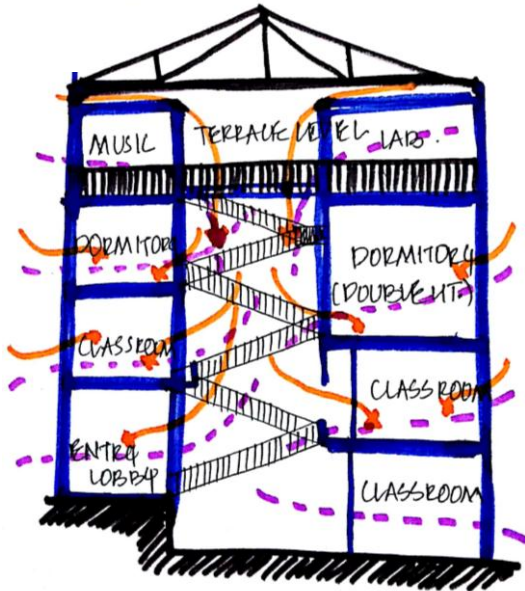


Fig2.1 Section



Fig2.2 Interior view

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Common atrium provides adequate light and ventilation. • Planned spaces • Designed without disturbing the vegetation and contours. 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Spaces planned without giving a thought to future expansion has resulted in space constraints due to which a limited number of students can be admitted.
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • Considering the total area, a lot of scope is there for designing other spaces but not inside the existing structure. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • Space constraints have led to a stagnant growth due to limited number of students being admitted.



Fig2.3 Entrance



Fig2.4 Play area

iv. MUNICIPAL SCHOOL NO. 5, SANGLI

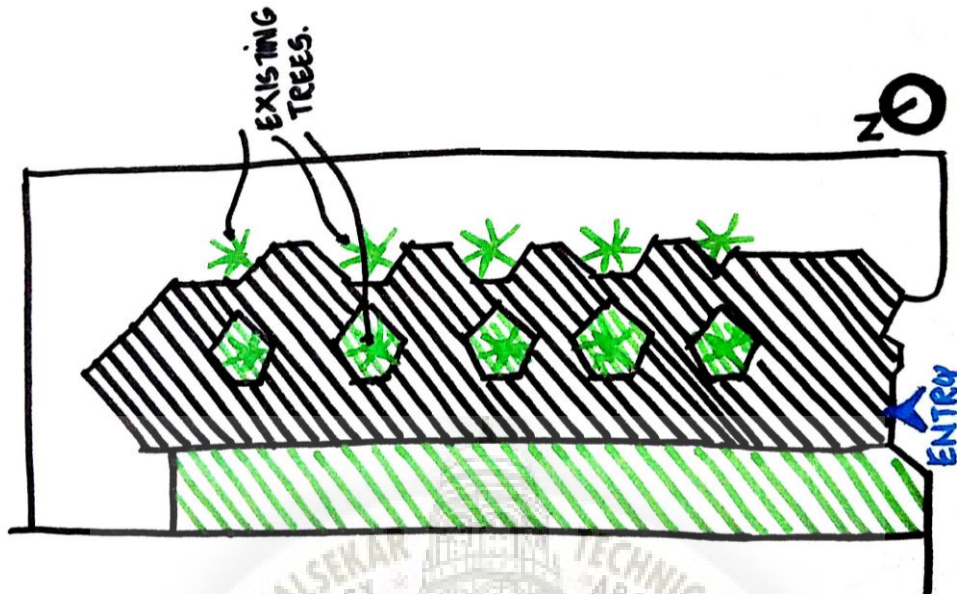


Fig 2.5
Site plan

Year of construction: 1970

No. of floors: G+2

Location: Sangli, Maharashtra, India

Climatic response: the site falls under hot and dry climatic zone hence courtyards have helped keep the interior cooler.

Project Architect: Pramod Beri

Site area: 1300sq.m

Material palette: RCC framed and flat terrace roof.

Built up area: 1295sq.m

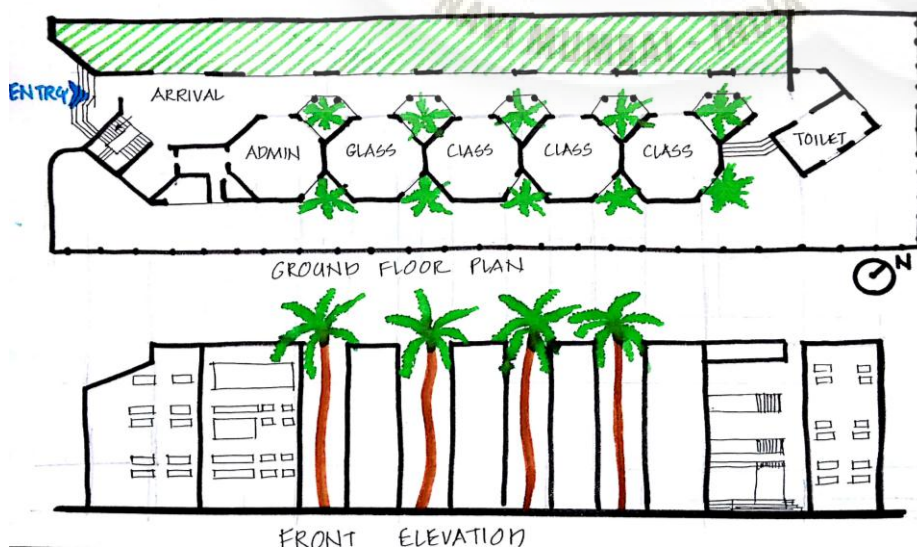


Fig2.6 Plan and
elevation

Landscape: the design is based keeping the existing vegetation in mind.

Construction system: Framed structure with flat roof.

Existing condition of the structure: Well maintained and in good condition.

Idea and theme: To retain the existing trees on site and use them as a central feature for the courtyard

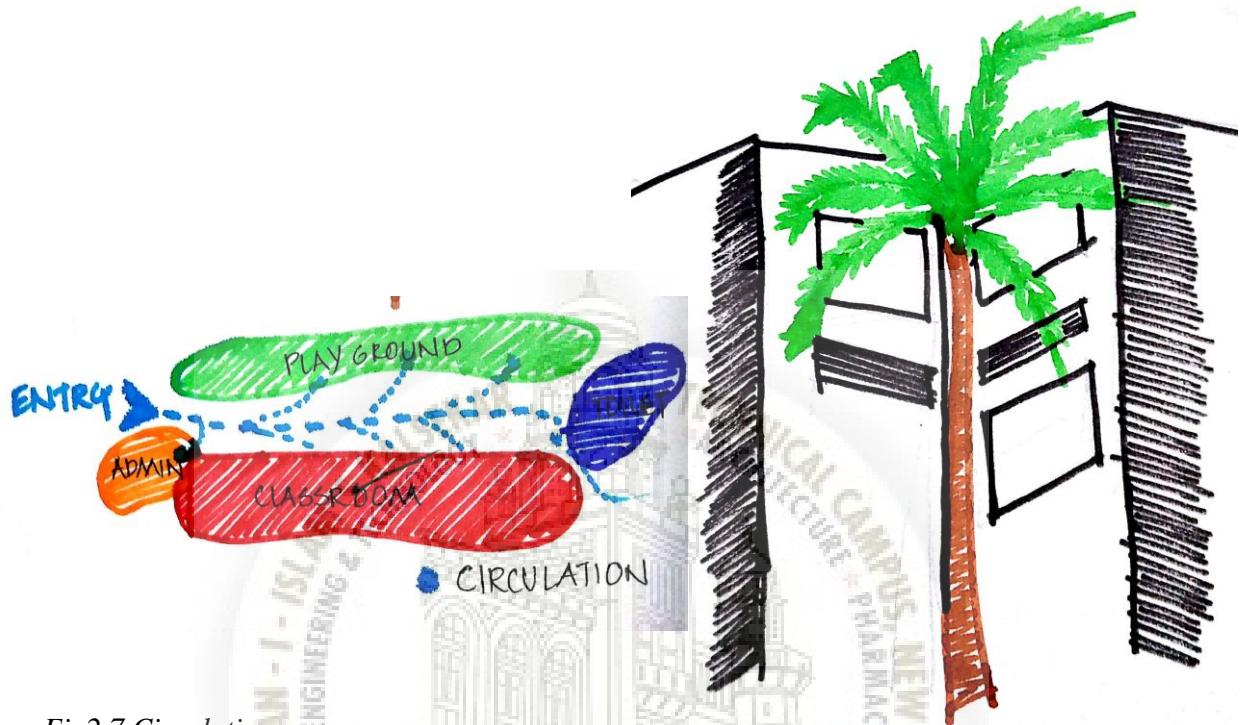


Fig2.7 Circulation

Fig 2.8 View of the courtyard

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Courtyards have natural light. • A common passage connects all the spaces within the building. 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • The distance between the farthest end of the passage and toilet block is too large.
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • Scope for incorporating new features that are necessary for future expansion. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • The courtyard if not maintained can become a dumping ground for students.

v. GREEN FINGERS SCHOOL, AKLUJ

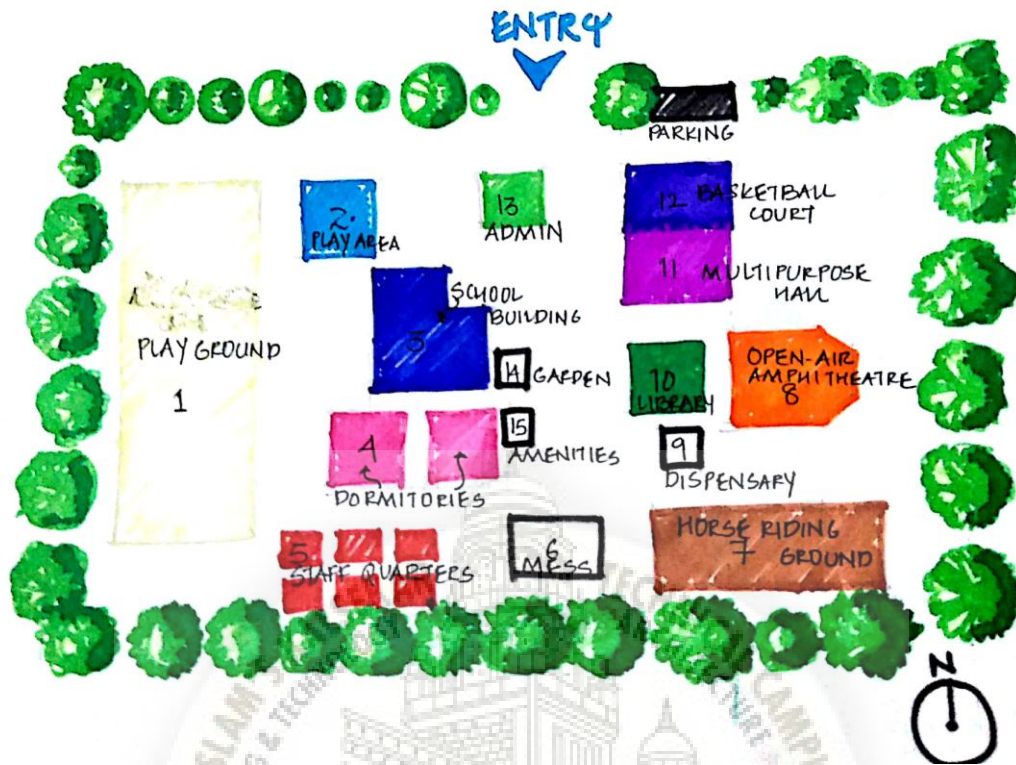


Fig2.9 Site Plan

Year of construction: 1975

No. of floors: G+1, G+2

Location: Akluj, Maharashtra.

