

Dili and Timor-Leste's Territory: Urban and Territorial planning: Need to Promote Integrated and Inclusive Plans

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Abstract

The process of development in Dili city and the territory of Timor-Leste has been going for nearly two decades. Although many plans have been made and much construction has taken place, they have not strengthened resiliency. As a result, the city of Dili and most of our territory is often confronted by flooding and natural disasters, which in the last two years have destroyed a lot of public infrastructure and many people's homes, and have taken 44 lives. This article will discuss some causes of flooding, and share experiences and references that Timor-Leste could adopt. It also recommends linking with broad public participation to promote the principles of justice, equality and inclusion. In addition, territorial and urban planning must be done on a participative and integrated basis, considering environmental issues to ensure that the city, and areas will be more resilient to threats and dangers in their future.

Introduction

Flooding confronts many nations, especially those which are less developed and ignore the importance of territorial and urban planning. This results in the destruction of many lives, homes, farms and personal possessions, as well as public infrastructure like roads, water supply, drainage, sanitation, and electricity systems.

In Timor-Leste, flooding and natural disasters have happened twice since last year, resulting in much destruction and suffering, and killing 44 people, mostly those who live in risk zones. This situation requires recovery and prevention, to improve conditions which can make us more resilient against any risks and disasters.



Figure 1. Destroyed houses alongside the Comoro River flooding in Dili, 4 April 2021

This article will identify observations of current conditions which cause flooding from disasters, most of which result from human activities or ignorance, and will share some experiences from other countries and make recommendations to use integrated and inclusive urban and territorial planning to improve resiliency (see glossary below) to confront future dangers.

Observations about current conditions which caused the flooding

According to the author's observations of current conditions, the huge flooding calamity in Dili and every municipality had several causes:

1. Until today, there is not yet a system for city, urban, or regional planning which could strengthen resilience to disasters. Consequently, many people build houses in endangered areas wherever they want because they have no other options, even though the houses are likely to be damaged and the people's lives endangered;
 - Risk zones include river banks, areas near lakes whose water may rise, areas with frequent landslides, steep slopes, areas near the sea or low-lying areas vulnerable to rising seas.
 - People who live in protected areas or zones– areas where it is not allowed to build or develop homes because their characteristics and location are endangered by disasters¹. In truth, Dili city and Timor-Leste are not yet well-prepared to ensure that people's living conditions, economies and environment are equitable, inclusive, adequate and integrated to deal with all kinds of risks.
2. Inadequate drainage for homes, including on riverbanks which are full of people's houses, with less participation of and consultation with communities about the to build drainage where they live;
3. Degraded environmental conditions in land, caused by people removing trees or plants which could have prevented landslides;
4. All development which proceeds in Timor-Leste, especially in low-lying, steep or flat areas, as well as those located on seacoasts like Dili, is not yet prepared to anticipate climate change conditions. Because the sea level could rise 9-18 cm by 2030². Sea level will continue to rise, and will combine with larger storms, tides and waves to inundate areas near the sea.



Figure 2. Flooding in Dili city areas near the sea, 4 April 2021

Another factor, in addition to the four listed above, is at the root of Dili's problems: social and economic inequality which forces people to move to and concentrate in the city.

Today, Dili city is the center which attracts every activity – jobs, public services, higher education, health – it is better than rural areas, and also the center for commerce – markets are

¹ See Law No. 6/2017 about the Basis of Territorial Planning, Article 10 line 2.

² Based on a paper published by Pacific-Australia Climate Change Science and Adaptation Planning Program about Current and Future Climate of Timor-Leste, at; https://www.pacificclimatechangescience.org/wp-content/uploads/2013/06/5_PACCSAP-Timor-Leste-9pp_WEB.pdf

centralized in Dili resulting in continuing, uncontrolled, annual increases in population. Another reason that the capital is preferred for seeking livelihoods is that most workplaces are there – most Government, organizations, agencies and businesses are concentrated in Dili.

The population density³ iha Dili municipality is 860 people/km², and most of these live in flat areas near the sea, like Nain Feto (6,600 people/km²); Dom Aleixo (3,900 people/km²); Vera-Cruz (1,100 people/km²), and Cristo Rei (930 people/km²). These numbers show that Dili may not have enough space in the future to allow movement of people and goods, which is difficult to manage because human activities, ignorance and desires also degrade the environment and make the city vulnerable to natural disasters.

In addition, Dili is located on a river delta, which is susceptible to major flooding from heavy rains and storms, like New Orleans or Bangladesh. In this situation, it is difficult to construct tall buildings, and expensive to implement adequate mitigation. Perhaps it is impossible for Dili to continue as the national capital, the center of many activities including universities, public buildings and hospitals.

