

Layered Participation: A Community-Engaged Design Process For A Community Centre In Sendang Biru Village, Indonesia

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ABSTRACT

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The research paper attempts to understand and examine participatory design processes that has been undertaken in Sendang Biru Village, located along the southern coast of Malang Regency in East Java for the development of a community centre that intends to support the local social life as well as the emerging tourism activities. The project was conducted by a multi-disciplinary team that includes Architects, landscape Architects, conservation specialist and tourism experts that engaged directly with the village community. Rather than relying on conventional approaches of consultation methods the attempt in this particular project was to employee series of layer engagement that involved the local youths, children and others. Youth activities, educational sessions, discussions, participatory mapping and village works, such activities gradually enable the locals to articulate their spatial needs , identification of key locations and define the functional program of the community facility. The study through this project demonstrates how sustained multi-generational engagement can help in transform participatory design from a very consultative exercise into a collaborative process where the locals actively contribute towards shaping their requirements. The findings in this paper highlight the requirement of integrating social interaction and spatial mapping as various complimentary tools in participatory architectural practice.

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INTRODUCTION

In the paper a 'ladder of citizen participation' the introduction of an 8 level framework and it explains how public participation ranges from non-participation to Citizen control. The ladder starts from non-participation that is manipulation and therapy then it goes to tokenism that is informing, consultation, and placation and then third it comes to Citizen power that is partnership, delegated power and citizen control. So there are many projects where one claim that participation has happened but actually it operates only at the tokenism level where community is consulted but they don't really have any decision making power. Participation must involve actual power sharing and its must happen by acknowledging a power imbalance between the experts and citizens (Arnstein, 1969).

In the book 'housing by people' Turner studied that self-built settlements in Latin America particularly the study was in Peru, the argument became that people themselves are often better designers of their homes than rather formal Architects of planners. So there was this challenge that the dominant planning ideology that experts should design housing for the people. The proposal was that a housing should be understood not as a product but as a process and that is controlled by the people who are going to stay there. The key concept that emerged out of this paper was one user control in design and construction, second implemental development and the third is self-help housing. The residence and the locals or the stakeholders should control the decisions by getting involved in designing and building and the whole system must support community led development (Turner, 1976).

Similarly, Christopher Alexander in his book pattern language, talks about and proposes that architecture should emerge from patterns that are derived from people's everyday life and it's not be like imposed design forms. Through pattern language, it allows communities to participate towards shaping their environment by identifying recurring requirements of different kinds of spaces for example patterns can be the village square, small public court yards or it could be pedestrian streets (Alexander, 1977). The key take away from this is design should come from collective knowledge where architecture becomes share cultural language. Participatory design can be structure through patterns that people understand in the context of a village and in the context of Designing community centre one would start observing such patterns such as shagged community spaces, community courtyards, grounds for rituals etc.

The argument that comes Paulo Freire's work in 1970s known as 'Pedagogy of the Oppressed' is that knowledge should not be imposed by experts rather it should be created through the dialogue with the communities. This became fundamental in participated development and planning. So the key concepts are here a dialogue collective learning and empowerment through participations. (Freire, 1970). One has to understand that the communities poses valuable local knowledge and as an external expert the designers must act as facilitators rather than the authorities. Participation should build on social empowerment. Freire's ideas that had a profound influence that were beyond education and particularly in participated development planning and community based design. The emphasis on dialogue and share knowledge suggest that communities poses this valuable experimental understanding of their own environments and through collective discussions, critical reflections community have the capability that can articulate their own needs and they can challenge the existing power structures. Hence participation doesn't just become a method of consultation but also it becomes a process with that the participants gain the confidence and the capacity that influence the decision.

