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Mainstreaming Gender within Local Government Climate and Disaster Risk Assessments

A Review of Methodology and Practice in the Philippines

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in the framework of the Global Initiative on Disaster Risk Management (GIDRM)

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Acronyms

CCA	Climate Change Adaptation
CCC	Climate Change Commission
CDRA	Climate and Disaster Risk Assessment
CLUP	Comprehensive Land Use Plans
DILG	Department of the Interior and Local Governments
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction and Management
GAD	Gender and Development
GIDRM	Global Initiative on Disaster Risk Management
GIS	Geographic Information Systems
GoP	Government of the Philippines
GSI	Gender and Social Inclusion
HLURB	Housing and Land Use Regulatory Board
LCCAP	Local Climate Change Adaptation Plans
LDRRMP	Local Disaster Risk Reduction and Management Plans
LGU	Local Government Unit
MCW	Magna Carta of Women
NCCAP	National Climate Change Action Plan
SFDRR	Sendai Framework for Disaster Risk Reduction

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Introduction

The Global Initiative on Disaster Risk Management (GIDRM), an initiative by the German Government, led by the German Federal Ministry for Economic Cooperation and Development (BMZ), is supporting selected international and national, governmental and non-governmental stakeholders in their efforts to increase their coherence regarding planning, implementation and reporting on disaster risk management (DRM) along global agendas such as the Sendai Framework (SFDRR), Paris Agreement and Agenda 2030 and the New Urban Agenda. The German development cooperation is using a bottom-up approach: national and sub-national examples of successful agenda coherence are collected, supported and then presented on regional platforms.

The GIDRM has been supporting the Department of the Interior and Local Governments (DILG) in the Philippines to harmonize climate and disaster risk assessment (CDRA) methodologies. Using this entry point of agenda coherence, the GIDRM aims to support Local Government Units (LGUs) with a common basis for different planning purposes, such as Local Climate Change Adaptation Plans (LCCAPs), Local Disaster Risk Reduction and Management Plans (LDDRMPs) and other relevant local plans. Gender[1] sensitivity of the tools and processes is one of several priorities within this body of work.

This paper presents findings of an in-depth gender review of the toolkit and processes utilized by LGUs in the Philippines to conduct CDRAs.[2] It is comprised of a systematic document review of the toolkit available, particularly the *CLUP Guidebook: Supplemental Guidelines on Mainstreaming Climate Change and Disaster Risks in the Comprehensive Land Use Plan* (hereafter referred to as the CLUP Guidebook – or simply Guidebook), alongside insights from a series of open-ended qualitative interviews with four key informants. We conclude with a series of practical recommendations to GIZ and the Government of the Philippines (GoP) to strengthen gender mainstreaming[3] in CDRA planning in the Philippines.

[1] "Gender refers to an individual's social gender as opposed to their sex, which is biologically determined. It includes socially constructed gender roles and relationships, perceptions and expectations. These factors are contextual, dynamic and open to change. They are reflected in such areas as social standards, legislation, traditions, religion and so on." (GIZ Gender Strategy, 2019). Gender as well as other factors such as ethnicity, socioeconomic status, disability, age, geographic location and sexual orientation can increase inequalities, discrimination and marginalization leading to less participation in governance processes.

[2] The authors of this review focus on the experience and marginalization of women and girls in the Philippines and highlight, in particular, the role of women in planning for local climate and disaster activities. However, gender mainstreaming has to address the needs of not only women, but all people to be inclusive (c.f. footnote below).

[3] Gender mainstreaming is a strategy to reduce gender inequality by integrating a gender perspective into every step and on all levels of planning, implementing and reporting on policies, measures and action. In the case of DRM, this means that the diverse needs and coping capacities of women, men, children, the elderly, people with disabilities, minority or marginalised groups have to be considered before, during and in the aftermath of a disaster.

Background and Overview of CDRA and Gender in the Philippines

Climate change impacts are already being felt across the world, and negative effects are projected to escalate. Climate change projections for the Philippines suggest that in addition to a total increase in mean temperature of 0.9-1.1 °C by 2020, an additional 1.8-2.2 °C is expected by 2050 (relative to the baseline climate between 1971-2000), and an increase in both rainfall variability and intensity (DOST-PAGASA, 2011). As an archipelago, the Philippines also has an extensive coastline vulnerable to sea level rise. These changes are expected to be accompanied by an increase in the frequency and severity of extreme hydro-meteorological events. These projections will impact the 100 million inhabitants of the Philippines who are already vulnerable to volcanic eruptions, earthquakes, typhoons, landslides, droughts, and floods, at a significant financial and human cost.

Violent conflict is also present in pockets of the far south, and the country has not been spared by the 2020 global COVID-19 pandemic. As a country already considered the fourth most disaster-prone country in the world, and in the global top-ten in terms of 'highest absolute number of affected people' (UNISDR, 2015), climate change may trigger widespread human suffering in the Philippines, and its impacts will be borne by some populations more than others.

Vulnerability – and resilience – to climate change and disasters is inevitably uneven, and closely follows socioeconomic axes of inequality. The burden falls most heavily on those least equipped to cope, due to poverty, inequality, marginalization, and exclusion from decision-making and participation. Some people thus experience the impacts of a disaster in a profoundly different way than others. This is certainly the case for women. A drought, for example, may affect an entire rural village in the Philippines. However, as women are the household managers of water, it will be their responsibility to do the extra work to fetch it. Meanwhile, if farming livelihoods are destabilized due to extreme weather conditions, family decisions about who will migrate out to earn money are inevitably shaped by age and gender – and young, uneducated women are most vulnerable to precarious or exploitative employment. Disasters also exacerbate women's domestic burdens, childcare demands, gendered violence and vulnerability to risky work due to exacerbated workloads and family stress. In this way, climate change and disasters are

Gender and Climate Change

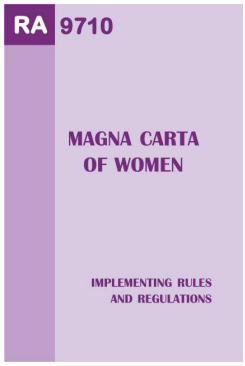
- Impacts of climate change affect women and men **differently**
- Women (1) are hardest hit by dramatic shifts in climatic conditions, (2) represent around **70%** of the world's poor, (3) have a **higher mortality** rate from climate-related disasters
- Domestic **burdens of women increase** substantially with various manifestations of climate change
- Decline in land and biomass productivity affects women more than men
- **Women** continue to play a **major role in climate change adaptation** and mitigation actions
- **Involving both women and men** in all decision-making processes on climate action is a **significant factor** in meeting the climate challenge

(Source: Green Climate Fund)

profoundly gendered, globally and within the Philippines.

It is imperative to also acknowledge that women and girls have many capacities, resources, knowledge, and perspectives central to managing disasters. Women and girls are often at the forefront of everyday disaster risk reduction (DRR) and climate change adaptation (CCA) actions in their communities, particularly in regard to food security and water management. As such, good disaster planning and management must rest on full inclusion of women at all levels. Meaningfully taking into account women's experiences with and knowledge on priorities, vulnerabilities, strengths, and opportunities are essential to good outcomes in CCA and DRR (UNDP, 2013). Doing so, embraces their knowledge, skills, capacities, and strengths – not just simplistically casting them as vulnerable victims.

In general, the Philippines has made strong commitments towards gender equality. Globally, it is ahead of the curve in gender mainstreaming achievements: The highest-ranking Asian nation, it positioned 16th globally in the most recent *Gender Gap Report* (World Economic Forum, 2019). The Philippines has nearly achieved gender parity in education and health (.999 and .979 respectively out of a possible maximum score of 1.0) and exhibits strong scores in economic participation and opportunity as well (.781). Its global rank has slipped in recent years, but this reflects the strides of other countries rather than a deterioration in national circumstances. However, global indices are blunt instruments that present aggregated data largely from the formal sector, whereas gendered discrimination, burdens, and violence are highly contextual, considered "private", difficult to measure, and/or magnified within certain subpopulations, including poor and other disadvantaged people. Strong national scores are neither fulsome nor accurate to gauge the full spectrum of gender issues in any country. One example which is especially pertinent to the Philippines is that high scores for economic participation do not capture women's "double burden" in shouldering unpaid domestic responsibilities in addition to actively earning livelihoods. Moreover, gender gaps in areas beyond education and economic participation remain.

