Spatial Planning for Sustainable Development: An Action Planning Approach for Jakarta

Christopher Silver

[Received: October 9, 2012; accepted in final version: May 20, 2014]

Abstract. Spatial planning in Indonesian cities has become an increasingly political process since the implementation of decentralization after 2001. This has elevated the expectation of public groups to demand the government-led planning and implementation to specifically address their concerns. The bottom-up plan making process is in itself insufficient to address the challenges of a politicized process, especially when the focus of the planning is largely on mega-projects that have little impact on everyday life. As demonstrated in the area of water management in Jakarta, an action planning process that melds short term and long term interventions is more likely to gain political backing, especially if it enables the government processes to become more resilient in the face of continuous problems, and if it takes concrete steps to realize a more sustainable environment.

Keywords. Spatial planning, sustainable development, Jakarta

The Problem

The current development of urban spatial plans (or as we put it in the US, comprehensive plans) in Indonesia is generating considerable controversy, most notably in Jakarta given that it has also been wrapped into the gubernatorial election that has just concluded. Looking at it from an outsider’s perspective, it seems that the incumbent Governor Fauzi Bowo pointed with pride to accomplishments during his tenure consistent with the ideals set forth in the new Jakarta 2030

FAICP, University of Florida, USA; silver2@dcp.ufl.edu
Making and Implementing Urban Plans

There is an abundant and ongoing debate on the role of plans in urban development and how best to approach the process of making urban plans. In the US context, there remains a school of thought still firmly wedded to the concept of the comprehensive plan, much like the spatial plan in the Indonesian context. The chief rationale for this is that it represents the unique product of the planner’s ability to define, document and declare a unified and coherent vision for the future of the city or region. The form of these plans have been modified over recent decades, with the recent and widespread emphasis on collective visions of the “sustainable city” New York City’s innovative new comprehensive planning process, which examines in a series of studies different components of sustainable development, represents an effort to modify the conventional comprehensive or spatial plan. In December 2006, Mayor Michael Bloomberg challenged New Yorkers to come up with ideas for improving the city’s basic systems to ultimately achieve a 30% reduction in greenhouse emission to address global warming. PlaNYC 2030 focused on the five key areas affecting climate change, namely water, air, land, energy, and transportation. While intended to address the climate change issue, the plan was also premised on its role in ensuring a higher quality of life for New Yorkers now and in the future.
Planning theorist Lewis Hopkins (2007) contends that the very notion of seeking through a planning process a unitary vision of the future development of a city runs up against the reality of how urban development operates. Rather than seeking a single guiding plan for urban development, it is important to understand that there in fact many plans operating simultaneously, and in many forms, representing the wide range of stakeholders engaged in urban development in both small and large cities, and most certainly in megacities like Jakarta. As he puts it, there are “many interacting agents (who) have plans and these agents and their plans interact both through the effects of their actions in the world and through their beliefs about the plans and attitudes of others with whom they are interacting. The criterion is not whether we can implement one common plan, but whether we can use our plans and the plans of others effectively in coping with the world” (p. 1). He challenges the notion that planners should function as command and control experts and suggests instead that they best function as mediators between the many planners and plans that make up the urban development process. There remain many planners who continue to advocate the comprehensive plan as the central concept in the field, but others who contend that cities are multicultural containers where differences far outweigh commonalities, and where political action suggests the fallacy of a shared or common public interest. For those who advance the notion of a comprehensive plan, there is an assumption that consensus can be built around a joint fact finding efforts that create ways for win-win situations where nearly everyone wins. Participatory planning is the tool used to achieve consensus, visioning exercises is another, and collaborative democracy another. But, as Hopkins and Zapata note, “consensus building that acknowledges its place in a larger context would be explicit about considering the plans of participating stakeholders and scenarios of different future. Plans remain active and belong to organizations or coalitions, rather than being overridden by one consensus building process itself” (Hopkins and Zapata, p. 6). In other words, the level of consensus may be just to the level of shared agreement about a particular problem and not necessarily how it should be planned for, which may in fact need to be multi-layered and multi-stepped to ensure broad based support.

