Investigating Premature Urbanization: Vernacular and Occupation-based Development Model at Asharikandi

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Abstract— The recent trends of rural-to-urban migration have made rural populations hustling into urban centres to get employment, health security and education. Eventually, to cope with the ever-increasing influx, the already-burdening Indian cities have been accommodating the migrating population, which has put an added pressure on the urban economy, infrastructure and environmental resources. Similarly, the Indian villages, which at one instance encompass a natural, rich and traditional lifestyle supported by indigenous cottage industries and vernacular knowledge systems, are also witnessing distress-migration and premature urbanization due to dying occupations and little employment prospects. The paper investigates the case of Asharikandi - an artisans' village located in north-east India. The artisans' community in Asharikandi had over the time given up the terracotta works, owing to lack of economic sustenance. However, the continuous efforts of the local NGOs over the last decade have made many artisans re-engage with their traditional craft as a means of livelihood. Villages like Asharikandi are on the brink of premature urbanization throughout the country, and in another couple of decades, many of these might transform into towns and haphazard urban centres, thereby losing their cherished bond with craft – which not only connects with their livelihood but is also an expression of their cultural identity.

Index Terms— Rural-to-Urban Migration, Vernacular, Rural, Terracotta, Craft, Cultural Identity, Community, Occupation-based, Livelihood

I. INTRODUCTION

Since the economic liberalisation in 1991, India has been experiencing a rapid rural to urban migration. As per the census of 2011, around 450 million of 1.2 billion Indians have migrated within the country. Of this, 78 million, or 15.6% of all domestic migrants have moved from rural to urban areas [1]. Rural to Urban migration is a process of development as people search for better employment opportunities within and across countries. However, it becomes a challenge when it is not a choice but a necessity–forcing millions of villagers to leave their homes for cities [2]. To meet the basic necessities of life such as food, cloth and shelter of the growing population, and to lessen the burden on the already-collapsing infrastructure of the cities, the villages in India must be developed to retain their rural essence and economic activities must be strengthened through design, planning and policy-level interventions.

A. Research Objective

The research is based on the idea of assessment of rural Indian settlements to have an understanding of the extent of rural-urban disparity in India through analysing a chosen rural settlement and eventually proposing a development model that responds to the context. The underlying idea is to observe a village cluster made up of occupational communities and observe the existing trajectory of development through analysing the infrastructural provision, economic activities, socio-cultural ethos, spatial fabric and community life. The objectives of this research are:

1. Assessing a craft-based occupational community to understand its unique value chain, cultural features and the craft process.
2. Conducting a baseline analysis of the existing development scenario in the village communities.
3. Assessing the relationship and interdependence of the chosen community with various other occupational communities that coexist alongside.
4. Understanding the needs and aspirations of the local stakeholders to understand and contextualise the development vision
5. Proposing thoughtful architectural and planning interventions as a part of an occupation-based development model for the rural craft-based community, which is intended to act as an example of countermeasure to haphazard development taking place in the rural Indian context.

Based on the research objectives and extensive literature studies and case studies on rural Indian settlements, Asharikandi village, one of the largest clusters of terracotta artisans in India, was chosen as a case for the project. The choice was made on various factors, such as the nature of occupation, spatial and socio-economic setting, cultural identity, presence of multiple occupation-based communities and support from local NGOs.

B. Cultural identity in the rural context

The research emphasises on the aspect of the cultural identity of the craft-community of Asharikandi to arrive at people-centric solutions. The cultural identity of rural India is characterised by a rich and traditional lifestyle that is supported by indigenous cottage industries and vernacular knowledge systems. These cottage industries spread across the millions of Indian villages are the backbone of the economy as they provide as much as 40% of the total industrial output in India. These cottage industries not only play a crucial role in providing large employment opportunities but also help in industrialisation of rural areas, thereby lessening the regional imbalance and reassuring more equitable distribution of national wealth and income [3].

C. Premature Urbanisation

Experts have predicted that the Indian economy is set to be driven by rural demand due to rising income levels, lifestyle changes, increasing literacy level and expectations of rural consumers [4]. However, despite the overall growth in rural annual consumption growth over the past few years, the cottage industries are on the verge of obsolescence owing to the little increasing competition from the cheap mass-produced alternatives- that promise better livelihood prospects both in the rural and urban India.

This coupled with repeated failure of agricultural policies [5] and limited livelihood prospects compel the rural inhabitants to migrate to cities in search of better livelihood prospects. On the other hand, the increasing population and income levels is allowing the migrants to invest back in their rural households and expand them to accommodate an increased family size. Additionally, due to limited usage of vernacular knowledge systems and affinity towards concrete for spatial improvement in the modern times, the spatial character of the rural settlements is being altered.

