## Gender Equality in Climate Change Policies the case of Viet Nam

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#### **Abstract**

Vietnam is one of the countries that are vulnerable to adverse impacts of climate change. Therefore, Vietnam has actively entered into a series of international commitments and adjusted its domestic policies and laws. In the implementation of international commitments and the implementation of national legislation, there is a problem of gender mainstreaming. This paper focuses on the analysis and evaluation of gender equality in Viet Nam's policies. The analysis highlights the differences and characteristics of gender equality in the field of climate change in Vietnam. Vietnamese women who are affected by climate change play a key role in developing and implementing climate change policies of the country. It is important to clarify that women are the beneficiaries of priority which is not only limited to the equality of climate change. On that basis, recommendations were made to strengthen gender inclusion not only in policies but also in the implementation action plans and strategies on climate change in Vietnam.

Key words: gender equality, climate change, Viet Nam, policies.

## 1. Major impacts of climate change on Vietnam

Climate change is one of biggest challenges to human beings. Climate change can lead to serious impacts on production, life and environment on a global scale. Higher temperatures and sea levels rising will cause inundation and water salinity which can bring about negative effects on agriculture and high risks to industry and socio-economic systems in the future. Climate change has been leading to comprehensive and deep changes in global development and security, especially energy, water, food, society, jobs, diplomacy, culture, economy and trade.

Due to the long coastline, geographic location, and diverse topography and climates, a high proportion of the country's population and economic assets (including irrigated agriculture) are located in coastal lowlands and deltas. It is plausible that Vietnam is one of the most hazard-prone countries of the Asia-Pacific region and has been ranked among the five countries in the world likely to be most affected by climate change. Every year, Vietnam has been in exposure to storms and flooding, and as a consequence has suffered from economic and human losses. Impacts of climate change to Vietnam are categorized in the following specific areas:

*Impacts on water resources:* Impacts of climate change on river flow regimes on evapotranspiration and on groundwater table.

Impacts on coastal zones: Sea level rises will increase flood areas, intensity and duration; Coastal

<sup>&</sup>lt;sup>1</sup> GFDRR Country Profile for Vietnam.

ecosystems may be destroyed, and there may be impacts on mangrove forests.

*Impacts on agriculture:* Impacts on agrometeorological factors; on crop growth rate; on crop water demand; on growth and spread of detrimental pests; on growing seasons; on crop geographic distribution; on rice, maize output, and impacts on animal husbandry.

*Impacts on forestry:* Forest vegetation cover and ecosystems are likely to be impacted in a variety of ways by climate change. Shifts in forest ecosystems borderlines; impacts on forest fire risk; on growth and dispersion of harmful forest pests and on forest land.

*Impacts on aquaculture*: Impacts on ecosystems; on aquaculture; on pest and disease growth and spread in aquafarming.

*Impacts on energy and transportation:* Impacts on energy demand; on energy industries; on power infrastructure and on transportation infrastructure.

*Impacts on human health:* Climate change impacts on human health can be categorized into direct and indirect impacts. Direct impacts on health include the direct physical effects of climate, and the environment on human life leading to rapid or gradual changes in customs and lifestyle.<sup>2</sup>

As reported by Viet Nam's second national communication to the United Nations Framework Convention on Climate Change, the impacts of climate change will heavily affect the country's economic production, livelihood, environment, infrastructure, public health, and threaten the achievements of poverty reduction, food and energy security, sustainable development, as well as the fulfillment of the Millennium Development Goals.<sup>3</sup>

## 2. Vietnam's international and domestic efforts to respond to climate change

Climate change has been identified as the country's top priority and focus in the current phase. The Vietnamese Government has shown an early and on-going commitment to climate change, through both engagements with international processes and an extensive domestic policy framework on climate change. Viet Nam signed and ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and 1994 respectively. The Kyoto Protocol was also signed and ratified in 1998 and 2002 respectively. Viet Nam is a non-Annex I Party to the UNFCCC. In 2010, it submitted to the UNFCCC its Second National Communication on Climate Change. On November 3, 2016, the Viet Nam Government ratified the Paris Agreement of the United Nations Framework Convention on Climate Change and the Instrument of Approval was submitted to the United Nation Secretary-General. On October 28, 2016, the Action Plan to implement the Paris Agreement was issued by the Prime Minister. By ratifying the Paris Agreement and the Action Plan to implement it, Viet Nam has been making efforts to join the international community in dealing with climate change.