**Flood Prevention and the Conflicts with the Spatial Plan**

The 2007 flood in Jakarta, one a string of devastating floods that had hit the city since the early 1990s, coupled with more widespread flooding in late January 2008 and a freakish small tsunami when the dam in Jakarta burst in March 2009 (killing 50 people) brought about a decided stronger impetus for action planning. It raised the heat on the Jakarta government to move beyond rhetoric to seek ways to mitigate the worst effects of the annual flooding. (The Jakarta Post, 27 March 2009) The dam that burst on the Pensanggrahan River in 2009 had been built by the Dutch in 1933 with an earthen rather than a concrete foundation. After sixty-five years of service in the face of annual high waters, it is no wonder that the heavy rains pushed the massive wave of water over its rim. For more than two decades, studies of water management problems and proposals to mitigate flooding condition had been aired, but none had been implemented. Most recently, with support from the Japan Bank for International Cooperation (JBIC), the Ciliwung-Cisadane River Flood Control Project had been devised in 2004. A study to support the project was initiated in the aftermath of the massive February 2002 flood that displaced nearly 400,000 persons and claimed more than 30 lives. The flood mitigation study team, still at work in 2004, got a firsthand exposure to the characteristics of Jakarta’s storm water management challenges when another flood (a bit less devastating than in 2002) swept through the city in February 2004. In the end, the study team proposed a multi-stage approach beginning with construction of a 913 meter channel linking the Ciliwung and the Cisadane.
Actually, this was an idea already in circulation, having first been promulgated (but not built) in the aftermath of large 1996 flood. The study team also recommended channel improvements on the Cisadane for a fifteen kilometer section downstream from the Pasar Baru Barrage, although this also necessitated a complicated process of displacing residents who had settled along its banks. The team also proposed improvements to the existing Western Flood Canal, including seventeen kilometers of channel improvement, expanding and upgrading the Manggarai and Karet Barrages, and construction of several new railroad bridges over the canal. Finally, the team proposed improvements to the Lower Ciliwung River such as 14.5 kilometers of channel improvements which involved strengthening the river em-bankments, building a new barrage on the Ciliwung-Gajahmada Canal, and as many as nine reconstructed bridges. The total cost of the improvement was projected to be over 1 trillion rupiah ($100 million). In defense of the plan, the proponents noted that the improvements, especially along the Western Flood Canal, would mitigate flooding in an area of 1,650 hectares that was home to approximately 322,000 residents, and along the Lower Ciliwung where another 418,000 resided. Admittedly, the channel improvements would also necessitate displacements of thousands of illegal occupants. Opposition to these improvements was understandable given the experiences of the previous decade when Jakarta’s Governor Sutiyoso’s efforts to remove illegal settlements from the riverbanks generated a firestorm of protest from residents and various community organizations. (The Jakarta Post, 3 November 1997) As Soenarno and Sasongko (2001) noted, when the displaced residents “find it too difficult to earn a living in the resettlement areas, they sneak back to their old haunts on the riverbanks”. In addition to enforcing the national law allowing removal of illegal settlers (and enduring harsh criticism in the local media), Sutiyoso also lent support to the long overdue improvement of adding an Eastern Flood Canal to complete the system initially started by the Dutch in the 1920s.

When the massive 2007 flood hit, none of the proposed improvements of the previous two decades to mitigate flood impacts had been started. The 2004 flood study had laid out a comprehensive scheme far too extensive and too tied to massive capital projects to be within the realm of immediate possibilities. The scale of the proposed improvements of consultant-led expert studies were in no sense connected to the experiences and visions of the nearly one million residents affected by these conditions. And when the outmoded dam burst in 2009, the to move planning into action was understood by Governor Bowo. He regarded the top prior to begin construction of the of the East Flood Canal and to begin dredging efforts in Jakarta waterways. As it turns out, the dredging never got started during his tenure but the flood canal construction was completed.

