

**Gandhi and Architecture: Interpreting Gandhian ideology in  
Architecture**

**Bachelor of Architecture Research Thesis dissertation  
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Submitted By

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### Approval

The following study is hereby approved as a creditable work on the subject carried out and presented in the manner, sufficiently satisfactory to warrant its acceptance as a pre-requisite towards the degree of Bachelor of Architecture for which it has been submitted.

It is to be understood that by this approval, the undersigned does not endorse or approve the statements made, opinions expressed or conclusion drawn therein, but approves the study only for the purpose for which it has been submitted and satisfies him/her to the requirements laid down in the academic program.

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## Declaration

I, **Dhruvi Shah, 16BAR077**, give an undertaking that this research thesis entitled “**Gandhi and Architecture: Interpreting Gandhian ideology in architecture**” submitted by me, towards partial fulfilment for the Degree of Bachelor of Architecture at Institute of Architecture and Planning, Nirma University, Ahmedabad, contains no material that has been submitted or awarded for any degree or diploma in any university/school/institution to the best of my knowledge.

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This research thesis includes findings based on literature review, study of existing scientific papers, other research works, expert interviews, documentation, surveys, discussions and my own interpretations.

Date: 30<sup>th</sup> June, 2021

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## **Abstract**

Right now, after industrialization people are using resources as assets to be exploited which has created many major issues in and around the world. Architectural practitioners have been challenged by the current climate crises to promote sustainable architecture. Gandhiji was always concerned about environmental issues and human wellbeing. According to him all the living elements and environment should live in harmony as Depletion of environmental resources leads to imbalance in nature which creates many issues. Implementing his ideology in the field of architecture might solve environment related issues. As he never talked about architecture but was linked with it throughout his life, Study will be initiated by understanding Gandhiji's principles, his values, his lifestyle and the architecture related to him. It will also focus on the reflection of his ideology in various fields. Study will be providing framework for architecture which will be linked to Gandhiji's principles and his views on environment, sustainability, politics etc. in the end, an attempt will be made to derive themes to propose a Gandhian framework of architectural design.

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## **Chapter 1**

### **Introduction**

### 1.1 Research Question

- What are the ways one can interpret and apply Gandhian principles in the field of architecture?

### 1.2 Aim & Objectives

- Aim of the research is to derive themes to propose a Gandhian framework for architecture.
- Understanding Gandhian ideology and its application in various fields by various people.

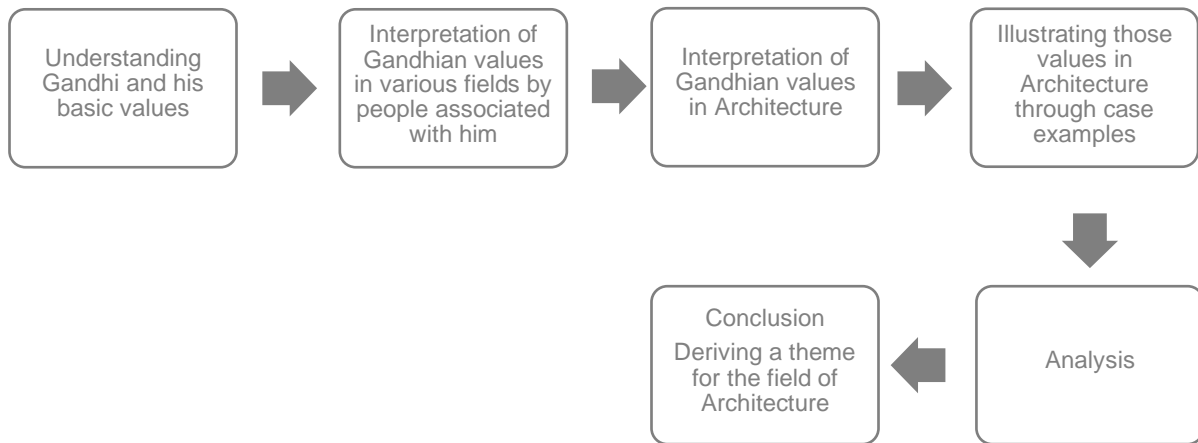
### 1.3 Hypothesis

Architecture influenced by an ideology or personal principles of an architect/client would reflect it in his architectural expressions.

### 1.4 Research Methodology

As far as we know, there is no precise scheme of architectural philosophy developed by Gandhiji himself that can be defined as Gandhian architecture doctrine. However, his architectural concepts are a part of his overall life philosophy; They are reflected in his writings and speeches, where they are mixed in with other related topics; they must be discerned more in his acts, which must be evaluated holistically rather than in isolation. Thus, thesis starts with creating a base of Gandhian Values and its introduction. People who came in intimate touch with him and were in a position to understand his ideas first hand, will be helpful in disentangling Gandhiji's architectural point of view. Thus, People related to Gandhiji which somehow affects Gandhian Architecture are studied. Moving forward on this, Interpretations in various fields are studied which will help in interpreting those values in architecture also.

These interpretations are based on Gandhiji's own thoughts, interpretation of various economists, Environmentalist and people associated with Gandhi. After generating a list of values or a framework, Primary case studies are taken which helped in illustrating those interpretation, which in turn help in understanding its applicability in the field of Architecture. in the end, an attempt will be made to derive themes to propose a Gandhian framework for Architecture.



### 1.5 Scope and Limitations:

As Gandhiji never talked about architecture the study will be based on the reflection of his ideology in the field of architecture. At the end of the case studies a framework will be derived, which can be applied in the field of sustainable architecture which will be linked to Gandhiji's principles and his views on environment, sustainability, politics etc.

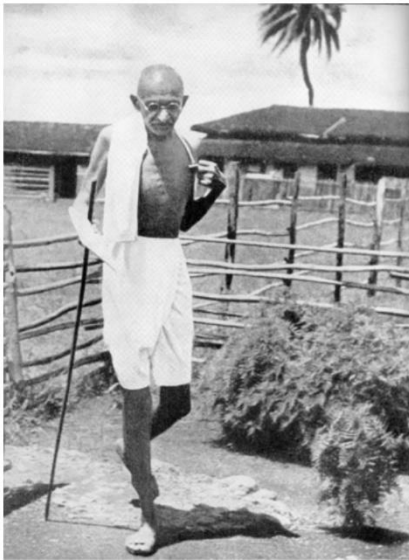
The study and the conclusion will be specific to the chosen case studies and may not be effective for programmatically different buildings. This study tries to understand how ideological thought can be connected to architecture. This study tries to understand translation/reflection of Gandhian ideology into architecture, where one would try to derive key ideas from both- ideology and built environment and relate them by analysing case studies. The study is restricted to relationship between Gandhian ideology and architecture and does not expand itself to small details.

Also, due to pandemic all case studies are done through literature.

## **Chapter 2**

### **Understanding Mahatma Gandhi**

## 2.1 Introduction



*Figure 1: Gandhiji on the ashram precincts, Segaon, January 1938*

Mohandas Karamchand Gandhi also known as Mahatma Gandhi was leader of the nationalist movement against the British rule. Gandhiji was born in Porbandar and then lived at many places including Rajkot, Ahmedabad, Wardha at Maharashtra etc. Where he experimented Sustainable living and Non-violence. He gave a new thought to the world. A new thought for a sustainable living and non-violence. His value system is still valid in these days and in future also, especially when we are trying to resolve issues taking place due to worldwide greed, violence (to nature and humankind) and runaway consumptive lifestyle which are putting heavy load on the world's resources. According to him, his life is his message. He never failed to put his values in to practice and being experimental. This helped to develop values which is now applied widely in each and every field. His Autobiography itself says, 'the story of my experiments with truth'.

His entire life he was loyal to social, moral and religious activities both in India and abroad. He took up all problems of life with great commitment and tried to solve them with the purest possible ways. He followed non-violence and peace. His life and actions were continually part of experimentation with truth. There was never any contradiction between what he said and what he acted upon. Thus, it is important to understand his ideology first.

## 2.2 Ideology of Mahatma Gandhi

Most great personalities throughout history have left their mark through specific work of art, inventions, philosophies or battles. Mahatma Gandhi, the father of the nation has given life values to the world and principles to follow in life. Gandhiji's life and writings reveal that he was attempting to educate a paradigm shift by giving holistic and ecologically significant alternatives to current industrial civilization's unsustainable model. He tried to replace consumptive life with conservation. He believed in production by masses instead of mass production. He gave the idea of community ownership (trusteeship) instead of private ownership. He focused on quality concern than quantity, decentralized economy rather than centralized one. He was called 'Mahatma' (a person in whom thought, words and action are wholly integrated) due to his constant effort which he made to attain the triple harmony of body, mind and spirit, and of thought, word and karma.

The most distinct thing about Mahatma Gandhi is that he never failed to put his theories in practice. Whatever he theorized, he tested in practice and the results would in turn shape his ideas and thoughts. His thoughts have been followed in each and every field be it politics, social upliftment or economy.

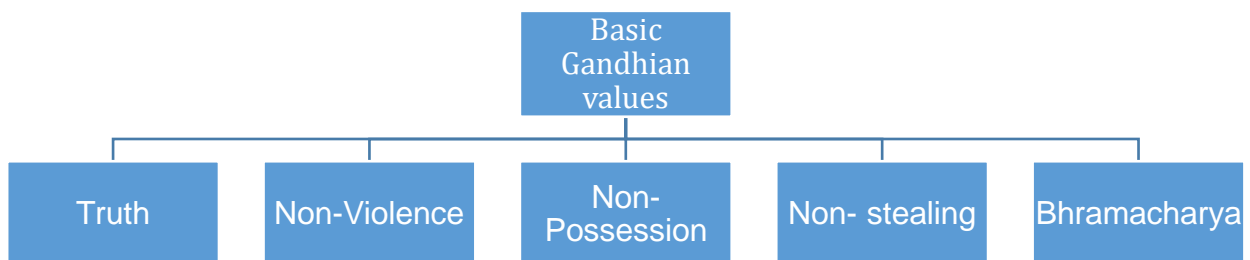


Figure 2: Diagram showing basic Gandhian values

### 2.2.1 Basic Gandhian Values:

In these difficult times, when the world is burdened by so many issues, it is important to strive to incorporate Gandhian philosophy into all aspects of life. To do so, we must first understand Gandhi's basic principles.

Gandhiji's entire life was based on experiments with truth and on the path of achieving this goal he identified and followed many values. He developed these values from various inspirational sources such as Bhagvad Geeta, Jainism, Buddhism, Bible, Gopal Krishna Gokhale, Tolstoy, John Ruskin among others. These values were also an outcome of Gandhiji's life events.

