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SUSTAINABLE URBAN PLANNING TO COPE WITH PULSAR EFFECTS OF DESTRUCTIVE EVENTS: A CONCEPTUAL FRAMEWORK

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ABSTRACT

This paper contributes to establishing a more vital role for sustainable urban planning in dealing with the effects of natural (such as earthquakes) and man-made (such as conflicts) destructive events through building up a conceptual framework. Multidimensional qualitative research method through document studies, historical analysis of destructive events and their stages, and case studies (Kabul, Afghanistan; Mostar, Bosnia and Banda Aceh, Indonesia). This research shows that existing efforts for events aftermath suffer from heavy dependency on foreign aids, marginalizing local context, and lack of proper coordination. The suggested framework comprises four major phases that have to be handled by good management including pre-after-the-event, emergency relief stage, transitional stage, and recovery phase. Sustainable urban planning needs to deal with these stages individually and holistically.

Disciplinary: Sustainable City Planning, World History (History of War, Peace, and Disaster), Sustainable Built environment, Sustainability and Development.

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1 INTRODUCTION

Throughout urban history, there have been many cases where going on a scenario of urban planning and development is interrupted by destructive events with their 'pulsar effects'. The events are caused either by nature such as earthquakes, floods, and volcanoes or by humans such as wars, civil wars, and civil unrest. There are small-scale events such as the Cumbria of the UK earthquake of 3.6 magnitudes that occurred in 2010 and passed within a few seconds. It caused only shaking floors and rattling windows (Bluesci, 2011). On the other hand, large-scale earthquakes, wars and civil wars usually result in massive destruction, a vast number of casualties and a huge number of displaced

people, changing the existing urban conditions dramatically and raising the need for new planning and developmental efforts. For instance, the Syrian war has resulted in more than 400000 deaths, 5 million people left Syria, around 6.3 million in-land refugees and wide destruction of urban and rural areas. (CNN, 2017).

Since the 1990s onwards, the role of urban planning in coping with the "pulsar effects" of the destructive events is increasingly diminishing. The major concern has become improving some physical infrastructure, providing shelter and constructing certain symbolic buildings under the name of 'relief'. These measures do not properly lead to sustainable post-disaster recovery (Suri, 2016). In response, calls for restoring the vital role of planning in managing cities and their crises, have been made by Thung and Najim (2016), Suri (2016, 2012), Sipus. (2014), Calame (2005), Sendai Framework for disaster (2015-2030), The World Humanitarian Summit, Istanbul, Turkey (2016) and the UN-Habitat III Agenda (2016). "This is the first time that planning has gotten this kind of traction and it is a big opportunity for planning to return to the center of discourse" (Suri, 2016, p.17). This backdrop shed lights on the importance of contributing to bringing back urban planning to cope sustainably with "pulsar effects" of destructive events in urban areas

2 PULSAR EFFECTS OF DESTRUCTIVE EVENTS

The pulsar effect is a special classification widely used in the last two decades. Denote the consequences of an event, a series of events or forces that significantly change the contemporary urban conditions and inevitably lead to critical changes in urban planning and development process (Eissa, 2015; Lourenço and Astut, 2011). Some events take place by developmental decisions such as hosting the Olympic Games or organizing a national or an international summit while others happen by haphazard and unpredictable forces (destructive events such as conflicts and natural disasters). The increasing number of cities is attempting to gain hosting games/summits hoping to benefit from the economic opportunities they bring with them (Kammeier, 2002). The events of conflicts and natural disasters and their consequences are undesirable and unpredictable. Allied bombing in 1945 destroyed 85% of Dresden. According to the Syrian Observatory for Human Rights, up to June 2017, deaths in Syria exceeded 326,624, 14 million injured and displaced inside and outside the country and many Syrian cities have been destroyed (Wikipedia, 2017)). The 2010 Haiti Earthquake killed 300000 people and resulted in large-scale destruction of the urban environment (Pallardy, 2017). The impacts of destructive events reaches other areas and in some cases neighboring countries. Main Turkish cities received 90% of Syrian refugees in Turkey (over 2.5 million persons) and many refugees from other nationalities (EU Commission, 2017). Some authors such as Calame (2005) and Sipus (2014) argue that post-event recovery measures are not the same for natural disasters and armed conflicts. Other such as Navidi and Andalib (2013), Eugenio, (1986), Cuny (1983) and Kates and Pijawka (1977) found no distinction between destructive events caused by nature and those man-made, in terms of their definition and required efforts to cope with the consequences.

