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Policy Paper
on
Gender Mainstreaming
in Climate Change Adaptation



Policy Paper on Gender Mainstreaming in Climate Change Adaptation

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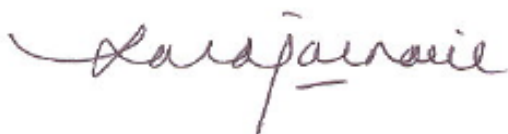
FOREWORD

The President of the Republic of Indonesia, Susilo Bambang Yudhoyono, co-chair of the UN High Level Panel on Post-2015 Development, has underlined during the Rio+20 Conference in June 2012², that “a future of ‘sustainability’ is not only necessary – an absolute must - it is also possible.” He shared his concerns on two specific areas: climate change and equity. The President stressed that Indonesia’s efforts to pursue a policy of “growth with equity”, needs to be transformed into one that promotes “sustainable growth with equity.”

This vision clearly coincides with the intentions of our Government and many stakeholders to support not only an intense process of climate change mitigation, but to also promote climate change adaptation. Beside of that, achieving gender equality is another challenge for the country, but it has been pro-active in adopting a number of policies and laws that address the issue. The integration of both areas is inspired by the Presidential Regulation No. 5/2010 on National Medium Term Development Plan 2010-2014, which addresses gender and sustainable development as the mainstreaming strategies in the national development, and the Minister of National Development Planning/Head of National Development Planning Agency’s decree No. 30/M.PPN/HK/03/2009, as the initiative of Gender Responsive Planning and Budgeting in Indonesia.

This *Policy Paper on Gender Mainstreaming in Climate Change Adaptation* (GMCCA) intends to inspire and promote gender mainstreaming in Indonesia’s climate change adaptation policies and practices. It gives clear arguments on why this is important, and a wide range of suggestions to effectuate such an approach. Recently the development of Indonesia’s National Adaptation Plan, RAN-API, took shape. In first instance GMCCA addresses the RAN-API process, but it goes further: focusing not only on national policy level, but also on institutions, including line ministries, financial mechanisms, research and capacity building, programmes and activities at regional level as well.

The development of this Policy Paper has been one of cooperation, between BAPPENAS and UN Women, supported by UNDP, and a short but intense process of multi-stakeholder consultations. We would like to thank all those who contributed to this process, especially Irene Dankelman, our expert consultant on gender and environment. The Policy Paper will not be possible without full support from the team at the Directorate of Population, Women Empowerment and Child Protection, led by Dr. Sanjoyo, MEc.; Fithriyah, SE, MPA, Ph.D; Aini Harisani, SE; Qurrota A’yun, SSi.; and the supporting staff as well. Technical assistance and support from Dwi Faiz (UN Women), Verania Andria and Rini Widayastuti (UNDP) is valuable contribution to the Policy Paper. Last but not least, appreciation to representatives from line ministries, civil society organizations and development partners who have given their inputs during the process of consultation.



Nina Sardjunani

Deputy Minister for Human Resource Development and Cultural Affairs
Ministry of National Development Planning/BAPPENAS

² Speech on 20 June 2012 during the Rio+20 Conference at the Indonesian Conference on “Moving Towards Sustainability: together we must create The Future We Want”.

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EXECUTIVE SUMMARY

“Climate change adaptation is a social issue” (Yulfita Rahardjo, Gender Advisor-AIPEG)

Climate change is having already unprecedented impacts on people’s lives and livelihoods in South Asia in general and in Indonesia in particular, notwithstanding the country’s targeted efforts to mitigate climate change. Weather extremes and their unpredictability, are already severely impacting on rural and urban communities in the country. In order to countervail such changes, specific emphasis is placed on the development and implementation climate adaptation policies and practices. In particular the development of the National Adaptation Plan (NAP) – RAN – API, is an important step in that respect. Indonesia’s national Government and other stakeholders, in- and outside the country, have identified the urgent need for gender mainstreaming in climate change adaptation planning, implementation, monitoring and evaluation. Not only are women and men, boys and girls impacted differently by climatic changes, women – next to men – are also crucial actors to countervail and adapt to those impacts. In that context the Policy Paper that has been commissioned by BAPPENAS was prepared by UN Women, with support of UNDP. The process involved in the development of this paper included several multi-stakeholder consultations, validation, as well as background research over the period mid July-October 2012.