Climatic response: the site falls under hot and dry climatic zone. Therefore, the use of exposed stone masonry keeps the interior temperature constant throughout the day.

Project Architect: Shirish Beri

Site area: 113312sq.m

Built up area: 72844sq.m

Material palette & Construction system: Exposed stone masonry with load bearing construction which makes the structure climate effective and aesthetically appealing

Landscape: Natural vegetation native to the area is seen within the site

Existing condition of the structure: Well maintained and in good condition.

Features:

- The main school building consists of octagonal classrooms.
- Each classroom is provided with outdoor landscaped veranda.
- The classrooms are designed to form a central open courtyard.
- Large louvered windows enable the rooms to have adequate cross ventilation.

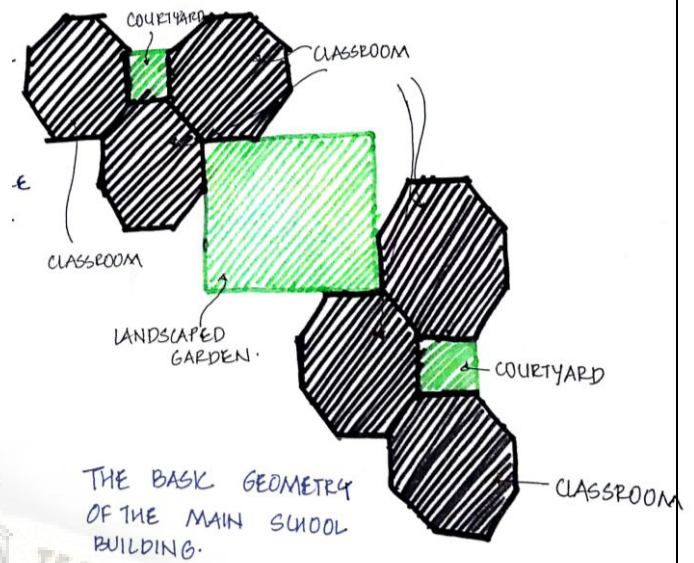


Fig3.0 Sketch showing courtyard

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • The school is far from the main road which helps maintain safety and silence required. • Exposed stone masonry used helps regulate the temperature within. 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • The different amenities are placed in different blocks which are not connected by a passage. • A lot of unutilised space is available
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • Scope for incorporating new features that are necessary for future expansion. • More residential blocks can be added. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • Since the blocks are scattered administration of all the blocks becomes difficult.

vi. UDAVI SCHOOL, AUROVILLE

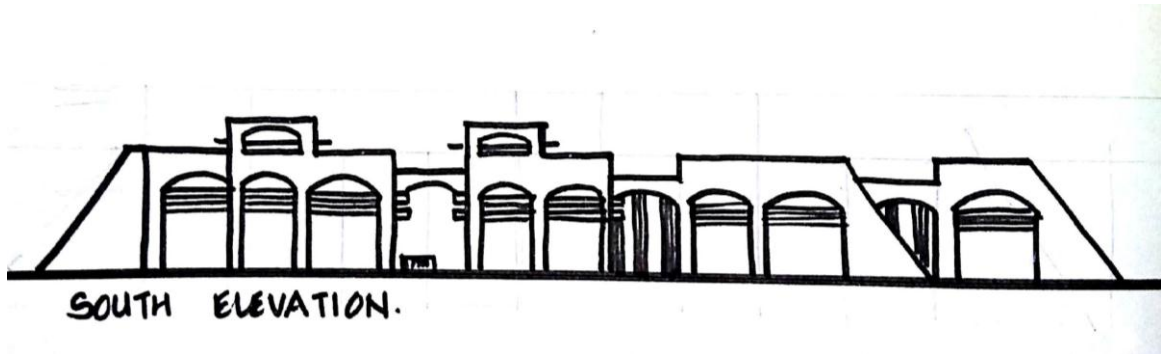


Fig3.1 Elevation

Year of construction: 1973

Project Architect: Poppo Pingel

Location: Auroville, India

No. of floors: G+ Mezzanine (in Classrooms)

Climatic response: The louvered walls enable cross ventilation which is needed.

Landscape: Indigenous trees around; vegetable garden within the school building.

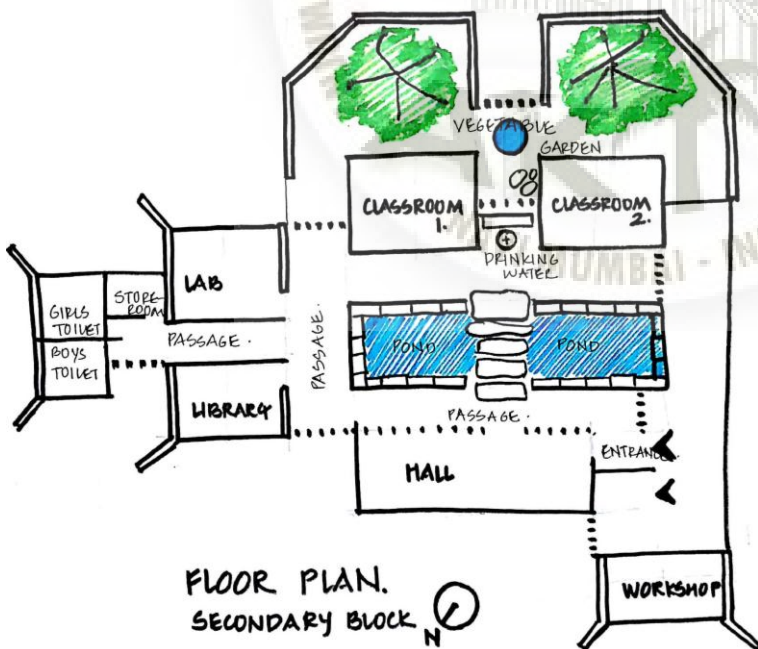


Fig3.2 Floor plan

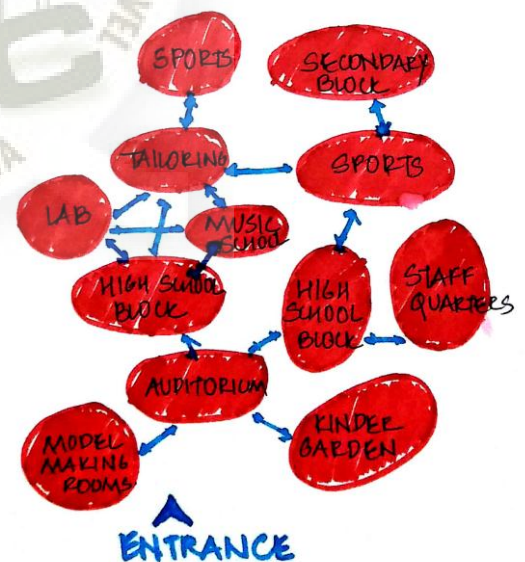


Fig 3.3 Circulation

Architectural style: Vernacular architecture

Theme: Principles of Baubiologie. The land of school was surveyed to identify positive and negative points.

Material Palette: earth blocks with stabilised cement manufactured on site.

Construction system: synthesis of modern technology with locally available materials (mud) vaults springing from load bearing walls.



Fig 3.4.1 Interior view

(Pic courtesy: www.earth-auroville.com)

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Open paces around the water body connect all the spaces • The vaulted structure plays a significant role to create lightness and transparency. 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • The classrooms accommodate 15-20 students at a time. The school is therefore for fewer students.
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • Many of the conceptual sketches suggest future stages of growth as a range of possibilities that have to be assessed. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • The access road is narrow which causes inconvenience during school hours.



Fig 3.4.2 Interior view

(Pic courtesy: www.earth-auroville.com)

- The vaulted structure gives a sense of transparency and lightness.
- The spaces transform into pavilions rather than boxed spaces or passageways.
- The classrooms have mezzanine space which creates dualistic sense of space.
- Large windows with low sill and adjustable wooden louvers provide adequate light and ventilation.

vii. DRUK WHITE LOTUS SCHOOL, LADAKH

Year of construction: 2001

Location: Ladakh, India

Project Architect: Arup associates

Site Area: 1300000sq.m

Built up area: 3680sq.m

Architectural style: Vernacular architecture with earthquake resistance design using timber frame and steel.

Theme: Having a modern school which lays equal emphasis on the importance of preserving the traditional culture.

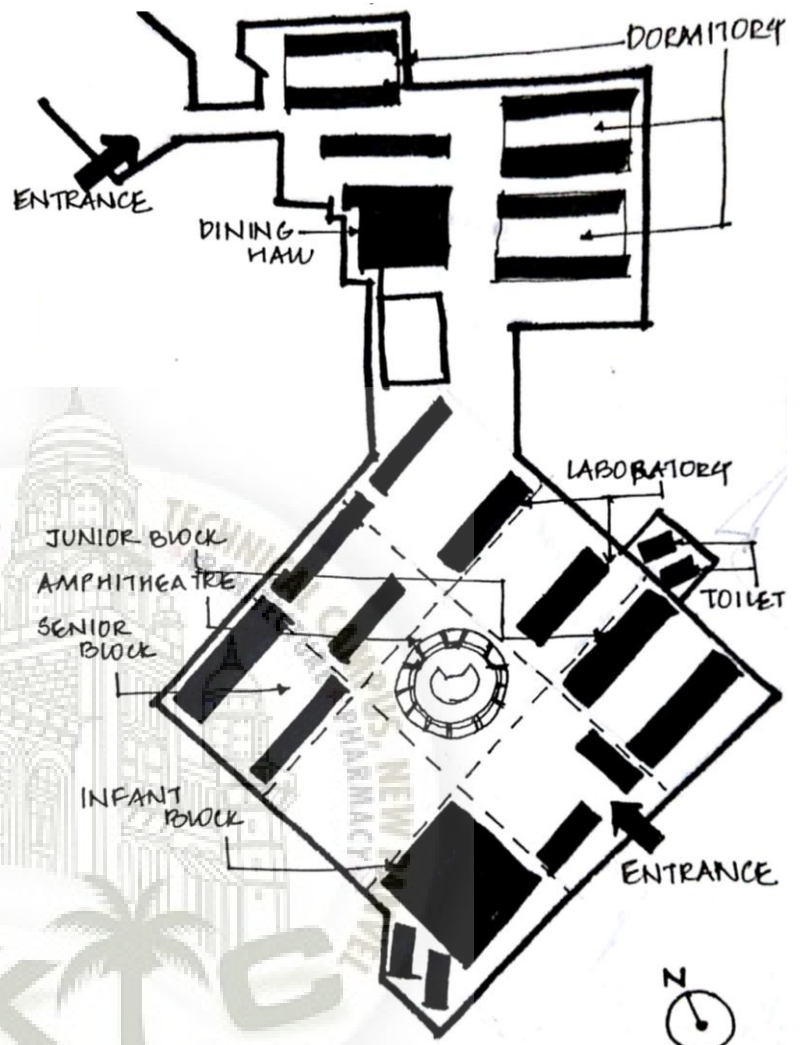


Fig3.5 Site plan

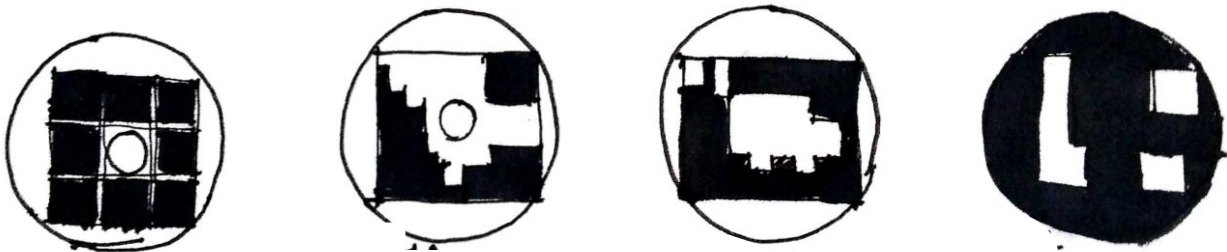


Fig3.6 Concept

Circular Mandala form is an integral part in planning that is woven into framework of nine-squared grid.