This paper adopts the opinion that "Disaster, whether natural or man-made, is a process defined based on its consequences, not on the phenomenon that caused it" (Cuny, 1983, p.13). Destructive events by humans usually take a much longer time than those caused by nature. Both types of large-scale results in destroying the built environment and displacing people. Aftermath recovery in both cases takes a long time.

3 RESPONSE AND ACTUAL PRACTICES

The up to date experience in coping with the pulsar effects of destructive events (particularly in developing countries) reveals the involvement of a wide range of local, regional and international stakeholders, such as humanitarian relief groups and government organizations. A consistent approach to planning is mostly absent. The main concern is emergency relief. In an attempt to gain more political influence, international players, support individual economic projects such as airports, industry and other infrastructure. That led to haphazard planning depending on the interest of the player. The scope of international engagement regarding time and interest is limited while the reconstruction and redevelopment of a city requires and takes a long time. (Thung and Najim, 2012). Built environment professions usually intervene only after reaching some stable solutions and after delivering other forms of assistance (Calame, 2005). Even in the few cases where systematic planning was made for the strategic reconstruction of cities and regions, it was used to serve some local and/or foreign dominating powers. To give examples, in Beirut, the planning of the elitist project of the city center led to a different center from what the ministries envisioned. This type of development resulted in the displacement of the poor from the city center (Suri, 2016; Yarwood, 2010).

Immediately after the destructive events, the fund is usually available in abundance. The efficient and timely use of money, however, is affected by the urgent need for the quick action and by some activities of incoming actors who usually work for the benefit of their own countries. While in the case of conflicts' aftermath, foreign aid is better to wait until conflicting parties settle down their problems; timely aid is significant in the case of natural disasters (Calame, 2005). In addition to the fund issues, more issues include marginalizing local expertise, skills, and materials. Mashansky (2004) concluded that when the Americans did not focus on the perspective of local people of Iraq, their efforts for reconstruction failed. Local expertise is essential because they better know local conditions. When local expertise is sometime not available (wars, fighting, and displacement), foreign one is then needed. In this case, a proper and clear definition of the relationship between locals and foreigners need to be made to avoid competition. Thus, cross-cultural training is important (Cuny, 1983).

Recently, The Concept of disaster management has become widely known. It consists of pre-disaster and post-disaster. This concept according to Emergency Management Australia (2004), includes four stages: prevention/mitigation, preparedness, response, and recovery. The response and recovery contain the emergency phase that follows the disaster, transitional and reconstruction. In the emergency, the concentration is on rescue, damage assessment and critical repair of infrastructure while in the transitional, the population return to their normal life pattern and their social relationship. Reconstruction is the final stage in which reordering the community and its built environment is the ultimate goal (Cuny, 1983). The first phase usually takes one year; the second phase's period is 2-5 years while the third takes 5-20 years (Geipel, 1991). Cuny et al. call for making disaster management as a part of planning efforts for general development.

In several cases initially undesirable, destructive 'pulses' created opportunities for new and innovative directions in urban planning (Kammeier, 2002). The urban renewal movement in Europe emerged and made distinguish progress in the World War II aftermath (Cherry, 1990). The 1976 Tangshan (China) earthquake destroyed the city completely. The master plan after the disaster

provided new opportunities to reconstruct the city on the same site but according to a new vision. A community revival plan was prepared by the Japanese city of Kobe after the 1995 earthquake. The plan's authors learned from earlier experiences to reconstruct the damaged areas from a new perspective.

