

Coaches' Training on Climate Resilient Urban Plans and Designs

Module 3

Novotel, Cubao, Quezon City | April 22-23, 2019
Documentation Report

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Training Overview

This report documents the technical sessions and workshop outputs conducted during the Coaches' Training on Resilient Urban Design (Module 3) at Novotel Araneta Center Cubao on 22-23 April 2019. This event is the third of a series of trainings for national partners under the *Building Climate Resiliency through Urban Plans and Designs* (BCRUPD) project of the United Nations Human Settlements Programme (UN-Habitat).

The two-day workshop was designed to equip the participants from national agency partners with the necessary tools and instruments to implement climate resilient urban design projects. It served as a relevant follow-up to the Module 1 and 2 trainings conducted last 2018. The first day of the training was dedicated to tools for decision-making and design-development, while the second day focused on tools for implementation, and monitoring and evaluation. During the training, the different agencies were given opportunities to participate in design exercises, propose policy enhancements, and give their feedback to the draft outline of the national guide for urban design.

Day 1- April 22, 2019

- In his welcome remarks, Mr. Bernhard Barth (UN-Habitat Regional Office for Asia and the Pacific) emphasized that BCRUPD is a project that tackles the nexus between climate change and urban design, and that this third module is critical as participants go from learning the bigger concepts to actual design and implementation.
- An ice-breaker and expectation-setting facilitated by Dong and Dom-z (#HowRUToday and burning question) followed.
- Mr. Yen Flores of BCRUPD presented the overview and objectives of Module 3:
 - To understand tools for decision-making and design objective setting (so we are grounded on legal framework and standards when we do design detailing)
 - Policy and statutory guides
 - Policies and standards on green building and energy efficiency (LEED)
 - For familiarization with the different tools on urban design development, applying climate change adaptation and resilience building
 - To focus on design development and detailing.
 - Tools for implementation: we will cover both the urban design development stage and the post-design development stage.
 - Implementation instruments
 - Exercises on post-development of design projects.
 - Quick profile of participants: More or less 50 participants from DILG, HLURB, HUDCC, CCC, NEDA, LCP. Majority are planners, trainers, with planning and monitoring and policy development functions. Around 64% are female.
 - Methods to achieve the objectives:
 - presentation and inputs
 - group exercises
 - plenaries
 - group games
 - learning evaluation

Topic 1: Tools for Decision-Making and Design Objective Setting: Policy Guide and Statutory Guides

Ms. Laidis Cea (UN-Habitat)

- Urban planning and design are multidisciplinary. This training is missing engineers from DPWH, who would benefit from the discussions. It is an opportune time to

emphasize sustainable urban development and strengthen the roles of HLURB and HUDCC as we approach the consolidation of the two agencies as we strengthen the urban planning and design principles with climate adaptation.

- Two key principles of adaptation that should be considered:
 - Flexibility - Given the range of uncertainty that we are looking at, it has to be flexible enough to make sure that you can further improve and continue the adaptation process.
 - Robustness – We want it to be strong enough to adjust to any situation.
- Urban planning and design can be implemented through non-statutory and statutory (legal) guides.
- Design instruments can only be successful in terms of implementation if it covers understands the entire urban context, led by a vision, a community objective. If it is statutory, you have to have a good basis for it. It should likewise be promoting climate resilience.
- Very few have a succinct statutory guide for resilient urban plan and design guide for cities or for national government. Science has to be incorporated in the thinking. What typically most cities have or national government has are non-statutory guides—its recommendatory guide to ensure that practitioners, professionals, and decision-makers would be guided. Nevertheless, both statutory and non-statutory design guide or implementation guide churns out values and principles, and are derived from a process orientation.
- This project is all about you supporting local governments to develop urban planning design guides. There has to be research and analysis. There has to be participation and engagement from the whole community, from the professionals who are going to implement it, and everybody who are supposed to adhere and use that design guide should be aware about it.
- If climate change is going to be a key driver for urban development, then what needs to be protected based on urbanization context? What needs fixing that can be addressed through urban design? How can we use urban design to make sure that climate considerations are going to be a key decision-making tool for you as you build and improve the form and function of your city?
- Your zoning ordinance is your statutory instrument. In the barangay level, the Barangay Land Use Planning and Barangay Development Planning have to also embrace an urban design strategy that feeds and contributes to the city-level strategy and cannot be isolated from the larger plan. You have your general strategy, but it gets translated into the unique features of every barangay. Urban design strategies cannot be homogeneous because barangays have different geographical characteristics.

- Maladaptation could be introduced to another area if you do not look at the site plan or the project brief of the area. Even if your design site-level is beautiful, but it does not jive with the neighborhood and town urban resilience strategy, you might be saving a few, but over time, you are introducing more risks. Make sure that that detailed plan links back to the larger CDP, CLUP, zoning ordinance, and sectoral plan of the city.
- When developing the guide, remember that your audience is wide-range. It has to be a combination of qualitative explanations and illustrations. You cannot do a design guide that just caters to the architects. Make sure that it is understood by the people who are going to use it.
- Typically, it is always a non-statutory guide, like the CLUP, the CDP. They are not policy and they only become statutory the moment they turn it into a ZO, but your guide must give LGUs recommendations. You give them decision-making spaces, tools. Let local governments develop their own. Many national-level guides stay at the non-statutory design guide level, where it is used for education and advocacy, where it is used to encourage practitioners, where it is used to encourage LGUs, and give them the options how to act.

Q&A/Comments/Discussion:

LC to Ma'am Jovy: What is your experience in zoning ordinance support to LGUs where you are trying to make them realize that all these statutory guides and policies have to be here to improve urban design?

Ms. Jovy: The zoning ordinance is the implementation tool, and this zoning ordinance is used in the issuance of permits. Whatever is required there in the zoning ordinance, due to the issuance of permits, they should follow. The zoning ordinance and the development controls, the procedure on how to implement a zoning ordinance, it should have certain requirements.

LC: How difficult is it to consider all of these policies?

J: In the zoning ordinance, they do not include how to apply the specific designs. For instance, in high-risk areas, there is the building code. If their option is the retention of the structures, during implementation they should be securing the locational clearance and building permits. However, they are not able to monitor all.

Participant 2: In terms of implementation, there can be gaps, because of limited inspectors (only two for the whole city who go around on a motorcycle). The community has to have an understanding of what you are trying to promote, because you have to also help the city communicate what the urban plans and

designs are and the related regulations. When we are talking about urban design, there are national-funded projects without proper coordination with the LGU. The hierarchy of the design and planning tools or instruments has to feed each other. It cannot be incompatible with each other. And the key of the decision are the people. That is why we need to empower them.

“Has it ever happened to you that the barangay development plan became problematic because of a national government project?” [to DILG participants]

Participant from DILG: The CDP process has sifting of projects.

Participant 3: But how about national government projects? National government projects should be in the CDP. As far as process is concerned, it should be comprehensive and inclusive. When it comes to long-term planning, it needs to be revised from time to time because the forecasting of planning is not accurate. So you need to revisit your CDP from time to time.

Sometimes, values change because of what is happening. because there is an intervention or decisions made at the site level, context changes, and it results to unhealthy, uncoordinate, not sustainable urban form and function. It is better if we clarify this at the CDP level, at the CLUP level.

The need is so vast that when the national government agency comes in, it is still considered a need. The weakness is in the design, particularly defining urban design. Anything will go – that is the situation. Even if it is a national government agency project, the barangay does not see a problem with it and welcomes it because there’s no design discussed in the barangay or even town level. Even if you have the provincial development framework plan, I think it has to be revisited when it comes to form and design.

LC: Implementation happens at the neighborhood and at the site level, but without proper guidance on how it should look like at the provincial, at the city level, it’s going to be messy. There has to be something that must be followed. You could always start with non-statutory policies that you could start promoting, and when you already have the support of your decision makers, of the community, then without locking yourself into a situation considering all the principles, you can move to developing statutory policies.

[LC returned to her presentation and introduced sample guides from different countries.]

- There are tools already being done by countries to promote resiliency in their urban planning and design guide. Some are statutory, some are non-statutory, used by a lot of professionals and practitioners, and it empowers local governments to decide on their own and issue local ordinances depending on their own local scenario.
- NEW ZEALAND - Never purposive for climate change. It is never explicit. They start with the principle of urbanization, and then what elements are there and what is the purpose of promoting this principle for the entire urban context of the country. And these principles are translated into different scales. One of the principles that they are promoting when it comes to urban planning and design is environmental responsiveness. Their national guide outlines how these principles and the elements can be implemented at the city, at the site, at the park, and even the plot site.
- NEW YORK CITY - there are new climate science and climate information that drive them to always change their design guide. They have the New York Panel for Climate Change, which provides them the projections, which are driving the inputs to the climate resiliency design guidelines. This is only focused on the capital projects of the city, projects they can control. They do not issue a guide for those they cannot control. One good feature of their guide is their specific guide on urban heat island effect reduction and even thermal absorption reduction.
- HONG KONG is a state city that is very advanced in their urban design. Their whole guide is all about promoting what they are now, protecting that they remain to be a world-class city. They developed this based on actual science: For air ventilation, they have a feasibility study and thermal assessment study called Air Ventilation Assessment (AVA). Moreover, they want to make sure that they remain competitive by ensuring that the designs are supportive of their landscape, of how they value the harbor, of how they value the sea. What is Hong Kong doing now? They're developing the 2030 plan using the same study and using the experiences of the implementation of the plan. The urban study plan started 2015. Until now, they are not yet finished. Just imagine how planning and design development dynamics really happen in a highly urbanized and well-funded city like Hong Kong. We can have that as a vision. We can always be inspired by it.
- KUALA LUMPUR - they were so inspired by Hong Kong that they basically did the same thing (AVA). The result is an urban analysis map because they really wanted to improve the thermal capacity of Kuala Lumpur and embody it in their urban design. They realized—because they copied it altogether—that it's not as effective to them if they're going to apply it because their urbanization is different.
- We could always get inspired by all these tools, all these guidelines, but we can only come up with an effective guideline for us if we understand and fully embrace the realities that we face.

- [As a specific example, LC showed this [video](#) about water sustainable urban design] You design the whole area considering the water cycle. Climate is all about temperature and water, whether you're going to have more water or less water. The water sustainable urban design guide is a very good tool for you to consider as you move forward in the design development.