The vernacular spaces and building practices of the village are steadily being replaced by non-contextual 'one-size-fits-all' construction and development paradigms. Overall, these factors are contributing to the premature urbanisation of rural India.

D. Scope

The paper discusses premature urbanisation only on the basis of loss of spatial and cultural identity and non-contextual development happening in rural India. The research's scope is restricted to assessing the spatial, cultural and socio-economic conditions of the craft-community of Asharikandi.

While the paper presents a holistic development model for Asharikandi, it focuses on proposing architectural interventions for 'occupation-based living' as the foremost way towards envisioning contextual and culturally sensitive development paradigm for rural India.

E. Methodology

The research follows a systemic methodology, which comprises on-ground studies, literature and case studies, engagement with various stakeholders and architectural design process, to arrive at outcomes needed for proposing a holistic development model at Asharikandi.
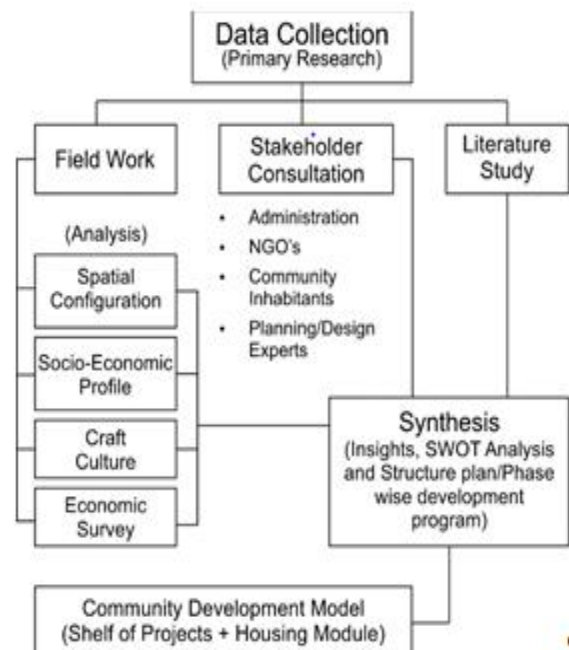
F. Limitations

While discussing the development model and the inadequacies in the current development paradigm at Asharikandi, the paper does not focus on the socio-economic profile of other village communities like the fishermen and farmers residing alongside the terracotta craft-community. This aspect can be explored in further studies.

Due to the remote location of the village, it was not possible to conduct studies on a frequent basis. Consequently, the on-ground study was conducted over fifteen days within a time span of two months.

While the research investigates indigenous construction materials and techniques for development of the dwelling units, it does not attempt to highlight the cost estimation for the same.

II. ASHARIKANDI – A TERRACOTTA ARTISANS VILLAGE IN A VERNACULAR SETTING

Asharikandi is a remote village located upon the banks of River Gadadhar (Fig. 2). The village falls under Dhubri region of Assam and lies amidst the Brahmaputra river basin (Fig. 3).
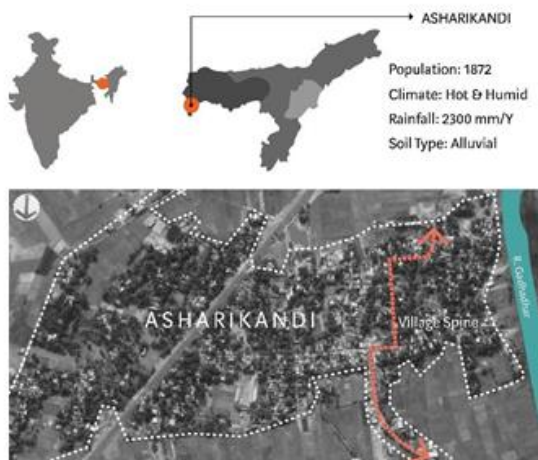
Fig. 2. Asharikandi village in Dhubri district, Assam

Fig. 3. (a) Asharikandi village along the river Gadhadhar; (b) Entry to the village

