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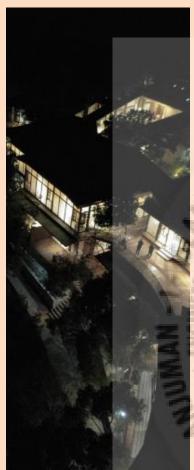
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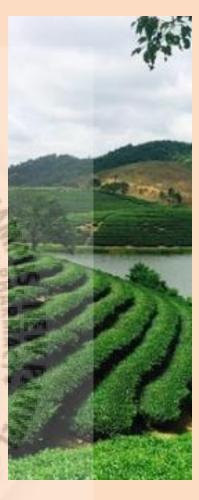
Tea Museum In Assam

In Conjunction With Tea Estate And Factory









B.Arch. Thesis Report 2020-2021 by KHAN FATEMA FAZLUR REHMAN | 16AR08

Under The Supervision of PROF. (Ar.) PARAG R





TEA MUSEUM IN ASSAM

IN CONJUNCTION WITH TEA ESTATE AND FACTORY

SUBMITTED BY

KHAN FATEMA FAZLUR REHMAN

A REPORT

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

NAVI MUMBAI - INDIA



University of Mumbai

2020-2021

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CERTIFICATE
This is to certify that the Design Dissertation titled TEA MUSEUM IN ASSAM in conjunction
with tea estate and factory. is the bonafide work of the student KHAN FATEMA FAZLUR REHMAN
from Final Year B. Arch of AIKTC School of Architecture and was carried out in college under my guidance.
Sign of the guide:
Name of the guide: Prof. Ar. PARAG R
Sign of the Dean: Prof

Date: 12 DEC 2020

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DECLARATION

I hereby declare that this written submission entitled

Tea Museum In Assam

represents my ideas in my own words and has not been taken from the work of others (as from

books, articles, essays, dissertations, other media and online); and where others' ideas or words have been

included, I have adequately cited and referenced the original sources. Direct quotations from books, journal

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Name of the Student: KHAN FATEMA FAZLUR REHMAN

Roll No: 16AR08

Date: 12 DEC 2020

ACKNOWLEDGEMENT

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Last but not the least, I would like to praise and thank God, the Almighty, who has granted countless blessing, knowledge and opportunities.

- INDIA

Sincerely,
Khan Fatema Fazlur Rehman
16ar08



Abstract

The thesis outlines a design proposal to develop a 'tea museum' at Dibrugarh, Assam. The aim is to break free from the conventional idea of a museum as just a showcase of wall hung's and installations and provide a platform to study, preserve, exhibit and experience tea-related resources.

The project explores the amalgamation of beautiful tea garden and tea factories having some dedicated spaces for tea workers as well. It stands as a dialogue between the conventional and the experimental, the past, the present and the future.

The museum focuses on peoples participation and creates an immersive experience with interactive galleries, workshops, and factory visits.

NAVI MUMBAI - INDIA

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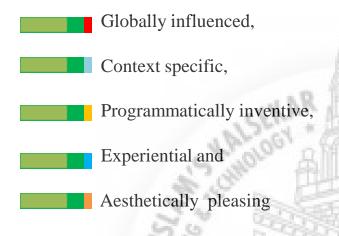


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INTRODUCTION

The proposed thesis project aims to develop a 'Tea Museum' in conjunction with tea estate and tea factory which is



Tea is the most famous of all non mixed refreshments on the planet. Two-third of the total population drink tea. 'Camellia sinensis,' is accepted to have started from South East Asia However, the focal point of starting point isn't obviously known. It could be the Tibetan Plateau including SzeChuan, Yu-nan, Sain, North East India or China Chinese individuals were the pioneers in utilizing tea for therapeutic reason. Before the end of the 6th century, the Chinese started to view tea as a refreshment. In India tea plant was found in North East Assam during the mid eighteenth century. Tea has gotten one of the incredible Commodities of business esteem during the colonial time frame.

Beginning from an extravagance which just the rich could manage, tea has now become the world's least expensive and most broadly utilized beverage other than water. It has really become a drink of worldwide association, a bond that brings individuals together. Financially talking as well, tea is a very significant source of much required foreign trade.

Tea estate industry is a blend of industry and agriculture. (plantation is an enormous domain on which harvests, for example, tea, espresso, rubber and so on are grown). Cultivation of leaf is an agricultural movement while its processing is a factory-made activity. The majority of the enormous estates process crude leaf in their own processing factories. Tea industry is vital in the public economy of India as far as income generation, procuring foreign trade, job creation and commitment to the public treasury.



BACKGROUND STUDY



Tea has a long and complex history; its foundations are profoundly attached to ancient Chinese culture.

Legend has it that the discovery of tea was made when Emperor Shen Nung of China went over the Camellia sinensis plant back in 2737BC; a couple of leaves blended by the breeze fell into a pot of bubbling water as his soldiers took refuge under the tree, giving the world its first taste of tea. Others claim that tea started in 1500 BC–1046 BC in China and was found by the Shang Dynasty as a medicated beverage.

In the years that followed, somewhere in the range of 420 and 589 BC, tea drinking became popular as a Chinese tradition.

Tea's revolutionary journey across continents

By the end of the third century AD, tea had become China's main drink. By eighth century AD Chinese were at that point exchanging tea to Tibet, the Arabs, the Turks, to the traveling clans of the Indian Himalayas, and furthermore along the "silk road" into India. It was not until the 16th century that tea arrived at European soils, and it was only in the seventeenth century that the British were introduced to tea.

How did tea come to India?

It is believed that tea was brought to India by the silk caravans that made a trip from China to Europe hundreds of years prior, however the Camellia sinensis is additionally local to India, and grown in the wild well before its actual worth was realized. Local Indians utilized the leaves as a component of their eating routine at times, however generally it was utilized for its medicinal properties. Utilized in cooking, in vegetable dishes or to make soup, it was quite a while before it changed into what's currently well known as chai — a flavorful black tea sweetened with sugar and milk alongside flavors like cardamom and ginger.

Who discovered tea in India?

An inherent piece of day by day life today, tea was acquainted officially with Indians by the British. The source of tea in India is owed to the British who expected to overthrow China's imposing business model on tea, having discovered that Indian soil was prominently appropriate to develop these plants. The proof of neighborhood plants was an extraordinary sign that the soil was ideal for relocating Chinese seedlings and it was the Assam valley and the approaching heaps of Darjeeling that were picked as early destinations for tea planting. After numerous ineffective attempts more than 14 long years, tea estate in India began to grow, empowering the creation of a tea that was equivalent, if worse, than its Chinese partner. On account of them, India became, and stays, one of the biggest tea makers on the planet – second just to China.

Tea industry in India

The tea business in India began to develop around mid 1840. Chinary tea plants, which were first given a shot in Assam, were later tried in Darjeeling and Kangra, and it was here that they grew more and more beneficial. Tea planting in Darjeeling formally started in 1841. By 1847, an official tea plant nursery was set up in Darjeeling. Soon after, the principal industrial cultivation was set up with the setting up of Tukvar Tea Estate in Darjeeling in 1850.

The tea industry in India today

The tea business didn't end when the British left India. In fact, the tea market in India has been developing from that point onward. Today, there are the same number of as 43,293 tea gardens over the entire of Assam, 62,213 tea gardens in the Nilgiris and just 85 tea gardens in Darjeeling (source: Tea Board of India). In request to guarantee the gracefully of genuine Darjeeling, Assam, and Nilgiri tea, a necessary arrangement of ensuring the realness of these teas was joined into the Tea Act of 1953. The words 'Darjeeling', 'Darjeeling logo', 'Assam logo' and 'Nilgiri logo' are enrolled under the Geographical Indications of Goods Act of 1999.

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NAVI MUMB

Assam Tea Corp Ltd



- Established in 1972, the company is a wholly owned undertaking of the Government of Assam.
- The company has 14 tea estates that are spread in over 13,000 hectares of land in six districts of Assam. Based in Dispur, the firm provides direct employment to more than 16,000 workers.

Assam Company India Ltd



- Formed in 1839, the company operates 15 factories and 15 tea estates and gardens spread over 14,000 hectares. It was the first to have an organic tea estate (Rembeng Estate) in Assam.
- The firm has over 32,000 employees and produces around 15 million kg of tea annually. The company recorded revenue of US\$ 16.24 million during the third quarter of 2015-16.

Apeejay Tea Ltd



- The company was established as Assam Frontier Tea Limited in 1889.
- It has 17 estates spread over 50,000 acres in Assam, which together produce around 25 million kg of tea.
- Besides domestic auction, the company sells directly to international customers such as Unilever, Tetley, Tazo and Starbucks.
- The known brands are Typhoo, Mantra and Maha Mantra.

Williamson Magor Group



- The company was established in 1949 and produces over 65 million kg of tea every year, of which around 30 million kg is from its 23 tea estates in Assam.
- · Tez, Premium Gold and Jaago are the packet tea brands.
- During the third quarter of 2015-16, ending December 2015, the company recorded a total revenue of US\$ 1.05 million.

SOME KEY TEA INDUSTRIES IN ASSAM

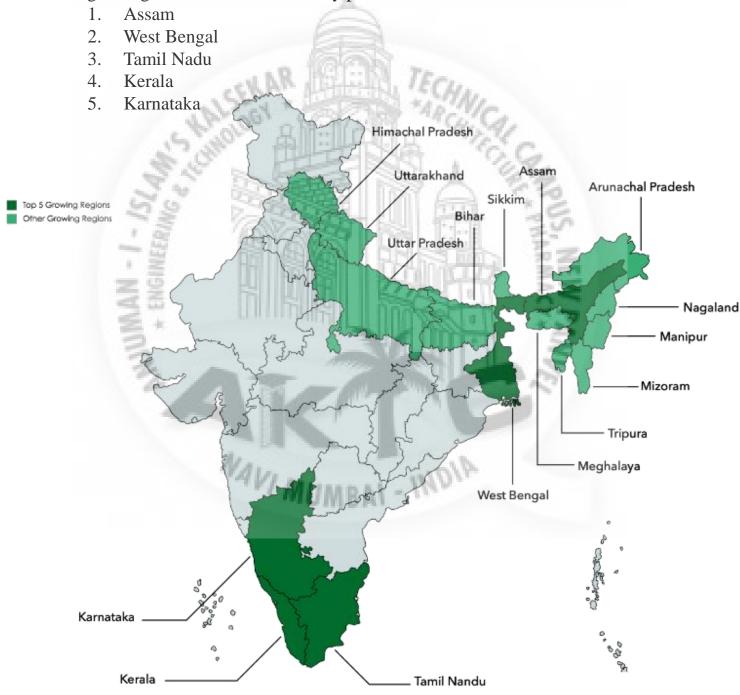


SOME KEY TEA INDUSTRIES IN INDIA

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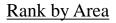
Tea producing states in India

India is the #2 producer of tea in the world at 1,325,050 tonnes and second in terms of land devoted to tea growing as well, with 621,610 hectares. Much of India's tea production is concentrated in the areas of Darjeeling, Nilgiri, Dooars, and Assam, which is the single largest tea growing region in the world. The top 5 growing states in India, ranked by production, are:



Map.1. Major tea producing states (https://www.killgreen.io/main/tea-producing-countries)

Source: Indian Tea Board



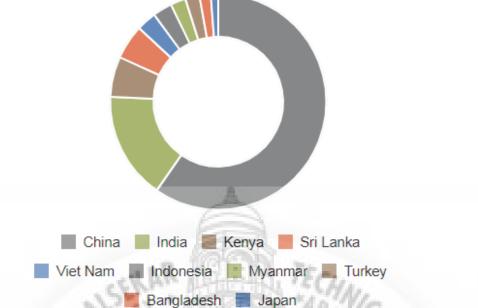


Image.1. Top 10 tea producers, ranked by total hectares of tea growing area in 2018 (https://www.killgreen.io/main/tea-producing-countries)



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(https://www.killgreen.io/main/tea-producing-countries)

Tea production on global level

Tea is one of the most famous and least cost drinks on the planet and consumed by a large number of people. Inferable to its increasing demand, tea is considered to be one of the major components of world beverage market.

Tea development is limited distinctly to certain particular areas of the world because of specific requirements of climate and soil. Major share of the tea creating nations are situated in Asia where China, India, Sri Lanka are the significant makers.

Rank by Production



Image.2. Top 10 tea producers, by total tonnes produced in 2018 (tea board India)

Tea production on national level

India is the biggest producer of black tea just as the biggest consumer of tea in the world. Right now, India produces 23% of absolute world production and consumes about 21% of complete world consumption of tea – almost 80% of the tea delivered is consumed inside India. In the course of the most recent 20 years, India's reality positioning as an exporter has descended from number one to number four, even with hardened competition from Sri Lanka, Kenya, and China.

- INDIA

Facts and Figures

According to a recently conducted door to door survey by the Industries & Commerce Department, some of the facts given below:

(1) No and growth:

Total numbers of small growers in 14 surveyed districts of Brahmaputra Valley is 68,465.

Maximum growth occurs from 1996 to 2005.

Growth in five upper Assam district is 64,519 (94%).

Apart from upper Assam, the districts of Udalguri, Sonitpur and Nagaon have seen remarkable growth.

(2) Distribution of Small Growers:

Dibrugarh and Tinsukia districts of upper Assam have remarkable numbers of small growers and their number is 37,755 (55%).

Udalguri, Sonitpur, Nagaon and Karbi Anglong districts have in rising trend.

The rest of the districts other than upper Assam districts seem to be steady.

(3) Land under Tea Cultivation by Small Tea Growers

Total area of land under tea cultivation of small growers is 117 thousand acres.

There is a shift from paddy to tea in high lands.

Small growers used patta land as well as other Government land for tea cultivation.

(4) Patta land owned by Small Tea growers used in Tea Cultivation:

41% of small growers cultivate tea on patta land (28723 no's)

Baring Karbi-Anglong, Sivasagar and Sonitpur, the tea cultivation in patta land is below 40%

(5) Age profile of Tea bushes in small garden:

67% of tea bushes are below 10 years of age.

Only 8% is above 15 years of age.

Big gardens have purchased major portion of their production due to young character of plant.

(6) Size of holding among small tea growers:

59717 small gardens have holding size of less than 3 acres. only 380 small gardens have holding size of 15 acres.