Main objectives of the Policy Paper are: to raise awareness about the need for and practice of gender mainstreaming in climate change adaptation; to inspire and promote gender mainstreaming in Indonesia’s climate change efforts; to make existing and new legal CCA policy documents and practices gender responsive, in particular RAN-API and its implementation; it is also hoped that the paper will serve as a background documents for capacity building on gender and climate change in Indonesia.

Main messages of the policy paper are:

- Women in Indonesia, like men, are active **actors** in climate change adaptation (CCA) and disaster risk reduction (DRR). However, their roles still need to be recognized and reflected fully in related policies and actions.
- In general, it seems that there is a need for awareness raising and capacity building on gender aspects of climate change and CCA in Indonesia.
- The document underlines that this awareness should be translated into political and policy commitment for adequate gender mainstreaming and actions in ensuring gender sensitive CCA and DRR.
- The Human Security Framework forms an important analytical tool to identify the impacts of climatic changes on all aspects of human security, gender differentiations in those, as well as related coping strategies and policy (adaptation) options.
- Policy planning procedures should allow for such gender mainstreaming in CCA along sectors and at all levels, at policy, institutional, knowledge management and budgeting circles. The same is through with regard to programme and project implementation processes. There are valuable lessons to learn from experiences and practices at local level, including from local adaptation practices; these need to be shared and communicated at provincial and regional levels.

- Access to and control over climate change resources, knowledge and weather information is crucial for local women and men, their families and communities.
- Gender is an important social differentiator, but the intersectionality with other societal differentiators, such as age, ethnicity, level of welfare, caste, locality and (dis)ability, should also get specific attention.

The policy paper gives a short overview of the situation of gender equality and climate change in Indonesia, as well as related policies and institutions, and concludes that in both areas major challenges remain. Next, the rationale and main arguments for gender mainstreaming in climate change adaptation are explored. Climatic changes often form multipliers of existing inequalities, including gender inequality that is so persistent. Vulnerabilities for climatic changes are shaped by baseline wellbeing (incl. nutritional status, and physical and mental health), livelihood resilience (incl. access and control over resources), self-protection (e.g. capability to build safe houses, and use safe sites), social protection (such as social networks, and community disaster preparedness) and governance structures and performances. A Human Security Framework, that includes security of survival, security of livelihood and human dignity, is used to identify such vulnerabilities and shows the gender-specific impacts. As has been shown in many studies from around the world is also true for Indonesia: women are often – but not always – the most affected, but they are also major actors in mitigating, coping with and adapting to climatic changes.

Main gendered impacts of climatic changes include:

- Loss of women's/men's access to and control over natural resources and (eco)systems of good quality;
- Loss of women's/men's access to and control over other sources of production and livelihood;
- Loss of safe housing and healthy living conditions.

This results in gender-specific impacts on people's health, survival, basic human rights; a significant increase in work burdens, limitations for development opportunities, an increase in poverty, and a decline in their personal safety, autonomy and decision-making power.

In order to cope with these impacts, women and men put diverse amounts of time, effort, and energy in productive and reproductive tasks; they economize on the use of resources; change production systems; diversify sources of income; migrate out of their communities; and/or organize against degradation and disasters. All these coping strategies depend on ecological, social, and cultural context and local knowledge is an important driver for these.

The following reasons show why climate change adaptation is not gender neutral either:

- (a) Women and men have diverse capacities and contribute differently to adaptation, and women, like men, can be powerful agents of change and leaders in promoting adaptation.
- (b) Women and men have different (practical and strategic) needs and interests in adaptation efforts.
- (c) Adaptation strategies and actions – on the other hand – can have differentiating impacts for women and men, and have the potential of increasing or decreasing existing inequalities.

Based on this rationale the following arguments summarize why gender mainstreaming in climate change adaptation is imperative.