The East Flood Canal had been contemplated as far back as the 1970s but the funds needed to acquire the land and to cover construction costs seemed never to materialize. In the aftermath of the 2002 flood, the Jakarta and central government began slowly to acquire the land in a 270-square kilometer area encompassing parts of East and North Jakarta that were regularly inundated. Under Bowo’s administration, however, the land acquisition was finished and construction undertaken on the 23.7 kilometer canal designed to regulate water from six major rivers, the Cipinang, Sunter, Buaran, Jati Kramat, Cakung and Blencong. Amazingly, the new canal, albeit partially finished, reached the sea by late 2009 in anticipation of expected heavy rains in January and February. Although several key neighborhoods, such as Pulomas and Cempaka Putih were likely still to endure flooding depending upon the extent of the rainfall, it was intended overall to reduce the level of flooding by thirty percent in these densely populated districts. The other challenge that the Bowo administration faced was to prevent residential activities and illegal buildings from being restored on the newly cleared right-of-way. In anticipation of the problem of urban activities contributing to waste entering and clogging the
flood canal, the Jakarta Ciliwung-Cisadane Flood Bureau joined forces with the Public Housing ministry to staff a management board to work with the subdistrict chiefs “to prevent the deterioration of the canal such as the Cakung Drain, West Jakarta, where houses were closely located” (The Jakarta Post, 7 January 2010).

The action planning that the Bowo government demonstrated in construction of the East Flood Canal was relatively free of political opposition. In terms of the larger projects, such as the large river dredging initiative and also a newly conceived giant seal wall to protect the sinking areas of North Jakarta, the Bowo administrative faced stiff opposition, especially from citizen groups. The Jakarta Emergency Dredging Initiative, or JEDI, had been conceived in the aftermath of the 2007 flood, and announced as a cooperative endeavor between the Jakarta government and World Bank in April 2008. It was designed by flood management expert, Jan Jaap Brinkman from the Netherlands-based institute, Delft Hydraulics, a firm that specializes in water management issues in delta regions. Based upon a data contained in a Jakarta Flood Hazard Mapping Framework, the 2007 flood was predicted owing not just to the amount of rainfall but the high tide that carried sea water into the subsiding areas of North Jakarta. “The juxtaposition of the high sea tides and the subsidence rate” made approximately 4 million residents vulnerable to flooding routinely over the next 15 years unless some mitigation efforts were undertaken. The extent of land subsidence in the North Jakarta area, which has been recorded at 12 centimeters per year, did not cause the flood but increased the depth and duration on some areas. The two part strategy proposed was the dredging of the rivers and the creation of a large scale polder (or inner lake) along the North Jakarta boundary through the creation of an extended land bridge extending out in the Java Sea. Although a technically sound and long overdue strategy to refurbish Jakarta’s waterways to handle the annual rains, there was also a significant social cost associated with this flood mitigation effort. As Governor Bowo admitted, the displacement necessary to accomplish the JEDI project would likely displace up to 210,000 people along the Ciliwung alone by 2014. In North Jakarta alone, there were as many as 150,000 people living in various squatter settlements along the rivers and canals. The previous flooding had not driven these residents from the river and canal banks. According to a World Bank expert, squatters along the rivers and canals regarded flooding as a routine matter, and had no qualms about returning. For that reason, it was decided that the JEDI project would begin in squatter-free zones pending a decision on how to handle those displaced. (Jakarta Globe, 24 July 2009; The Jakarta Post, 13 January 2010).