WHY TEA MUSEUM?

- To educate and foster the understanding of importance of tea.
- To introduce the rapidly changing production and consumption of tea.
- To stand as a dialogue between the conventional and the experimental, the past, the present and the future.

Presently there is no single institute of international standards in India that deals simultaneously with tea estate, tea factory, community of tea workers and tea museum and a need for prominent tea museum has long been felt for the establishment of a facility to trace the various trends in the field. To this end, the project proposes the establishment of a museum whose role would be to introduce the rapidly changing traditions of tea, the history from international to national to state level, the processing of it and how medically as well its important and to attract the tourist contributing to the increment in the economy of tea estates. To educate and foster the understanding of tea, amongst the people, the nation and the world.

PROJECT DESCRIPTION

The museum focuses on peoples participation and creates an immersive experience with interactive galleries, workshops, and factory visits.

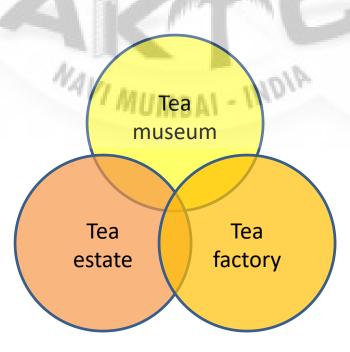
Apart from galleries, the museum to have a library, workshops indoor and outdoor, temporary and permanent exhibition spaces, discussion areas and cafeterias, tea ceremony room, etc.

The project to explore the amalgamation of beautiful tea garden and tea factories having some dedicated spaces for tea workers as well, through carefully contemplated spatial planning.









AIMS AND OBJECTIVES

AIM OF RESEARCH

THE AIM IS TO EXPOSE PEOPLE TO VARIOUS ASPECTS OF TEA BY PROVIDING A PLATFORM TO STUDY, PRESERVE, EXHIBIT AND EXPERIENCE TEA-RELATED RESOURCES IN ASSAM.

The major objectives of the proposed museum can be summarized as follows:

OBJECTIVES OF RESEARCH

- To analyze major tea producing regions of India.
- To identify the issues related to tea industries.
- To have a comparative study of Assam with other tea producing regions.
- To examine the possibility of improving tea production sector in Assam region through improved landscape of the tea gardens adjoining the tea industry.
- To create a hub of tea garden, tea factory and tea museum in Assam, a platform for expression and interaction between the tea workers and the community.
- To create a platform for representation of India at a global level.
- To enhance the state of Assam by contributing to its income generating section.

SCOPES AND LIMITATION

- The principle focus of the study is on Assam's tea producing system no other industrial info will be studied in detail.
- Many community centers are built but which are used perhaps only a
 dozen or so times during the year. The rest of the days they remain idle.
 It feels like huge lifeless concrete mass in the midst of the beautiful
 sceneries. These community centers are necessary to work for the
 betterment of the tea workers throughout the year.

1.7

PROPOSED CLIENTS AND COLLABORATORS



Tea Board Of India





Dubai Tea Park



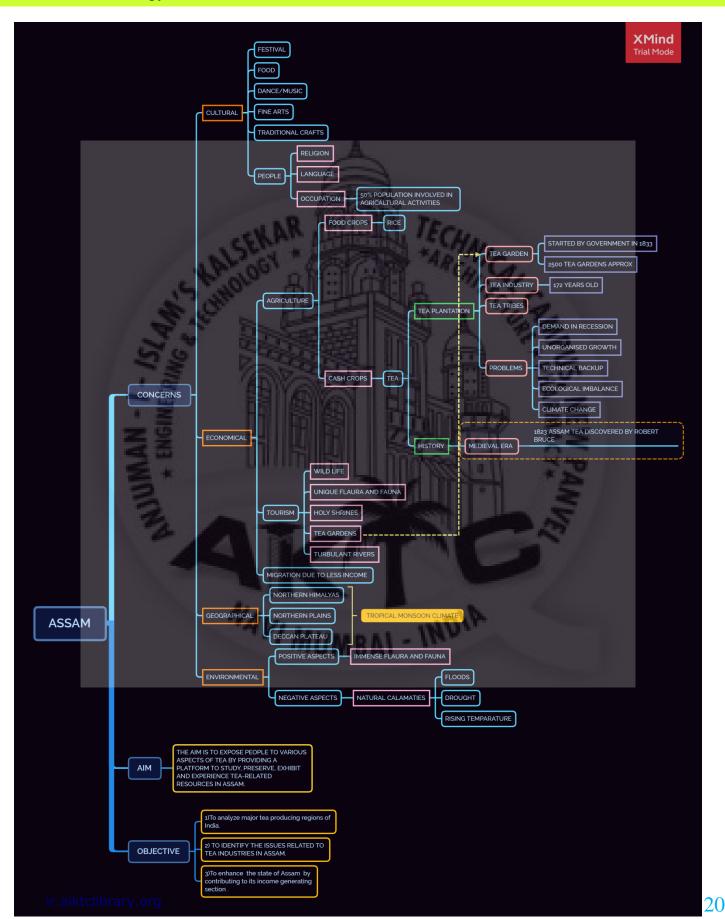
The Assam Industrial
Development Corporation Ltd,
Government of Assam





TEA MUSEUM IN ASSAM

Research methodology



Article1 - Will Push For Infrastructure Status For Sector: Tea Board

BusinessLine

Agri Business

Will push for infrastructure status for sector: Tea Board

Our Bureau | Kalkata | Updated on November 08, 2019 | Published on November 08, 2019

Move aimed at getting funding to fight climate change

The Tea Board of India is planning to seek "infrastructure status" for the industry so as to be able to get much-needed funding support and work towards combating the effects of climate change.

According to PK Bezbaruah, Chairman, Tea Board, the tea industry as a whole occupies around 500,000 hectares of land. The entire tea area across the country has been developed by tea companies; hence it would only be logical to assign it infrastructure status.

"The Tea Board and industry will work hand in hand and come up with a proposal and then we will talk to the government," Bezbaruah told newspersons on the sidelines of a tea conclave organised by the Indian Chamber of Commerce here on Friday.

The current borrowing rate of the industry is close to 10-11 per cent. If it gets infrastructure status then it would be able to borrow at 2-3 per cent. It would also help the industry bag funding from World Bank and other multilateral funding agencies.

The tea industry in South India has already started working towards this.

"We have been told if it is an infrastructure project battling climate change then we would get the support that is why we are thinking of this," he said explaining the rationale behind the proposal.

The Indian tea industry has been grappling with issues of rising costs and lower realisation. The deteriorating financial health of most tea companies is visible from the fact that the majority of them, barring one or two large tea producers, have been downgraded in the last 12–15 months. This has made it difficult for the industry to get bank finance.

The Tea Board had recently announced that it would rope in ICICI Bank to extend a credit facility in the form of corporate credit cards to buyers registered on its auction platform.

Floor price for green leaf

The Tea Board Chairman also talked about the need to introduce a seasonal floor price or minimum price for green leaf. It had recently called for a meeting of stakeholders to work on the modalities to fix the green leaf price.

Published on November 08, 2019

"The floor price can be fixed below which no transaction can take place. It will also help ensure quality of tea produced," Bezbaruah said.

He also called upon the industry to pump in funds to push a generic promotion campaign on a more sustained basis. Apart from the generic promotion, the health aspect of tea drinking can be highlighted.

There is also a need to redeploy the assets of plantations towards alternative uses, he said. This would help address the issue of supply-demand imbalance.

INFERENCE

The above published article on 8th November 2019 is about developing infrastructure of the tea industries to combat the effects of climate change.

The borrowing rate of the industry is 10-11%. It would lead to bag funding from World Bank if the projects are infrastructure projects working towards climate change. In south the work has already begun.

Article2 - Lockdown Crimps Bengal Assam's Tea Production By 10%

THE ECONOMIC TIMES

Lockdown crimps Bengal, Assam tea production 10%

Kolkata: The Indian tea Industry is set to lose nearly a tenth of its usual output for the year as estates in West Bengal and Assam are locked down through three vital weeks of the production cycle, with the first-flush crop due for plucking through the early spring likely to be overgrown by mid-April.

"The lockdown will affect tea production in Assam and West Bengal, the two main tea producing regions of the country in a big way. The estimated loss will be around 150 million kg of tea, said Tea Board chairman PK Bezboruath. "The revenue loss for Assam and West Bengal tea estates will be no less than 12%. The tea leaves will overgrow, affecting the quality during the second flush that begins mid-May."

in 2019, India had produced around 1,400 million kgs, of tea.

industry executives said that new leaves, due for plucking, were left untouched since March 22 after the lockdown took effect. The gardens will remain non-operational until mid-April, going by the current timetable.

"Skiffing of tea bushes will take another three weeks when the gardens reopen after the lockdown is withdrawn. That is when the gardens will take a big hit," said Suit Patra, secretary, Indian Tea Association. "Moreover, from December 15 to February 15, the gardens were closed for maintenance and pruning of the bushes but the planters had to bear the overhead costs. And just when the new season had begun, the corona virus started spreading across India. So, from December 15, there has only been cash outflow, while inflow has been very little."

The worst hit will be the Darjeeling tea industry that has not been able to sell its first flush teas due to travel bans and lockdown in Europe, the main market for its exquisite first flush crop.

Kaushik, Basu, secretary of Darjeeling Tea Association, said that nearly 35% -40% of Darjeeling tea industry's revenue comes from first flush tea that constitutes 20%-25% of Darjeeling's total production of 8.9 million kgs. The average price of first flush Darjeeling tea ranges from Rs 2,000 to Rs 4,000 per kg.

"Reports trickling in from estates say that from Monday ofward, there will be good flush as temperature. Is rising in the hills. It means that bushes will start generating good quality leaves. But since there will be no plucking, the leaves will overgrow. We have already lost the first flush season. Now the second flush will also get affected," [535] said. Meanwhile, the TN government has allowed manufacturing and production of tea in the Nilgiria district subject to specific restrictions and safety measures.

INFERENCE

In the above article it is concluded that due to the lockdown the industries were closed and even the tea workers were not able to pluck the first flush leaves. Because of all this it had a huge loss in production and had a direct effect on the economy. And indirectly the labors are majorly affected by no source of income.

Article3 - India's Tea Gardens Beckon Tourists



India's tea gardens beckon tourists



India, one of the top tea producers in the world, is experimenting with tea tourism in view of the growing interest shown by tourists to visit tea plantations and tea factories. Ambling through a sprawling tea plantation with greenery all around in the early hours of the day watching a group of local women plucking two leaves and a bud at a fast pace with their nimble hands and collecting them into baskets slung on their shoulders is a winning sight for tourists. India now leads to give tea-buffs and tourists a closer understanding of tea by organizing tea tourism at places like Assam, Darjeeling (West Bengal), Nilgiris belt in Tamil Nadu, and a few pockets in Kerala and Karnataka.

Assam in the lead for tea tourism

The first name that crops up in mind for tea tourism is Assam, the largest tea producing region in India. The Assam Tea Tourism Festival held at Jorhat every year is a big hit with tourists. Staying in a rustic colonial-era planter's bungalow has its own charm. Home to more than 800 tea estates in the state, where amidst luxury and serenity one can drift back in time to days of that elegant colonial aristocracy. The B & A Limited operates through seven quality Tea Estates in the India's largest tea growing region of Assam. The Guwahati Tea Action Centre, one of the busiest tea trading facilities in the world, is a place not to be missed. Others include Corramore Tea Estate, Teloijan Tea Estate and Khongea Tea Estate besides a host of others.

Another major development which is currently in progress is the tourist-friendly makeover of world's oldest and biggest tea research center at Tocklai (Assam), with edifices that each have a story to tell. A.K. Barooah, director of the Tea Research Association, said recently that the Tocklai Guest House, a heritage building, was home to British tea planters A tea museum will be built with suitable dioramas, models and displays. He said Tocklai can tie-up with other tea tourism enterprises like Kaziranga Golf Resort (Bura Sahib bungalow), Banyan Grove and Thengal Manor bungalow in Jorhat district, the Mancotta chang bungalow and Chowkidingee chang bungalow situated in the heart of Dibrugarh town."



West Bengal is also fast catching up with Assam in promoting tea tourism. Its Chief Minister Mamata Banerjee last month mentioned that her government will consider tea tourism to benefit tea plantations in the state. She said, "We have allocated more than Rs. 1,000 crore for the welfare of tea garden workers since 2011. Tea tourism is also under our consideration."

INFERENCE

The above article by post news is about how tea gardens are attracting and welcoming tourist and growing their interest in the field.

As the above piece of article also proves how Assam is in the lead for tea tourism as it is the largest tea producing region in India.

It also states how tea research centre and Tocklai guest house are being redeveloped and even the other states like West Bengal is considering in promoting of tea tourism.

Article4 - Assam Diaries: Princess Majuli's Home And More Tea



TEABOX ASSAM DIARIES: PRINCESS MAJULI'S HOME AND MORE TEA Published on Nov 15, 2016



The thing about tea estates for the untrained eye, is that after a few miles of them, the landscape begins to look monotonous. Of course, estate owners, managers and the tea pluckers will be affronted at such a comment, for, no two estates can be thought to be similar, seeing how different their stories are. Within an estate - as you will definitely be informed - there are always distinctions between patches of tea bushes.

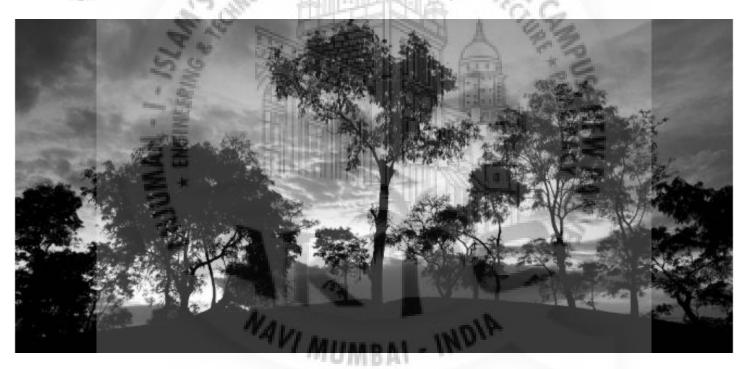
The various stages of a tea leaf as it goes through processes like withering, rolling, and fermenting. Majulighur Tea Estate specializes in both CTC and orthodox tea. Their factory is one of the largest of the company's six plantations and has its own boiler house to make taint-free tea.