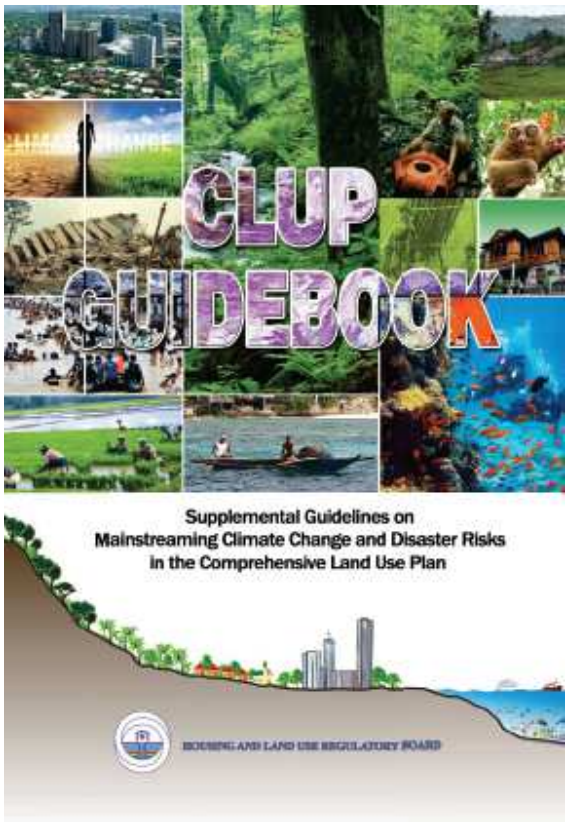


The GoP has committed to mainstreaming gender across all its operations and mandated that at least 5% of all public budgets must be directed toward Gender and Development (GAD) (PCW, 2012). While a full discussion of the GoP's national laws, policies and commitments regarding gender is well outside the scope of this paper, it is useful to touch upon their touchstone commitment: The Magna Carta of Women (MCW). This comprehensive 2009 law guarantees the full rights of women and girls, including in such areas as food security, housing, employment, cultural identity, social protection, health, participation, and development/peace issues (Philippine Commission on Women, 2018) by:

- Affirming the role of Filipino women in nation-building;
- Adhering to the principles of non-discrimination, substantive equality and state obligation;
- Defining discrimination against women;
- Affirming women's rights as human rights; and

– Fostering equal opportunities in social, cultural, economic, political and civil realms (PCW, 2018).

The overall legal framework of the GoP does include explicit provisions concerning gender, disaster risk management and climate change. Indeed, the MCW's second target concerns "women affected by calamities, disasters and other crisis situations" (PCW, 2018). Climate change and DRM legislation such as the Disaster Risk Reduction and Management (DRRM) Act of 2010, the Climate Change Act of 2009, the Local Government Code, and the Women in Development and Nation Building Act address gender in disaster risk reduction and management (Abarquez and Parreño, 2014). The DRRM Act of 2010 addresses, among many other objectives, the root causes of vulnerability to disasters and climate change within local communities and sectors to build resilience, hence, calling for an integrated DRM approach that is inclusive of all stakeholders and proactive in lessening the socioeconomic and environmental impacts of disaster including climate change; and mainstreaming DRR and climate change in development processes.



The climate change and DRM institutional and policy framework is primarily made up of the Climate Change Commission (CCC), National Climate Change Action Plan (NCCAP) (2011-2028), and the Risk Reduction and Management Plan. The Climate Change Act of 2009 set the stage for national climate change policy in the Philippines and led to the creation of the CCC, which is mandated to coordinate, monitor, and evaluate government programs focused on climate change. This was followed by the development of the NCCAP (2011-2028). The NCCAP serves as a platform on which to (1) design a nationally-driven program focused on integrated CCA, mitigation and developing local programs and (2) develop priority programs to address immediate needs with regards to the adverse effects of climate change. Meanwhile, the Commission on Women is the policy-making and coordinating body for mainstreaming gender equality across the Philippines' legal, policy-making, and institutional structures.

The key toolkit meant for use in climate change/disaster assessment provided by Philippines LGUs is the *CLUP Guidebook Supplemental Guidelines on Mainstreaming Climate Change and Disaster Risks in the Comprehensive Land Use Plan*. It is published by the Philippines' Housing and Land Use Regulatory Board (HLURB) and was originally commissioned to support commitments outlined in the Climate Change Act of 2009 and the DRRM Act of 2010. Although it has been

authorized as a general manual for LGU disaster planning, it very much reflects land use planning practices in the Philippines. The CLUP Guidebook aims to equip LGUs to assess risk and vulnerability in their respective municipalities, with a broad aim to inform municipal disaster preparedness and planning. The specific pathway, however, is narrower than that: it seeks to ensure that CCA and DRR are fully mainstreamed into the Philippines' comprehensive land use plans and zoning ordinances.

The Climate and Disaster Risk Assessment process outlined in the CLUP Guidebook seeks to assess risk and vulnerability of populations and sectors exposed to climate and/or disaster risk, identify priority decision areas, and enable the identification of DRR and CCA policy interventions. Though the CDRA process articulated in the Guidebook is primarily focused on informing the CLUP formulation process, the learning generated can – and should – be used more broadly to inform local policies, interventions, and plans (e.g. LCCAPs and LDRRMPs) to ensure that they address local risks and vulnerabilities. It is potentially a key avenue for identifying gender-specific vulnerabilities and risks in the context of climate change and disasters. As such, it is imperative that gender be fully mainstreamed within the methodology used by the LGUs. This would reflect both the Philippines' commitment to mainstream gender in all sectors, as well as global best practice.

This review explores the extent to which the CDRA methodology and practice used by the LGUs reflects the Philippines' overarching gender commitments, as well as international best practice in climate/ disaster risk planning.

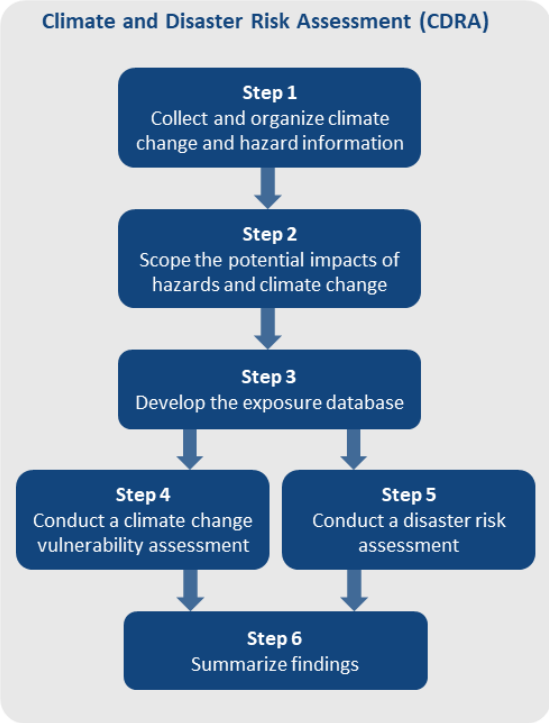


Figure 1: Climate and Disaster Risk Assessment (CDRA)

Methods and Approach

This qualitative review is based on two data sources, interpreted through the expert lenses of the authors. First, we systematically reviewed the Philippines LGUs' CDRA toolkit, the *CLUP Guidebook: Supplemental Guidelines on Mainstreaming Climate Change and Disaster Risks in the Comprehensive Land Use Plan,* and then validated findings with a small number of key informant interviews. The CLUP Guidebook itself includes a planning framework with six steps, each of which includes one or more "Process Tasks". Some of these

are further divided into sub-tasks. The Guidebook was reviewed using the following method:

1. Each process task/sub-task in the *CLUP Guidebook* was first assessed on whether gender mainstreaming was suitable/appropriate, and marked yes or no. Some matters, for example, calculating how frequently various disaster hazards occur in a given locale, do not lend themselves to gender mainstreaming. On tasks without a suitable gender mainstreaming opportunity, no further assessment was taken.
2. The next step was to review the process task (or sub-task), assess the *recommended* level of gender mainstreaming for this type of output, and compare that to the *actual* level. To organize this material, points were assigned as per the categories in the table on the next page.
3. Written comments were recorded, together with action recommendations on how to improve, especially if there was a discrepancy in the recommended vs. actual level of gender mainstreaming.

The results of this detailed review of each individual tool in the manual can be found in Annex 1. The main body of this paper presents comments and recommendations about the CDRA process as a whole. This may, indeed, be the more important analysis insofar as the majority of the significant findings in this review are summary in nature.

	Gender Unaware (0 points)	Gender Sensitive (1 point)	Gender Specific (2 points)	Gender Transformative (3 points)
Description	Approaches that have the potential to create, exacerbate or ignore gender inequalities within a tool, methodology, process, or project.	Approaches that ensure that women are included but do not go further than that.	Approaches that include components that especially reach out to or benefit women within the scope of a tool, methodology, process, or project.	Approaches that equip analysis or projects which actively challenge gender inequalities and norms.
Example	A community focus group discussion is held, but there is no effort to ensure female participation or perspectives.	A community focus group discussion is required to include at least 30% women, even though men may dominate the discussion.	Separate community focus group discussions are held with men and women, and material is analyzed with an explicit gender lens which ensures that women's voices are heard.	Community focus groups which explore how to empower women and break down traditional (gendered) divisions of labor.

