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Women's Involvement in Disaster Risk Reduction and Management in the Province of Pangasinan, Philippines

RANDY F. SORIANO
https://orcid.org/0000-0002-3442-4454
randycathyandreieury@gmail.com
Pangasinan State University
Lingayen, Pangasinan

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ABSTRACT

Disaster risk reduction is the practice of reducing disaster risks through systematic efforts to analyze and mitigate its impact on society, environment, and a vulnerable populace such as women. The study highlighted the degree of involvement of women in the activities and programs conducted by the DRRM under the Local Government Units of Pangasinan, in the Philippines. Likewise, the study includes LGUs' Women employees since they are considered as part of vulnerable group and they are not also spared from the adverse effects of the disasters. Specifically, this descriptive study utilizes 368 selected respondents through stratified random sampling and Slovin's formula. In data gathering, a survey questionnaire was used. Data analysis tools were frequency count and percentage for profile, AWM for degree of involvement along with the DRRM thematic areas. MANOVA, for hypothesis test on significant difference in Women's

involvement across profile. AWM for seriousness of problems encountered and Spearman Rank Correlation for hypothesis test on significant relationship between Women's involvement along with the thematic areas and problems encountered. Findings revealed that Women are moderately involved in DRRM, no significant difference in their involvement across profile except length and status of employment. Women perceived DRRM problems as moderately serious. Lastly, there is a significant relationship between Women's involvement along with the thematic areas and problems encountered.

Keywords: *Disaster Risk Reduction and Management, women, risk reduction, descriptive research design, Philippines*

INTRODUCTION

People around the world suffer from various natural hazards such as earthquakes, tsunami, typhoons, floods, flash floods, landslides, drought, and wildfires which cause severe damages or losses that greatly affect humankind and the natural environment.

Some of the major disastrous events worldwide are Tropical Cyclone in Japan and China in 2019 (Szmigiera, 2021), Indonesia earthquake and tsunami in 2018, United States winter storms, and cold wages in 2019 (Jaganmohan, 2021). The Asia-Pacific is the most disaster-prone region in the world (United Nations Development Programme, 2019; United Nations Population Fund, 2018).

The Philippines is one of the countries in the Asia-Pacific region. It is considered one of the most hazard-exposed countries in the world (Brucal et al., 2020). The country experienced frequent earthquakes, volcanic eruptions and was visited by an average of 20 typhoons every year and five of which are destructive (ADRC, 2019).

Pangasinan is one of the Philippine provinces, it is located in the west-central area of Luzon. The province is one of the top ten lists of provinces that are at risk of earthquakes. It is also considered as one of those provinces with a high risk of strong winds and heavy rainfall brought by typhoons (Tigno et al., 2016). The province is composed of several municipalities situated in low-lying areas which are prone to perennial flooding especially, along river tributaries (Paz-Alberto et al., 2020).

To respond to the adverse impact of the disasters, the Philippine government enacted the PD 1566, or "An Act Strengthening the Philippine Disaster Control and Capability and Establishing the National Program on Community Disaster Preparedness" on June 11, 1978, and to recognize the need to adopt a more

comprehensive policy, the government formulated R.A. 10121, also called the "Philippine Disaster Risk Reduction and Management Act of 2010" which enjoins the government to adopt a disaster risk reduction and management approach that is holistic, comprehensive, integrated, and proactive in lessening the socio-economic and environmental impacts of disasters including climate change, and promote the involvement and participation of all sectors and all stakeholders concerned at all levels, especially the local community.

Moreover, Disaster Risk Reduction is a concept that involves the process of analyzing and finding ways to decrease disaster-related-causing factors. It entails joint efforts systematically practiced to lessen hazards that usually affect human life (Gonzales & Bernabe, 2017; Geneva Centre for Security Sector Governnance- International Security Sector Advisory, 2021). The severity of the disaster depends on the degree of its effects and how much impact a hazard has on society and the environment. The scale of the impact, in turn, depends on the choices that an individual makes for his/her life and to the environment as well. Moreover, the significant losses in human life and livelihoods, the destruction of economic and social infrastructure, and damage to the environment caused by disasters (Gonzales, 2019) paved the way to improve and increased the necessity for more appropriate and timely disaster risk reduction and risk management methods and strategies.

On the other hand, Disaster Risk Reduction Management requires an "All Society Inclusion Approach" which entails the involvement of every part of the society and government since disasters create a different level of impact to men and the vulnerable group such as women. In fact, due to existing socio-economic conditions, cultural beliefs, and traditional practices, women are more likely to be disproportionately affected by disasters, which specifically include the increased loss of livelihoods, gender-based violence, and even loss of life during and in the aftermath of disasters. Thus, the empowerment of women is a critical ingredient in building disaster resilience (UNDRR, 2015).

Nowadays, women are regarded as indispensable members of Philippine society. The 1987 Philippine Constitution Art. 2 Sec. 14 states the role of the Philippine government in recognizing Women as an essential part of nation-building. Likewise, the State ensures the fundamental equality of men and women before the law. Additionally, the Magna Carta of Women also emphasized the elimination of discrimination through the recognition, protection, fulfillment, and promotion of the rights of Filipino women, especially those belonging to the marginalized sectors of society. The Sustainable Development Goals (SDGs) explicitly stated the inclusion of women and gender mainstreaming to eradicate inequalities among men and women (Joint SDG Fund, n.d.).

Decena (2018) states that gender policy alone is not enough to precipitate changes towards gender-responsive operations and outcomes—it requires a fundamental commitment of agencies who aim to deliver equitable development outcomes. This necessitates the integration of Disaster Risk Reduction and Management in national development programs that is inclusive, sensitive, and responsive, especially on marginalized and vulnerable groups on whom the disaster impact is more significant and more destructive. Relative to this, the Philippine Government has put a robust national legal and policy framework that aims to strengthen a more holistic, comprehensive, integrated, and proactive disaster risk reduction management in lessening the socio-economic and environmental impacts of disaster risks (Ani, 2015).

Corollary to this, the Philippine Disaster Risk Reduction and Management Act of 2010 or RA 10121 explicitly states that Disaster Risk Reduction measures employed by the government should be gender-responsive, culturally sensitive, and considerate of human rights. It further provides that the early recovery and post-disaster needs assessment undergo a gender analysis (Parcon, 2017).