The long term solution to the extensive flooding experienced in 2002 and 2007 was to construct a sea wall to keep out the rising waters from the sinking northern sections of the city. It was also tied to land reclamation efforts with other motives. Efforts to reclaim land on Jakarta’s north coast beginning in the early 2000s had created environmental problems of another sort for the fishing villages that traditionally occupied this area. The proposed giant sea wall to protect the subsiding lands of north Jakarta, which according to several studies had dropped by as much as 4.1 meters since the 1990s, was also linked to protecting new developed affluent waterfront communities. Although the sea wall would not be fully constructed for between thirteen and fifteen years, the Jakarta Fishermen Community Forum and the People’s Coalition for Fishery Justice (KIARA) were already lining up in opposition to this major component of the newly prepared 2010-2030 spatial plan. As KIARA manager, Selamat Darogni noted, “there is something wrong with the way the Jakarta Bay is managed where there is instead a land grab occurring. And suddenly a giant sea wall is built to protect the investors without caring what it would do to environment and the people there.” As KIARA sees it, the giant sea wall merely perpetuates the environmental and social violations already carried out in contradiction to the 1985-2005 Spatial Plan. That plan called for maintaining the forest areas adjacent to the
Soekarno-Hatta airport as a flood barrier. But instead it was cleared to accommodate high end residential and commercial development, and subsequent flooding occurred. According to KIARA, “the wall project is illegal because no one consulted or got permission from the affected residents.” (Jakarta Globe, 5 September 2012)

Whether or not failing to consult affected local residents constitutes a legal violation as KIARA contends, the North Jakarta reclamation and flood protection efforts since the 1990s (now referred to generally as the Jakarta Coast Defense Strategy) exemplify the problems of megaprojects on a long time frame that are devised without any citizen engagement at the conception stages. The initial time frame for the giant sea wall project of at least fourteen years from the initial study to final completion cannot expect to gain public support without a whole series of short term efforts aimed at addressing the ongoing concerns of the communities affected.

The critique offered by representatives of the fishmens’ communities are not so much about opposition to flood protection per se but rather about existing conditions that undermine their livelihood. These include polluted waters that already have greatly reduced the fish stocks, land reclamation that has reduced critical fishing areas and led to flooding in their homes, lost income that limits their ability to provide for their families, and the displacement that will occur has addition project work along the north coast continues. All of these concerns can be addressed to some extent through focused short term plans, as well as representing considerations that can be incorporated into the larger project scope. In this instance, action planning that enables government to demonstrate responsiveness to community needs would not only increase support for planning, but might also improve the quality of the plan itself. It is noteworthy that the basis of KIARA’s critique of the sea wall project is based upon several academic studies that have examined the impacts of the project. One suggests that the benefits of the sea wall might be eclipsed by its costs, while another points to the additional environmental and ecological damage that the sea wall might bring about, including accelerated subsidence in the area. In other words, there are other plans and other perspectives that the Jakarta spatial planning efforts need to take into account.

Dealing With Multiple Plans

If one accepts, as demonstrated in the case of Jakarta’s flood mitigation strategies, especially the river dredging project and the proposed Giant Sea Wall, that there are multiple stakeholders with alternative plans beyond what the government has proposed to alleviate flooding in the North Jakarta area, then it seems essential that government planning institutions are prepared to engage multiple and diverse plans. Simply having technical experts draw up seemingly sound recommendations to address the one main problem, but not necessarily taking into account the ancillary concerns of the residents, only reinforces the opposition to planning. There is an approach previously popular in United States cities that offer a strategy consistent with the challenge of accommodating diverse plans. From the 1970s through the early 1990s, focused mainly in the larger cities that had diverse constituencies, US public planning agencies embraced what was commonly referred to as “neighborhood planning.” Under this approach, planners were assigned to work directly with most of the city’s neighborhoods, especially those which had severe problems, through technical assistance, representing their interest during planning sessions, and helping them to organize to strengthen their influence in the planning and political processes.
Neighborhood planning was an outgrowth of advocacy planning from the 1960s when protests against major components of conventional urban planning produced a rethinking of how to engage with the public. Neighborhood planning represented a less confrontational and less politicized brand of advocacy to break down the conflict that had divided citizens and government. In the case of Atlanta, GA, for example, neighborhood planning came into use under the city’s first African-American major, Maynard Jackson, and served as assurance that previously disenfranchised citizens would have a direct line of communication to city hall. Atlanta and other US cities began to retreat from neighborhood planning in the 1990s owing to a general reduction in planning staff because of budget challenges but also because the focus of local planning shifted away from social issues and toward a greater focus on economic development at the city scale. Perhaps that may explain why the criticisms that dogged planning in the 1950s and 1960s returned with a vengeance as the neighborhood level engagement switched to a city-level engagement after 2000.

