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Determined Slum Upgrading: A Challenge to Participatory Planning in Nanga Bulik, Central Kalimantan, Indonesia

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Abstract: Indonesia has committed to accomplish "cities without slum" target in 2019 through the national program of Action Planning for Preventing and Improving the Quality of Urban Slum Settlements (RP2KPKP) launched in 2015. Nanga Bulik town in *Kabupaten* (Regency) Lamandau of Central Kalimantan Province is among those included in the program; the RP2KPKP of which has been completed in 2016. This paper focuses on how participatory approach has been applied in the planning process. The planning has employed mostly qualitative approach with documents study, field observation, and Focus Group Discussions (FGDs) involving all stakeholders, complemented with quantitative one especially in the aspects of urban and architectural design. The findings have suggested that the community participation in Nanga Bulik case has gone beyond the requirement commanded by the Indonesian laws on development planning and spatial management to ensure the target achievement in 2019. It is crucial because a higher level of the plan implementability would ensure more sustainability of the slum improvement. Essential lessons can be learned from this real participatory planning, which could be the beginning of the third generation of planning in Indonesia.

Keywords: Central Kalimantan; community participation; participatory planning; Nanga Bulik; sustainable slum upgrading

1. Introduction

An important problem in housing considered typical to developing countries is the slum. As far as the physical aspect is concerned, the slum is usually characterized by a crowded and unhealthy environment, low-quality buildings, and lacking public infrastructure and facilities. Demographically speaking, almost all of the slum dwellers are in developing, including the least developed, countries. It was noted that only around 6% of the population of the developed world lived in slums, but there is no such information in the most recent Millennium Development Goals (MDGs) data [1]. That is why this problem should get much more attention in developing countries.

A global initiative called "Cities without Slums" (CWS) was launched in 1999 by the Cities Alliance [2]. It was then endorsed by 150 heads of countries and governments attending the UN Millennium Summit in September 2000 [3], and was included in the MDGs through the goal of "Ensure environmental sustainability". The target is that "by 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers" [4]. The latest information shows a prospective performance. In 2014, slum dwellers shared 29.7% of the developing countries' population. It was a significant improvement from 2000 when they were about 39.4% of the developing world's inhabitants [5].

In addressing slum problems, there are two main approaches, i.e., slum upgrading and relocation or resettlement. Slum upgrading is usually preferable to the inhabitants because, unlike relocation, they do not have to move out from the place where they have lived for a long time. Economic activities of these people, usually informal in nature, are highly attached to their settlements so if they are relocated they have to start their businesses over. Moreover, in many cases, relocation could only mean relocating the slum in the sense that the new settlement would turn into slum due to the inhabitants' low capacity to maintain the proper housing situation [6].

Meanwhile, Indonesia has been dealing with the slum since the *Kampung* Improvement Program (KIP) of *Daerah Khusus Ibukota* (Capital Special Region/DKI) Jakarta in the era of the deceased Governor Ali Sadikin in the late 1960s [7]. The program shows important lessons of participatory planning and development [6]. It started with an awareness of the DKI government, which was then able to help to empower the local community. The initial establishment and refinement of public infrastructure and facilities then triggered the local people to renovate and build their houses with some help from the DKI government.

Other successful stories in Indonesia include the more recent Pekalongan and Surakarta cases. In Pekalongan, the role of the community self-supporting group (*Badan Keswadayaan Masyarakat*/BKM) has been proven essential in the successful slum upgrading of Podosugih Village, especially in improving the environmental quality of this river-side settlement [8]. Meanwhile, Surakarta has also been known as successful in addressing slum problems since the administration of the Mayor Joko Widodo, who is now the president of this country, started in 2005. Slum upgrading and relocation programs were successful there due to, interestingly, mainly the strong leadership which in turns affected the communities positively in the collaborative planning practices [9]. However, with all the prospective progress, the latest MDGs data (of 2014) tells that there are still around 21.8 million people living in slums in Indonesia [1].

That is why recently Indonesia has committed to the vision of cities without slums through the program of Action Planning for Preventing and Improving the Quality of Urban Slum Settlements (*Rencana Pencegahan dan Peningkatan Kualitas Permukiman Kumuh Perkotaan*/RP2KPKP) of the Ministry of Public Works and People Housing. The program applies both slum upgrading and relocation, the choice of which would depend on the individual case being planned. The Ministry requires that participatory approach be applied in the planning and implementation as it has been mandated as well by the national laws on development planning and spatial management. Interestingly, while slum problems, along with the urban sprawl, are mostly the case of big cities and metropolitan regions in Java [10], those of remote and much less-urbanized areas are also included in the RP2KPKP program.

Nanga Bulik urban area in *Kabupaten* Lamandau of Central Kalimantan Province is among them. Nanga Bulik is a small town within the *Kecamatan* (District) Bulik and functions as the capital of *Kabupaten* Lamandau. The town was inhabited by around 14,000 people in 2014. Meanwhile, *Kabupaten* Lamandau, which consists of eight districts, had the population of around 77,000 people in 2014 with an annual growth rate of 3.77% during 2010–2014. The action plan was completed in 2016 with the target of no slums in 2019, and the local people are convinced that the plan can be implemented successfully, as are the governments at *Kabupaten*, Provincial, and National levels. Therefore, it is essential to study how participatory approach has been applied in the planning process that has made all stakeholders are optimistic about the implementability of the plan. Essential lessons in addressing urban slum problems could thus be learned from this case.

Figure 1 shows Nanga Bulik town highlighting the slum areas.