Topic 2: Tools for Decision-Making and Design Objective Setting: Green Building Code of the Philippines, BERDE, and LEED

Mr. Louwie Gan (L.A. Gan Associates)

- Mr. Gan first detailed the various direct and indirect impacts of climate change:
 - Heat wave and urban heat island - Heat island is worse during daytime so we use a lot of energy to cool our buildings. However, it is also felt at nighttime because buildings, pavements, and the materials that we use absorb heat.
 - Flooding especially in urban areas - because of urbanization and use of concrete surfaces, instead of the soil absorbing the water, water just gets transferred.
 - Typhoon - In the Philippines, we have at least 24 or 27 average number of typhoons in a year. In terms of adaptation, this is more for engineering.
 - Drought (tagtuyot) / El Niño - This can affect some of our areas especially agricultural areas. It reduces water availability.
 - Higher incidence of infectious disease due to heat and humidity.

Next, he discussed different tools and standards to respond to these challenges:

PHILIPPINE GREEN BUILDING CODE

- No matter how much we try to convince developers that there is a return of investment if they follow the strategies, their mindset is focused on the cost, so they avoid it by building lower buildings (below minimum requirement).
- The first component for energy efficiency is air tightness and moisture protection. If you're using an air-conditioning unit and there are leaks happening inside, your costs increase because you increase your air supply. To avoid this, you have to put some construction details in your buildings such as Air gaskets and Insulation.
- There are no forms that we have to follow in order to comply. As long as we have this detail in our design, it is compliant. I think there is a loophole on that. What if I will only put this, but there are some portions that contribute to the problem?
- If your building is facing south/southwest, you have to meet certain properties with the glass. The lower the solar heat gain coefficient, the better.

- Rule of thumb: the higher the Window-to-Wall Ratio (WWR), the less efficient your building is, unless you will use the glass property mentioned earlier. You can also apply “sun shading” where you calculate the solar incidence angle, etc. If you’re going to use windows, use awning instead of sliding or casement, so if it rains you are still protected while providing natural ventilation.
- Building envelope color: color absorbs a certain amount of heat, and the most reflective color is white. If we’re going to use different dark colors, know the SRI or solar reflectance index. The higher the SRI value, the higher the reflectance and more energy efficient because you lower the cooling demand of your building.
- Roof Insulation - Some insulation, although they can reflect heat, the raw materials used during manufacturing are not really environmentally-friendly because of the chemicals used. These are not addressed in the Philippine building code, but these are some of the considerations.
- For us to at least minimize flooding, let us allow our buildings to absorb portions of that storm water. We can make use of rainwater harvesting. We can use it to flush our toilet, for watering our landscape, etc.
- Next is open space utilization: if you have this area, a portion of that area should be dedicated for USA or unpaved surface area. Unfortunately, this is not included in the building permit forms, although by law, we are limited to how big the area that you have to cement. But in the new law, they highlighted the importance of this unpaved surface area, and this unpaved surface area should have the capacity to capture storm water

LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED)

- It is not a mandatory certification but if you consider your buildings to be green, you can use LEED to certify your project. It is a point-based system, wherein if you reach certain points, you will be certified. The more green strategies that you integrate in your building, the higher the points. LEED has more than 100 strategies that addresses climate change. BERDE is the local version of LEED.
- Location and transportation - We have to provide alternative transport. In the building scale, we may use carpooling. We have jeepneys and informal transit options like tricycle that are also considered by LEED as alternative transportation. Some strategies such as compressed workweeks or telecommuting are also recognized by LEED. Green vehicles (electric cars) and other human-powered conveyances, such as bicycles and scooters, are other forms of alternative transportation, that again can improve the population’s health.
- Sensitive land protection – Protect prime farmlands, Wetlands, Floodplains, Habitats, Water bodies, Creeks.

- Access to quality transit - It has to be walkable. For a child or senior [citizen], a two-to three-minute walk which is a 200-meter radius is acceptable. We also have a 400-meter radius, which is an internationally recognized standard that a person can walk without feeling uncomfortable. If all our communities are designed according to this standard, we may be able to design a community that doesn't use cars anymore.
- Bicycle facilities - In the Philippine green building code, Unfortunately, this is not included. In our national building code, we have to meet a certain number of cars (parking) before your project is granted a building permit. It's contributing to the traffic problem. Instead, we have to provide in our code a minimum number of bicycle parking instead of cars. If you have bicycle parking facilities, you also need to consider having a dressing room because you will expect them to change clothes after their bike ride. Reduced parking footprint is one of the requirements from LEED. They really want to remove cars in the scenario in the building requirement.
- Green vehicles - Use electric cars. Unfortunately, in the Philippines, we do not have that infrastructure yet but hopefully in the coming years.
- Compact development - we have to limit sprawling in our development. The problem is occupying natural areas, where in fact, these should be protected.
- Sustainable sites: Open space wherein you can implement storm water retention, at the same time you are also promoting public space, which should be accessible by public and not just people inside the property. In cases that this is not possible because of having a small lot, there should be a way for occupants to have access to parks, and it has to be within a 60-meter radius from your main building entrance.
- Rainwater management - Same principle as Philippine green building code, wherein you capture the rain and use it for other purposes. You can use it for flushing your toilet, watering your plants, etc.
- Heat island reduction – the strategy of LEED is to minimize this rising temperature. One way to do that is to put vegetation in our property or building: Green room or planting within our properties. Materials: We have to use high reflective materials, SRI value, or use color white.
- Light pollution - Although this is not directly mitigating climate change, but the amount of electricity that we use here can contribute to climate change. The light pollution in Metro Manila has adverse effects especially for nocturnal species. They will avoid these areas. If we only minimize light exposure, we minimize GHG emission of that electricity.
- Energy and atmosphere
 - Building orientation - Know the orientation so that your building will not have too much exposure to sunlight, and you have the opportunity to provide solar shading in your buildings, use certain glass properties, shading, etc.

- Air infiltration - You have to provide gaskets or a way to seal your building so that air leakage is minimized
- Insulation
- Windows
- Urban scale
 - Smart location - Access to quality transit and bicycle facilities. In LEED, mass transportation is not required but your plan must have a way for you to consider mass transportation for the future.
 - Bicycle facilities in city development: you have to highlight networks of bicycle lanes.
- Neighborhood
 - If we need to solve traffic problems or to reduce GHG emission of cars, we have to provide a good sidewalk, because as pedestrians, we always start and end our journey using sidewalks.
 - We have to change our mindset. Instead of putting parking at the front, put our buildings forward. Put landscape for protection against heat.
- Compact development rather than sprawling.
- If we have a standard wherein gated communities are controlled, allowing people to access certain areas, you reduce dependency on cars, and you encourage people to walk.
- LEED is requiring that most of our land use is considered mixed use, wherein if you live in this area, you can also work in the same community, so we minimize dependency on cars.
- Reduced parking footprint - Same principle as earlier, and we have to provide tree-lined trees and shaded streetscape.
- Infrastructure and buildings
 - You have to conduct several tools or simulation for the building to meet certain parameters for energy efficiency
 - Minimize site disturbance during rainy season so the particles from your area do not get transferred to other areas. This is included for the erosion and sedimentation control plan.
 - Solar orientation

Other international standards that we can use:

- GRID (?) – equivalent to LEED and BERDE
- WELL - an international standard in developing buildings and community design, which focuses on how to improve health and wellness
- In terms of policy creation for urban development: Echo District and ENVISION (?)

Q&A/Comments/Discussion:

Participant 1: What is the standard size of open space?

Louwie Gan: It is in the building code and is dependent on building/size lot, but in my opinion, there should be a study at the local level to identify threshold for that impervious surface area. The study will identify the required size depending on context.

Participant 2: The 70:30 is just a guide for the LGU. Ultimately, it is contextual (that is what is meant by the XX). There are exceptions. The national building code sets the minimum, but the zoning ordinance will still prevail. We recommend having incentive in the implementation of zoning ordinance because implementation is very poor.

Laidis Cea: National sets the minimum. Study of the urban context is essential but best to go beyond minimum.

Participant: The Biodiversity Management Bureau sets the standard of open space (but not lower than current).

LC: Furthermore, where to put the open space is relevant. Place the open space in strategic areas where it can best perform its function

LG: Soil property is also important but this is not included in the building code.

LC: Consider geomorphology necessary before you design.

P: Is there a gathering similar to this with engineers, DPWH, etc. and involving professional organizations?

LC: We are gathering here today to get initial insight, but part of the project is also inviting professional organizations, other agencies, before a draft zero or a draft urban planning and design guide. We will have three events where we will gather and you can converse with all of the other professionals who are involved in planning and design, so that all of you could better support the LGUs.

- After lunch and an energizer led by Dom-z and Dong, the “burning questions” from the morning’s expectation-settings session were read aloud:
 1. How to monitor climate resilient urban plans and design? (for day 2 presentation)
 2. What new tools to be learned? (for day 1 presentation)
 3. How to introduce these new learnings from climate resilient urban plans and designs to LGUs? [As trainers you have to say and centralize also how you are going to re-echo the learnings from module 1 to module 3, especially because this is about

designing, in terms of your mandate as agencies, what can be the possible help to introduce the learnings after this module 3.]

4. How to link or interface urban plans and design learnings to our mandate in DHSUD?
5. Actual tools that can be used by LGUs in formulating and implementing urban designs and plans?
6. Can you give us sample LGUs that have full implementation of urban design up to zoning? (Model LGUs). This is not just urban design but also with climate resiliency integrated in it.

Topic 3: Tools for Design Development and Detailing (Design Brief, Visual Representation • Design Charette)

Mr. Thomas Stellmach

- Urban design is not about zoning or land use, or the architecture of the buildings. It is about the quality of the design, form, and performance of the space between the public spaces, between the buildings; so how does the city look like.
- The Design Brief describes the task to the designer, says what the project has to achieve, in what means, and in what time. It is also an extension of your desires, how your city should be in the future. Secondly, provide the team with the proper data, that can be climate change projections or can be as simple as a topographical map. Finally, a description on what the design should deliver.
- Why are we doing this? Accountability = that you really know what you wanted in the beginning and you can follow up and see if that is still on track, if you are still following these objectives.
- Next, he introduced Design Development:
 - Analysis - We design the objectives, we look at the site what is necessary, what is needed, and we look also at the larger scale.
 - Development of the proposal based on the policy objectives and the analysis that you have. The city is a very complex organism. It requires a lot of attempts, taking into account a lot of different factors. There is the economy aspect, and the social aspect. Usually, it cannot be done by one person or a team alone. A lot of testing and discussion of ideas are necessary.
- Various tools of communication:
 - Analysis: Mostly maps, and descriptive text with some figures. Site photos of course, visualization and graphs of the data.