Summary Findings from Review of *the CLUP Guidebook*

An in-depth review of the *CLUP Guidebook: Supplemental Guidelines on Mainstreaming Climate Change and Disaster Risks in the Comprehensive Land Use Plan* demonstrates that gender has not been substantively mainstreamed or considered in the formal LGU CDRA process. This should be of some concern, as CDRA represents a key entry point for addressing gender and climate change in the Philippines' local government disaster planning and preparedness. To this end, a strong gender lens would be expected to identify vulnerable populations and sectors, assess the differential impacts of the various hazards (including those exacerbated by climate change), and ultimately inform "actionable" policy and service interventions intended to reduce key vulnerabilities and build adaptive capacities. Unfortunately, the CLUP Guidebook falls short of these expectations.

While the CLUP Guidebook is strong and sound in many respects, its approach lacks balance across various CDRA considerations. It has an intense but narrow focus on physical geography, whereas human geography (and other topics of relevance to broad-based CDRA) are largely omitted. As a result, the formal process not only fails to adequately mainstream gender and social inclusion, the opportunities for rectifying this gap are often absent. There are some 'easy wins' and 'low-hanging fruit' (like requiring the disaggregation of population data by sex) which would indeed certainly improve LGUs' CDRAs. However, meaningfully mainstreaming gender into

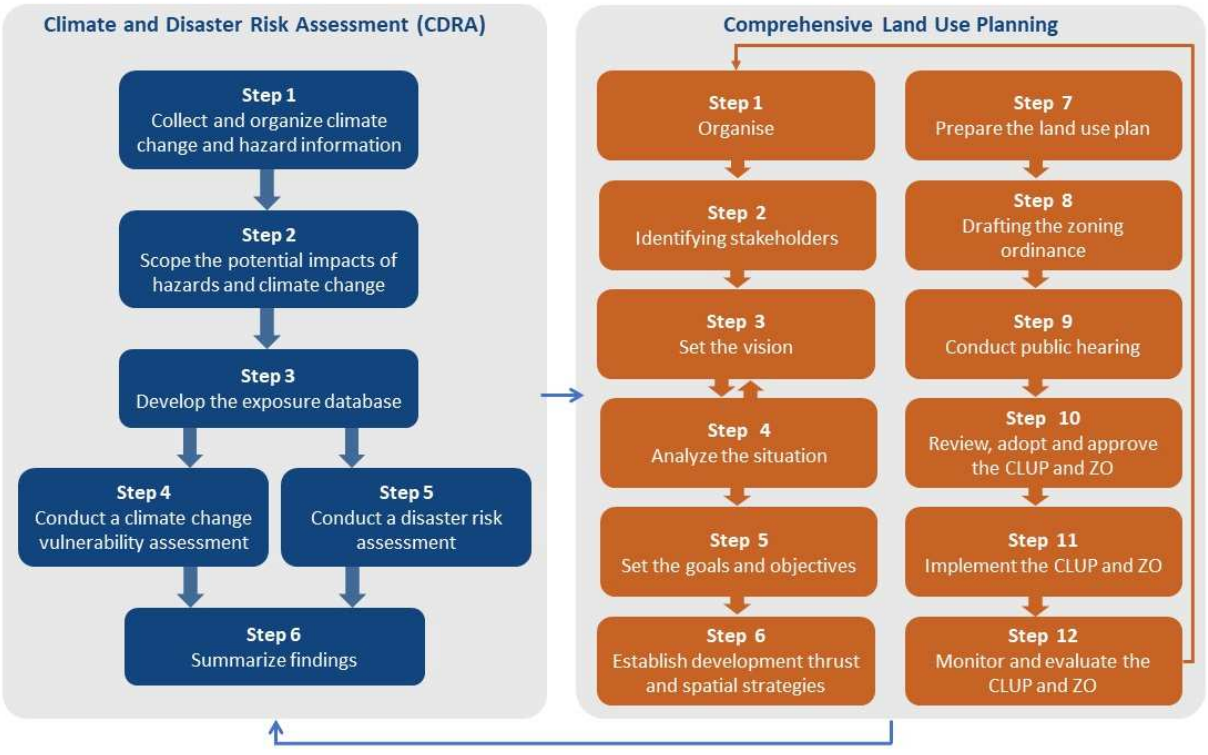


Figure 2: CDRA steps and how they link to Comprehensive Land Use Planning. (based on The CLUP Guide-book, p. xviii).

the LGU CDRA process would require a significant overhaul of the methodology. Our takeaway recommendation is that broadening the methodology's overall scope and approach would be necessary to achieve gender mainstreaming.

The CDRA process' strength is detailed physical geography, ultimately leading to maps and other assessment tools which equip local governments to recognize and prepare for various climate and disaster hazards. Indeed, creating sectoral exposure maps fully occupies three of the CDRA's six steps. However, while this approach is useful, our expert review – validated by interviewees' experiences – is that it is too limited. Moreover, the steps can be repetitive.

Gender mainstreaming would ultimately be embedded in human geography—in other words, not simply *where* hazards occur, but *who is affected, how, and why.* While the Guidebook does include tools that focus on *sensitivity* and *adaptive capacity* (both of which are key components of vulnerability), the methodology is largely an exercise in determining *physical exposure* to climate stimuli and hazards. Within vulnerability theory, exposure refers to the location of critical assets and populations within a hazard zone; sensitivity and adaptive capacity refer to the social, political, economic, and environmental factors that perpetuate, exacerbate or reduce vulnerability, respectively (Adger, 2006). Comprehensively understanding vulnerability implies analysis of the breadth of social and physical factors that result in both direct and indirect impacts to populations and critical assets during shocks and stresses and which constrain risk reduction and long-term recovery.

Factors encompassing social, environmental, political, and economic aspects are the ones in which gender is best represented and mainstreamed. However, the Guidebook's sensitivity and adaptive capacity indicators are largely considered solely in the context of physical exposure to individual climate stimuli and hazards. The indicators are pre-identified in the manual, and do not sufficiently capture socioeconomic vulnerabilities that place some people more at risk than others. Furthermore, these indicators are presented as individual lists pertaining to various climate stimuli and hazards, making it difficult to understand how a *combination* of changing climate variables and hazards may systematically erode adaptive capacities and exacerbate the vulnerability of certain groups such as women, children and people with disabilities. A more balanced approach to CDRA is needed.

The CLUP Guidebook does include some calls for population vulnerability and disaster risk assessments, which are welcome and reflects best practice in disaster preparedness. However, it does not extend detailed guidance on *how* to do so. Instead, the Guidebook's detailed guidance is narrower, emphasizing quantitative computations that generate vulnerability and disaster risk scores at the *barangay* level. Nuanced analysis of gender, social inclusion, or socioeconomic data does not inform this scoring. As a result, while the methodology ultimately produces very detailed topographical maps, there are many lost opportunities to systematically assess populations' risk and resilience. Moreover, LGUs will not benefit from information about who is most vulnerable within various *barangays*, making it is difficult to identify those who will be most impacted.

There are entry points within the CLUP Guidebook to better mainstream gender in the overall CDRA process, and these are duly highlighted in the chart presented in Annex 1.

However, we encourage decision-makers to consider a more fundamental shift in the methodology so that human geography is fully included to facilitate a better analysis of gender and social inclusion. Simply adding an additional gender step – particularly in a siloed way or at the end – will be insufficient to meaningfully mainstream gender in Philippines LGU CDRA.

Data availability is an important consideration. The Philippines has strong and solid national-level datasets on many topics; key sources include:

- *Philippines Statistics Authority (PSA)*. This government data portal includes detailed statistical compendia on socioeconomic data, as well as official databases that are available for free download. The Philippine Statistical Data Archive and the Child Poverty Database[4] may be especially useful to those seeking to mainstream gender and vulnerability into local government planning. The PSA's microdata catalog contains key data and statistical analyses of key human geography topics (e.g., human settlements and housing) that would enable broadening the scope of data analysis to include population vulnerability. The PSA website includes a series of briefs based on population census data, which is considered to be the most comprehensive disaggregated socioeconomic dataset in the Philippines.
- *Philippines Institute of Development Studies (PIDS)*. This repository of evidence-based research and data is another key portal. Climate change, environment and natural resources, gender and development, urban development and housing are all official "focus areas" for data. Databases that are available for free download from this website include: Economic and Social Database, GIS-Based Philippine Socioeconomic Profile, Socioeconomic Research Portal for the Philippines, and the Community-Based Monitoring System Database.
- *Gender Data Portal Philippines*. This World Bank data portal contains a repository of data and statistical analysis of key information related to gender in the Philippines. However, available data is not disaggregated in a way which would be directly useful at the local government unit level of planning.