The village encompasses a total of 137 households, most of which have been actively practising their traditional terracotta craft since decades. The unique terracotta style practised by the artisans in Asharikandi continues to flourish through its terracotta toys, figurines of Hindu Gods and other decorative items. The *Hatima Putul*, a terracotta toy with elephant-like ears with a baby on lap, is possibly the best example of the village's distinctive craft and cottage industry
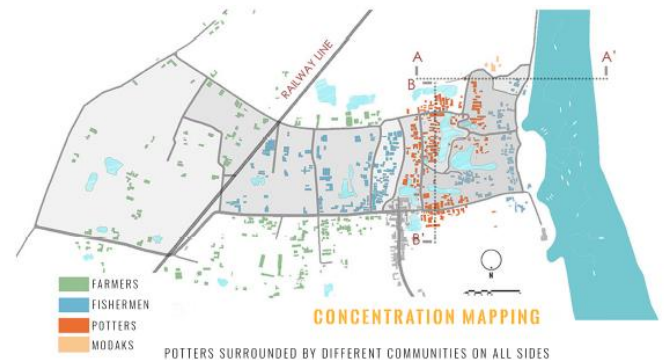
Fig. 4. Concentration of different communities at the Asharikandi village

The potters of Asharikandi are erstwhile refugees from what is now Bangladesh. They had chosen the village due to its strategic location and geography, which provides the artisans all the necessary raw materials like the clay and water nearby. The potters, farmers, modaks (traditional Bengali sweet makers), karmokars (village blacksmiths) and fisherfolks all live in harmony (Fig. 5).
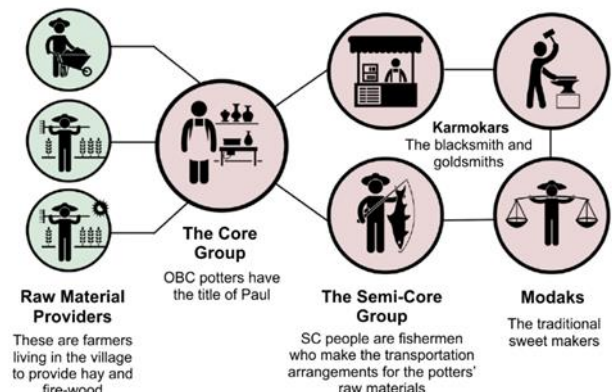

Fig. 5. Various communities at Asharikandi

Fig. 6. Social Indicators of Asharikandi

A. Terracotta Craft as the Cultural Identity in Asharikandi

Terracotta artisans of Asharikandi have been traditionally practising their craft and their profession revolves around their inter-woven socio-cultural ethos. These potters consider themselves as disciples of Shiva and practice their craft following their traditional norms which include barter system between different communities as well.

The terracotta practice of Asharikandi is undeniably the single most important article of their identity (Fig. 7), as it forms a cottage industry in the village that is directly linked with the living and occupation of the artisans, most of whom practice their craft in their homes that are traditionally

planned and designed to suit their occupation with courtyards, front and backyards for living, working and storing goods (Fig. 8).
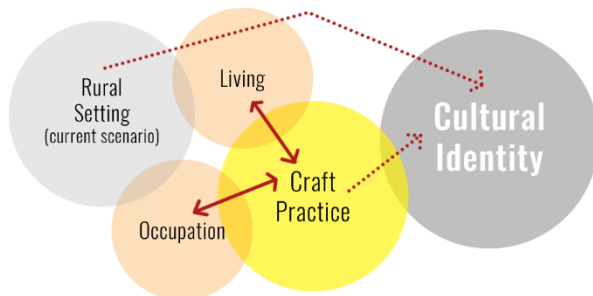

Fig. 7. The diagram depicts the direct and indirect linkages between cultural identity, living and occupation in Asharikandi

Fig. 8. A typical potters house with a courtyard; Limited space for storage and working in the house
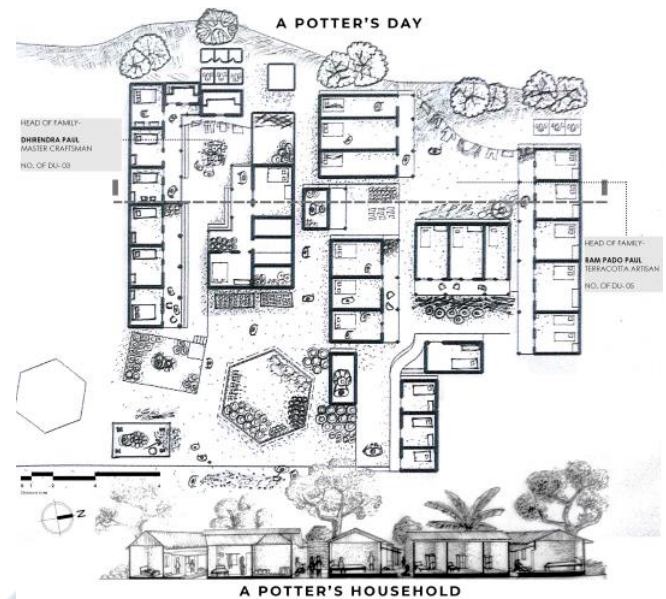

