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# Scenarios of village alliances promoting local development

Listen Prima<sup>1,2</sup>

<sup>1</sup>Leibniz Universität Hannover, Germany,

<sup>2</sup>Universitas Sriwijaya, Palembang, Indonesia

Corresponding e-mail: listenprima@gmail.com

**Abstract.** Rapidly expanding urban agglomerations create various industrial and developmental challenges, and trigger debates about globalization in many fields especially in relation to basic need, self-resilience, and eco-development. As a consequence, it is urgently necessary to promote the perspectives of peripheral villages in regards to the resilience concept based on sustainable local development. This research focuses on the peripheral area of Bangke Village, located in the peripheral hilly area of Kota Agung Subdistrict, Lahat Regency, South Sumatera Province, Indonesia. It has distinctive cultural heritage richness both material and immaterial, specific landscapes and natural resources, as well as social and historical values. However, the conditions are vulnerable, which not only threatened its existence of the local and national characteristics but also the subject of the local development. The objective of this research is providing a focused analysis of local potential toward the explorative scenarios as an initial step to promote sustainable local development within the framework of village alliance. The village alliance is an innovative and applicative analysis framework for the context of peripheral development area, especially in Indonesia. It connects Bangke Village as an axis with other eleven villages in the district as an alliance. Regarding the local potential, this research outlines five explorative scenarios such as food network, tourism, wood production, new village, and centre of learning. Hence, the methodological framework used the case study that consists of multiple tools of field survey, mapping analysis, and SWOT analysis.

**Keywords:** sustainable development, resilience, local potential, explorative scenario, village alliance

## 1. Introduction

The concept of sustainable development increases awareness of local development demands. The awareness relates with complex problems of social, territorial, economic, political and environmental frameworks due to globalisation. Hence, sustainability development framework is starting to redefine its significant underlying concepts, renewable energy solutions, environmental issues, green design, local government programs, corporate programs, tracking results, and future trends [1]. Regarding complex problems of environment, urban governance, and planning, implementation of the sustainable development concept would increase awareness of resilience of the area as well. Recently, topic of resilience is raised since area improvements are urgently needed to face the challenges of natural and urban transformation issues. Natural ecosystem services have to be integrated with the local development components, infrastructures, buildings, etc., and resilience projects must be able to increase the abilities of an area and minimise possible risks in future [2]. Thus, resilience improves abilities of an area to respond to local needs and priorities of its communities [3]. Moreover, to examine local community needs, an integrated action is needed to build the local capacity for development [4]. Local potential analysis is proposed as a tool of local development towards scenario planning as a strategic and communicative way to anticipate future transformation. This research outlines scenario alternatives as an explorative way to promote the local development, especially in the framework of villages integrated in an alliance within an area of Bangke Village in South



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Sumatera Province, Indonesia. Hence, the scenarios alternative is outlined based on five dominant potential strengths of the village alliance: food and wood production, tourism capacity, local knowledge resources and human resource capability.

The idea of scenario alternative comes from the significant gap developing between urban area/city centre and peripheral villages in Lahat Regency. The regional regulation about space and regional planning in Lahat Regency does not address the local needs of the villages. Therefore, the implementation of the local development and planning in the villages is not effective, especially in terms of sustainable development concept. Moreover, the local development of villages through national agenda in Indonesia has begun and is managed by each individual village. Thus, there is no integrated program that coordinates villages to build strong connections as the way to promote sustainable local development. This research aims to create a framework for sustainable development by integrating nearby villages into an alliance. The framework can support the locals in expanding economic opportunities, preserving critical social and cultural heritage, as well as enhancing proper infrastructure and public facilities. This integration would contribute to a holistic perspective of local development planning to strengthen local potential of all villages and push local development towards adaptive and innovative programs in regards to future dynamics. The framework of village alliance would provide opportunities to analyse local potential in an alliance consisting complex components of heritage richness (the material heritage such as architecture buildings, and immaterial heritage such as local culture, traditions, rituals, and ceremonies), spatial and local development aspects (social, political, economic and ecological), and natural resources (scenic landscape as well as potential in some prospective sectors, such as agriculture, fisheries, and forestry). Regarding those potential strengths, this research proposes scenario planning as an explorative way to build on the valuable local potential through some specific objectives. The planning objective is outlined to fulfil the local needs in the future and reflected in more interesting programs, both for local people as the main actors and guests/people from outside as users. Therefore, this research would outline five scenarios alternatives: food network, sustainable tourism, wood production, new villages, and learning centres. Each of those scenarios has a principal aim based on main potential strengths of local development:

- The intensification of food production
- The advancement of heritage richness as resources of tourism industry
- The cultivation of the local forest as the source of wood production
- The development of responsive villages with the specific groups as the dominant inhabitants
- The valorisation of local knowledge as study centre.

## 2. Methods

This research used case study as research method by integrating all relevant components of heritage richness, spatial development, and natural resources in the framework of the village alliance as an integrated area. This approach accommodates the actual challenge related to the limited data, especially regarding GIS data at the level of the village alliance region. Moreover, the case study method used multiple tools, such as field work, mapping analyses, and SWOT analysis. The field work analysis was conducted in the case study area in terms of local capacity within the village alliance. Hence, mapping analysis could be described as the context analysis of the case study area and provided information on existing features as a solution for the condition of unlimited or undefined data. Then, result of field survey and mapping analyses formed the basis for the next steps, the qualitative analysis and SWOT analyses. SWOT analysis were constructed based on components of sustainable local development, such as spatial, social, economic, cultural, and government plans as the basic guidance to outline criteria for village alliance as well as alternative scenarios for the village alliance.

## 3. Discussion

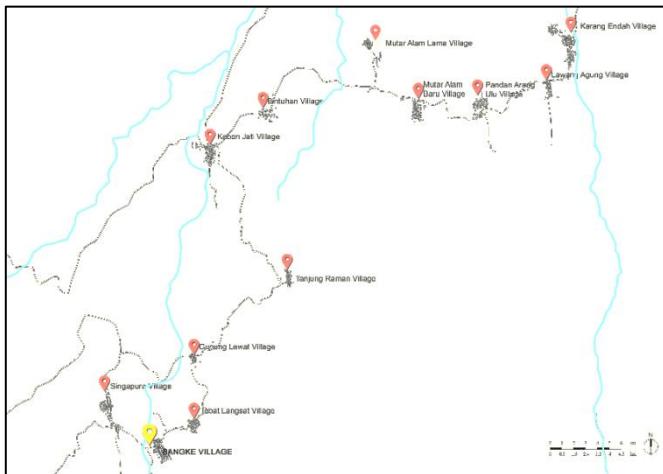
Massive urban development contributes to environmental degradation that poses a significant concern in the context of sustainable development. Hence, it triggers to change a paradigm of development [5]. On the other hand, mass migration to big cities creates an opportunity for tourism back to villages as city-dwellers look for ways to remain connected to older traditions. It creates a chance to promote local development of some rural areas or villages, especially in South Sumatera Province.

Furthermore, this local development of those rural areas/villages will also be a creative economy strategy that is mainly dominated by low-income families. Local development based on local economy strategies would be more environmentally sustainable than any other large industrial development [6]. The proposed Bangke village alliance would balance the significance of its territory with components of spatial development as an important connection of local development. This connection is linear since the goal of spatial development is to set up an adequate advantage of certain territory [7]. Besides, the spatial development is beyond political-administrative, nation-state, or former geographic concepts of region [8] as unseparated components of local development in village alliance. The spatial development is also engaged with multi-sector and multi-stakeholder activities [9]. Moreover, “a robust urban agenda is expected to consider factors that improve the flexibility, adaptive capacities and sustainability of the urban system” [10]. Meanwhile, the concept of sustainability is challenged to create resilience capacity of a city [11]. Resilience should integrate all components of urban system, such as socio-technical and socio-ecological networks at multiple spatial level [12]. Peripheral areas are proposed as potential territories to build resilience in cities by a creative perspective to reconsider and replace processes of urban transformation based on initiatives arising from communities, local stakeholders, local administration and activation of more structured strategies [13] as a wider context of significance beyond the immediate area. Regarding the future development, “many cities (and local governments) are beginning to imagine alternative futures for themselves that go beyond the tradition of only providing for roads, rates and rubbish (and safety)” [14]. The alternative future will be addressed by scenario planning that respects the local history as well as its future [15] as a comprehensive perspective of development needs and alternative programs to address it [16]. Hence, ‘scenario planning offers planners a way to bring together technical approaches and participatory planning in a systematic way to think creatively about the future’ [17].