At the local government planning level, highly-disaggregated data is key; national averages have little bearing for particular barangays or neighborhoods. Ideally, one would be able to superimpose physical geography maps with human geography ones in order to craft nuanced local-level maps of population vulnerability. However, even when planners are willing to combine socioeconomic maps with topographical ones, this process might not be feasible. When disaggregated data is not available or reliable, it may not be possible to replicate socioeconomic maps at precisely the same level of details as the topographical ones. It should be recognized that other approaches may also be beneficial and can be effectively used to triangulate or 'unpack' disaster risk vulnerabilities. These alternative approaches include local-level databases, qualitative inquiry and participatory approaches to identify

[4] The Child Poverty Database – a joint venture between GoP and UNICEF – includes data on broad socioeconomic measures.

pockets of vulnerability within towns, communities and municipalities – and, more importantly, pockets of resilience. If it is impossible to replicate socioeconomic vulnerability maps, planners should not be entirely constrained. There are ways to productively include these community-based perspectives and action recommendations. Any local-level data (whether qualitative or quantitative) should be deposited with a local university or action-research NGO to ensure ongoing access despite political turnover.

A key entry point for mainstreaming gender is in the analysis of the population sector. To this end, the CLUP Guidebook does include some key gender and social inclusion (GSI) indicators. These appear within the identified sensitivity[5] and adaptive capacity indicators[6], and while importantly focused on social inclusion, do not include a gender component. It may be helpful to enable LGUs to define their own indicators (GSI or otherwise) that reflect their own contexts. Doing so may also open the door to community-level participation in defining salient factors and determining how to best reach and empower women and vulnerable groups. Meanwhile, the CLUP Guidebook's various (largely quantitative) outputs could be enhanced – or at least interpreted – through a complementary qualitative analysis of *who* is most vulnerable, *how* climate/disaster hazards have differential (gendered) impacts, and *how* mitigation and/or emergency services can best address these.

The CLUP Guidebook methodology takes an especially close look at certain identified sectors, namely natural resource production, critical point facilities, urban use, and lifeline facilities. There are opportunities to better mainstream gender across them all. This would entail understanding how women access and use these resources, and how they would be impacted by losses and damage to them. For example, the specified indicators for natural resource production sector is livelihood-focused and the pre-set indicators[7] are predominantly focused on farming livelihoods. Yet, the data is not disaggregated by gender, nor are non-farm livelihoods included. Further, women should be involved in identifying the ways in which potential losses and damages to identified sectors need to be prioritized and mitigated. For instance, the critical point facilities sector includes schools, daycare centers, and health centers. It would be expected that any loss or damage to them would particularly impact women and other disadvantaged populations. The sensitivity

[5] Sensitivity indicators include: population living in dwelling units with walls made from light to salvageable materials, young and old dependents, households living below the poverty threshold, and malnourished individuals

[6] Adaptive capacity indicators include: access to post-disaster financing, property insurance coverage, household financial capacities to relocate or retrofit, government capacity to generate jobs, and government resources.

[7] Sensitivity indicators for the natural resource production sector include: farming families who attended climate field school, farming families using sustainable production technologies, farmers with access to hazard information, production areas with infrastructure coverage, areas with irrigation coverage, areas with water impoundment. Adaptive capacity indicators include: access to insurance, agricultural extension services of the local government, early warning systems, alternative livelihood, and government resources.

and adaptive capacity indicators[8], however, are largely focused on physical infrastructure and resources for risk mitigation. A deeper understanding of the needs of women and other disadvantaged populations could inform priorities for infrastructural improvement and recovery.

Insights from Qualitative Interviews

Four open-ended, in-depth qualitative interviews were conducted with key LGU stakeholders.[9] While the sample is too small to generalize from, insights from these discussions further illuminate some major themes that emerged from the document review. They also shed light on whether and how the process is (not) being applied in practice.

Firstly, the interviews demonstrate that the CLUP Guidebook is not being fully applied by LGUs. This point is reinforced by the low number of completed outputs submitted by LGUs across the Philippines. Some of those who were contacted – including those responsible for disaster preparedness and planning – had never heard of the Guidebook and were unfamiliar with its contents; another who claimed to be knowledgeable about it had in fact conflated the formal process with general, ongoing work in the city's disaster management office. Meanwhile, those who could speak to the Guidebook's contents in depth were quite critical of it. The overarching issue that they articulated is that the Guidebook is not seen as practical or user-friendly. Problems include: data availability, high turnover in local government personnel, lack of technical skills within local government to conduct – or even interpret – the maps and other exercises, competing priorities, and insufficient budgets to contract geographic information system (GIS) and other specialists. As one complained, "I don't know how many local governments in the Philippines have really followed the 2014 manual. I have no idea who really uses it. Based on conversations last year, very few have done it systematically, because it's tedious and expensive, and very technical indeed." Efforts to improve gender mainstreaming within the CLUP Guidebook are unlikely to be effective if the methodology is not being applied to begin with.

Interviewees confirmed that the Guidebook is narrowly focused on hazards and mapping, and that gender is almost entirely absent. As one declared, "It focuses on physical aspects, it doesn't have social vulnerability, really. This is where the gender lens would fit…. It was formulated to give planners information about risk and vulnerabilities to hazards… But it focuses on physical vulnerability and less on social vulnerability." Another echoed, "If you

[8] The sensitivity/vulnerability indicators for the critical point facilities sector include: wall material used, existing condition, and whether or not structures employ hazard resistant design. The adaptive capacity indicators include: insurance coverage and local government resources for risk mitigation.

[9] Others were invited, but declined for various reasons, including schedule conflicts and unfamiliarity with the CLUP Guidebook.

look at it, there is not much about gender. The [outputs] are reduced into figures only, like exposure elements. Some population details, yes, but little about differentiated risks, vulnerabilities, capacities. Gender doesn't surface in any tool, I think." These comments validate our findings from the in-depth document review. The manual does not simply overlook gender, it is so narrow in scope that many gender mainstreaming *opportunities* are omitted altogether.

Some interviewees also criticized the CDRA methodology for being too technical and lacking opportunities for communities and civil society to participate and gender mainstreaming more broadly. Others, however, emphasized that gender is more coherently represented in complementary aspects of LGU disaster management departments and processes. With only a handful of interviews, it is impossible to determine whether the lack of gender mainstreaming in the formal methodology is problematic in practice. The interviewees do confirm that gender is *not* mainstreamed within the formal CDRA process, but that does not mean it is absent from other endeavors. While in some cases gender may be addressed in other operations, ultimately, we agree with the interviewee who argued, "The limitation is that [gender mainstreaming in LGU CDRA] is informal, and as such it's haphazard and optional."

The Interviews conducted suggest that there is strong demand for a more nuanced approach and methodology regarding gender mainstreaming, and for the resources and capacity to follow through. One interviewee

"The mentality here in local government, they want maps and figures and that's it. But [what about the] women in the communities, like those who do not have access to water? They get that's a problem, but not what happens *when women don't have access to water."*

-- Interview, March 2020

who had not seen the CLUP Guidebook at all made an impassioned call for nuanced population data and vulnerability analysis. "Participation and outreach to the vulnerable? Honestly, we are so frustrated!... We cannot do good planning without good data!... Not everyone is vulnerable… Just because an area is flood-prone does not mean that everyone is flooded! That is one of my frustrations. Preparedness activities, trainings, all that should be targeted at the vulnerable, but we just don't have the data… We know that we get floods, but our only population data that we have is 1.1 million people. We don't have more than that to go on." Others made calls for more community and civil society participation across the process, and for more incisive mechanisms to mainstream gender. Overall, interviewees emphasised their dissatisfaction with the methodology and data availability.

Conclusions and Recommendations

In this paper, we have discussed overarching findings from an in-depth review of the Philippines' local government Climate and Disaster Risk Assessment methodology, as presented in the CLUP Guidebook. These insights have been validated against a small sample of stakeholder interviews. A detailed step-by-step review of the manual's individual tools appears in Annex 1. Although the Philippines has strong commitments to gender mainstreaming across its operations in general – including climate/disaster preparedness and management – this review demonstrates that gender is only weakly included in the CLUP Guidebook. In this conclusion, we highlight key findings and recommendations on how to best address this.