- Design tools for development of design and proposals: The sketch - it can be models, virtual representations, even immersive use of movie.
 - There is also the technical implementation that requires another set of calculations and technical plans so that the project can begin.
- TOOLS FOR DESIGN DEVELOPMENT
 - Sketches. Used to quickly test our options. Advantage of a sketch is it is very quick to make; enables you to quickly test a lot of different things and try out different ideas without having too much pain to kill your drawings.
 - Three-dimensional sketch. This model is not about making something fantastic and beautiful but rather a quick and dirty test on functionality.
 - Step by step, you can get closer to the desired result you have in mind. Doing this enables you to discuss what are the advantages and disadvantages of that, and you will be able to discuss what is the preferred design.
 - On the more technical side: evidence-based design. We can use it to analyze the existing city as it is, but we can also place new buildings and see how the movement of people changes.
 - Another way of understanding connectivity and doing network-analysis is measuring how many streets connect to each other, and all these instruments you can use to pitch and compare various design images.
 - If you talk about water and flooding, we can also do a flow analysis.
- To encourage many options, put up a competition. Do not only hire one planning office but several ones, and in the end the most promising according to the criteria proposed wins and will be developed further towards implementation. [He gives an example] By encouraging this dialogue between the competing teams, actually a much more complex and interesting design came out. It is a cooperative process.
- How can we use these instruments for participation process?
 - Participation is not always easy.
 - Different levels of participation:
 - The most fundamental level is if you inform the public. Explaining what the project will be and how it will come about.
 - The next level is public consultation - you have to ask also the opinion of the public. It does not mean yet that you have to take that into account, but at least you have talked.
 - What will be better is if you will decide together what the project should actually be, so there is a real dialogue going on.

- Finally, acting together. Everyone invests a bit of time and energy because only then can you move towards project ownership, and we try to do that a lot with UN Habitat, in our engagement processes.
- How to engage people in the design process?
 - One thing we do is the charette. It is about taking the policy objectives that is defined and rooted from the national objectives and design brief and turn it into physical urban design.
 - First step is sketch and describe, discuss and draw water resources, green space, connectivity, and finally buildings and infrastructure. Which systems is the most important one that should be done first? Where do we need to take more care of solid waste management? Where do is the space for a new public transport spot? Etc.
 - It is good to connect more ideas but it has to fit together, and not be conflicting ideas. Select and prioritize. Discover if there are synergies, if there are conflicts and resolve them.
 - Also keep in mind the people that this project is being done for, the client, and audience. This project, for example, will be addressed to climate adaptations funds or donors. So that necessitates that the project explains well what the priorities are.
- Experimentation and intervention are necessary, and how you can use your regulations and the policy objectives to develop an urban design.
- The end is relative because it is the final step towards implementation. Communicate at the end of the year to the investment forum so that your growth will be understood.
 - Instruments:
 - Diagram - a graphical representation that is very easy to understand. If you show CLUP with 20 different layers and colors to someone who is not expert in planning, usually he or she cannot fully understand the plans. A diagram is a way of simplification.
 - Traditional tools, plans, and sections - but this is a bit selective, to scale the plans that you want to achieve. It is not technical engineering implementation drawing that can guide directly towards the construction. It is the plan that is easy understand, and make the quality of your sites readable. It gives a valuable idea what the vision for the place is
 - Technical drawings - It is possible to understand, where is the road, where is the sidewalk, etc. A bank area is green and shaded

with trees, etc. so essentially it is not about the engineering aspect but about the qualities of the site.

- Once you know which option is your favorite, and you want to exhibit it in a forum, then start to make a beautiful object together with your beautiful story of sustainability and climate change adaptation to really display what you want to achieve.
- Last part is the implementation - we need to phase the implementation plans step by step (phase 1, phase 2, phase 3...) according to budget constraints. Implementation plans require several steps but these steps can move in parallel. It is possible to make temporary things in an empty site so people can inform themselves about the project or just enjoy the space of the city.

Q&A/Comments/Discussion:

BB: Climate resilience and urban design are 2 processes that are somehow interwoven or interconnect at many different stages, but there is a lot still that needs to be done with the basic design issues and basic climate change issues. A lot of the key challenge is that we reach that mesh that most of the process are completely implemented in parallel.

TS: We do not want to overcomplicate but it is critical in many different stages that we check the process. These objectives mostly are climate change adaptational changes. In the example, they are ambitious but not yet very clear to measure and to deal with. But the important thing is these policy objectives are turned into designs, and also it is measured and evaluated if it is working. Continuous dialogue is needed.

BB: To have those good intentions and the objectives, that's one thing. As we develop the guidelines that just needs that signal (stop now, check, go back to the principles). You need to strike the balance between an efficient and cost-effective process at the same time achieving the objectives.

YF: Module 3 is not intended to convert participants to become urban designers but just for familiarization and appreciation of urban planning design. Emphasis that urban design is not purely an architectural subject but involves a lot of discipline in terms of creating design to becoming resilient.

LC: In the process we have tested in the 5 cities, it is coming out that it is best to guide the cities to identify who they are designing for. If you are after resilience, it is not just about a place being beautiful but it is understanding the thresholds of the people, the thresholds of the spaces, when it comes to the impacts of climate change. Who we are doing it for? So the process of planning and the checklist would make sense.

DESIGN EXERCISE / TECHNICAL CHARRETTE

Mr. Nikko Dumas gave the instructions for a case study located in Mindanao:

It is a valley surrounded by mountains. Naturally, it is a flood plain, a catchment area, connected to the river at the right side. It is relatively flat. Its central business district is congested. The development of the city has seen the accumulation of built-up areas in the center. It has high carbon emission due to motorized vehicles, and human concentration. The project is the "Tagumpay City Walk". Since it is the central business district, we focus on the economic activity of the area, taking into consideration the climate-related risks using the LCCAP and CDRA. We can see its average temperature of 29 degrees Celsius increase to 30. Based on computation, in 2036, an 800ml rainfall will already be considered normal, thus creating greater floods. The city is very reliant on mass transport, jeeps and tricycles, but there is no train. The CBD's location is not easily flooded but due to the developments in the city, it is possible for the city to sink. There are still some green spaces but with the continuous development, it is projected that the water will enter the residential areas in the city. For the vulnerable areas, the economic city will suffer a lot. The project is a linear park to revitalize the urban core. This is a low risk city.

LCCAP objectives:

- Implement the land use, because the place is overdeveloped.
- Climate sensitive infrastructure - network of protected areas.
- Water management - we can treat water as a vital resource rather than a liability.
- Infrastructure green engineering and design [Nikko discusses the possible changes that can happen in the green space/vacant area like parking lot, shopping mall, etc., by using the map and photos in his presentation]

The activity is not about how beautiful the design is, but should focus on ideas like sun path (east to west, but during summer it tilts to the south), wind path (north east monsoon, and south west monsoon which changes every 6 months), shading, water, existing structures, etc. Focus on the key issues: what is in the city that you want to protect? What are the issues that need to be addressed by an improved urban design? What are the possible adaptation techniques in the specific areas? Present these using the maps, blocks, and all materials provided.

Presentation of Design Exercise Outputs:

GROUP 1

- There is a need to address the waste disposal of informal settlers so that clogging and flooding may be prevented.
- Policy interventions to be implemented: Water catchment wetlands projects, and informal settlers may be relocated so that covered creeks may be fixed and cleaned as to lessen and remove the causes of flooding in the area.
- Green infrastructures and the support for the green building code are to be encouraged among the public sector; development of easements and parks to be able to cope up with flooding / to reduce it (e.g. Building of improved walkways)
- The issue concerning heat in the metro (macro level) is also addressed by adding white roofs, by planting green plants on top of facilities such as building and households. This may produce more cover for people and plants throughout the course of the day.
- The group is also encouraging the metro to expand the project to more parks, buildings and households. For example, there is a policy that says 3-meter easements from upstream to downstream in both sides of establishment may be made to reduce the volume of water flowing.
- The use of solar energy was also mentioned and is being used in the north east as 50% of highly dense areas are using it via windmills. But high dense residential areas are more crowded. For low dense areas, the use of an “E-bike lane” is also an option for better economic solutions.
- For settlement areas, the use of material recovery facilities is also proposed.
- To the southern west part of the city, establishing terminals for highly dense commercial areas is also discussed to promote the use of traveling on foot as a good economical solution. (e.g. Near malls and departments stores is the target of the project)

GROUP 2

- Informal settlements cause the build-up of water waste that causes the flooding and the additional factor of climate change that builds up to the urban island effect.
- Water catchment will be implemented on the converging two rivers near the commercial area with a multi-central terminal, 400 meters near the proposed site.

- The use of grills is also proposed as to guide citizens in promoting walkability.
- On the site where there is a trade center, their plan is to make it an attraction because of the park's cultural heritage.
- The course of the downstream, solar panels and windmills will also be used to pop out excess water during flooding and at the same time electricity and energy will be produced.
- Green plants will also be used for commercial and residential areas.

GROUP 3

- Group 3's approach was to study the demographic of the area first before planning and implementing building structures in the area that may be suited for the project.
- The two water catchments make water flow down in the upstream at a great rate, so their plan is to collect the excess water by building water collector areas to form a park in it.
- To preserve wet lands and to develop an eco-tourism spot, they will use the transitory birds that come in the area every year to add sightseeing features to the park in the future.
- Informal settlers are still a concern and they proposed a plan to move them to a government land on the west.
- By building a medium rise vertical condominium that would be surrounded by trees and nature that will be able to lower the heat index in the area.
- The group further discussed plans to lessen the group index in the area by adding floristics projects that will be located on the south and east outskirts on the municipality. The project will be near indigenous and fruit trees that can be harvested so the trees may thrive in the area.
- Building a lot of green spaces is also proposed by the group in areas were informal settlers cannot be relocated and to signal private sectors that building structures from now will comply to the implication against flooding by building two story buildings rather than one story buildings.
- On the upstream area, there is a proposed repair on the wall near the forest area because it has two functions. First, is to be a wind breaker in times of typhoons and second, is to act as carbon sink to be a preventive measure against flooding.
- Building transport-oriented routes in the site may also help the urban area to be adept in using transportation systems.

- On the commercial area, there will be two separate building for this project that are traversing the river open area so that the addition of the eco-tourism park will also be connected to water catchment facilities that will be measures against flooding.