Fig. 9. A typical cluster including the potter's household

The local soil called '*Hiramati*' is readily available in the Brahmaputra basin and is used by the artisans in their craft process [7]. Earlier, it had also been used in the traditional construction of their houses. The occupational craft is also a way for women empowerment in the village as the craft-process actively involves the participation of women at various levels (Fig. 10 & 11).
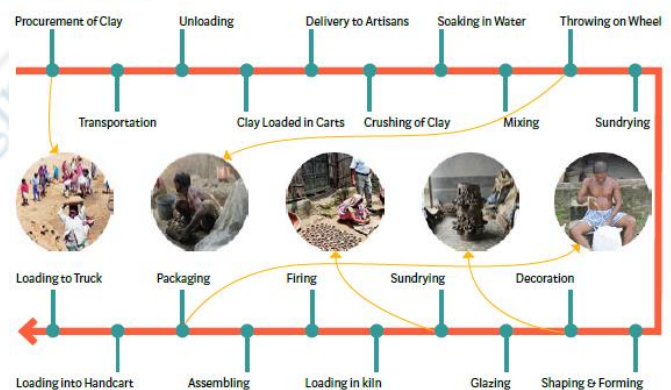

Fig. 10. A diagram showing the craft process followed at Asharikandi Village

Moreover, the fisher and farmer communities cohabiting the village are also involved in the craft-process indirectly through supporting logistics and contributing to economic aspects of the craft. The contemporary terracotta items and their usage are deep-rooted in the context and socio-cultural ethos of the region in and around lower Assam [8].

Fig. 11. (a) A women artisan working with *Hiramati;*
(b) Dhirendra Paul, A master craftsman in his workshop

B. The Current State of Infrastructure

Owing to the prolonged efforts of NECARDO and the UNDP Rural Tourism project [9] in Asharikandi, the terracotta community has got basic physical infrastructure and amenities, such as the office-cum-godown-cum-work shed for the artisans, a multipurpose hall, self-help groups and terracotta kilns [10]. However, the artisans have low-quality living and working infrastructure (Fig. 8). Their homes are temporary and have to be refurbished after heavy rainfall or flood. Their plinths are higher due to floods, but poorer households cannot afford plinths and are made of mud and thatch. The affluent potters are now using brick and concrete for their building construction and the vernacular typology, despite its cultural, climatic and economic merits, is giving in to the increasing demands.
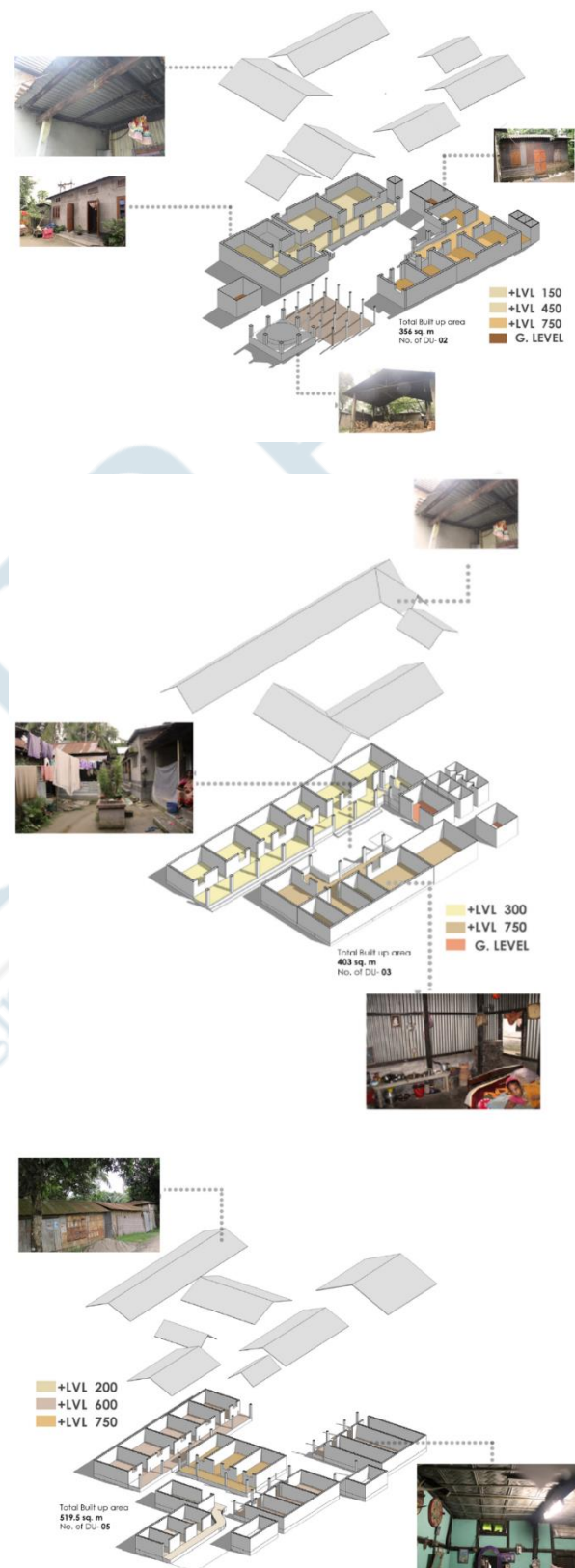
a)