Gender should be strategically mainstreamed across the CLUP Guidebook to align it to broader national and international commitments. However, as the methodology lacks nuance concerning population vulnerability broadly, the entry points to mainstreaming gender are missing. This means significant changes to the overall methodology are required to meaningfully mainstream gender into the tool. Individual steps, such as disaggregating population data across the Guidebook, or adding gender-specific elements, would represent improvements – but also run the risk of gender being a siloed add-on. We instead recommend that gender-specific elements be integrated holistically from the very beginning of the methodology. Doing so would ensure that the issues are sufficiently reflected throughout, in order to fully inform final outputs, planning, and policymaking. The underlying issue is that the CLUP methodology is almost entirely focused on physical geography and exposure to various hazards. Human geography – which fundamentally shapes both risk and resilience – is only included superficially. This limits opportunities to address gender or other dimensions of population vulnerability. The CLUP Guidebook would be stronger from both a disaster preparedness as well as gender perspective if it included human geography data and analysis so that emergency planning and services can be more attuned to population risk and resilience. Moreover, there is more to climate change – and disaster preparedness – than rapid-onset extreme hydrometeorological events. Climate change will also incrementally alter long-term weather patterns and sea level rise; meanwhile, the 2020 COVID-19 pandemic has soundly demonstrated that there is more to disaster planning than extreme weather. The CLUP methodology does not accommodate for the full spectrum of climate change impacts or potential disasters. Decision-makers are encouraged to confront whether the CLUP Guidebook's in-depth focus on only two elements (i.e., physical geography and hazard exposure) is the best for Philippine LGU purposes. While there is always a trade-off between depth and breadth, GoP may wish to reconsider whether the CLUP Guidebook strikes the right balance.

There are many ways to improve the methodology from a gender perspective, at minimum, by mandating that all population data be disaggregated by sex, and by adding one or more additional steps to better target gender. However, we recommend a more sweeping alternative: to substantially revisit the methodology itself so that it balances a broader set of issues, including gender. Doing so would

also improve the methodology from the technical perspective of disaster preparedness, while also making the process more practical given Philippine LGU resource constraints. Specifically, we suggest restructuring the process to balance the focus on mapping with community-based approaches that especially reach women and other disadvantaged populations to *co-generate* understanding of exposure, risk, and vulnerability. These insights can then be triangulated with mapping, climate projections, and other data to enable LGUs to leverage the depth of local knowledge about risk and vulnerability and ensure that policy interventions and resource allocations respond to local needs and priorities. LGUs will still require comprehensive guidance on how to: (1) collect and record local knowledge of risk and vulnerability from a gender and social inclusion perspective and (2) bring it together with scientific knowledge to (3) conduct vulnerability assessments that (4) enable identification of localized priorities and interventions. We believe that such a systematic approach would improve the ability of LGUs to plan for climate shocks and extremes over the long term.

"We don't want another standardized guideline that excludes things like population vulnerability and communities! We want a tool bag, risk assessment tools. Don't proscribe weak tools!"

-- Interview, March 2020

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Annex One: Review of *The CLUP Guidebook's* Steps and Tools

	Gender Mainstreaming Opportunity (YES/NO)	Recommended Level of Gender Mainstreaming (0 - 3)	Actual Level of Gender Mainstreaming (0-3)	Comments / Recommendations
Step 1: Collect and analyze climate change and hazard information	Yes	1	0	Overall, this task is focused on understanding **exposure** to climate and hazard risk (i.e. based on a combined understanding of climate projections and historical disaster experience). There are some minor entry points for gender mainstreaming as discussed below.
Task 1.1. Collect and analyze climate change information	No			This task is focused on collating and reviewing climate information (e.g. rainfall, precipitation, extreme events, climate projections).
Task 1.2. Collect and organize hazard information	Yes	1	0	In summary, there is a moderate opportunity to conduct gender mainstreaming in this task. Currently, the task is very focused on the physical aspects of hazards, but there is an opportunity to include women in ground-truthing activities and disaggregate disaster impact data along gender lines (if it is available)
Sub-task 1.2.1. Gather hazard maps and characterize hazards	Yes	2	0	This sub-task is focused on gathering hazard maps and analyzing them on the basis of spatial extent, magnitude/intensity, frequency, duration, predictability, and speed of onset. However, hazard mapping should include nuanced data regarding population vulnerability, including women and other especially vulnerable populations. Although this sub-task is very focused on the **exposure** aspect of hazard, a part of the outlined process requires conducting community-based hazard mapping through consultations with local stakeholders. Here, there's an opportunity to clearly state the importance of consulting with female stakeholders in communities to ensure that the nuances and subtleties of hazard exposure are captured. Moreover, when consulting the communities one should inquire who is most vulnerable and why – in other words, explore **underlying drivers of inequality and vulnerability** in the community, which is precisely what community members are most knowledgeable about. Oddly, this sub-task also requires producing a "localized formal assessment of future impact scenarios". Such an assessment cannot be conducted purely based on knowledge of exposure to hazard and climate risk and in consultation with "climate change community of experts". **This activity requires an understanding of how exposure and vulnerability intersect to generate differential risks and impacts across sectors, scales, and diverse populations (among which one is gender)**. This sub-task would be enhanced by including schools, hospitals, and other key public buildings on the maps. Moreover, we strongly recommend including GSI experts as well as climate change ones, because although disasters affect everyone, they affect some much more than others. The CLUP Guidebook goes on to present various susceptibility maps, however does not reference or present gender or other population vulnerability data. It is important to consider human as well as physical geography, however this is omitted. For example, detailed flood vulnerability maps are presented, but not information about who inhabits them. Areas which are disaster-prone are often inhabited by informal settlements, recent migrants, female-headed households, etc. However, the maps do not juxtapose these against the topographical maps.
Sub-task 1.2.2. Prepare a summary hazard inventory matrix	No			The matrix is simply a way to summarize climate and hazard data along the lines of susceptibility, magnitude/intensity, speed of onset, likelihood of occurrence, and areas covered. This is acceptable so long as gender and other human geography considerations are adequately captured by other sub-tasks.
Sub-task 1.2.3. Analyze previous disasters	Yes	2	0	This is largely an exercise in organizing disaster impact information into a table. The disaster data in question includes: date of occurrences of hazards by type; the affected areas indicated on a map; estimated casualties in terms of the number of fatalities, injuries, and individuals missing; number of houses totally and partly damaged; and estimated value of damage sto property such as agriculture, private, and commerical buildings and infrastructure. It is superficial from a GSI perspective. Any "analysis" of previous disasters should include GSI data. There is a missed opportunity here to collected disaggregated data on num ber of casualities by gender as well as other axes of inequality such as age, disability, ethnicity, and poverty. This would be a very first preliminary yet important step for beginning to understand the differential impacts of disasters and identify trends (if there are any) in how different types of disasters affect women and girls
Sub-task 1.2.4. Prepare a Hazard Susceptibility Inventory Matrix	No			This sub-task is simply focused on identifying which Barangays are exposed to which hazards. Again, this is acceptable but only insofar as GSI is incorporated elsewhere.

	Gender Mainstreaming Opportunity (YES/NO)	Recommended Level of Gender Mainstreaming (0 - 3)	Actual Level of Gender Mainstreaming (0-3)	Comments / Recommendations
Step 2: Scoping the potential impacts of disasters and climate change	Yes	2	0	This step is an initial scoping of the potential indirect and direct impact of climate change and disasters on key sectors. The key issue is that the sectors are very broad and almost solely focused on land use planning. However, there is a huge opportunity to pursue this step and identify indirect and direct impacts on sectors using a GSI lens in order to develop a more nuanced understanding of from the get-go on how climate change and disasters are likely to impact marginalized groups and the ecosystem and infrastructural services that they rely on.
Task 2.1. Identify the various climate stimulus	Yes	2	0	This task entails identifying what sectors (population, natural resource-based production areas, critical point facilities such as hospitals, urban use areas, infrastructure and utilities) will be affected by the projected climate stimuli (temperature, rainfall, number of hot days, number of dry days, extreme daily rainfall events, and sea level). The sector categories presented are extremely broad and do not account for diverse or differentiated impact on various sectors. For example, "population" needs to be further disaggregated to include GSI data such as informal settlements, recent migrants, female-headed households, women, girls, etc. Natural resource-based production areas can also be further disaggregated along gender given that specific land-based livelihoods are female-dominated. There is also opportunity to address the gendered impact of where schools, hospitals, and other critical point facilities are located.
Task 2.2. Prepare sectoral impact chain diagrams	Yes	2	0	This task requires preparation of sectoral impact chain diagrams to identify potential indirect and direct impacts to various thematic sectors. The goal is to identify "the key development areas/sectors where climate change and disasters will likely impact and guide the detailed study of establishing the level of risks and vulnerabilities of the area". This task would greatly benefit from a GSI lens to discern potential direct and indirect impacts to diverse, marginalized populations and the services that they rely in. It remains to be seen if the "detailed study" requires a GSI lens to generate deep understanding of how different populations are likely to be impacted by climate change and disasters. It would also be helpful to review where schools, hospitals, and other critical point facilities are located vis a vis especially vulnerable populations.
Task 2.3. Summarize findings	Yes	2	0	This task entails bringing together and summarizing the findings from Tasks 2.1 and 2.2. The above critique remains that this task should be conducted with a GSI lens to disaggregate the finding based on direct and indirect impacts experienced by marginalized groups. This will better facilitate the "identification of relevant sectors in the municipality which will be covered in the climate and disaster risk assessment".