Five Arguments for Gender Mainstreaming in Climate Change Adaptation

Climate Change Adaptation (CCA) policies could gain a lot from gender mainstreaming:

- (1) **Capitalize** on the talents, capacities, and contributions of both women and men, both around 50% of the population, so the policies will be more **successful, efficient, and effective**.
- (2) **Avoid** increasing (unintended) effects of CCA policies and actions on gender (in) equality and poverty.
- (3) Be **mutually benefiting**: CCA policies and actions can empower women and improve living conditions and livelihoods of women, their families, and whole communities.
- (4) Ensuring more **coherence** with existing social/gender policies and gender and human rights obligations, therewith contributing to gender equality and the achievement of the MDGs.
- (5) As gender sensitivity acts as an **'eye-opener'** for other social dimensions of climatic changes.

The next section of the Policy Paper focuses on recommendations and guidelines for the actual mainstreaming of gender aspects in climate change adaptation policies, institutions, mechanisms and actions in Indonesia, including in financing, capacity building and resources for climate change adaptation. The document also calls for further knowledge development and research.

In order to make climate change adaptation gender responsive, inclusive, and effective, following recommendations are presented:

Climate Change Adaptation (CCA) Policies should:

- Include specific gender equality objectives, and be coherent with gender and social policies
- Make gender assessments of CCA laws and action plans
- Ensure to be informed by sex disaggregated data
- Attune to the various adaptation needs and priorities of women and men; and
- Ensure the meaningful participation and involvement of both women and men.

CC Institutions should:

- Make the promotion of gender equality an institutional principle
- Make gender expertise widely available
- Ensure awareness raising and capacity building on the issue
- Develop, use and implement gender policy guidelines; and
- Support gender sensitive human resources development.

CC/CCA financial mechanisms and services, should:

- Be accessible , affordable and controllable to individual women and their organizations
- Ensure that (local) women, men and children benefit from these
- Be available in the form of micro financial services, and affordable and equitable climate change insurances; and
- Ensure primary informed consent...

Capacity Building and Knowledge development, should:

- Build knowledge and expertise on gender and CC(A)
- Raise awareness on gender equality – CC(A) relationships
- Be included in educational systems and curricula
- Support research on gender aspects of CC(A); and
- Encourage women’s participation in CC science, practice, and technological disciplines.

CCA practices – programmes and projects – should:

- Benefit both men and women in communities
- Include a gender analysis in all planning and design
- Ensure that the different concerns of women and men shape the programme and project cycle
- Generate sex-disaggregated data and execute research (incl. through M&E)
- Enhance and enable the role and meaningful participation of women and men in CCA initiatives.

The Policy Paper includes a myriad of local case studies, checklists and guidelines, and a Table with specific suggestion for strengthening of gender equality in RAN AP priority areas: economic resilience, livelihood resilience, environmental services, special regions, and supporting measures.

In its conclusions, the paper advices to document and research experiences with regard to gender and climate change (adaptation) in Indonesia, strengthen related governance structures and multi-stakeholder approaches, and promote the implementation of GM in RAN-API at all levels by developing national, regional and local gender action plans for CCA.

I. INTRODUCTION AND BACKGROUND

1. Introduction

In the context of the increasing prevalence of climatic changes and their unpredictable effects and impacts on the country and its communities, the Republic of Indonesia is finalizing its National Adaption Plan (NAP) – RAN API. In doing so, it is committed to mainstream a gender perspective in its climate change adaptation planning, implementation, monitoring, and evaluation.

The development of this document is a joint initiative of: BAPPENAS and UN Women, supported by UNDP. The policy paper aims to inspire and promote gender mainstreaming in climate change adaptation, and to stimulate adjustments to existing and new legal and policy documents and practices. It intends to raise awareness about the need for and practice of gender mainstreaming. This document addresses: policy makers and practitioners at national, provincial, and local levels, legislative authorities, national and local institutions and NGOs, the UN and the Indonesia's donor community. The paper can also serve as a background document for awareness raising and training on gender and climate change in Indonesia. It reflects the main outcomes of the Kickoff Meeting hosted by BAPPENAS in Jakarta on 18 July 2012, the Expert Group Meeting, organized by UN Women, in Jakarta on 19 July 2012, a Focus Group Discussion with Stakeholders in Jakarta on 10 September 2012, a Validation Workshop on 13 and 14 September and the Dissemination Workshop hosted by UN Women and BAPPENAS on 29 October 2012, as well as consultations with the Working Group on Adaptation, the UN REDD+ Group and individual inputs by experts and policy makers as well as background research.