The Government has introduced a range of legal and normative documents for environmental protection and climate change response.

National Target Program to Respond to Climate Change (NTP) in 2008. The National Target

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<sup>&</sup>lt;sup>2</sup> Viet Nam's second national communication to the United Nations Framework Convention on Climate Change.

<sup>&</sup>lt;sup>3</sup> Viet Nam's second national communication to the United Nations Framework Convention on Climate Change.

Program to Respond to Climate Change (NTP-RCC) is an important first step which provides a broad framework for responding to climate change impacts and reducing the growth of GHG emissions.<sup>4</sup> On the basis of the Strategy's viewpoints, principles, visions, targets and phases of implementation, the Government specifies the priority programs and projects to be checked, designed and implemented.

Resolution No. 24-NQ/TW on "active responses to climate change, promotion of resources management and environmental protection" was approved by the 11th Party Central Committee in the year 2013. The Resolution identifies key solutions to be taken to actively respond to climate change, including awareness raising, education, and improving financial mechanisms and policies. The National Strategy on Climate Change was approved by the Prime Minister under Decision No. 2139/QD-TTg dated December 5, 2011 and emphasizes that climate change will increase its impacts on all social aspects. For a country particularly vulnerable to the effects of climate change and sea level rise like Vietnam, mainstreaming this issue into development plans ministries, agencies and localities is one of the first priorities in responding to climate change. At the same time, through the reduction of greenhouse gas emissions, Vietnam shows its responsibility for contributing to the international community's efforts to protect the Earth climate system.<sup>5</sup>

The National Action Plan on Climate Change for the period 2011-2020 approved by the Prime Minister under Decision 1474/QD-TTg dated October 05, 2012 sets out specific objectives and key tasks to realize the Strategy.

The National Green Growth Strategy adopted in 2012 has an overall objective to achieve a low carbon economy and to enrich natural capital. This is defined in the Glossary of the Decision as a strategy to promote the process of restructuring and improving economic institutions towards more efficient use of natural resources and improved competitiveness of the economy, which will be achieved through increased investments in technological innovation, natural capital and economic instruments. This will contribute to respond to climate change, reducing poverty and ensuring sustainable economic development.<sup>6</sup>

The Green Growth Action Plan with Decision No: 403/QĐ-TTg, on March 2014. The Action Plan defines 66 activities in 4 main themes: Setting up institutions and formulating green growth action plans at the local level; educing the intensity of GHG emissions and promoting the use of clean and renewable sources of energy; Greening production, greening lifestyle and promoting sustainable consumption.<sup>7</sup>

In the implementation of international commitments and the implementation of national policies on climate change, there is a problem of gender equality. Addressing gender equality will not only help Viet Nam implement its international commitments, but also accelerate the process of adaptation and mitigation of negative impacts of climate change.

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<sup>&</sup>lt;sup>4</sup> Dennis Tirpak, The Challenge of Climate Change and Economic Development in Viet Nam, Prepared for the UN in Viet Nam, 2011.

<sup>&</sup>lt;sup>5</sup> Vietnam National Strategy for Climate Change, promulgated with the Prime Minister's Decision No. 2139/QD-TTg of 05/12/2011, Art I.1.

<sup>&</sup>lt;sup>6</sup> Decision 1393/OD-TTg of 25/09/2012

<sup>&</sup>lt;sup>7</sup> Partnership for Market Readiness (PMR) of Vietnam, 2014.