Additionally, Magna Carta of Women Section 10 of Republic Act No. 9710 spells out the rights of women affected by disasters, calamities, and other crises. Specifically, women have the right to protection and security in all phases of relief, recovery, rehabilitation, and construction efforts. To this end, the State shall "provide for immediate humanitarian assistance, allocation of resources, and early resettlement, if necessary;" and address the needs of women "from a gender perspective to ensure their full protection from gender-based violence committed against them" (DRR GAD, 2015).

According to UNDRR (2015), the diversity in leadership increases organizational performance and women's leadership can contribute to disaster risk reduction that is more effective, inclusive, and gender-responsive. Relative to this, the United Nations Office for Disaster Risk Reduction (2015) has presented some women's involvement in some parts of the globe such as in South Africa; the Girls in Risk Reduction Leadership (GIRRL) enabled and engaged marginalized girls to participate in and lead local programs to reduce vulnerability. Girls functioned as essential informants and role models for siblings and classmates in disseminating resilience-building and risk-reduction knowledge and encourage relevant actions. In Bangladesh, the two most essential project inputs that helped to improve readiness were early warning and disaster preparedness awareness. Women's leadership was credited as a big part of the successful implementation of preparatory measures. Women's Self-Help Groups (SHGs) in India traditionally took the lead in mobilizing and organizing communities, particularly women, includes women's needs into community-level planning processes, and advocate

women's inclusion in village-level committees and other local government bodies. Lastly, in Vietnam, women's capabilities and leadership have been used directly in and for risk reduction, boosting the resilience-building capacity of members of the Vietnam Women's Union (VWU) and other women organizations.

Unfortunately, UN Women's Organization states that gender equality before the law still does not translate into reality. This is because of the slow increase in women's representation in social, economic, and political affairs which is attributed to prevailing patriarchal norms and gender stereotypes. Although more than 140 countries guarantee gender equality in their constitutions including the Philippines, women still face inequalities directly and indirectly through laws, policies, and social practices (Women UN., n.d.). Even though the Philippines remains the top country in Asia in terms of closing the gender gap, according to the Global Gender Gap Report 2020 of the World Economic Forum (Philippine Commission on Women, 2021) there are remaining challenges to be addressed for Filipino women to realize their full potentials in different institutional functions like Disaster Risk Reduction and Management.

From the above premise, this research study will contribute to gauge the women's involvement in the implementation of policies, programs, projects, and activities relative to Disaster Risk Reduction and Management in the Local Government Unit of the cities and first-class municipalities in Pangasinan, Philippines. Specifically, the objectives of the study are the following: (1). Identify the profile of the female LGU employees in terms of the following: educational attainment, length of employment, employment status, work position in the department, and the number of training and seminars attended related to DRRM (2). Assess the degree of women's involvement along with the following thematic areas of DRRM: Prevention and Mitigation, Preparedness, Response and Rehabilitation, and Recovery (3). Evaluate the significant difference in women's involvement in DRRM across their profile (4). Assess the degree of seriousness of the problems encountered on women's involvement in DRRM (5). Measure the significant relationship between women's involvement along with the four thematic areas and problems encountered in DRRM?

METHODOLOGY

Considering the ethical procedures in the conduct of a research study, the researcher secured a copy of ethics clearance prior to the collection of needed data which was issued by the Pangasinan State University Research Ethics Board. Moreover, to determine the reliability of the research instrument, pre-testing was considered before collecting the actual data. 50 women respondents from

different LGUs' were drawn as samples for the pilot testing of the designed research instrument. Furthermore, the Test-retest was also used to assess the reliability of the instrument.

On the other hand, the study employed a descriptive method of research with a survey questionnaire instrument used in gathering data. The 368 female respondents were identified through Slovin's formula and randomly selected through stratified random sampling. Specifically, the five-point Likert Scale was also used to describe the degree of Women's involvement and the seriousness of the problems encountered in line with DRRM. Moreover, the following statistical tools were used to treat the data gathered. The frequency count and percentage were utilized to determine the profile of the respondents. Likewise, the average weighted mean was used to establish the degree of Women's Involvement in Disaster Risk Reduction and Management along with the following thematic areas, namely Prevention and Mitigation, Preparedness, Response, and Rehabilitation and Recovery. Furthermore, the Multivariate Analysis of Variance (MANOVA) was used to test the hypothesis of significant difference in the Women's Involvement in the DRRM across their profile. Additionally, the average weighted mean was used to identify the extent of seriousness of the problems encountered in Women's Involvement in DRRM. Finally, to test the hypothesis of the significant relationship between Women's Involvement along with the four thematic areas and the problems encountered in DRRM, the Spearman Rank Correlation was employed.

RESULTS AND DISCUSSION

Out of 368 female respondents, most of them are college graduates (78.0%). About, (22.0%) of the respondents serve one year in government service. About half of the total number of respondents are regular employees (46.5%). Half of the total number of respondents are in the administrative position (45.1%). Most of the respondents are not attending seminars and training related to DRRM. More than half of the respondents are not attending local seminars and training (57.1%). Almost all of the respondents are not attending regional seminars and training (91.6%). Likewise, almost all of the respondents are not attending national and international seminars and training with (95%) and (99.7%) respectively. This shows that education is regarded as an avenue in improving one's qualification and may bring better opportunities hand in hand with higher educational qualifications (Gonzales, et al., 2019).

Table 1. Frequency and percentage distribution of the respondents according to their profile variable

Variable	Category	f	%
Educational Attainment	College Undergraduate	43	11.7
	College Graduate	287	78.0
	Master's Degree with Earned Units	31	8.4
	Master's Degree Graduate	7	1.9
Length of Employment	1-10 years	276	75.0
	11-20 years	40	10.87
	21-30 years	37	10.05
	31-40 years	15	4.08
Employment Status	Job Order	25	6.8
	Contractual	111	30.2
	Regular/Permanent	171	46.5
	Others (Temporary)	61	16.6
Work position in the department	Clerical	69	18.8
	Administrative	166	45.1
	Others (Admin Aide)	133	36.1
Number of training and seminars attended related to DRRM			
Local	0	210	57.1
	1-5	155	42.0
	6 or more	3	.8
Regional	0	337	91.6
	1-5	29	7.9
	6-10	1	.3
	11 or more	1	.3
National	0	351	95.4
	1-5	16	4.3
	6-10	1	.3
International	0	367	99.7
	1-5	1	.3

According to Vera-Toscano et al. (2017), educational attainment improves people's social outcomes and encourages active engagement in society as well as stability. Hoffman and Muttarak (2017), also said that formal education raises the person's propensity to prepare them against disasters. In the study conducted, it was found out that in the LGUs of Pangasinan, some of the employees did not finish a college degree and seldom of them obtained any post graduate degree. However, their educational attainment has no bearing in their involvement in the activities and programs of DRRM. They may have same level of education but they may have different skill levels due to the differences in the quality of education and ability. Hence, skills can vary over time.