I was at Sonitpur visiting the Majulighur TE on the north **bank of the Brahmaputra**. At first glance, it seemed like yet another tea estate. Until on an afternoon walk I came upon a large patch of land where not tea but wild plants and grass grew. I walked towards it. "There's water below," warned Khyati Shah, granddaughter of the owner MK Shah. Majuli-ghur or Maju's home was named for the queen Maju Rani, one of the wives of a 17th century Ahom king Pratap Singh. Apparently, Maju Rani lived right here, where the estate stands today, and the patch of land we were standing before was her bathing tank.

It's stories like this that make every estate interesting. Dotted with relics of either history or breathtaking views, with tea as the counterpoint.

The next morning, we head for Gingia, 45 minutes away and also owned by Khyati's family. Mud-paths and bumpy roads take us to a large estate.

Gingia too lies on the bank of the Brahmaputra. It's name, I find, is not as surely known as Majulighur. There's a story about two rivers that joined together to become the Solmari. But I hit a dead-end there. Instead, I find myself listening to the extent of tea production. 453 hectares, a million kgs of Orthodox tea... sometimes, the tea is the story.



INFERENCE

Very well written article, perfectly capturing the ethos of a tea estate. This article brings the truth how each tea estate are different from each other. There are always distinction between patches of tea bushes which untrained eye cant see as they appear monotonous for them.

Various stages of tea process are defined and how Majulighur tea estate is specialized and also the main objective to be taken from this article is the location of the estate which is on the north bank of the Brahmaputra . Most of the tea estates in Assam lies on the bank of Brahmaputra.

Article5 - Tea Tribes Of Assam (Identity Politics And Search For Liberation)

NOTES

Tea Tribes of Assam Identity Politics and Search for Liberation

INDRAJIT SHARMA

Assam's complex social mosaic is at a crossroads with increasing ethnic tensions and alienation among various communities. The tea tribes form a distinct population of Assam and are demanding Scheduled Tribe status from the state. The politicisation and assertion of identity and ethnicity by the tea tribes to counter the unequal distribution of power and resources in present-day Assam has unleashed social and political tensions.

ssam has been an influential and integral part of India's North-East region, having substantial sociocultural linkages with the entire subcontinent. The North-East comprises of eight states-Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura-and shares its border with the countries of Bangladesh, Nepal, Myanmar, China, and Bhutan, The region served as the only route for migration vis-à-vis trade and commerce with the South-East and East Asian countries. It served as a crossroads for many tribal communities for both migration as well as settling down for livelihood, leading to the diversity we see today in the region. Over time, various races settled and intermingled, developing shared common characteristics.

Such diversity is equally represented in Assam, home to a complex mix of various communities. The population comprises both tribal and non-tribal groups. This diverse social set-up, however, far from assimilation has found itself in a situation of alienation and isolation today. Ethnic diversity has caused a sense of social insecurity vis-à-vis identity and ethnicity among the various resident communities. The politicisation of identity and ethnicity has stemmed in ethnic distinctiveness and assertion, resulting in identity politics.

The term "identity politics" can be viewed as when culture and identity, variously perceived to be traditional, modern, radical, local, regional, religious, gender, class, and ethnic, are articulated, constructed, invented, and commodified as the means to achieve political ends (Hill and Wilson 2003; 2). It often includes a claim to power based on the articulation and mobilisation of a particular group identity (Kaldor 2012). Throughout the entire North-East today,

political contentions along the lines of demands for secessionism, autonomy or statehood are based on ethnicity and worse, interethnic conflict centred on the question of identity. Identity forms the basis for aspiration and assertion of many ethnic communities, and is rooted in the social history of the region as well as the historical experiences of communities.

The identity struggles of the tea tribes are socially and politically significant in contemporary Assam, but have received scant attention in academic literature. This article seeks to contextualise this struggle with the use of both primary and secondary data. The primary data has been sourced from the Ministry of Tribal Affairs, Ministry of Communications and Information Technology, and department of tea tribes of the Governments of India and Assam.

Ethnic Composition

Assam has borders with Manipur, Mizoram, Nagaland, Meghalaya, Tripura, Arunachal Pradesh, West Bengal as also Bhutan and Bangladesh. The Ahom Kingdom' of the precolonial times, located in the extreme north-eastern corner of the subcontinent, can be described as the cultural heartland of modern Assam (Baruah 1999: 21). Assam, as part of the British Empire, came into being after the Treaty of Yandaboo in 1826, which was signed by the Burmese king and the British East India Company, Although colonial Assam was larger than its precolonial avatar, it excluded some areas that were culturally part of precolonial Assam (Baruah 1999).

Assam has a population of 31.2 million and occupies about 2.4% of the country's total geographical area. Most of the state's population lives in the rich and luxuriant valleys of its two major river systems (Brahmaputra and Barak) with a total of 33 administrative districts.

Assam is populated by three distinct groups of people: the tribes of the hills, the tribes of the plains, and the nontribal inhabitants of the plains. This diverse population speaks a complex mixture of several dialects and languages, apart

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from the majority language of Assamese (Asomiyu). According to Gurudas Das (2012: 2),

The political boundary of Assam not only includes the ethnic Assamese but also the Dimasas of North Cachar Hills, Karbis of KarbiAnglong, Bodos, Koches, Miris, Churias, Kacharis, Deoris, Rabhas, Lalungs, Morans, and other indigenous population and Muslims, Hindu Bengalis and tea tribes in Brahmaputra Valley.

Thus, linguistically and culturally diverse groups and tribes coexist in the
state. The tribal population is dispersed
across such administrative categories as
the Scheduled Tribes (srs), Other Backward Classes (onc), and More Other
Backward Classes (mones). The tribes
that settled and reside in the hill districts are called the "hill tribes" whereas
the tribes that settled in the plain areas
of Brahmaputra Valley are called the
"plain tribes." The hill tribes are mainly
Karbi and Dimasa, and the plain tribes
are majorly the Bodos, Mising, Rabha,
Tiwa, and Deori.

Udayon Misra (2007) observed that there are 23 srs in the state, of which 14 are hill tribes and nine are plains tribes; wherein those who have been accorded ST status in the hills lose the same if they settle in the plains and vice versa. The tribes of the state are also categorised as "autochthons" and "non-autochthons" (Misra 2007: 12). The "tea tribes" that the present article deals with, fall under the latter category. Monirul Hussain (1992: 1047) subdivides autochthons into two distinct groups, that is, tribals of the plains and tribals of the hills, and all of them are recognised as srs; and the non-autochthons include various tribal groups which migrated to present-day Assam during the colonial period in search of livelihood. This includes the plantation labour brought in by the British for Assam's growing tea estates, mainly from Jharkhand. This section of indentured ethnic population is today recognised as the "tea tribes."

Identity Crisis of Tea Tribes

Over the years, Assam has witnessed conflicts over identity, ethnicity and nativist sentiments. Most of the issues and problems in the state, according to various scholars, have been related to immigration. The debate over the politics of migration is often addressed with reference to those migrants and natives. Notably, Myron Weiner (1978) pointed out that the conflicts of Assam are between the original inhabitants of the area and more recent settlers, also known as "sons-of-the-soil" conflicts. Such terminology reveals that those who are native to a given territory and are recognised/self-identify as "natives," and enjoy accessibility to local resources, begrudge the competition that arises from immigration (Weiner 1978).

In the multi-ethnic social sphere of Assam, the tea tribes form a distinct population therein. They have been traced as the descendants of Adivasi communities such as Munda, Oraon, Santhal and other tribals of mainland India (found) in present-day Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Odisha, Uttar Pradesh, and West Bengal). The Adivasis, meaning original inhabitants, is a term used to refer to the aboriginal or indigenous people of India. In administrative parlance, all tribal communities on the scheduled lists of the state are referred to as "srs." The srs also comprise the most underprivileged section of contemporary Indian society.

Demographically, the tea tribes form around 20% (approximately 5 million) of the total population of Assam (Mishra 2005). Of this, it is estimated that more than 11 lakh work in the state's 800-odd tea gardens and are, thus, called the tea garden tribe (Kalita 2015). In Assam, these Adivasi tea tribes are not recognised as srs as they are not indigenous to the state. However, these ethnic groups are recognised as srs in the states of their origin (Hussain 1992).2 Over the years, most of the immigrant communities in the Brahmaputra Valley adopted the Assamese language and assimilated into Assamese culture (Kimura 2003: 228). The tea tribes are not accorded a tribal identity in mainstream Assamese society (that is, their integration and assimilation with the broader Assamese identity has not taken place, as it has for several other communities) even after their presence over many decades in the state and are classified as once in

the central list. They are economically backward with low levels of literacy among them (Government of India 2014).

The tea tribes in Assam have been experiencing a sense of deprivation, suppression and exploitation, arising out of their identity and plantation work. The combination of deprivation and lack of a tribal identity has led to a situation of identity crisis. Today, the tea tribes of Assam are promoting their ethnic distinctiveness and as such stressing on their "tribal" identity. In their assertion of ethnic distinctiveness and search for liberation, the tea tribe population has been continuously demanding the ruling government to grant them the status of sr so that they can avail their unmet needs under the mandate of the Indian Constitution and mitigate the exploitation and discrimination they have been facing over the years.

Nomenclature and History

Historically, the tea tribes migrated to the mainland of Assam prior to Indian independence. Their migration can be traced back to British Raj, when the colonialists started to exploit the economic potential of the region through tea plantations in the early 1820s. Similarly, connections must be drawn to the colonial interest in practical agriculture, as a means for developing the colonies through the study of botany, and the constant search for new plants which were consigned back to Britain's botanical institutions for study and propagation (Ellis 2011). The erstwhile Adivasis were broeight for the first time to Assam as plantation labourers by the British in 1821.

Assam was known for its tea industries, but plantation work needed significant humanpower. For this, the tea tribes were brought in as indentured labour from various provinces of India. During their tenure at the plantation work, the communities began to be identified as tea tribes. Today, they are mainly found in the districts of Darrang, Sonitpur, Nagaon, Jorhat, Golaghat, Dibrugarh, Cachar, Hailakandi, Karimganj, Tinsukia, and other districts of Assam. There are communities of tea tribes known as the "ex-tea garden tribes," to refer to the members of the tea tribes

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who have settled down close to the tea estates in the state after the end of their contract and occasionally provide their services as casual labourers. The ex-tea garden tribes are mainly present in Khokrajhar in western Assam; Marigaon, Nagaon, Sonitpur, and Darrang in middle Assam; Golaghat, Jorhat, Sibsagar, Dibrugarh, and Tinsukia in upper Assam; North Cachar and Karbi Anglong in southern Assam; as well as the Barak Valley (Kandulna 1999; Mishra 2005).

While it was the British that first recruited the above-mentioned Adivasi communities to the tea plantations, later on a continuous flow of migrants to the plantations sustained. During the colonial period, Assam attained high economic growth primarily due to its tea industries. This economic expansion further required an influx of workers who eventually settled down in the state. This immigration of labour was also abetted by the fact that the native Assamese were involved in domestic agriculture and allied businesses. As a consequence, a large number of labourers were imported from various provinces of the Indian mainland, including Odisha, Bengal, Bihar, Jharkhand, Uttar Pradesh as well as Chennai.

Weiner (1978) classifies Assamese immigrants into several groups: tea plantation labourers (comprising Adivasis from Odisha and Bihar), Bengali Hindus and Muslims (forming the administrative and peasantry class), and Marwaris (mostly, engaged in trade). Ajai Sahni (2001) adds that the indigenous tribes of the North-East represent successive waves of migrants, both from the East and West, with many entering the region as late as the 19th century. The cultural mosaic was made more complex as a result of the British policy of importing large numbers of administrators, plantation workers and cultivators from other parts of India.

In the postcolonial era, the migrant Adivasi population, popularly identified as tea tribes in the state, after their subjection to exploitation and deprivation rose up to assert their self-formulated identity. The history of exploitation has itraiktclibrary: orgal period in

the region. During the colonial times, according to Hiren Gohain (2007: 13), the British had lured them in lakhs from the Chota Nagpur Plateau, Bengal Presidency, even Andhra Pradesh, and forced them into a terrible state of servitude marked by low wages, restriction on free movement, denial of right to education and near total absence of medical care. Such imported labour was exploited by the British, including the contractors, and were given very low wages. Moreover, from the 1850s until around the 1920s, the working conditions were akin to slavery, with flogging, rape, torture and even throwing of dead workers' corpses in rivers (Kar 1999; Toppo 1999).

Demand for ST Status

In Assam, it is not only the tea tribes that have been pressing for recognition as sts, there are five other communitiesthe Tai Ahom, the Moran, the Motok, the Chutia, and the Koch Raibonashi, that are currently classified as oncs. Of these, the first four predominantly live in the districts of upper Assam while the Koch Rajbongshi live in western Assam, sharing broadly the same physical (and political) space as the Bodos, the most numerous of the tribal communities in the state (Prabhakara 2007). At present, the Adivasi tea tribes constitute about 60% of the total sy population in Assam which, according to the 2011 Census, amounted to 3.9 million persons (Deka 2016). M S Prabhakara (2007) observes that the addition of such a large population... to the present ST pool will undoubtedly affect existing allocations in areas such as reservation of seats in legislative structures, higher education and jobs.

The struggle for identity and the demand for sr status by the abovementioned groups are fuelled by the tangible benefits that come along with identification in this category. The Constitution provides special status for the srs, and thereby allocates special welfare provisions and safeguards to ensure their well-being and facilitate their empowerment. The Ministry of Tribal Affairs governs the implementation of these constitutional and governmental provisions, including social security measures, tribal welfare planning, project formulation, research and training, promotion and development of voluntary efforts for tribal welfare, and certain matters relating to administration of the Scheduled Areas, as part of its mandate. These schemes and programmes are intended to support and supplement through financial assistance, the efforts of other central ministries. state governments and voluntary organisations (Government of India 2014).