GROUP 4

- Group 4 tackled the demographics of the upstream and downstream and evaluated the issues concerning the area. They found out that the low-lying areas that are flooded have informal settlers in them. In the city, the wet lands have limited provision in parking space. Then, the urban index problem is also a concern on school water waste, and promotion of walkability is low.
- The Housing and Urban Development or HUDO, INFRA and Petro planned to create water catchments near the malls since this is the upstream area, and adding solar panels to promote green buildings.
- The preservation of the wet lands is a concern by relocating informal settlers with the help of HUDO.
- Studying the urban heat index is also important in knowing the suitable forms of projects corresponding to the proposed budget.
- The use of the mall with water catchment will have a vital role in preserving its natural water retaining function by also making it an artificial water retaining pond; so it will be dual purpose in addressing flooding.
- For the Urban Island Heat Effect, the group proposed walkable spaces to lessen cars and to put 200-meter distance from the cars so that the roads may be preserved. Also, by preserving the integrity of the trade center the need for parking spaces is also lessened. Using solar-paneled structures in this area may help in adding more shade and promoting more air circulation.
- The city of Tagum is also known as an agricultural area with lots of banana plantation and rice. Regular drinking water is also used on them, so the group proposed using the water captured in water catchment facilities, so that better water economy may be promoted in the city across all the lands around it.
- Proper location and study on demographics play a big role in this design to ensure efficiency and productivity that will produce results.

Feedback on the Presentations:

Ms. Laida Cea acknowledged the following ideas from the group outputs:

- Using the sun and valuing the importance of solar shading that buildings produce and the benefits of the implication of this plan.
- The balancing measure of cleaning the streams and river flow.
- The concern on informal settlers and what plan of action may be implemented on them that may suit the poor people's needs.
- Making people safe is a priority in developing urban areas.
- Promoting the area as an eco-tourism friendly project.
- Finally, making sure that the tradeoffs per action in the project may be reasonable in effect and in budgeting. The balance in getting the cause-and-effect may prove a vital turning point in making a good and successful project.

Day 2 – April 23, 2019

- The second day started with a game called #LightsCameraAction, followed by a recap. The participants were asked, “What are your AHA moments?” and gave the following responses:
 - Considering the Solar Reflected Index (SRI) when constructing new building helps in both the production (light and hue).
 - Also, considering the type of glass window is important on the building structure. Architect Gan prefers jalousy. I think it's better for our country.
 - Everybody can turn a problem into a resource/asset; disaster into opportunity
 - Urbanization trends are very important into consideration to climate change for the next 30 years.
 - For disperse type and compact type of development will have great consideration along with the cost of proposals in the area.
 - Overwhelmed by the case studies presented by Ms. Laidis but it is good that it dug deep.
- After the recap, additional feedback were given about the Design Exercise outputs from Day 1:

YF: All groups were able to integrate the issue of climate change. You tried to brainstorm and project as far as 30 years (some impacts of climate change are gradual). Shading orientation was also applied.

Ma'am Nora of HLURB: In your outputs, there were dispersed and compact types of development. They have implication on surrounding areas; I also thought of the costs of your proposed projects.

TS: The groups generally addressed the same topics (more similarities than differences) and that is good. This exercise was a simulation. Planning, in reality, takes more time.

Topic 4: Tools for Implementation

Ms. Lara Togonon De Castro (UN-Habitat)

- We have very nice plans but problem is always in implementation. How do we translate these good designs?
- We should see how built environment protects the vulnerable
- There is still a way to enhance zoning ordinance. Zoning is already difficult, but even more challenging is adding to it the emerging realities of climate change. The key to these enhanced zoning ordinances is they have to make sense and be context-specific.
- The challenge is to follow nationalized planning system while at the same time considering climate assessments.
- Controlling/managing development harps on the what, where, how and who for efficient work plan implementations.
- Zoning ordinance is to look at the suitability and capability of areas for specific types of development and to promote general welfare and public health, safety, and promotion of order on specific sites.
- In the Philippines, emerging conflict zones are usually a problem according to the zoning map which are caused by overlays of land.
- Creating a type of development regulation that can manage physical development to help address the impacts of climate change is key.
- Implementing constant capacity development for LGUs is a prevailing challenge in processing climate resilience.
- Implementation of design plans are greatly re-thought in light of adding climate resilience.
- Zoning models are flexible depending on the current condition of the land and future scenarios.

- Application of neighborhoods and communities for climate resilience must undergo very context specific studies that may be in-line with their demographics and greatly considering the future and sustainability of the land or zone.
- Simple engineering solutions or architectural or site development solutions to address the impacts of sea level rise in protection, urban heat island effect may be helped with zoning.
- Promoting climate resilience must have clear goals and objectives for climate adaptation. Contribution of specific implementations must be beneficial as well to LGUs.
- Take advantage of these restrictions at the site level, subdivision level to promote better resilience.
- National level is considered minimum standards in some LGUs when using EIA.
- There is an existing zoning ordinance in a city somewhere in Luzon with standard zone ordinance and they added flexibility and creativity in design and they introduced a special development zone. They imposed certain standards for buildings, energy within building designs, distribution lighting, transport, open spaces, water wastes. But project has not yet invested on climate change assessments.
- We have more information, more climate science that we can lean on that give richer and higher quality that are responsive to climate risk and opportunities.
- There is a scenario here in the Philippines that needs to be solved such as having a good plan but the requirements for it cannot be implemented because it does not comply to the requirements, therefore stalling a good plan and making it a failure. Good assessment is key at the start of the planning.
- In enhancing provisions, it is important to identify the specific contributions of the additional provisions (e.g. open spaces -- can reduce XX% GHG). Provide climate science! PH is already doing it: "special development zone" but still needs climate science.
- Climate change compels us to rethink universally accepted "across the board" approaches to development management.
- It can be done! As long as we come from the framing of looking at different scenarios, climate drivers, and impacts

How do we now communicate? (Communication Tools)

- 4 key elements: public awareness, public participation, public access to information and training and capacity development.
- Awareness that seeks to understand general understanding impacts attitude.

- Facebook, Twitter serve as platform for communication engagement of a wide audience (planners, and planning practitioners beyond the city that we work in). It has the power to create critical mass arrangement.
- To help make decisions towards urban planning resilience, improve the quality, make conversations richer, more in-depth, to enable the national government to craft policies and engage LGUs in applying those policies in their area.
- Some LGUs and even higher-level agencies are reluctant to share information.
- Encourage coordination, information sharing, collaboration among agency offices horizontally and vertically; provide access and expertise even in community-based structures.
- In some LGUs, you need to adjust the statements to be delivered and the concepts depending on the audience. Frame depending on your AUDIENCE (e.g. scientist, public)
- Frame it as LIKELY instead of UNCERTAINTY → this could help draw attention to the issue. Also, use “WHEN” instead of “IF”.
- We want to showcase how we now use these principles and strategies that have been discussed and the designs and implementing mechanisms in an LGU setting.
- Actions have an impact on one another; interfaced in built environment

Q&A/Comments/Discussion:

Ms. Chai to HLURB: What if the seeding had their sale approved last year, but they wanted to change significantly, do we wait for interview or end of term? If not, what's the process?

HLURB rep: It can be reviewed anytime, no need to wait for 10 years or 5 years or 3 years but it is the decision of the LGU. If there are additions/updates, they have to go through the usual process (public hearing and so on).

LC: The zoning ordinance is the statutory document so it needs to go through proper process.

[Participant describes a case where cellophanes were banned and commercial buildings were required to have rainwater catchment and the LGU just released an ordinance. If not related to major land use, LGUs can release a special ordinance.]

LC: If it is a fundamental change, there is a process, but according to HLURB you can change it (and go through the process) anytime. It would still look at the local ordinance as long as it is not contrary or in contrast to any existing higher-level policy.

In the example of Roma, there is a higher level policy on environmental sustainability but it is not contradicting.

LEARNING EXERCISE: TOOLS FOR IMPLEMENTATION

- Participants were grouped by agency and invited to answer the following guide questions:
 - Based on your agency mandate, what enhancements are necessary?
 - What are the available processes and mechanisms to enable these enhancements?
 - How can coordination with other agencies and professionals support this?

Outputs:

HLURB (Central):

- The first mandate is guidelines formulation, specifically urban design brief and enhancing the existing guidelines on the improvement of the model zoning ordinance. It is important to have firm guidelines for the LGU so that they will know which ones are best to use. The zoning ordinance can also be more detailed and not just simply serve as a template. How do we formulate the model zoning ordinance? First, we consider step 8 in the volume 1 of the model zoning ordinance, we need to develop a control that will ensure that we can harmonize all these guidelines into one document. If you look at the existing guide books there are a lot of different terms pertaining to one idea. For example, special development zones is similar to special management districts. we need to harmonize all these terminologies.
- Next mandate is technical assistance. HLURB has a technical planning assistance program, which has modules and syllabus, so we will just enhance these (e.g. with zoning formulation, how to use the guidelines and more information/inputs regarding climate resilience measures that we can integrate into zoning).
- Next, enhancement of CLUP implementation of modules through zoning enforcement, monitoring of implementation, communication plan, planning for project development using design brief or design proposals.
- When we look at the new laws under the safety zone, we have a mandate on land use monitoring implementation and sanctions. There are sanctions present but in terms of climate resiliency, it currently lacks provisions on the monitoring mechanism for the LGU. What we need is a score card for them to use as a basis to check how resilient the plans are. We need it similar to the existing project of HLURB's land use and zone information system, wherein both the zoning and changes in land use are being monitored so we can see if the zoning and land use plan is effective, or only variants of it, or if it is an exception.

- What are the available process and mechanisms? We suggest a program-enhanced international framework that considers the expert group, meetings, consultations, research, and case studies.
- How can coordination with other agencies support this? We can have MOAs, JMC, and knowledge and information sharing (e.g. in climate resilience, CCC can help the LGUs). We also need provision on technical inputs and resource persons, for example in terms of trainings, and reviewing the current plans.

HLURB (Regional)

- Based on your agency mandate what enhancements are necessary to support the implementation of the development controls for climate resilience?
 - o First is the technical planning assistance, second is with REM, third is with COA. For technical planning assistance, we talked about integrating the local permit system in the process flow, to include participation of other implementing local offices not only the zoning administrator or zoning officer like the DRRMO Municipal engineer and specify the roles of offices. We have a process flow in the current local permits system but this has not yet been emphasized in the existing model zoning ordinance.
 - o Review and revise (if needed) the provisions of the mandatory participation of national government agencies, whose decisions are needed in the zoning implementation, because there are still some model zoning ordinance which should involve participation of other agencies but is not yet happening.
 - o For development control in the form of zoning, integrate provisions in the zoning where we already define implementation mechanisms and socialized housing, water, forest, and ancestral domains.
Keyword: climate resilient community
 - o Ensure that the requirements for overlay zones are integrated with the current requirements for the issuance of the location clearance and zoning certifications. Because in the bottom zoning ordinance event, the basic requirements for the location clearance and zoning certifications are not stipulated.
 - o Additional requirements for the overlay zones are needed.
 - o Review zoning ordinance vis-a-vis national building code for coherence.
 - o For the development control in the form of zoning, the last provision is for sanction for penalty for the implementor. We currently have penalties for violators but not for implementors who violate.
 - o Development control through REM or real estate management: review and revise subdivision and condominium requirements to include provisions on climate resilient profile design particularly PT957 (?) review and revise REM vis-a-vis national building code, structural code, and architectural code.