Moreover, length of employment may be attributed to the level of involvement of the women employee in DRRM. Hinzmann et al. (2019), state that the involvement of recently hired employees is more evident than for employees with higher seniority. Senior employees are no longer interested in joining other activities; rather they focus more on their usual duties in an organization. However, listening to employees and meeting their requirements is not a selfless approach for the organization rather it is a clear strategy of increasing the involvement of the employees, especially the female employees to become actively involved in DRRM.

On the other hand, many of the LGU employees are working under contractual status. As stated by Cabochan in Cruz (2019), the government is the largest agency who employs worker under contract of service. Likewise, the government creates casual and contractual positions and hires workers to the said positions year after year. Work arrangements such as part-time work, temporary or short-term contract jobs have a limited temporal attachment to the organization. The limited temporal, physical, or administrative attachment to organizations demonstrates a weaker connection to the organization which affects their level of involvement in the affairs of the organization. Studies also say that regular and non-regular employees have the same level of attachment to the organization (George et al., 2015),

Furthermore, the work position is not a reason for non- participation in DRRM. Employees at all levels of the organization should make an effort to invest in personal skill acquisition and development to gain the essential competencies and knowledge that will enable them to participate actively in a variety of organizational activities (Obiekwe et al., 2019). Likewise, in any government programs and activities the top organizational officials should be the primary drivers of the organization's plans (SHRM. org, n.d.). Unfortunately, because gender stereotypes persist, women are less encouraged to participate in DRRM activities. Women's participation is not hindered by their employment position; rather, more encouragement to women will motivate them to be involved.

Lastly, attendance and participation to training and seminars are very significant venues to learn and apply the knowledge gained to one's personal life. According to the Organization for Security and Co-operation in Europe (2019), DRR training courses create a strong partnership between civil society organizations and local government. The major objectives of training, according to (Gervais, 2016 cited by Roni et al., 2018), are to develop the ability, skill, and attitude of employees or members of the organization so that employees can be more effective and efficient in achieving the program or organizational goal. Employees who receive the necessary training are more able to perform in their job. Insufficient knowledge to DRRM hinders women employees to be

involved in the activities and programs conducted under the LGUs. According to 2020projectmanagement.com (n.d.), employees will gain a better grasp of their roles, duties and responsibilities as a result of training, which will boost their confidence and performance in an organization.

The employees' involvement in the activities and programs of the DRRM in LGUs is complex and there is no single influencing variable. Basically, the encouragement of the LGU officials will be a great motivating factor for the involvement of women in DRRM. Since women are more vulnerable to the impact of hazards brought by the disasters, it necessitates their full involvement in DRRM to keep them resilient and less susceptible to the adverse effects of hazards in their life.

Table 2.1 Involvement in Disaster Prevention and Mitigation

Concerns along with Disaster Prevention and Mitigation	**AWM**	**DR**
1. Identifying specific needs of Women thru community-based hazard assessment.	3.41	HI
2. Instigating a national mitigation strategy taking into account Women's visions on more sustainable communities and gender issues.	3.32	MI
3. Joining the conduct of a clean and green or tree planting program.	3.66	HI
4. Research on the role of gender in the planning, response, and recovery activities.	3.32	MI
5. Participating in community-based and scientific DRRM assessment, mapping, analysis, and monitoring	3.38	MI
6. Distributing relevant brochures and materials which contain information such as social and psychological effects of the disaster.	3.29	MI
7. Developing an alternative plan for Women unable to access existing evacuation sites safely.	3.31	MI
8. Supporting Women organizations organized to mitigate environmental hazards and respond to natural disasters.	3.44	HI
9. Strengthening skills, capacities, and resources arise from women's traditional life experiences.	3.44	HI
10. Addressing different needs and potential conflicts among Women in disaster contexts and between women and men.	3.30	MI
11. Receiving incentives or recognition to increase Women's full and equal participation in disaster and development.	3.28	MI
12. Disseminating information regarding the suspension of offices and or classes based on advisories given by the warning agencies and, or the national government.	3.42	HI
Overall Weighted Mean	3.38	MI

Legend: 1.00-1.80 Leal- Least Involved, 1.81- 2.60 LI- Less Involved, 2.61- 3.40 MI- Moderately Involved, 3.41- 4.20 HI- Highly Involved, 4.21- 5.00 VHI- Very Highly Involved

The table shows that, in disaster prevention and mitigation, the female employees are moderately involved, as manifested by a weighted means of 3.38. Likewise, they are moderately involved in disaster preparedness with the obtained weighted mean of 3.39. Similarly, in disaster response, they are moderately involved with the computed weighted mean of 3.36. Finally, in disaster rehabilitation and recovery, they are moderately involved with the revealed weighted mean of 3.31.

The moderate involvement of Women in disaster prevention and mitigation, as revealed in the findings of the study implies that LGUs need to encourage Women to participate and motivate them to become more active in activities and programs related to the said area. According to NDRRMP 2011-2028, the National Disaster Risk Reduction and Management envisions a nation with safer, adaptive and disaster-resilient communities toward sustainable development, it conveys a paradigm shift from reactive to proactive DRRM wherein men and women have increased their awareness and understanding of DRRM, with the end view of increasing people's resilience and decreasing their vulnerabilities (ndrrmc.gov.ph).

Disaster vulnerable groups like women must increase their involvement in the disaster prevention and mitigation activities and programs through the initiatives of the LGUs. Miambo-Ngcuka & Glasser (2017), reiterated that resilience cannot flourish in an environment where those disasters vulnerable and affected most are excluded.