Even after residing for over a century in Assam, the overall condition of the tea tribes is pathetic. The recognition as tea tribe has no benefit attached. In fact, Adivasis find the terms "tea garden tribe" and "ex-tea garden tribe" derogatory. They earn a paltry sum of 794 a day, far below the state minimum wage of ₹169. Their literacy rate is abysmally

-Rev A Wade

-Dilip Simeon

-Soma Marik

-Alexander Rabinowitch

- Kunal Chattopadhyay

--- Marcel Van Der Linden

-Sobhanial Datta Gupta

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civil society in this regard is necessary and should be dealt with effectively. The state as well as the central government should bring out new policies on equal distribution of resources and power to its citizens.

India being a democratic country follows the policy of accommodating the various demands of its society. It is this spirit of the state that is believed to have managed and resolved various disputes from time to time. In the case of Assam, the question that arises is how to include the increasing demands of various ethnic groups, demands of not only the prominent Asomiya middle class but also the growing aspirations and sentiments of many minority communities in the state, like the tea tribes.

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The Abota Kingdom was cutasifting idening the last 140 years of Abota rate, bounded on the north by a range of mountains inhabited by the Bhatanese. Aleas, Itafian, and Abore, on the east, by another line of billitribes, namely the Mishmis and the Sighphos, on this south, by the Garo, Khasi, Naga and Pathai hills, on the west, by the Manas or Manalia rover in the north bank and the Habraghat Pargainmah on the anoth in the Sengal district of Burngpore. The

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Assam has been an influential and integral part of India's North-East region, having substantial socio-cultural linkages with the entire sub-continent.

Assam is populated by three distinct groups of people: the tribes of the hills, the tribes of the plains, and the non-tribal inhabitants of the plains.

Assam was known for its tea industries, but plantation work needed significant human power. For this, the tea tribes were brought in as indentured labor from various provinces of India. During their tenure at the plantation work, the communities began to be identified as tea tribes.

Article6 - Improving the Lives of Women and Children in Assam's Tea Communities

Improving the Lives of Women and Children in Assam's Tea Communities



We are proud to support the Ethical Tea Partnership and have been providing essential funding since 2014 to support the ETP – UNICEF Improving Lives Program in Assam, which is helping to improve the safety of girls living in tea communities across Assam.

Assam is one of our most important tea growing areas, but the large communities involved in tea in this region – one of the poorest in India – face deep-rooted challenges, to which women and children are especially exposed. Many young people leave school without a proper education and with limited opportunities for the future. Girls in particular are vulnerable to exploitation and trafficking to the major cities outside of Assam. The region has been a particular focus for us in the last few years and we've been working hard to deliver meaningful change in the estate communities we buy from.

The ETP UNICEF program was set up as a ground breaking three-year project to help change the lives of thousands of children living in three districts in Assam and over the last three years, the program has brought about significant progress. To date, through our collaboration, we have:

- Improved the safety of over 35,000 girls across Assam by equipping them with essential skills to reduce the risk of violence, abuse and exploitation.
- Trained 1,000 front line staff including local police and social workers across Assam on child protection issues to build trust between tea communities and local agencies and keep them safe.
- Formed 300 Child Protection Committees (CPCs) across tea communities in Assam to protect children against trafficking and unsafe migration. The CPCs also intervene to secure the safe return of children engaged in exploitative labor and provide counsel to families that might be considering early marriage of their daughters

Simon Hotchkin, our Head of Sustainable Development, visited the project. He said, "what particularly stood out for me was the fact that teenage girls are becoming empowered to lead the change in their communities. We sat with the girls and discussed their ambitions. We watched them doing karate. We visited their kitchen gardens and learnt about how they were improving their health through a more varied and nutritious diet. It's been really inspiring to see the changes first-hand.

"The program has clearly had great impact and we're excited to continue working with UNICEF, ETP and our founding partners to launch a second phase of the program which will reach double the number of tea communities."

We will be working with more than 200 estates, a quarter of all tea estates in Assam. As we aim to reach over 150,000 children and young people this will be one of the largest programs of its kind.

In line with this work we are also one of the founding signatories of the Women, Children and Families' in Assam Commitment. Together we will tackle some of the most challenging issues affecting women and children, including healthcare, child development and nutrition, water, sanitation, hygiene, education and child protection.

INFERENCE

As Assam is the largest tea growing region, but the large community involved in tea in this region is one of the poorest in India.

The above article shows how UNICEF is supporting and improving the lives of women and children in Assam's tea communities since 2014.

By the different programs introduced by UNICEF there's a great impact and positive change in the community.

As more such programs should be introduced to make their lives much better for surviving not only for the women and children but men's as well.

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Article7 - The Study On Socio Ecology Of Tea Garden

Indian Res. J. Ext. Edu. 14 (2), May, 2014

Income Change Perception: The Study on Social Ecology of Tea Garden

S. Bera¹, S.K. Acharya² and Ruby Kundu³

1. Ph. D Scholar, 2 Professor, Department of Agricultural Extension, BCKV, Nadia, WB,
3. Ph.D Scholar, Kalyani University, Nadia, WB

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The tea garden community in North-East India is the most vulnerable to poverty, limited choice of employment opportunities and have become direct and indirect subjects of discrimination in the superior part of the society Bharali (2007). Inspire of countless reform promises for these affected faction of people by the government for conferring them their basic rights, they remain one of the worlds' poorest and least developed part of population. India, has, however, experienced a greater progress in reducing human poverty, which includes education, health and other sources of human capital particularly in North-eastern states than in reducing income poverty alone ASRLMS-Annual Action Plan, (2012-13). The level of income is closely linked to level of deprivation (socio-economic, political and psychological) and to nature of inequality prevailing in the country Whelan et al. (2000). The effects of income change are quite visible in terms of their standard of living. The change in income of a tea garden laborer affects not only the household as a whole but also generates greater burden in managing household

production and consumption under conditions of severe scarcity. The laborers in the tea garden are on daily wages that do not provide any possibility of savings and mobility that resulted in total dependence on the plantations with no alternatives *Bharali* (2007). The welfare schemes for the laborers in the tea gardens are in very pathetic conditions. Majority of the tea gardens don't have proper health facility, drinking water, sanitation, and electricity connection etc. Saikia (2009).

In context of depravity amongst the tea garden community in North- East India, a number of measures to improve the income status were employed such as the creation of quotas to ensure their participation in the government jobs, in public service and local government and of special measures to increase girls' enrollment in schools *Sarma* (2013) Apart from government initiatives, a large number of NGOs are operating for the development of tea garden workers. Radical changes in incomes have discernible impact on annual household income, food availability, housing condition, water source (availability of drinking water,

Indian Res. J. Ext. Edu. 14 (2), May, 2014

quality of drinking water), health status (ability to get health treatment), education, sanitation and hygiene (possession of a toilet, toilet condition), Participation in social activities adds to family misery. Therefore, change in income as perceived by the Tea Garden workers in Moijonga tea garden has affected the community adversely. Tea gardens have a unique ecological behavior and generates plethora of ecological disposition which are socially, economically and, of course, ecologically important. The expansion of tea gardens in small and private holdings have added entry of new livelihoods and exit of traditional livelihoods contributing together to constitute a new area of social ecology. The objectives of the study are as follows:

- To explore the relationships between change in Income of temporary and permanent tea garden laborers with the predictors.
- To analyze the impacts of change in Income of temporary and permanent laborers over decades as a whole.
- To formulate strategies to combat the existing condition of income and uplift socio-economic condition of the laborers.

METHODOLOGY -

The present study was conducted in Matia block of Goalpara district (Assam). The district, block and village

were selected purposively and the respondents were selected randomly. A pilot study was conducted in the selected villages before constructing the data collecting devices. In course of this survey informal discussion was carried out with some farmers, local leaders and extension agents of the localities. An outline of socio-economic background of the tea garden workers, community members, stakeholders, teachers, managers and supervisors of the concerned tea garden and its adjoining villages, their opinion towards changing tea garden ecosystem both in terms of biodiversity and social ecology.

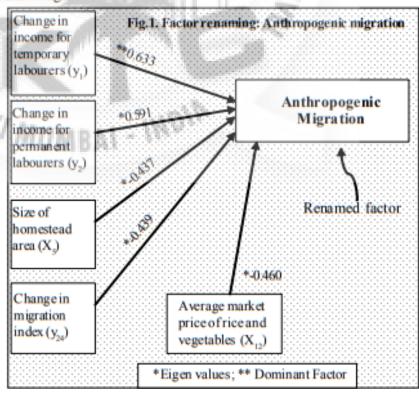
The main statistical tools used were mean, standard deviation, coefficient of variation, weighted mean, factor analysis, multiple regression, and correlation coefficient. All these have been done to ir.aiktclibrary.org establish and estimate the pattern, direction and intensity of interaction to ultimately estimate the ecological behavior of that tea garden setup to ultimately derive and elicit their behavioral traits in the changing climatological, biological and physical setup.

RESULTS AND DISCUSSION

Table 1. Decadal changes in income of temporary and permanent laborers

Change parameters	Decades	Extraction	% Variance
Change in income for temporary laborers (y _i)	1990-2000	0.986	56.184
Change in income for permanent laborers (y ₂)	1970-1980	0.530	44.742

From the Table 1 above, it can be deciphered that there is a sizeable change in income of the laborers working in the tea garden of the study area. The change in income is comparatively more for the temporary laborers which are 56.184 per cent during the cohort 1990-2000. Whereas the change in income for the permanent laborers was seen highest during the cohort 1970-1980 that is 44.742 per cent, since then the income has not changed considerably which reduces their standard of living and can be considered as a reason of less development in the region as the region is dominated by tea garden laborers.



So, there is an urgent need to study the tea garden ecosystem with an integrated social-ecological approach for its development. The present study has considered the three sets of sui generis variables, be branded as social, biological and physical constellation of characters, depicts the following:

- Temporary and permanent laborers is a parameter of social ecosystem that is a seen to interact with components of physical and biological ecosystem.
- The change in income of temporary laborers in past three decades have shown a significant impact in the cohort 1990-2000 and variance in change in income was found to be 56.184 per cent whereas change in income of permanent Laborers were conspicuous in the year 1970-80 with percent variance of 44.742.
- Change in income of both temporary and permanent laborers and size of homestead area have formed a unique conglomeration called Anthropogenic Migration Index. Factor in which change in income of temporary laborers has a dominant role with highest impact in this conglomeration.
- Change in income for permanent laborers have formed a conglomeration with change in total garden income, constituent from change in grasses and water weeds and change in traditional rice and the factor is renamed as Floral-faunal Cybernetics.
- Change in winter temperature, one of the constituent from physical ecology has conglomerated with components from biological ecology like change in number of trees, change in icthiofaunal diversity and elements from social ecology like change in income of temporary laborers, family size, size of homestead

- area, average market price of fish and is renamed as Bio-social Interaction.
- Change in income of temporary laborers is significantly correlated with the variable interaction with cosmopolites (X₁₁). Since income is a driving component, income opportunities are affected by communication with resource persons. Thus, income can be well attuned to access communication variable. Whereas in case of change in income of permanent laborers age, house status, food intake value and listening to radio has been found to be significantly correlated.
- It has also been found that the variable having discernible causal effect on change in income for temporary laborers are education (X₂), family education (X₄), sanitation and hygiene (X₇), food intake value (X₈), listening to radio (X₁₀), interaction with cosmopolites (X₁₁), average market price of rice & veg. (X₁₂), average market price of fish (X₁₃), avg. distance to critical sites (X₁₄), home innovation index (X₁₅), off-farm investment (X₁₇) whereas variables house status (X₆), Age (X₁), food intake value (X₈) and family education (X₄) have a causal effect on change in income of permanent laborer.

So, the interdependent and mutually synchronized relationship amongst and between the physical, biological and social echelons have been the prime mover for ushering a social change vis. a vis. an ecological transformation as well. This kaleidoscopic vision of a system interaction and system performance can go a long way in putting up extension policy to a new plight.

Paper received on : December 15, 2013
Accepted on : January 28, 2014

INFERENCE

The social environment of tea gardens in North-Eastern piece of India has been described with the polymorphic collaborations among and between three arrangements of sub-natural computer science viz. physical, organic and social environment. The current examination has featured these polymorphic collaborations of pay of both impermanent and perpetual workers working in the tea nurseries of Upper Assam with parts of sub-ecologies of social, physical, organic environment. The outcomes show that obvious effect was found in change in pay of both impermanent and perpetual tea garden workers in the previous thirty years that had slippery impact on their living. The relapse examination has been led to see the causal capability of set of factors from the left side from X1 to X17 on the weighty character that is Income of both impermanent and lasting workers. All these have been done to build up and gauge the example, bearing and power of connection of progress in pay of transitory and perpetual workers to at last gauge the environmental conduct of that tea garden arrangement to in the end determine and evoke their social qualities in the evolving climatic, natural and actual arrangement in tea garden biological system.

37

Circulation

The circulation of public and staff service areas has to be separated from each other. The visitors should be able to approach a particular gallery of his or her choice as directly as possible. The location of the temporary exhibition hall should take into consideration the possibility of a large number of visitors. A separate entrance is advisable. Circulating pattern should be designed keeping in mind that there is a general tendency to turn right to enter an exhibit hall.

Types of crowd flow

Depending upon the rate of flow of visitors the areas inside the spaces are

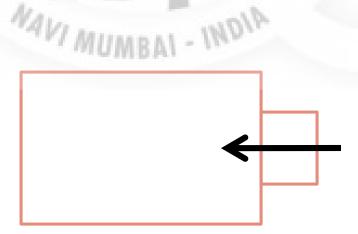
- 1- Areas of constant crowd flow.
- 2- Areas of moderate crowd.
- 3- Areas of variable crowd flow.

Circulation Patterns

The circulation within the museum can be attributed to one of the following types:

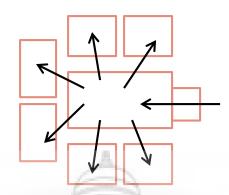
i) Open Plan

Large autonomous exhibits free circulation.



ii) Core And Satellites

Free circulation from core to specific satellite.



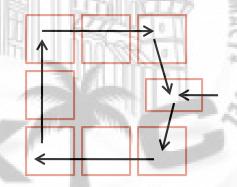
iii) Linear Procession

Linear sequence of spaces controlled circulation. Mostly separate entrance and exit.