## 3. Gender Equality in international commitments and Vietnamese Government

## policies on climate change

Climate change is causing additional pressures on the developing countries which have been coping with side-effects of urbanization and globalization. The IPCC states that social impacts will vary depending on age, socioeconomic class, occupation, and gender. The likely impacts of climate change will have the largest effect on those withthe least responsibility for the problem: the poorest sections of the population and, in particular, poor women.<sup>8</sup>

Women are critical to the increase of the effectiveness of climate change actions around the globe. There is a growing recognition of the differential impact of climate change on women. 10 The United Nations Conference on Population and Environment recognized the value of women in natural resource management, and their intrinsic importance was reflected in the Agenda 21 documentation. <sup>11</sup> The Intergovernmental Panel on Climate Change (IPCC) shows the differential and disproportionate impacts of climate change on women. It is now well established that climate change has significant linkages with disease and other health problems, food insecurity, displacement and loss of livelihood, and conflict. In conjunction with climate-related environmental calamities and natural disasters, incidences of sexual and gender-based violence, human trafficking and sexual exploitation have spiked. Women facing multiple forms of discrimination, including indigenous women, women in urban slums and rural areas, women migrants and refugees, and women with disabilities, are even more affected by climate change. 12 Women play a pivotal role in natural resources management and in other productive and reproductive activities at the household and community levels. This puts them in a position to contribute to livelihood strategies adapted to changing environmental realities. Their extensive knowledge and expertise - that can also be used in climate change mitigation, disaster reduction and adaptation strategies - makes them effective actors and agents of change. <sup>13</sup> More attention to gender can help combat climate change. The future for gender and climate change policy rests in great part on political will at all levels of international and local community.<sup>14</sup>

#### 3.1. Gender equality in the international commitments on climate change

Progress on the incorporation of gender concerns in international agreements on climate change has been

http://www.unwomen.org/en/news/stories/2016/11/op-ed-by-ded-puri-on-making-paris-climate-change-agreement-deliver-for-women-and-girls#sthash. Yi0QwcP5.dpuf.

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<sup>&</sup>lt;sup>8</sup> Stott R. Population and climate change: moving toward gender equality is the key. J Public Health 2010; 32: 159 60.

<sup>&</sup>lt;sup>9</sup> See more at: http://www.huffingtonpost.com/melanne-verveer/why-gender-is-on-the agen\_b\_12982140.html?utm\_hp\_ref=cop22.

<sup>&</sup>lt;sup>10</sup> See more at: http://www.unwomen.org/en/news/in-focus/climate-change#sthash.l4pU0BCr.dpuf

<sup>&</sup>lt;sup>11</sup> Fatma Denton, Climate change vulnerability, impacts, and adaptation: Why does gender matter?, Gender and Development, 2017.

<sup>12</sup> See more a

 $<sup>^{13}</sup>$  UNDP, Overview of linkages between gender and climate change, 2013.

<sup>&</sup>lt;sup>14</sup> Irene Dankelman, Gender and Climate change: An introduction, 2009.

little and slow. Gender aspects are rarely addressed in climate change policy.<sup>15</sup> Women have not been granted equal opportunities to participate in making decisions related to climate adaptation and mitigation policies at international level.<sup>16</sup>

United Nations Framework Convention on Climate Change (UNFCCC): Although gender and women's issues are rather well integrated in Agenda 21, the main (not legally binding) outcome document from the Rio Earth Summit (also frequently dubbed the 'blueprint for sustainable development'), gender equality or equity and women's issues are not mentioned in the UNFCCC, which was also adopted at the Rio Summit in 1992.<sup>17</sup>The official texts of the overarching institutional and political framework for global action on climate change, the 1992 UNFCCC and its Kyoto Protocol, which sets targets for reducing carbon emissions, do not refer to gender issues.<sup>18</sup>

However, the issue of gender in the context of climate change gained some initial official recognition at the seventh Conference of Parties (COP) to the UNFCCC in Marrakech in 2001, when decision FCCC/CP/2001/13/aad.4 called for increased participation of women in UNFCCC and Kyoto Protocol bodies and tasked the UNFCCC Secretariat with determining a quota and disclosing data on women's participation at each COP. Since then, participation of women and organisations representing women in the negotiations has been increasing.<sup>19</sup>