Table 2.2 Involvement in Disaster Preparedness

Concerns along Disaster Preparedness	AWM	DR
1. Designing the Annual City/Municipal DRRM Planning and Budgeting.	3.27	MI
2. Joining the awareness campaign and enhancing capacity of communities to the threats and impacts of hazards	3.50	HI
3. Empowering Women socially and economically to reduce discrimination before, during, and after the disaster.	3.50	HI
4. Attending training on mainstreaming gender issues in DRRM.	3.38	MI
5. Discussing among other employees about the disaster preparedness and readiness information materials.	3.39	MI
6. Speaking out within own organizations to voice Women's views on disaster risk reduction.	3.29	MI
7. Engaging in proactive planning for a violence-free and culturally-sensitive disaster resilient community.	3.33	MI
8. Involving in seminars, training, and workshops on disaster resilience.	3.36	MI
9. Conducting quarterly drill exercises like fire, earthquake, and evacuation drills.	3.44	HI

10. Developing and establishing several early warning systems and devices such as sirens for schools and barangays in various areas in the City/Municipality.	3.29	MI
11. Engaging women as full and equal partners in all aspects of hazard awareness throughout the disaster process.	3.47	HI
12. Equipping women with the necessary skills and capability to cope with the impacts of disasters.	3.45	HI
Overall Weighted Mean	3.39	MI

Legend: 1.00-1.80 Leal- Least Involved, 1.81- 2.60 LI- Less Involved, 2.61- 3.40 MI- Moderately Involved, 3.41- 4.20 HI- Highly Involved, 4.21- 5.00 VHI- Very Highly Involved

The findings of the study implies that, more effort must be exerted by the LGUs' DRRM to increase the participation of Women in disaster preparedness for them to become more visible and partake in activities and programs related to the said area.

In relation to this, it was emphasized by the Center for Disaster Philantrophy (n.d.), that building Women's empowerment and the inclusion of women in disaster planning creates resilience. It was also reiterated that Women can help for themselves that may not be understood by the male. Thus, Women's involvement can also help build security for their families, including awareness of personal preparedness and secure better health.

Table 2.3 Involvement in Disaster Response

Concerns along with Disaster Response	AWM	DR
1. Report to the concern agencies and organizations about the plight of women before, during, and after the disaster.	3.35	MI
2. Prepare database of the female populace to ensure the easy monitoring of possible victims and survivors of a disaster.	3.28	MI
3. Involving in culturally appropriate post-disaster responses, like long-term recovery outreach teams and alternative physical and mental health.	3.22	MI
4. Developing an emergency response material in gender-sensitive languages.	3.26	MI
5. Participating in for the increase local encouragement and support for Women in emergency response.	3.34	MI
6. Fostering participatory, community-driven approaches guided by a gender analysis.	3.21	MI
7. Promoting the exchange of knowledge and information among women, including traditional knowledge as well as scientific and technical expertise.	3.46	HI
8. Ensuring information dissemination system from LGU information bulletin to the possible effect and impact of a disaster to women.	3.39	MI

9. Tapping Women in informing the community people about the significance of preemptive evacuation.	3.37	MI
10. Monitoring Women's access to information and other resources at the local level.	3.38	MI
11. Securing the Women's right in times of disasters, calamities especially in all phases of relief, recovery, rehabilitation and construction efforts.	3.51	HI
12. Coordinating with the City/Municipal Social Welfare and Development Office and other government agencies and private organizations for relief operation and assistance.	3.51	HI
Overall Weighted Mean	3.36	MI

Legend: 1.00-1.80 Leal- Least Involved, 1.81- 2.60 LI- Less Involved, 2.61- 3.40 MI- Moderately Involved, 3.41- 4.20 HI- Highly Involved, 4.21- 5.00 VHI- Very Highly Involved

The findings of the study implies that the LGUs' DRRM must design plan to ensure the visibility and engagement of Women in disaster response. In relation to this, Legarda in Parcon (2017) emphasized that it is important for women to be capacitated to disaster response after the onslaught of any disaster and also to be integrated into the overall DRRM strategy to take on critical DRRM leadership roles.

Encouragement to Women as leaders in DRRM activities and programs must be seen and felt in every LGUs' DRRM. Women should not only be considered as members rather they should also partake in spearheading DRRM contingency planning and strategies.

Table 2.4 Involvement in Disaster Rehabilitation and Recovery

Concerns along with Disaster Rehabilitation and Recovery	**AWM**	**DR**
1. Facilitating Women's participation in developing post-disaster recovery and reconstruction plans empowering women.	3.35	MI
2. Engaging Women in psycho-social recovery programs to the victims and survivors of the disaster.	3.36	MI
3. Establishing contact groups and continue to learn from each other's experience using the alternative approach in coping with encountered disaster.	3.24	MI
4. Safeguarding a psychologically sound, safe and secure women, and protected from the effects of disasters.	3.36	MI
5. Helping to rebuild or repair houses to be more resilient to hazard and safer sites for housing.	3.14	MI
6. Strengthen the economic activities or livelihood sources for Women.	3.34	MI
7. Assessing the needs of Women including damages to their properties and their losses.	3.25	MI
8. Increasing resilience and capacities of Women in communities in coping with future hazard events.	3.27	MI

9. Planning for fun and restoring activities, including exercise and social activities for the community.	3.32	MI
10. Providing Women's basic (health and hygiene) needs in the evacuation areas.	3.46	HI
11. Providing health care and other immediate resources available for Women.	3.48	HI
12. Involving Women in designing programs for repairing or rebuilding homes for the affected community.	3.18	MI
Overall Weighted Mean	3.31	MI

Legend: 1.00-1.80 Leal- Least Involved, 1.81- 2.60 LI- Less Involved, 2.61- 3.40 MI- Moderately Involved, 3.41- 4.20 HI- Highly Involved, 4.21- 5.00 VHI- Very Highly Involved

Since the findings indicate a moderate involvement of female employees, the LGUs' DRRM may do more ways to increase Women's visibility and involvement in disaster rehabilitation and response or post disaster activities.

To increase Women's role in the said area will possibly improve their knowledge on actions they need to do in post-disaster phase. Similarly, Sohrabizadeh (2016), states that, the destructive effects of disasters on Women can be modified by mainstreaming their capacities in the post-disaster phases. Hence, developing Women's capacities is necessary for them to withstand the impact of the aftermath of disaster hazards.

Table 2.5. shows the summary on Women's Involvement in Disaster Risk Reduction and Management along the four thematic areas.

Table 2.5. Summary on Women Involvement in the Four Thematic Areas in DRRM

Four thematic Areas	**WM**	**DR**
Disaster Prevention and Mitigation	3.38	MI
Disaster Preparedness	3.39	MI
Disaster Response	3.35	MI
Disaster Rehabilitation and Recovery	3.31	MI
Overall Weighted Mean	**3.36**	**MI**

Legend: 1.00-1.80 Leal- Least Involved, 1.81- 2.60 LI- Less Involved, 2.61- 3.40 MI- Moderately Involved, 3.41- 4.20 HI- Highly Involved, 4.21- 5.00 VHI- Very Highly Involved

The summary on Women's involvement in the four thematic areas in DRRM shows that the combined four thematic areas obtained an overall weighted mean of 3.36 which indicates that the female employees are **moderately involved** in the said thematic areas. This would mean that female employees are not totally

engaged in the activities and programs conducted related to disaster resiliency. Likewise, some of Women's concerns relative to Disaster Risk Reduction and Management are not fully addressed.