The policy paper gives a short overview of the situation of gender equality and climate change in Indonesia, as well as related policies and institutions. Next, the rationale and main arguments for gender mainstreaming in climate change adaptation are explored. The final section of this policy paper includes recommendations and guidelines for gender mainstreaming in climate change adaptation policies, institutions and actions in Indonesia, including on CCA funding and resources. The document also calls for further knowledge development and research.

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2. Background: Gender Equality and Climate Change in Indonesia

Indonesia is a large country situated around the equator, extending 5,120 kilometers from east to west and 1,760 kilometers from north to south, with 1.78 million square kilometers land territory and 95,181 km coastline and comprising of 17,489 islands, of which Sumatra, Java, Kalimantan, and Sulawesi are the largest. It has a great diversity in geography and in ecological and socio-economic characteristics. Indonesia is the fourth most populous nation in the world (following China, India and the USA), with around 237million people (in 2010), with about two third living on the island of Java. Although growth rates are decreasing, it is estimated that in 2030 the population will be around 300 million people. The population consists of 300 local language groups (Javanese comprises 45%), and a wide variety of cultures and ethnicities. The country is divided in 34 provinces and around 500 districts and municipalities. (Ministry of Home Affairs, 2009; updated Oct.2012)

Indonesia, that like Brazil and China has emerged as significant player in the world economy, ranks a Human Development Index (HDI) 124 out of 187 countries (2011)³, with many variations between regions and districts. Although Indonesia's HDI increased by 54 percent between 1980 and 2010 (HDR, 2011), poverty is still a challenge. Although the percentage of people living in income poverty was reduced in recent years it was still 9.5% in 2008 (Ministry of Social Affairs, 2009), with a higher percentage in rural areas than in urban regions. Because of the Asian financial crisis, the severity of poverty has increased; those living in poverty are very vulnerable, with precarious existence at the bottom of income distribution. Food poverty – meaning not enough to eat – is a major concern for Indonesia: about 65% of the population lives on less than 2,100 kilocalories a day. (ibid) Largest economic sectors are manufacturing (28%), trade (16.7%), agriculture (15.4%), and services (10.17%). Exports comprise primarily of oil/gas, textiles, appliances, coals, and copper, while food, chemicals, capitals, and consumer goods are imported. Agriculture stays important, and was less affected by the Asian Financial Crisis. (GO of Indonesia, Sec.Com, 2011)

Gender Equality

Gender refers to socially ascribed roles, responsibilities, rights and opportunities associated with men and women, as well as the hidden power structures that govern relationships between women and men. These relationships are dynamic, change over time and are context-specific. Gender is a social stratify, like age, race, ethnicity, social status and education. (Dankelman, 2010; see: Annex 2 for Glossary of Terms) Gender aspects form one set of the social differentiators in our societies, but there are more, like age (e.g. women, girls, older women), ethnicity (e.g. indigenous communities), class, caste, (dis)ability, rural/urban; the way these interact is called inter-sectionality.

As will be shown in this section, although there has been important progress in achieving gender equality in Indonesia over the past years (see Table 1, below), major gender inequalities persist. In many situations women, although being important actors in many ways, are disadvantaged as compared to men. That is why in our aim to achieve gender equality, the need to invest in and empower women is crucial. In those efforts, male support and participation are of great importance.

³ UNDP, 2011. Human Development Report 2011: Sustainability and Equity: a better future for all. UNDP, New York.

Table 1. Indonesia: Key Gender Indicators

Source: Demographic and Health Survey, 2007; Susenas, 2009; Human Development Report, 2012

Education			Leadership		
Literacy ratio of women to men (14-24)	99.85		Women's percentage in national parliament	18% (2009)	
Ratio of girls to boys in primary education	99.73		Women ministries*	4 out of 36 ministers	
Ratio of girls to boys in secondary education	101.99		National Women's Machinery		
Ratio of girls to boys in tertiary education	96.16		Ministry of Women's Empowerment and Child Protection		
Ratio of girls to boys in higher education	102.95		National Commission on the Elimination of Violence Against Women (<i>Komnas Perempuan</i>)		
Employment			Reproductive Health		
Share of women in non-agricultural employment	33.45		Maternal mortality ratio 240 per 100,000 live birth		
Labour force participation rate	Women	Men	Contraceptive use among married women 61.4 (% of women ages 15-49, mixed methods)		
	50.99%	83.65%	Global Indicators		
Unemployment rate	Women	Men	Gender Inequality Index	Rank	Value
	8.47%	7.51%	Gender Gap Index**	90	0.659

*additional source: UNDP (2010b), "Women's Participation in Politics and Governance in Indonesia: A policy paper".