In the work 'participatory rural appraisal' the scholar Robert Chambers argues that the rural communities should play a very active role while analysing and planning their own development. One should not rely only on the external hence, a set of participatory methods were proposed which allow the villages to express their knowledge about the local conditions, surroundings requirements etc. (Chambers, 1994). It's a simple yet very powerful visual and interactive tool that is 'participatory rural appraisal'; through which community members collectively describe the environment. The tools include participatory mapping, seasonal calendars, resource mapping and social mapping etc. The processes are very much inclusive, even allowing those who may not be formally educated to contribute meaningfully. The key idea is that local people are the true experts of their own landscapes and livelihood. One has to enable them to visualise and discuss the knowledge.

Architect presents a very comprehensive framework in order to integrate community participations into various architectural design processes. His argument was that success of any public such as schools, neighbourhood facilities or communities centres depends on the involvement of the people who will ultimately use them. To facilitate such engagement, he developed series of participatory Tools and techniques that helps in translating the complex design discussions into accessible and interactive activities for example design games where participants can explore different space ideas through variable exercises. Where used tools such as visual surveys, participatory workshops, where one would meet to brainstorm and try to solve the problem, draw images diagrams that will help the participant to communicate (Sanoff, 2000). So here at every stage of the design process by involving the stakeholders in the locals one would understand that it improves relevance usability and social acceptance. When the locals explain their experiences and their own cultural practices the designer learns more about the requirement and helps in the implementation. This early engagement is very necessary and it becomes a collective process, where the communities are encouraged to take the responsibility even after the completion of the project for the maintenance and for the long term vitality.

Moving beyond purely technical approaches to planning John Forester in 'The deliberative practitioner' that was published in 1999, talks about that planners and designer should operate within Complex social environments. They have to deal with multiple stakeholders like communities, authorities experts and various other interest groups. Such context planning cannot be just simply being a matter of the decisions by the expert but it should be understood as a community led deliberate process while with the dialogue with the stakeholder and the locals (Forester, 1999). This helps in reconcile conflicting viewpoints. Planners must cultivate the skills of listening, mediation facilitation and this will help them to guide constructive conversation among the stakeholder. The central argument here is good planning only emergence through the processes of deliberation and negotiation, where the different actors has to collectively work to discuss the problem, discuss various alternative and work towards something that is mutually acceptable. imposition of predetermine outcomes to be avoided, rather the planner should create platform for meaningful engagement. This prospective highlights the importance of structure discussions meetings with the community and the collaborative decision makings where the designers only act as someone who is a facilitator.

Show the literature across planning, architecture and development studies, one understands that community participation should go beyond consultation and it has to involve meaningful sharing of decision making power. Early theoretical frameworks did emphasize that the genuine engagement only occur when the community has the power and the ability to influence important design decisions rather

than they just become the responding end of the proposal that has been prepared by the experts. In a context of Community Centre project one understand that the villagers should not be involved only in the discussions part but rather there also has to have the power to decide the program of spaces, the relationship of the spaces and the prioritization of the project. Another inside that comes from the literature that one has to recognise the local wisdom and the knowledge forms and that becomes an essential basis for the design. Every community has everyday practices such as gathering, festivals, patterns of movements and that are responding to climate, social structure. Such things remain invisible in conventional architectural analysis so in the participatory processes one has to acknowledge this local wisdom and lived experiences and they become the valuable resources that should guide the project. One identify is a range of participatory methods which can help translating the community knowledge into spatial design. One may include participatory mapping, storytelling sessions, collaborative workshops where all the local people collectively visualise and discuss the possible arrangements. These processes of design ideas they can gradually emerge through dialogue through negotiations and its not be done through a single authorial vision Through this approach the role of the architect shifts to be a facilitator who helps in getting the community to articulate their own needs, spatial traditions and collectively shape their environment.