- Review the standards and guidelines on REM to integrate climate resilience and urban design particularly in socialized housing and urban areas.
- Lastly, development control in the form of HOA (home owners association) registration, independent climate change adaptation and disaster risk reduction management, and the management of HOA through the registration requirements, and monitoring and supervision functions.
- What are the available processes and mechanisms to enable the policy enhancement?
 - Establish indoor departmental implementing mechanism to clarify and identify roles of each department and the procedures to be followed to make sure that the policy and planning implementation integrate climate and disaster resilience concerns.
- How can coordination with other agencies and professionals support this?
 - Institutionalize inter-agency collaboration through MOA or MOU, then clearly define the roles of each agency and the structure of processes that it will follow. This should be in black and white.

HUDCC:

- We have technical assistance for local government units in preparation for their local shelter plan, because we are focused on housing. Give incentives to LGUs with climate change consideration on the shelter plan. We are able to address housing concerns, but not yet fully track down the target beneficiaries and inventorize the accumulated housing bid to be able to give them funding projects.
- In implementation design for the community or the housing unit, we need to adapt the climate resilience shelter design, which means to incorporate our sustainable power facility, and water waste management. For facilities we need to have solar panels in the socialized housing sites, water harvesting design in the community. For large-scale resettlement and socialized housing site, we need to incorporate a water treatment facility.
- Impose strict penalties for commercial corporation building on protected areas, and commercial or industrial areas. Include climate change resilient considerations, especially inventory on suitable sites for housing, because currently we only inventorize government home plans for socialized housing sites.
- Incentivize socialized housing tax as stated in the UDHA.
- RA10752, the Land and Right of Way acquisition Act, and Resettlement Assistance Act - These should also be included in the housing implementation.
- Include the use of innovative and climate change resilient materials and technology, low carbon emission and reduction of materials.
- Include policies and resolutions at the local level to be elevated to the national level, to push for having the National Human Resettlement Board.

- There should be capacity building for those involved in policy crafting and recommendation, and technical capacity.
- AITECH or Accreditation of Innovative Technologies for Housing as part of our mechanism.
- How can coordination with other agencies and professional support this?
 - o Inter-agency consultations; IDCs(?), MOUs, and MOAs for the government and with the private sector; and strong relationship with the housing sector, with the DILG, and the local government, especially with the chief executives.

DILG and LCP:

- Mandate of the department: Promote peace and order, ensure public safety and further strengthen local government capability aim towards the effective delivery of basic services to the citizens. DILG issues policies, provides capacity building to government units through our field offices and monitor compliance of LGUs depending on the mandates of other agencies.
- Enhancement to support the implementation of development controls for climate resilience:
 - o “Business as usual”
 - o DILG collaborates with other agencies by creating a memorandum circular that the department will release to the field offices. This is followed by capacity building, then the field offices will provide technical assistance to local government units, then we will do the monitoring.
 - o In terms of enhancement, aside from DILG’s “business as usual” we have issued a memorandum circular focusing on the enhancement of development of capacity building design. We need to consider what local government units still need based on their capacity.
 - o Coordination with the regional offices up to the central offices and then enhance communication strategy, to make LGUs realize the importance of building resilience planning.
 - o Lastly, since DILG is not as adept in the technical side, we need to have other service providers, so we need accreditation on service providers that will help us give technical assistance to the LGUs.
- What are the available processes, mechanisms to enable the policy enhancement?
 - o Existing initiatives of the department: We have issuance of policies, such as MC 2015-77 guidelines on how to mainstream DRRCC, but it is still generic but we can already insert urban design, focusing on tools and how to improve them.
 - o Capacity development activities on climate disaster risk assessment, how to conduct LCCAP and mainstreaming of DRRCC in CDP and initiating the compliance of LGUs in our mandates for them.

- Last year, we have included the CLUP and zoning ordinance, so in the future we can see a stronger indicator by mainstreaming the CLUP, and check if urban design included.
- There is a local governance resource center, which is the Local Government Academy that serves as a convergence with other institutions.
- How can coordination with other agencies and professionals support this?
 - Through coordination with other agencies, we can have harmonization of policies.
 - Conduct risk assessment.
 - Accessibility to national data (through coordination the LGUs can access data faster)
 - Provide technical support with the help of HLURB for them to discuss what is CDRA and its importance, as well as how to mainstream local plans and sharing this knowledge.

Climate Change Commission:

- We recognize LGUs as a frontline agency that will support the climate change action plans and for policy making as well. In terms of contributions, we think it should be integration of the urban climate change nexus in all the national pre-working plans.
- Strengthening the national-local planning linkages and enhancement and incorporation of the urban planning and designs in the local level LCCAP QA guidelines; because there are sectoral provisions in it but it does not highlight the urban sector.
- Enhancement of the CDRA guidelines to include urban designs and planning considerations. Also, we include here in the local level the CCET or climate change expenditure time in mechanism to inform zoning regulations and investment opportunities.
- At this point in the enhancement, it is better to check the opportunities and avenues for both public and private funding to limit budgetary constraints for the LGUs. We explore other opportunities for our other private entities who would like to invest for climate change action plans.
- Fr culminating, we have the national climate risk management framework, NCCAP.
- Replication of MOAs with higher education institutions. Example: NPCCC (Northern Panay Climate Change Consortium)
- Since we were organized in 2009, we still do not have GHG inventory, and even if it was amended in 2012 it only focused on the adaptation of the legal mandate.
 - We need strategies that are flexible and robust.
 - Since we have a Paris agreement, we have to succumb to the mandating of GHG inventory. We still need to include the framework for urban planning. Now, it is more community-based as well as entity-based.

NEDA:

- Mandates from NEDA: we only took the formulation of PDP, so it contains development goals and strategies to achieve inclusive growth in residence and society. One of the bedrock strategies in PDP is to ensure safety and resiliency. We have a national spatial strategy, where vulnerability reduction training is the main component.
 - For the enhancements, first is to incorporate the climate resiliency in the national and regional plans in the PDP, RDP and second is to instill resiliency as one of the characteristics of the project and in various masterplans. We are looking at the Manila Bay development master plan, water-resource master plan, and 30 regional and metropolitan areas that were included in the master plan.
 - Second is the ICC: When projects have a 2.5 billion account, it passes through the ICC. Projects lower than 2.5 billion can also pass through the ICC but it is meter-bound and dependent on the instructions.
 - Lastly, RDC (regional development council)
 - All processes in NEDA involve coordination: someone convenes the group, another person engages experts from the field to help.
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- After the lunch break, Dom-z facilitated the #TapD'CodeV2 energizer. This was followed by a presentation on M&E tools.

Topic 5: Tools for Monitoring and Evaluating Impacts**Ms. Laida Cea (UN-Habitat)**

- Reporting is crucial. Paris Agreement asks us to report emission removals and adaptation.
- We can be transformative at the local level.
- Mitigation gets higher financing because it is easily measurable
- Sudden and slow onset of climate change impacts are already affecting agriculture, health.
- Concrete “Theory of Change” is crucial
- Select suitable indicators based on context
- In the Philippines, adaptation actions are usually “project-basis”.
- Is the action really about Climate change or just attributes of CC?
- Monitoring must be across scales. Trends must be monitored too.

- Do not just rely on CCC for adaptation monitoring. The responsibility cuts across agencies, schemes, but agree on the target.
- We need an ADAPTATION PATHWAY for the whole country but a pathway that can be used by different localities.
- There has to be a clear policy context, purpose, and subject. Ultimately, we do climate resilient UPD for the people.
- Conscious effort across agencies to know what are we really targeting.
- Typical logic model not applicable because of the complex logic process for adaptation results
- Not all adaptation is development (example: asking farmers to change variety of crops but it is costly. This is not development because it is not sustainable)
- There will always be tradeoffs (we are asking people to shift from their “usual”)
- Capacity development is not just about training implementation but more importantly how you (the participants) use your learnings.

Q&A/Comments/Discussion:

From CCC: There is a proposal to evaluate the 2011-2016 LCCAP, and it is a challenging task. Is it okay to report even if we have not identified actions?

LC: That is why we are advising Theory of Change. It is also important to work with other agencies. Improve first what is there, instead of reinventing the wheel.

Participant: We are used to project level.

LC: Programming over project approach. Because one is dependent on another (An indicator that you identify needs another indicator that must be fulfilled by another agency)

LEARNING EXERCISE: Developing a National Planning and Design Guide for Urban Climate Resilience

Ms. Lara De Castro

- The current base framework for the draft zero is based on the learnings and inputs from the past 3 modules, as well as feedback from the five partner cities used as cases in this guide. The aim for this guide is to cover a more positive and beneficial way to explain better urban planning and design as a catalyst to transition to climate resilience.

- Ms. Lara urged the participants to be proactive in giving feedback for this draft, if there are information they wish to add or take away from the discussion.
- Next point raised is discussing climate science using climate change data and information from resilient plans and design development, starting with temperature, precipitation, and other climate riders. This is followed by discussion on starting the steps in initiating resilience with LGU planning context; bringing out the planning framework for CLUP, LCCAP, and other strategic entry points about framework and development plans under process involved in coming up with urban development strategies, and overall strategies.
- Next is moving back to designing for resilient cities, which was part of the discussions in modules 2 and 3.
 - o Focusing on resilience framework, urban design action plans, policy guide, and criteria statutory and non-statutory.
- What was also previously discussed were the design brief, design code, participation tools, design assessment, zoning, and other development controlling management tools. This would be the focus for the next 30 minutes for the beginnings of the zero draft.
- Below are the four guide questions for the workshop:
 - o First, what generic contextual variables, elements, or factors need to be considered by LGUs which shall be contained in the guide? Since we have been talking about context, city context, different scales, even at the national level, what are the elements within that LGUs need to know to move forward in planning and designing?
 - o Second, what design principles or objectives should be achieved given climate impacts at the higher-level urban context? At the local and public realm? This is about dissecting the planned action principles and the objectives towards plan of resilience vis-a-vis urban article objectives. What are the most relevant information that needs to be included in the reference guide for LGUs?
 - o Third, what approaches, methodologies, and tools for urban planning and design would be useful and must be included? Given all of the inputs that we have, all of the feedback, and exchanges among agencies, and your interactions with LGUs before and within the project activities that we are doing now, what are the most useful range of useful tools, methodologies, approaches that must be included?
 - o Finally, who else should we involve? Which professional organizations should be invited? Is DPWH part of the discussion? Which agencies should we talk to? Who do you want to be part of the discussions moving forward in developing the national guide for urban planning and design?