**source: World Economic Forum 2011, "Global Gender Gap Index"

Progress and situation so far

In **Indonesia**, important progress has been made over the past years regarding gender equality and it continues to make considerable progress on gender equality on a number of fronts, narrowing the gender gap. Overall, the progress towards MDG 3 on gender equality and women's empowerment shows mixed results. The enrolment ratio at school has improved and the ration literate females to males is close to the MDG target, but there are high school drop-out rates for girls and poor quality education remains a major challenge, as well as disparity among regions and provinces (Bappenas, 2009)

While income poverty has been reduced in recent years, vulnerability to poverty remains a major issue for women in Indonesia. Food poverty and malnutrition need specific attention. There are still gender gaps in employment and labor participation; especially for women creating more and better employment opportunities is important for developing routes of escape from poverty and vulnerability.

With around 13%, the percentage of female-headed households has remained relatively constant over the period 1999-2002, with regional variety, but the number of households has increased because of the reduction in nuclear families. The age of first marriage has been increasing and there are fewer women who marry at ages younger than 16 both in rural (2002: 28%) and urban areas (2002: 18%).

The share of women in wage employment in the non-agricultural sector has declined slightly, although it is still very low (33.45%), as has the proportion of seats held by women in the national

parliament (18%; HDR, 2011). Access to productive resources (incl. land, property and financial services), as well as to education and health still shows gender gaps, especially the very high maternal mortality ratio (one of the highest in the region) remains a major concern. Women had a smaller share of established income of 2,289 (in 2003) as compared to 4,434 for men (in USD\$ PPP). (ADB, 2006)

Main challenges remain that impact on women's lives and on their practical and strategic needs:

- **Poverty** is still prevalent in Indonesia, and it disproportionately affects women. Gender inequalities tend to exacerbate poverty situations, both in economic terms and in access and control over resources and assets.
- **Malnutrition** amongst women and children is a concern, showing a.o. micronutrient deficiencies. When food is scarce, women usually reduce their food intake before reducing that of their children and husband.
- **Land tenure rights** between men and women differ significantly and contribute to structural inequalities and poverty for women and their families. Linked to that is their access to water, irrigation, forest products. The combined legal system of civil, Islamic, and customary law makes the land tenure and inheritance systems in Indonesia quite complex. If women's names are not included in legal titles, their rights will often be ignored. Many women lose their land rights due to widowhood, divorce, desertion, and male migration.
- Women are also disadvantaged in terms of **access to and control over other key livelihood sources**. Although they are considered an important market for microfinance, one of the major obstacles to women's access to credit is lack of collateral, and there is an inherent bias against married women in access to credit.
- The **status of women's health** in Indonesia has been improving, but there are notable differences in access to health services between income groups, and more men than women use private doctors and hospitals. A grave concern is **maternal mortality** in Indonesia, about 20,000 women die each year from causes related to childbirth, and the maternal mortality rate of 240 (out of 100,000 born alive babies) is very high (HER, 2011).
- Especially in remote areas and areas affected by conflicts or (natural) disasters, **access to education** for girls is limited and the quality of the curricula is at stake (NGO Report to CEDAW Committee, 2012)
- **Time poverty** is another major challenge for women. Their multiple roles at work, in the community and in the home remain a key challenge faced by women in increasing their income opportunities. In addition, long working hours are a significant constraint for women's access to the formal sector.