Climatic response:

- i. Use of solar (passive heating) technique to acquire benefit of local climate.
- ii. Using trombe wall.
- iii. 30° south-east orientation of teaching spaces.
- iv. Fully glazed solar facades.

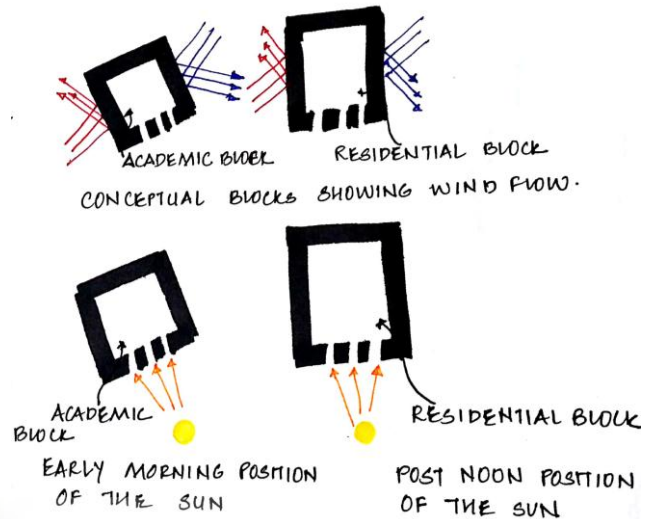


Fig 3.7 Orientation of the building

Landscape: Vegetation on the site is native to the hot and dry climatic zone. (Minimal vegetation)

Material Palette: Mud bricks and granite blocks made with materials found in and around the site.

Construction system: Load bearing construction. Roof made with willow (creepers) grown around the site.

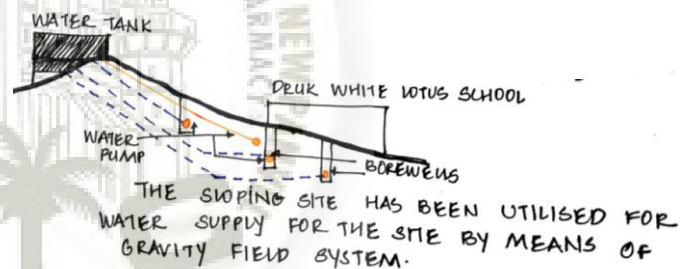


Fig3.8 water pumping through gravity

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Keeping sustainability in mind, materials procured from in and around the site were used which had minimal impact on the surrounding and reduced the cost of construction. • Natural ventilation and passive solar technique minimized the energy emissions. 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • The site is located in a disaster prone area i.e. both flood and earthquake.
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • The site area is large and new structures are being added to the campus. There is scope for future expansion. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • The natural calamities can damage the structural system.

viii. METI HANDMADE SCHOOL, BANGLADESH

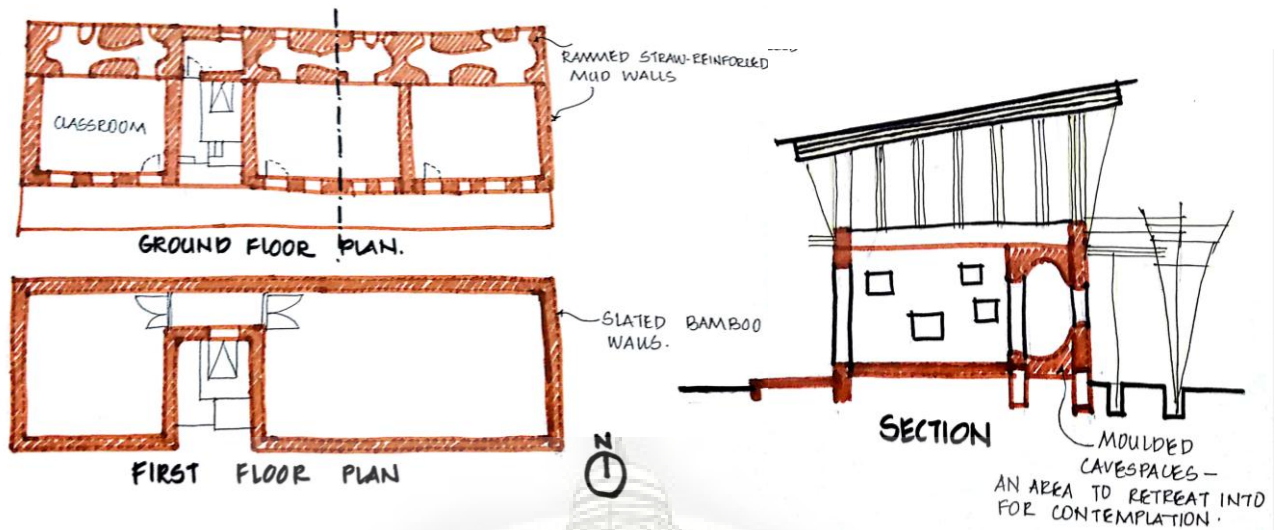


Fig3.9 Plan and Section

Year of construction: 2007

Site area: 325sq.m

Location: Rudrapur, Bangladesh

Built-up area: 275sq.m

Project Architect: Anna Heringer and Eike Roswag

No. of floors: G+ 1

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • A stable foundation and a damp proof course make the building last longer with minimal maintenance. • Locally available materials mad the construction cost effective. 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Earth structure erode over time, mixing straw with mud has slowed the process but is not the permanent solution. • The openness has resulted into poor acoustics sounds from classroom can be heard to another.
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • The technique used in construction is native to the area, hence with few modifications it can be incorporated for making similar structures. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • The design solution used may not be applicable to other rural areas of the country as local conditions vary.

Climatic response: The walls have opening shades made of bamboo which can be controlled to regulate light and ventilation.

Landscape: Natural vegetation local to the area surrounds the structure.

Idea:

- Communicating and developing knowledge and skill within the local population by including them in the process of construction.
- Make the best possible use of locally available materials.

Theme: Strengthening the regional identity.

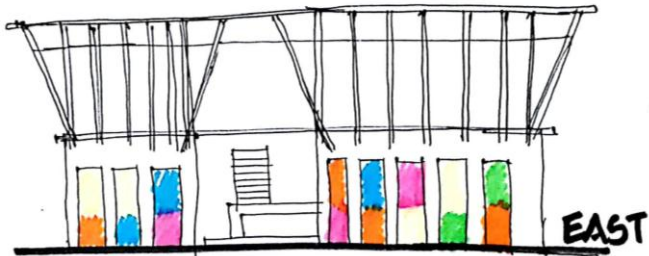


Fig4.0 Elevation

Features:

- Almost all the work was done by unskilled locals who learnt new skills in the process.
- Students also took part in the construction.

Material palette: Locally available materials – Bamboo, straw, earth and jute ropes have been used.

Construction technique:

- Historical earth building technique similar to cob-walling is used.
- Introducing damp proofing and brick foundation to the traditional building technique.



Fig4.1 Facade (Pic courtesy: www.anna-heringer.com)

ix. LIME TREE PRIMARY SCHOOL, MANCHESTER



Fig4.2 Site plan

Year of construction: 2013

Project Architect: Atkins

Built-up area: 1639sq.m

No. of floors: Ground floor.

Theme: Journey through a forest – nature inspired learning.

Climatic response: Insulated steel box to warm up interiors.

ANALYSIS

<p><u>Strength</u></p> <ul style="list-style-type: none"> • Central, spacious breakout area. • The internal partitions are not traditional right-angled grid that makes significant acoustic performance improvements. 	<p><u>Weakness</u></p> <ul style="list-style-type: none"> • Modular construction technique is used which means modifications cannot be done in case needed for future use.
<p><u>Opportunity</u></p> <ul style="list-style-type: none"> • The modular technique used in construction reduces the time of construction and insulation created inside reduces the energy consumption. 	<p><u>Threat</u></p> <ul style="list-style-type: none"> • The design solution used may not be applicable to other countries as the material used is steel.

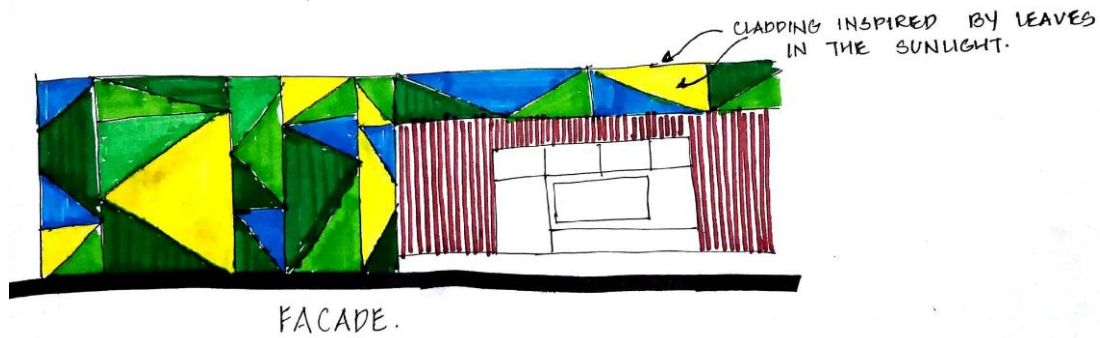


Fig4.3 Facade

Material: Metal and timber modular blocks

Construction system: Modular components constructed off-site.

Features:

- The pavilions are dissected by a central avenue and courtyard.
- The central avenue is primarily enclosed; regularly placed skylights admit natural daylight.
- A harmonious blend of indoor and outdoor space.
- Outdoor learning space is shared and accessible from the classroom around it.
- A 'forest canopy' is conceived with triangular Trespa cladding visible outside.
- Semi enclosed areas are covered by a cedar Diagrid.



Fig 4.4.1 View of courtyard

Fig4.4.2 View of courtyard



2.2.3. CASE STUDY INFERENCES**Table 1.8 Comparative analysis of Case studies**

	1	2	3	4	5	6	7	8	9
Climate	Warm and humid	Warm and humid	Warm and humid	Hot and dry	Warm and humid	Hot and dry	Hot and dry	Warm and humid	Cold and humid
Topography	Flat	Flat	Contour	Flat	Flat	Contour	Flat	Flat	Flat
Climate Responsive	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Admin	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Library	No	No	Yes	No	Yes	Yes	Yes	No	Yes
Laboratory	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Kitchen	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes
Mess	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Student Dorm	No	Yes	Yes	No	No	Yes	Yes	No	No
Staff quarter	No	No	Yes	No	No	Yes	Yes	No	No
Clinic	No	No	Yes	No	No	Yes	Yes	No	Yes
Vehicular circulation	Yes	Yes	Yes	No	Yes	No	Yes	No	No
Pedestrian circulation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parking	Yes	Yes	Yes	No	No	No	Yes	No	Yes
Playground	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1. Zilla Parishad school, Devali
2. Ashramshala, Parali.
3. Vidhayak Sansad's Eklavya Parivartan Vidyalaya, Usgaon
4. Municipal School No.5, Sangli
5. Udavi school, Auroville
6. Druk White Lotus School, Ladakh.
7. Green Finger School, Akluj
8. METI School, Bangladesh
9. Lime Tree Primary School, Manchester.