Table 3.1 Difference in Women's involvement in DRRM across their profile multivariate tests

Profile Variables	Wilks' Lambda	F	df	Sig	Partial Eta Squared
Educational Attainment	.969	.948	12.000	.498	.010
Length of employment	.884	3.793*	12.000	.000	.040
Employment status	.937	1.983*	12.000	.023	.021
Work Position in the Department	.985	.684	8.000	.706	.008
Number of trainings/seminars (local)	.910	1.429	24.000	.083	.023
(regional)	.931	1.292	20.000	.174	.018
(national)	.980	.899	8.000	.517	.010
(international)	1.000	.042	4.000	.997	.000

* Significant at .05 level

The table revealed that there is no significant difference in Women's involvement across the educational attainment, work position in the department, and number of training and seminars attended related to Disaster Risk Reduction Management. Moreover, there is a significant difference in Women's involvement across the length of employment and employment status.

The profile variables educational attainment, work position in the department, and the number of training and seminars attended related to Disaster Risk Reduction and Management do not imply differences in the level of women involvement in DRRM thematic areas. This would mean that the said variables are not considered as a great factor that contributes to their level of involvement in DRRM.

In educational attainment, whether the person finished a degree or not, their level of involvement is still the same. The result contradicts the statement that individuals who are better educated are more likely to be involved in the community (Sandstrom & Alper, 2019). Relative to DRRM, Hoffman & Muttarak (2017) states that education is one of the factors that promote preparedness and readiness, particularly for people who have not been affected by a disaster in the past.

The female employees' work position does not also imply a direct impact on their involvement in DRRM. Based on the findings, an administrative position is not a guarantee for the person to be more involved in DRRM as compared to support staff. Having a higher position in the organization is not an advantage for the women employee to be involved in DRRM activities and programs.

The result also shows that the limited number of training and seminars attended by women employee limits their active involvement in DRRM. If female employees are more oriented on the rudiments of Disaster Response and Risk Reduction, this would entail them to participate more in the activities of the DRRM. Their attendance at training programs will also remind them of their roles and lessen the gender gap. As stated by Organization for Security and Co-operation in Europe (2019), participating in DRRM training programs significantly contribute to mainstreaming a gender perspective in DRR policies.

On the other hand, based on the findings, the length of employment and employment status implies a direct correlation on women's involvement in DRRM. The length of employment is attributed to the level of involvement in the activities and programs of DRRM. This would mean that employees who render shorter years in the organization show more enthusiasm to participate as compared to senior employees or the other way around. The findings also reveal that employment status directly affects women's involvement in DRRM. This would mean that regular and non-regular employees' involvement in DRRM varies. Non-regular employees may not be actively involved in DRRM activities and programs due to the level of attachment to the organization or the regular employees are more required to be involved in whatever activities of the organization.

Table 3.2 Difference between Women's involvement in DRRM across the length of employment and employment status

Profile Variables	DRRM Thematic Areas	F	Sig	Partial Eta Squared
Length of Employment	Prevention and Mitigation	7.741*	.000	.060
	Preparedness	7.647*	.000	.059
	Response	7.647*	.000	.058
	Rehabilitation and Recovery	8.953*	.000	.069
Employment Status	Prevention and Mitigation	3.183*	.024	.026
	Preparedness	3.616*	.013	.029
	Response	2.651*	.049	.021
	Rehabilitation and Recovery	3.496*	.016	.028

* Significant at .05 level

The table reveals that in between subjects there are no significant differences in the involvement of Women in the DRRM thematic areas, existed on both profiles as shown by the obtained significance, which is below the prescribed value (.05).

The said findings would mean that the profile variable length of employment in not a measure in terms of differences on the level of Women's involvement in the DRRM four thematic areas. Female employees in the LGUs of Pangasinan do not show an indication of very highly active involvement in DRRM four thematic areas. Women have similar degree of participation in DRRM thematic areas, whether the employees have longer years of employment or rendered shorter years in the LGU.

On the other hand, the differences in the level of Women's involvement in the four thematic areas of DRRM are not also gauge according to the profile variable employment status. Similarly, the findings also show that women employees have same degree of involvement in DRRM thematic areas, whether they are regular or non-regular employees.

According to UNWomen (n.d), Women's employment status and economic empowerment are central to realizing Women's rights and gender equality. To

apprehend the said claim the LGU should help realized women's worth in the community or organization she is part of.

Table 3.3 Difference between Women's involvement in DRRM along thematic areas across length of employment mean comparison

DRRM Thematic Areas	Pairwise Comparisons		Mean Difference	Sig
	I (years)	J (years)	I - J	
Prevention and Mitigation	0 to 10	11 to 20	-.0761	.965
		21 to 30	.4049	.074
		31 to 40	1.0635*	.000
	11 to 20	21 to 30	.4810	.122
		31 to 40	1.1396*	.001
	21 to 30	31 to 40	.6586	.111
Preparedness	0 to 10	11 to 20	-.0865	.954
		21 to 30	.5669*	.006
		31 to 40	.9100*	.003
	11 to 20	21 to 30	.6534*	.019
		31 to 40	.9965*	.005
	21 to 30	31 to 40	.3431	.662
Response	0 to 10	11 to 20	.0050	1.000
		21 to 30	.5274*	.015
		31 to 40	1.0119*	.001
	11 to 20	21 to 30	.5224	.101
		31 to 40	1.0069*	.005
	21 to 30	31 to 40	.4845	.388
Rehabilitation and Recovery	0 to 10	11 to 20	.0645	.981
		21 to 30	.7218*	.000
		31 to 40	.8902*	.004
	11 to 20	21 to 30	.6574*	.020
		31 to 40	.8257*	.032
	21 to 30	31 to 40	.1683	.945

*The mean difference is significant at the 0.05 level.

The table reflects the post hoc test results between the categories in employment length with respect to the thematic areas of DRRM. Examination of the post hoc results divulge that 0 to 10 years and 11 to 20 years significantly

differ from those 31 to 40 years in disaster prevention and mitigation. In disaster preparedness, only 0 to 10 years and 11 to 20 years substantially differ from those 21 to 30 and 31 to 40 years, respectively. Concerning disaster response, 0 to 10 years significantly differ from those 21 to 30 and 31 to 40 years and those 11 to 20 years significantly differs from those 31 to 40 years. In terms of disaster rehabilitation and recovery, only 0 to 10 years and 11 to 20 years significantly differ from those 21 to 30 years and 31 to 40 years, correspondingly.