METHODS

The research adopts a participatory action based approach in order to examine the development of a community centre in the village. The methodology was informed by participatory planning and community design Framework that has been proposed by various scholars and by looing in to the existing body of knowledge pertaining to the field. The project was conducted by multi-disciplinary team consists of Architects, landscape Architects , conservation Architects and tourism experts where they work directly with the local community to understand the social cultural and economic context of the settlement without having any pre determine design proposals. The participatory process was structured by multiple layers of community engagement. The study tries to adopt qualitative participated research approach in order to examine the design process of a community centre at the village. The data of the research and for the study where collected through participatory engagement activities mapping exercises and village walks that was conducted with the community members . Informal discussions and interaction with different groups within the village including the youth children and adult residents helped in identifying local requirement of the communities. Participatory mapping was conducted using printed satellite images of the village where the resident identified important locations such a circulation roads, gathering areas and potential sight for the community activities . The information gather through this approaches were analysed qualitatively to understand how community knowledge and social practices informed the identification of the site and the program of the purpose Community Centre.

METHODOLOGY

Qualitative participatory research on community center development in Sendang Biru Village, Malang Regency, Indonesia

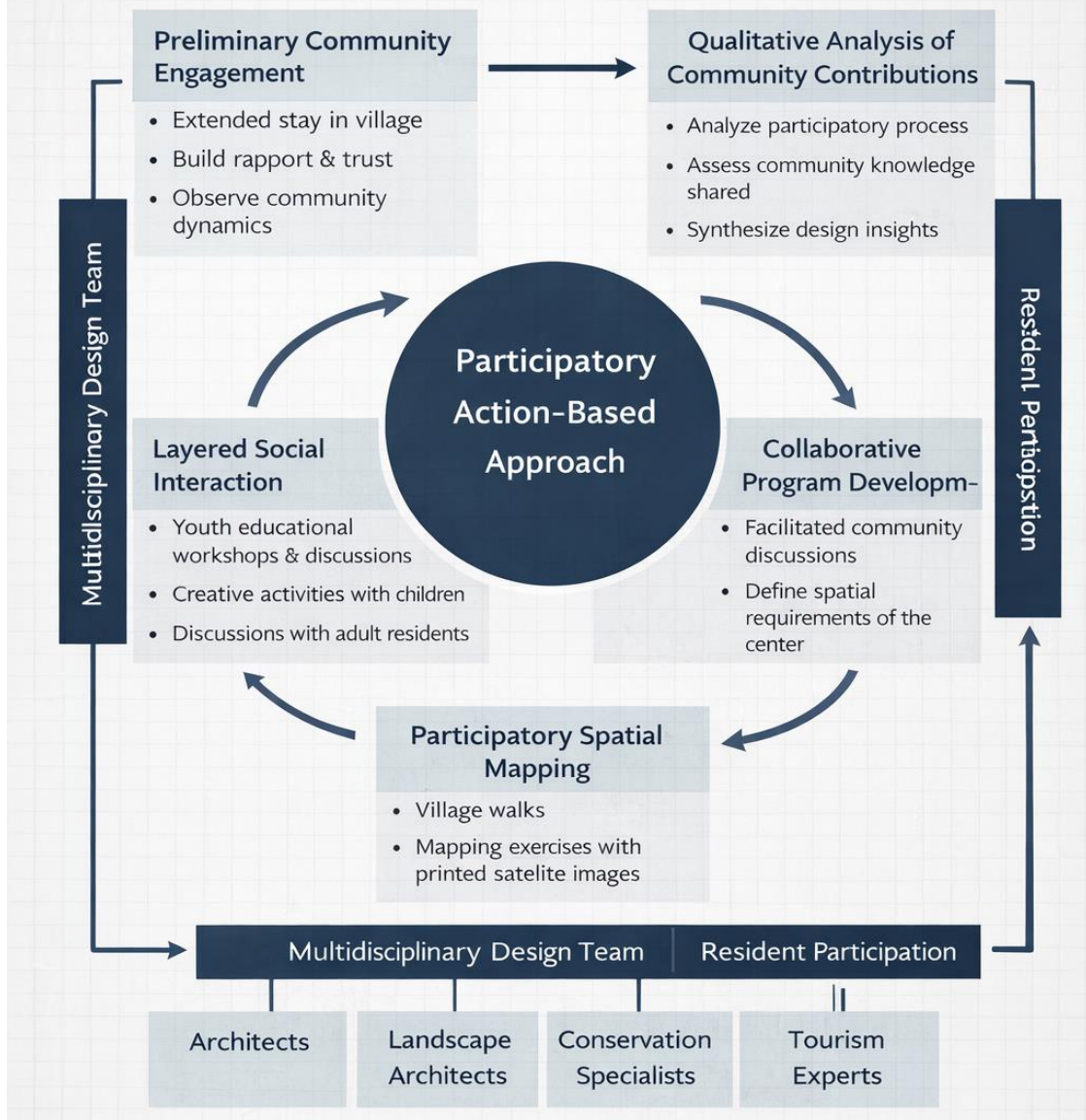


Figure 1. Methodological framework
Source: Researcher, 2026

RESULTS AND DISCUSSION

The community centre project at the village emerged through an extended period of site engagement. The team that consisted of architects, landscape Architects, conservation Architects and tourism experts did collectively work with the village community to understand the space requirement and cultural & economical context of the place. In the beginning without having preconceived notions or any predetermined design proposal the process started with building relationships with the villagers first then gradually shifting the focus to understanding of the community and also knowing the requirement that would support the tourism activities and also serving their everyday life.

Through various engagement process and series of activity that initially may have appeared informal and parallel, but actually they were interconnected. The design team that stayed in the village for several days and that allows continuous interaction with the locals who were a different age groups and gender. Curated activities were designed in a way that it creates multiple points of entry into the design process for example there was an informal English literacy workshop that was conducted with the local youth. While the sessions were not directly connected to the architectural design of the community requirement but it created environment of trust and confidence among the younger generation of the community. Many participants attended the sessions later become very active contributors during the discussions about tourism and upliftment of the village.