Fig. 12. Spatial configuration and plinth levels of different households across the village

Fig. 13. Poor condition of infrastructure within the village; temporary kiln

Due to less available lands, the artisans are unable to afford suitable storage and working spaces with courtyards and workshops. Consequently, they are also shunning their traditional building typology of courtyard houses and pitched roofs. Without architectural and planning interventions that are based on the traditional materials and construction techniques, Asharikandi is moving towards premature urbanization.

C. Assessment of Built, Spatial and Socio-economic Conditions

As a part of the on-ground studies, 58 households (Fig.15) of the village residing along the village spine (refer to fig. 01) were surveyed to assess their socio-economic, built and spatial conditions. The study was done on three broad themes of assessment of manufactured product types, assessment of the income levels and the built condition (Fig. 14). The insights generated from the surveys point towards the intersectional barriers to growth and development for certain craft-households. The analysis indicated that the most marginalized artisans are making ordinary utility items, living in temporary houses and earning the least i.e. less than 10,000 INR per month (Fig 16).

BUILT CONDITION

SEMI PERMANENT
PERMANENT
TEMPORARY

HARVEST MAPPING

POTTERS MAKING UTILITY ITEMS
POTTERS MAKING DECORATIVE ITEMS

c)

Fig. 14. Assessment mapping of built, spatial and socio-economic conditions

The insights generated from the survey pointed towards the changing spatial and built conditions of the artisans. A majority of households now had replaced their mud (katchha) households with homes made of brick and mortar (pakka house). However, upon a condition assessment of the nature of their dwellings, it was found out that a majority of artisans' households were of 'semi-permanent' nature, meaning that their plinths were made of concrete but the houses still lacked a permanent roof (Fig. 15 & 16). The categories for the condition assessment survey were temporary (temporary plinth and roof), semi-permanent (permanent plinth, temporary roof) and permanent (permanent plinth and roof).
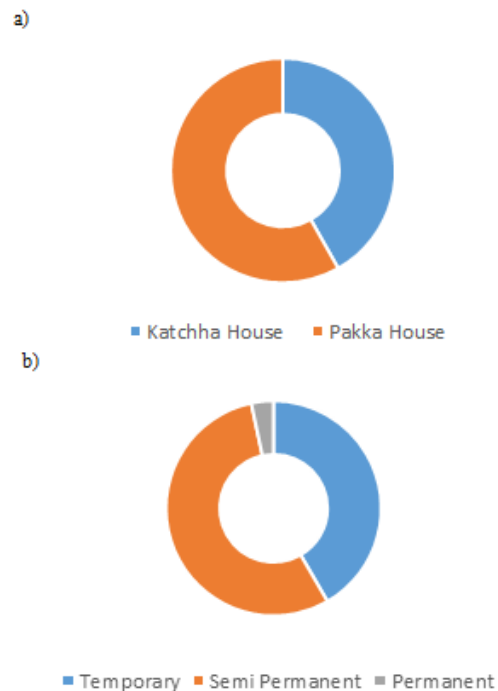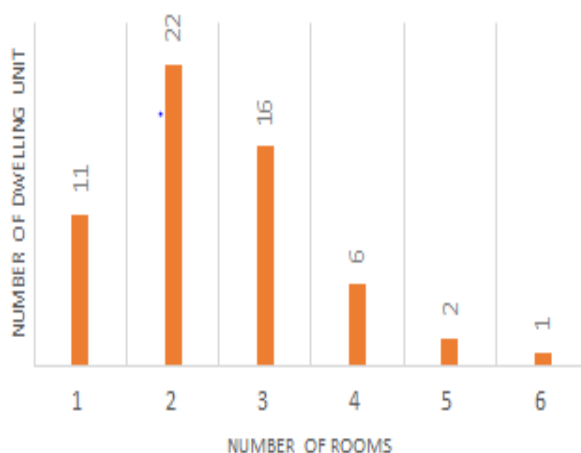
Fig. 16. A majority of terracotta artisans have brick and concrete house (pakka house). A majority of artisans are living in semi-permanent housing conditions with a concrete plinth and a temporary roof