INFERENCE:

1. **Plan:** a plan consisting of predominantly interior classroom spaces and peripheral corridors provides flexibility of spaces and economies in heating and cooling.
2. **Orientation:** majority of the classrooms should be facing towards the north.
3. **Fenestration:** adequate openings for light, ventilation, relationship with outdoor areas and also for psychological advantages.
4. **Space condition:** skillful uses of lighting or acoustical material, colour or form are essential in school design.
5. **Architectural style:** the local vernacular architectural style and components should be incorporated in design with maximum utilisation of locally available materials adequately.



2.3. RESEARCH DESIGN

2.3.1. STANDARDS

Indian Standard (IS: 8827- 1978)

RECOMMENDATIONS FOR BASIC REQUIREMENTS OF SCHOOL BUILDINGS

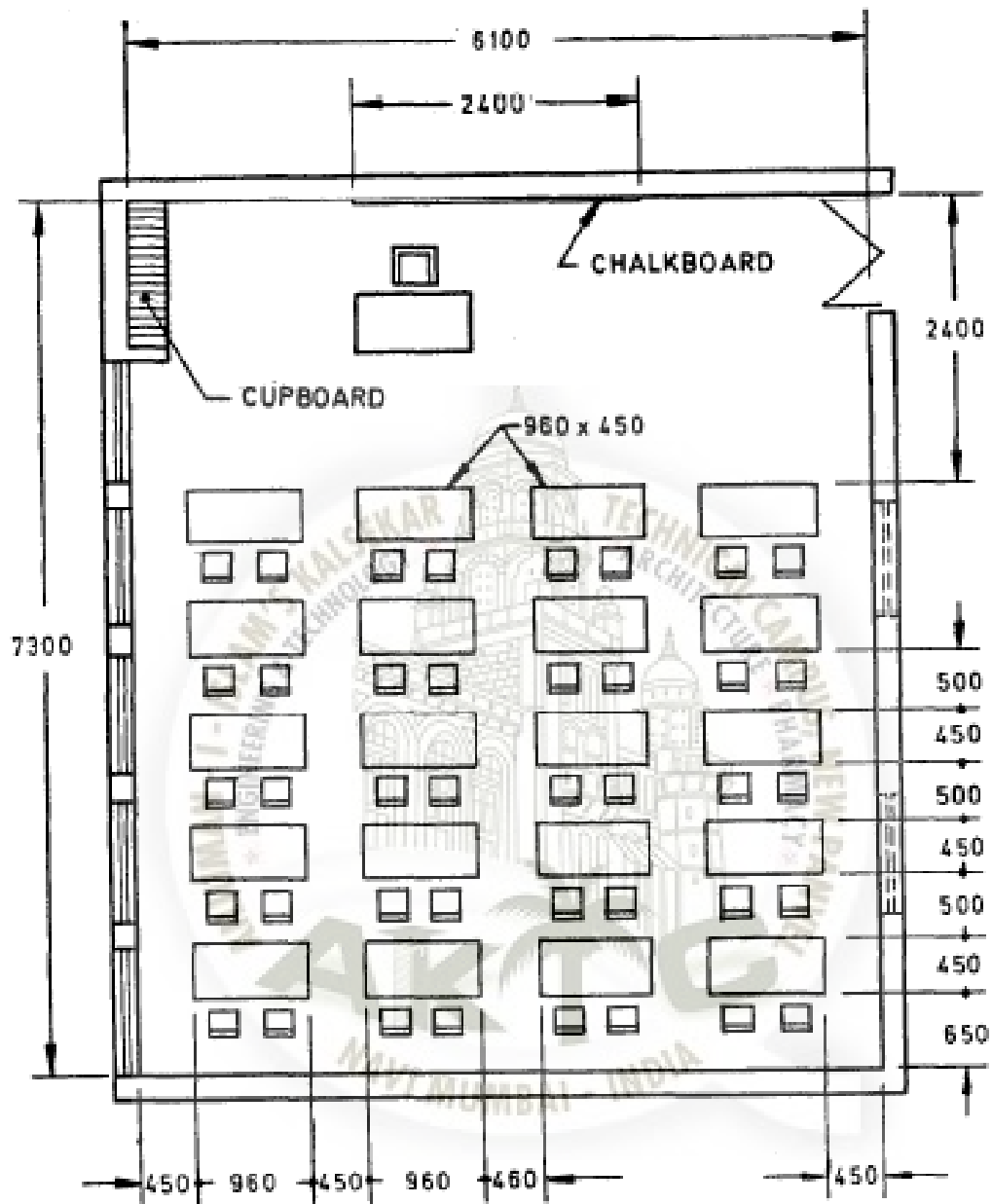
The size of a classroom shall depend on the following:

- a) Anthropometric dimensions of children and their space requirements;
- b) Dimensions, arrangements of furniture and equipment and their incidence;
- c) Number of students to be accommodated;
- d) Types of activities to be carried out; and
- e) Diverse seating arrangements essential for these activities.

Essential Constructional Requirements

- Height of the classroom should not be less than 3.00 m measured at any point from the surface of the floor to the lowest point of the ceiling. The minimum headroom such as under the bottom of beams, fans and lights shall be 2.6 m measured vertically under such beam, fan or light.
- The proportion of the breadth (minimum dimension.) to the length (maximum dimension) of the classroom should be not more than 1: 1.5
- *Sill Heights* - The sill height for classrooms with furniture arrangement should be not more than 800 mm measured from finished floor level and that for the classrooms with squatting arrangement should be not more than 600 mm.
- Rooms shall have, for the admission of light and air, one or more apertures, such as windows and fanlights, opening directly to the external air or into an open verandah.
- The minimum aggregate areas of such openings excluding doors inclusive of frames shall be not less than 20% of the floor area in case such apertures are located in one wall and not less than 15% of the floor area in case such apertures are located on both side walls at the same sill level.
- The minimum clear distance between the chalkboard and front edge of the first row of desks when chalkboard is in use, shall be 2200 mm.

IS : 8827 - 1978

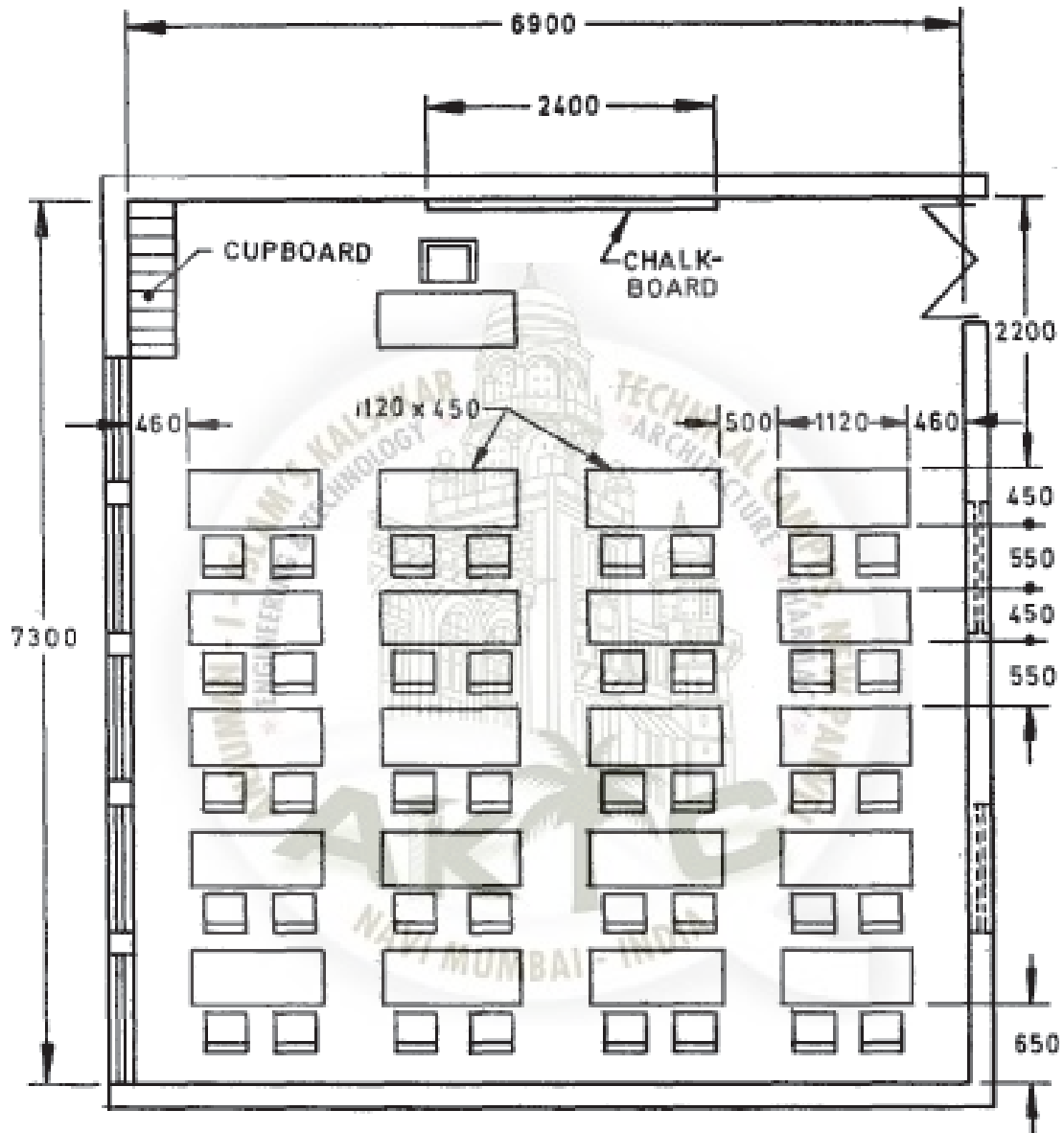


All dimensions in millimetres.

TYPICAL ILLUSTRATION OF A PRIMARY CLASSROOM

Fig4.5

IS : 8827 - 1978



All dimensions in millimetres.

TYPICAL ILLUSTRATION OF A SECONDARY/HIGHER SECONDARY
CLASSROOM

Fig 4.6

- The social science room, art room, crafts room and activity room may be designed for 40 students but the area required for these rooms should be more than the area for the ordinary classroom for 40 students, in order to accommodate the teaching equipment, models and activities pertaining to particular subjects.
- Maximum acceptable noise levels in classrooms and other teaching spaces due to external sources should be 40 dB (A).
- Level of ventilation in the classrooms and other teaching areas shall be six air changes per hour.

CIRCULATION AREAS

Circulation areas such as corridors, entrance halls, staircases, etc., in the school buildings with double loaded and single loaded corridors & all not be more than 18% and 24 % of the total covered area of the building respectively.

OUTDOOR AREAS

Outdoor areas for a school such as playgrounds, open air assembly, parking, etc, shall depend upon the following:

- a) The size of the school
- b) The location of the school, that is:
 - 1) Urban,
 - 2) Suburban, or
 - 3) Rural.

For outdoor spaces under lawns, courtyards, etc, an area of 1sq.m per student should be provided.

2.3.2. QUESTIONNAIRE SURVEY

LOCAL VIEWS

During visits to a few hamlets in the Wada taluka, locals from the community expressed their own perceptions regarding their overall development.

Some of the key quotes in this regard given below provide insights into various aspects like the causes of their poverty, intergenerational transmission of poverty and also the required interventions:

- “Our forefathers were engaged in occupation of *kath* making, and then we started making charcoal from forests for private contractors, now we break stones for a living. We have always led a life of dependency on others”.
- “People from other ethnic groups call us backward. But without land and without education, how can we come forward?”
- “Some people from other ethnic groups have lot of uncultivated land. Even if our families were to be given one acre each, we would have atleast something to live by”.
- “Education is the only way for the landless to come out of poverty”.
- “There should be a separate *Ashram* school for Katkari children”.

The profile of deprivation among the Katkari community thus indicates the range of social and economic processes because of which they have remained trapped in chronic poverty. They continue to lead a life of deprivation in various dimensions, in spite of various tribal development policies and programmes.