He recommends that persons who undertake a personal search for truth take numerous vows or "five restrictions" in order to strengthen their mind and body and therefore be able to realise truth.

They are:

- 1) Satya
- 2) non-violence
- 3) non-possession (aparigraha)
- 4) nonstealing (asteya or poverty)
- 5) brahmacharya (celibacy)

*'The word Satya is derived from sat which means a 'state of being'. Nothing in or exists in reality except truth. Without truth it is impossible to observe any principles or rules in life.'*

*Exhibition panels, Gandhi Ashram, Ahmedabad*

1) Satya: 'state of being'

Satya means truth. According to Gandhiji the various conceptions regarding truth reinforced his commitment to non-violence. Thus, It's the main principle which includes numerous other principles.

His idea of truth is free from any theological connotation, because according to him truth is God but also, he does not want to keep it limited to the domain of religion. It transcends all the rigid framework of religion and caters to almost every category including moral, metaphysical and spiritual. He also felt that only a society based on truth could achieve perfection.



## 2) Ahimsa: 'Non-violence '

*"Non-violence is the greatest force man has been endowed with. Truth is the only goal he has. For God is none other than truth. Truth cannot be, never will be, reached except through non-violence."*  
(Iyer, p. 256)

Ahimsa is another key principle of Gandhian ideology. One cannot find truth without following the path of ahimsa. Truth is a goal to achieve and non-violence is means of achieving it.

Gandhiji opposed the propagation of violence in one's thought, words, actions and deeds. According to him truth can only be achieved by following the path of non-violence.

Gandhiji did not conceptually derive non-violence from truth, but got to know about it because of following truth. Thus, Not truth, but search for truth, may reveal the means to the goal which is non-violence.

## 3) Aparigraha and Asteya : Non-possession and Non-stealing

*'Non-possession is allied to non-stealing. A seeker for truth cannot hold anything against tomorrow. '*

*-exhibition panels, Gandhi Ashram*

Aparigraha doesn't only mean taking something without permission but would also mean a longer usage than it was meant for or using it in a way which isn't meant for. It would violate the principle to possess unnecessary foodstuffs, clothes or furniture. For an example, one should not own furniture if can do without it. It can be considered as theft if one receives something which he doesn't really need. 'Aparigraha is really a part of Asteya.

Just as one must not deceive, so must one not possess anything which one does not really need.

## 4) Brahmcharya: Celibacy

*'Brahmcharya means giving up all pleasures of sense, that is control of all sense organs.'*

*-exhibition panels, Gandhi Ashram*

In Jainism, whoever adapts the path of monks, celibacy in action, words and thoughts is expected. Being Influenced by Jainism Gandhiji also followed Brahmacharya in order to find truth. If we define Bhracharya then one can say that it means to stay true to your own self

### 2.2.2 Social Values:

#### 1) Asprushyatanivaran:

Untouchability means pollution by touch. Gandhiji always stood against it and tried to remove such barriers between man and man. According to him, entire world is one family thus these so-called untouchables had equal space in the ashram with other classes.

#### 2) Swashraya:

Swashraya is a means to achieve non-possession. According to Gandhiji, one must not possess anything without contributing for it. Because all men must perform manual labour. How can a man have the right to eat if he does not work physically?

#### 3) Sarvadharmasambhav:

This phrase describes Gandhiji's respect towards all the religions and secularity of India.

Ahimsa teaches us to entertain the same respect for the religious faith of others as we accord to our own. (Young India, 1930)

#### 4) Swadeshi:

There is no salvation for us without true swadeshi. Its observances are the moral duty to us.

#### 5) Abhay:

A seeker after truth must have no fears of caste, government or robbers nor of poverty or death.

#### 6) Aswad:

Aswad means not to enjoy the pleasure of the palate. Food has to be taken as we take medicine, without thinking it is palatable or otherwise, only in quantities limited to the needs of the body'.

### 2.2.3 Political Values:

#### 1) Satyagrah: 'clinging to the truth'.

Satyagraha is a combination of two main Gandhian values which are Truth and Non-violence. Satyagraha seeks new harmony rather than seeking Victory or Defeat.

#### 2) Civil disobedience:

Civil disobedience means a protest of a large group against the ruling government or authority. According to Gandhiji one should not commit any attack on others' rights and this thinking led him to introduce civil disobedience.

#### 3) Non-cooperation:

Gandhiji was of the opinion that oppression and exploitation were possible only through cooperation given by those who were being oppressed. When the people decide to refuse to cooperate with an unjust Government the unjust system sooner or later, comes to an end. It was to get working government to a standstill by not supporting the administration.

#### 4) Democracy:

Democracy is very important thing, especially in a country like India. According to Gandhiji a true democracy cannot be worked by men sitting on top, at the centre, It must be worked from the ground up, by people living in villages.

#### 5) Economy:

according to Gandhiji development should be less in terms of materialism and more in terms of human growth. Economic planning should be done considering human kind as well as surroundings.

#### **2.2.4 Gandhian views on environment and human relationship:**

According to Gandhiji, there are three balances that must be maintained in order to live a peaceful and harmonious life. These were the equilibriums between (i) human interests and Nature, (ii) individuals and the societies they formed, and (iii) man's physical and spiritual needs. Gandhiji envisioned a world in which mankind lived in close proximity to nature and to one another. His idea of small village communities gave such opportunities for people to be close to each other as well as with nature. The bread labour, Nai Talim and inter-faith activities also helped in the development of the body, mind and spirit.

Today one of Gandhi's best-known sayings, that the "the earth provides enough to satisfy every man's needs, but not every man's greed" has become a popular slogan all over the world encompassing the essence of nature and its conservation.

Gandhiji had a holistic approach to life. According to him all various spheres live in harmony. thus, the essence of the Gandhian thinking is the inter-connectedness of all the living and non-living beings. Gandhi stood for simple living and believed in voluntary reduction of one's wants. He said we should take from nature only as much was absolutely necessary and recycle the wastes back to nature. In one of his earliest speeches in India he said, " I venture to suggest that it is the fundamental law of Nature, without exception, that Nature produces enough for our wants from day-to-day, and if only everybody took enough for himself and nothing more, there would be no pauperism in this world, there would be no man dying of starvation in this world." - (Speeches and writings of Mahatma Gandhi, 4th ed.)

Depletion of Resources leads to many issues related to human and environment such as poverty which takes birth due to resource depletion, increasing economic disparities, migration from rural to urban areas and environmental harm. To resolves such issues one should take care of environment and use the resources wisely.

### 2.2.5 Gandhian views on Sustainable development

Gandhiji always linked sustainable development with Economy. According to him economic growth must not be at a cost of harming the environment. One must work in coordination with nature to ensure non-violence. To avoid overloading the environment system one must take care of Non-renewable resources in terms of consumption and start producing goods which are easy to recycle, repair and re-use. The way Gandhiji lived is the best example of sustainable living. These are some of the points related to Gandhian views on Sustainable development.

- Humankind should act considering itself to be a part of Nature.
- The earth's resources should be used with caution.
- Other living organisms and scarce resources should not be harmed or overused by humans, as this is also a form of violence.
- one should adapt conservationist approach in order to dominate the unsustainable, consumerist, self-destructive approach.
- Human beings should take care and share with the poor and the people in need, as a moral obligation towards them.
- One should consider how much is sufficient for a need-based, austere, basic, and pleasant living.
- All development, as far as is possible, should lead to local self-reliance and equity with social justice.
- Ethics and self-discipline in resource use is the most important criterion of development.

Gandhiji's life and writings reveal that he was attempting to educate transformation by offering ecological and holistic alternatives to the unsustainable model of modern industrial civilisation.

### 2.2.6 Gandhian views on Economics:

Gandhi equates ethics and economics. Moral values must guide economic life and interactions, as economics must serve the cause of justice. This can be accomplished by promoting Sarvodaya. The notion that "we should cease to focus of acquiring what we can and refuse to receive what all cannot get" is the key to this. As Gandhi underlines, "Earth provides enough to satisfy every man's needs but not for every man's greed." Living by this principle entails explicitly putting a stop to fulfilling material desires beyond a certain point. Gandhi recognises that "a certain degree of physical harmony and comfort is necessary but above a certain level it becomes a hindrance instead of help, to cross this limit is to allow it to degenerate into physical and intellectual voluptuousness". (Gandhi M. K., The collective works of Mahatma Gandhi). Gandhi is a firm believer in limiting one's desires. It is necessary to adamantly refuse to have what millions cannot. All must, nevertheless, enjoy the necessities of life. Only on this foundation will economics be able to shed its "demonic" nature, as Gandhi describes it. Human happiness can be linked with mental and moral growth, and the internal and outward components of man's life can be well matched. True human development, according to Gandhi, is the trinity of physical, mental, and moral development. Human progress can only be guaranteed if all three factors are in accord. This progress aids in the creation of a proper balance and harmony between man's internal and external existence, as well as between man and society and man and nature.

Gandhiji advocated for complete decentralisation of the economy. Each settlement, he believes, should be a self-sufficient economic unit. He was an advocate for small businesses and cottage industries. He placed a significant value on the Khadi sector. He advocated for small-scale personal intensive farming. Gandhiji was similarly affected by the suffering of the poor and oppressed. He worked for them throughout his life, and he also stood for a small-scale production system, as well as austerity and simplicity in living. He had the ability to see nobility and dignity in everyday people and their jobs. He highlighted the need of life's simplicity, as well as a redefining of human needs, a new approach to labour, and a new sense of responsibility for the poor.

Throughout freedom struggle Gandhiji has inspired many. Some of them participated actively and directly in the political battle, while others tried to lay out a social and economic agenda based on Gandhian values of truth and nonviolence. There are some other people also who were indirectly but were thoroughly influenced by the Gandhian principles and their works reflected this influence.

Gandhian idea of an economic model was simple and were based on his life values. Among the distinguished Gandhian economists and planners, there are some economists such as JC Kumarappa, Shriman Narayan, JK Mehta and also EF Schumacher who requires a special mention. This unit examines these renowned men's ideas and philosophies, as well as how they prepared the development agenda using a humanistic approach based on Gandhian principles.

### 2.2.7 People associated with Gandhi



Figure 3: image of Ar. Hermann Kallenbach

In Gandhi's experimental life, people whom he met and collaborated with played an important role. These were the people greatly influenced by him and continued to follow his principles in some or other way. This chapter tries to explain the architecture related to Gandhiji or his close followers. For that, first one needs to understand his close associates and Gandhian influence on them.