III. OPPORTUNITIES AND CHALLENGES

The terracotta artisans have formed a closely knitted community with a rich interface between various occupational groups. They have a rich cultural heritage and the geographical settings are in favour of their craft. The village of Asharikandi has good accessibility to nearby urban centres and with the upcoming railway connectivity, it has the potential to be transformed into a model village with the thriving terracotta occupation.

The current production capacity for most of the artisans is unfit to sustain their craft as a profitable occupation, and with a lack of market linkages in the regions, many artisans are unable to increase their capacity despite having the means. The current craft process is tedious and has a wide scope for semi-mechanisation to increase the production and include the young generation of artisans who often find the traditional craft-process slow and unproductive.

IV. OCCUPATION-BASED DEVELOPMENT MODEL

In a populous country like India, preservation, revival and promotion of craft-based cottage industries becomes particularly relevant as it has the potential to generate mass employment and link tourism to the rural economy. As a pilot project, a phase-wise sustainable design and planning model should be proposed for the village artisans to work and live as a self-sustaining community thriving in their art.
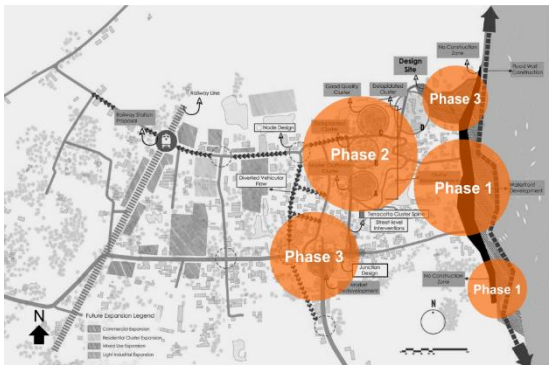
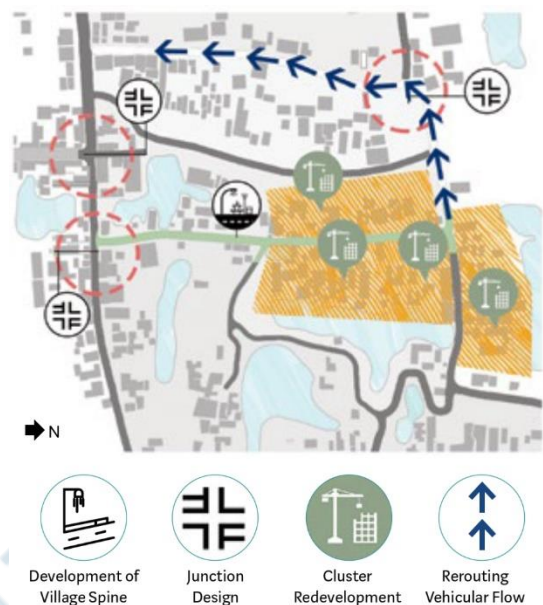**Fig. 17**. Key map for phase-wise development model

Fig. 19. Representative map for phase 2 development scheme

The second phase will see redevelopment of the potter's clusters into occupation-based housing. The village spine street and junctions will be redeveloped. Vehicular movement will be diverted to ensure pedestrianisation of the village spine (Fig. 19).
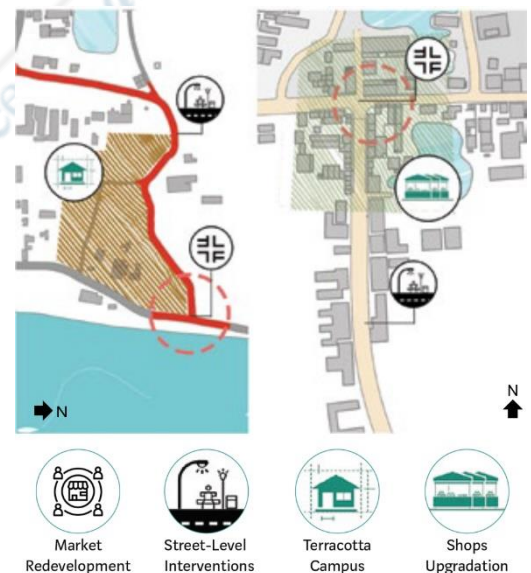