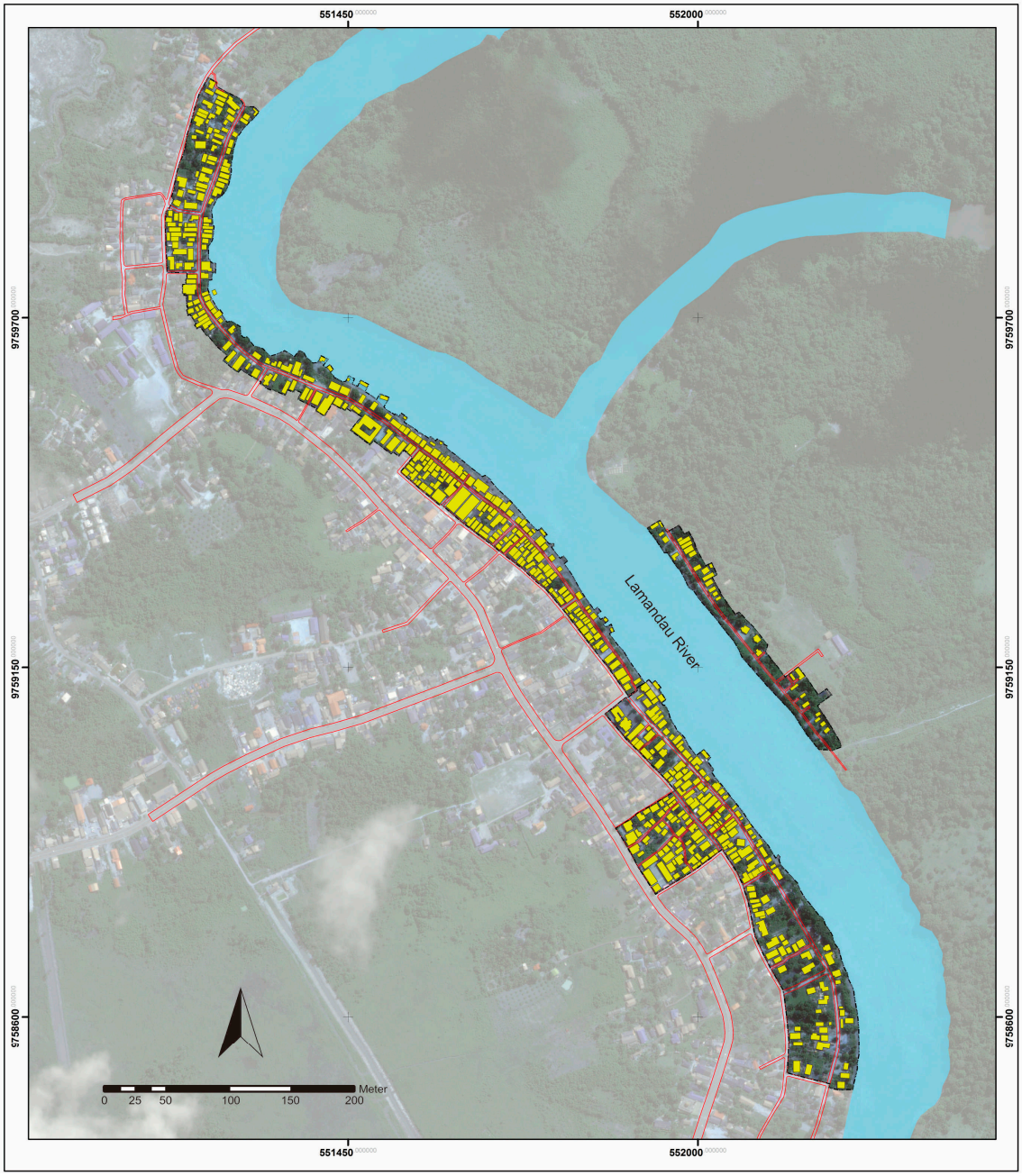

Figure 1. Slum Areas in Nanga Bulik (Source: [11]).

2. Participatory Approach in Urban Planning and Slum Upgrading

People participation in urban (and regional) planning has been becoming more essential since its initiation in the 1960s in the US [12]. This kind of planning approach gives the people more power to plan their own areas, cities, or regions. Unlike its predecessor, the rational planning, which is top-down in nature and deems the planner as knowing everything, the approach offers much wider opportunity to the people. As they live in the planning area being planned, they are in many aspects more knowledgeable than the planner, and so would the plan be more suitable and implementable when they participate properly in the planning process.

Fainstein [13], for example, when discussing three kinds of planning theory deemed to be new directions in the 1990s, i.e., the communicative model (also known as collaborative planning), the new urbanism, and the just city model, found that participatory aspect is essential in all the models. Apart

from some criticisms for the three models as Fainstein has analyzed, and although she prefers the just city to the others, optimism and prospects are there for every model—how the planners apply it in practice matters.

In line with Fainstein is Schönwandt [14]. However, he wrote a more comprehensive discussion on planning theories. Following the Rittelian categorization of generations in planning theories [15], Schönwandt goes further toward the third generation. The rational planning and its derivatives, such as incremental and mix-scanning, are considered the first generation. This kind of planning theory assumes every problem as well-defined while the second generation recognizes the "wicked" nature of planning problems. Apparently, these "ill-defined" problems can be found in the socio-economic life of any city or region, and they cannot be dealt with pure "scientific" approach viewed by the rationalists. This main difference has remarked the birth of the post-positivism influence in urban and regional planning.

While Fainstein has analyzed three models, Schönwandt has discussed six types, i.e., the advocacy model, the neo-Marxist, the equity planning (similar to the just city), the social learning and communicative action (or collaborative planning), the radical planning, and the liberalistic model (comparable to the new urbanism). As expected, there are ingredients of people participation in various levels and ways in every model. The discussion has confirmed the Rittelian approach in differentiating between the first and second generations of planning. In a world where many problems have hardly been structured and understood due to their locally specific nature, it is understandable that participatory planning is more appropriate than the "scientific", top-down, approach.

In a low urbanized town (Kembang Tanjong) planning for the reconstruction and rehabilitation of the post-tsunami Aceh, Sugiri [16] has shown that proper people participation in every stage of the planning process, along with the effective communication of all stakeholders, has improved the sense of belonging of the people to the resulted plan. The people have then become motivated to ensure that the city plan be implemented. They have endorsed and demanded that the plan be immediately passed into the local regulation. As known in Indonesia, any local plan can only be implemented when it is legalized as a local regulation. It is argued, in this case, that during the planning process the local people have been empowered with the capability to monitor and evaluate the implementation. Another study of spatial planning of Susukan, a rural–urban area in Semarang Regency, found that the lack of people participation in the planning process has resulted in a somewhat discouragement for the labor-intensive non-farm activities to develop [17].

The slum, as an important issue in developing countries, also embodies many social problems that are not well-defined. That is why the participatory approach is generally acceptable in dealing with the slum, especially in slum upgrading. Olthuis et al. [18] have studied no less than 88 upgrading projects in the developing world starting from the 1969 Jakarta KIP in Indonesia to the 2014 Odisha Disaster Recovery Project in India. It is found that those able to accommodate and apply the local knowledge, and also to make the dwellers participate in the process, have in general been more successful.