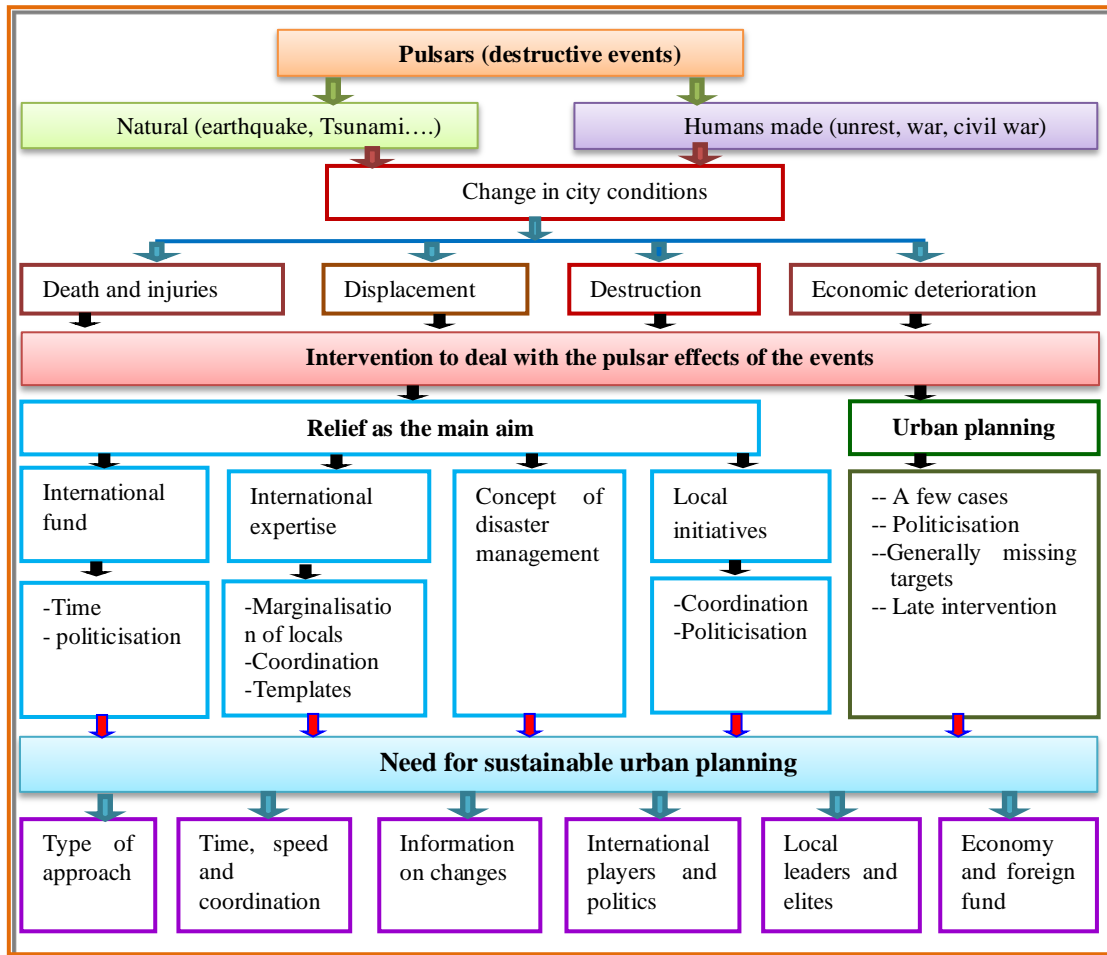


Figure 1: Intervention scheme to cope with the pulsar effects of destructive events and their consequences.

4 NEED FOR PLANNING

Currently, urban planning is a key approach to sustainability, inclusive society, and efficient governance particularly in changing and complicated environments. The good indicator is that in recent years, the approach to deal with destructive events in various countries has been characterized by increasing emphasis on recovery and development. Urban planning can be a positive force in coping with the effects of destructive events. It can efficiently guide communities' development towards economic self-reliance, sustainability, peacefulness, and stability (Suri, 2012). Thung and Najim, (2016) point at the role of spatial planning. French (2016) suggest strategic planning as an efficient approach. The circumstances and conditions that follow the destructive events, however, raise questions about the applicability of existing urban planning tools and methods. Type of demands, time restrictions, fast changes in the event's aftermath and stakeholders involved are significantly different from those of normal situations. Thus, there is a need for new planning tools and approaches that are more feasible than Master Planning; the predominant form of existing urban planning. There is an outstanding need to contextualize planning and adjust planning targets for the

post-destructive event recovery. Relevant literature emphasizes a set of matters that need to be considered while planning for destructive post-event recovery. They are planning (type and belonging to the place), politics (Politician's interest, the influence of international players), economy and dependency on foreign aids, speed, local leaders, local coordination, knowledge of what takes place on the ground, readymade templates, contradictions between time requirements for post-disaster development and time given by international supporters (Thung and Najim, 2016; French, 2016; Sipus, 2014; Suri, 2012). Figure 1 is a summary of destructive events, their pulsar effects, and the interventions.

5 SUSTAINABLE URBAN PLANNING: A REVIEW OF PRINCIPLES

The Concept of sustainability appeared for the first time in the Brundtland Report (1987). It tries to redefine the relationship between human development activities and the natural environment to reach intergenerational justice. Since then, the application of this concept has penetrated various development branches. Extensive and relevant research works have been carried out. However, after forty years, there has been no consensus on how to redefine this relationship. Urban planning is not an exception. Debates still exist on how to reach sustainable urban planning. Some broad principles, however, have been identified. They are

- Full respect to the ecology and the natural environment;
- Energy conservation;
- Determinants of the development are economic social and environmental
- Meeting the needs of the majority of the population and
- Full respect to cultural heritage (Curwell et al., 2005; Kammeier, 2002).