	Gender Mainstreaming Opportunity (YES/NO)	Recommended Level of Gender Mainstreaming (0 - 3)	Actual Level of Gender Mainstreaming (0-3)	Comments / Recommendations
Step 3: Exposure database development	Yes	2	0	Though this task requires collection of sensitivity/vulnerability and adaptive capacity data, in reality the data required is exposure focused. Remarkably, the task focused on identifying population exposure and vulnerability makes no mention of GSI despite the fact that even within the relatively small bounds of a barangay, marginalized populations experience disasters in different ways due to differential vulnerability and adaptive capacity regarding lives, livelihoods, and access to critical infrastructural services. Without laying the groundwork for GSI understanding early in the CDRA process, it will be extremely hard to ultimately produce vulnerability and disaster assessments that truly capture how people are affected by climate change and disasters.
Task 3.1. Prepare the Population Exposure Maps and compile attribute information	Yes	2	0	This task entails generating maps that identify the location of populations **exposed** to projected climate change scenarios and then collecting data at the barangay level on pre-identified quantitative sensitivity/vulnerability and adaptive capacity indicators (i.e. counts of households). The sensitivity/vulnerability indicators include: population living in dwelling units with walls made from light to salvageable materials, young and old dependents, households living below the poverty threshold, and malnourished individuals. The adaptive capacity indicators include: access to post-disaster financing, property insurance coverage, household financial capacities to relocate or retrofit, government capacity to generate jobs, and government resources. Gender is a major factor in vulnerability/sensitivity and adaptive capacity, and yet there is no mention of it in this task. Data needs to be disaggregated using a GSI lens in order to understand how women and other marginalized groups are vulnerable to climate change and disasters and the disaster risk reduction and recovery options that are or are not available to them. For example, in some countries, accessing government disaster financing requires a deed and women are not named on deeds -this is a major issue in female-headed households. Lacking this type of nuanced information, barangays will not be able to identify vulnerable populations and entry points for decreasing disaster vulnerability and impacts and increasing adaptive capacity. To enable this, disaggregated data will need to be collected from existing databases (e.g. the Community-based Monitoring System database, National Statistics Office) and through barangay-level surveys if this information is not available. Furthermore, focus group discussions will need to be expanded beyond "municipal and barangay level sectoral representatives" to include community leaders, CSOs, female community members, and other experts who are knowledgeable of GSI issues.
Task 3.2. Prepare Urban Use Area Exposure Maps and compile exposure, sensitivity/adaptive capacity information	No			This task entails generating maps that identify the location of urban areas exposed to projected climate change scenarios and then collecting data at the barangay level on pre-identified sensitivity/vulnerability and adaptive capacity indicators.
Sub-task 3.2.1. Prepare the urban use area exposure map	No			This sub-task entails generating maps that identify the location of urban areas **exposed** to projected climate change scenarios. The maps cover land uses such as commercial, residential, industrial, tourism, parks and recreation, cemetery and other locality-specific urban uses. The example table (Table 3.2.2.) does highlight informal settlements as a land use, which is very welcome. It would be helpful is critical point facilities (e.g., hospitals, schools, police stations, etc.) were also specifically included.
Sub-task 3.2.2. Gather indicators related to vulnerability/sensitivity and adaptive capacity of urban use areas	No			This sub-task entails collecting data at the barangay level on pre-identified sensitivity/vulnerability and adaptive capacity indicators focused on the 'robustness' of construction and available recovery mechanisms. As such there is no gender mainstreaming opportunity in this sub-task. From a population vulnerability standpoint, however, it is imperative to ensure that data on informal settlements is fully included in any mapping of housing quality.

Task 3.3. Prepare Natural Resource Production Area Exposure Maps and compile exposure, sensitivity/adaptive capacity attribute information	Yes	2	0	This task entails generating maps that identify the location of natural resource production areas **exposed** to projected climate change scenarios, and then collecting data at the barangay level on pre-identified sensitivity/vulnerability and adaptive capacity indicators. There is an opportunity to use a GSI lens to identify resource-based livelihoods, who participates in those livelihoods, and what recovery options marginalized groups have in the event of livelihood impacts and loss.
Sub-task 3.3.1. Prepare a Natural Resource Production Area Exposure Map	Yes	2	0	This sub-task entails generating maps that identify the location of natural resource production areas exposed to projected climate change scenarios. There need to be concerted efforts to comprehensively map the diverse resource-production land uses in barangays. Surveys and/or focus group discussions will need to be conducted with diverse community groups (including women) to ensure comprehensive identification of resource-based livelihoods. Data analysis would be enhanced by considering the implications of gendered divisions of labor as they relate to natural resources.
Sub-task 3.3.2. Gather indicators related to vulnerability/sensitivity and adaptive capacity	Yes	2	0	This sub-task entails collecting data at the barangay level on pre-identified sensitivity/vulnerability and adaptive capacity indicators focused on livelihoods and recovery mechanisms given impacts to livelihood or loss of livelihood. Sensitivity/vulnerability indicators include: farming families who attended climate field school, farming families using sustainable production technologies, farmers with access to hazard information, production areas with infrastructure coverage, areas with irrigation coverage, areas with water impoundment. Adaptive capacity indicators include: access to insurance, agricultural extension services of the local government, early warning systems, alternative livelihood, and government resources. There is an opportunity to collect disaggregated data along GSI lines AND to include more gender-specific resource production livelihoods. Surveys and/or focus group discussions will need to be conducted with diverse community groups (including women) to ensure comprehensive identification of resource-based livelihoods, who participates in those livelihoods, and what recovery options marginalized groups have in the event of livelihood impacts and loss.
Task 3.4. Prepare Critical Point Facilities Exposure Maps and compile exposure, sensitivity/adaptive capacity attribute information	Yes	2	0	This task entails generating maps that identify the location of critical point facilities (major infrastructure and infrastructural services including schools, hospitals, police stations, etc.) exposed to projected climate change scenarios and then collecting data at the barangay level on pre-identified sensitivity/vulnerability and adaptive capacity indicators. The indicators, however, are solely focused on robustness of infrastructure and do not account for how the loss of infrastructure and infrastructural services may affect marginalized populations, including women and girls.
Sub-task. 3.4.1. Prepare Critical Point Facilities Exposure map	No			This sub-task entails generating maps that identify the location of critical point facilities exposed to projected climate change scenarios. These facilities include major infrastructure and infrastructural services related to schools, health, social welfare, government, water, power, transportation, and recreation. Data analysis would be enhanced by considering the gendered implications of losing access to these facilities.
Sub-task 3.4.2. Gather indicators related to exposure, vulnerability/sensitivity and adaptive capacity	Yes	2	0	This sub-task entails collecting data at the barangay level on pre-identified sensitivity/vulnerability and adaptive capacity indicators focused on major infrastructure and infrastructural services. The sensitivity/vulnerability indicators include: wall material used, existing condition, and whether or not structures employ hazard resistant design. The adaptive capacity indicators include: insurance coverage and local government resources for risk mitigation. The vulnerability/sensitivity component of this sector is entirely focused on the 'robustness' of buildings. And while these are important considerations for maintaining infrastructural services during and after a disaster, there also needs to be consideration of **how** the loss of these services in the event of a disaster will impact communities and marginalized populations to truly understand vulnerability. For example, if schools and daycares are damaged, will women have to leave their jobs to care for their children? This depth of understanding is important for prioritizing infrastructural improvement and recovery.

Task 3.5. Prepare Lifeline Facilities Area Exposure Maps and compile exposure, sensitivity/adaptive capacity attribute information	No			This task entails generating maps that identify the location of lifeline utilities (distribution systems of major infrastructural services) exposed to projected climate change scenarios and then collecting data at the barangay level on pre-identified sensitivity/vulnerability and adaptive capacity indicators.
Sub-task. 3.5.1. Prepare lifeline utilities exposure map	No			This sub-task entails generating maps that identify the location of lifeline utilities exposed to projected climate change scenarios.
Sub-task 3.5.2. Gather indicators related to exposure, vulnerability/sensitivity and adaptive capacity	No			This sub-task entails collecting data at the barangay-level on pre-identified sensitivity/vulnerability and adaptive capacity indicators focused lifeline utilities.