Relative to the findings, young female employees show more involvement in Disaster Risk Reduction and Management activities since they show more enthusiasm to learn and to be trained. According to Alba (2021), most young workers are eager to learn, build their experience and apply their skills in the workforce. Young people are essentially a 'blank slate' since they don't have a huge amount of previous experience.

On the other hand, the findings would mean that employees who render longer years in the LGU are relatively moderately involved in the activities conducted by the LGU's DRRM, corollary to this, Boring & Grogaard (2021), found out that older employees have lower productivity compared with middle-aged employees, Likewise, the same study also states that there is no significant differences in the level of productivity of oldest and middle-aged employees based on other variables.

Table 3.4 Difference between Women's involvement in DRRM along thematic areas across employment status mean comparison

DRRM Thematic Areas	Pairwise Comparisons		Mean Difference	Sig
	I (years)	J (years)	I - J	
Prevention and Mitigation	Job Order	Contractual	-.0164	1.000
		Regular	.2969	.483
		Others	-.0243	1.000
	Contractual	Regular	.3132*	.042
		Others	-.0080	1.000
	Regular	Others	-.3212	.121
Preparedness	Job Order	Contractual	.1846	.836
		Regular	.4691	.124
		Others	.1132	.964
	Contractual	Regular	.2845*	.049
		Others	-.0714	.970
	Regular	Others	-.3559	.079

	Job Order	Contractual	.0402	.998
		Regular	.2682	.608
		Others	-.1168	.963
	Contractual	Regular	.2280	.257
		Others	-.1570	.768
Response	Regular	Others	.3850*	.046
	Job Order	Contractual	.1939	.823
		Regular	.4248	.206
		Others	.0058	1.000
	Contractual	Regular	.2309	.243
		Others	-.1881	.649
Rehabilitation and Recovery	Regular	Others	.4190*	.030

*The mean difference is significant at the 0.05 level.

The table reveals the post hoc test results between the categories in employment status with respect to the thematic areas of DRRM. Investigation on the post hoc results divulge that only respondents who were contractual significantly differs from those regular in disaster prevention and mitigation and disaster preparedness areas. For disaster response and disaster rehabilitation and recovery, only respondents who were regulars significant differs from those others.

Relative to the employment status of the female employees, the findings implies that chances of women involvement in the activities related to DRRM depends on how the head of the agency perceive the significance of the activities and the capacity of the employee to be involved and participate to any activities conducted by the LGUs.

Although department heads, regular, and permanent employees receive the first-hand information on the LGU policies, the support staff must also have the knowledge and must have a good grasp of current legislation and regulations. They must be trained in government activities since they perform everyday administrative activities, prepare decisions, serve the clientele, develop draft documents among others (Trutkowski, 2016).

Table 4. Problems encountered in Women's involvement in Disaster Risk Reduction Management

Problems encountered	AWM	DR
1. Women are stereotyped as weak and will contribute a little in DRRM.	3.10	MS
2. Insufficiency of fund to finance the inclusion of women in DRRM programs and activities.	3.00	MS
3. Lack of designed programs and activities intended for women for their coping needs before, during and after the disaster.	2.90	MS
4. No approved or available policies mandating that women must partake in any DRRM program implementations.	2.85	MS
5. No evident Gender and Development mainstreaming in DRRM.	2.86	MS
6. Lack of support from most of the LGU Department on the participation of women in activities related to DRRM	2.78	MS
7. Lack of family support on allowing their female family members to become part in DRRM.	2.67	MS
8. There were seminars and lectures held about DRRM but very little attention has been given to actual demonstrations or drills.	2.80	MS
9. Unwillingness to join disaster preparedness, prevention, and mitigation, response and rehabilitation and recovery programs.	2.72	MS
10. Non-holistic disaster risk assessment and planning to reduce vulnerabilities of women.	2.70	MS
11. No community and barangay council participation on training and drill on DRRM.	2.70	MS
12. Unpracticed DRRM awareness learnings and tips at home.	2.77	MS
Overall Weighted Mean	2.82	MS

Legend: 1.00-1.80 LeaL-Least Serious, 1.81- 2.60 LI- Less Serious, 2.61- 3.40 MS- Moderately Serious, 3.41- 4.20 HS- Highly Serious, 4.21- 5.00 VHS- Very Highly Serious

The findings revealed that the female employees perceived the enumerated problems as moderately serious as manifested by the weighted mean of 2.82. This implies that, since the female employees are moderately involved in the activities and programs of DRRM thematic areas, they do not consider the listed problems as highly serious since most of the problems are seldom encountered by women relative to implementation of DRRM activities and programs.

Relatively, Salcedo (2016) in his study included the degree of seriousness of the problems encountered in mainstreaming gender in DRRM as one of the variables. He found out that the respondents perceived the problems as highly serious. This shows that respondents of both studies have almost the same

perception on the problems related to DRRM.

Moreover, the finding also implies that the problems related to DRRM need to be addressed properly in order to increase women's involvement in the DRRM activities and programs.

Table 5. Relationship between Women's involvement along the four thematic areas and the problems encountered in DRRM

	Problems Encountered	
DRRM Thematic Areas	**r value**	**Sig value**
Prevention and Mitigation	.261	.000
Preparedness	.305	.000
Response	.261	.000
Rehabilitation and Recovery	.288	.000

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5 presents the summary of computed Spearman rank value obtained in finding the relationship between Women's Involvement along the Four Thematic Areas and the Problems Encountered in DRRM. There is significant relationship between Women's involvement along the four thematic areas and the problems encountered in DRRM.

This would mean that the problems related to DRRM are factors which may hinder and limit the Women's participation in DRRM activities and programs. It also implies that the LGUs' DRRM should eradicate the problems to encourage more women involvement and make then more disaster resilient.

On the other hand, Abao, et al. (2017), said that the factors that put women at a disadvantage are limited access to education, physical capacities, lack of access to information, exclusion to decision-making processes, and existence of patriarchal societies are the challenges that hinders women to their involvement in disaster management. It was also stated that Women participation should come from different levels of governance either national or local, and across relevant agencies and sectors.