At COP18 in Doha, delegations committed to strive towards gender balance in their delegations, in recognition of the unique role of women for climate action. Two years later the Lima Work Program on Gender was launched at COP20. It aimed to advance the implementation of gender-responsive climate policies and mandate gender balance across all areas of the negotiations. But little has been done to implement these commitments. Women delegates at UN climate meetings are still a minority and no binding language had been adopted regarding gender in climate change mitigation and adaptation plans. The world leaders gathered in Morocco addressing a range of gender-related climate issues, from women's increased representation at the decision tables at all levels-local, national, and regional-to the perspectives and initiatives of civil society that must be acknowledged and included in policy and strategy development.<sup>20</sup>

*United Nations Convention on Biological Diversity (CBD):* The COP process of the CBD has been picking up on climate change issues, and it has been picking up on gender issues – however, not in conjunction, and with climate clearly being addressed to a very limited extent.

*United Nations Environment Programme (UNEP):* UNEP operates climate change related activities in several of its centres around the globe; and UNEP has been working on issues such as climate, finance and

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<sup>&</sup>lt;sup>15</sup> Minu Hemmati, *Gender Perspectives on Climate Change*, EMERGING ISSUES PANEL, Commission on the Status of Women, UN, Fifty-second session, New York, 25 February – 7 March 2008.

<sup>&</sup>lt;sup>16</sup> Eleanor Blomstrom and Bridget Burns, WEDO, Gender Brief No.9, Gender equality in the climate agreement.

<sup>&</sup>lt;sup>17</sup> Minu Hemmati, *Gender Perspectives on Climate Change*, EMERGING ISSUES PANEL, Commission on the Status of Women, UN, Fifty-second session, New York, 25 February – 7 March 2008.

<sup>&</sup>lt;sup>18</sup> Röhr, U. 2006. Gender relations in international climate change negotiations. Berlin: LIFE e.V. / genanet.

<sup>&</sup>lt;sup>19</sup> Röhr, U. 2006. Gender relations in international climate change negotiations. Berlin: LIFE e.V. / genanet.

<sup>&</sup>lt;sup>20</sup> See more at: http://www.huffingtonpost.com/melanne-verveer/why-gender-is-on-the agen\_b\_12982140.html?utm\_hp\_ref=cop22.

business; mitigation of energy-related emissions; carbon sequestration and land use, land use change and forestry; vulnerability and adaptation to climate change; technology transfer; capacity building; and climate change and development. UNEP's annual Governing Council Meetings provide an important forum for high-level deliberations among environment Ministers.

*United Nations Commission on Sustainable Development (UN CSD):* The CSD 14/15 cycle mainly dealt with energy, and – to a limited extent – with climate change issues. Women were particularly successful in their advocacy, and the draft CSD15 decision indeed contained a number of strong paragraphs on women and (access to) energy, and a few references to climate change. However, this draft decision was never adopted.<sup>21</sup>

The Convention to Combat Desertification (UNCCD) was adopted in 1994. The UNCCD was a comprehensive framework by which the global community could pursue sustainable development goals and included key texts on gender, recognizing the specific roles, impacts, expectations and knowledge of women and men to the issue of desertification. Article 10 of the UNCCD mandated that national action programmes shall "provide for effective participation at the local, national and regional levels of non-governmental organizations and local populations, both women and men, particularly resource users, including farmers and pastoralists and their representative organizations, in policy planning, decision-making, and implementation and review of national action programmes". <sup>22</sup>

The Beijing Declaration and Platform for Action, the two outcomes of the 1995 Fourth World Conference on Women, are agreements arrived at by governments and the UN to promote a gender perspective in development policies and programs at all levels - local, national and international (UN DPI, 1997). The Declaration links to sustainable development and climate change more broadly by addressing land and credit policies (UN, 1995). UN Women calls upon all Parties to ensure that the work programme includes the development and adoption of a gender equality and women's empowerment policy; systematic integration of gender in all reports; setting an initial quota of 30 per cent women in the Parties' official delegation to UNFCCC meetings; and allocation of dedicated travel and capacity-building funding for women delegates, among other measures.<sup>23</sup>