6 METHODOLOGY

The literature review reveals the need for innovative sustainable urban planning to deal with the pulsar effects of destructive events and define special issues of disaster aftermath. The case studies were investigated through relevant documents and historical analysis, on post-disaster recovery in the last three decades. A deep analysis of selected case studies enhance the background. The case studies are Mostar of Bosnia, Kabul from Afghanistan, and Banda Aceh of Indonesia. Each represents a unique situation in being exposed to destructive events. The Mostar of Bosnia was a place for civil war for two years, resulted in dividing the city. Kabul has since 1979 been a subject to a series of wars and civil wars ended with the American invasion in 2001. Reconstruction is the largest in human history. The third city, Banda Aceh of Indonesia was hit by a tsunami while a civil war was going on.

7 RESULTS AND DISCUSSION

7.1 PULSAR EFFECTS OF THE CIVIL WAR IN MOSTAR BOSNIA

Mostar, the multi-ethnic city, is one of the historic cities of former Yugoslavia. The city has a rich planning history. In the 1970s and the 1980s, the last decades before the war, the city developed fast because of foreign investments and migration from rural areas. In 1991, 126,668 residents lived in Mostar. The development was geared towards the industry where 40% of the workers were

employed. The city planning system was a socialist system approach. The state was the main actor in making decisions and development. Planning capacities were available in Mostar at various levels, and a spatial plan was prepared for the city development for the period of 1986-2000. (Suri, 2012; Yarwood, 1999).

The two-year war in Mostar started in 1992 between Muslims and their allies the Croats on one side and the Serbs on the other, turned later to be between Muslims and Croats. The war resulted in 5000 deaths, 40000 displaced people, 5000 destructed or damaged houses, large-scale destruction of infrastructure and historical monuments and religious buildings and division of the city into two parts: Muslims were at the east and Croats were in the west. Economic activities collapsed sharply. Cadastral and property records either lost or fell into the hands of the Croats who refused to share them with the Muslims. Planning institutions also split into two parts. The arrival of thousands of migrants from surround rural areas worsens the situation (Calame, 2005). The estimation of reconstruction cost reached as high as 800 million Deutsch Marks (ICG, 2000).

In the war aftermath, intensive local and international arrangements were made. The city was put under the European Union Administration mandate for a transitional period of two years with a target of reunifying the city (ICG, 2000). To facilitate the reunification, a three layers local government was established and the neutral central zone was defined. Further, Money was made available from the World Bank and other countries. Works started quickly with a fast survey to set up reconstruction priorities, infrastructure restoration projects, building rehabilitation projects and facilities repair projects. (Suri, 2012). However, two things were missing. Local experts were marginalized, and urban planning was given the lowest priority. The industry-oriented economic activities, for instance, were geared towards tourism. This step was not successful and left an increasing number of young people unemployed (Yarwood, 2010).

After the European mandate, the development was slow, gradually deepening the division of the city and duplicating infrastructure and institutions (Shipra Narang Suri, 2016). No cooperation between the municipalities in the segregated areas (Calame, Jon, 2005). The need for a strategic plan was felt, and money was allocated, but no plan was prepared. Mistrust between ethnic groups of the city dominated the scene. "No role seems to have been accorded to strategic thinking or planning for the future of Mostar, at any stage in the process of demolition, repair and reconstruction" (Suri, 2012, p.11).

7.2 KABUL, AFGHANISTAN: A SERIES OF PULSARS

In the last fifty years, Kabul, the capital city of Afghanistan, has witnessed several successive man-made events. The most critically were the Soviet Union invasion in 1979, the 1989-1992 and 1992-1996 Civil Wars, the Taliban regime 1996-2001 and the American invasion 2001 (WIKIPEDIA, 2017). Soviet occupation made the city relatively safe. The city population four folded in the decade from 1978-1988 from 500000 to 2 million. The next events were very destructive. In 2001, the year the city fell to the Northern Alliance, 80% of the Kabul built-up environment was devastated or destroyed, and a large number of its inhabitants left leaving behind them only 500000 people. In 2014, Kabul's security affairs have been transferred to the Afghan National Security Forces, but the city still receives from time to time some violence (Kolhatkar, 2011).