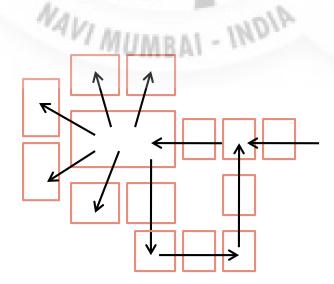
iv) Loop

Controlled circulation, thematic organization, circulation returns to exit.



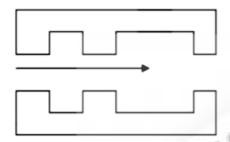
v) Complex

Complex communication strategy.



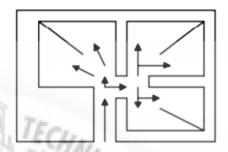
Circulation Plans For Visitors

i) Chain



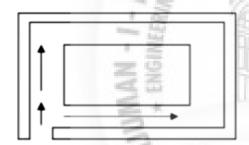
Visitors navigate as per their interests.

ii) Window



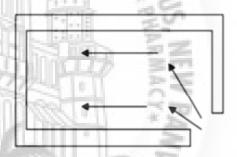
Allows movement in different rooms from a central point.

iii) Central



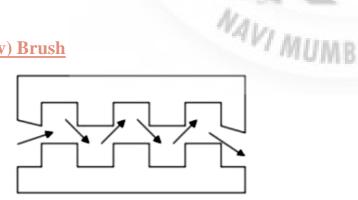
The central display allows visitors to it from different view points.

iv) Block



Allows movement in random pattern.

v) Brush



Different parts of exhibition are exposed to visitors as they move.

User Behavior

In order to create a useful and effective museum its very important to understand the target audience. The museums exhibition will only succeed only when it will communicate with the visitors and foster their interest.



















The visitors of museum can be of three simple categories

- 1) Casual visitors- the ones who move quickly through the gallery and do not involve in what they see.
- 2) Cursory visitors- the ones who are interested in the museum, its experience and its collection.
- 3) Study visitors- the learners who spend abundant of their time in most of the spaces of museum.

The different types of users that are going to visit the museum are

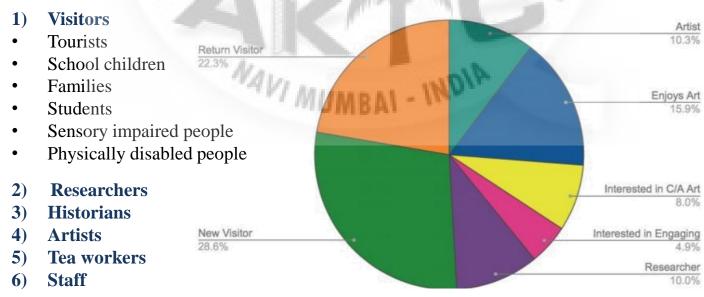


Image.3. breakdown of user segments according to a visitor motivation survey (museumsdigitalculture.prattsi.org)

Display Techniques

Exhibits significantly changed during years instead of an amazing showcase of shows with "do not touch" limitation, the presentation has shaped a group of active, inactive and interactive sorts.

a) The museum can display info in the following forms:

Passive Communication

- Graphic Panels,
- ■Images,
- ■Models, Etc.

Active Communication

- Audio And
- Videos.

Reactive Communication

- User Activated
- Lighting Effects
- •Films- Movies, Documentaries
- And Videos.

Interactive Communication

- ■Live Interpretation Staff Or
- Actors In Role Play
- •Various Kinds Of Workshop.









Image.4. Mode of display

b) Positioning of graphics :

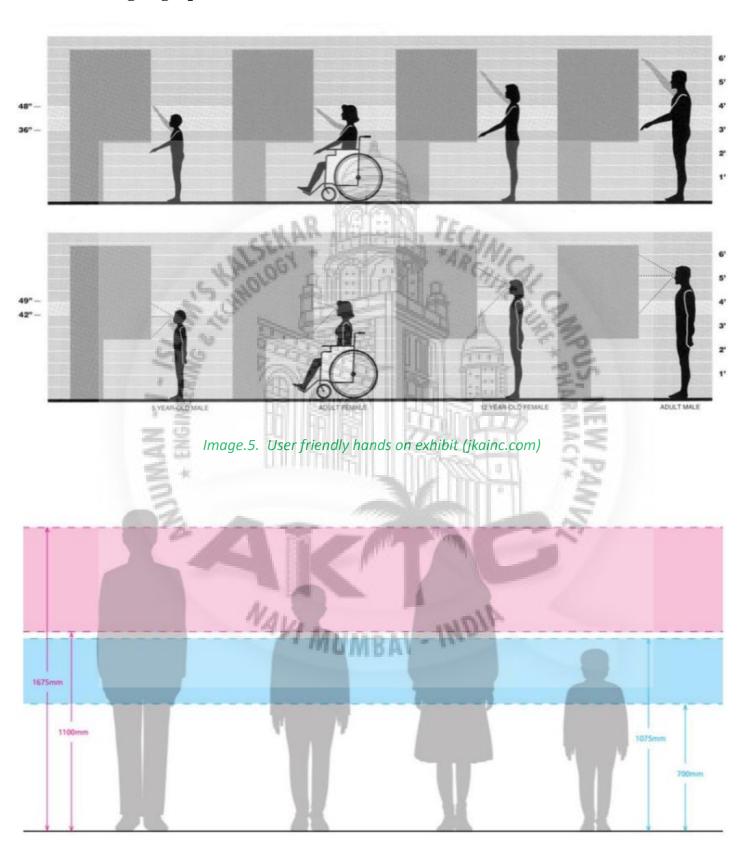


Image.6. Viewing bands for adults (pink) and pre-fives (blue)

c) Relevant dimensions:

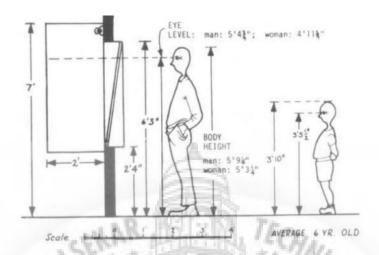


Image.7. Measurement of adult and six years old visitor in relation to cases (time saver standards)

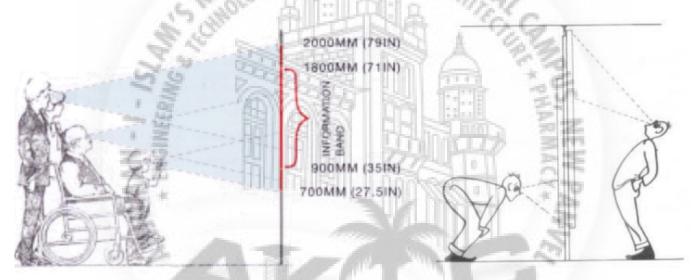


Image.8. Difficulties encountered in viewing details more than 3feet below or 1feet above (time saver standards)

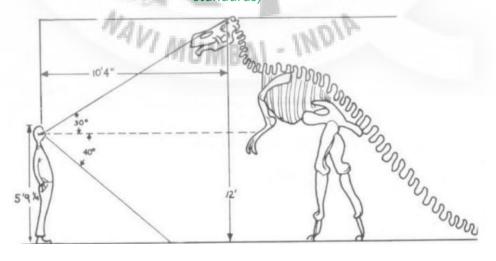


Image.9. Viewing distance increase with greater size of object (time saver standards)







Image.10. view of Milwaukee art museum (solaripedia.com)

1) MILWAUKEE ART MUSEUM

PROJECT INFO

Architect- Santiago Calatrava

 $Built\ In-1888 (2001)$

Floor Area- 341000sq Ft

Location – Milwaukee , Wisconsin, United States

INTRODUCTION

The Milwaukee Art Museum is an art museum in Milwaukee, Wisconsin. Its collection contains nearly 25,000 works of art. It is one of the largest museums in the United States. It is designed by David Kahler and the Quadracci Pavilion created by Spanish architect Santiago Calatrava.

The Quadracci Pavilion contains a movable, wing-like brise soleil that opens up for a wingspan of 217 feet (66 m) during the day, folding over the tall, arched structure at night or during inclement weather. Approximately 2100 tons of steel reinforcing bar has been used in the concrete. If the structure were not so heavy, it would float if the lake level got too high.



ORGANISATION OF SPACE

East End Patio

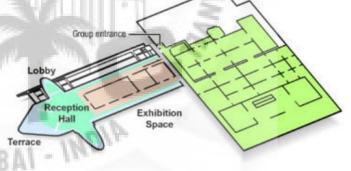
Despite of the fact that the spaces are confined in the museum as there is a lot of functions placed in it on each floor. But the museum is well organized. The allotment of the spaces is very well designed. Each floor is allotted with different space.



Image.11. circulation plan of Milwaukee art museum (solaripedia.com)

CIRCULATION

Circulation of the milwaukee art museum starts from the main entrance from level one. The museum has 5 levels. Parking, lower level, main level, mezzanine floor and upper level. Each floor has different functions. As the spaces are confined there's very congested area for circulation.



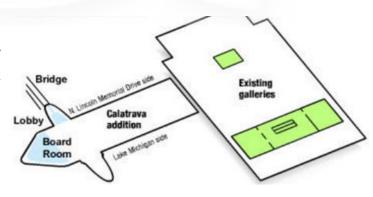


Image.12. different floor levels of Milwaukee art museum (solaripedia.com)

CIRCULATION AND ORGANIZATION OF SPACE.

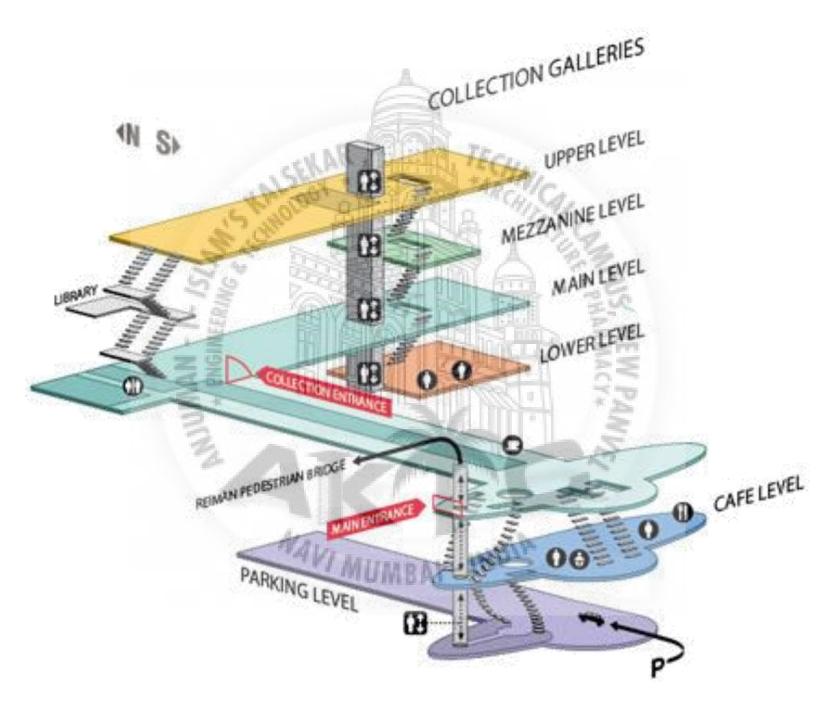


Image.13. different floor levels of Milwaukee art museum (solaripedia.com)

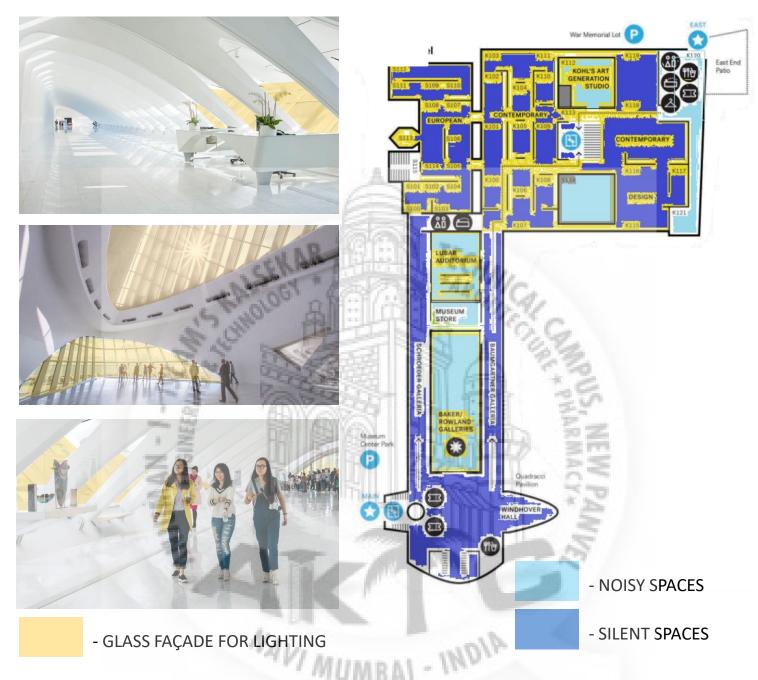


Image.14. Milwaukee art museum (http://cargocollective.com/)

Image.15. Milwaukee art museum (http://cargocollective.com/)

QUALITY OF SPACE

The quality of space in the museum is very well lit. the ventilation of the museum is based on HVAC system. As the structure is having glass for the lighting but no openings are there for ventilation purpose.

SILENT AND NOISY

As where there are display areas the spaces are silent and the auditorium, cafes, some gathering space, art studio where speakers are being used for display purpose are the noisy spaces.



The pavilion received the 2004 Outstanding Structure Award from the International Association for Bridge and Structural Engineering. This iconic building, often referred to as "the Calatrava", is used in the museum logo.