	Gender Mainstreaming Opportunity (YES/NO)	Recommended Level of Gender Mainstreaming (0 - 3)	Actual Level of Gender Mainstreaming (0-3)	Comments / Recommendations
Step 4: Conduct a climate change vulnerability assessment (CCVA)	Yes	2	0	This sub-task requires conducting a vulnerability assessment; however, the process outlined does not actually produce a vulnerability assessment. Instead, it generates maps identifying physical exposure to climate stimuli and impacts (based on pre-set categories) that are not necessarily reflective of the breadth of social, environmental, political and economic vulnerability that marginalized communities face. There is a huge opportunity to mainstream gender in this step to identify vulnerable communities, why/how they are vulnerable, and opportunities for addressing vulnerability. This would require using a GSI lens from Step 1 itself to begin disaggregating data along GSI and working with marginalized communities and GSI experts to identify prior disaster impacts and experience and key vulnerabilities- simply inserting GSI parameters into Step 3 will not suffice. Please note that the map-making methodology specified is also highly redundant with other steps in the CDRA manual.
Task 4.1. Identify the system of interest, climate stimuli and impact area	No			This step entails estimating the "impact area" for various climate stimuli (e.g. rainfall, temperature, etc) and identifying the systems of interest (or sectors, i.e., population, natural resource based production areas, urban use areas, critical point facilities, infrastructure and lifeline utilities) that will be assessed
Task 4.2. Determine exposed units	Yes	2	0	This step entails overlaying exposure maps created in Step 3 with the impact area map (I assume created in Task 4.1.). The purpose of this activity is to enable computation of the number of units (of the systems of interest or sectors) that overlap with the impact area and are therefore exposed to climate stimuli. The expectation is that this information can be used to compute the sensitivity and adaptive capacity attributes of the units exposed to climate stimuli. Population and natural-resource based production area exposures need to be disaggregated along GSI.
Sub-task 4.2.1. Determine population exposure	Yes	2	0	As mentioned in Task 3.1, the data mapped and the percentage of exposed population units needs to be disaggregated along GSI. Knowing where marginalized groups are located within the impact area and what climate stimuli they will likely be exposed to is key for mainstreaming gender into the CDRA process and responding to their specific vulnerabilities. Currently, population sector data is disaggregated along the following categories: informal settlers, percentage of population living in dwelling units made from light to salvageable materials, young and old dependents, persons with disabilities, and households living below the poverty threshold.
Sub-task 4.2.2. Determine Natural resource-based Production Area Exposure	Yes	1	0	The suggested sensitivity categories for computing natural resource production area exposed to climate stimuli are too broad (farming families who attended climate field school, families using sustainable production techniques, famers with access to hazard information, production areas with infrastructure coverage, areas with irrigation coverage, and areas with water impoundment) and do not necessarily include gender-specific nature-based livelihoods. As mentioned in Task 3.3., it is important to ensure that gender-based livelihoods are included to ensure a more inclusive, holistic analysis.
Sub-task 4.2.3. Determine Urban Use Area Exposure	No	2	0	This sub-task focuses on computing physical structures exposed to climate stimuli.
Sub-task 4.2.4. Determine critical point facility exposure	Yes	1	0	This sub-task focuses on computing critical point facilities (e.g. day care centers, schools, health centers) exposed to climate stimuli. While this is largely focused on the physical attributes of the physical structures, it is worth noting that the loss and damage of these structures will disproportionately impact women and girls. As a result, it is important to combine this data with understanding of how the loss of these structures will impact marginalized populations.
Sub-task 4.2.5. Lifeline utilities	No			This sub-task focused on computing major physical infrastructures exposed to climate stimuli.

Task 4.3. Conduct a sensitivity analysis	Yes	2	0	The description of this task is incredibly vague and as such it is difficult to understand what the sensitivity analysis in question entails. We feel that there is significant opportunity to integrate GSI analyses in this task to further breakdown the impacts that have been identified thus far and also further identify **indirect** impacts caused by losses and damages to the 5 sectors; however, without more information on what this task is, it is difficult to recommend what and how.
Task 4.4. Enumerate the potential impacts and rate the degree of impact	Yes	2	0	This task entails assigning "impact ratings" which represents the level and kinds of impacts the system is likely to experience, and the time and resources needed to return to pre-impact levels. Oddly, these ratings are by barangay and not by identified direct and indirect impacts. So while impact ratings are supposed to be assigned to each barangay based on a holistic understanding of predicted impacts to climate stimuli, there has not been adequate identification of direct and indirect impacts in this process thus far - while this is expected in Step 2, the sectoral impact diagrams fall short of the breadth of understanding of vulnerability and impact necessary (including along GSI parameters) Furthermore, LGUs are expected to organize workshop sessions with various stakeholders to give their subjective degree of impact scores; however, they have not specified working with women stakeholders and GSI experts to determine impact scores.
Task 4.5. Evaluate and rate the adaptive capacity	Yes	2	0	This task entails assigning "adaptive capacity scores" based on an analysis of adaptive capacity along pre-identified adaptive capacity categories (e.g. access to post-disaster financing, insurance coverage, government capacities and resources) *across b* arangays. The "adaptive capacity categories" are those highlighted in Step 3 and likely do not cover the range of adaptive capacities that are available to communities - these need to be identified in collaboration with communities and will likely be different for each Barangay and for the different communities and marginalized groups residing within the Barangay. This only further stresses the importance of: (1) involving communities, women, CSOs, GSI experts, etc from the beginning of the CDRA process to define the parameters of vulnerability and adaptive capacity being analyzed throughout this process, and (2) using disaggregated GSI data to understand the indirect and direct impacts likely to be experienced by different communities and populations in climate shocks and stresses.
Task 4.6. Compute for the vulnerability index	No			This is a summary computation of vulnerability index scores per sector by barangay based on the scores assigned in Tasks 4.4 and 4.5. A key flaw to this approach is that the vulnerability score being calculated is primarily based on an understanding of **exposure** to climate stimuli. Exposure is only one component of vulnerability, and while the guide does allude to 'sensitivity' and 'adaptive capacity', they are both primarily in the context of exposure. However, sensitivity and adaptive capacity need to be considered beyond direct exposure to climate stimuli given that climate change will certainly have indirect impacts on populations that are not directly exposed to climate shocks and stresses.
Task 4.7. Prepare a Vulnerability Assessment map	No			This mapping task simply entails providing a visual of the computations in Task 4.6; in effect, LGUs will map high, moderate and low vulnerability areas in barangays. While important for identifying 'high vulnerability' areas to focus resources on, the predominant focus on physical exposure throughout the CDRA process suggests that highly vulnerable populations to climate change may remain unidentified.
Task 4.8. Identify Decision Areas issues matrix	Yes	2	0	This task entails developing a summary matrix of the findings from the process thus far and identifying policy interventions. The matrix includes identifying decision areas, summarizing technical findings, summarizing the implications of those findings and identifying associated policy interventions.
Sub-task 4.8.1. Identify decision areas	No			This sub-task entails identifying the areas of concern highlighted in the vulnerability maps from Task 4.7. See commentary for Task 4.7
Sub-task 4.8.2. Enumerate technical findings	Yes	2	0	This sub-task entails summarizing the technical findings from previous steps for each decision-step: climate stimuli, exposure information, relevant sensitivities of those exposed, relevant adaptive capacities of those exposed. The summary provided needs to include GSI findings (e.g. who is impacted and why), but this will only be possible if GSI is integrated into earlier steps.

Sub-task 4.8.3. Enumerate the implications	Yes	2	0	This sub-task entails summarizing the potential impacts to the 5 sectors and identifying future needs. The summary provided needs to include GSI findings, but this will only be possible if GSI is integrated into earlier steps. Furthermore, the future needs component emphasizes the spatial framework plan of the municipality/city, however, it is very likely that such a land-use plan cannot adequately address the vulnerability issues and needs faced by a Barangay given that vulnerability spans physical, social, economic, political, and environmental bounds.
Sub-task 4.8.4. Evaluate vulnerability and identify policy interventions to reduce vulnerability	Yes	3	0	This sub-task entails "evaluating vulnerability" based on inferred disaster thresholds and identifying policy interventions to address the impacts and implications highlighted in the table; however, the sub-task description does not provide appropriate guidance on how to evaluate disaster thresholds and vulnerability or identify appropriate and tangible policy interventions. This process has potential to be truly gender transformative if GSI issues are considered and GSI experts and female community stakeholders are involved in identifying and prioritizing policy interventions.