The above views thus help one conclude that if given opportunity there will be atleast little upliftment in the socio-economic conditions of the families belonging to the katkari community. Education seems to be the only way to help the community get rid of the social stigma and help them raise their standard of living.

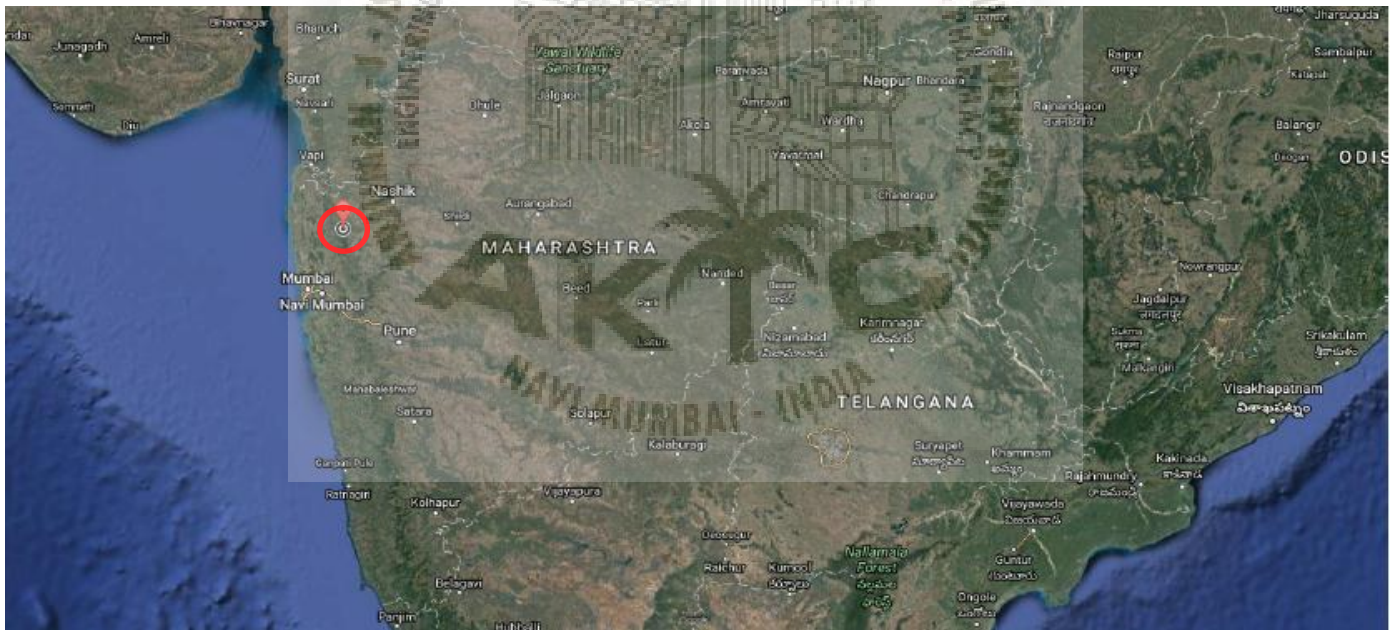
2.4. SITE

REDESIGNING THE ASHRAMSHALA, PARALI.

The site selected is located in the village of Parali, a small hamlet near Wada (around 16km) in the Palghar district of Maharashtra. It is situated 100km north east of Mumbai. It lies in 19.709°N and 73.259 °E.

An Ashramshala for the tribal kids of the area exist on the site, having a total area of 120780sq.m out of which only a small proportion of the area of about 14956sq.m is being used for the purpose of the school. Therefore the ratio of open space to the built space is very high. In certain places on the site, farming is being undertaken apart from which the entire site is vacant and is not being used efficiently.

The land ownership type of the site is private and has been donated to the school by various donors such as the Indiabulls foundations, the Rotary Club, etc.

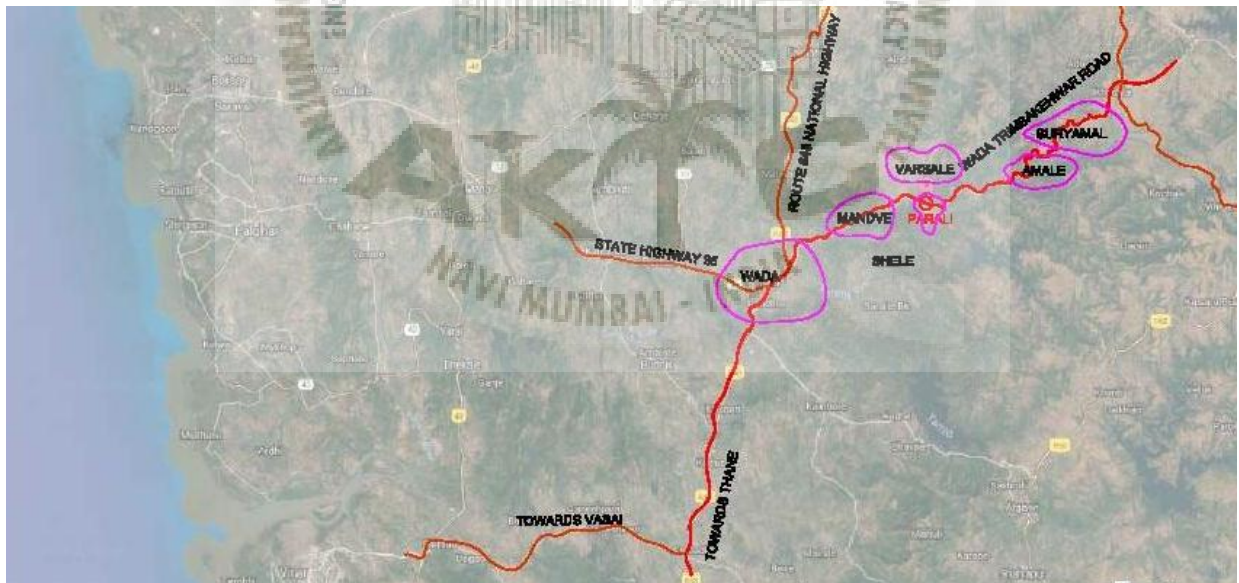


Map1.1 showing the site location



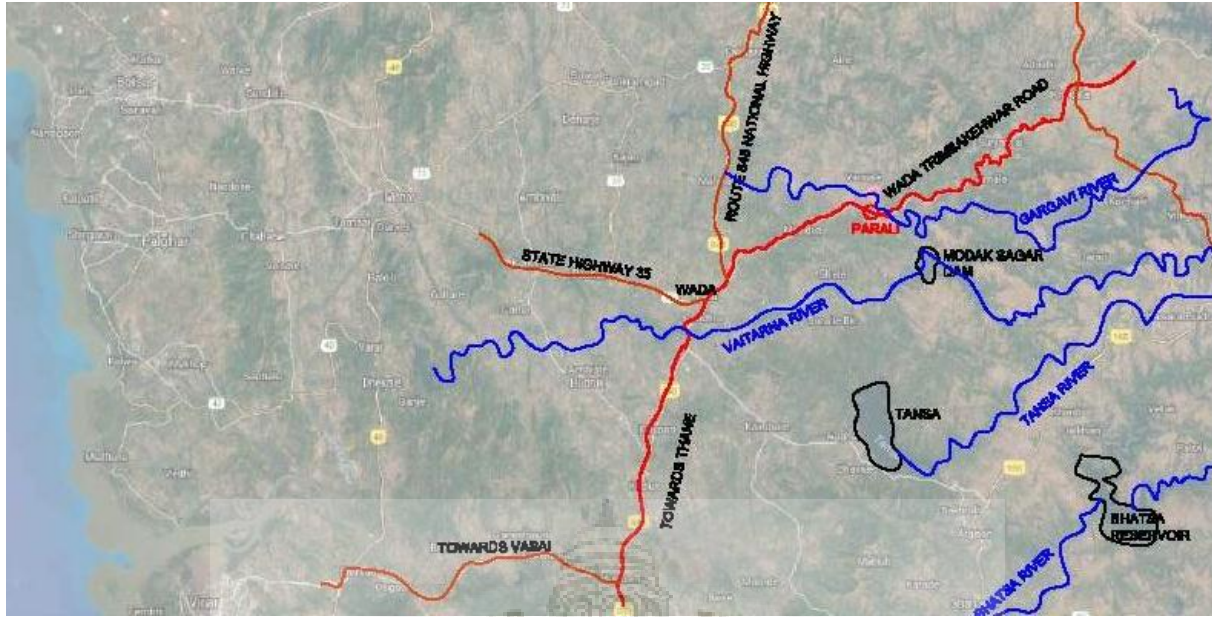
Map1.2 - Regional map

The village of Parali which has not more than 100 households lies in the Palghar district of Maharashtra. The Palghar district is surrounded by Thane district, Mumbai and Nashik in the south and east respectively. The northern part shares the border with the state of Gujarat.



Map1.3 – Neighbourhood map

Other smaller villages that surround Parali are Varsale to the North, Mandve to the West, Shele to the South-west and Amale to the East.