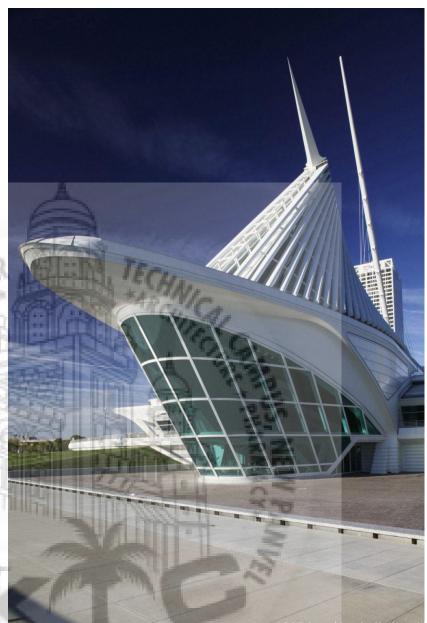




Image.16. view of Milwaukee art museum (solaripedia.com)



Image.17. Imperial War Museum (Archdaily)

2) **IMPERI**AL WAR MUSEUM

PROJECT INFO

Architect- Daniel Libeskind

Built In - 1997-2001

Floor Area- 9000msq

Location – Manchester England

INTRODUCTION

The museum building was designed by architect Daniel Libeskind and opened in July 2002, receiving 470,000 visitors in its first year of opening. One of five branches of the Imperial War Museum, it explores the impact of modern conflicts on people and society. At the museum's opening, Libeskind said that he sought to "create a building ... which emotionally moved the soul of the visitor toward a sometimes unexpected realization".

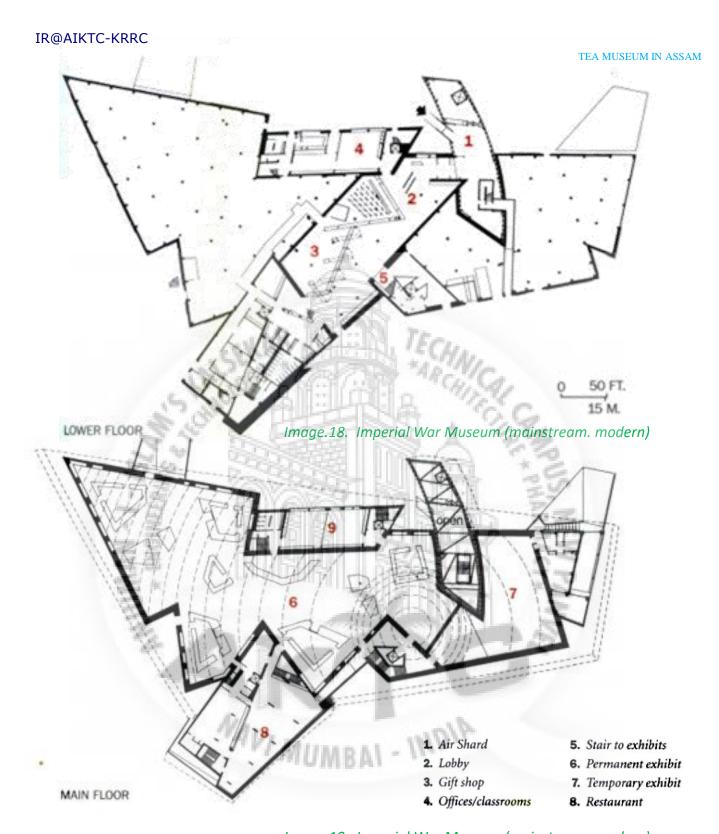
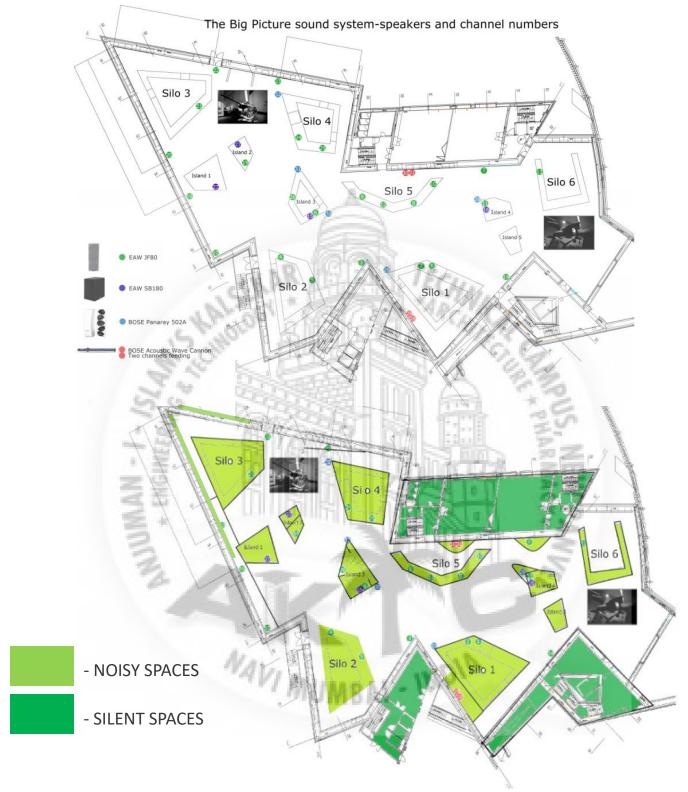


Image.19. Imperial War Museum (mainstream. modern)

ORGANISATION OF SPACE

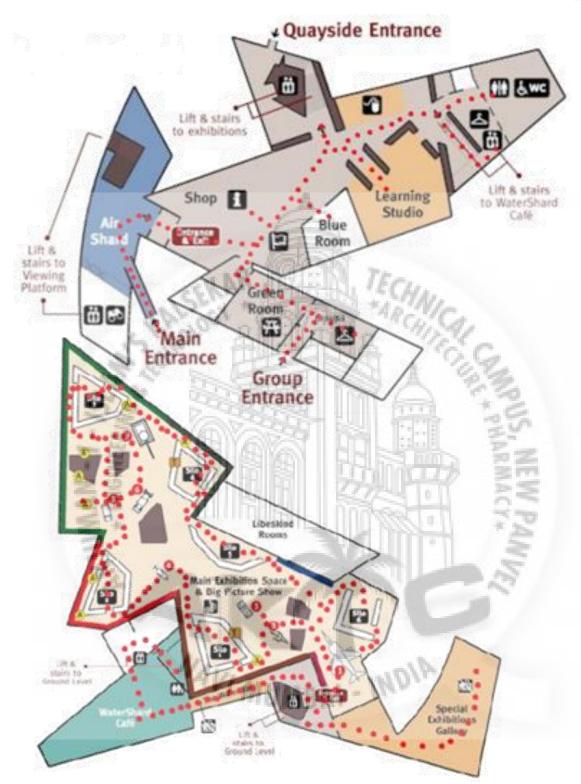
As it's a war museum it's a huge open space where artifacts like fighter plane, guns, other war materials are displayed. So the spaces are well organized and dived into silos where different audio visuals are shown to the visitors



SILENT AND NOISY

Image.19 and 20. Imperial War Museum (mainstream. modern)

As compared to the previous museum there were more number of silent space then the noisy spaces but in this imperial museum there are open spaces dived for different topics and are audio visually displayed to the visitors which keeps all the spaces noisy. Silent spaces are Libeskinds room and stairway blocks.



CIRCULATION

Image.21. Imperial War Museum (radiomuseum)

The circulation pattern in this museum is very open as the there is no particular pattern of display. The artifacts are installed in between as visitors move around . So the circulation pattern which is followed is the wall where there are screens displaying the videos and facts of wars. As people see them one after the other following the wall.

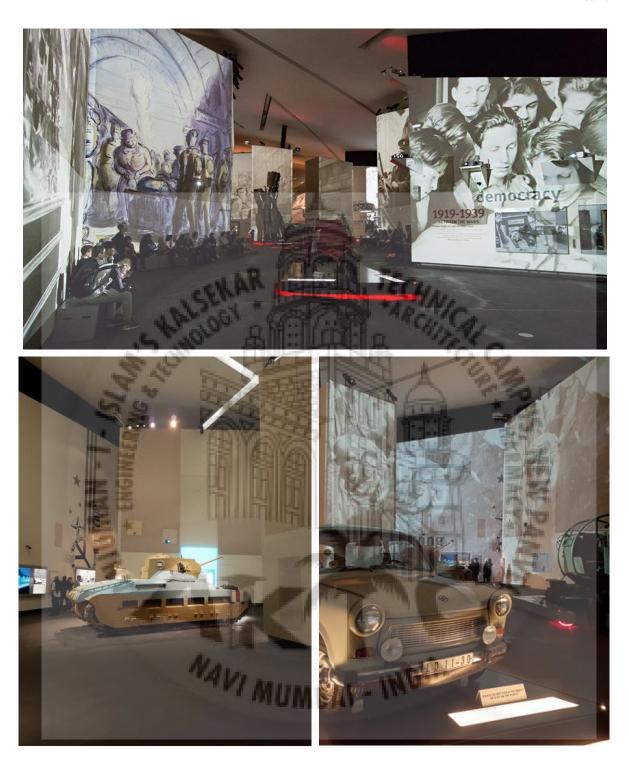
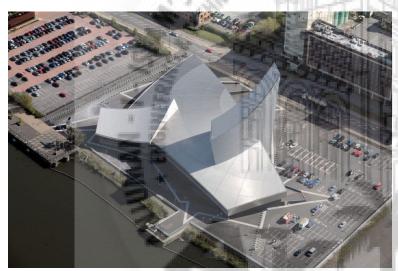


Image.22. Imperial War Museum (mainstream. modern)

QUALITY OF SPACE

As there are more numbers of visual displays then installations the museum has dark space with so called zero bulb lightning's for circulation and to some installation which are displayed in the museum has focus lights on them. As you can see in the reference pictures above from the internal space of the museum.





Libeskind envisaged a 'constellation composed of three interlocking shards' with each shard being a remnant of an imagined globe shattered by conflict.

These shards in turn represented air, earth and water, and each formed a functionally distinct part of the museum.

The 55 m high air shard, provides the museum's entranceway and a viewing balcony above the Manchester Ship Canal with views of the Manchester skyline. The construction of the tower leaves viewers exposed to the elements and one reviewer considered that it reflected "the aerial perspective of modern warfare and the precariousness of the life below".

The earth shard houses the museum's exhibition spaces, while the water shard accommodates a cafe with views of the canal.

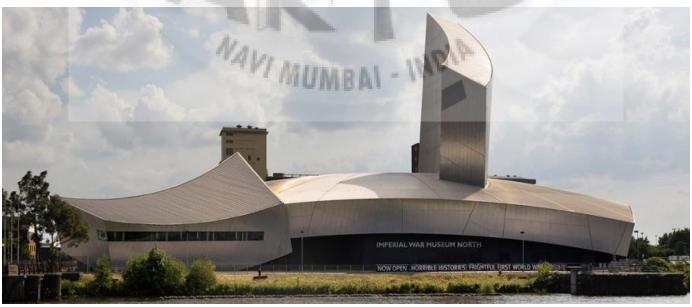


Image.23. Imperial War Museum (radiomuseum)



Image.24. Tea Museum Shizuoka (tea-museum)

3) TEA MUSEUM, SHIZUOKA

PROJECT INFO

Location Japan, 3053-2 Kanayafujimi-cho, Shimada-shi, Shizuoka 428-0034

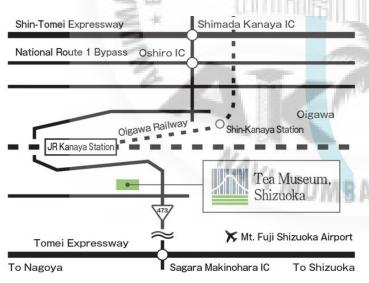




Image.25. Tea Museum Shizuoka (tea-museum)

February 2017: Renovation design completed.

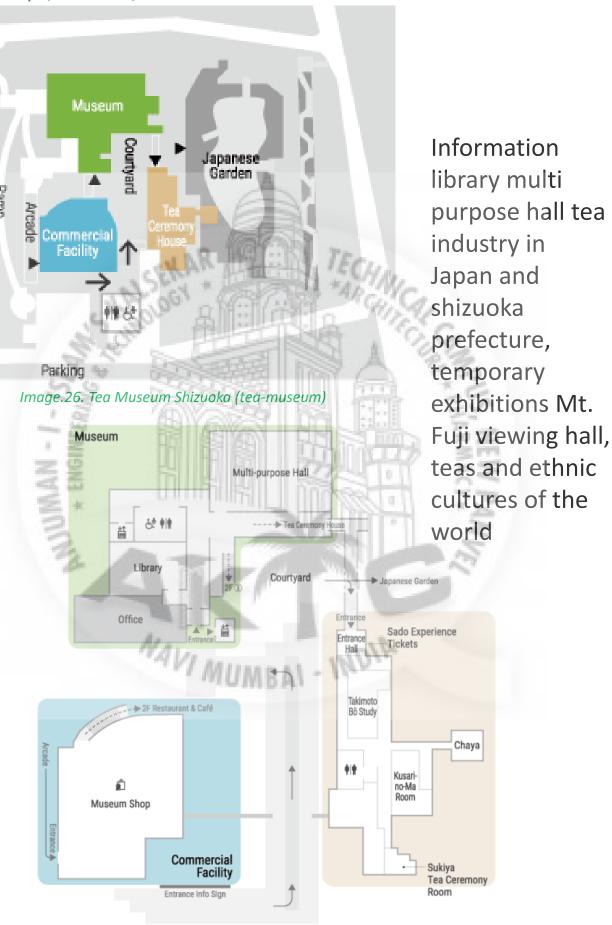
April 2017: Tea Museum, Shizuoka construction started.

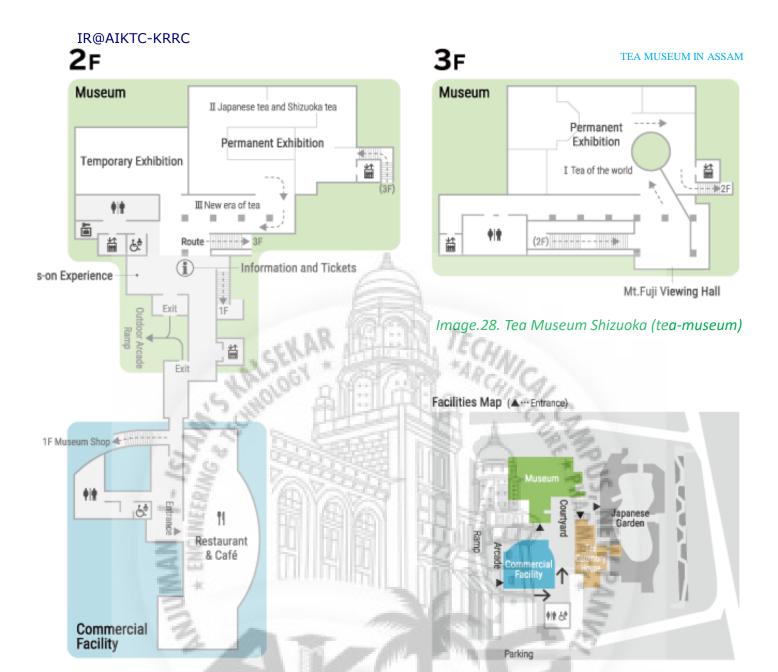
May 2017: Renovation construction started.