#### Hermann Kallenbach:

Dr. Hermann Kallenbach (1 March 1871 – 25 March 1945) was a Lithuanian born Jewish South African architect who was one of the foremost friends and associates of Mahatma Gandhi. Gandhiji and Kallenbach met while they were both working in South Africa. He is also known as a Jewish soulmate to Gandhiji. They worked on developing Phoenix settlement and Tolstoy farm together.



Figure 4: image of Mira Behn  
source: Ministry of Information & Broadcasting, Government of India

#### Madeleine Slade: (Mira Behn)

Mira Behn is the British-born follower of Gandhiji who participated in the freedom struggle of India. She used to accompany Gandhiji in his tours and used to look after his needs.

She accompanied Gandhiji in setting up the Sevagram Ashram and designed Bapu kuti in 1936. She designed it considering Gandhiji's health issues. After Gandhiji shifted to her hut, she moved to a nearby village and made a hut for herself. She took care of the environment and made everything from whatever was available, e.g. She used kerosene tins to make toilets and also the stone in construction which was made available by blasting the well.

She continued following the Gandhian path after the demise of Gandhiji also. She set up an Ashram in Hrishikesh and settled there. She took community projects, worked on environmental issues and the expansion of agricultural production.



### J C Kumarappa: (1892-1960)

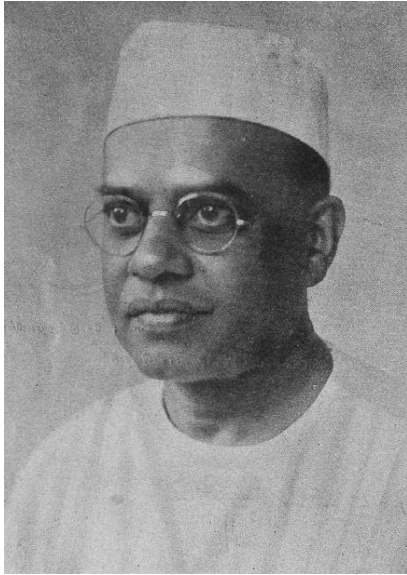


Figure 5: Sakthi, Tamil monthly magazine, May 1947, Madras, British India.

Shri J. C. Kumarappa was one of the trusted disciples of Gandhiji who was asked to carry out his economic ideas into practice and in doing so had obvious opportunities of understanding Gandhiji's point of view.

He introduced the world to the new economic thought named as- 'Gandhian Economics'. He emphasised on the conservation of environment. According to him human beings should collaborate with nature to meet their needs without disrupting the natural patterns of growth and renewal. He emphasised on using local materials.

Historian Ramachandra Guha calls Kumarappa, "The Green Gandhian," presenting him as the founder of Indian modern environmentalism. According to him, there is no such thing as the principles of economics of Gandhiji. According to him two life principles governed all Gandhiji's social, economic, political and other considerations, viz. Truth and Nonviolence. It is in the application of these criteria that the Gandhian Economic thought has been built up. In his book he has tried to involve Gandhian thought of Sarvodaya along with individual, moral and spiritual development.

#### Truth & Non- Violence:

Kumar appa advocated Economics based on nature. According to him one should always consider 'mother nature' first. He also added that, "man has to pick his way through skilfully, so as to attain his greatest benefit to himself with least harm to others and minimum disturbance of the natural order." This is reflected in the field of Agriculture also where Kumar appa tried to use bio-fertilizers in order to make less or no harm to the land.

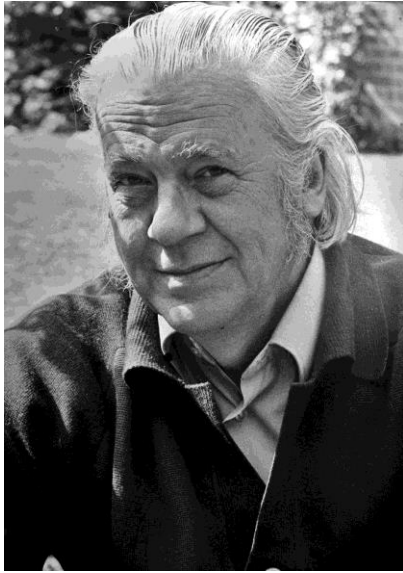


Figure 6: E.F. Schumacher

*“Modern man does not experience himself as a part of nature but as an outside force destined to dominate and conquer it. He even talks of a battle with nature, forgetting that, if he won the battle, he would find himself on the losing side”.*  
(schumacher)

*“Man is small and small is beautiful. To go for gigantism is to go for self-destruction”.*

### **E F Schumacher: (1911-1977)**

We can easily find the influence of Gandhi in Ernst Friedrich ‘Fritz’ Schumacher’s works. In the process of development he has produced work on the use of resources in a well-thought-out manner. Along with Gandhian ideology, he advocated Buddhist economics also which reflects the non-violent and peaceful nature of his Economics. According to him one must work in coordination with nature to ensure non-violence. He also advises to stop conserving non-renewable resources, producing goods which are easy to recycle, repair and re-use in order to avoid overloading the environment system. He often cited Gandhi in his works, which is a proof of great influence of Gandhi around the world.

He described five main pillars of Gandhian economic thinking as:

- Nonviolent
- Simple
- Small
- Capital Saving
- Rural Based (Self Reliant and Employment-Orientated)

#### **Nonviolent**

Gandhiji perceived that the modern urban-based industrial civilization was exploitative and violent. Violence can be in form of urbanisation, Capitalism and environmental degradation. As a Gandhian term, Nonviolence is a concept that encompasses not only man's violence against man, but also man's violence against the living nature around him, as well as man's violence against the Earth's limited and finite resources.

#### **Simple**

Gandhiji believed in ‘Simple living and high thinking.’ He believed that all real human needs are essentially simple. For him simplicity is not only limited to food and clothes but he adopted it in his entire life as a philosophy. Living a simple life diminishes things which are not needed thus it helps in balancing economy.

### **Small**

Reuniting production and consumption was only possible through small manufacturing units, which are easier to operate and adapt to local conditions . Which can lead to minimization of transport and would not add extra cost to the real value of goods.

### **Capital Saving**

Capital conservation was one of Gandhi's economic foundations. One of Gandhiji's justifications for opposing capital-intensive, complicated technology was that it transformed a huge number of people into "machine minders." As he believed in production by masses. To Gandhiji, Work should be designed to produce production modes that fit into existing conditions in terms of capital availability against labour availability. It should be a methodical development of technologies that are inexpensive enough to provide everyone an opportunity to work.

### **Rural Based**

The greater part of Gandhiji's work was to renew India's vitality and regenerate its culture. Swadeshi avoids economic dependence on external market forces that could make the village community vulnerable. It also avoids unnecessary, unhealthy, wasteful and environmentally destructive transportation. As a result, the village would become the primary political, economic, and social unit. Agriculture would remain the primary industry in such a unit. Additional small-scale village enterprises utilising modern technology that did not interfere with human needs would be established. Gandhiji envisioned a decentralised economy in which each fundamental unit could meet its own basic material needs, such as food, clothes, and housing.



Figure 7: J.K. Mehta

*“non-violence is the right principle in economics. if we only knew what non-violence really meant we would realise that our happiness consists not in marching on the road to industrial development but in living a simple life”.*

*-J.K. Mehta*

### **J. K. Mehta:**

Prof. Jamshed Khaikusroo Mehta, a renowned economist, interpreted Gandhian economic thought in a most humanistic and spiritualistic mode, through his book ‘A Philosophical Interpretation of Economics’. He views economics as a subject of ‘everybody’s concern’. He believed in the economics of non-violence and non-possession. According to him our economic life has failed to address the issue of human unhappiness. He has propounded the theory of ‘wantlessness’. Which is related to non-possession mentioned by Gandhiji. He was also of the view that maximization of satisfaction is rather completely inconsistent with the maximization of human wants.

### **Shriman Narayan:**

Shriman Narayan worked with Gandhiji during the freedom struggle. He was closely associated with him, thus he was capable of interpreting Gandhian economic thought and the philosophy of Sarvodaya. He has written many books which drew appreciation from Gandhiji which includes ‘Gandhian Plan of Economic Development for India’ and ‘Gandhian Constitution for Free India’. Gandhiji acknowledged his work as illustrious pieces. He served the country as a social reformer, parliamentarian, educationalist, member of Planning Commission of India, Ambassador and as a Governor. He was also affiliated with a number of Gandhian organisations and institutes. From his writings, it is clear that he admired Gandhi's holistic approach to human welfare and his refusal to compartmentalise it. In the same vein, he mentioned that “true economics could never be divorced from the ethical and spiritual values of life”. (Narayan, 1970, p.229).

Joining the dots, we can see that M. K. Gandhi’s views on social, economic and environmental themes provides data for a manual for Architecture and sustainable development.

### 2.2.8 Architectural interpretation of Gandhian Values:

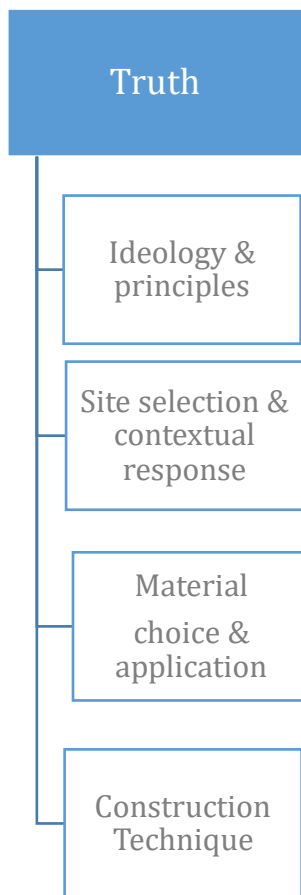


Figure 8: Diagram showing interpretation of Truth in Architecture

Although we do not have any definite scheme of architectural thought developed by Gandhiji himself, which can be described as Gandhian ideology for Architecture, we can still understand his views because his architectural ideas are part of his general philosophy of life, which is reflected in his writings and speeches and is mixed up with other related topics. In other words, one must interpret Gandhiji's architectural idea and construct what may be called Gandhian architectural philosophy from what he did and said in this regard. It should not be difficult for those who had close touch with Gandhiji and were able to witness and comprehend his thoughts first hand to assist in disentangling Gandhiji's architectural philosophy so that future generations might better understand it.