A Master Plan was prepared by the soviet occupation based on earlier plans made in 1964 and

1970. Urban planning and development were almost absent during the civil wars and the Taliban regime. After 2001, International financial support was quick and abundant. Developmental efforts including urban planning with the Master Planning approach were immediately initiated mainly by international players to cope with the fast-growing Kabul whose population reached 4.6 million in 2015. The outcome, however, was disappointing. After 10 years of recovery efforts, urban planning had no appreciable impacts on city development where about 80% of the construction in Kabul was illegal. The situation can be attributed to various factors. Firstly, the available money was not efficiently used in terms of time and methods. Various involved parties lacked proper coordination and leadership. They pursued different lines of interest. The funds were stretched over a short period span deprived Kabul of long-term urban projects and vision. Secondly, urban planning in Kabul suffered from some issues with critical consequences that affected and will affect the city development for a long. Afghanistan lost its previous planning operational system. This resulted in heavy dependence on foreign expertise that usually does not have a good understanding of the real situation and marginalizes local experts and professions. Data and information on the fast-changing city were not made in time. It took about a decade to make some databases available by HABITAT who used satellite imagery technology. This critically affected urban planning in the first ten years of reconstruction significantly contributing to evolving urban planning with no links with reality. It is worth mentioning however, the time and cost were reasonable and the data which was on land use and housing proved very efficient. Further, the absence of land record, the irrational Master planning approach that had no link with the reality and the short term planning missions with no following up efforts led to illegally develop large areas depriving the government of relevant property tax. The illegal development was made by warlords and powerbrokers with a large number of plots do not suit housing development and have no direct access to services such as water and electricity. The developers used their military and political powers to gradually service some of their schemes. This reminds us of the illegal land subdivision scenario that was very wide in developing and even in some developed countries during the two decades of the 1980s and 1990s. Thirdly, the urbanization process has not been given proper consideration in urban planning. All evidence shows that this country is urbanizing rapidly. This process constitutes high potential for various types of development and peacemaking. Fourthly, no serious efforts were made to support planning in legislation, human resource, and equipment. This resulted in most of the urban planning efforts did not exceed the document stage (Feenstra, 2016; Petersen, 2016; Thung and Najim, 2016; French, 2016; GoiRA, 2015; Yarwood, 2010).

7.3 BANDA ACEH, INDONESIA: A TSUNAMI HIT DURING A CIVIL WAR

Banda Aceh the capital city of Aceh province of Indonesia was hit by a natural pulsar that happened during a man-made one. In 2004, Tsunami hit the city, nine months before the end of the armed conflict which started in 1976 and ended in 2005. The city population was 239150 people in 2004. The three-decade armed conflict hindered the development of the city and the province, left 15000 people dead and isolated Aceh from Indonesia making the province one of the poorest regions in Indonesia. When Tsunami hit, Banda Aceh was the most affected city (Pardede, and Tetsuo, 2007). The Tsunami impact was severe. 60% of the houses in Banda Aceh were destroyed, 60000 of the city's inhabitants died, and the Tsunami swept away all the coastal communities. The absence of a

warning system and relevant urban planning arrangements such as disaster mitigation and preparation worsen the situation (Vale et al., 2014).

The response to the tsunami has been a very successful collaborative effort locally and internationally. The armed conflicts ended and the focus was geared towards recovery, paving the way for development which was supported by a quick damage assessment. An institution called: Rehabilitation and Reconstruction Agency (BRR) was formed and assigned the implementation tasks up to 2009 (The World Bank, 2012). These efforts were strengthened by swift and generous various international supports. 7 Billion US\$ were pledged, and more than 500 organizations belong to more than 40 countries started the recovery work. The result was a significant transformation in the physical, cultural, and political landscape, massive construction of houses, infrastructure and facilities and resetting up the business (Vale et al., 2014). Urban planning activities to deal with the Tsunami and its pulsar effect were extensively outstanding. A recovery Maser plan for the period of 2005-2009, was developed in three months collaboratively by local, national and international expertise to lead the actions after emergency and humanitarian relief. The implementation of the plan was given to local authorities. It was followed by a spatial plan from 2009-2129. It contained mitigation measures such as escape buildings, evacuation routes and breakwater (Yuzal et al, 2015). In 2009, JAYCA (Japanese International Cooperation Agency) prepared a mitigation Study and Plan in which the agency defined the catchment area of each escape building. A bottom-up and community-based approach for village planning was adopted in cooperation with GTZ, USAID, and UN-Habitat (Togu Santoso Pardede, Kidokoro Tetsuo, 2007). BRR formulated Aceh-Nias Tsunami and Earthquake Response Programme (ANTERP) after the 2005 Nias earthquake, to address the discrete infrastructure. Some initiatives in it, were the Sea Defence, Refuge and Early Warnings System, flood Protection and a no housing construction buffer zone of 500 meters from the coastline (Nieuwenhuis et al., 2011).

The above-mentioned efforts especially the phased development approach, returned Banda Aceh to normal. The recovery process, however, suffered from some shortcomings. The long-term policies and directions were not clear. Community involvement was limited (Vebry, 2009). Immediately after the disaster, there was a need for technical and institutional knowledge to develop planning tools and indicators that are suitable for post-disaster. Planning concentration was at the micro-level. This raises a question about the kind of planning that is needed to work as an interface between macro and micro-planning. The Master Plan was not followed properly particularly in the buffer zone. The amendments to the plan confused some of the stakeholders. (Pardede and Tetsuo, 2007). The international organizations left after four years before completing the reconstruction (Meilianda et al., 2017).