December 2017: Ordinances proclaimed regarding the installation, management, and materials used for Tea Museum, Shizuoka.

March 2018: Planned opening.

Facilities Map (▲···Entrance)





"Tea

Museum.

training sessions

and abroad.

Shizuoka"

and collects

exhibits introducing tea industry, history, and culture, as well as rich tea picking and rubbing experiences as well as courses that teach using the five senses, and offers opportunities for everyone both young and old to enjoy learning about tea. In addition, the museum holds

distributes information for people in the tea industry and tea lovers both in Japan

features



Image.29. Tea Museum Shizuoka (tea-museum) ir.aiktclibrary.org





Matcha grinding experience

Tea ceremony experience

Image.30. Tea Museum Shizuoka (tea-museum)



You can enjoy matcha and Japanese sweets made by the teacher in a full-fledged tea room.



ii laikteiibi ai y loi g



Image.31. Agriculture Hub (futurearchitectureplatform.org)

4) ILOCOS AGRICULTURE HUB

BAYANIHAN SA AMIANAN

PROJECT INFO

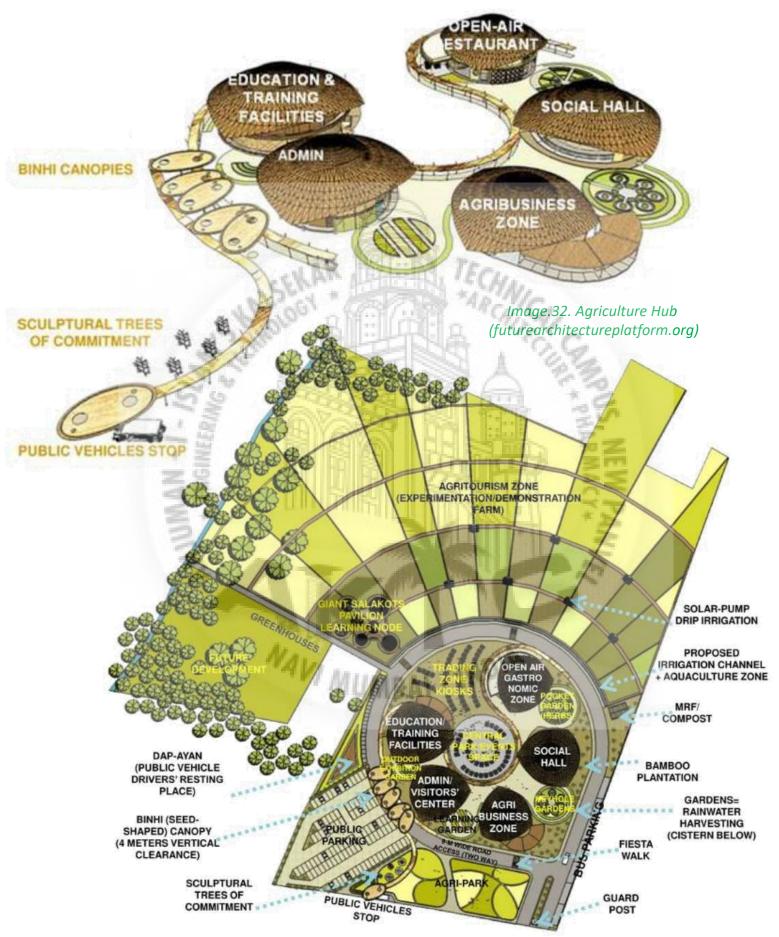
Location-Philippines

Bayan (community) +
Anihan (farm), in Filipino
context, introduces an
innovative way of
recreating a sense of
community for the
Philippine agriculture
sector.

INTRODUCTION

Agriculture Hub is an architecture innovation that will serve as the central facility that is dedicated to rural revitalization and economic inclusiveness within the locality. This project is a fundamental architectural initiative which is specifically dedicated to the uplifting of farmers' way of living and proving to the nation and to the world that architecture can create an immense impact in the agriculture development.

Creating a series of loops of activities involving the major stakeholders, government, the business-minded farmers, and the business investors.





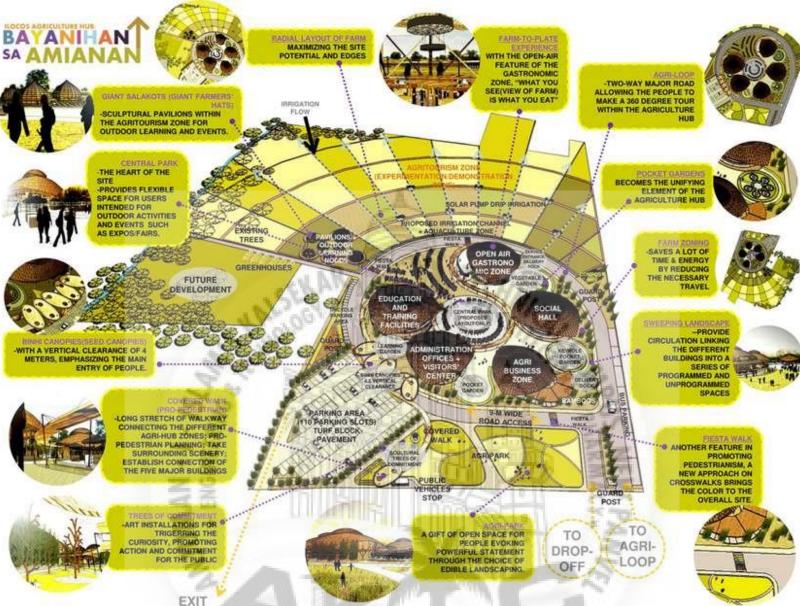


Image.33. Agriculture Hub (futurearchitectureplatform.org)





Image.34. Tea Talks House (Archdaily)

5) TEA TALKS HOUSE

PROJECT INFO

Architects: Atelier Right Hub

Area: 8900 M²

Area: 8900 IVI-Client: Fujian Ming Shan Tea

City: Quanzhou Country: China Designed-2017 Completed - 2019 Technical Data - Wood Veneer, Terrazzo, Cenment Paint, Steel, Glass Project Team - Gong Jian, Liu Meng

INTRODUCTION

Tea-talks house is located between 250-300m above the sea level, south-west to the state 5A scenic resort, Qingyuan mountain, which is renowned as "an natural oxygen bar" with its forests and fountains. This project is renovated from an old tea factory founded in 80s last century. Atelier RIGHT HUB is the contracted party to responsible for the entire design scheme, including overall planning, architecture, exterior and interior design.

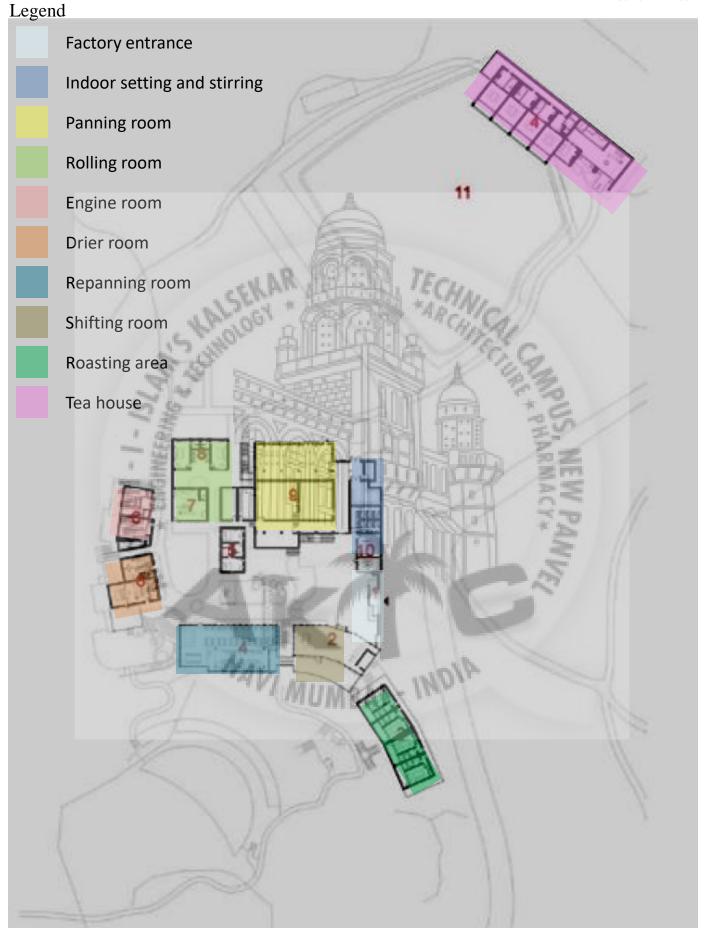
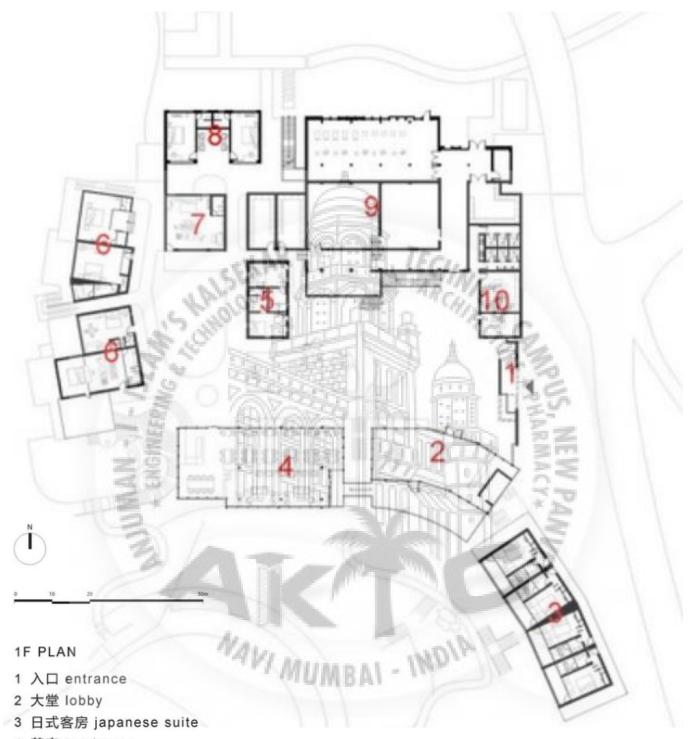


Image.35. Tea Talks House (Archdaily)



- 4 茶室 tea house
- 5 布草间 storage
- 6 客房 suite
- 7 餐厅 dining room
- 8 厨房 kitchen
- 9 炒茶室 fried tea house
- 10 员工宿舍 staff dormitory
- 11 桃花水母池 pond

Image.36. Tea Talks House (Archdaily)

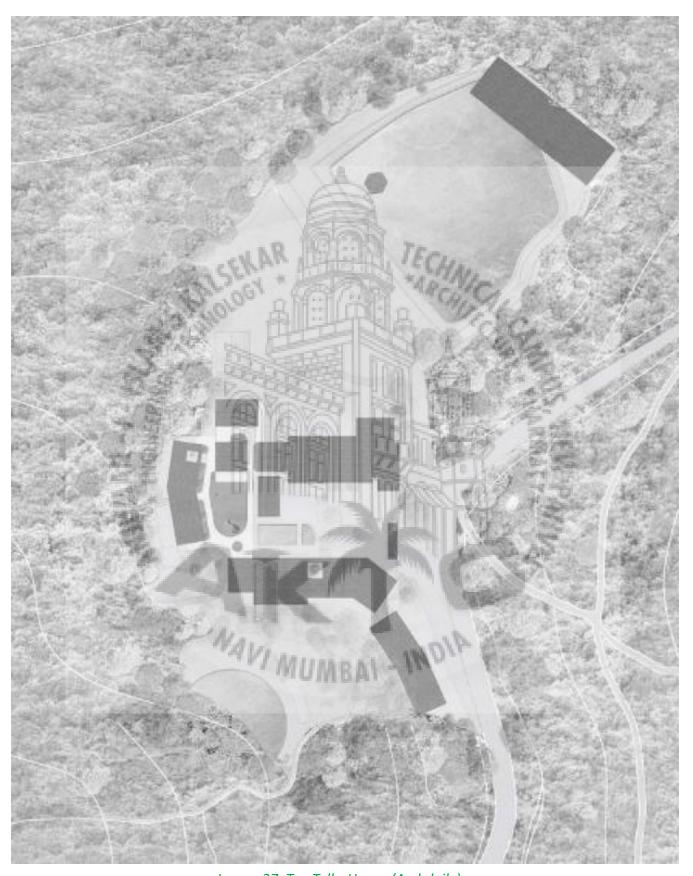
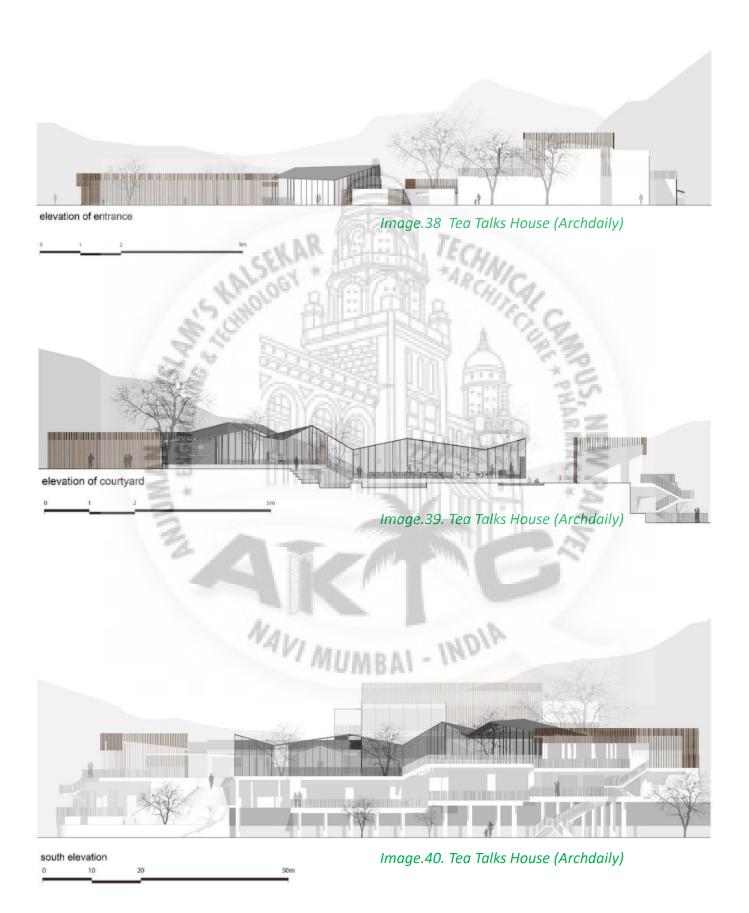