As a consequence, today many people in Dili have no option other than siting their homes in dangerous areas, especially those who live on riverbanks or build houses in protected areas the Tasi-Tolu lakes, as well as those who build at the bottom of deforested hills where landslides are likely.

Furthermore, although it's almost two decades since Timor-Leste stood up as an independent nation, our development is not yet equitable and inclusive, nor does it consider integration and sustainability. Specifically in Timor-Leste, the Government spent around \$3.1 billion through the Infrastructure Fund to build infrastructure between 2011 and 2020, but in reality much of this spending has been for poor-quality design and construction, and recommended maintenance (usually about 10% of project construction costs every year) has been neglected.



Figure 3. Damage to public infrastructure, 4 April 2021

On the other side, we recall the 2010 Disaster Risk and Hazard Map Analysis for Timor-Leste, which shows a high level of vulnerability to natural disasters, but until today, Government has not implemented many of the recommendations suggested with high priority, and does not

³ Population density data is from *Dili in Numbers 2018*, published by the RDTL General Directorate for Statistics, based on the 2015 Census.

deeply understand specific risks to our local areas, or give much attention to land-use and spatial planning, including the already-developed environment.⁴

Recommendations to re-assess integrated and inclusive planning

To respond to the current situation, the Government may need time to provide maximum help to people severely affected by the disaster and floods from early April 2021, and need to repair or rebuild infrastructure including roads, hillside management, runoff, as well as household drainage, schools, health posts, and other things.

As the Government begins to make repairs, it can rethink some plans which have already been established, such as the construction of a drainage system in Dili city. It would be good to re-open opportunities for effective public consultation and participation, to follow the decisions and conditions of the population.

Government plans also need to ensure that people who will be affected by big projects receive appropriate compensation, because it is impossible to develop in an integrated way when some people are unhappy and suffering. It is very important to balance between community impacts and reducing people's quality of life, and also to consider most people's needs.

Overall, to help Timor-Leste's future development should be integrated, equitable and inclusive, we offer the following recommendations:

Adopt spatial plans and design systems which are resilient.

Recent experiences are a reference for making future plans which anticipate problems, such as climate change, environmental, food insecurity, health impacts, and other risks. It is past time to build infrastructure and all construction which is less vulnerable to risks, disasters, and climate change effects. For example, in 2007-2011 Bangkok has adopted a more resilient planning system to deal with rising waters, floods and other problems from climate change. This city uses an approach which identifies sectoral vulnerabilities and provides basic priorities to adapt, and also has an approach to consider events and risks from climate change, with adequate and integrated mitigation.⁵

The 2014 report from UN Habitat includes some thoughts about how to make a city or area less vulnerable to climate dangers, and they recommend that it is also important to adapt to the conditions of vulnerability, especially of living spaces, to follow standards for construction of houses and infrastructure to prevent climate risks. Therefore, construction in dangerous areas should be prohibited, based on the level of risk. It is better when land use and building codes are adapted for each area. For example, in Dili city we could establish control and management of land and water to define where it is likely that water will rise or flood, and set aside some places as reserved areas for water, planting, cultivation, sports, which can absorb water and prevent flooding.

⁴ These recommendations are in the *Disaster Risk and Hazard Map Analysis for Timor-Leste: An overview of existing risk maps*, UNDP 2010, available at: https://www.preventionweb.net/files/15500_hazardandriskmapanalysisfortimorjan.doc

⁵ Page 106 of *Urban Planning for City Leaders* from UN Habitat, 2014, available at <https://www.local2030.org/library/67/Urban-Planning-for-City-Leaders.pdf>

Promote principles of justice, equality and inclusion in each city or area.

Planning should follow social, cultural and economic trends and changes, and consider how everyone in an area or city will benefit. This means making or implementing plans based on people's actual living conditions, following urgent necessities and deeply identifying their problems and current needs, not just following some groups or political ambitions.

Thus plans and programs to be implemented should also give benefits to the entire population, following a policy based on satisfying every person's basic needs, while reducing discrimination in their daily lives, especially for the most vulnerable, such as disabled people, women, girls, and others with special needs including elders, which can promote principles of justice and equality in planning,⁶ as described below.

➤ **Cities and living places should be free from discrimination**, considering ability, gender, age, health conditions, affluence, nationality, ethnicity, immigration status, politics, religion and sexual orientation. We can create a city which respects diversity and promotes a custom of participation without discrimination, a city which protects its people. People from Timor-Leste or other countries can enjoy the same opportunities and rights, especially for disabled people and women for whom using public infrastructure may be inaccessible or unsafe.

➤ **Establish a policy of participation** which is strong in its implementation, monitoring, and financing for both urban and rural areas, and spatial planning with the goal of strengthening transparency, effectiveness and inclusion with a diverse population.