CONCLUSIONS

The study made evident that most women in LGUs in Pangasinan are moderately involved in the programs and activities initiated and implemented by City or Municipal DRRM in line with Disaster Prevention and Mitigation, Preparedness, Response, and Rehabilitation and Recovery. Concerning the

profile of the women LGU employees, the degree of their involvement does not vary specifically in terms of their educational attainment, work position in the department, and number of training and seminars attended. The said profile variables have no great influence on the manner and level of individual participation in DRRM. On the other hand, it was evident that their length of employment and employment status affects their level of involvement in DRRM. Employees with longer years of employment may either be active nor inactive participants in the activities conducted by the LGUs. Likewise. the status of employment may influence their participation, regular employees are more likely to be tapped in the affairs of the LGUs. Lastly, stereotyping women as weak is still a challenge for the full and active involvement of women in the activities and programs of City and Municipal DRRM in Pangasinan.

RECOMMENDATIONS

In the light of the conclusions, the following recommendations are hereby advanced: For women to become disaster risk resilient, the Government Agencies, Local Government Units and the City or Municipal Disaster Risk Reduction and Management Office may encourage more Women involvement in the DRRM activities and projects in line with its thematic areas. Involve them in seminars and trainings related DRRM thematic areas for them to be informed and knowledgeable about the adverse impact of human-made and natural disasters and enable them to cope up with possible disaster risks. Women involvement to City or Municipal DRRM activities and projects should not only be exclusive to its female staffs or employees, rather the vulnerable groups in society must take part in DRRM.

LITERATURE CITED

Abao, C., Chee, L., Jayme-Lao, M. E., Mendoza, D., & Veneracion-Rallonza, M. L. (2017). *Women in natural disasters: indicative findings in unraveling gender in institutional responses*. Retrieved from https://aichr.org/wp-content/uploads/2019/01/Adopted_AICHR_Thematic_Study_Women_in_Natural_Disasters_26012018.pdf?fbclid=IwAR1I8rIUmsRtdY7Zp3usvzzH5ecfzJhQKFXJf9xH7g6U-H4rygFUSoxiGIc

Asian Disaster Reduction Center (2019). *Information on disaster risk reduction of member countries: Philippines.* Retrieved from https://www.adrc.asia/nationinformation.php?NationCode=608&Lang=en&fbclid=IwAR1C1OGcX1dtK9R3xanDmH19ooaeeZRpPYaKBsJxZGRz5Wsn1jsC_HhKst0

Alba, J. (2019, October 28). *Six top benefits of hiring young talents*. UNICEF. Retrieved from www.unicef.org: https://www.unicef.org/thailand/stories/6-top-benefits-hiring-young-talent

Ani, P. A., Daquio, C. R., & Aquino, A. (2015, April 1). *Republic Act 10121: an approach in strengthening disaster risk reduction and management in the Philippines.* Retrieved from www.ap.fftc.org.tw: https://ap.fftc.org.tw/article/838

Børing, P., & Grøgaard, J. B. (2021). Do Older Employees Have a Lower Individual Productivity Potential than Younger Employees?. *Journal of Population Ageing*, 1-29. https://link.springer.com/article/10.1007/s12062-020-09323-1

Brucal, A., Roezer, V., Dookie, D. S., Byrnes, R., V., R. M.-L., Cruz, F., & V., M.-L. (2020). *Disaster impacts and financing: local insights from the Philippines.* Grantham Research Institute on Climate Change and the Environment. Retrieved from https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/06/GRI_policy_report_Disaster-impacts-and-financing_Local-insights-from-the-Philippines.pdf

Center for Disaster Philantrophy (n.d.). *Women and girls in disasters.* https://disasterphilanthropy.org/issue-insight/women-and-girls-in-disasters/

Cruz, M. (2019, November 23). 'Regularize all contractuals in government'. *Manilastandard.net.* https://www.manilastandard.net/mobile/article/310857

Decena, T. M. C. (2018). *Reality check: gender mainstreaming in a JICA-funded disaster risk reduction and management project in the Philippines: a thesis presented in partial fulfilment of the requirements for the degree of Master of International Development, Massey University, Manawatu, New Zealand* (Doctoral dissertation, Massey University). https://mro.massey.ac.nz/handle/10179/14196

George, E., Chattopadhyay, P., & Ng, C. K. (2016). The relationship between workgroup blending and perceived organizational inducements: The mediating roles of tasks and relationships. *Australian Journal of Management*, *41*(3), 538-562. https://journals.sagepub.com/doi/abs/10.1177/0312896215595680

Gonzales, R. (2019). Cost-effectiveness analysis (CEA) on community adaptation strategies of men and women in Pangasinan, Philippines. *International Journal of Scientific & Technology Research*, *8*(11), 3483-3486. http://

www.ijstr.org/final-print/nov2019/Cost-effectiveness-Analysis-cea-On-Community-Adaptation-Strategies-Of-Men-And-Women-In-Pangasinan-Philippines.pdf

Gonzales, R. D., Bautista, A. S., & Gelido, R. T. (2019). Work Status of Alumni and Their Satisfaction on Selected Indicators in the School of Advanced Studies (SAS). *World Journal of Education*, *9*(2), 56-64. https://eric.ed.gov/?id=EJ1212996

Gonzales, R.D., & Bernabe, M.E. (2017). Coastal Hazards, Impacts And Interventions. *International Journal of Scientific & Technology Research, 6*, 55-59. http://www.ijstr.org/final-print/oct2017/Coastal-Hazards-Impacts-And-Interventions.pdf

Hinzmann, R. A., Rašticová, M., & Šácha, J. (2019). Factors of employee engagement at the workplace. Do years of service count?. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*. https://repozitar.mendelu.cz/xmlui/handle/20.500.12698/1303

Hoffmann, R., & Muttarak, R. (2017). Learn from the past, prepare for the future: Impacts of education and experience on disaster preparedness in the Philippines and Thailand. *World Development*, *96*, 32-51. https://www.sciencedirect.com/science/article/pii/S0305750X15312559

Geneva Centre for Security Sector Governnance- International Security Sector Advisory Team (2021). *Disaster risk reduction, preparedness and relief and the security sector.* Retrieved from https://issat.dcaf.ch/Learn/SSR-in-Practice/Thematics-in-Practice/Disaster-Risk-Response-and-SSR?fbclid=IwAR1swHEzo3MwVmuQGYdJOMCQFCQpgdbo0t7-zAeuy1GCwfAwSFDlfnSe9jc

Jaganmohan, M. (2021, February 2). Annual number of natural disaster events globally from 2000 to 2020. *Statista.* Retrieved from https://www.statista.com/statistics/510959/number-of-natural-disasters-events-globally/?fbclid=IwAR0uSP1Kac4K4wH5KIZAFPhOVRGbD5wORIF_EP5Y6GI37j-nB4DXgajP-bx0