Thus, in this section; idea is to interpret those basic Gandhian values in the field of architecture. These interpretations are based on Gandhiji's own thoughts, interpretation of various economists, Environmentalist and people associated with Gandhi as described in previous sections.

#### 1) Satya (Truth) : 'state of being'

According to Gandhiji Truth is the main aim and non-violence is means to achieve it. Mahatma Gandhi insisted on moral values of simplicity, honesty, truthfulness, minimalism, austerity, transparency etc. He summed up above ideas in his key principles of truth and non-violence. In the field of Architecture Truth can have many interpretations. Gandhiji's truth could be interpreted as being truthful to one's beliefs; and one should act according to these beliefs. To architecture, this concept can be interpreted as - an architect should be truthful to his principles & ideology and should not create architecture on the basis of particular style or fashion.

Truth can also be interpreted in terms of structural honesty, choice of material, contextual response, construction technique, generating form etc.

*"We can call a piece of architecture true when a building simply reveals its function, such as a house simply providing shelter and giving someone a sense of home."*

*-Karsten Harries*

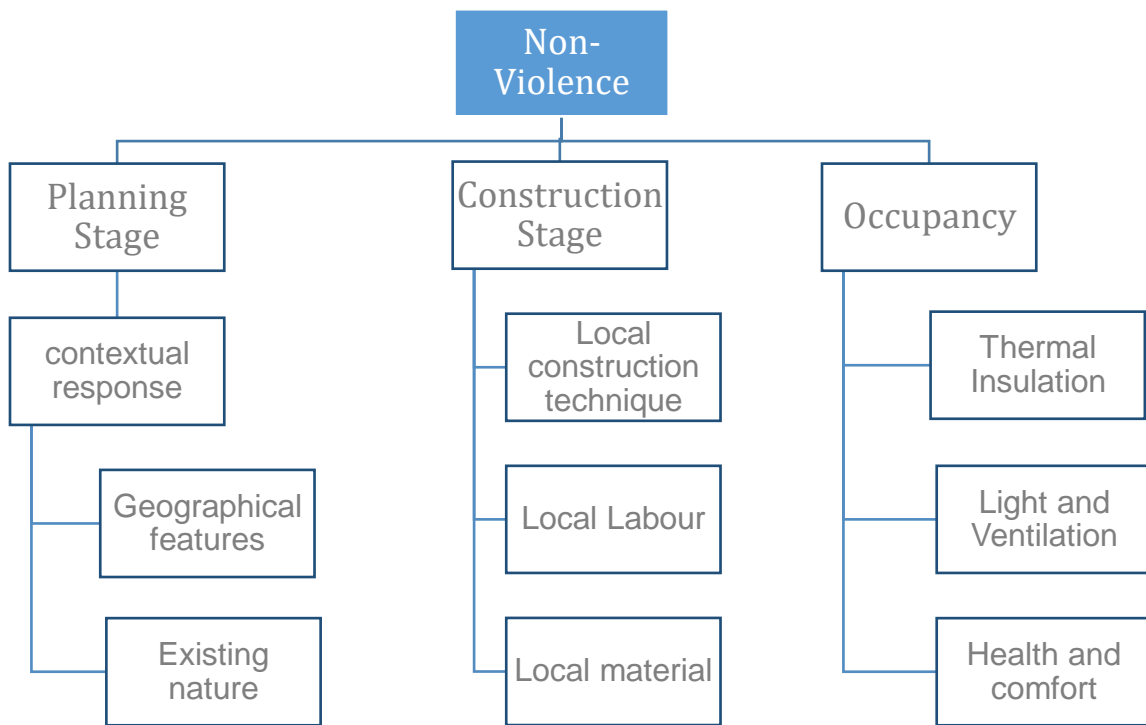


Figure 9: Diagram showing interpretation of Non-violence in Architecture

## 2) Non-Violence:

Non-violence includes not only the violence of man against man, but also man and living nature around him, and against the limited resources of the earth. This concept of nonviolence could be reflected in architecture as a concern for environment and natural resources that an act of building should be non-violent towards nature while siting the built form, choosing construction materials and construction techniques.

In order to achieve this one has to take care of it at each stage of construction. Right from planning to occupancy it can be achieved through proper contextual response, using material with lower embodied energy, climate responsive design and human comfort.

*“My opposition to machinery is much misunderstood. I am not opposed to machinery as such. I am opposed to machinery which displaces labour and leaves it idle.”*

*(H, 15-9-1946, p. 310)*

### 3) Non-Possession:



Figure 11: image showing Gandhi's possessions at his Ashrams

*"In our country today, we need to care for all our countrymen and to use our resources carefully. Any excesses, any wasteful or unnecessary use of materials are a slap in the face to those who have no home and no hope of ever getting a home as long as we squander the wealth of our land."*

*-Laurie Baker*

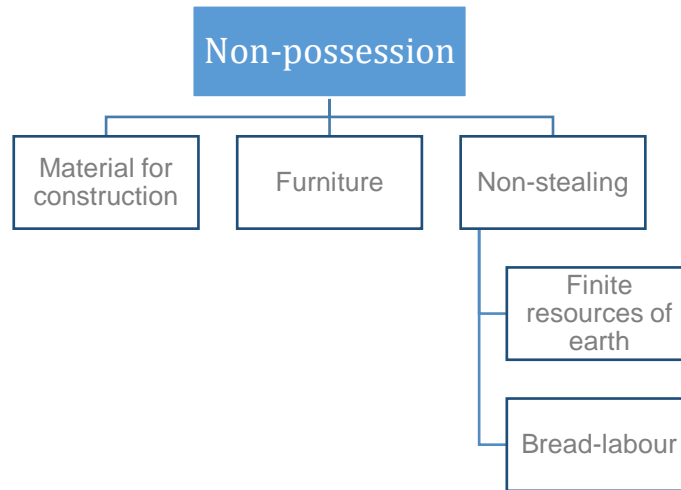


Figure 10: Diagram showing interpretation of Non-possession in Architecture

The principle of non-possession is that one should not possess anything which is not required. Thus, it is progressive simplification of one's own life, or minimalistic life. In architecture also, there should not be a single act which is not necessary to program. One should spend as little as possible and make use of what is available already. One should build as cost effectively as possible and it should not be just for poor but for everyone. Non-possession can be seen in usage of furniture, material etc. In fact, Once Gandhiji said, "he who can do without chairs will not keep it in his house." Non-stealing is also a part of non-possession. It can have various interpretations in Architecture, 1) Non-stealing can be related to finite resources of the Earth. 2) It can be related to bread-labour which can be stolen from people due to technological advancement.

### 4) Swadeshi:

Another important concept of Mahatma Gandhiji is 'Swadeshi'. Swadeshi means that one must fulfil one's requirements locally and not buy things imported from foreign but which can easily be manufactured in the country. Also, the principle of capital saving interprets itself by changing mode of production, while bringing work to people. Both of above principles can be reflected in architecture by using locally available resources and techniques and also working with local craft person.

**5) Austerity and concern for poor:**

Gandhiji believed that the gap between the rich and poor should be less. This concept also propagates the idea of "equality". Architecture also, should be neutral while designing and should design in same manner while being truthful to all classes of people and should be affordable and available to all class of people.



## **Chapter 3**

### **Understanding Gandhian Architecture**

**(Illustrating Architectural  
interpretations of his  
values)**

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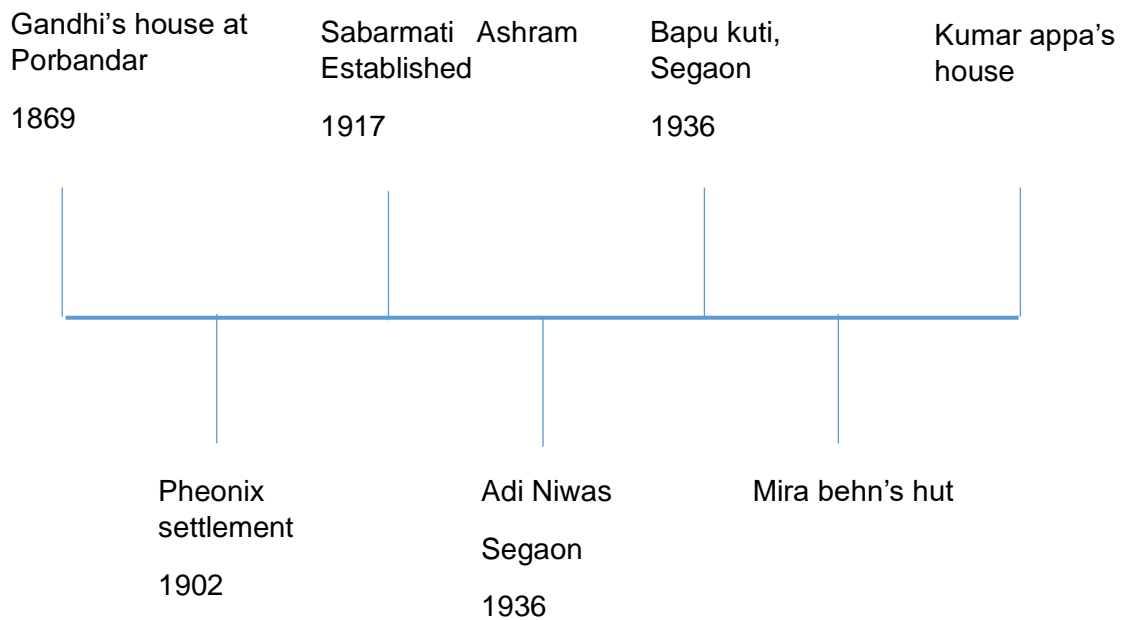


Figure 12: Diagram showing timeline of architecture related to Gandhiji

### Selection of case-study:

Throughout his life Gandhiji has lived at many places. Fig. shows the chronology of buildings associated with him.

After studying these buildings related to Gandhiji one can realise the involvement of him in the construction of particular hut, ashram.

In case of his birth place, nothing was in his hands and same goes with the phoenix settlement also. Due to time constraint Gandhiji was not able to apply his values to this, though one can find some of it.

Sabarmati Ashram and Sevagram Ashram are places where Gandhiji stayed longest. He was involved in it starting from the site selection and construction part. Thus, these two case studies are taken as a primary case studies to illustrate Gandhian ideology in architecture.