A planning system that provides direct connections between the public institutions and local citizen groups, as in the case of the neighborhood planning movement in the US, is an approach that offers tremendous opportunity for Indonesian cities to bridge the public-private divide and to operationalize a new relationship that seems consistent with decentralization. Obviously, an urban agglomeration as substantial as Jakarta, cannot replicate the model of a government planner for every urban neighborhood. But there are strategic neighborhoods, influential citizens groups, issue-based forums, and other social clusters where the development of a working relationship with public planners might break down barriers that current plague the system. Through these working relations, the ideas and concerns of a substantial portion of the most engaged citizens can have voice in development of urban plans, not just as a critical voice responding to what has already been created.

The difficulty faced by Jakarta’s leadership in developing and securing approval of the 2010-2030 master plan was noted in early 2011 the chair of the Indonesian Landscape Architecture Study Group, Nirwono Joga. As he observed, the great failure of both the members of the Jakarta legislative body, as well as the city planners, was not engaging the public in the plan making process from the outset. “The council members should come down directly to the field to meet and hold dialogue with community members, especially in vulnerable areas of development change,” he observed. That was one of the reasons why there was so much dissent associated with the plan, “clearly a bad precedent for development of Jakarta,” he concluded. (The Jakarta Post, 12 February 2011). Moreover, he noted the failure in the current process to conduct a legally mandated Strategic Environment Assessment (KLHS) to ensure integration with other urban communities with the megacity complex, including Bogor, Depok, Tangerang, Bekasi and Cianjur. Of course, this was not unprecedented since the previous 2000-2010 master plan for Jakarta had been developed and ratified with no public input, Joga noted. (The Jakarta Post, 12 February 2011). The passage of a draft of the 2010-2030 spatial plans in conjunction with the 484th anniversary of the city did not silence the critics who called for amendments to the plan to recognize the needs of citizen groups. (The Jakarta Post, 23 June 2011).
Resilient City/Biophilic City – Two Alternatives to the Status Quo

One important way to engage citizens to develop rapport in the urban development process is to provide assurances that there are strategies in place to address promptly recurring or sudden crises. The resilient city, according to Godschalk (2003) “is a sustainable network of physical systems and human communities” He included in the physical systems the constructed components such as built roads, buildings, infrastructure, communications and energy facilities, “as well as its waterways, soils, topography, geology, and other natural systems” Interest in the resilient city model has been nurtured as a result of increasingly devastating natural and man-made hazards (such as terrorism) in urban areas. For many of the rapidly growing megacity regions in the developing world, the unexpected crises that afflict cities in the developed world are, in fact, an everyday part of their urban system. Imbedded into the resilient city concept is an explicit reliance upon the tools of planning. As noted in a 2012 US Federal Emergency Management Administration study, “Crisis Response and Disaster Resilience 2030: Forging Strategic Action in an Age of Uncertainty” resilience requires an “enduring foresight capacity” which makes possible the identification of “emerging and enduring challenges” It is not just the identification of emerging and enduring challenges, but a community consensus to systematically address key challenges that provides the basis for achieving resilience. Godschalk (2003) offers an example of Tulsa, Oklahoma, a US city that had the dubious distinction in the early 1990s as having experienced the most federally-declared disasters from tornadoes and repeated flooding of the Arkansas River. In response, the city established a comprehensive flood management program which included removal of buildings from the floodplain, implementation of a stormwater utility fee to provide revenues to carry out infrastructure improvements, new watershed development regulations, a capital improvement program to improve drainage, conversion of flooding areas to recreation uses and restoration of wetlands to wildlife habitat areas, all of which has “reduced losses from repeated flooding, enhanced quality of life…. and created a better environment” (Godschalk, 2003, p. 138). In other words, even with the same incidence of rainfall that previously created a disaster, the city of Tulsa now benefits from the natural processes.