- **Employment.** While the wage levels of female workers have increased, wage discrimination is still prevalent. Data from National Survey on Labor Force (*Sakernas*) shows that from 2004 to 2009, the average monthly wage of female workers (as employees) increased from IDR 676,611 to IDR 1,098,364. In non-agricultural sectors, the average wage of female casual workers also increases from IDR 277,183 to IDR 396,115. However, there is a wide disparity between females' and male's wage. The biggest gap was in casual employees in non-agriculture sectors, where women receive only 54 percent of men's wages.
- **In the formal sector,** women are mostly in low-paying, low skilled occupations such as in the textile, garment, and footwear industries. In civil servicewomen constitute of 45.5 percent, but predominantly at the lower echelon. Only 9 percent of women at the top echelon, which only constitute 0.5 percent of women's labor force in civil service (UNDP, 2010b). Women occupy very few higher positions in the private or public sector: 14% compared to 86% by men. (ADB, 2006)
- **In the informal sector,** share of women in informal sector is still larger than men's, comprising 65.8%, in comparison with 59.8% of men (National Labor Force Survey, 2009). Inferior working conditions, insecurity of employment with lack of social insurance are often characterized informal employment (ILO, 2011).
- Poverty, unemployment, and lack of formal education are driving forces behind increasing number of **Indonesian women migrating abroad.** Data from the National Authority of Placement and Protection of Indonesian Overseas Workers (*BNP2TKI*) in 2006 shows that 78% of Indonesian migrant workers are women due to increase demand for workers in domestic and manufacture sectors (IOM, 2010). Women who predominantly work as domestic workers are more vulnerable to abuse and rights violation, because they are not covered by labor law in the country of destination. Women also tend to fall into the cycle of unsafe migration, due to lack of education and high cost of migrating abroad. The cost of migrating to countries like Malaysia and Singapore reaches six month of expected salary (HDR, 2009).
- **Gender based violence** – that takes many forms – is still a major concern and devastates many lives, through immediate physical injuries, emotional and psychological damage, and there is a lack of services available for victims. Documenting of violence is very difficult, and few cases are officially reported. The National Commission on the Elimination of Violence against Women (*Komnas Perempuan*) tries to document the cases and produces the Annual Note on Violence against Women, documenting reported cases of violence from service providers and court records. In 2011, cases recorded from 299 service providers, including women's crisis centers reach 119,107. Human trafficking is closely linked to irregular migration, and affects mainly women and children, who are exploited in sexual and labor exploitation. Up to 4 million women and children have been estimated to be vulnerable to trafficking (as sex workers, migrant workers, and domestic workers) in Indonesia (ADB, 2006). The Organization for Migration (IOM) recorded that during 2005 – 2009, the repatriated victims of trafficking reach 3.339, of which 89,5% are women, 0,15% are babies

and 24,6% are children (National Action Plan on Anti Trafficking in Persons, 2009-2014). Also violence against women's rights defenders is a major concern, and the intolerance towards minority groups, resulting in discrimination and violence against minority women, has increased during the past decade (NGO Report to CEDAW Committee, 2012)

- **Women's political participation** has been very low during the New Order period, but during the elections of 2004 some 30% soft quota of women's participation were applied, resulting in a small increase in the number of women elected to political office. The National Legislature (DPR) has 18% women (HDR, 2011), and in the Regional Representatives' Council (DPD) 21% of available seats are occupied by women (27 out of 128). By the end of 2009, only one woman was elected as governor out of 33, and in the 2012 Government, there were 4 women ministers out of 36 in cabinet (UNDP, 2010).
 - Following the 1997 transition to democracy it was hoped that women and the poor would be represented better under the decentralized system, but in reality, **fewer women** participate at the **provincial and district** level than at national level.⁴ Many sub-national level regulations at provincial and district level (*patron dearth*) are discriminatory in nature. *Komnas Perempuan* recorded in 2011; there are 207 discriminatory *peraturan daerah*, which have direct or indirect impact on restriction of women's mobility and criminalization of women (National Commission's Report to CEDAW Committee, 2012).
 - There is a general **lack of gender specific information**, of sex-disaggregated data, gender specific indicators and of gender analyses in Indonesia. This results in a lack of gender responsive policies, programs, monitoring, and evaluation.
- **These gender inequalities, that often disadvantage girls and women, highlight why it is important to focus on improving the position of women and girls in efforts to enhance gender equality.** It remains important, however, to apply a clear gender analysis of sectors, situations, policies, and initiatives to identify which groups of women and men need specific support, and to address the root causes of gender inequalities.
 - **Culture, history, and social constructions play an important role in shaping many of these inequalities.**
 - **It is also important to diversify amongst women and men, as there are many inter-sectional ties**, e.g. with regard to age, ethnicity, social status, educational background, places of origin (e.g. urban or rural, remote and isolated or easily accessible).