Furthermore, this step of the research outlines scenarios alternative as explorative way of planning. ‘The explorative scenarios more often take their starting point in the future, compared to what-if scenarios, which are usually developed from the present situation’ [16]. As reference, explorative scenario-building methodology has been tested in region Steinburg, Hamburg, Germany with three themes [18]; ‘The Regional Village’ that re-purposes local agricultural lands as productive multi-functional spaces for living, working, leisure, and tourism; ‘Rural Towns’ which reconnects small urban centre with the landscape; and ‘Connecting Lines’ that strengthens the relationship between Steinburg and the metropolis as connected by territorial development. Additionally, considering new complex metabolism of urban/rural settlement, several European countries, such as France, Germany, Poland and Italy revised territorial and rural models based on the current view of territorial relations [19] as an alliance. National Strategy ‘Strategia Nazionale per le Aree Interne’ (SNAI) Italy has been trying to boost development of Sicilian Inner Area ‘Terre Sicane’ which was formed by twelve towns of rural and villages in the hillside and mountains characterised by cultural, agricultural and landscape to become a connective and relational space [20]. SNAI represents an evolving government approach that addresses official authorities as well as informal governance groups to overcome the classic opposition between urban-rural [21]. Meanwhile, in Indonesia, planning policies come from the national level to regional as top-down practice. However, regarding peripheral area development, since 2015 Indonesian government has set up a program of village fund for every village and rural areas that focuses on village development to foster local economy [22]. In the three years since its implementation, this program has brought significant means to local development of villages and rural area in Indonesia. However, beyond infrastructures, the effectiveness of villages fund in the field implementation is still debatable.

### *3. 1. The village alliance*

The Bangke Village alliance as the case study area is located in isolated hilly areas and consisting of eleven villages (see figure 1). There are three components as the main consideration in integrating the villages as an alliance defined based on the sustainable development concept: space, social-economy, and spatial planning and governance.



**Figure 1.** Map of Bangke Village and its alliance. Graphic. Listen Prima, 2018

The field survey was conducted to describe spatial context of the case study areas such as daily activities, traditions, culture, ceremonies. The mapping analysis supports the explanation about condition in several contexts. The results showed that the hilly area influences the creation of some local potential strengths such as agricultural farms in the upper area and at the border of the settlement. The result also indicated that the local people build the settlement clusters along with the watery area from the waterfall, which is located in the isolated forest among the villages. Moreover, the settlement cluster also influences the connecting line between each village, such as for access and transportation, buildings and facilities, and other facilities.

SWOT analysis constructs local potential of the case study area based on both quantitative and qualitative data from the field survey. The result of SWOT analysis defined the potential and challenges regarding space, social and potential values, as well as spatial planning and governance in the alliance (refer to table 1).

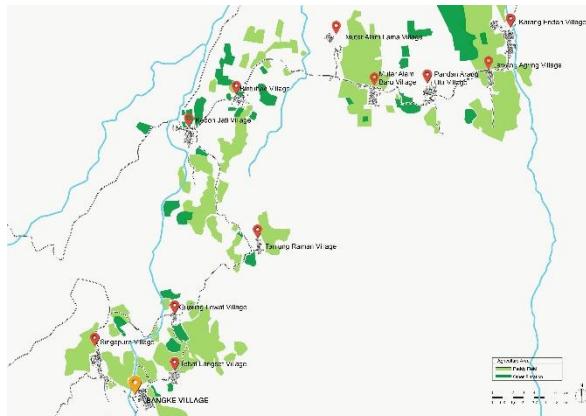
**Table 1.** Strength, Weaknesses, Opportunities, Threats Analysis Result