Presentation of Inputs to the Design Guide Outline (Draft 0):

HLURB:

- When it comes to the context and rationale, we think it is good to see the legal basis, as well as identify which agencies need to be considered to be part of the design plan (e.g DPWH or DOTR)
- We have a part in the profile planning and design that needs to have a proper outline for easier use and access.
- We also added the other hazards to consider like the geologic hazards that we can exacerbate in the climate change inputs we have. An example is the lahar mud flow, and even sink holes. When excessive water is extracted from land, it creates sink holes.
- In number 4, we have steps in initiating resilient UPD. We just added provision on the local institutional capacities. LGUs need a guide to be able to gauge what they need to do or capacities expected of them to be able to properly implement the urban design projects and programs. We should include procedures and steps so they would know to how make design briefs, design codes, and other strategies. In the design brief, the template to be able to translate this brief into specific project proposals is also included. We have petitions for LGUs to be able to make their own designs as well.
- We also have provisions on design assessment to be part of implementation tools. We added this in the structure so we can identify when something is needed to be used.
- For monitoring and evaluating impacts of urban design, we also need to identify sample indicators that can be used, which annex is okay for 3D renderings, modelings, processes, and samples.

HLURB Regional:

- Context and rationale: no legal basis. Based on our experience assisting the LGUs, we need to enhance the guidebook. There is this mainstreaming of CCADRR(?). We need to have legal basis on these provisions as well as know the historical events around it in case the LGUs ask.
- Number 2 - none
- Number 3, using climate change data and information: We need to put it in tables, maps, pictures, like a repository of all those data that came from CDRA, identify the vulnerable groups, as well as include hazard information. We need a repository of UHI data, wind, solar, hydro and geo computation.
- Number 4, where do we begin steps in initiating resilience within the LGU planning context? We agreed to streamline what is in CDRA.

- Number 5, should be aligned with the 12-step process of CLUP. Example: In terms of design, we can identify it under step 6 which is the identification of spatial strategy, or maybe under step 7, which is preparing the land use plan. We are more focused on number 7 because it is mostly focused on the priority infra-strategy. We took out infra because there are strategies that do not concern infrastructure. We put consideration with regards to social, economic, and environment as priority strategy, and added financing scheme, the life-cycle cost analysis. 5 pilot cities, preferably local, are needed to be used as models for the LGUs.
- On monitoring and evaluation impact of urban design: Needs to have a template, parameters, indicators, and who are the responsible center.

HUDCC:

- Urban planning and design a catalyst to transition to planning resilient and climate smart local development: We need to consider these things: culture, religion, demographic, physical topography, and historical values and principles. We also need to consider local, available materials, because it would cost cheaper without having to pay much for transportation. But still, preference is on cement and GI sheets.
- The settlements, the people living in the area should not be considered a deterrent to development but reverse this paradigm. We should look at them as drivers for the economy. The design should include the build-up community, for them not to be displaced into a far-flung location.
- Strategy/ framework: urban plan design samples (local and international) for reference.
- For number 3: Initiating resilient urban planning design within LGU planning context, so the question is where do we begin? Create awareness or appreciation of the importance of urban planning design for the local chief executives, constituencies, business sectors, the whole city or town. On top of the CLUP, CDP, NCCAP, we thought to have a provision of a physical plan and the regional physical plan to be included to have a more coherent planning for the LGU.
- We also included housing designs that promote the use of materials that promote natural light and ventilation, rain-water connection, use clean energy, weather type designs which means it could withstand 250kph wind.
- Reclaimed sidewalks, connectivity, mobility, so the agencies need to be tapped or to enhance further collaborative relationship with DOTR, DPWH, DICT, DOE, new water sources, clean energy, waste water management, solid waste management.
- We also put national greening program, biodiversity in the urban context to be considered part of the design planning.

DILG/LCP:

- We agree with first 3 groups that we should include legal basis. We just enumerated some of the legal basis, policy agreements, and framework, and we included the national building code, and Philippine green building code.
- We then went straight to resilient, initiating resilient UPD with planning context. And then we included in the mother plans the CLUP and zoning ordinance, CDP, and NCCAP.
- We should discuss the inter-relationship of the plans so the LGU will get only a consolidated plan and not separate plans.
- We need to encourage the LGU that they should come up ideally in CLUP and then CDP. We need to do reality check on the ground to see the status of planned preparations of LGUs.
- Number 5, we took out the moving part. We went straight to designing for resilient cities, the approaches and tools needed. When we talk to LGUs, we need to have sample cases for them. It is good to have international samples but it would be better to have local samples as well to improve the steps, the formulation itself of urban plans and designs. Consolidate relevant urban design standards that should be adapted specifically in number 1-3.
- In terms of implementation tools, we suggest considering investment programming so that we do not cut the plans for zoning. Consider also the resource mobilization strategy for potential funding source for the projects to be identified by LGUs.
- Number 6: monitoring and evaluation: Consider strengthening the existing project monitoring committee within the LGU; create a project monitoring unit inside the LGU.
- For number 4: We recommend having professional groups that could assist LGUs. In DILG we try as much as possible to facilitate assistance, but the reality is the knowledge is in the practitioners, those in academe, the NRIs(?), and then groups like BIEP(?) under agencies like DPWH, and ASEP (Association of Structural Engineers of the Philippines).

CCC:

- Include favored strategy as well as NCCAP; Green building code incorporation
- For number 2, since there are a lot of principles to consider. Maybe we can have an acronym to make it easier for the audience to understand the principles of climate action plan and urban design.
- Highlight the flexibility, evidence-based, and that we design for the vulnerable. We design for the most vulnerable in our planning context.
- For number 3: We divided it into the hazards, then the impacts focusing on urban context. We included climate change data, stating the changes in temperature, followed by the impacts given that there are changes in temperature. What are the

sectors affected relative to the urban context? We can start with AWIT-FE(?) and CHAWF(?) then correspondingly to whom do we design these. Show the value of each hazard, its impacts down to the sector which it addresses. We also added platforms where they can easily access the data collected and compiled. Another input here should be “laymanized”, meaning the terms used should be based on the terminologies of the sources and proxy data.

- Number 4: we have included CDRA, as well as highlight the importance of what the LGUs are facing depending on their current capacity, which is emphasized on the status of the LGU’s development for their CLUP, as well as the appreciation of the integration of the plans related to the urban design. We would like to add how they anticipate political and administrative changes, that we should establish a minimum to know the necessary mechanisms or institutional arrangements that should be there to ensure a sustainable implementation of urban plans and design.
- Number 5: We added the reference to the existing processes; it compliments with the existing plans, frameworks, etc. And then for the M&E, the alignment with NCCAP. Money change expenditure are good sub-topics.

NEDA:

- We have three major inputs to the design guide. First, for the background, include harmonization of plans BTDNT/DT(?). For item 2, in the strategy and framework, I mentioned the NSS, which has 3-tiers: metropolitan centers, regional centers, and sub-regional centers. In the metropolitan it has 4 sectors, the regional has 30, and the sub-regional has 117. If LGUs are identified as one of the sub-regional centers or regional centers, it boosts engagement and appreciation.
- Lastly, under strategic entry points, we would like to include the RDP because RDP helps foster appreciation for PDP. All the elements of PDP are included, even the NSS, and we also have what you call RSS or regional spatial strategy, which has a more comprehensive discussion.
- Priority infrastructure and strategy: We do not have guidelines on prioritization. For now, we just follow “Build Build Build”. We need guidelines for it (a manual with the guidelines that can be shared with LGUs).
- Laid: We are looking forward to receive copy of NSS (NEDA: it is inside PDP but it is being updated). It is a good policy anchor.

Closing

- After the presentations of the Day 2 outputs, Ms. Nora of HLURB was invited to give the closing remarks. She thanked all the participants for staying and for their contributions. On the side of the policy development group, she mentioned they still have a lot of work

to do especially before DSUD starts operation. She mentioned the upcoming Planners' Forum, details of which are yet to be finalized.

- Before adjournment, the learning exchange event to be hosted by Tagum in September was announced, as well as bilateral meetings with DILG and HLURB to further develop the supplemental guide including inter-agency consultations this coming May until June.

ANNEXES

A. Links to Presentations

[Tools for Decision-Making and Design Objective Setting: Policy Guide and Statutory Guides](#)

[Tools for Decision-Making and Design Objective Setting: Green Building Code of the Philippines, BERDE, and LEED](#)

[Tools for Design Development and Detailing \(Design Brief, Visual Representation • Design Charette\)](#)

[Tools for Implementation](#)

Tools for Monitoring and Evaluating Impacts

[Developing a National Planning and Design Guide for Urban Climate Resilience](#)