	Gender Mainstreaming Opportunity (YES/NO)	Recommended Level of Gender Mainstreaming (0 - 3)	Actual Level of Gender Mainstreaming (0-3)	Comments / Recommendations
Step 5. Disaster Risk Assessment (DRA)	Yes	2	0	This step entails overlaying the previously collected technical information with hazard likelihood and susceptibility information to, identify consequences to sectors, calculate risk scores, identify development implications, and generate appropriate policy interventions. There is a huge opportunity to mainstream gender in this step to identify vulnerable communities, why/how they are vulnerable, and opportunities for addressing vulnerability. This would require using a GSI lens from Step 1 itself to begin disaggregating data along GSI and working with marginalized communities and GSI experts to identify risk, vulnerability, and potential consequences, and how they can be addressed.
Task 5.1. Assign the likelihood of occurrence	No			This task entails assigning a likelihood occurrence score relative to the recurrence period of the hazard.
Task 5.2. Determine exposed elements	Yes	2	0	This task entails overlaying hazard maps with the exposure maps created in previous steps. Population and natural-resource based production area exposures need to be disaggregated along GSI.
Sub-task 5.2.1. Determine population exposure	Yes	2	0	This sub-task entails overlaying the population exposure map with the hazard map to determine the extent of area exposed per hazard susceptibility. As mentioned in Steps 4.2.1 and 3.1, the data needs to be disaggregated along GSI to identify what marginalized groups are located within the exposure area.
Sub-task 5.2.2. Determine Natural resource-based Production Area Exposure	Yes	1	0	This sub-task entails overlaying the natural resource production exposure map with the hazard map. As mentioned in Task 4.2.2. and 3.3, the data needs to be disaggregated along natural resource-based livelihoods that are co-identified with communities. It is possible that these livelihoods and the impacts of climate change on them will have gender implications.
Sub-task 5.2.3. Determine Urban Use Area Exposure	No			This sub-task entails overlaying the urban use area exposure map with the hazard map to determine the extent of area exposed per hazard susceptibility.
Sub-task 5.2.4. Determine critical point facility exposure	Yes	1	0	This sub-task overlaying the critical point facility exposure map with the hazard map to determine the extent of area exposed per hazard susceptibility. As mentioned in Task 4.2.4, while this is largely focused on the physical attributes of critical point facilities (e.g. day care centers, schools, health centers), it is worth noting that the loss and damage of these structures will disproportionately impact women and girls. As a result, it is important to combine this data with understanding of how the loss of these structures will impact marginalized populations.
Sub-task 5.2.5. Lifeline utilities	No			This sub-task entails overlaying the lifeline utilities exposure map with the hazard map to determine the extent of area exposed per hazard susceptibility.
Task 5.3. Consequence analysis	Yes	2	0	This task entails developing a consequence matrix and assigning "severity of consequence" ratings based on the expected magnitude of the hazard, the extent of exposure, and the" vulnerabilities of the exposed elements". The manual does mention that this task should be done with the participation of "local stakeholders, members of the Planning and Development Council, representatives/experts from mandated hazard mapping related agencies, and representatives from the Disaster Risk Reduction and Management Office". The guide should additionally explicitly state that this exercise should be done in collaboration with local female community members/leaders and GSI experts to ensure that gender issues, concerns and needs are adequately captured in the consequence analysis. Furthermore, the example consequence score matrix provided (Table 3.5.3) provides only a summary of the damages to services that may occur and short-term disruptions that may occur due to the loss of those services. There needs to be an extra step in the analysis where stakeholders think through what the short, medium and long term impacts of those disruptions and losses of services will be for the diverse communities living in the barangay. For example, what will the closure of a daycare center or school mean for families? Will women have to quit their jobs to stay at home to take care of their children?
Sub-task 5.3.1. Determine factors contributing to population vulnerability and estimate the severity of consequence score	Yes	2	0	See commentary for 5.3. It is unlikely that the hazard mapping agency experts explicitly mentioned in this sub-task can appropriately score the consequence of hazards to local, marginalized groups - this requires participation of local communities and community groups and GSI experts. In addition, as mentioned in previous steps, the preset sensitivity indicators for this sector (number of households below the poverty threshold, number of persons with disabilities, proportion of informal settlers, access to post-disaster economic protection) are not sufficient. These indicators need to be identified with local communities, community groups and GSI experts to ensure that the most marginalized groups are accounted for.

Sub task 5.3.2. Determine factors contributing to the natural-resource based production area vulnerability and estimate the severity of consequence score	Yes	1	0	See commentary for 5.3. As mentioned in previous steps, the suggested sensitivity indicators for natural resource production area (farming families who attended climate field school, families using sustainable production techniques, famers with access to hazard information, production areas with infrastructure coverage, areas with irrigation coverage, and areas with water impoundment) and do not necessarily include gender-specific nature-based livelihoods. It is important to ensure that gender-based livelihoods are included to ensure a more inclusive, holistic analysis.
Sub-task 5.3.3. Determine factors contributing to urban use area vulnerability and estimate the severity of consequence score	No			
Sub-task 5.3.4. Determine factors contributing to critical point facilities vulnerability and estimate the severity of consequence score	Yes			See commentary for 5.3. This sub-task explicitly mentions that the focus should be "on the structural design characteristics of buildings and structures". However, structures in question (e.g. day care centers, schools and health centers) are key community facilities and there needs to understanding of how the loss and damage of these structures will disproportionately impact marginalized groups, in particular, women and girls.
Sub-task 5.3.5. Determine factors contributing to lifeline utilities vulnerability and estimate the severity of consequence score	No			
Task 5.4. Risk estimation	Yes	2	0	This task entails estimating risk scores to reflect three possible scenarios: high risk areas, moderate risk areas, and low risk areas. For example, a high risk score indicates high to moderate severity of consequence, given exposure, vulnerability and adaptive capacity. For each sub-task (or sector), the expectation is to derive a risk score and prepare a risk map.
Sub-task 5.4.1. Derive the population risk score	Yes	2	0	As mentioned in previous steps related to using population exposure data, population exposure data needs to be disaggregated along GSI. In the context of the risk maps, it would enable more granular identification of at-risk populations. The preset vulnerability categories at present do not include information women and girls.
Sub-task 5.4.2. Derive the natural resources areas risk score	Yes	1	0	As mentioned in previous steps related to using natural resources production data, this data needs to be disaggregated along natural resource-based livelihoods that are co-identified with communities. It is possible that these livelihoods and the impacts of climate change on them will have gender implications.
Sub-task 5.4.3. Derive the urban use areas risk score	No			
Sub-task 5.4.4. Derive the critical facilities risk score	Yes	1	0	The risk estimation needs to consider how hazard risk will impact use of critical facilities that marginalized groups depend on, and not just their physical attributes.
Sub-task 5.4.5. Derive the lifeline utilities risk score	No			

Task 5.5. Analyze adaptive capacities	Yes	2	0	The description of this task provides little guidance on how to conduct an assessment of adaptive capacities. It simply says: "Analyze indicators to describe the adaptive capacities/ characteristics of the exposed elements to implement the necessary interventions and anticipate and reduce risks and/or cope and anticipate potential risks". This is a huge undertaking and requires a systematic approach and associated guidance. It is likely that there is a significant gender mainstreaming opportunity here given that adaptive capacity is certainly influenced by gender considerations. Female community members and community leaders and GSI experts will need to be involved in data gathering and analysis processes. However, without more information of what approach is being suggested in the CDRA manual, it is difficult to more explicitly recommend ways in which gender can be mainstreamed into this task.
Task 5.6. Identify the Decision Areas and prepare a summary Disaster Risk Assessment Matrix	Yes	2	0	This task entails preparing a summary matrix including decision areas (or locations to focus on) and a summary of the technical findings for each of those areas (key vulnerabilities, risks, and adaptive capacities). The summary needs to include GSI findings, but this is only possible if GSI is integrated from Step 1 of the CDRA process.
Task 5.7. Identify policy interventions to reduce risk to acceptable levels	Yes	3	0	This task entails identifying disaster thresholds and associated policy interventions for addressing risks.
Sub task 5.6.1. (misnumbered) Identify the development implications	Yes	2	0	This sub-task entails a thought exercise to develop future scenarios under "business as usual" conditions. This sub-task absolutely requires discussion and learning with diverse stakeholders, including female community members, community leaders, and GSI experts. However, working with other stakeholders is not mentioned in the description of this sub-task.
Sub task 5.6.2. (misnumbered) Identify the various policy interventions	Yes	3	0	This sub-task entails identifying policy interventions to address the identified development implications; however, the sub-task description does not provide appropriate guidance on how to identify appropriate and tangible policy interventions (including "legislation-spatial based policies or programs, projects and activities to reduce exposure, reduce vulnerability and increase adaptive capacity") and how to consider costs, time and effort to implement them. This requires extensive policy dialogues with myriad stakeholders and subject-matter experts to understand policy incentives and ensure that policies do not result in maladaptation. This process has potential to be truly gender transformative if GSI issues are considered and GSI experts and female community stakeholders are involved in identifying and prioritizing policy interventions.