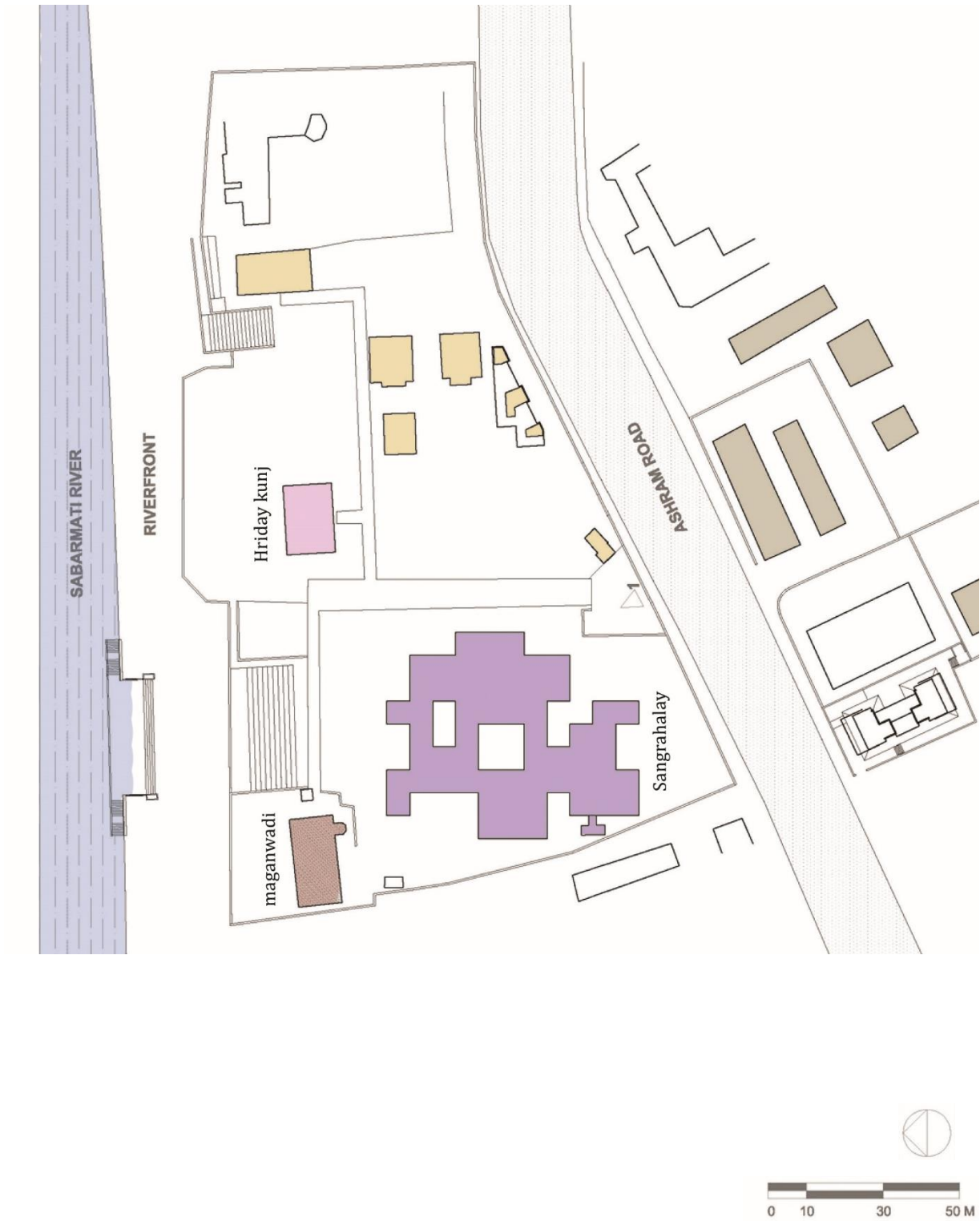


Figure 13: Site plan, Sabarmati Ashram, Base drawing courtesy: Gandhi heritage mission

**Sabarmati Ashram:**

Soon after he established an ashram in 1915 at Kochrab, It was shifted to a piece of open land on Sabarmati river bank in 1917. This was house to Gandhiji from 1917 to 1930. In 1930 Gandhiji left this ashram with vow of, 'not to return to this Ashram till India became independent.' The aim of this ashram was to offer a platform to bring together a group of workers committed to non-violence and truth, who would help secure freedom for India. The ashram followed equality to all the members and tried to break the thought of untouchability.

This Ashram had number of huts including,

- Hridayunj
- Magan Niwas
- Nandini
- Upasana Kutir
- Vinoba kutir

Later, A sangrahalay was added to the ashram which was designed by Ar. Le Corbusier.

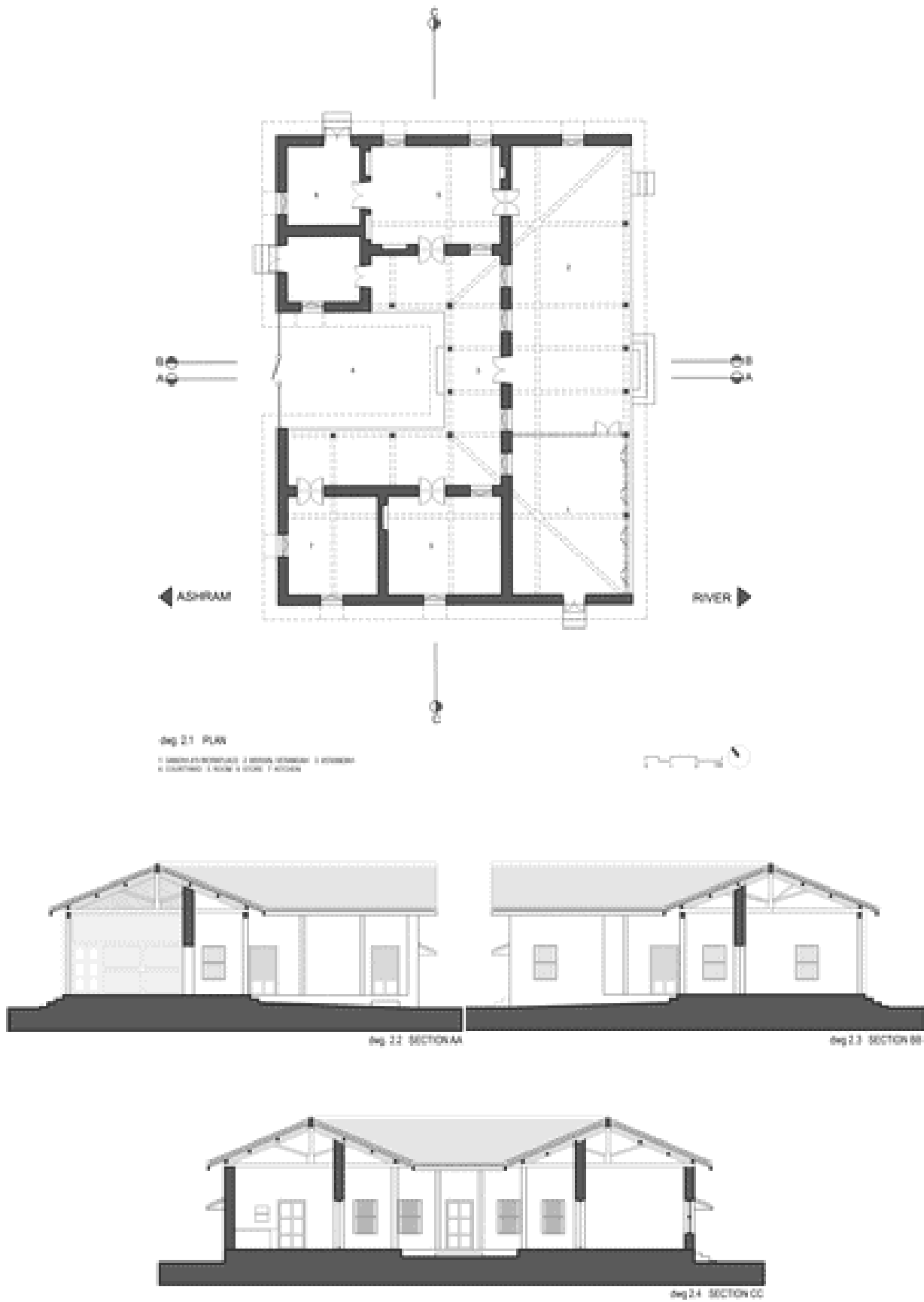


Fig. 14: Plan & sections, Hriday Kunj, Sabarmati Ashram, courtesy: Anthill Design 2009

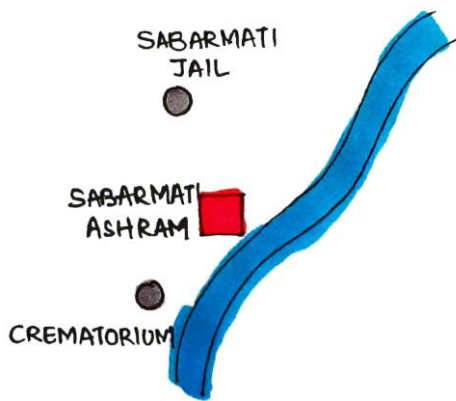


Fig. 15: Diagram showing placement of Sabarmati Ashram

### Truthful to the surroundings/Contextual response/ Site selection:

Gandhi's ashram's relationship to the river is such that it is placed perpendicularly. The river can be accessed in a traditional ghat form.

When Gandhi went to the site for the very first time, there were no roads leading up to it. It had many pitfalls with broken riverside.

It was a dense green area located far away from the city. He liked the peace and the surrounding nature. The site had prison, the Sabarmati jail on one side and crematorium on other. Thus, Gandhi thought this site to be perfect for a Satyagrahi.

### Truthful to own beliefs and principles:

Gandhiji throughout his life followed principles of Truth and Non-violence. Same can be seen in the construction of Ashram also. He followed his basic life values along with social values in terms of swadeshi, Ashprushiyatanivaran etc.