In Brazil, the application of participatory budgeting has led to a successful slum upgrading in Porto Allegre [19]. In this case, the inhabitants participated in the whole slum upgrading process and they were able to choose what to be financed through the participatory budgeting. Co-management between the municipal government and the residents has been proven effective. The decision making to use a significant portion of the budget was on the people while the municipality provided land tenure security and basic infrastructure. In some aspects, especially in the assisted self-help housing, this program is comparable to the Jakarta's KIP [6]. A similar main lesson can also be learned, that participatory slum upgrading, especially in the community with heterogeneous nature of problems, is more appropriate than a simple relocation through the social housing.

Meanwhile, focusing on another slum upgrading in Recife, Brazil, de Vries [20] highlights the dualism in urban planning traditions, i.e., on the one hand the bottom-up and participatory planning, which is able to deal with the informal nature of many cities, and on the other the top-down, "technocratic", and "neo-liberal" one that is considered as aiming at realizing the formal city. The kind

of hybrid participatory and technocratic planning has been applied in Brazil including the successful Porto Allegre [19] mentioned previously. However, an important criticism is revealed from the Recife case: participatory is prone to political clientelism in terms of "a tyranny of participation". Slum residents could even feel traumatic with the project due to the role of the community leaders' elite in causing the participatory planning disjunctive.

Another success story of slum upgrading is that in Harare, Zimbabwe [21] where inclusive municipal governance has opened opportunities for slum dwellers to participate in upgrading their settlements. Based on three main principles of governance inclusivity, i.e., gradual institutional change [22–25], citizen participation and civil society engagement [26,27], the Harare Slum Upgrading Program has been done with high level of municipal and community partnerships. The people have contributed in visioning their aspirations regarding the needed structure and form of the settlement. Through an informal planning studio, the communities have been empowered to map problems, challenges, and possible solutions, which could then be accommodated in the development plans. This slum upgrading, to a significant extent, is in parallel with the case of co-management between the municipal government and the slum dwellers in Porto Allegre mentioned previously [19].

Also equivalent to those cases is the Comprehensive *Kampung* Improvement Program (CKIP) in Surabaya, Indonesia [28,29]. Applying a microfinance scheme, the targeted communities are involved from the beginning of this program, including the institutionalization by forming Community-Based Organizations (CBOs) required, such as *Yayasan Kampung*/YK (Kampung Foundation) responsible for the physical improvement and related activity coordination, *Koperasi Serba Usaha*/KSU (Business Cooperative) responsible for the microfinance and financial education, and *Kelompok Swadaya Masyarakat*/KSM (Self-help Community Group) with the targeted people as the members, to run the program. Non-Governmental Organizations (NGOs) have the role of facilitation in the community empowerment. The Surabaya CKIP has been proven helpful in improving the physical environment, which consumed around 30% of the budget. The remaining 70% of the budget has also increased the targeted people's access to capital through the microfinance credit system.

However, limitations have been there. The limitation issues like the CBO capacity, access and targeting issue, and the absence of potential civil society organizations, have led to a downgrade of the level of people participation in the later stages. It is worth noting that involvement of civil society elements, which is among the limitations of the Surabaya CKIP, is considered one of the keys to success concluded from a study of slum upgrading using three different countries' cases in Southeast Asia, one of which is Bandung, Indonesia [30]. Das ([28], p. 261) has also found out that, " ... CBOs implemented CKIP with little direct community involvement after the socialization and mapping stages". No wonder then that the CBO performance is considered appropriate in the smallest neighborhood unit only, which is called *Rukun Tetangga*/RT comprising around 30 to 60 households.

Questioning the sustainability of the slum upgrading can be valid then, especially when comparing the program to another participatory slum upgrading in *Kelurahan* Podosugih, Pekalongan City [8]. In the case of Podosugih, the slum upgrading has also been considered successful and the key has been the role of *Badan Keswadayaan Masyarakat*/BKM that is comparable to KSM (Self-help Community Group) in the case of Surabaya. However, financing to maintain the upgraded settlement has later come up as the main limitation of sustaining Podosugih slum upgrading. There was no microfinance scheme applied in Podosugih. However, even with the microfinance help, the Surabaya CKIP cannot escape from the threat of unsustainability. One of the keys, perhaps, is as stated by Das ([28], p. 264) that the microfinance "... may not even generate a sense of ownership among community members".

It is also interesting to learn from a recent study assessing the sustainability of slum upgrading in Bangladesh [31]. Using the ASPIRE (A Sustainability, Poverty and Infrastructure Routine for Evaluation) toolkit with 96 indicators for the infrastructure upgrading project in Korail, a significant finding regarding people participation is that the more the inhabitants engaged the more the prospect of sustainability. Thus, a proposition can then be formulated, that if people are aware of their slum

problems and given every opportunity to utilize their knowledge, they will make efforts, to a maximum extent, to resolve them and participate enthusiastically in the planning and implementation alike.

3. Methods

The RP2KPKP (Action Plan for Preventing and Upgrading Urban Slum Settlements) of Nanga Bulik has been completed in 2016. It is targeted that there will be no slum in Nanga Bulik after three years of implementation in 2019. The authors involved in the team of planners. There were six stages of the planning process starting from collecting data and information. The methods applied were field observation including topographical survey and aerial photography using drones, questionnaire survey, institutional survey to collect relevant documents and secondary data from the related institutions, and a focus group discussion (FGD) involving also the targeted people. It is worth noting that the slum inhabitants were also facilitated to do their own survey called *survei kampung sendiri* through field observation and questionnaire distribution to households. Their data and information were then synchronized and validated through the FGD.

The next stage was slum assessment, in which the slum inhabitants assessed their settlement using criteria and indicators set up by The Ministry of Public Works and People Housing, and was facilitated by the team of planners in an FGD. It was then followed by the needs identification or assessment to improve the slums into appropriate settlements. In these two stages, a forum involving the residents was conducted in every smallest neighborhood unit (*Rukun Tetangga*/RT, comprises around 60 households in this case), in which the assessment for every RT was done. The results were then recapitulated and discussed in an FGD.

The fourth stage was formulating the concept and strategies for the slum improvement. Again, an FGD involving the people and facilitated by the team of planners was done to yield in the agreed concept and strategies of the slum improvement. The fifth and sixth stages, then, were the formulation of the actions needed and the prioritization that should be taken so that the implementation can be ensured. Two FGDs were done for these two stages.