7.4 TOWARDS A CONCEPTUAL FRAMEWORK

The earlier analysis of literature and case studies has revealed the absence or inefficiency of urban planning in the efforts to cope with the pulsar effects of destructive events in the last three decades and the need for innovative urban planning (Table 1). A strategic planning approach has been suggested to lead the recovery process (French, 2016). Yarwood (2010) added some conditions to strategic planning to make it work. The focus should be on principles, and the plan should avoid local details that are the task of local plans. Further, there is a need for linking strategic planning with finance and for building trust with local planners for implementation. Strategic planning is an

approach different from traditional planning and trying to address some important issues such as identifying the development areas and the type of growth needed for each, expanding and enhancing the existing economic base, and improving the quality of life (UN-HABITAT, 2007). However, it requires highly sophisticated institutional and planning systems that are usually not available after the events or at least in the early stage of its aftermath. Also, the wide range of stakeholders involved, particularly the international ones, maybe uneasy to manage by the approach.

Table 1: Summary of the case studies: destructive event, its effects and the intervention to cope with the effects.

City	Event and its pulsar effect	Urban planning and development before the event	Intervention to cope with the pulsar effect	Notes
Mostar Bosnia	-Civil war -Divided city -The collapse of economic activities -killing and displacement -Large-scale housing and infrastructure destruction	-Socialist urban planning system (state dominance) -Spatial plan implementation -Fast growth -High foreign investment -Rural-urban migration	-Administration mandate followed by multi-layer government -Abundance fund -Survey for prioritization -Slow growth after the mandate	-Lowest priority to urban planning -The marginalization of local expertise -Lack of local cooperation
Kabul Afghanistan	-Foreign invasion - 80% of the built-up area destroyed as a result of the invasion and the two civil wars.	-Urban planning and development were almost absent before the invasion.	-Master planning approach -The strong role of warlords and local elites -Abundance and immediate international financial support	-Irrelevance of planning to real situation -Incomplete planning process -Inefficient use of fund -Lack of operational system -Lack of coordination and leadership -No land records -Delay in data collection
Aceh Indonesia	-Tsunami and a civil war -because of the war, isolation from the country and the world -Loss of lives by the war and Tsunami -People displacement by the war and Tsunami -Large-scale destruction by Tsunami	-slow development -concentration on military actions -No warning system for earthquakes and Tsunami	-The temporary special development authority -Quick and abundance of financial and organizational international support -Quick survey -Immediate short-term Master Plan followed by a long-term spatial plan -Mitigation studies and programs -Large-scale development	-The tsunami was an opportunity to end the civil war and initiate a successful development -Lack of clarity in long-term planning -Concentration on micro-level -Problems in communication and coordination -Early Departure of the foreign organization

Proper sustainable urban planning to cope with the pulsar effects of destructive events should deal with the stages of post-event recovery individually and holistically (Figure 2). It needs to be linked with reality and needs to incorporate earlier experiences. Each city has no doubt, its conditions significantly affect the urban planning process, however, general principles of planning to cater to the aftermath of the destructive events are common. Planning for each stage should be within the scope of the whole process and intended to serve the ultimate goals. Involved planners should work with an eye on the current situation and the other on the earlier and the further stages. The scenario of urban planning and development of a city that is subject to a pulsar or a series of pulsars effects consists of two parts: before the event and after the event. The disaster management concept defines the post-recovery stage as having three stages: emergency, transitional and recovery. In the following, each stage is discussed to build up the framework.

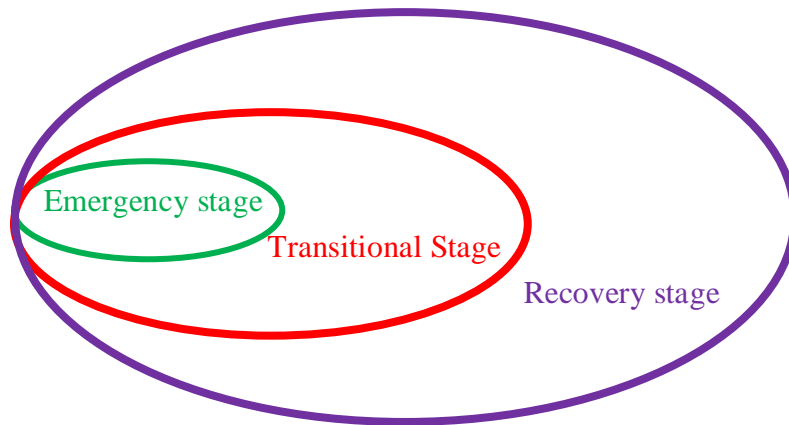


Figure 2: The three stages of sustainable urban planning to cope with the pulsar effects of destructive events.