COP21 in Paris in 2015 recognized gender equality and women's empowerment as the key to achieving the UNFCCC's objectives. The parties promised that they would "respect, promote and consider their respective obligations on human rights ... as well as gender equality, empowerment of women and intergenerational equity" when taking action to address climate change. A gender-responsive approach to climate change is also emphasized in Article 7 and Article 11 of the Paris Agreement that came out of COP21.<sup>24</sup>

<sup>23</sup> See more at: http://www.unwomen<u>.org/en/news/in-focus/climate-change#sthash.l4pU0BCr.dpuf</u>

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<sup>&</sup>lt;sup>21</sup> Minu Hemmati, *Gender Perspectives on Climate Change*, EMERGING ISSUES PANEL, Commission on the Status of Women, UN, Fifty-second session, New York, 25 February – 7 March 2008.

<sup>&</sup>lt;sup>22</sup> The Convention to Combat Desertification, 1994.

<sup>&</sup>lt;sup>24</sup> Hanh Nguyen, Integrating a Gender-Responsive Approach in Climate Change Decision Making, G20 Research Group, July 22, 2016.

#### 3.2. Gender Equality in the policies of Vietnam on climate change

Gender equality has been consistently written into all major policies and programs in the field of climate change. These include, among others: the National Climate Change Strategy (2011) and Action Plan (2012); the National Target Program to Respond to Climate Change (2008); the National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020 (2007); a national Program on Community Based Disaster Risk Management (CBDRM) (2009); and the Vietnam Green Growth Strategy (2012) and Action Plan (2014).<sup>25</sup>

In the area of climate change the National Target Programme to Respond to Climate Change (NTP-RCC 2008) underlines the importance of gender equality as a guiding principle, along with sustainable development. The NTP-RCC also stresses the need to conduct vulnerability assessments at sectoral, regional and community levels. It also emphasizes the role of science and technology for adaptation solutions; increasing public awareness and participation; and integrating climate change into development strategies, plans, and programs in all sectors.<sup>26</sup> It underlines that potential climate change impacts on women can undo the achievement of the MDGs.<sup>27</sup>

The 2011 National Climate Change Strategy lists gender equality as a specific target, besides guaranteeing food, energy and water security, poverty reduction, social security, health, livelihoods and protection of natural resources.

Law on Natural Disaster Prevention and Control 2013 reconfirms gender equity among the core principles of disaster prevention and control, along with other values including humanity, fairness and transparency and a list of six other lengthy principles. The 2013 Ministry of Planning and Investment (MPI)'s Adaptation Prioritisation Framework (which provides technical guidance on screening and prioritising adaptation investments) for the first time introduces gender equality and empowerment as part of a sub-criterion on adaptive capacity improvement.<sup>28</sup>

# 3.3. Specific aspects of gender equality in policy on climate change in Vietnam and some recommendations

*Firstly*, the Vietnamese Government has developed a comprehensive and ambitious policy framework on climate change and disasters, as well as on gender equality. More recently, a clear political commitment to address gender issues within the context of climate change has emerged.<sup>29</sup> Although policy in climate change emphasizes gender equality as a guiding principle, it is largely silent as to how this will be realized, with no specific targets or activities to address women's vulnerability or gender issues, in particular at the

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<sup>&</sup>lt;sup>25</sup> CARE International, Australia aid, BEYOND WORDS: ADVANCING GENDER EQUALITY IN CLIMATE CHANGE, POLICY AND PROGRAMMING IN VIETNAM, 2009.

<sup>&</sup>lt;sup>26</sup> United nations, Vietnam, Oxfarm, Policy Brief: Gender Equality in Climate Change Adaptation and Disaster Risk Reduction in Vietnam, 2011.

<sup>&</sup>lt;sup>27</sup> Climate-resilient Development in Vietnam: Strategic Directions for the World Bank. World Bank (2011).

<sup>&</sup>lt;sup>28</sup> CARE International, Australia aid, POLICY BRIEF; BEYOND WORDS, ADVANCING GENDER EQUALITY IN CLIMATE CHANGE POLICY AND PROGRAMMING IN VIETNAM, 2009.