4. Participatory Planning in Preventing and Upgrading Urban Slum of Nanga Bulik

This section presents essential findings and discussions on the planning process of RP2KPKP of Nanga Bulik town in three subsections. The first one gives a brief description of Nanga Bulik and its slums. The second subsection discusses the findings on participatory approach applied in planning the RP2KPKP, which is followed by a discussion on the planning theory implications in the last subsection.

4.1. Brief Overview of Nanga Bulik in Kabupaten Lamandau, Central Kalimantan

Nanga Bulik is the center of *Kecamatan* Bulik, one of the eight districts in *Kabupaten* Lamandau of Central Kalimantan Province. It is a small town administered as *kelurahan* (village level administrative area). *Kecamatan* Bulik was inhabited by slightly more than 25,000 people in 2014, and the population growth was around 2.5% in 2013–2014. In that year, the density of this rural district was around 38 people per square kilometer. Meanwhile, the population of Nanga Bulik town was a little more than 21,000 in 2014 or about 84% of the district population with a density of 78 people per square kilometer or about twice as dense as that of the district.

Lamandau Regency is located in the western part of Central Kalimantan Province. Bordered with West Kalimantan Province in its northwest, the *kabupaten* is about 550 km from the province's capital, Palangkaraya City (see Figure 2). Nanga Bulik is in the southern part of *Kabupaten* Lamandau and acts as the capital of the *kabupaten* (see Figure 3) where the local government offices are located. Thus, it can be said that Nanga Bulik is a remote town in the province; however, the population growth rate is quite high indicating that it has been becoming increasingly urbanized.

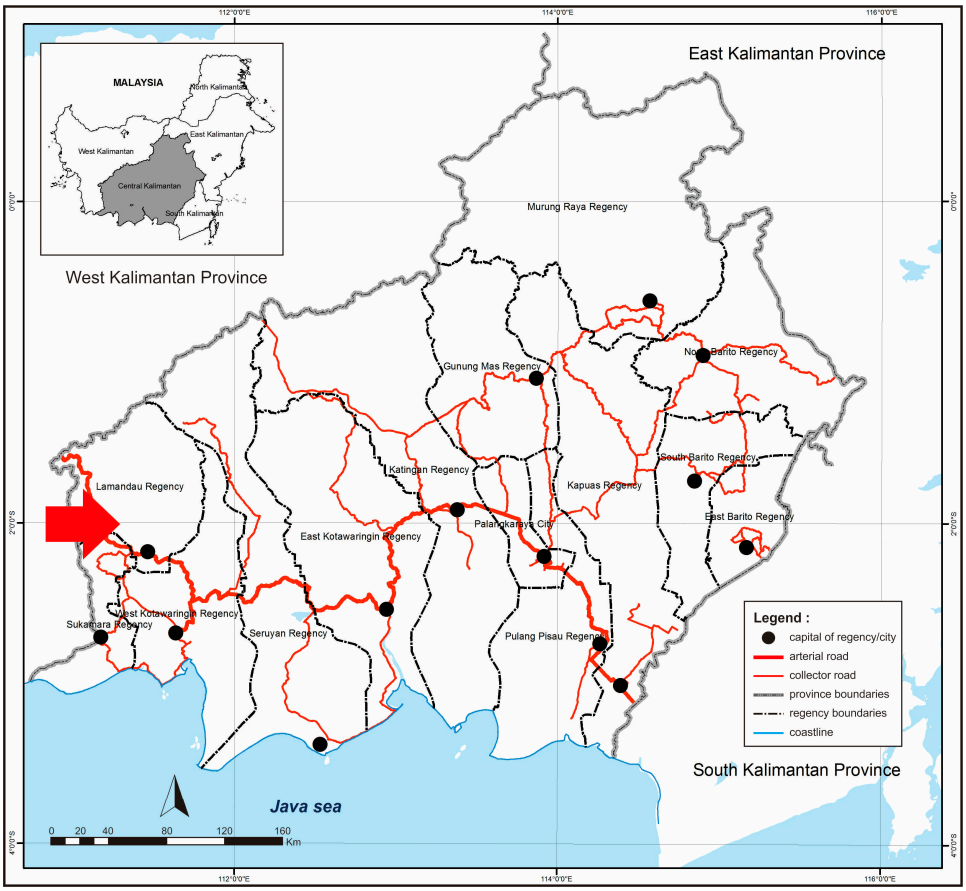

Figure 2. *Kabupaten* Lamandau in Central Kalimantan Province (Source: [11]).

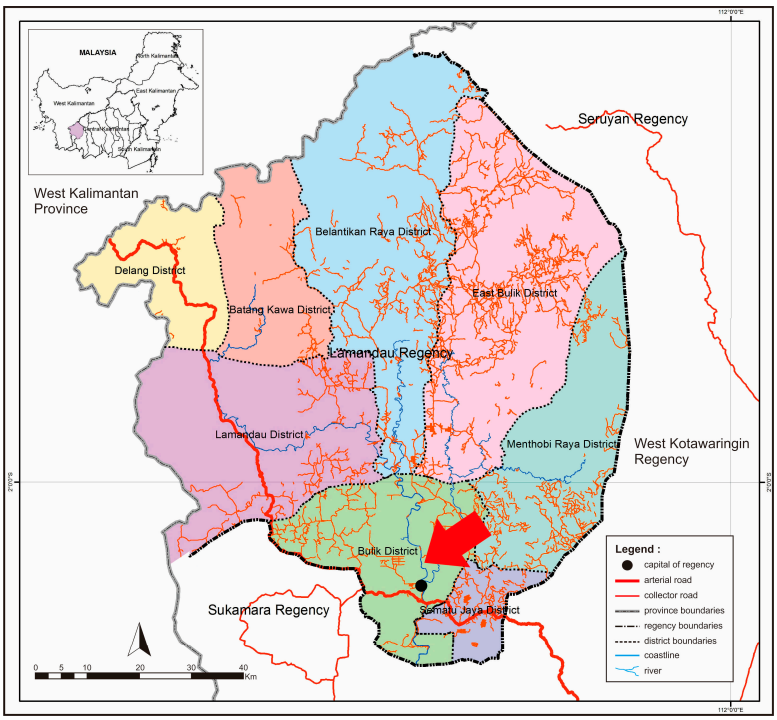

Figure 3. Nanga Bulik in *Kabupaten* Lamandau (Source: [11]).