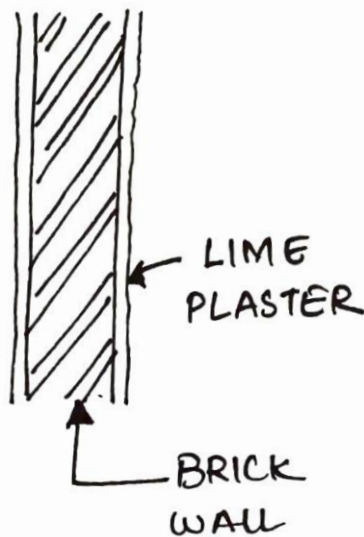
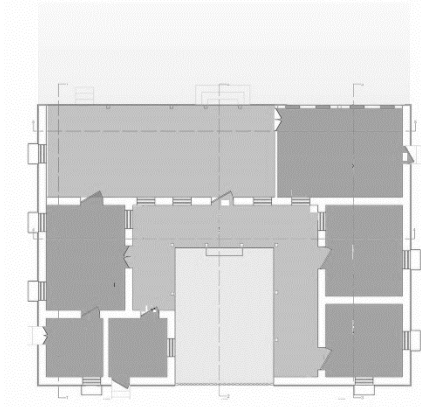


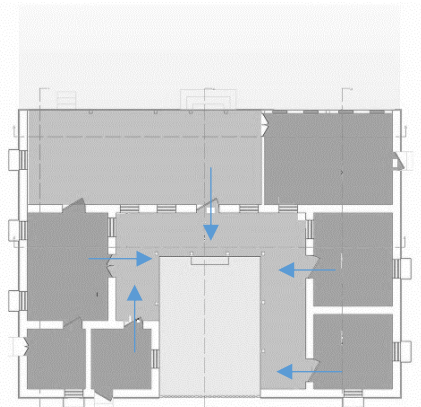
Fig. 16: Diagram showing construction detail of a wall

### Structural Honesty and natural appearance of materials:

Gandhiji's strongest desire was to construct the house from mud and thatch which was not fulfilled in the case of Phoenix settlement. Thus, in Sabarmati Ashram he used locally available material such as mud, cow dung, hay and wheat husk. Roof structure was made up of sawn Sagwan timber and roofing was of country tiles.



*Fig.17 showing public, semi-public and private spaces at Hriday kunj.*



*Fig. 18 showing the spatial configuration of ordo and osri to ensure good light and ventilation at Hriday kunj*



*Fig. 19 showing Gandhi's possessions at Hriday Kunj*

### **Honesty in form making:**

Instead of following the hierarchy in space making, Gandhiji defined spaces as per their function aspiration and intention of staying truthful to material properties. We can see a overlap of public, Semi-public and private spaces at Sabarmati Ashram. Fig. shows non-hierarchy in Hriday Kunj's plan in terms of spatial configuration. Gandhi wanted to stay near nature specially while studying thus, study room has been placed at the front part connected to verandah and open ground.

### **Non-Violence:**

#### **Living in harmony with nature:**

the site for Sabarmati Ashram was a complete jungle. One side there was river Sabarmati which made the site peaceful to live. Gandhiji used only natural material to ensure no harm to the environment.

#### **Light, ventilation & climatic response:**

To resolve the issue of light which he faced in his house at Porbandar, he designed a courtyard working as a light well. He placed every ordo in such a manner that it gets light from the courtyard and creates a sense of openness. In order to achieve light and ventilation these ordos and osri were placed perpendicular, connected to a veranda opening the room to both the public spaces. slopping roof drains off the rain water outside of the house. Lime mortar was used to ensure thermal comfort.

### **Non- possession:**

As one should only possess which is required, Gandhiji had just few things at Hriday kunj which included a Charkha, Sitting cushion, a writing desk, lathi and a small wooden table.

**Austerity and concern for poor:**

Being a 'pucca' house, Sabarmati ashram might not be as cost effective as other Ashrams but construction process was manual. According to Gandhi this house was more complex and un-necessarily big.

**Swadeshi:**

Materials used were Brick, country tiles, Sagwan timber etc. which was processed from naturally available material like wood and clay. Roof was made up of Sagwan timber, bamboo matt and country tiles.



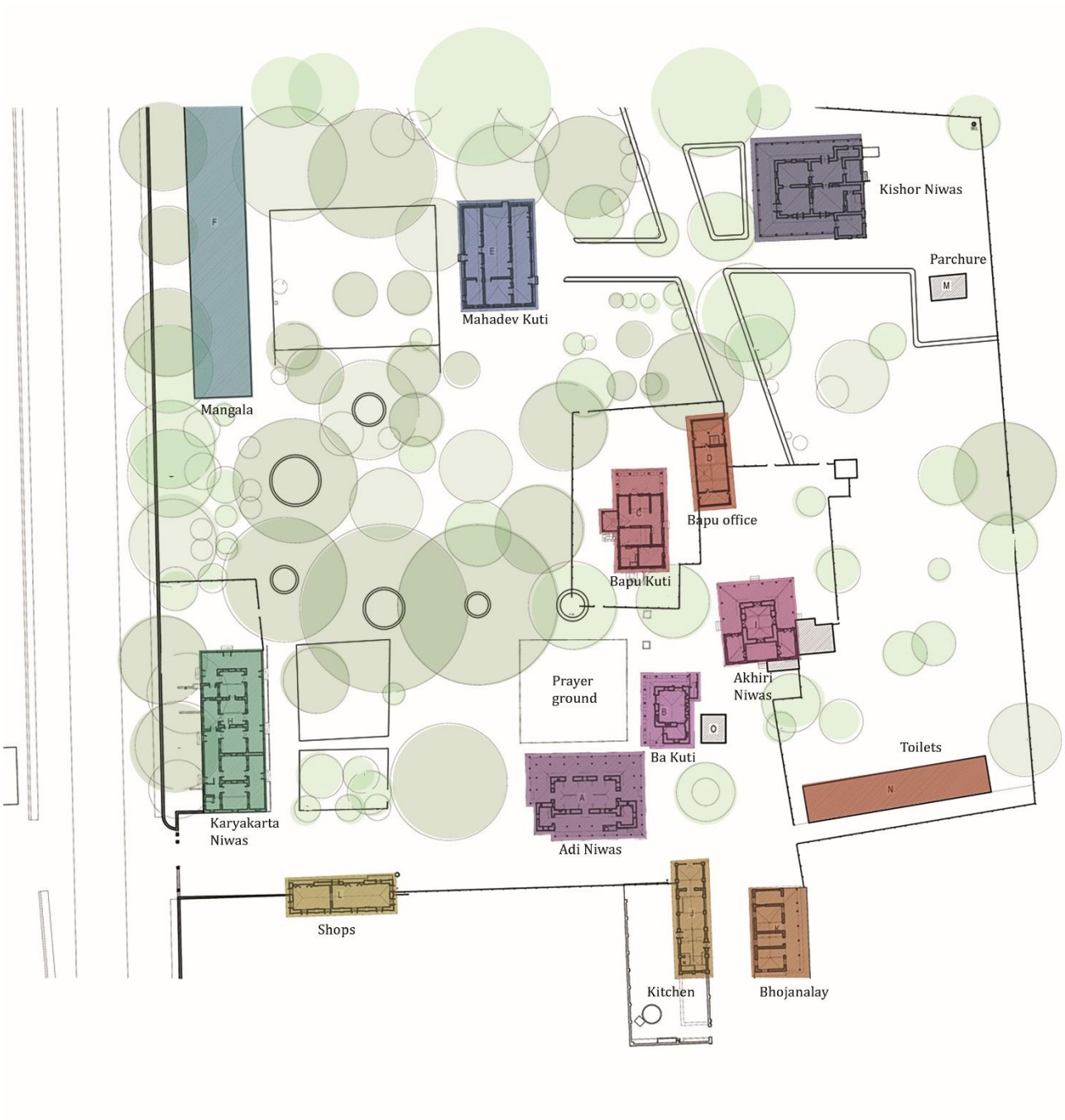


Fig. 20: Site plan, Sevagram Ashram, Base drawing courtesy: Gandhi Heritage mission

**Sevagram Ashram:**

In his book 'key to health', Gandhiji has talked about his inclination towards moving from the pucca to kuchcha to ensure good health. Also, He found his house at Sabarmati ashram unnecessarily complex and big.

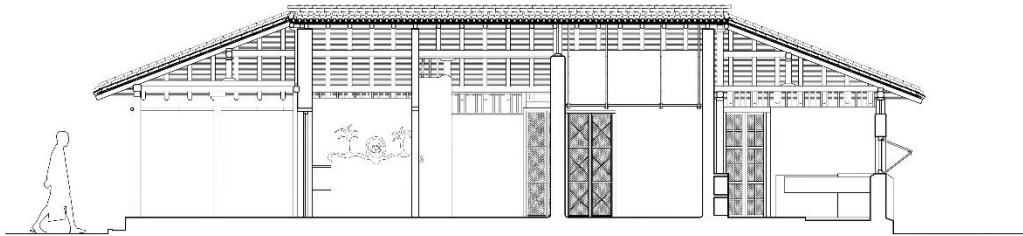
Thus, after giving Sabarmati Ashram to Harijan sewa sang, Gandhiji decided to shift to a village called Segaon. First Adi Niwas was founded on the 30th April 1936. He first took rest under the guava tree, near Ashram well. This was his very first abode in Sevagram. The cottage was built according to Gandhiji's own instructions.

**Bapu Kuti:**

In early 1937, Mira Behn (Miss Slade) had first built a cottage for herself and taught spinning and cording to the villagers. Later (1936-1946) Gandhiji came to live in Bapu kuti as the Adi Niwas' (the first hut where Gandhiji lived) was overcrowded and his health was also deteriorating. Thus, he decided to shift to Mira behn's hut as she shifted to a nearby village. He lived most of the time here till 1946 when he left for Noakhali and never returned to Sevagram.