B. Group Outputs - Design Exercise:

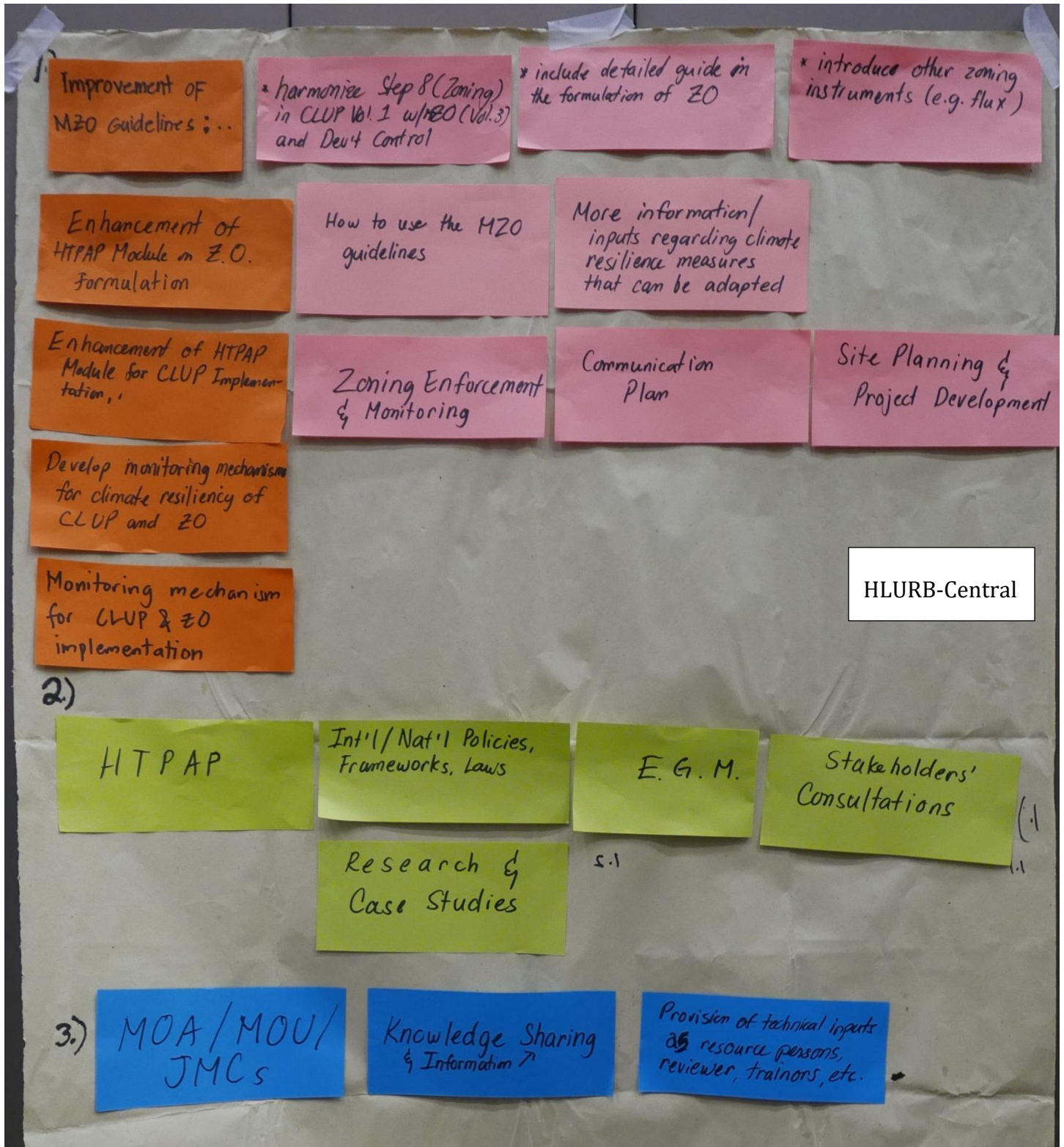








Policy Enhancements:



1. INCENTIVES TO LGUs with Climate change-resilient Local Shelter Plan.
- KHA's assistance to be released to LGUs to fund projects addressing targets in the LSP

Adoption of CC Resilient Shelter Design
• Power Facility (solar; ^{alternative energy sources})
• Water (rain water harvesting; ^{potable})
• Waste Management (waste water ^{treatment})

1. Climate Resilient design for cities and communities
• Weather-tight: Funding access to make home
• Weather-tight
• Impass plastic panels for big, ^{commercial} ^{residential} buildings in protected areas, ^{seismic} ^{and} non-commercial or industrial areas

Updating of relevant IRRs of UDHA Law; to include Climate Change Resilience Considerations:

1. Inventory of suitable sites for housing
2. Use of Socialized Housing Tax
3. LRAP / RAP (RA 10752)

• Use of innovative and CC resilient materials and technologies; low-emission ^{carbon} on the production of materials

2. RDC resolutions (local level)
• National Human Settlement Board (DAO, MC, etc.)
• Capacity-building for those involved in policy crafting/recommendation

Technical capacity building of Staff/Implementors

SGLG
1. Approved Plan
2. Accomplishment of LSP Targets

AITECH
Accreditation of Innovative Technologies for Housing

3. Sectoral /Inter-agency consultations, ITC, MOUs/MOAs

enhancement of monitoring and evaluation of shelter indicators and performance of LGUs on the delivery of shelter-related issues and solutions

Strong relationship of the housing sector of the DILG and local government units, especially w/ the local industries, will greatly enhance delivery & implementation of projects.

MANDATE
TO PROMOTE PEACE & ORDER,
ENSURE PUBLIC SAFETY & FURTHER
STRENGTHEN LOCAL GOVERNMENT
CAPABILITY AIMED TOWARDS THE
EFFECTIVE DELIVERY OF BASIC
SERVICES TO THE CITIZENRY.

ENHANCE
COMMUNICATION
STRATEGY

Seal of Good Local
Governance

Harmonization of
Policies

ENHANCE DEV'T
OF CAPACITY BLDG.
DESIGNS

CAPACITY DEV'T.
ACTIVITIES

Accessibility to
national data

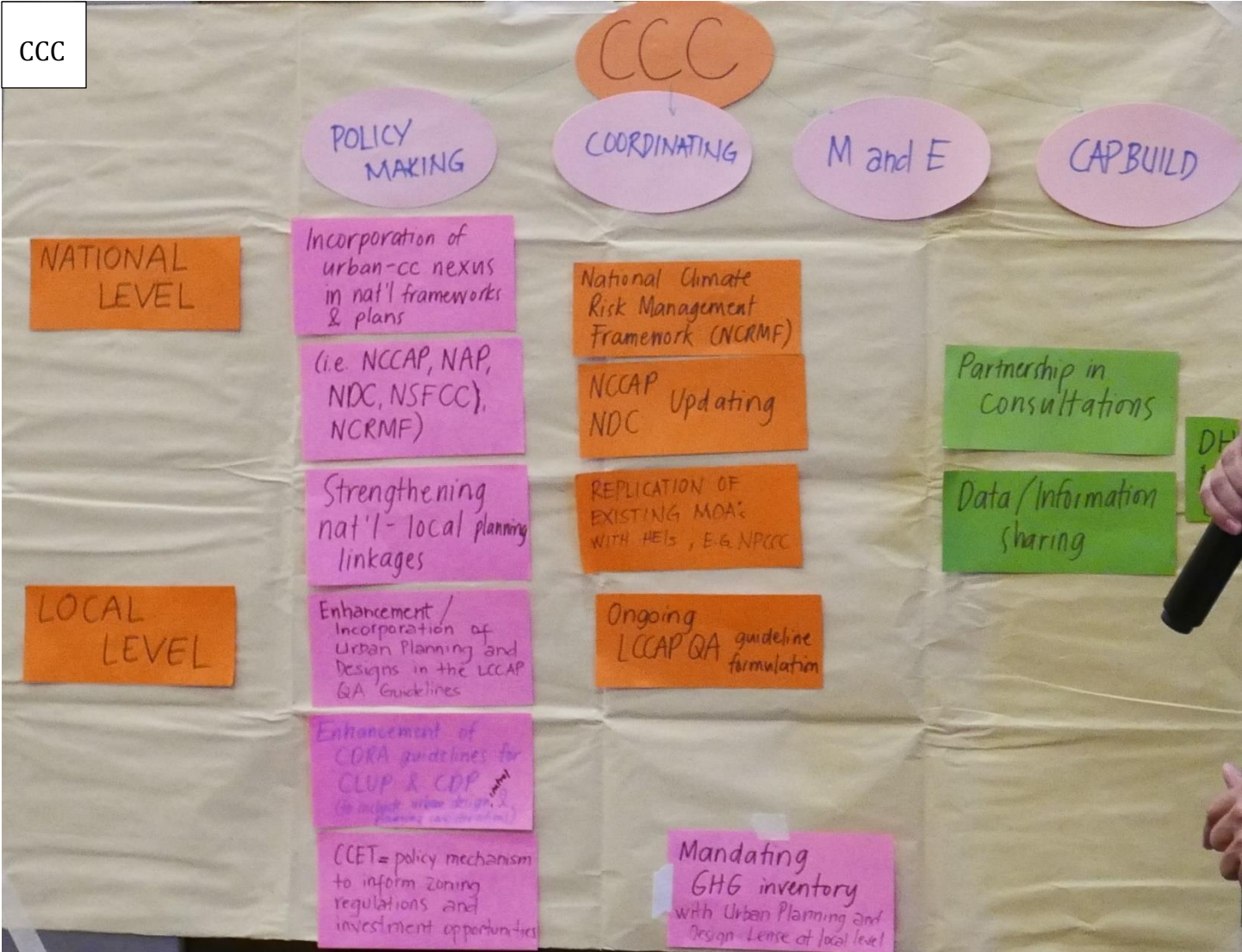
Accreditation of
Service providers

Local Governance
Resource Center

Provide technical
Support

Sharing of
Knowledge

CCC



Inputs to Design Guide Outline:

Draft Outline (version 0)**Planning and Design Guide for Urban Climate Change Resilience**

(a Reference Guide for LGUs, practitioners, communities and institutions working on local planning and development)

I. Background

- a. Objectives of the Guide
- b. Definition and Scope
- c. Context and Rationale

*Legal basis, institutional framework (Note)
adding
↳ DPWH, DOTE*

(This section will clarify what the guide is all about, who its for, what it covers, and why it is useful in building resilience. It will highlight links/relation to the NUDHE, PDP and other urban policies in the country)

↳ specific principles on Urban planning + design

II. Urban Planning and Design: a catalyst to transition to climate-resilient and climate-smart local development

- a. Concepts
- b. Principles
- c. Strategy/Framework

(This section will provide definition of concepts that will be used throughout the document. It will share the Guiding Principles in Local Climate Action Planning and relates the principles to sustainable urban design. It will likewise provide a general strategy/framework on how UPD can catalyse climate responsive actions – both adaptation and mitigation)

III. Using Climate Change Data and Information for Resilient Plans and Design Development and Adjustments

- a. Changes in Temperature
- b. Changes in Precipitation
- c. Sea Level Rise
- d. Extreme Events
 - i. Strong winds due to Typhoons
 - ii. Extreme Rainfall
 - iii. Extreme heat and drought

e. Other hazards (e.g. geologic hazards such as lahar, mudflow, earthquake induced landslide, korst/cinkhale subsidence)

(This section will provide inputs and processes in using climate change data and information (e.g. CDRA) to develop and or adjust urban plans and design. It will highlight/give examples on how CC data and information (current and future) must be used to plan and design considering: the LGU ecosystem; development and climate goals; scale of action; current condition and future growth. Each climate hazard/driver will be addressed and covered.)