Settlement areas in Nanga Bulik are dominated by *kampung*, a type of spontaneously grown informal housing, as opposed to the planned, formal housing that is common in Indonesia. Many of the houses are still in the traditional form called *rumah panggung* (see Figure 4), which ground floor is lifted around one to two meters. The original purpose was to prevent wild and dangerous animals from entering the house. These unplanned settlements have apparently become slum areas especially those located in Lamandau River banks.

Figure 4. *Rumah Panggung* in Nanga Bulik (Source: Field Observation, 2016 [11]).

Nanga Bulik town is divided into two parts by Lamandau River with the agglomeration of urban activities mostly in the west part. As can be seen in Figure 1 in the Introduction Section, there are two slum areas, i.e., the larger one in the west bank and the smaller in the east bank. The common characteristics of the slum, like the high density of the houses, inadequate facilities and infrastructure, and low quality buildings, can be found there (see Figure 5).

Figure 5. Overview of Slum Areas in Nanga Bulik (Source: Field Observation, 2016 [11]).

4.2. Discussions

An essential way of encouraging a high level of people participation in planning the RP2KPKP of Nanga Bulik is the *Survei Kampung Sendiri* (SKS/*Kampung* Own Survey) in the first stage of the process, i.e., the data collection. In this survey, the local people make efforts to comprehend and assess their

own settlements with regard to the slum issues. They gather the needed data and information on their settlements from the social economic and building aspects to the infrastructure and facility situations. Every smallest neighborhood unit (RT) is divided into some small groups responsible for collecting the related data. The methods have been field observation and questionnaire distribution. The data and information obtained by the people have then been synchronized and validated through the coordination meetings facilitated by the planners who had compiled the secondary data. The results of this SKS can be seen in Table 1.

Table 1. Results of *Survei Kampung Sendiri*.

No	Criteria/Indicators	Parameter	Quantity	Unit	%
A	PHYSICAL				
1	Spatial organization	Unorganized houses	321	House	33.97
2	Location	Houses in river border area	102	House	10.79
3	Density	Area of the Settlement	16.72	Ha	
		Quantity of units	945	Building and House	
		Building density	56.54	Buildings/Ha	
4	Appropriateness	Inappropriate to live in	432	House	45.77
5	Accessibility	Total length of roads	5587	Meter	
		Length of roads with width ≥1.5 meters and bad condition	3439	Meter	61.55
6	Drainage	Flooding area	4.90	Hectare	29.31
		Total length of drainage	5920	Meter	
		Length of drainage with bad condition	4994	Meter	84.36
7	Clean Water	Houses with no access to basic sanitary and clean water services	474	House	50.16
		Houses with insufficient access to basic sanitary and clean water services	474	House	50.16
8	Waste water	Houses with insufficient lavatory	132	House	13.97
		Houses with no access to waste water facility	311	House	33.00
9	Solid waste	Houses with solid waste unable to be transported to dumping sites	516	House	54.60
10	Fire protection	Area without fire protection	16.72	Hectare	100.00
B	NON-PHYSICAL				
1	Tenure and Legality	Houses without building permit/license	264	House	27.94
		Land with no legal certificate	196	House	20.74
2	Population density	Inhabitants	3,780	People	
		Households (*Kepala Keluarga*/KK)	1,323	Household	
		Total area	16.72	Ha	
		Population density	226.14	People/Ha	
3	Livelihood	Agriculture, including animal husbandry, horticulture, and forestry	196		14.79
		Fishery	107		8.09
		Mining	41		3.07
		Manufacture	157	Household	11.84
		Construction	114		8.62
		Trading and services	99		7.46
		Governmental employee	40		3.05
		Others	570		43.08
4	Family income (in Rupiah/month)	<500,000	64		4.84
		500,000–1,000,000	314		23.73
		1,000,000–1,500,000	679	Household	51.32
		1,500,000–2,000,000	123		9.30
		2,000,000–2,500,000	78		5.90
		>2,500.000	65		4.91

This kind of bottom-up data gathering and compilation, comparable to that of Kembang Tanjong spatial planning process [16], has brought benefits. First, the people are convinced of the validity of the data and information because they themselves have involved in the process and got full control of it. This benefit is expressed, for example, by Subandi, a resident of RT 08 as [11] "... by doing the SKS, we have become to realize what exactly the main problems in our own neighborhood have been ..." Second, the residents have also become aware of their responsibility to improve their neighborhood and upgrade the slum. Gusti Johansyah from RT 5B, for instance, has stated that [11] " . . . for me this neighborhood survey can be our most important to start in bettering our environment that has been poorly managed ..."

The next phase is slum assessment using the indicators and criteria commanded by the Regulation of the Ministry of Public Works and People Housing (*Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat*) No. 2/2016 regarding Quality Improvement of Slum Housing and Settlements. Based on the data and information compiled from the SKS, the assessment has been done and discussed in a focus group discussion (FGD) involving the planners, the local government of *Kabupaten* Lamandau, and the people. The results have confirmed that the settlement areas along the Lamandau River are categorized as the worst while those located in the downtown are at the moderate level of the slum. The people have been empowered on how to assess their own housing and environment conditions through participating actively in this phase, thus improving the level of awareness.

Then, identifying the needs to resolve the slum problems has been the next stage. In the process, the people have had a crucial role as well. Through meetings at the RT level, they have given crucial consideration on aspects to be fixed based on their priority. Representatives of the residents have used simulation technique in the meetings based on the survey and assessment results. The needs resulted from this process are as follows:

(1) Restoration of the river buffer area. Landslides have often occurred in the river cliff due to the poor quality of the buffer area. The buffer function should be restored by prohibiting residential and other built-up uses along the river border area.
(2) Upgrading of poor quality buildings and houses as many as 432 units (45.77% of the whole buildings in the slum areas).
(3) Improvement of damaged road along 3439 meters (61.55% of the total length of road).
(4) Providing clean water for 474 houses (50.16%) that lack access to clean water.
(5) Improvement of waste water and sanitary system. There are 132 housing units (13.97%) that have no lavatories while 311 units (33%) have no household sewage pipes.
(6) Improvement of waste management system. The domestic waste of 516 houses (54.6%) cannot be transported to the temporary and final disposal places.

The way of identifying the needs through the FGD is in accordance with the tradition of the local people called *bahaum* (in local ethnic language) or *musyawarah* (in Bahasa Indonesia) which means discussion involving all stakeholders to achieve consensus. It is stated, for example, by Mardali, the Head of *Kelurahan* Nanga Bulik [11], " . . . I propose that these slum problems be discussed involving all RTs' representatives in the way of *bahaum* so that the needs to resolve can be identified ...".