Cross Section AA



Longitudinal Section BB

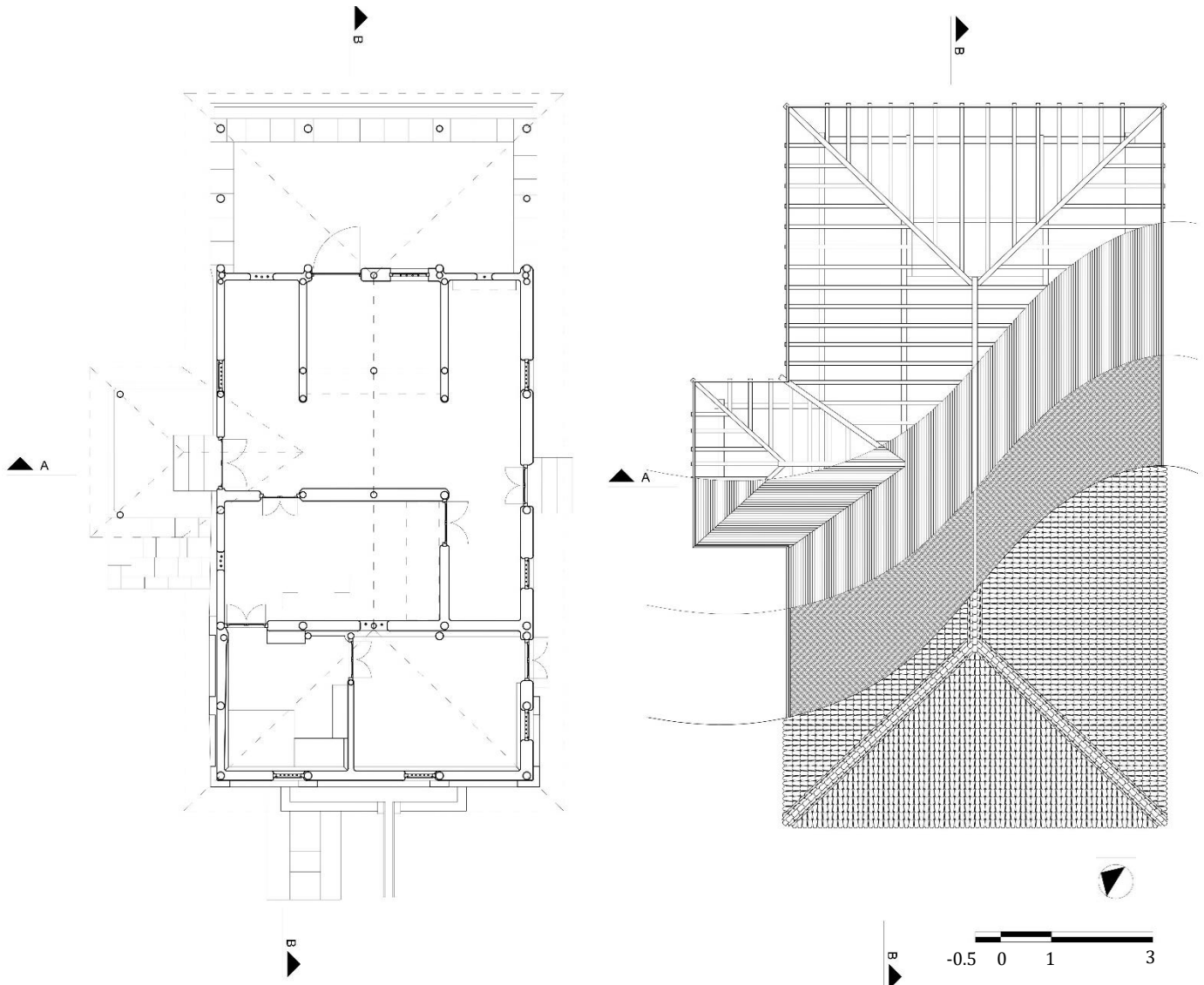


Fig. 21: Plan & sections, Bapu kuti, Sevagram Ashram, courtesy: Gandhi Heritage mission



Fig.22 Bapu kuti  
Source: Gandhi heritage mission

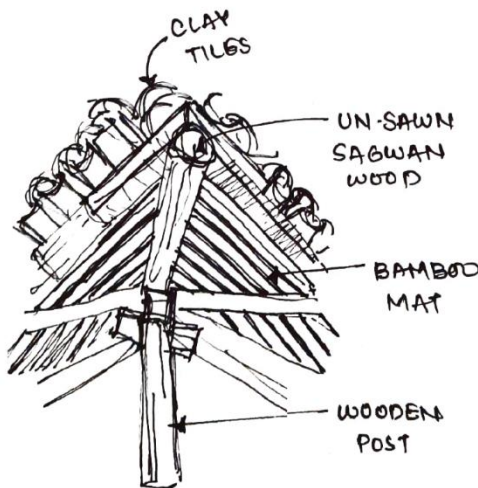


Fig.23 detail of roof

### Truthful to the surroundings/ Contextual response:

Being in a remote village the built forms of the institution were not sited in the manner of a typical institutional site plan but as the assertion of a village cluster. The buildings were conceived of as independent entities and the complex surrounds hundreds of trees and no single tree was harmed during the siting. The way of siting of the built forms reflects Gandhi's idea of adapting rural lifestyle and it is also the simplest expression of siting for an institution rather having complex designed institution. Concerns for existing trees on the site shows Gandhi's principle of nonviolence of not to harm others through one's words, actions and deeds.

### Truthful to own beliefs and principles:

In 1934, Gandhiji wrote a letter to Jammalal Bajaj and mentioned his desire to shift to Sevagram village. He further added, "As little expense as possible should be incurred in building the hut and in no case should exceed Rs. 100." He adhered to the need of being frugal in constructing his hut. Thus, to be in a limit of construction cost he kept reducing his architectural requirements. Adding to that, building of this hut involved lots of Gandhian beliefs regarding health, non-possession, non-violence etc.

### Structural Honesty and natural appearance of materials:

The Structure of the huts displays its true purpose only by not being decorative. Right from the foundation we can see materials in their true form. Foundation done with black stone technology where stone pieces were arranged in desired layout as per their available shapes and sizes. Un-sawn Sagwan wood can be seen in roof and also as a structural member. Bamboo and clay tiles are also used in their true manner. Palm leaves were used for curtains and

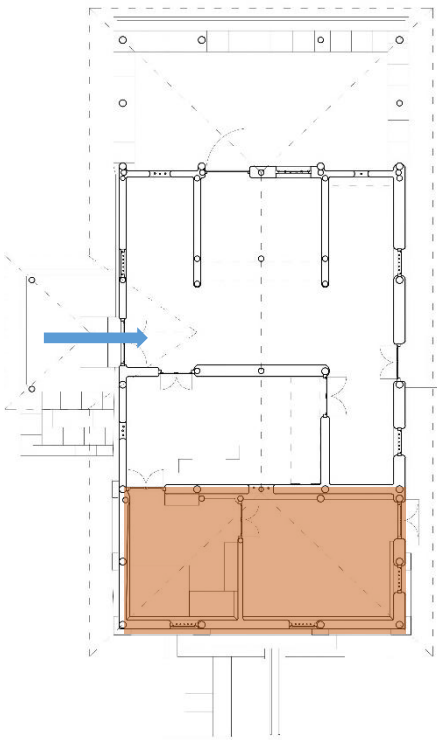


Fig.24 diagram showing extension of Bapu kuti

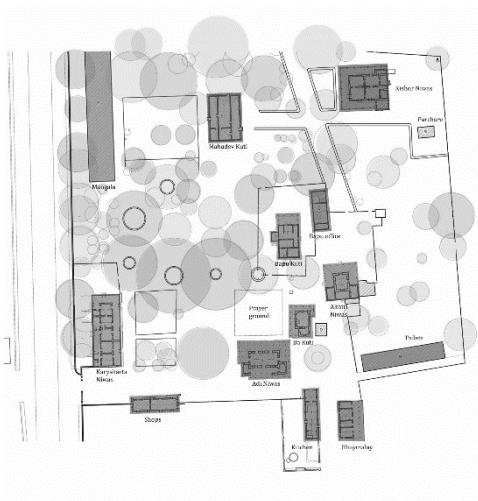


Fig.25 diagram showing landscape of the ashram

### Honesty in form making:

Adi niwas was simple in terms of design. It had verandah and a room without partitions. Kitchen and toilet were at outside of the hut. But as Gandhiji caught in Malaria and after which his health started deteriorating, need of a private room arose.

In early 1937, Gandhiji shifted to Bapu Kuti where northern verandah, a toilet-cum bathroom, a guest room and an entrance on western side were added.

In order to achieve the view of 'Akash', clerestory window was introduced. Fig. shows the quality of light coming from clerestory window. Thus, by knowing one own self in terms of needs one can and should design a building.

### Non-Violence:

#### Living in harmony with nature:

While construction of this Ashram not a single tree was uprooted and entire ashram was made around trees. In fact, He planted a pipal tree in a prayer ground in the year 1936. In terms of material & it's consumption, only natural material was used and cost constraint allowed to eliminate extra usage of material. Various types of trees including tamarind reetha, neem, kadham, borsalli, bel, Shirish, Asopalav, peepal, chickoo, but mogra and many other were part of the Ashram.

#### Light, ventilation & climatic response:

The Sevagram Ashram falls under tropical monsoon climate zone. Thus, Sloping roof drains off the rain water outside of the house.

In case of Light, It has clerestory windows which run along tops of the external walls, which allows diffused light throughout the day. There are different small sized widows are provided wherever needed.

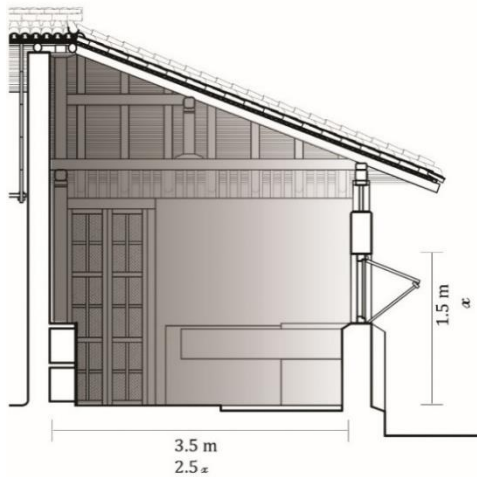


Fig.26 diagram showing light quality in living room



Fig.27 image showing light quality in living room

Source: Gandhi heritage mission

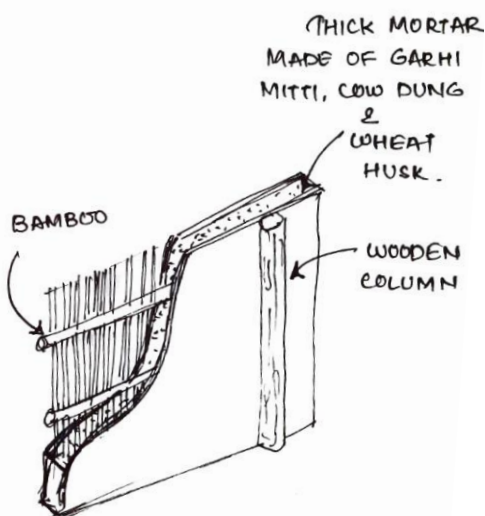


Fig.28 Diagram showing construction technique at Ashram

Wattle and Daub

As shown in fig. , natural light can travel horizontally maximum 2.5 times the height of the upper soffit of the window. Thus, in order to get natural light and keep room lit the width of the living room was restricted to 3.8 meters.