Joint SDG Fund (n.d.). *Achieve gender equality and empower all women and girls.* https://www.jointsdgfund.org/sustainable-development-goals/goal-5-gender-equality

Miambo-Ngcuka, P., & Glasser, R. (2017, May 18). *Editorial spotlight: What does gender have to do with reducing and addressing disaster risk?.* UN Women. https://www.unwomen.org/en/news/stories/2017/5/compilation-women-in-disaster-risk-reduction

National Disaster Risk Reduction and Management Council (2015, August 12). *GAD checklist for designing disaster risk reduction and management projects.* Retrieved from https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/drr_gad_checklst_final_12_aug_2015.pdf

National Disaster Risk Reduction and Management Council (n.d). *National Disaster Risk Reduction and Management Plan (NDRRMP) 2011-2028.* Retrieved from https://ndrrmc.gov.ph/attachments/article/41/NDRRM_Plan_2011-2028.pdf?fbclid=IwAR3as3-vCinwuLlT1x7r6gJneOCskwAuHrf3rJMorb0_HYVpOilj6kizN10

Obiekwe, O., Zeb-Obipi, I., & Ejo-Orusa, H. (2019). Employee Involvement in Organizations: Benefits, Challenges and Implications. *Management and Human Resource Research Journal*, *8*(8), 1-10. Retrieved from http://cird.online/MHRRJ/index.php/2019/09/03/employee-involvement-in-organizations-benefits-challenges-and-implications/

Organization for Security and Co-operation in Europe (2019, August 21). *Strengthening the Role of Women in Disaster Management.* https://www.osce.org/mission-to-serbia/428348

Parcon, R. M. (2017, June). *Towards an inclusive disaster risk reduction management process.* Center for International Relations and Strategic Studies. Retrieved from https://www.fsi.gov.ph/towards-an-inclusive-disaster-risk-reduction-management-process/?fbclid=IwAR3kIL-Y1ULm5ju1sQ5UF5H2rYzN-VWfD69eJ-1UTn6lxuXdpBBnrl8xnzfU

Paz-Alberto, A. M., Espiritu, J. A. A., & Mapanao, K. (2020). Dagupan River Basin Exposure and Vulnerability Assessment of Buildings Extracted from LiDAR Derived Datasets. *American Journal of Climate Change*, *9*(4), 454-479. Retrieved from https://www.scirp.org/journal/paperinformation.aspx?paperid=106260

Philippine Commission on Women (2021). *Philippines drops eight places in gender equality, remains top in Asia*. Retrieved on https://pcw.gov.ph/philippines-drops-8-places-in-gender-equality-remains-top-in-asia/

Roni, K. A., Moein, A., & Effendi, N. I. (2018). Determination of work motivation and its implication on employee performance secretariat of kpu se-province jambi. *International Review of Management and Marketing*, *8*(6), 72. https://www.proquest.com/docview/2129405865?pq-origsite=gscholar&fromopenview=true

Salcedo, R. E. (2016). Gender mainstreaming in disaster risk reduction and management in the second district of Pangasinan. *Journal of Gender Studies*, 1-9. https://psurj.org/wp-content/uploads/2018/12/JOGS_004.pdf

Sandstrom, A., & Alper, B. A. (2019, February 22). *Americans with higher education and income are more likely to be involved in community groups.* Pew Research Center. Retrieved from https://www.pewresearch.org/fact-tank/2019/02/22/americans-with-higher-education-and-income-are-more-likely-to-be-involved-in-community-groups/

Sohrabizadeh, S. (2016). The neglect of Women's capacities in disaster Management Systems in Iran: a qualitative study. Indian Journal of Gender Studies, 23(3), 467-480. https://journals.sagepub.com/doi/abs/10.1177/0971521516656080

Szmigiera, M. (2021, March 30). *National disasters with the most economic damage worldwide in 2019 (in billion dollars).* Statista. Retrieved from https://www.statista.com/statistics/273895/natural-disasters-with-the-most-damage/?fbclid=IwAR3AZyqwcm91EjEOtztjWZXCGKsSm_EhjKilVnMBoMPV3_t_rQEd-kihP2Uc

Tingco, M. D., Sison, Z. M., & Pambid, R. C. Disaster Risk Reduction and Management System Implementation in the Third Congressional District of Pangasinan. Retrieved from https://psurj.org/wp-content/uploads/2019/09/2016-05.pdf

Trutkowski, C. (2016). *An effective local government office: developing personnel comptence to build efficient local administration.* Council of Europe. Retrieved from https://rm.coe.int/a-tna-case-study-poland-an-effective-local-government-office-developin/168075fbac

United Nations Development Programme (2019, September 5). *Climate change in Asia and the Pacific. What's at stake?*. Retrieved from https://undp.medium.com/climate-change-in-asia-and-the-pacific-whats-at-stake-47c7b0de5ade

United Nations Office for Disaster Risk Reduction (2015). *Booklet: women's international network on disaster risk reduction (WIN DRR)*. Retrieved from https://www.undrr.org/publication/booklet-womens-international-network-disaster-risk-reduction-win-drr?fbclid=IwAR3yYEyTnewZjFYFFV7z-EsBZKfcyxOl-Z07D6i87Dw0MF1JRvJNEEzc0Yaw

United Nations Population Fund (2018). *Prepositioning supplies in disaster-prone countries of Asia and the Pacific*. Retrieved from https://www.unfpa.org/sites/default/files/resource-pdf/18-291-DeliveringSuppliesCrisis-Asia-finalweb.pdf?fbclid=IwAR1swHEzo3MwVmuQGYdJOMCQFCQpgdbo0t7-zAeuy1GC-wfAwSFDlfnSe9jc

United Nations Office for Disaster Risk Reduction (2015). *Women's leadership in risk-resilient development: good practices and lessons learned.* Retrieved from https://www.unisdr.org/files/42882_42882womensleadershipinriskresilien.pdf?fbclid=IwAR0F2caM8tW7gME8aLgMdGh-D8jVqMgUO3f55Fm9pijH-5doQeUeFCCv1Q2c

Vera-Toscano, E., Rodrigues, M., & Costa, P. (2017). Beyond educational attainment: The importance of skills and lifelong learning for social outcomes. Evidence for Europe from PIAAC. *European Journal of Education*, *52*(2), 217-231. https://onlinelibrary.wiley.com/doi/full/10.1111/ejed.12211