Several other parallel activities also we designed with children and families such as painting and creative exercises with children often led to discussion with the parents of about their everyday life in the village and also their expectation of the share community spaces. The workshops with the young adults exploring the digital skill such as website design was in particularly intended to small entrepreneurs. Such initiatives, discussions and workshops helped in revealing the local ambition and that relates to the promotion of The villages as a cultural and tourist destination. Though language differences were there but was address through translators and bilingual participants from the community. But with time communication become more fluid as familiarity grew between the design team and the community.





Figure 2,3,4,5,6. Digital Literacy

Source: Researcher, 2026

The engagement deepened with more structured participation tools were introduced for example satellite images of the village were printed and used as a base for collecting mapping exercises. The locals were invited to place sticky notes in map directly to identify important locations, their various circulation roads, gathering spaces and the potential sites for the community facilities.



Figure 7.8. Digital Litercy
Source: Researcher, 2026

This mapping activities revisits the physical infrastructure as well as the social patterns for example places where people meet, where do they celebrate festivals or way to the conduct everyday activity. Along with the mapping exercise the design team also conducted various village works together with the residence. this allowed the villagers to collectively observe the landscape the build environment, existing infrastructure to discuss issues and the possibilities. Through this various layer engagements, the processes of design gradually shifted towards a very collaborative mode of decision making.

Rather than presenting ideas with fixed architectural proposals the design team engaged with the conversations and it allowed the villagers to articulate their own thought, priorities and the space requirements the site for the community centre and the required programs started slowly taking shape through these discussions. The residence where actively negotiating with the functions the community centre and how it could support both the community life and the community related activities. In this process that transform the idea was the villages became active participants rather than passive stakeholders and they were one who guided the whole design process.

In this community participation project, it was not a liner consultation but it was a carefully curated series of interaction, discussions, workshops that helped in building the trust with the locals. Curated exercises where educational activities, mapping exercises, site walks held in developing the integrated framework of engagement. Within this Framework the role of the design team shifted from the external experts to the facilitators, who supported the community in articulating their own future built environment.