Fig. 18. Representative map for phase 1 development scheme

Fig. 20. Representative map for phase 3 development scheme

The first phase of the development scheme will focus on formation of a Special Purpose Vehicle, followed by street interventions like lighting, pathways and signage. Riverfront will be developed with native vegetation, along with a flood wall (Fig .18)

The third phase will focus on Development of Terracotta campus along with street-level interventions around. The market will also be redeveloped and the existing shop modules will be redesigned (Fig. 20).

A shelf of projects including capacity development through alternate income generation opportunities like cattle rearing and backyard farming must be promoted (Fig. 21). More infrastructural development for higher production output, research facilities and workshop spaces must be developed to involve niche user groups like students, researchers and pottery enthusiasts. Additionally, the financial inclusion of the artisans must be ensured through the introduction of high-tech self-banking systems. More branding, marketing and outreach activities must be taken up by the central and state tourism departments to provide a national visibility 'Asharikandi brand' of terracotta craft.


(a)

(b)
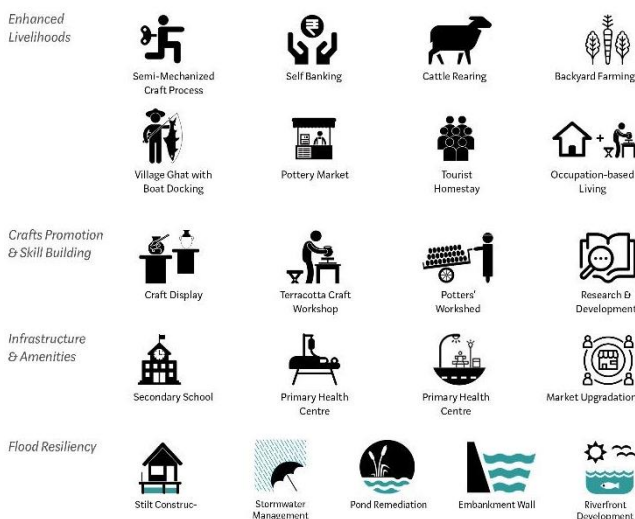
Fig. 21. The proposed shelf of projects is distributed into four categories, which are Enhanced Livelihoods, Crafts Promotion and Skill Building, Infrastructure and Amenities, and Flood Resiliency. Each of the categories contains a set of cross-sectoral interventions needed to transform Asharikandi into a model self-sustaining village

Further, the natural resources of Asharikandi bear the tremendous potential to be included in the design and planning process. Materials like the clay and bamboo are readily available in the village setting and could be utilised to redevelop flood-resilient occupation-based housing units– equipped with appropriate working and storage spaces (Refer to Fig. 24).

In order to develop an occupation-based design for the community, their existing workspace requirements had to be documented and analysed. The residential surveys pointed out to the fact that most of the potters did not have adequate production capacity, which was directly related to their inadequate house area. Inferring from the analysis, the minimum workspace area required by the smallest of the potter's household had to be 40 sqm.
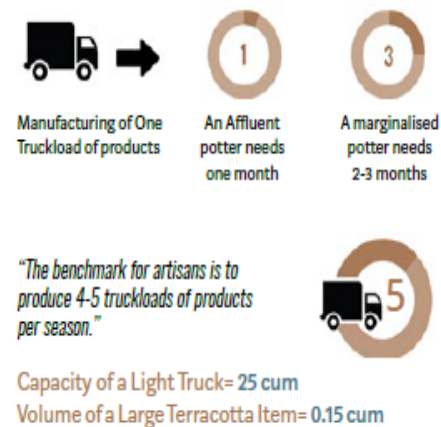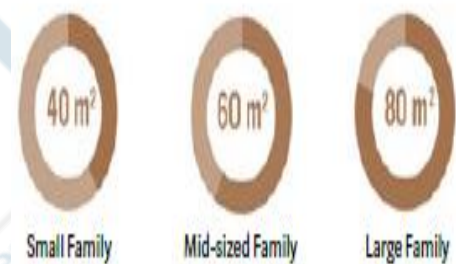
Fig. 22. Analysis of workspace requirements for the artisans. These workspace requirements were considered as a baseline to frame out area requirements for the redesigned dwelling units.