In restoring the buffer function of the river border area, relocation of the people who now inhabit the area is an option that has been agreed. Here are some quotes from the FGD as compiled in the Nanga Bulik RP2KPKP Report [11].

> "... as far as I know, those who live on the river bank need help because of the worsening condition of landslides in the river cliff. Is it not better for us to propose a relocation for them as seen in some news on TV, but with a guarantee that the land and houses in the resettlement area are provided by the government? ..." (Furkan, the Head of RT 4A).

> "... the location for the resettlement should be agreed upon by the communities especially those who live on the river bank ..." (Mahyudin, resident of RT 5A).

> "... I propose that the land for relocation should be provided by the local government of Lamandau Regency and I request the consultant (planners) to facilitate this matter. Also, as the consultant has informed us, the houses should be provided by the national government ..." (Asikin Noor, resident of RT 2A).

Thus, relocation of a part of the slum settlements has come to accompany the general solution of slum upgrading. This option has been originated from the people themselves because they have come to realize the danger of living in the river border area that is supposed to function as buffer zone.

The next stage in planning for the RP2KPKP of Nanga Bulik is formulating the concept and strategies to alleviate the slums. In this phase, the people participation has also been kept at the highest level as possible. Again, *musyawarah* of the people through FGD has been done. Having realized that the settlement located in the river border area (see Figure 6) is not good for the environment and can worsen the slum problems of the whole settlement, the people have proposed a kind of riverfront spatial concept (see Figure 7). The strategies agreed by the people are both slum upgrading and relocation. There are 102 houses located in the river border area that should be relocated through a resettlement program, the agreed location of which is around 4 km to the west of the existing slums (see Figure 8), while the rest will be upgraded. The relocation area is near to a new traditional market giving them the opportunity to maintain their livelihood.

Figure 6. A Slum Spot in the Lamandau River Border Area in Nanga Bulik (Source: Field Observation, 2016 [11]).

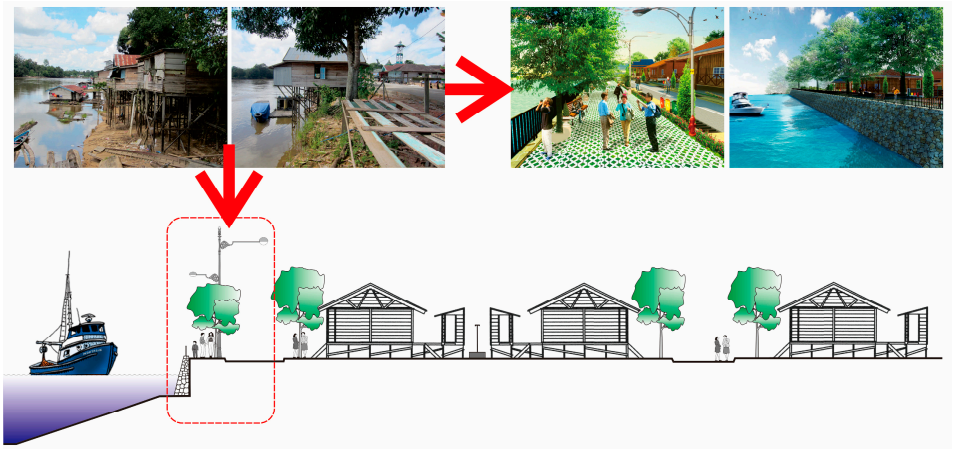

Figure 7. Riverfront Settlement Concept for Nanga Bulik Slum Improvement (Source: [11]).

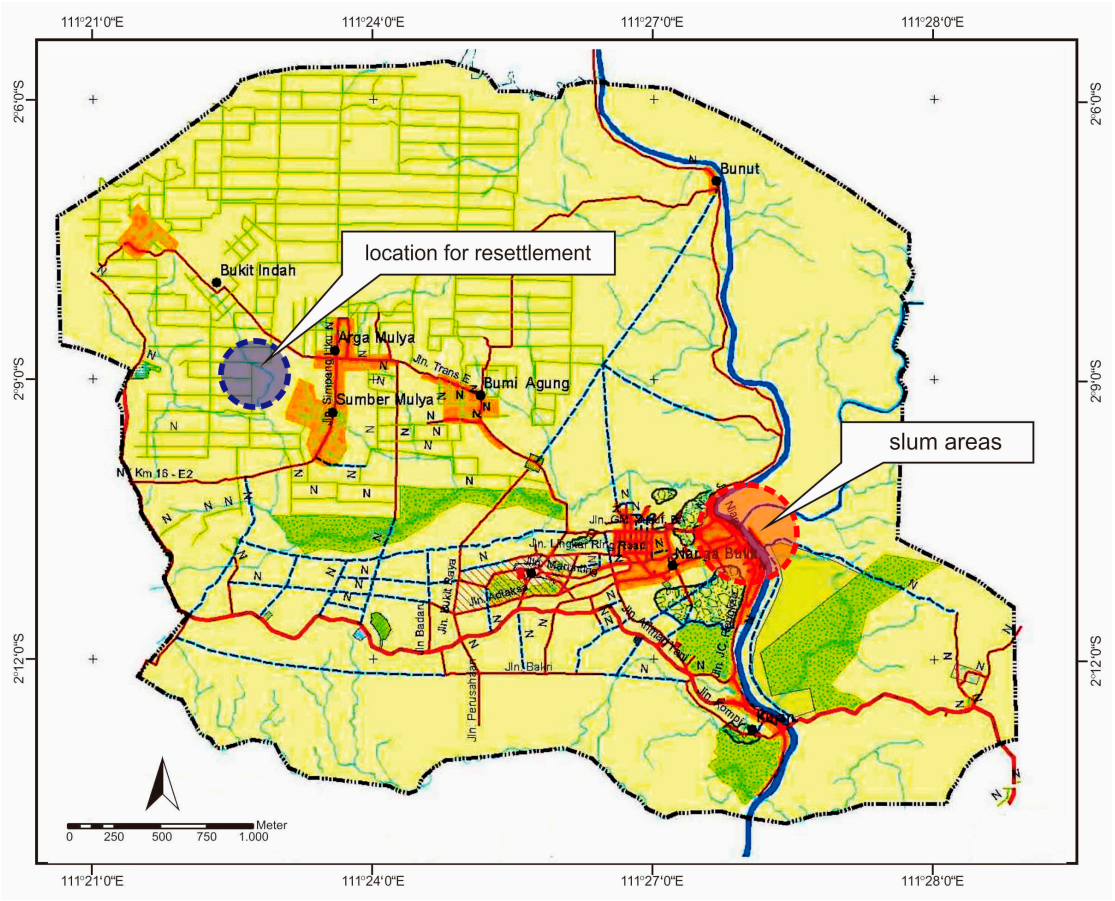

Figure 8. The Location for Resettlement in Nanga Bulik (Source: [11]).