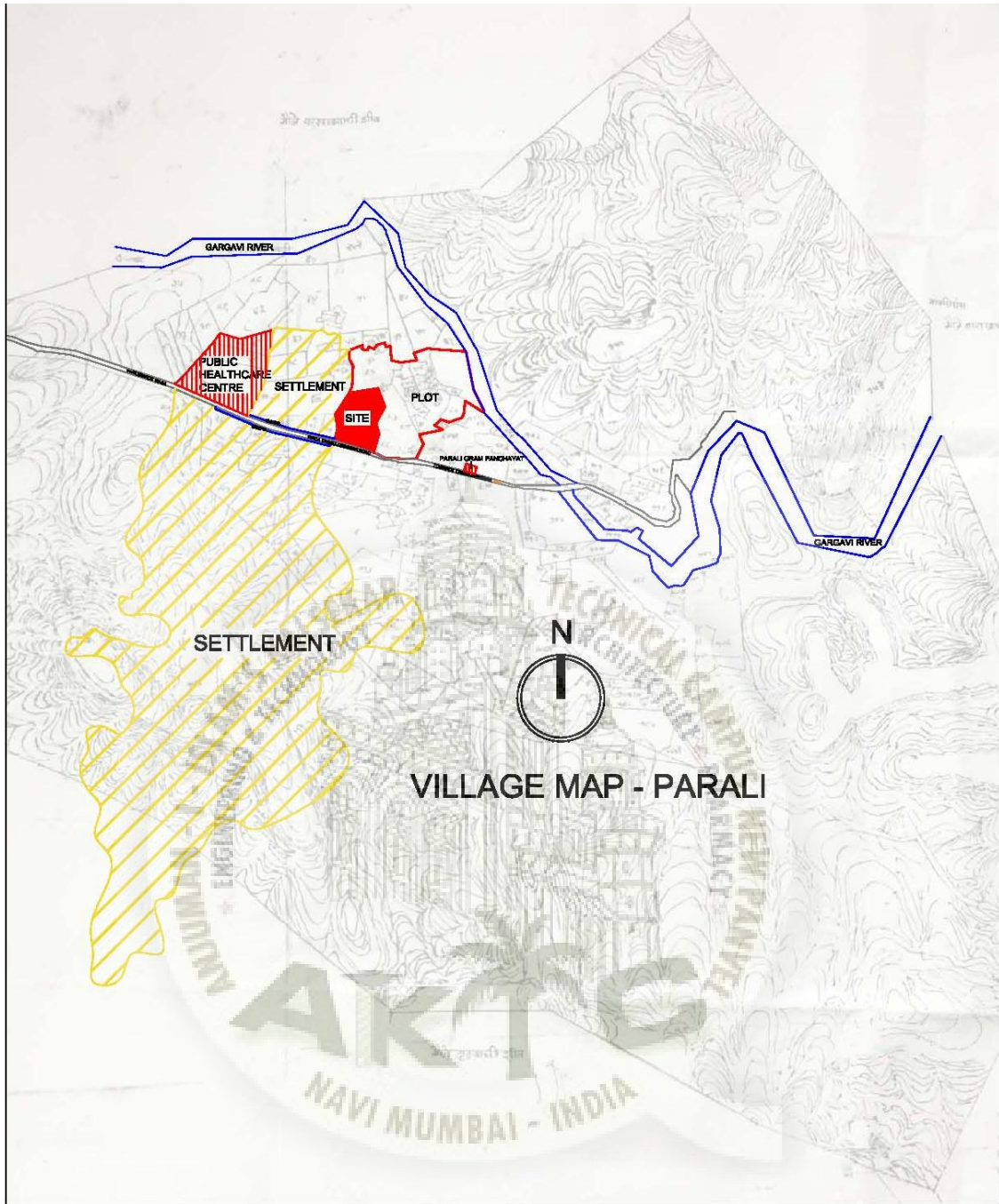


Map1.4 – Proximity map

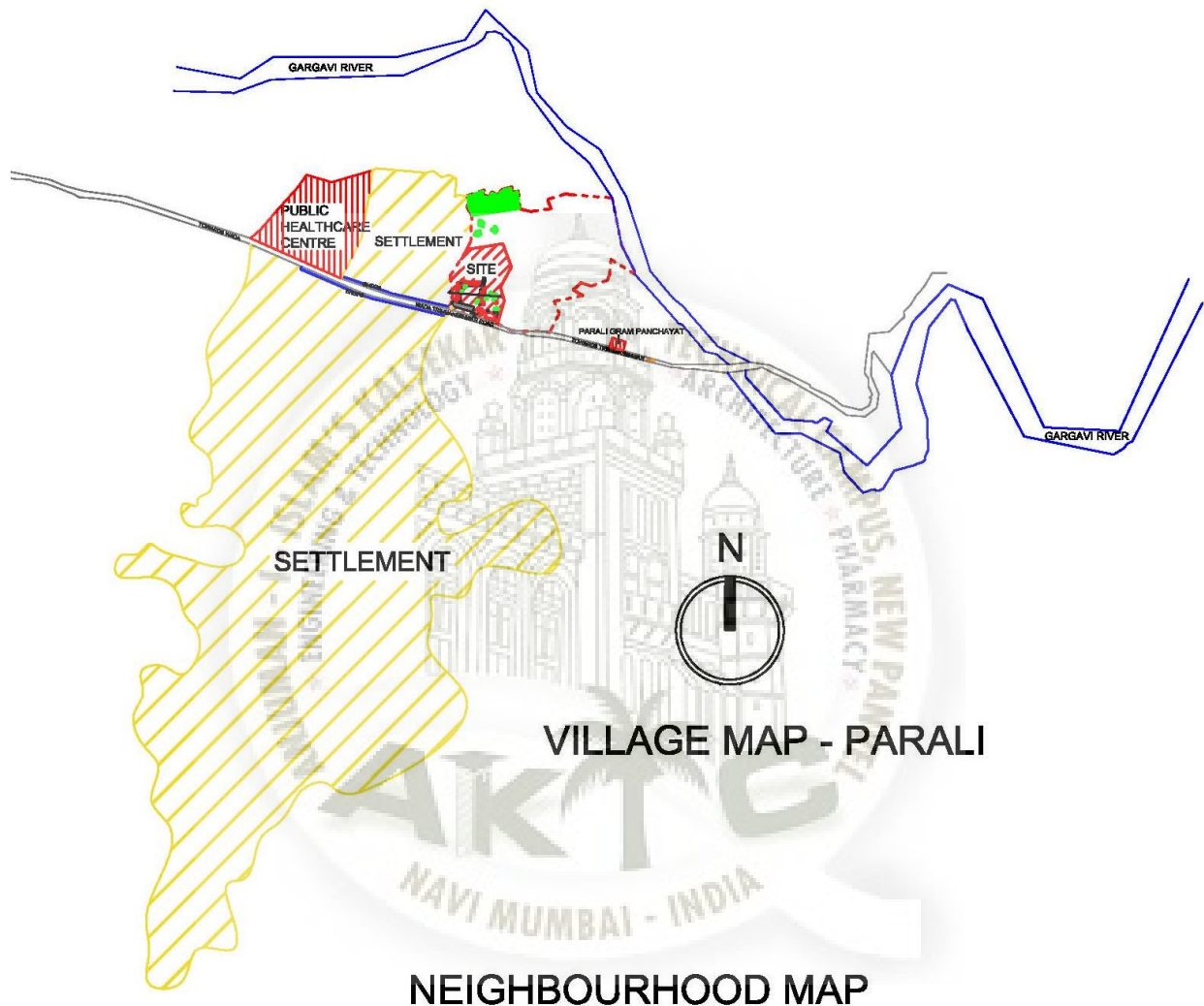
The site is surrounded by natural geographic features rich in biodiversity like rivers and small mountains. The route no.848 of National highway is located at a distance of 15kms from the site.

The Gargavi River runs touching the boundary of the site. Major rivers that provide water to the neighbouring Thane and Mumbai of Vaitarna, Tansa and Bhatsa are situated in close proximity (within 50kms radius) of the site due to which the soil is alluvial in the region. Rice farming is carried out extensively in the region.

Majority of the people living in the region belong to the katkari tribal community who are engaged in rice farming throughout the monsoon and during the winters they migrate to Mumbai and Navi Mumbai for working in brick kilns. Since they live in abject poverty they do not have basic amenities of shelter and are deprived of education. In the entire area which covers small hamlets of Mandve, Parali, Varsale and Amale there is no formal schooling facility for the children belonging to the katkari tribe.

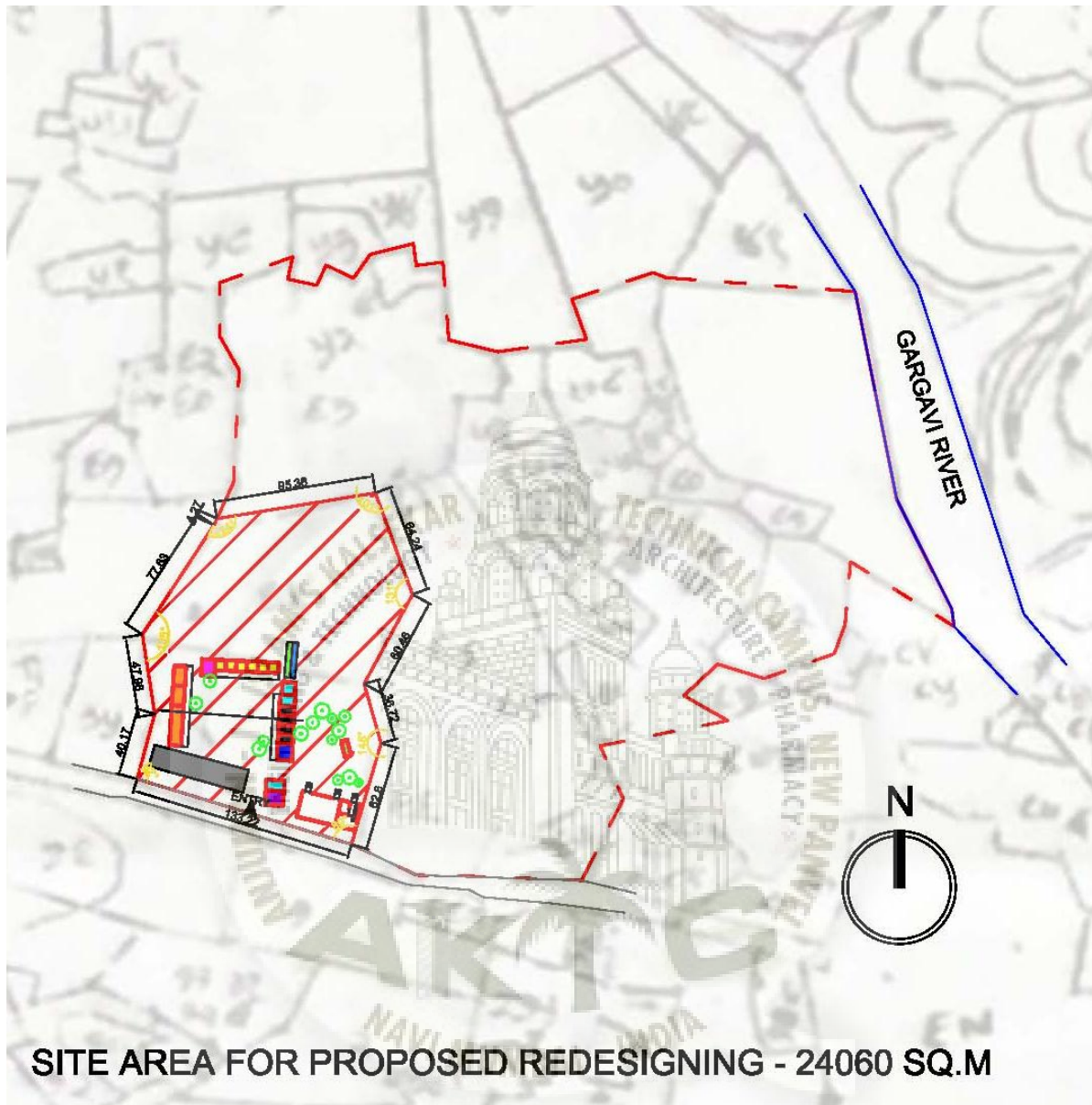


Map1.5.1 – Village map of Parali.