7.4.1 BEFORE THE EVENT

At this stage, the city authority usually sets up the targets for development and prepares a Master Plan. The destructive event makes this plan inapplicable but not invalid. It possibly contains some points that may be beneficial in the event's aftermath. Thus, the plan should be reviewed at the later stages as a part of the planning process. At this stage, some cities which are vulnerable to natural disasters such as earthquakes have pre-disaster mitigation plans. Such plans are vital to defining the expectedly affected areas and to decide on the fund required for each. But the event may take a very long time to occur. Then, the pre-disaster plan needs updates and reviewing regularly. Reviewing mitigation plans is a part of the planning process at this stage.

7.4.2 EVENT AFTERMATH: EMERGENCY STAGE

This stage presents the most complicated part of the planning process. Needs are urgent and usually contain all known types of urban development such as housing, rehabilitation, renewal, and damage assessment. A wide range of local and foreign stakeholders is involved. Planners need to make decisions that are relevant to this stage and at the same time facilitate future development. Planning at this stage needs to be strategic, action-oriented, spatial in concerns and participatory and at the same time, it should be directed by a long-term vision. Strategic means to define the priorities for intervention and fund spending (UN-HABITAT 2007) and action-oriented planning can work with little or no sufficiently available data (Hamdi and Goethert, 1997). It is important for planning at this stage to properly define the opportunities that the event possibly offers and develop appropriate proposals. In addition to all, the high level of coordination of various involved parties and day to day monitoring for updating the database and making relevant decisions and amendments are required. Such picture points at the need for highly qualified and trained professionals including urban planners who will mostly need to work in groups each of which caters to one or more of the tasks. Reviewing earlier plans can start at this stage by a group of professionals. Preliminary reviewing can start during the event in the case of conflicts. All these efforts help in building a solid base for preparing a plan for the transitional period. Establishing strong planning and an institutional system is needed for this stage and later stages. This task is easier in the case of a natural disaster.