Here are some essential quotes from the FGD of this stage [11]:

> "... let us realize that our settlement improvement is from and for us all, so I hope all community members can actively share thoughts for this purpose ..." (Mardali/the Head of *Kelurahan* Nanga Bulik).

> "... it has been decades our neighborhoods are improperly managed and ugly. Related to the relocation proposal, I propose to equip the river cliff with slope stabilizing construction and to make sufficient green space available in the river border area ..." (Brahimyedi, resident of RT 8).

> "... I heard from the consultant that we need land to build a communal WTP (Waste-water Treatment Plant). If needed, I, as a resident of RT 9, am willing to give my piece of land away for this purpose ..." (Darwawi, resident of RT 9).

It is quite apparent that, until the fourth stage of the planning process, self-awareness of the communities involved has been developing in the right direction. They have become aware that the slum problems should be resolved to start from themselves; they have the capability to do it; and their participation in planning and implementing the plan is crucial toward achieving the vision of Nanga Bulik without slum. Furthermore, this consciousness has led to a willingness to sacrifice own property for the sake of common interests. It is shown in the last quote above about the need to build a communal WTP, and also in the readiness of those inhabiting the river border area to be relocated. It is worth noting that the resettlement option has come from the people themselves.

The action plan for slum upgrading and relocation in Nanga Bulik town has then been formulated in the fifth stage. It is about what measures every stakeholder has to do, and are responsible for,

to alleviate the slum. Forum of *musyawarah* has been done in every RT to give the opportunity for participation to all members of the communities. The results have then been brought into consensus in a FGD involving by all members of the communities. The results have then been brought into consensus in an FGD involving all stakeholders' representatives.

Essential types of the contribution of the people include, first, determining how to improve public infrastructure and facilities in their settlement units like roads, drainage system, domestic waste management, waste-water management, and clean water system. The second is in agreeing to upon the cost proposal and financial arrangement of this slum improvement. The third is in achieving the consensus about the prioritizing of the improvement based on the previous results especially the needs assessment stage. Finally, the people have also actively participated in agreeing upon the technical aspects of the slum upgrading.

Excerpts from the people's voice in the FGD of this stage are as follows [11]:

> "... the site plan draft made by the consultant (the planning team) should be discussed with the communities to get a real implementable plan. I am giving an example, the improved roads should not exceed the elevation of the upgraded settlements to prevent flooding and drainage problems. So the road concrete should be constructed after the land is cut down first ..." (Asikin Noor, resident of RT 2A).

> "... I propose to the communities to help the consultant to re-measure the length and slope of the drainage sewerage so that the plan can avoid miscalculation because it is our responsibility as well ..." (Sukri, resident of RT 1B).

> "... our job is to contribute in guiding, controlling, and ensuring that this plan be implemented soon ..." (Mardali/the Head of *Kelurahan* Nanga Bulik).

Then, the final stage is prioritizing in implementing the plan. As realized, some residents of the slum areas are within the worst category while some others are moderate. The plan for slum upgrading and resettlement of Nanga Bulik is for a three year period until 2019 and the financial capability of all stakeholders, from the governments to the people, to implement the plan is not without limit. So, prioritizing is obligatory.

This final stage is crucial because to prioritize certain parts of the slums and certain people over the others needs the consent from those that are not prioritized. The participants of the FGD include representatives of the people, the regency and provincial governments, and the team of planners. The community leaders have actively reminded the people about the importance of prioritizing and of letting those who need more to be handled first. People participation has thus been, perhaps, at the highest level in this stage. Below are some excerpts from the FGD of this stage [11]:

> "... the prioritizing proposal for the first year of implementing the plan should be yielded from our own consensus. As the head of this *kelurahan* I hope every member of the communities can set aside the selfishness and reach the agreement for the best of the whole slum residents ..." (Mardali, the Head of *Kelurahan* Nanga Bulik).

> "... I propose that the first year implementation should be the improvement of sanitation and clean water in RT 9 because this area is located on the other (the east) side of the river and has long been somewhat neglected by the government. Besides, our community is ready to provide land (around 220 square meters) for the communal WTP and another piece for clean water installation ..." (Darmawi, resident of RT 9).

> "... I agree that significant portion of the fund is allocated to RT 9 ...." (Sukri, resident of RT 1B).

It can be seen that the spirit of togetherness has been developed and applied in prioritizing the implementation. As a result, the RP2KPKP of Nanga Bulik has the highest level of implementability.

In the design aspect of the slum upgrading, the people give full support to the plan that is based on riverfront settlement concept. In addition, they have agreed to the resettlement program for 102 houses residing in the river buffering area, and, more importantly, the initiative to be relocated has come from them. Finally, they have achieved the consensus on what to do, when, and which parties are responsible for the measures formulated in the action plan and its prioritization. Achieving Nanga Bulik without slum in 2019 is thus highly prospective.

4.3. Beyond Participatory Planning?

Pondering on the planning process of the RP2KPKP of Nanga Bulik, the participatory approach has been applied and the planners have made efforts to keep it up at the highest level as possible. However, whether it can be considered the beginning of the third generation of planning [14] in Indonesia would need further discussions. This is because the success of a planning process to yield a highly implementable plan does not automatically mean that the process applies the most recent planning theory.

The main difference, if not the most important one, between the second and third generations of planning is on the level of the basis on the philosophy of social constructivism. The second generation can perhaps be considered the beginning of basing the planning on social constructivism, or post-positivism as some would say [32,33], as opposed to rationalism in the previous generation. However, the third generation of planning is based on social constructivism to the fullest extent [14], so much so that it prefers not to use the word "rational" in the terminologies of planning. Post-positivism and social constructivism have the same thought in rejecting the positivist's claim that knowledge is objective and applies to all places and times. The expression of Bohman ([34] pp. 16–17) may best describe the main characteristic of positivism regarding this aspect: " ... the discovery of a set of general methodological rules or forms of inference which would be the same in all sciences, natural and social".