There is another useful strategy to enhance the livability and the sustainability of megacity environs. The idea of re-establishing and protecting the wetlands in Tulsa is indicative of a complementary planning model that is gaining increased support, namely planning for the biophilic city. Urban planning scholar Timothy Beatley has coined the term biophilic city to express the idea that cities should respect and protect the natural systems that are an essential part of their fabric but often neglected. The biophilic city is one which integrates nature into its basic fabric through design and planning. Beatley (2011) derived this concept from the works of ecologists such as E.O Wilson and Stephen Kellert who decried the loss of contact with nature in modern life. As Kellert from Yale University argued, “we need to do more than just than just avoid all the bad things that we have done in terms of our adverse effects on natural systems. We also have to create the context for thriving, for development, for meaningful exchange with the world around is, and the people around us. And for that we need to
restore that sense of relationship with the natural world which has always been the cradle of our creativity (Beatley, 2011, p. 158). Beatley (2011) contends that there are discernible scales at which biophilic design elements play a role. For example, at the building scale, tools available include green rooftops, sky gardens, green walls and day-lit interiors with greenery. At the block, street and neighborhood levels, greening streets, housing clustered around green areas, sidewalk gardens, urban forest and ecological parks, vegetated swales, urban trees, community gardens and stream restoration help to recreate the connection with nature. At the community and regional level, restoring and protecting urban creeks and riparian areas, urban ecological networks, building a tree canopy, greening utility corridors, green schools, river systems and floodplains, regional greenspace systems and greening major transport corridors are appropriate. (Beatley, 2011, pp. 84-129) In Gainesville, Florida, where the University of Florida is located, a group of wetlands associated with a system of urban creeks (some of which help to feed the critical aquifer) are not only unavailable for development but have been made accessible to citizens for recreational use while at the same time serving as a buffer against flooding during the rainy season. How might these ideals be incorporated into the coastal management plans for Jakarta?

**Concluding Comments**

Considerable efforts have been made in Indonesia to strengthen both planning and plan enforcement, and as suggested above, citizen groups in Jakarta (and in other cities) are also exercising their right to challenge the results of planning efforts. Perhaps the level of citizen engagement and the level of direct citizen involvement in planning are not yet in tandem. Indonesian urban scholar, Deden Rukmana, in a Jakarta Post op-ed, captured the essence of the flaws in the current planning system in Jakarta. As he noted, it was common practice in the previous two long term master plans to devise these without any citizen engagement. Now, however, there are many active citizen groups demanding involvement in local planning. No fewer than 29 local organizations, led by the longstanding Indonesian Forum for the Environment (WALHI) formed an alliance in 2009, Citizens Coalition for Jakarta 2030 to push aggressively for input from residents and to demand meaningful citizen participation. Rukmana perceptively notes that “planning practice in plural communities [like Jakarta] is no longer exclusively concerned with comprehensive, integrated, and coordinated action, but more negotiated, political, and focused planning. This, in turn, makes it less document-oriented and more people-centered” (The Jakarta Post, 6 February 2010).

To achieve a people-centered action planning process that seeks to realize the complementary goals of a more biophilic and resilient city, and at the same time that makes headway toward resolution of enduring megacity challenges, these lofty goals may seem to be a bit utopian. In fact, however, it can be achieved to a great extent with some rather simple and possible changes, and by utilizing tools readily available to planners and city leaders. Connecting planning to the city’s communities in addition to taking on integrated projects, engaging citizens as well as experts throughout the routine planning and implementation processes, and setting as a target to improve the living conditions of the greatest number of citizens are all matters of progressive
strategy, visionary leadership and an inclusive political process. Even if the resources are lacking to do it all, the process of engagement has an intrinsic value that will make up for some of the resource deficits, and perhaps lead to more effective interventions in the long run.

References

Flood in Jakarta Leaves at Least 50 Dead: Wave Caused by Indonesian Dam Burst was Like a Tsunami. *The Jakarta Post*, 27 March 2009.


PlaNYC2030, see http://www.nyc.gov/html/plany2030/html