IV. Where do we Begin? Steps in initiating Resilient UPD within the LGU

Planning context

- a. Comprehensive Land Use Plan and Zoning Ordinance
- b. Comprehensive Development Plan
- c. Local Climate Change Action Plan
- d. Other Strategic Entry Points
- e. Local Institutional Capacities

(This section will be the "reality check" part of the guide. While Section 3 outlines the ideal concept on where CC must be used and considered, Section 4 will provide readers on what though maybe expected on the round given the "status of the LGUs in the development of their CLUP, CDP, LCCAP and in the implementation of the ZO and other derivative plans. It will introduce ideas on how to start "resilience thinking" though UPD given the potential and possible scenarios on the ground)

V. Moving ahead (and back) in designing for resilient cities: Approaches and Tools

- a. The Pathway Approach for Climate Actions
- b. Tools for Decision Making (Planning and Designing at LGU, Neighborhood and Building Scale):
 - i. Resilience in Urban Design Action Plans and Strategy
 - ii. Urban Design Resilience Framework
 - iii. Design Policy Guide (Criteria)
 - Statutory design guides (legal instruments)
 - Non-statutory design guides (CAP, promotion/advocacy)
 - iv. Design Brief - template, discuss on how design brief is translated for specific projects / proposal
 - v. Design Code
 - vi. Streetscape strategies
 - vii. Priority Infrastructure Strategy
- c. Design Examples
- d. Implementation Tools
 - i. Design Assessment
 - ii. Zoning (Development Control and Management)
 - iii. Life-cycle cost analysis, MCA, CBA, CEA for CC results
 - iv. Tools for Participation and Advocacy

should include procedures / steps (can be annexed)

(This section would provide tools and approaches that may be used in developing resilient urban plans and design. It will be structured to explain: a) what it is, b) what it's useful for, c) how it's done. It will likewise provide examples and cases as well as links to this knowledge products and resources)

d. when to use

VI. Monitoring and Evaluating impacts of urban design projects

→ Specific Indicators, Samples

VII. Annexes

→ 3D Rendering, Models, Sketch (Process and samples)

VIII. References

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(a Reference Guide for LGUs, practitioners, communities and institutions working on local planning and development)

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- a. Objectives of the Guide
- b. Definition and Scope
- c. Context and Rationale - legal basis, historical events

(This section will clarify what the guide is all about, who its for, what it covers, and why it is useful in building resilience. It will highlight links/relation to the NUDHF, PDP and other urban policies in the country)

II. Urban Planning and Design: a catalyst to transition to climate-resilient and climate-smart local development

- a. Concepts
- b. Principles
- c. Strategy/Framework

(This section will provide definition of concepts that will be used throughout the document. It will share the Guiding Principles in Local Climate Action Planning and relates the principles to sustainable urban design. It will likewise provide a general strategy/framework on how UPD can catalyse climate responsive actions – both adaptation and mitigation)

III. Using Climate Change Data and Information for Resilient Plans and Design Development and Adjustments

- a. Changes in Temperature
- b. Changes in Precipitation
- c. Sea Level Rise
- d. Extreme Events
 - i. Strong winds due to Typhoons
 - ii. Extreme Rainfall
 - iii. Extreme heat and drought

in tables/maps/pictures/graphs
UHI data, wind, solar, hydro
GHG computations

→ linked to CDRA; need for repository of data

→ exposure / groups / H risk areas

(This section will provide inputs and processes in using climate change data and information (e.g. CDRA) to develop and or adjust urban plans and design. It will highlight/give examples on how CC data and information (current and future) must be used to plan and design considering: the LGU ecosystem; development and climate goals; scale of action; current condition and future growth. Each climate hazard/driver will be addressed and covered.)

IV. Where do we Begin? Steps in initiating Resilient UPD within the LGU

Planning context

- a. Comprehensive Land Use Plan and Zoning Ordinance
- b. Comprehensive Development Plan
- c. Local Climate Change Action Plan
- d. Other Strategic Entry Points

} CDRA

(This section will be the "reality check" part of the guide. While Section 3 outlines the ideal concept on where CC must be used and considered, Section 4 will provide readers on what though maybe expected on the round given the "status of the LGUs in the development of their CLUP, CDP, LCCAP and in the implementation of the ZO and other derivative plans. It will introduce ideas on how to start "resilience thinking" though UPD given the potential and possible scenarios on the ground)

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 - iii. Design Policy Guide (Criteria)
 - Statutory design guides (legal instruments)
 - Non-statutory design guides (CAP, promotion/advocacy)
 - iv. Design Brief
 - v. Design Code
 - vi. Streetscape strategies
 - vii. Priority Infrastructure Strategy - Infra, SE, Env.
- c. Implementation Tools
 - i. Design Assessment
 - ii. Zoning (Development Control and Management)
 - iii. Life-cycle cost analysis, MCA, CBA, CEA for CC results
 - iv. Tools for Participation and Advocacy
 - v. Financing Scheme

This should be aligned with the 12-step CLUP process

(This section would provide tools and approaches that may be used in developing resilient urban plans and design. It will be structured to explain: a) what it is, b) what it's useful for, c) how it's done. It will likewise provide examples and cases as well as links to this knowledge products and resources)

↳ must be the 5 pilot cities or local samples/models

VI. Monitoring and Evaluating impacts of urban design projects

Templates, indicators, parameters, responsibility center

VII. Annexes → Maps, Tables

Composition of Working Groups

VIII. References

Ambisyon 2040
PDP

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II. Urban Planning and Design: a catalyst to transition to climate-resilient and climate-smart local development

- a. Concepts *(consider culture, religion, demographics, physical, etc historical)*
- b. Principles *(consider local available materials, preference, economic opportunities in the area)*
- c. Strategy/Framework
URBAN PLAN DESIGN SAMPLE (LOCAL AND INTERNATIONAL)

(This section will provide definition of concepts that will be used throughout the document. It will share the Guiding Principles in Local Climate Action Planning and relates the principles to sustainable urban design. It will likewise provide a general strategy/framework on how UPD can catalyse climate responsive actions – both adaptation and mitigation)

III. Using Climate Change Data and Information for Resilient Plans and Design Development and Adjustments

- a. Changes in Temperature
- b. Changes in Precipitation
- c. Sea Level Rise
- d. Extreme Events
 - i. Strong winds due to Typhoons
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GHC imputations

(This section will provide inputs and processes in using climate change data and information (e.g. CDRA) to develop and or adjust urban plans and design. It will highlight/give examples on how CC data and information (current and future) must be used to plan and design considering: the LGU ecosystem; development and climate goals; scale of action; current condition and future growth. Each climate hazard/driver will be addressed and covered.)

IV. Where do we Begin? Steps in initiating Resilient UPD within the LGU

Planning context

- a. Comprehensive Land Use Plan and Zoning Ordinance
- b. Comprehensive Development Plan
- c. Local Climate Change Action Plan
- d. Other Strategic Entry Points / Provincial Physical Plan

Creating Awareness / appreciation of the importance of urban plan design (UPD) for local/ local digital
Real time assessment of topography, socio-econ profile
Regional Physical Plan / Provincial Physical Plan
What is it for them?

(This section will be the "reality check" part of the guide. While Section 3 outlines the ideal concept on where CC must be used and considered, Section 4 will provide readers on what though maybe expected on the round given the "status of the LGUs in the development of their CLUP, CDP, LCCAP and in the implementation of the ZO and other derivative plans. It will introduce ideas on how to start "resilience thinking" though UPD given the potential and possible scenarios on the ground)

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- c. Implementation Tools
 - i. Design Assessment
 - ii. Zoning (Development Control and Management)
 - iii. Life-cycle cost analysis, MCA, CBA, CEA for CC results
 - iv. Tools for Participation and Advocacy

National Planning Program

Biodiversity in Urban Context

- housing design that promote use of natural light ventilation, rain water collection, waste clean energy
- weather tight design
- reclaim sidewalks
- connectivity / mobility (DASH, DASH, DASH)
- clean energy
- waste water management
- green spaces
More of approach! More of approach! More of approach!

(This section would provide tools and approaches that may be used in developing resilient urban plans and design. It will be structured to explain: a) what it is, b) what it's useful for, c) how it's done. It will likewise provide examples and cases as well as links to this knowledge products and resources)

VI. Monitoring and Evaluating impacts of urban design projects

VII. Annexes

VIII. References

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INCLUDE LEGAL
BASES

PARIS

Agreement

SENDAI
FRAMEWORK

RA 7279

RA 9729

PD 957

BP 220

RA 7160

RA 10121

PHILIPPINE
GREEN BUILDING
CODE

National
Building
Code (P.D.
1096)

II. Urban Planning and Design: a catalyst to transition to climate-resilient and climate-smart local development

- a. Concepts
- b. Principles
- c. Strategy/Framework

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IV. Where do we begin? Steps in initiating Resilient UPD within the LGU Planning context

- a. Comprehensive Land Use Plan and Zoning Ordinance
- b. Comprehensive Development Plan
- c. Local Climate Change Action Plan
- d. Other Strategic Entry Points

situate where UPD will come in the planning process

(e.g. site dev't plan)

(This section will be the "reality check" part of the guide. While Section 3 outlines the ideal concept on where CC must be used and considered, Section 4 will provide readers on what though maybe expected on the round given the "status of the LGUs in the development of their CLUP, CDP, LCCAP and in the implementation of the ZO and other derivative plans. It will introduce ideas on how to start "resilience thinking" though UPD given the potential and possible scenarios on the ground)

should discuss interrelationship of CLUP - CDP - LCCAP processes

To include steps

V. ~~Planning context~~ back) in designing for resilient cities: Approaches and Tools

- a. The Pathway Approach for Climate Actions
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 - iv. Design Brief
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 - vi. Streetscape strategies
 - vii. Priority Infrastructure Strategy
- c. Implementation Tools
 - i. Design Assessment
 - ii. Zoning (Development Control and Management)
 - iii. Life-cycle cost analysis, MCA, CBA, CEA for CC result
 - iv. Tools for Participation and Advocacy

SAMPLE CASES (LOCAL)

consolidates relevant urban design standards that should be adopted

(This section would provide tools and approaches that may be used in developing resilient urban plans and design. It will be structured to explain: a) what it is, b) what it's useful for, c) how it's done. It will likewise provide examples and cases as well as links to this knowledge products and resources)

n. Investment programming
- Resource Mobilization
- Potential funding Source

VI. Monitoring and Evaluating impacts of urban design projects

VII. Annexes

VIII. References

Recommended Professional groups that could assist LGUs

1 LRI s / Academe
i.e. → PIEP
→ DPWH
→ ASEP

Include NCCAP

LGU PROJECT MONITORING UNIT OR STRENGTHEN PMC