The development model inculcates the cluster development of the terracotta craft-community to ensure the necessary living and working spaces. The cluster redevelopment includes redeveloped dwelling units suited to the working conditions of artisans. The redeveloped units are designed to incorporate the entire craft process within the house, so that artisans of different capacities, as well as both the men and women can be conveniently engaged in their work to produce maximum outputs. The redevelopment ensures sustainable living among the terracotta community. The new clusters have adequate spaces allocated for various living and working activities, in a way that allows the artisans to reserve a portion of land for future expansion. The cluster contains an *anganwadi* and a community lawn.
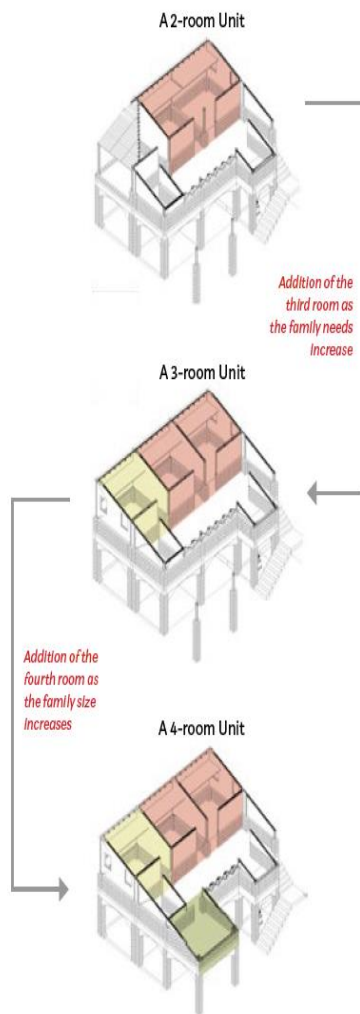
Fig. 23. Incremental housing typology scheme

The incremental housing units follow the existing housing typology of the artisans' homes, and are proposed to be constructed with locally available materials like mud and bamboo. The units are placed on stilts to ensure flood resiliency. The living and working spaces increase as the family size and needs increase over time. Adequate space for future expansion has been provided. (Fig. 22 and 23)

Fig. 24. Design scheme for flexible and incremental occupation-based living units with 2,3 and 4 room typologies.
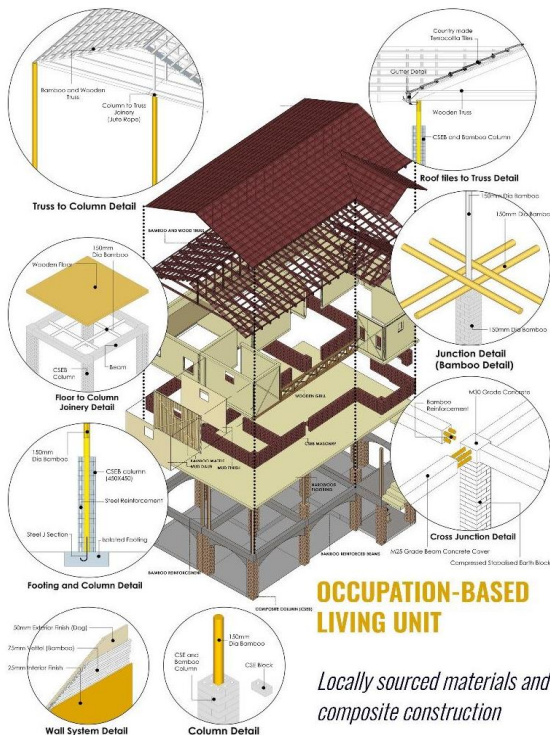
Fig. 25. The proposed design, construction and material details for a typical 3-room occupation-based dwelling unit, which has adequate working space on the ground and first floors. The design incorporates locally sourced mud and bamboo with a composite construction technique.

Fig. 25. View of a typical occupation-based housing cluster design

V. CONCLUSION

The analysis of the socio-economic, cultural and spatial conditions of the craft-community in Asharikandi village presents a picture of rural disparity and compromised living and working conditions for many artisans. The current growth patterns are pointing towards a development trajectory that can be economically, culturally and environmentally detrimental to the village communities.

The aforementioned interventions are envisioned to be included in the comprehensive development scheme for the village to not only flourish the craft-based small-scale industry but also to showcase the village as a scalable and replicable model of rural development, which limits the rural-urban disparity, checks premature urbanisation and in process, preserves the associated cultural identities of millions of Indian villages

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