CONCLUSION

In this engagement process that has been Undertaken in the village suggests a methodological approach where the community participation has developed through layers of social interaction rather than a very linear single structured workshop or consultation event. While normal participatory design methods often rely on formal meetings or planning sessions but the processes that were adopted for this project like activities that were not directly connected or framed as design exercises. For example, educational sessions, youth engagement and various children activities function as entry points and connector that slowly build a trust between the design team and the community. Such activities did allow

the residence to be more comfortable with the external members and their presence that created informal spaces for dialogues. The distinctive aspect of this methodology was that it was parallel and multi-generational engagement. There were activities that were intentionally designed to involve different groups in the village. They were children, youth and adults each through various forms of interaction that are appropriate to them. Youth workshops, English literacy sessions, digital training programs all these activities did encourage the younger participants to articulate their ideas related to the community and tourism entrepreneurship. The activities with the children that created indirect connections with the families led to the discussions with the adult locals that address functional needs of the proposed Community Centre. All these engagements may appear independent but they gradually convert into a shared conversation about the village and its future. So this created a distributary participatory framework where the knowledge of the village was generated collectively rather than the external members extracting the knowledge through a single consultation. The methodology also demonstrates how informal engagement can help in translation into a structured spatial decision making. In this community engagement project after establishing familiarity and trust participatory tools such as satellite image mapping, village walks that are introduced. Such exercises help the residence to translate the everyday experience into spatial knowledge, for example identifying movement routes, social gathering spaces, potential site for the community functions. At this stage the villages were already active participants in the dialogue and allowing them to guide the requirements for the purpose of the Community Centre.

Overall this approach suggests a participatory methodology that helps in integrating social engagement, educational interaction and spatial mapping that are interconnected stages of design development. Hence the research proposes a layered participatory methodology in which social engagement activities precede and enable spatial decision making that allows community members to gradually transition from participants in dialogue to co-authors and the mentor of the architectural program.

Layered Participatory Design Framework

Key methodological findings from the Sendang Biru Community Center Project, illustrating the transition from social engagement to collaborative spatial decision-making