In most of the huts at Sevagram Ashram, Kitchen, Hospital and washroom are placed in Southern direction which ensures good light throughout the day. While, construction of verandahs in the northern, eastern and western sides ensured diffused sunlight as per the requirements. Most of the entrances of the huts were located in northern, eastern and western directions due to such placement of Verandahs.

### Energy:

Building comprises Lower embodied energy due to being made of all the naturally available material and sourced within 20 kms of a radius as per Gandhiji's desire. Un-sawn Sagwan wood is used in order to ensure lower embodied energy.

For the construction of walls Wattle and Daub technology is used which induce the property of thermal insulation that makes the structure cooler in summers as well as warmer in winters and eliminates the need of any tool or device to do so.

### Construction:

For walls, initially a layout was made with the help of bamboo and then six inches thick mortar (garhi mitti, cow dung and wheat husk) was applied on both the sides. This acted as a shear wall where bamboo reinforced the wall.

Over the walls there runs a wooden framework made by sagawan and bamboo. The whole construction provides necessary suspension to the structure that makes it earthquake resistant. The roof is covered with bamboo mats and mud-tiles.



Fig.29 Diagram showing possessions at Bapu kuti

- Wooden lamp stool
- Sitting cushion
- Small writing desk
- Wooden board for back rest

### Non-Possession:

Minimum possession: According to Gandhiji, one should only hold which is required. Anything more than that is a theft.

At Bapu Kuti, As we can see in fig. Bapu only had few things as furniture, as according to him one should not own furniture if can do without it.

### Austerity and concerns for poor:

“In our country today, we need to care for all our countrymen and to use our resources carefully. Any excesses, any wasteful or unnecessary use of materials, are a slap in the face to those who have no home and no hope of ever getting a home as long as we squander the wealth of our land.”

Gandhiji believed in building as cost effective as possible. This Gandhian value can be seen in Gandhiji’s cost restriction. This allowed to construct only what is required.

### Swadeshi:

Bapu Kuti was made from locally available materials not just for economical view but also for a safer environment.


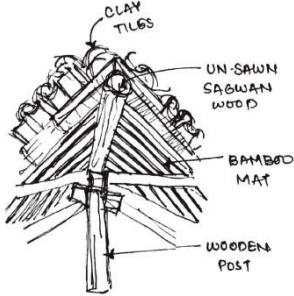
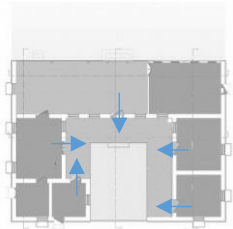
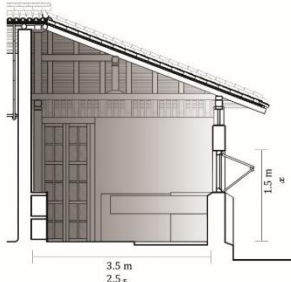


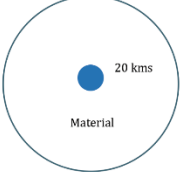
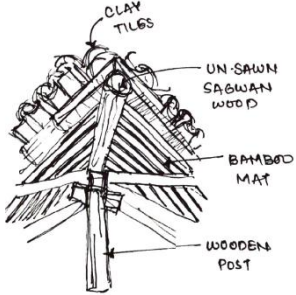
The usage of local materials is an example of economy as there would not be transport cost. He tried to avoid using energy-intensive materials, considering not only its physical and transportation cost but also manufacture cost. In case of Slade’s hut, stone was used from blasting of land for a well. Even spatial quality of these Ashrams were based on local traditional spatial

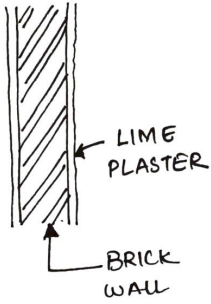
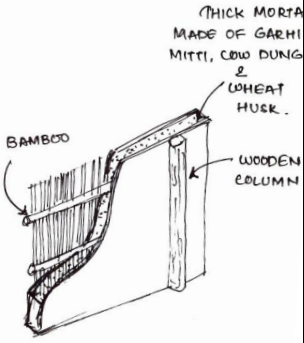
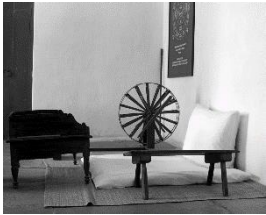
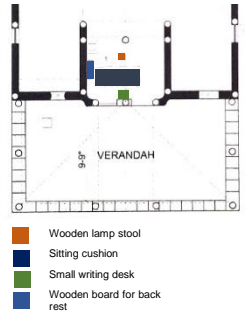
**Chapter 4**

**Analysis**



4.1 Synthesis of analysis:

Interpreted values	Case 1- Sabarmati Ashram	Case 2- Sevagram Ashram	Inference
<p>Structural Honesty and natural appearance of materials</p>			<p>As seen in Sabarmati Ashram, it had Sawn Sagwan timber post and beams. Where in case of Sevagram Ashram, Un-Sawn sagwan wood was used. For roofing, In Sabarmati Ashram country tiles were used while in Sevgram ashram clay tiles were used. Sabarmati Ashram had a plastered brick wall which subverts it's physical appearance. As Laurie Baker has also mentioned, "call a brick wall a brick wall."</p>
<p>Light, Ventilation and climatic response</p>	 <p>Figure showing spatial organisation of osri and ordo to ensure good quality of light and ventilation.</p>	 	<p>In order to achieve enough light and ventilation, in Sabarmati ashram changes were made to it's spatial order where in Sevagram ashram changes were made in terms of openings. Over projected eaves of the roof ensured safety from rain and all the placement of function are done according to sun diagram.</p>
<p>Embodied Energy and Energy efficiency</p>	 <p>image showing Sawn Sagwan wooden post which has more embodied energy due to processing part.</p>	 	<p>In case of Hriday kunj, Sawn timber was used along with country tile which has more embodied energy than raw. It also has Burnt brick walls which is plastered with lime mortar, where in case of Sevagram Ashram Raw sagwan wood is used and clay tiles for roofing. For walls Wattle and daub method is used which ensures lower embodied energy while construction. For the occupancy stage, both provide thermal comfort inside which ensures no need of extra tools in summers and winters.</p>

<p>Construction Technique</p>	 <p>A hand-drawn diagram showing a cross-section of a brick wall. The bricks are arranged in a standard pattern. A layer of 'LIME PLASTER' is applied to the exterior surface of the wall. An arrow points from the text 'LIME PLASTER' to the plaster layer, and another arrow points from 'BRICK WALL' to the brickwork.</p>	 <p>A hand-drawn diagram of a wattle and daub wall structure. It shows a 'WOODEN COLUMN' on the right. A 'BAMBOO' frame is attached to the column, forming a lattice. 'THICK MORTAR MADE OF GARHI MITTI, COW DUNG &amp; WHEAT HUSK' is applied to the lattice. An arrow points from the text to the mortar.</p>	<p>One can see a major change in Construction techniques due to material change. Sabarmati Ashram had brick walls with Lime plaster. Sevagram Ashram was constructed with locally available material such as Garhi mitti, Cow dung, husk etc. along with bamboo. As we can see, in order to reduce the energy consumption Wattle and Daub method was used at Sevagram Ashram. Which also served the purpose of earthquake resistant building.</p>
<p>Non-Possession</p>	 <p>A photograph of a simple interior room. It features a dark wooden chair on the left, a white cushioned chair on the right, and a small wooden table in the center. A large wheel-like object is leaning against the wall behind the table.</p>	 <p>A floor plan diagram of a room with a central 'VERANDAH'. The room contains several items: a 'Wooden lamp stool' (orange square), a 'Sitting cushion' (dark blue square), a 'Small writing desk' (green square), and a 'Wooden board for back rest' (light blue square). A legend below the diagram identifies these items.</p>	<p>At both the Ashrams Gandhiji possessed just few things including Charkha, A writing desk, Sitting cushion and a wooden lamp stool.</p> <p>In case of bread labour both ashrams were built with local labour and manually.</p>
<p>Swadeshi</p>	<p>Materials used were Brick, country tiles, Sagwan timber etc. which was processed from Mud, wood etc.</p>	<p>Materials in their raw form and procured within 20 kms of radius.</p> <p>Materials used were garhi mitti, cow dung, wheat husk, Bamboo, wood etc.</p>	<p>Both the ashrams were made up of locally available material. Which ensured bread labour and non-stealing.</p>
<p>Austerity and concern for poor</p>	<p>For Gandhiji, Hriday kunj was a house of 'Pucca' typology and according to him to ensure good health one should move from pucca to 'kachha'.</p>	<p>Gandhiji Instructed Mira behn to not to exceed the cost of 100 Rs. While constructing Adi Niwas and after that to 500 Rs. For the construction of Bapu kuti at Sewagram. This ensured less expense and also removal of un-necessary things.</p>	<p>As Hriday kunj was built with bricks and sawn wood It might not be cost effective, In turn at sevagram ashram everything used was in raw form due to cost constraints Gandhiji put before construction itself.</p> <p>Gandhiji himself found Hriday kunj house too complex and un-necessarily big.</p>

## 4.2 Conclusion:

Architecture is one of the most important tools to communicate ideologies to society. Based on a hypothesis that, influenced by an ideology or personal principles of an architect/client would get reflected in his architectural expressions. Architecture generated on the basis of certain ideology has always been much more meaningful in comparison to the expressions without any ideological base. The chaos created by human kind due to his greedy nature and possessing more than one's requirement has a created imbalance in nature which needs to be tackled in a right manner. These Gandhian values are far more relevant to the issue we are facing today.

After studying all the possible interpretations of Gandhian ideology in various fields, deriving a frame work for the field of architecture and illustrating it in Gandhian Architecture itself one can come to a conclusion that Mahatma Gandhi had their principles rooted in their experiences, their own experiments and outside influences. He responded to situations with reference to their principles which resulted as a strong statement of their principles. His principles of Truth, Non-violence, Simplicity, Honesty, Austerity, Non-possession, Non-stealing, Swadeshi can be practiced in Architecture also.

Gandhian ideology is something which needs to be applied in the field of architecture to cater environmental & economic issues we are facing today. It needs to be applied right from the selection of site to last construction detail and to the occupancy stage also.

Going forward to this, as his values are relevant in each sphere of life including social, economic and environmental aspects. Possibility of generating a holistic approach towards sustainable architecture is there.

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