<sup>&</sup>lt;sup>29</sup> CARE International, Australia aid, BEYOND WORDS: ADVANCING GENDER EQUALITY IN CLIMATE CHANGE, POLICY AND PROGRAMMING IN VIETNAM, 2009.

community level. At the same time, policies for natural disasters and others that relate to climate change, and the responsible agencies, are not addressed in policy frameworks for gender.<sup>30</sup> The implementation of existing legal frameworks and the development of new legal documents and related action plans tend to have little or no reference to gender equality.

Governments and the private sector should be responsible for integrating gender concerns into such climate change programmes, as they are major participants in the development process.<sup>31</sup> Besides, it is necessary to carry out gender analyses to inform the development of new or updated climate change policies and programs; and increase gender mainstreaming in climate change, green growth and disaster risk reduction policies and programs (as well as guidelines and training materials), by integrating gender objectives, targets and indicators in all sections and subsections.<sup>32</sup>

Practical solutions and specific criteria to integrate gender mainstreaming into policies, strategies and plans are needed such as: to raise the capacity of State management over gender equality; to perfect the system of policies and laws on gender equality; to integrate gender equality into legal drafts, with content related to gender equality or gender inequality or discrimination; to incorporate gender equality in the formulation and implementation of action programs or plans of ministries or sectors, as well as socio-economic development strategies, planning and plans of localities; to increase the inspection and evaluation of the implementation of the law on gender equality; to build an inter-sector coordination mechanism for the effective realization of gender equality.<sup>33</sup>

Secondly, women in developing countries like Vietnam are particularly vulnerable to climate change because they are highly dependent on local natural resources for their livelihood. Women who rely heavily on securing water, food and fuel for cooking and heating face the greatest challenges. Women experience unequal access to resources and decision-making processes, with limited mobility in rural areas. It is thus important to identify gender-sensitive strategies that respond to these crises for women.<sup>34</sup> With a tendency to 'victimise' all these groups by solely focusing on their vulnerability – rather than their strengths – it does not recognise the diversity among different groups of people. Women are repeatedly labelled as among the most vulnerable to climate change, together with other 'groups' such as people with disabilities, ethnic minorities, and children. The focus on vulnerability and treating people as part of homogenous groups easily leads to one-size-fits-all programs and interventions that do not reflect reality and are often ineffective.<sup>35</sup>

Women are not simply victims in the face of climate change; they are powerful agents of change and active

<sup>&</sup>lt;sup>30</sup> United Nations Vietnam, Oxfarm, RESPONDING TO CLIMATE CHANGE IN VIET NAM: Opportunities for improving gender equality, A policy discussion paper, 2009.

<sup>&</sup>lt;sup>31</sup> UNDP Asia-Pacific Gender Community of Practice Annual Learning Workshop.

<sup>&</sup>lt;sup>32</sup> CARE International, Australia aid, BEYOND WORDS: ADVANCING GENDER EQUALITY IN CLIMATE CHANGE, POLICY AND PROGRAMMING IN VIETNAM, 2009.

<sup>&</sup>lt;sup>33</sup> United Nations Vietnam, Oxfarm, RESPONDING TO CLIMATE CHANGE IN VIET NAM: Opportunities for improving gender equality, A policy discussion paper, 2009.

<sup>&</sup>lt;sup>34</sup> UNDP, Overview of linkages between gender and climate change, 2013.

<sup>&</sup>lt;sup>35</sup> CARE International, Australia aid, BEYOND WORDS: ADVANCING GENDER EQUALITY IN CLIMATE CHANGE, POLICY AND PROGRAMMING IN VIETNAM, 2009.

managers of common-pool and household resources, because of their "triple roles" in productive, reproductive, and community-managing activities.<sup>36</sup>New or revised policies and programmes should aim to systematically reduce the mention of women as a 'vulnerable group' and actively eliminate gender stereotypes in all related work.<sup>37</sup>

Thirdly, gender is commonly addressed in climate change and disaster risk reduction as an afterthought, and is addressed only under the 'cross-cutting issues' category of a policy document or activity plan with other themes such as disability, ethnic minorities, and civil society strengthening. This frequently leads to mainstreaming fatigue and a 'ticking-the-box' attitude, and means that limited attention is given to ensure that initiatives are gender sensitive or that gender equality is genuinely promoted.<sup>38</sup> A positive solution to this issue would be to raise awareness on both climate change and gender equality, in addition to promoting women's education, and education for all, with specific attention paid to curricula on gender equality and climate change action.