|            | Opportunities  | Threats   |
|------------|--|---|
| Strength   | <ul style="list-style-type: none"> <li>Vast capacity of heritage, natural resources as the primary sector of the development</li> <li>Possibilities of the infrastructures network and alternative access</li> <li>Transparent government practice with local governance instruments as the representatives in each village</li> <li>Management of some potential areas to support local economic development, such as registered objects for protection, allocating fund for village to develop equally, and other activities.</li> </ul> | <ul style="list-style-type: none"> <li>High frequency of the land use transition</li> <li>Extension of the settlement area due to population increase</li> <li>Modern perspective as a threat to traditional social/cultural values</li> <li>Overlapping local regulations implementation and the dominance of some people/group</li> </ul> |
| Weaknesses | <ul style="list-style-type: none"> <li>Loose control and management of environment</li> <li>Unbalanced demographical composition</li> <li>Economic over-reliance on the agriculture sector</li> <li>Unequal focus of development of the villages</li> <li>Limited potential of human resources</li> </ul>  | <ul style="list-style-type: none"> <li>Poor economic condition</li> <li>Disaster may happen in many spots</li> <li>Neglected local history</li> <li>Ineffective work of local instruments</li> </ul>  |

### 3. 2. Local potential

Based on the qualitative analysis of the case study, the local potential of village alliance could be defined in terms of the five scenarios outlined: food production, tourism objects, wood production, socio-demography, and local knowledge.

The villages have varied scales of agricultural/fishery activities (see figure 2,3) but they can be maximized to develop a more sustainable local economy. In Lahat Regency, total agriculture area is about 83% of the total region with the main food production of rice, maize/corn, sweet potato, peanuts and soybeans [23].



**Figure 2.** The Map of Agriculture in Alliance.  
Graphic. Listen Prima, 2018

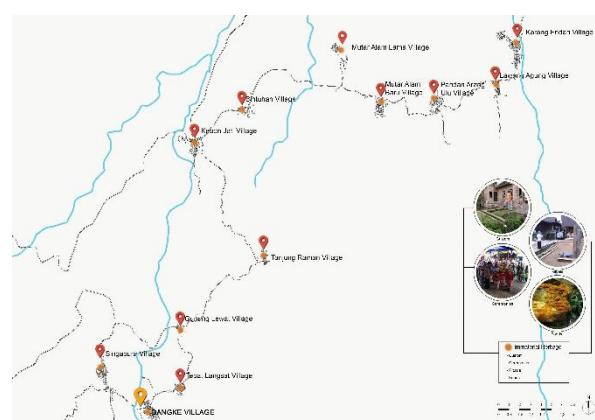


**Figure 3.** The Map of Fishery in Alliance.  
Graphic. Listen Prima, 2018

The village alliance has huge local potential for the tourism sector which is divided into distinctive groups: heritage architecture buildings and sites, natural resources, and the local values (see figure 4,5). The local potential of wood production in alliance has not developed yet. The total private wood production by individuals in Bangke Village alliance is 1316 Ha [23] and the locations of the production are spread in each village (see figure 6).



**Figure 4.** The Map of Material Heritage in Alliance. Graphic. Listen Prima, 2018



**Figure 5.** The Map of Immaterial Heritage in Alliance. Graphic. Listen Prima, 2018

The local potential of the wood production will support implementation of local development based on the sustainable development concept and the local identity and provide economic opportunities.

Recently, the demographic composition in the case study area is dominated by the elderly and children. Based on BPS-Statistics of Lahat Regency [23], the percentage of elderly was approximately 14% (over 60 years old), and children were approximately 30% of the total population, whereas many young people leaving the rural areas due to the job opportunities, education, and other reasons.

Regarding social demographic, three components have been defined: population number, public facilities, and organization (see figure 7).



**Figure 6.** The Map of Forestry in Alliance.  
Graphic. Listen Prima, 2018



**Figure 7.** The Map of Demographic Composition and Public Facilities in Alliance.  
Graphic. Listen Prima, 2018

Beyond local characteristics, the local richness, such as cultural and heritage values in the village alliance offers possibilities as a source of information, cultural knowledge, experiences, as well as an interesting subject to learn both in formal and informal education programs. In the village alliance, schools are provided in some villages (see figure 7).