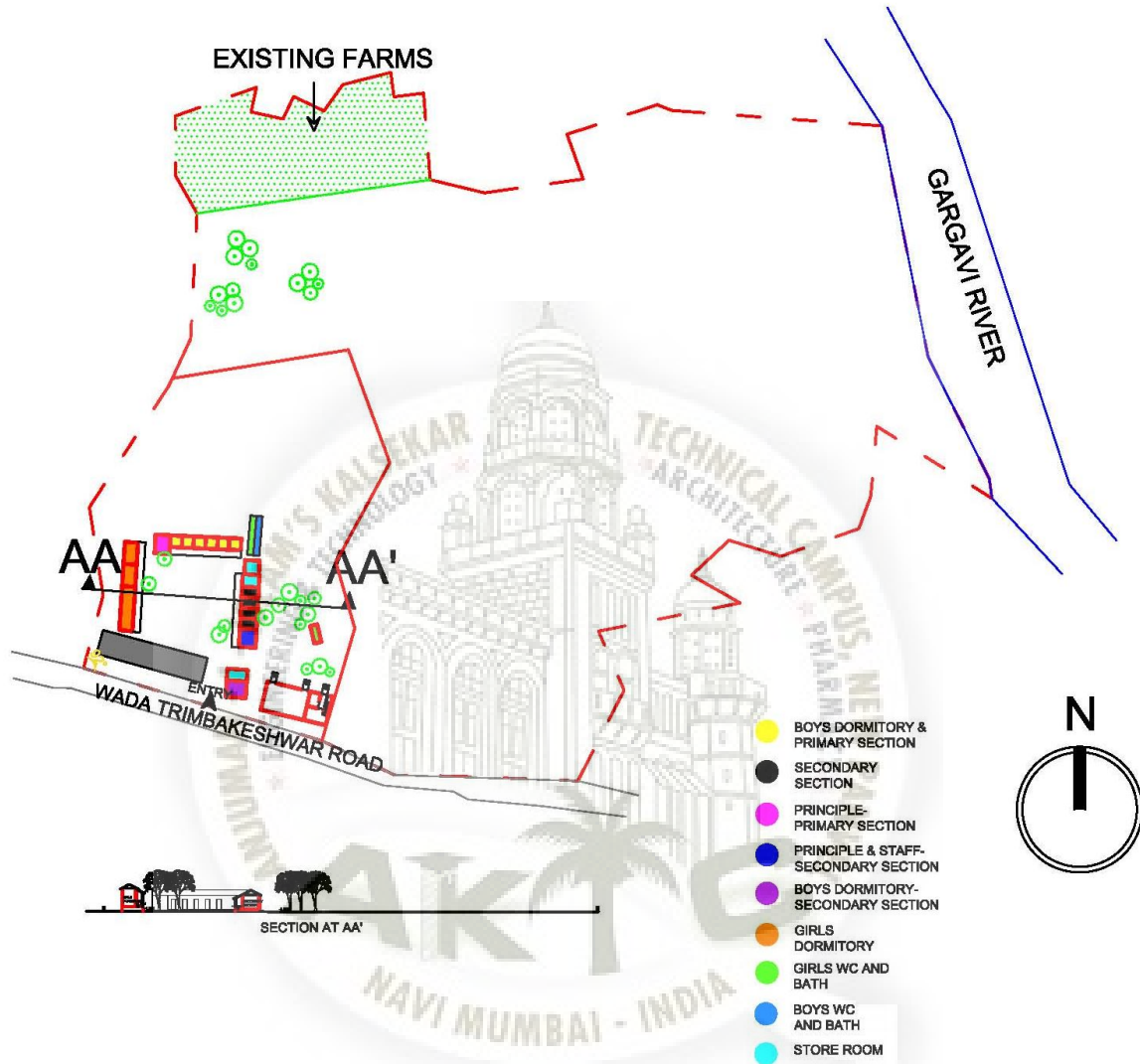


1.5.2 – Village map of Parali showing the existing site conditions

The only residential school set up by the government is the AshramShala in Parali. As a result there are around 700 kids of the katkari community who study here.



Map1.6 – Site with dimensions



EXISTING SITE CONDITION - ASHRAMSHALA, PARALI

Map1.7 – Existing site condition

i. CLIMATE OF THE SITE

Average temperatures and precipitation

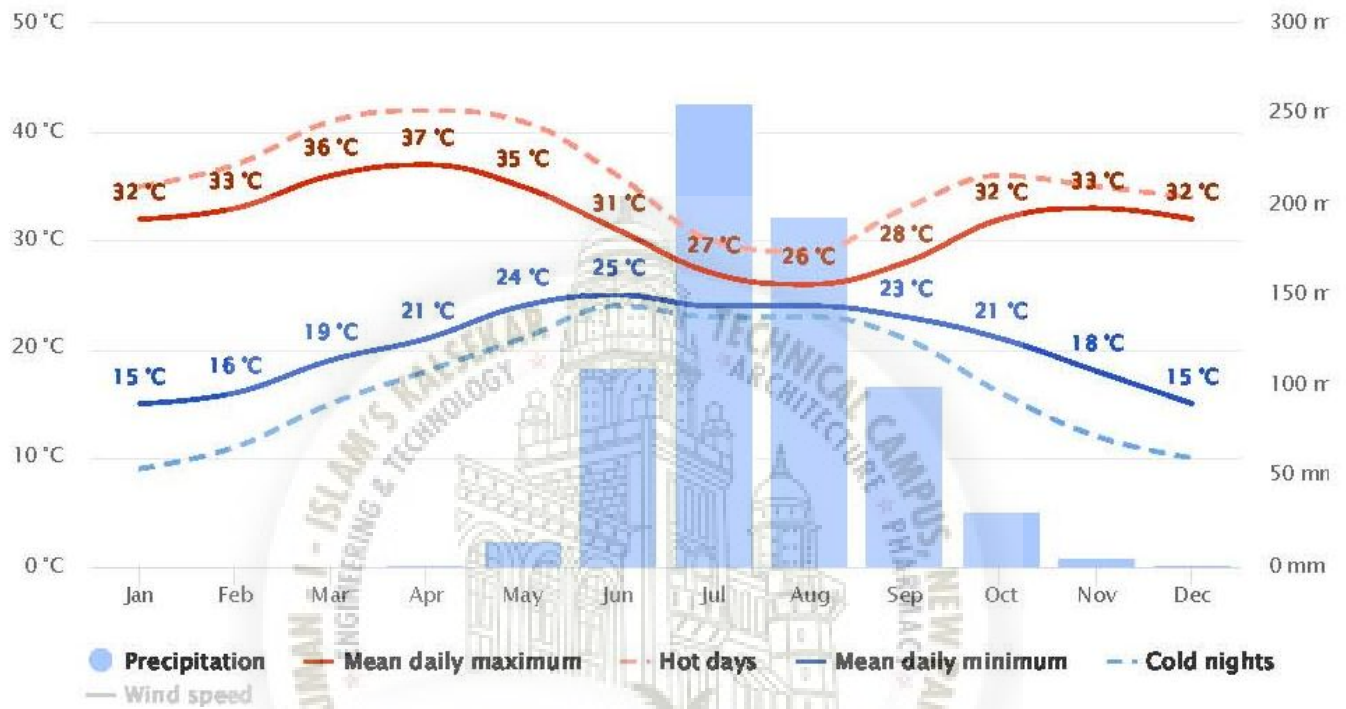


Fig4.7 Average temperature

The ‘mean daily maximum’ (solid red line) shows the maximum temperature of an average day for every month for Parali. Likewise, ‘mean daily minimum’ (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years.

Cloudy, sunny, and precipitation days

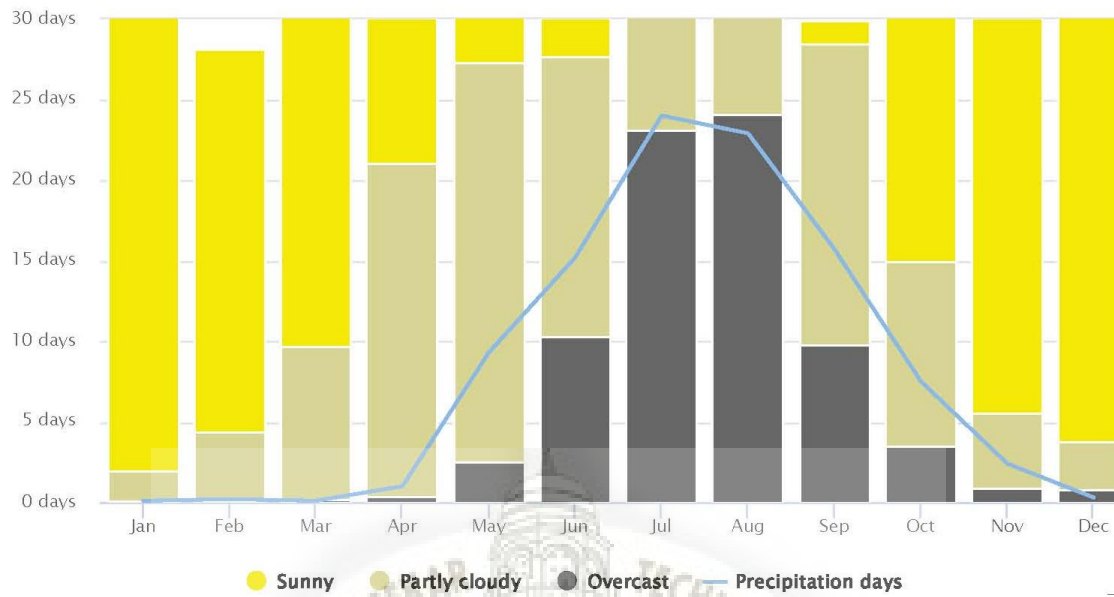
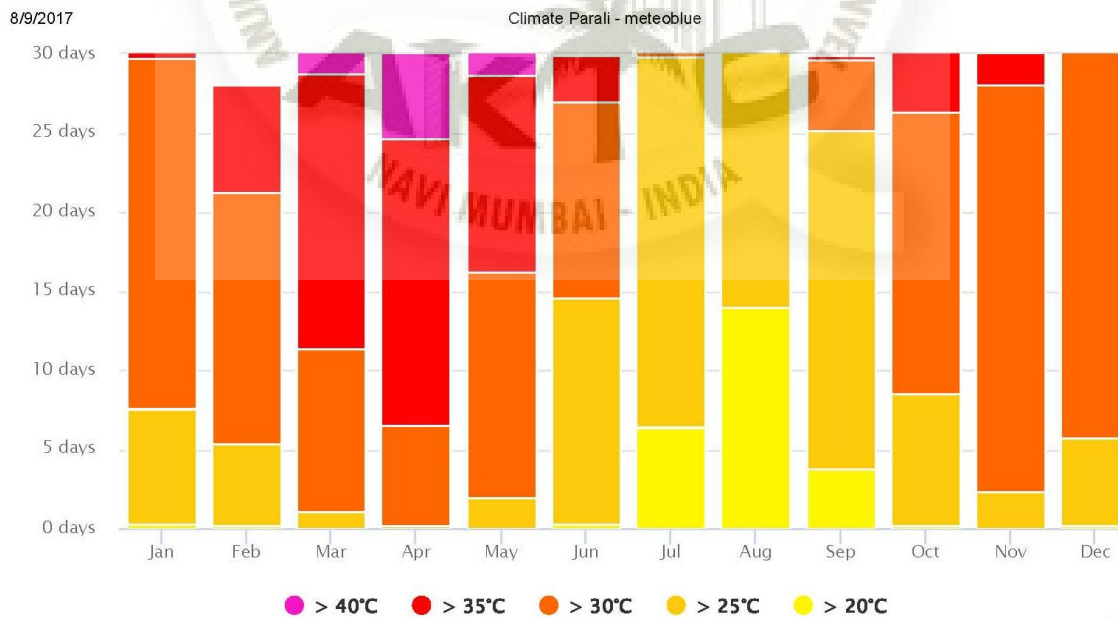


Fig4.8 Precipitation

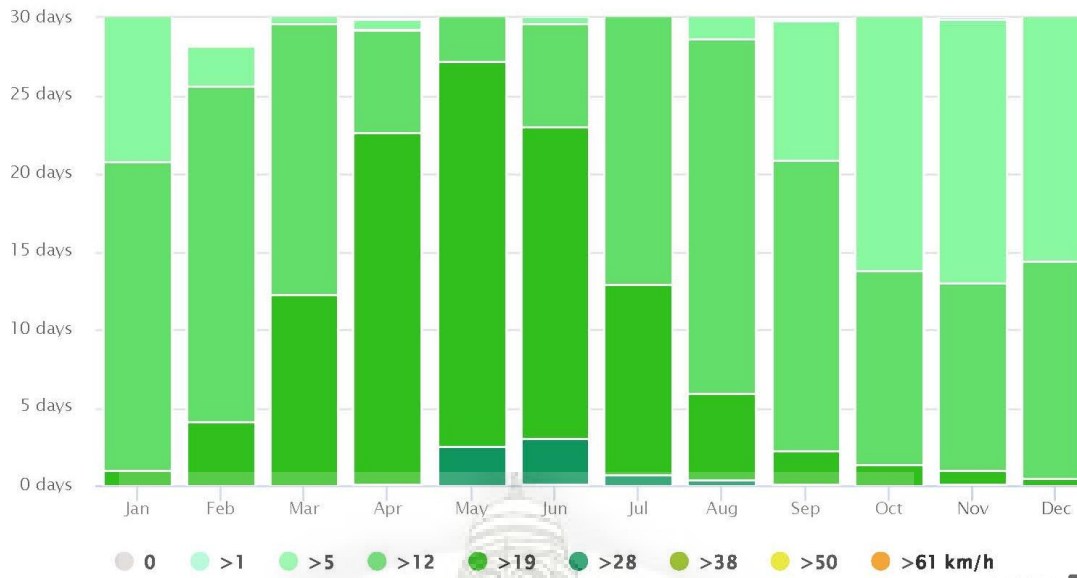
The graph shows the monthly number of sunny, partly cloudy, overcast and precipitation days. Days with less than 20% cloud cover are considered as sunny, with 20-80% cloud cover as



partly cloudy and with more than 80% as overcast.