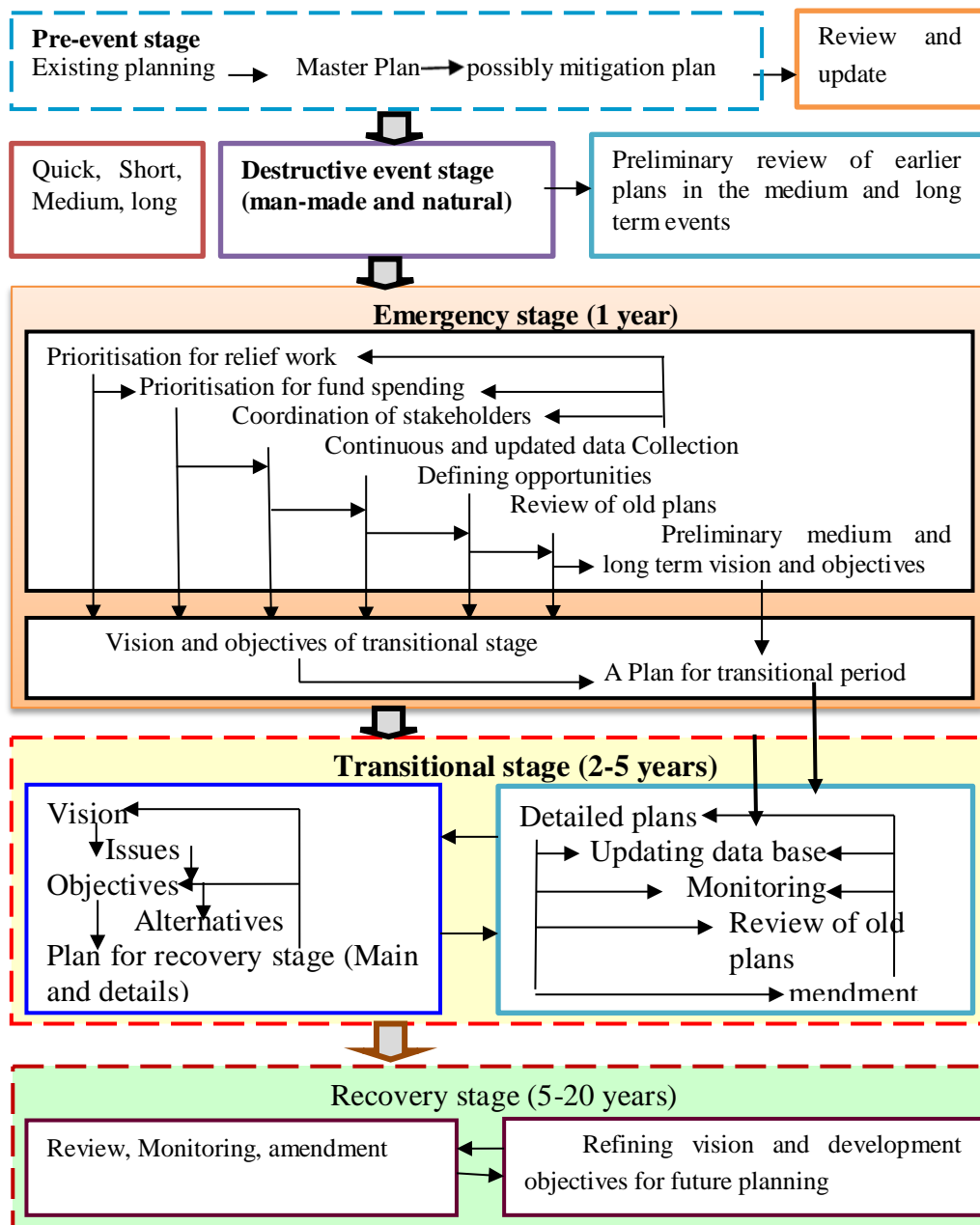


Figure 3: a proposed conceptual framework for sustainable urban planning to cope with the pulsar effects of destructive events.

7.4.3 TRANSITIONAL STAGE

Planning at this stage concentrates simultaneously on consolidating the plan prepared at the earlier period and on making a plan for the next phase. Since people start to return to their social life and relationship at the transitional level, the concern of the planning focuses on enhancing social and economic normalization. The task includes further improvement of infrastructure and facilities and consolidating the economic base of the community. Planning still needs to be action-oriented in certain cases, strategic in vision and at the same time comprehensive for the long-term objectives. A sufficient database should be prepared. Useful directions and proposals from old master plans will be very much helpful if they are made available early. Frequent assessment and monitoring with less frequency than the earlier stage are necessary. All these efforts can significantly contribute to the wider plan for the next stage which is usually 20 years. The plan needs to be ready with all supportive legislation and fund by the end of this stage. Local people need to prepare for the departure of foreign

expertise and aid organizations. Aceh's experience showed that the departure of foreign support negatively affected urban development.

7.4.4 RECOVERY STAGE

Sustainable urban planning activities at this stage revolve around securing a smooth implementation of the plan that was prepared earlier and around defining the needs for any amendment. Thus, the main activities are monitoring and reviewing the plans. Further, planning for the next stage starts towards the last few years of this period (Figure 3).

The lessons learned from earlier experiences particularly from the case studies can contribute significantly to the success of urban planning for the cities affected by destructive events. The most important lessons from Mostar, Kabul and Banda Aceh are related to foreign financial assistance, Coordination between local and foreign stakeholders and local participation. Suitable urban planning for post-destructive events needs to adopt the proper measures to narrow down the opportunities of directing the foreign fund to improper directions. Appropriate measures are needed to extend the period of foreign financial assistance. Local stakeholders should prepare for the early departure of foreign partners. Local communities should be helped to express their needs and opinions right from the early stage of planning. Continuous and efficient coordination helps in avoiding various contradictions between stakeholders and as a result, contributes to the success of planning and development.

8 CONCLUSION

Urban planning can lead the recovery efforts in the aftermath of the destructive events. In the last three decades its role is still marginal; either absent, ineffective such as the case of Kabul or hindered by shortcomings as it is in the case of Banda Aceh and Mostar. Sustainable urban planning to cope with the pulsar effects is different from the known traditional planning approaches. It consists of four stages: pre-event, emergency, and transitional and recovery. In the first two stages after the disaster, the Planning process mainly takes the form of a sequence of decisions. It tends to be similar to normal planning in the last stage. One of the key factors of the planning success is to learn lessons from earlier experience in other cities and transform this learning into innovative planning initiatives. The key lessons revolve around foreign funds and expertise as the Kabul experience shows, coordination between stakeholders as seen in Mostar and Kabul and local participation as the three case study revealed. The conceptual framework developed here is a step forward towards supporting the role of urban planning. Some refinements may be needed. This framework will hopefully, help in developing the perfect planning approach for post destructive events recovery.

9 AVAILABILITY OF DATA AND MATERIAL

Data can be made available by contacting the corresponding authors

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