### 3.3. Scenarios alternative

#### 3.3.1. Food network

The food network aims to build more sustainable agricultural practices to feed the villages more effectively with local agricultural products. It will also take advantage of the trend of consuming local and healthy food.

The food network scenario will outline three sub-scenarios: local market, regional market, and global market. The local market sub-scenario aims to increase agriculture production by focusing on the food plantation to fulfil the local daily need of the village alliance such as rice, fish, vegetables, and other product. It will build autonomous food supply within village alliance and anticipate food crisis in village alliance. Regional market sub-scenario promotes local product characteristics by increasing the varieties which may differ to any other products from other suppliers in Sumatera Island. The focus of global market sub-scenario is increasing export of Indonesian goods. These activities will intensify food production in agriculture, fisheries and other potential products by using recent technology and method, as well involving experts and related institution.

#### 3.3.2. Tourism

The tourism scenario outlines two sub-scenarios of domestic tourism and international tourism. Domestic tourism sets the village alliance as a new tourism destination for local tourists in Indonesia. This sub-scenario will utilize local potential not only for activities such as cultural heritage tourism, tracking and river activities, agricultural activities such as paddy plantation but also for the local community to take active role under supervision of the local government.

International tourism targets tourists from around the world. By offering complex local potential and activities, this sub-scenario will set village alliance as the main tourist destination in South East Asia. Heritage richness will be reproduced in many activities not only as object of tourism but also as a subject to develop further model of tourism; for example, remodelling detail and constructing traditional houses. The natural landscape will also provide for many activities such as, agricultural tourism, nature sports, and other activities. Activities with active engagement with local communities will be held as the part of daily activities of local people, such as cooking, handcrafting, performance and arts, and other activities. In order to accommodate tourists, this sub-scenario will aim for facilities development, such as accommodation, commercials, and other facilities. Additionally, coordination and involvement with related experts and parties will be needed in this sub-scenario as the part of national tourism strategic planning.

### 3.3.3. *Wood Production*

Wood production scenario is the idea of maximizing capacity of local forest as a new source of wood production in region. Thus, this will strengthen local culture where wood is dominant material for local buildings, especially traditional houses as well as the most ecological material. Based on the coverage of wood distribution, scenario of wood stock outlines three sub-scenarios: local supplier, national supplier and global supplier. The local supplier sub-scenario aims to cultivate local forests as an agricultural side activities for local people. It will bring benefit not only a new economic source for local people, but also a way to protect the existence of productive forest in the alliance, and in the same time maintaining local price for wood production. Meanwhile, the national supplier sub-scenario will set the alliance as the main supplier in Indonesia region. This scenario is significant since many regions need wood supply especially where traditional houses exist. The international supplier sub-scenario will bring back position of Indonesia as one of the biggest wood suppliers in international market. The forest cultivation aims to produce the maximum wood production. As the part of marketing strategy, village alliance will open for direct activities from market actors, both for investment and further manufacture, such as furniture, handcraft, and other adapted products.

### 3.3.4. *New villages*

The scenario of new villages responds to anticipate future needs of the local demographic within the village alliance, which is currently dominated by elderly people (over 60) and needs to retain with productive age (17-35). This concept will consistently group people with certain ages in the same preferences, such as capabilities, knowledge, hobbies, and other preferences as local characteristic of the environment and maximise those characteristics to bring benefit for the communities and development.

The old people sub-scenario sets all components or specific designs of the village structure to be elderly-friendly, such as ramps in common facilities, various groups of social activities, better health and psychological facilities, and other facilities. This sub-scenario maximises the capabilities of elderly as the resource of local values, such as culture, traditions, ceremonies, and other local values to support the local development by teaching and sharing them to young people and visitors. Moreover, this scenario will keep the local characteristics of warm and friendly people stigmatised by old people in the village alliance by showcasing the hospitality of the elderly people as part of village culture. Additionally, this scenario also brings benefit for old people to create the most valuable moment when they can spend rest of their life time in the place where they were born while building the character of a dependent society able to fulfil their own daily needs. Since in local society, old people typically bring additional responsibilities for their young family, this sub-scenario will increase the quality of life for both the elderly and their families by increasing the self-sufficient community as well as increasing their daily productivity based on the possible capabilities as the local cultural expert.