Fig4.9 Maximum Temperature

Wind speed



The maximum temperature diagram for Parali displays how many days per month reach maximum temperatures.

Fig5.0 Wind speed

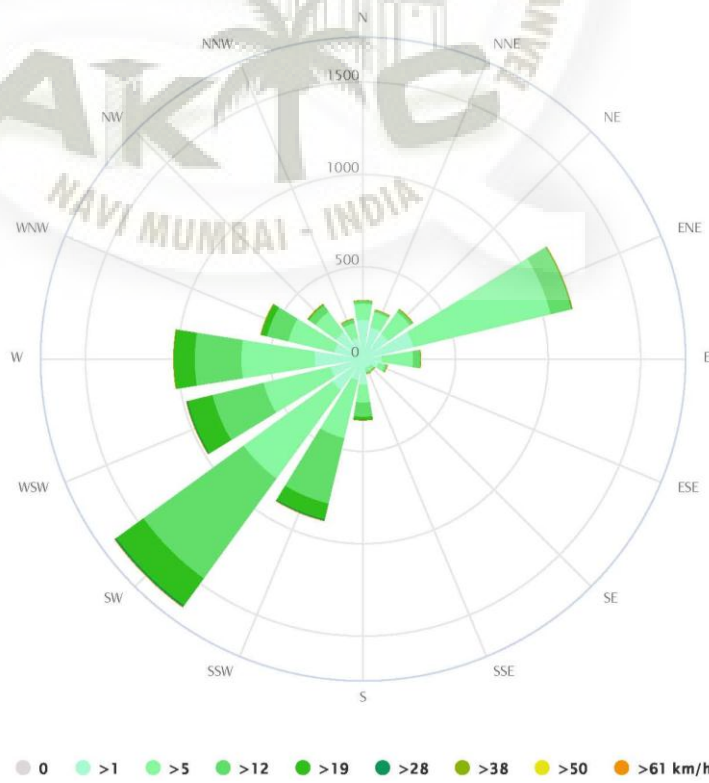


Fig 5.1 Wind rose

ii. PROBLEMS FACED BY THE STUDENTS



As the parents of these kids cannot afford to send them to proper school a majority of them stay at the Ashramshala in Parali. With a total of about 700 students which include 300 girls and 400 boys, the school is unequipped to handle such large crowd. Even though the site area is large, due to in appropriate planning the children here are forced here to stay in sub human condition.

Proper planning and by using vernacular style of architecture and by incorporating various sustainable techniques like rain water harvesting, the children can live in a much better and hygienic environment.

The primary school and boys' dormitory are common and used in shifts. i.e. during the day the space is used for conducting primary classes and during the night it is used for accommodating the primary boys.



The girls' dormitory is a common room which accommodates around 200 hundred girls. During the night the girls are forced to sleep in the auditorium.

There are no proper measures taken for the safety and security of the children. There is no proper boundary wall towards the back.

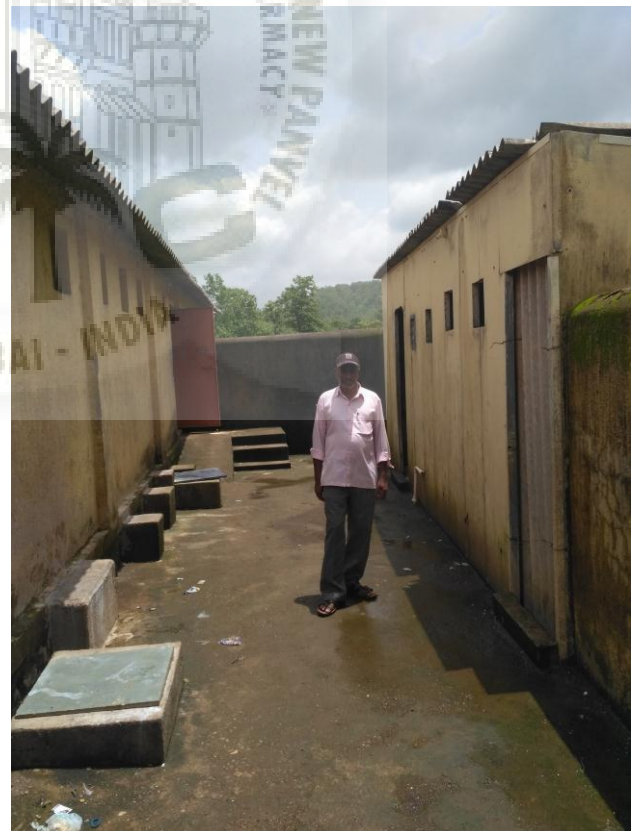


Also the bathroom is at the farthest corner due to which the children have to cross the entire school building to use the toilets and the bathrooms.

The girls' toilet is at the farthest end of the site, which proves to be security issue and causes problem especially during the night.

Also, there is no proper segregation or boundary between the boys and girls toilet because of which any outsider can easily access the toilets which can prove to be a big threat for the girls.

There is no proper security and nobody to check and regulate the users.





The toilet block for girls



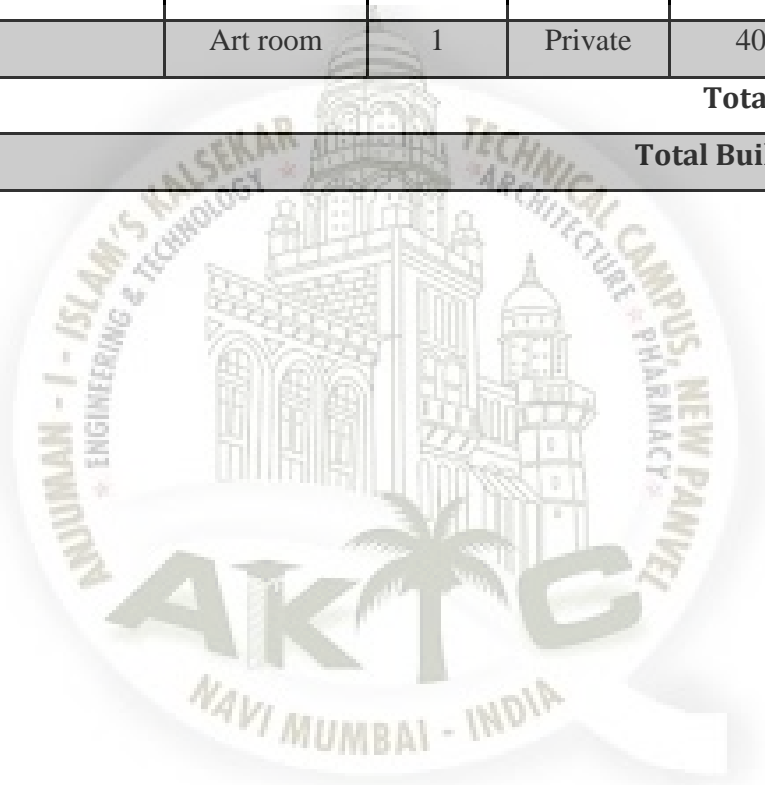
There is no separate mess for the purpose of eating meals; hence, the auditorium is used to serve the purpose. Also, the building is in dilapidated condition.

3. ARCHITECTURAL SPACE PROGRAMME

Sr.no	Space	Sub-Space	No.	Type	Capacity	Area
1	Administrative	Entrance	1	Public		70
		Principal's room	1	Private	4	20
		Vice principal's room	1	Private	4	16
		Admin office	1	Private	6	35
		Record room	1	Private	3	25
		Store room	1	Private	3	20
		Teacher's rest room	2	Private	14	80
		Stationary	1	Public	5	30
		Visitor's toilet	2	Public	6	30
					Total	326sq.m
2	Learning space	Classroom	10	Private	40 Each	500
		Anganwadi	1	Private	20	40
		Laboratory	3	Private	40 Each	150
		Audio-visual room	1	Semi-Private	100	120
		Reading hall	1	Semi-Private	50	70
		Library	1	Semi-Private	50	100
		Librarian room	1	Private	2	20

		Stock store room	1	Private	2	30
		Students toilet	2	Private	10 Each	40
Total						1070sq.m
3	Workshop	Shop head	1	Private	3	30
		Drawing hall	1	Semi-Private	40	70
		Carpentry workshop	1	Semi-Private	40	70
		Electrical workshop	1	Semi-Private	40	70
		Store room	1	Private	3	50
		Students toilet	2	Semi-Private	6	30
Total						320sq.m
4	Dormitory	Boy's dorm	14	Private	350	420
		Bathroom blocks	5	Private	10 each	150
		Girls dorm	10	Private	250	300
		Bathroom blocks	4	Private	10 each	120
		Study room	2	Private	50 each	200
		Warden room	4	Private	1 each	80
		Store room	1	Private	3	50
Total						1320sq.m
5	Dining	Dining hall	1	Semi-private	600	650
		Kitchen	1	Private	10	50
		General store	1	Private	3	30
		Grain store	1	Private	3	30
Total						760sq.m

6	Medical room	Dispensary	1	Semi-private	3	30
		Ward	1	Semi-private	3	30
Total						60sq.m
7	Miscellaneous	Multi-purpose hall	1	Semi-private	800	850
		Gymnasium	1	Private	40	50
		Visitors guest room	4	Private	2 each	50
		Art room	1	Private	40	65
Total						1015sq.m
Total Built-up						4875sq.m



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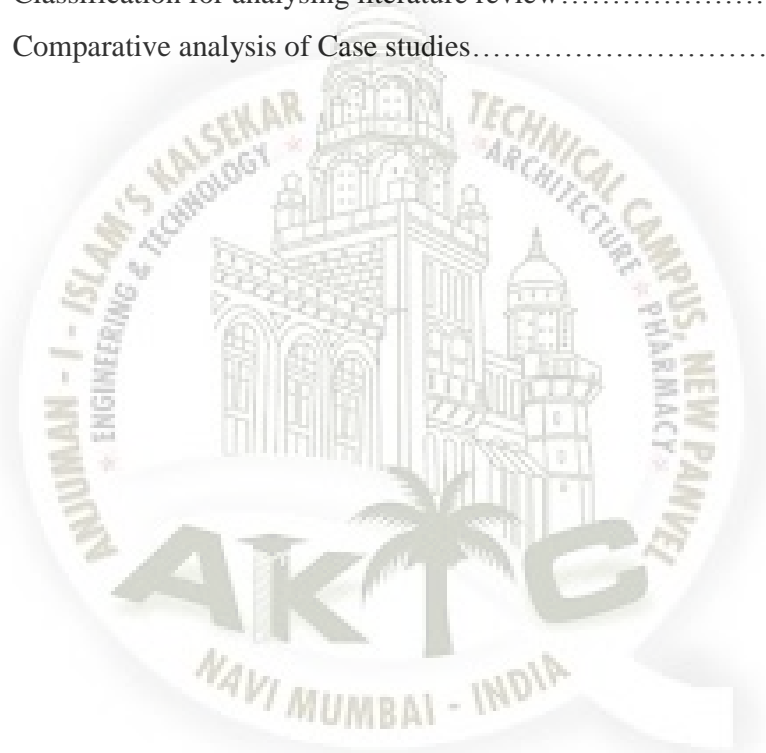
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