Therefore, it is also important to ensure that an area or region will have all its infrastructure equitable and accessible, including homes, public places, and basic services to provide opportunities for everyone. In addition, we need environmental balance between spaces in rural and urban areas, so that every region has its basic necessities -- schools, clinics, transportation, water and others -- available and accessible to all communities.

Consider people as the center of decisions.

Timor-Leste doesn't yet have a development system which considers the population as the center of decisions, which should also get the most weight in planning for land and spatial use, based on environment and disaster risk/mitigation considerations.

Our recent experiences can be a great motivation and reference for bodies responsible for leading and implementing development. For example, the Government already started planning to build a drainage system in Dili city. It might be better to re-open discussions to give the public a chance to share their thoughts before proceeding with construction or redesign, which should be based on people's living conditions and their decisions, so as not to cause problems and suffering in the future.

An important reason to improve consultation mechanisms is so that affected communities and victims can manage and understand well the proponent's goals and materials, to better listen to the concerns of affected communities, local authorities, women, disabled people, *lia na'in*, including civil society groups from the national to suku level. The proponents can be more aware and find ways which are safer for victims, so as not to repeat past bad

⁶ Principles of quality in planning described by the Global Platform for the Right to the City, available at <https://www.right2city.org/right-to-the-city-components/>

experiences, where local people, including the most vulnerable, were faced with unsafe situations or relocated into temporary conditions with no clear future plans.⁷

Strengthen local power and capacity

To minimize people migrating to Dili, it may be important to establish a territorial plan which represents the needs and infrastructure for each region or each municipality to ensure that all plans provide opportunities to other regions to get quality education, good health, access to clean water and sanitation, jobs, and stable socio-economic conditions to attract and increase their willingness to stay and develop their municipalities. On the other hand, we need to maximize the functions and capacity of each municipal authority to encourage them to define their plans, depending on their needs in urban and rural areas to ensure that all areas have equitable conditions, weighing all social, cultural, economic and environmental aspects.

A good practice reference is to give maximum power to local authorities and people to define and decide, as is done in São Paulo, Brazil, a nation which implemented a system of decentralization and participation in 1988, (Jacon, 2017-2018). Through this decentralized system, the city promotes democracy and participation for its people to give each region the chance to decide its own development priorities according to its needs. In the city of São Paulo, there has been a significant change in social service sectors, such as education; they raised the active student participation from 31.8% to 40% and increased access to health facilities in various areas, especially report areas, during the first four years.

In Timor-Leste's context, local officials and people could be empowered to define their own priorities, especially how they themselves could plan for urgent needs of their area, because they have deep knowledge of the difficulties and challenges they confront. When local powers also suggest to strengthen control systems, strong monitoring of plan and program implementation can ensure that the effects truly benefit each population in their own region.

Conclusion

Two major recent experiences which afflicted Dili and all of Timor-Leste can be strong motivations to improve and opt for urban and territorial planning which considers the entire population in decisions and opens opportunities for them to define and decide for their own regions, and consider plans which are equitable, inclusive and integrated in all areas without discrimination. In addition, it is also important to adopt a strong approach and standards for construction of buildings and public infrastructure which are more durable and resilient to deal with whatever dangers and disaster risks may come in the future.

⁷ *La'o Hamutuk Bulletin* Vol. 21, No. 1: December 2020:
<http://www.laohamutuk.org/Bulletin/2020/Dec/bulletinv21n1te.html#Drainajen> and technical report from La'o Hamutuk and Rede ba Rai to ANLA, at:
<http://www.laohamutuk.org/Env/DiliDrainage/LH-RbRPareserDiliDrainajen6Oct2020te.pdf>

Glossary

- **Resilient:** Resilience is the capacity to adapt to dangers or changes, or a system which can maintain a good level of function and organization. It has the capacity and flexibility to continue to work even when confronted by challenges or damage.
- **Environmental Degradation:** Degradation of the environment or reduction of its quality and quantity or complex destruction of physical chemical and biotic factor (such as climate, land and life), or an ecological community which sees change in natural resources like air, water and land, including also damage to ecosystems and habitats, reduction of fauna, and also pollution (including greenhouse gases) which causes climate change at the national and global levels.
- **Population Density:** The number of people living in a given area, normally calculated per square kilometer.
- **River Delta:** Area which is before a river enters the sea, formed from sediment which occurs when a river drops slowly (carrying and depositing sand and mud). This area is very vulnerable to heavy rains, cyclones, and high waves and seas.
- **Equitable and inclusive:** Development which is fair to everyone – women and men – and the same in all aspects and all areas, and does not ignore the needs of vulnerable people for basic infrastructure in municipalities and rural areas.
- **Integrated and sustainable:** Development which comes with an approach to connect cities or areas with necessary activities with their own people, meeting their needs without social and economic discrimination, to ensure that homes and social-economic life in an area, can directly responde to their spatial and environmental conditions, to ensure the situation now and in the future.

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