Then, gender inequalities contribute to different vulnerabilities and thereby also to differentiated impacts of disasters and climatic change. Women and men have diverse capacities – knowledge, experience, skills and visions – in dealing with these challenges and impacts. And not all women are the same; they do not form one large homogenous group. There are important differences according to social and economic differentiators such as age (women and girls), social status (rich vs. poor) livelihood and ethnicity (majority vs. minority women).<sup>39</sup> There also are differences between women's and men's exposures to hazards and their capacities to avoid, cope with, or adapt to them.<sup>40</sup>A number of factors account for the discrepancy between women's and men's differentiated exposure and vulnerability to climate change risks. First, compared to men, women face huge challenges in accessing all levels of policy and decision-making processes; Second, socio-cultural norms can limit women from acquiring the information and skills necessary to escape or avoid hazards; Third, a lack of sex disaggregated data in all sectors often leads to an underestimation of women's roles and contributions.<sup>41</sup>

There are some short-term and long-term solutions such as: to develop systems of quality services in order to advocate gender equality in opportunity, participation and benefits in various aspects of social life; to promote research into gender equality in various aspects; to build a database of gender equality to serve gender equality research and policy-making.

Lastly, women's greater participation is also likely to enhance the effectiveness and sustainability of

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<sup>&</sup>lt;sup>36</sup>Robin Mearns and Andrew Norton, Social dimensions of climate change; equity and vulnerability in a warming world, World Bank, 2010.

<sup>&</sup>lt;sup>37</sup> United nations, Vietnam, Oxfarm, Policy Brief: Gender Equality in Climate Change Adaptation and Disaster Risk Reduction in Vietnam, 2011.

<sup>&</sup>lt;sup>38</sup> 2009 UN Viet Nam and Oxfam study: 'Responding to Climate Change in Viet Nam: opportunities for improving gender equality. A policy discussion paper'.

<sup>&</sup>lt;sup>39</sup> United nations, Vietnam, Oxfarm, Policy Brief: Gender Equality in Climate Change Adaptation and Disaster Risk Reduction in Vietnam, 2011.

<sup>&</sup>lt;sup>40</sup> Robin Mearns and Andrew Norton, Social dimensions of climate change; equity and vulnerability in a warming world, World Bank, 2010.

<sup>&</sup>lt;sup>41</sup> Robin Mearns and Andrew Norton, Social dimensions of climate change; equity and vulnerability in a warming world, World Bank, 2010.

climate change projects and policies. Women displayed enormous strength and capacity throughout the entire disaster cycle: preparing for hazards, managing after a disaster and rebuilding damaged livelihoods. WHO has emphasized the importance of tackling overarching issues involving male bias - by boosting women's participation in decision-making forums, women's right to own and inherit land, education and capacity-building. They have also been persistent in pointing at technologies that could protect women from respiratory illnesses. 43

Climate change actions need to be based on consultation with women, to build and incorporate their skills and knowledge, and to provide opportunities for improving health, education and livelihoods. Some actions should carry out gender analyses to inform the development of new or updated climate change policies and programs; to involve gender experts, women leaders and women community representatives in climate risk analyses, planning and prioritisation of investments; to introduce quotas on women's leadership and participation in decision-making within all departments and committees responsible for climate change and disaster risk reduction planning; to ensure that gender-climate change links are mainstreamed in policy and programmes, and ensure women's participation in policy making and decision making at all levels.<sup>44</sup>

<sup>&</sup>lt;sup>42</sup> UNDP, Overview of linkages between gender and climate change, 2013.

<sup>&</sup>lt;sup>43</sup> WHO, 2009, Women and Health, Geneva.

<sup>&</sup>lt;sup>44</sup> United nations, Vietnam, Oxfarm, Policy Brief: Gender Equality in Climate Change Adaptation and Disaster Risk Reduction in Vietnam, 2011.