The young people sub-scenario aims to sustain demographic composition of young generation in the village alliance as the productive group of age. The society is designed to be more dynamic and contribute to vast local development by focusing on the amusement functions, such as cinemas and education facilities, workshop and training centre, public library, and other functions. Hence, development of mix sectors activities or local industries will support the productivity of young people as the most targeted users.

### 3.3.5. *Centre of learning*

This scenario aims to promote local knowledge beyond preservation. It brings forward local knowledge as a component to local development through academic and non-academic programs.

This scenario offers two types of learning activities as sub-scenarios: research aims and vocational skills. The sub-scenario of research aims set the village alliance as the centre of research or deep learning about specific cases/topics related to the local knowledge. The activities are more formal by involving academics and education institutions relevant to the subject. The number of participants will be limited only for the specific cases. The vocational skills sub-scenario offers the village alliance as the place for preparing and training specific vocations related to historic preservation, traditional construction, tourism/hospitality, agriculture and forestry, and other interests. The activities in this sub-scenario are more practical, such as workshop, training, and courses involving

the local government, tourism board, vocational school, and all related parties. The target number for participants will be big groups with scheduled activities.

Future transformation due to the pressure of complex environment triggers each territory to increase effective local development. In response to these challenges and debates of globalization, interests in sustainable development has grown. The significance of sustainability development framework is started to apply in many programs of local development. This kind of awareness is related to the local development demands in urban and territorial planning.

The implementation of sustainability concept will be initiated by outlining the concept of village alliance within peripheral area. It improves local development by increasing transferability and effectiveness based on the dominance condition of peripheral villages in Indonesia. Hence, the context of peripheral area is significant, not only in transforming underdeveloped areas, but also in supporting the process to build resilience of local territories.

Analysis of local potential is proposed to identify future development opportunities. The analysis result will identify the potential components of local development as well as provide wide range of opportunities to strategically plan and promote local development; which is beyond conventional planning, with a more balanced environmental impact for the future.

The analysis results provide data for the next step of scenario planning, a creative approach which defines the significance of five local scenarios in village alliance: food, wood, tourism objects, socio-demographic condition and local knowledge. This scenario planning is an explorative way to construct alternative of development planning in village alliance before stating a prospective local planning development. This exploration guides a proper perspective of local development possibilities beyond the data and documents of the case study area. Furthermore, and it also offers an outlook of possibilities for future needs regarding collaborations with planning instruments and institutions, involvement of relevant groups and participants, as well as engagement within communities of village alliance.

#### 4. Conclusion

A creative strategy that offers an outlook of future transformation by engaging components of politics, society, economy and culture in future development is urgently needed. This strategy must be based on the consideration of complex urban or rural environment as the initiatives to build resilience within sustainability development framework. The traditional planning method based on planning instruments creates development of gap between urban and rural area.

This research offers innovative scenario planning as a way to promote local development by exploring development within the context of village alliance as a comprehensive framework for sustainability. Hence, scenario planning alternatively provides more visionary planning perspective. This perspective gives more consideration to local potency in outlining prospective development approaches by involving local stakeholders and related institutions to form a more holistic perspective. Thus, it can be concluded that scenario alternative planning method provides a wide range of possibilities for future transformation and integrates all relevant components of local development, such as socio-demography, economy, culture, and politics.

Furthermore, this research is not limited to only one alternative scenario. Instead, the integration of scenarios are proposed to promote the local development. This method will promote each strong characteristic of those five explorative scenarios, namely tourism potential, food and wood resources, demographic composition, and knowledge sources as a comprehensive framework of scenario building. Meanwhile cultural heritage tourism will be used as the main goal, and this integrated scenario constructs all those main local strengths as powerful sources for local development.

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