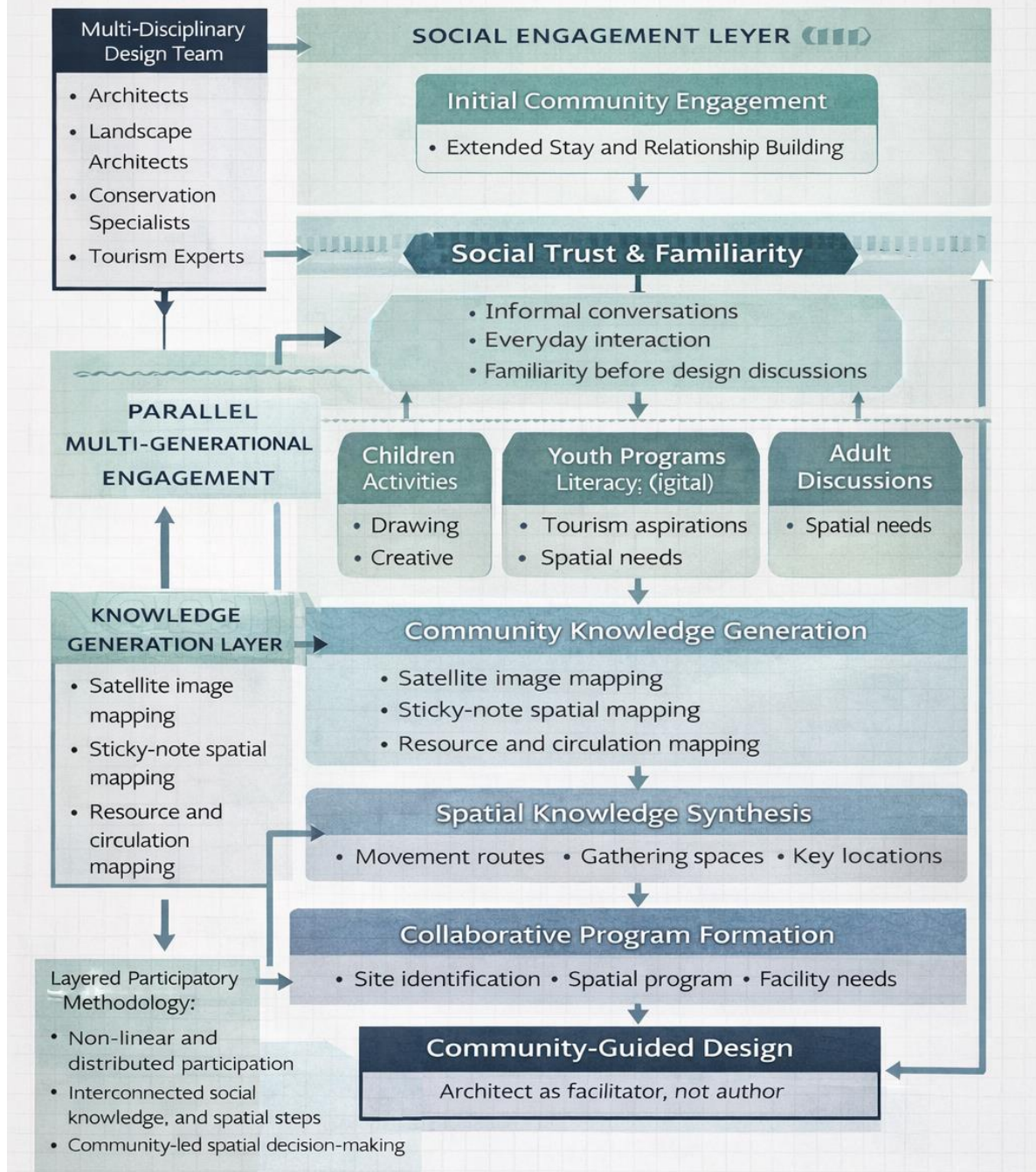


Figure 9. *Layered participatory design methodology illustrating the transition from social engagement to collaborative spatial decision-making in the Sendang Biru community centre project.*

Source: Authors.

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AUTHOR CONTRIBUTIONS

The first author, Piyush Das, designed the study, developed the methodology, analyzed the data, and prepared the initial draft of the manuscript. The second author, Alice Sabrina Ismail, was responsible for data collection, validation of results, visualization, and manuscript revision. The third author, Elya Kurniawati, provided academic supervision, contributed to the interpretation of results, scientific discussion, and finalization of the article. All authors contributed substantially to this international collaboration and have approved the final version of the manuscript for publication.

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CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest, whether financial or non-financial, in the conduct of this research or the writing of this article. None of the authors have any financial relationships, shareholdings, consulting relationships, or employment ties with any company or

organization that could benefit or be harmed, directly or indirectly, by the results of this study. The authors also declare that there are no personal relationships, academic rivalries, or other influences that could affect the objectivity of the research. Thus, the results and conclusions presented in this article fully reflect independent scientific findings and are not influenced by the interests of any party.

DECLARATION ON AI USE

The authors declare that this article was written without the use of Artificial Intelligence (AI) in either the writing or editing process. The entire content of the article, including the formulation of ideas, analysis, interpretation, and manuscript preparation, is the direct result of the work of the team of human authors involved in this international collaboration. No AI assistance was used to generate the text, correct the language, or structure the article. The authors are fully responsible for the originality and scientific quality of this manuscript. Which version is more suitable for your article? I can adjust it further if you wish to add or remove specific sentences.

DATA AVAILABILITY STATEMENT

The data used in this study are accessible and available from the corresponding author upon reasonable request. The authors are committed to ensuring research transparency by providing relevant and supporting data as required by academic standards and research ethics. However, certain information may not be publicly available due to considerations of confidentiality, participant privacy, or relevant institutional policies.

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