The RP2KPKP of Nanga Bulik has been planned with the highest level of people participation. It might even be beyond participation because not only have the people been treated as, at least, a partner in planning, but they have also committed to sacrifice their private assets for public purposes. Prioritizing public benefits over the private ones has long been among the norms of Indonesian people, namely, *gotong-royong*. This spirit has become apparent in, especially, the commitment of a community member to surrender his land voluntarily when the people need a space for a communal WTP and a small installation of clean water. It has also helped much in arranging prioritization to implement the plan. Thus, the planning process must have something to do with incorporating social constructivism.

As known in the view of post-positivists or social constructivists, a solution of a certain problem that is suitable for one community at a certain time period may not be applicable for the other time spans or for different communities at the same period. It is because people comprehend a reality in the way it is constructed to them, which may vary from a social entity to the others. Schönwandt [14] has discussed this convincingly utilizing the Kantian semiotic triangle. Any reality is understood by a social entity (or community) using our senses by the means of language and symbols. In addition, the way they disseminate and explain the understanding is by using the community's language and symbols. In this regards, it is just logical that the understanding is influenced by culture, religion, and other beliefs that constitute the community's values and norms. As a result, relativity in knowledge exists.

Many would say that this way of constructing knowledge of a reality only applies to social and not to natural sciences. Thereby, natural science is not relative. However, we would like to argue that the science in its essence may not be relative but our knowledge, whether social or natural, is relative. It is because the Kantian semiotic triangle applies in our way of understanding realities, both social and natural alike. Human's comprehension is always developing toward the essence of science. The role of scientific tools and equipment used in the natural science like the telescope, microscope, and thermometer, to mention just a very few, is simply to enhance and improve the capability of our senses. Thus, they are just like language and symbols as the means to understand any natural reality.

An example can make this point clear. For a long time in the past, the people had believed that the earth was flat. It was considered knowledge about a natural reality called the earth. However, later on, people have come to understand that the earth is a kind of globe. Pieces of evidence, from satellite images to aerial photos, can easily prove this latter knowledge. In this case, scientific tools have helped people of the newer era understand differently about the same reality. Anyway, it perhaps is true that the relative nature of social knowledge is more intense and dynamic than that of natural science due to various social values and norms held and applied by communities.

As for the Nanga Bulik action planning case, efforts to incorporate the communities' constructs were made in every stage of the process. In the first stage, data and information gathering, the *survei kampung sendiri* has made their constructs about the slum problems accommodated to the highest possibility. This method has made them more aware of the problems and realized that improvement of their settlement is really needed and can only be completed with their active participation. In the slum assessment stage, they were also encouraged to assess by themselves; however, the criteria and indicators of assessment were from the ministry, not from them. Thus, in the second stage, the people's constructs were partly incorporated only or, perhaps, to a moderate extent. Then, the people have also been given the opportunity to use their constructs in the needs assessment stage. The RT meetings, which on many occasions were informal, were best to accommodate social constructs of each smallest community in this planning stage. Move on to the fourth stage, when formulating concept and strategies of the slum improvement, what the people perceive about these aspects have also been accommodated. Many of their ideas were in accordance with the riverfront concept and so they finally agreed upon applying this concept for slum upgrading and had no objection with the consequence of relocation for several houses. The proposed location for resettlement was also considered to meet their requirement and finally agreed by them. As for the fifth and sixth stages, in formulating measures and prioritizing for the three years of implementation, i.e., 2017–2019, their constructs have also been accommodated to the full extent. The people have come to be in full awareness of what they, and the other stakeholders, should do and be responsible of for the plan implementation. The spirit of tolerance, like in giving a chance to others over their own, has apparently made the prioritization consensus easier to achieve.

The implementability of the RP2KPKP plan of Nanga Bulik is, thus, highly prospective. In tackling the problems of the slum, the social capital of the people has been strengthened as seen in the application of their inter-related traditional norms like willingness to sacrifice, *gotong-royong* and tolerance. The encouragement and facilitation by the planners and the governments during the planning process have resulted in high level of responsibility of the people in the sense that they perceive the plan as comes from and formulated by them, and is for their own common interests. It is known that Indonesian people, traditionally, hold and apply these norms when dealing with common concerns. It has been found out also in other social studies, for example, Purwanto et al. [35] and Purwanto [36] in the case of spatial conflicts in a street corridor area in Yogyakarta and the role of social capital in resolving the problems. Also, it is there in Yuliastuti et al. [37] in the case of local institutions and community partnership in developing Gayamsari eco-village in Semarang.

5. Conclusions

This paper has confirmed the proposition stated previously that, if communities are aware of their problems and given every opportunity to utilize their knowledge, they will make efforts to a maximum extent to resolve them and participate enthusiastically in the planning and implementation alike. The planning of slum improvement in Nanga Bulik town has incorporated social constructs of the targeted communities to a maximum extent as possible. From the planning theory perspectives, it may go beyond participatory in the sense that people are willing to sacrifice for the benefits of the whole community, a construct that has its root in the Indonesian tradition of *gotong-royong*. It may also be considered the beginning of, borrowing the term from Schönwandt [14] and Rittel [15], the third generation of planning in Indonesia.

However, it is worth noting that the planning mechanism in Indonesia, set up by the government through The Law No. 25/2004 regarding the System of National Development Planning [38], The Law No. 26/2007 on the Spatial Management [39] and their lower rank regulations, makes the third generation of planning theory unable to be fully applied in practice. This is because, although the regulations urge and, in some of them, command participatory approach, some aspects are still under the top-down control. That is why the constructs of the people could not be accommodated to the full in the second stage of planning the RP2KPKP of Nanga Bulik. It was due to the obligatory use of criteria and indicators set up by the Regulation of the Ministry of Public Works and People Housing No. 2/2016 regarding Quality Improvement of Slum Housing and Settlements. In addition, the stages of the planning process have been defined by the regulation and cannot be altered whatsoever. Those familiar with social constructivism will agree that even the stages of planning process may not be generalized for every planning case.

Finally, the case discussed in this article has brought lessons for urban and regional planners, especially those who work in Indonesia, the main of which could be that, although planning theories are useful for practices in the real world, no single theory is best for all. It is how the theory is formulated, what makes it different to the others, on what philosophical thoughts it is based, and on what kind of situation it is best applied that matter.

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