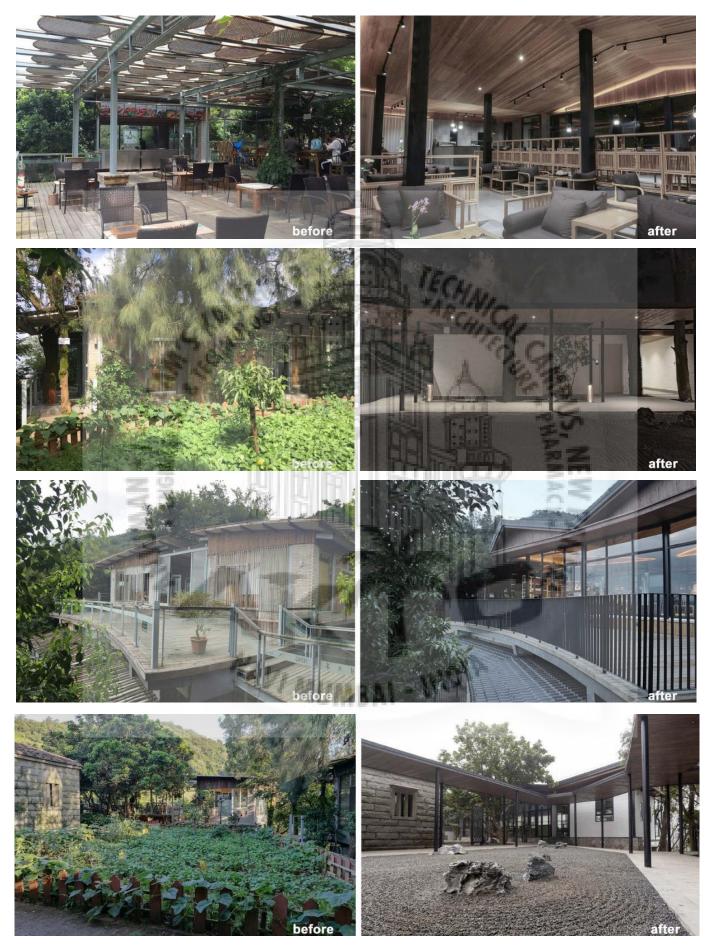
Image.37. Tea Talks House (Archdaily)











Comparative Analysis

S.NO	Attributes	Milwaukee Art Museum	Imperial War Museum	Tea Museum, Shizuoka	Ilocos Agriculture Hub	Tea-talks House	Inference
1	Site Area	7.8 Acres	2.3 Acres	7 Acres	8 Acres	2.2 Acres	
2	Entry	Unique Entry Is Given To The Museum By The Bridge For Pedestrian Visitors And Vehicular Entry Is Different.	Pedestrian And Vehicular Entry Are different.	Pedestrian And Vehicular Entry Are Same.	Pedestrian And Vehicular Entry Are Same.	Pedestrian And Vehicular Entry Are Same.	Pedestrian And Vehicular Entry Should Be Different
3	Access	Entry Is From The Service Road.	All Entries Are From Main Road.	All Entries Are From Main Road.	All Entries Are From Service Road.	Entry Is From The Service Road.	Access Should Be Convenient According To The Site.
4	Zoning	Zoning Of The Spaces Are Worked On Different Floor Level.	Zoning Of The Spaces Are Worked On Different Floor Level.	All The Activities Happen Under Same Roof.	All The Activities Have Separate Structure, Separate Roof.	All The Activities Have Separate Structure, Separate Roof.	Factory, Museum And Tea Garden All Three Should Have Sorted Zoning.
5	Circulation	As The Spaces Are Confined There's Very Congested Area For Circulation.	The Circulation Pattern In This Museum Is Very Open As The There Is No Particular Pattern Of Display.	Defined Movement With Well Represented Signages.	Well Planned No Disturbance In Circulation	Buildings Are Not Properly Oriented So Circulation Is Difficult Without Signages.	Circulation Within The Building Should Be Well Guided With Signages And They Should Be Easily Accessible By Everyone.
6	Open space	No Open Space	No Open Space	Courtyard Is Provided	All The Structures Are Semi-open And A Courtyard Is Provided	A Courtyard Is Given Surrounded By Separate Structures.	Creating Internal Atriums, Courtyards Which Can Create An Interesting Space Inside The Museum
7	Orientation	The Main Entry Is From The West.	The Entry Of The Museum Is From The North.	Main Entry Is From The North.	Main Entry Is From The South-west.	The Main Entrance Is From The East.	Should Be Oriented Either Along Movement Axis, visual Axis Or Focus

Table 1

S.NO	Attributes	Milwaukee Art Museum	Imperial War Museum	Tea Museum, Shizuoka	Ilocos Agriculture Hub	Tea-talks House	Inference
8	Planning	Planning Is Done According To The Lake Beside.	Planned To "Create A Building Which Emotionally Moved The Soul Of The Visitor	Planned As Representatio n Of Shizuoka.	Innovative Architectural Solution For Agriculture.	Renovation Of An Old Tea Factory.	Planning Should Be Flexible Which Implies Optimum Use Of Space And More Of Natural Light And Ventilation.
			Toward A Sometimes Unexpected Realization".				
9	Character	This Iconic Building, Often Referred To As "The Calatrava".	Explores The Impact Of Modern Conflicts On People And Society	Tea Museum	Similar To Community Farming Hub	Character Of A Tea Factory.	A Symbolic Character Can Help Tertiary Users To Understand The Motive Of The Built Form
10	Activity	The Museum, Pavilion And Café Are The Most Active Part.	Teaching Space, Conference Room, Display Area And Cafeteria Are The Most Active Spaces	The Central Space Is The Most Active Space Inside.	The Central Courtyard Is The Most Active Space Inside.	The Tea House Is The Most Active Space.	None Of The Space Should Be Dull Or Less Convenient To The Visitor.
11	Transitional spaces	The Huge Enclosed Space Requires A Map To Navigate Through The Structure.	The Huge Enclosed Space Requires A Map To Navigate Through The Structure.	Internal Transitional Spaces Are Well Designed Keeping People Of Different Categories In Mind.	All The Transitional Spaces Are Well Designed Keeping People Of Different Categories In Mind.	No Defined Linkages Between The Structures.	Evolve Form W.R.T, Function Effective Transition From Outside To Inside.
12	materials	R.C.C. And Steel	Aluminum Was Used As The Principal Facade Material. And It Was Used In 3 Different Ways.	R.C.C.	Local Materials.	R.C.C.	Modern Contemporary Materials With Locally Available Materials And Method Of Construction
13	landscape	Lake Beside The Structure Gives A Pleasing View To The Visitors.	Lake Beside The Structure Gives A Pleasing View To The Visitors.	Beautiful Tea Garden And Planned Landscape Courtyard	A Very Well Planned Landscape	Sorted Landscaping On Contours. With Beautifully Grown Tea Bushes.	Designing Idea For Museum Set In A Tea Plantation To Minimize The Impact Of Its Footprint On The Landscape.

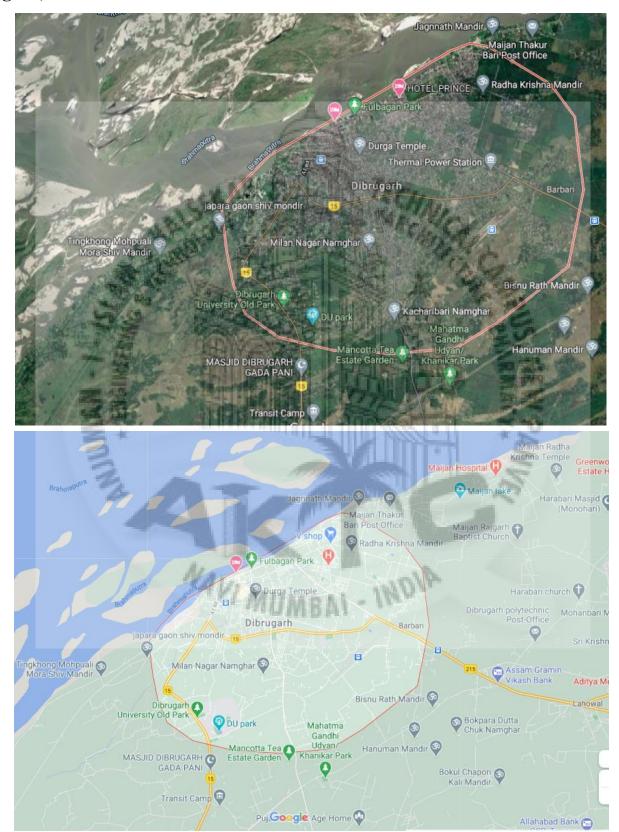
Table 2





Site Location

Dibrugarh, Town In Assam



Map 3 and 4 (Google earth)

Site description

The proposed site for the museum is located on the land in Dibrugarh, a town in Assam.

DIBRUGARH, TOWN IN ASSAM

Area: 12.65 km² **Elevation:** 108 m

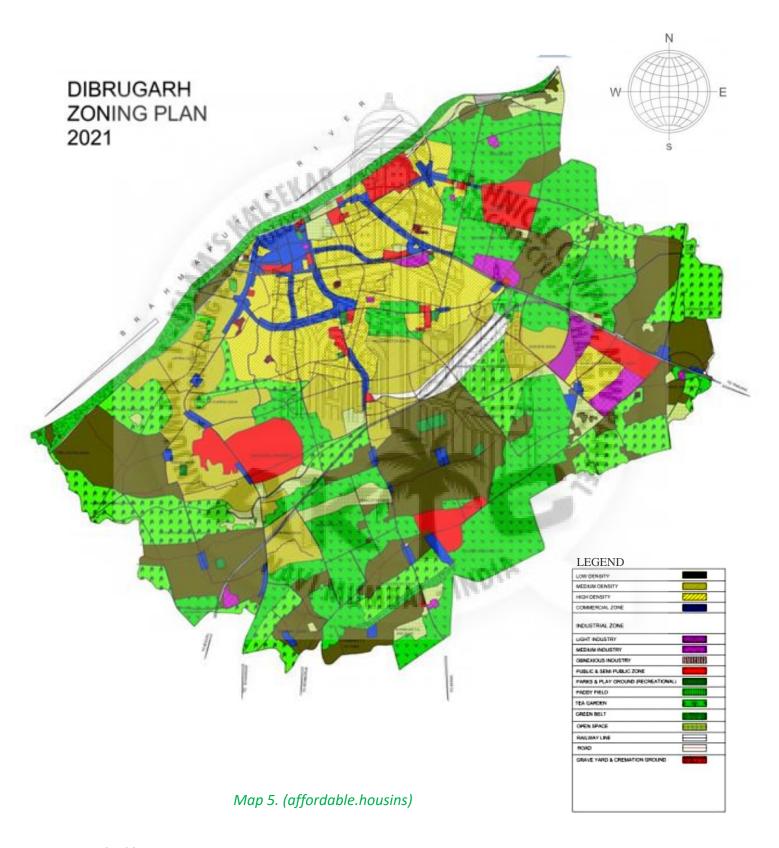
Weather: 25 °C, Wind E at 3 km/h, 72% Humidity

Population: 1.54 lakhs (2011)

Dibrugarh is known as the 'Tea City of India' because it is the gateway to the three tea producing areas of India.

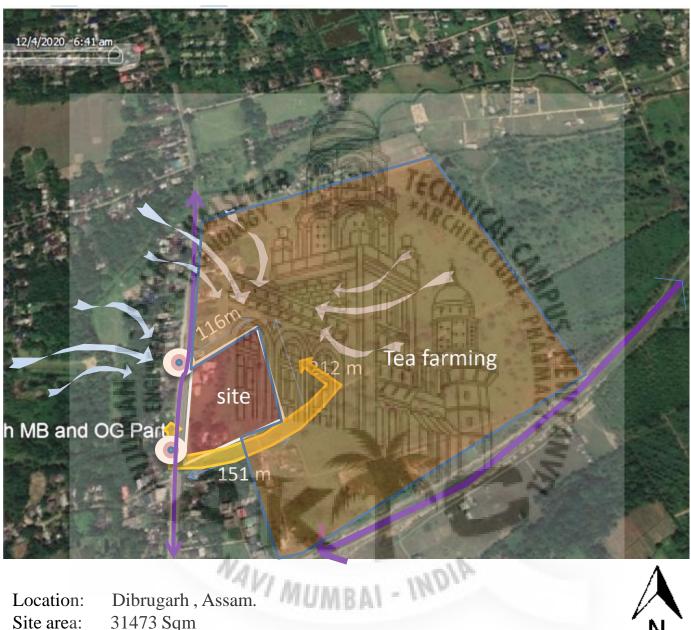
- a) Dibrugarh is an industrial city surrounded by sprawling tea estates in Assam, northeast India.
- b) It sits on the Brahmaputra River.
- c) And is home to the Radha Krishna Mandir, a Hindu temple constructed of marble.
- d) Hitendranath Barua Science and Culture Park features life-size animal sculptures and an open-air stage.
- e) Northeast of the city, Dibru Saikhowa National Park is an island reserve that attracts many migratory birds.

DP Plan Of Dibrugarh



Site Analysis

4.4



Location:

Site area: 31473 Sqm

Tropical Monsoon Climate:

Population: 154019



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