Gender mainstreaming, policies and institutions in Indonesia

⁴ www.ccd21.org/news/global/UN_NDI_IPU_Quotas_Political_Participation_Women.html (Rebecca Aaberg, UN, NDI, and IPU Call for Quotas to Increase Political Participation of Women. 5 April 2012)

Indonesia has been pro-active in adopting a number of policies and laws that address the issue of gender equality. It has ratified, signed and aims to implement⁵ several international conventions and frameworks, and these are effectuated in National Government Instruments and legal frameworks (see ANNEX 4 for an overview of Legal frameworks, policies, and plans in Indonesia).

Challenges remain, including implementation of existing commitments and frameworks. It should be noted as well that the Indonesian legal system is a quite complex confluence of the three distinct systems of civil, customary, and religious law. This becomes visible, for example, in women's rights of land and property and in inheritance. While the formal law (Marriage Law No. 1/1974) allows women head of households (widows) to secure land and property inheritance for their children, the *de facto* situation often favors men for land entitlement hence deter women to access financial credit (Ministry of Women's Empowerment and Bappenas, Gender Equality Policy Brief, 2011).

Specifically on gender mainstreaming (see Box 1 below), the Government of Indonesia has put in place regulations and policy direction to institutionalize integration of gender issues in development plans and programmes, including the Presidential Regulation No. 9/2000 on Gender Mainstreaming and the current initiatives on Gender Responsive Planning and Budgeting. The Gender Analysis Pathway (GAP) and Gender Budget Statements (GBS) are used as main instruments to integrate gender issues in government annual planning and budgeting document. The initiative was piloted in 2009 in four line ministries, namely, Ministry of Agriculture, Education, Health, Public Works, participating ministries have now reached 23 ministries, and implementation at the provincial level is sporadically happening.

However, a strong institutional mechanism of gender mainstreaming in each ministry has yet to be in place. Gender mainstreaming has been considered as the domain of Ministry of Women's Empowerment, while the mechanism of gender focal points and gender working groups in each ministry have not been instrumental in gender mainstreaming. Below are main actors in the **Indonesian institutional framework** for gender equality, all of which needs full recognition and strengthening:

- Ministry for Women's Empowerment and Child Protection
- National Commission on the Elimination of Violence Against Women (*Komnas Perempuan*), established in 1998
- Women's Empowerment Agencies/Bureaus (at sub-national level)
- Local and regional governments
- Gender Focal Points and Gender Working Groups in Line Ministries
- Regional Development Planning Agencies
- NGOs and CBOs: have played an important role in promoting gender equality.

⁵ NGO CEDAW Shadow Report 2012: apart from the need to further implement existing gender legal frameworks, it is also necessary to address legal frameworks that discriminate against women.

Box 1. What is Gender Mainstreaming?

In order to ensure gender equality and to overcome problems of marginalization, invisibility and under-representation, gender concerns and women's issues should be integrated into mainstream policies, programmes and projects, and in institutional structures and procedures through gender mainstreaming. (ECOSOC, Agreed Conclusion 1997/2).

Gender mainstreaming intends to bring a gender perspective into institutions, policies, and actions in order to promote and achieve gender equality (see Annex 2: Glossary of Terms). A **gender perspective** means that:

- A differentiation is made between the needs and priorities of men and women;
- The views and ideas of both women and men are taken seriously;
- The implications of decisions on the situation of women relative to men are considered: who will benefit and who will lose;
- Action is taken to address inequalities between men and women, boys and girls.

Conditions for successful gender mainstreaming (Seagar and Hartmann, 2005, p.3¹):

- (a) an institutional culture that is open to gender perspectives, and willing to undertake self-assessment;
- (b) political commitment at the highest level;
- (c) gender mainstreaming is understood as a continuous, fluid and evolving responsibility;
- (d) careful use of available sex-disaggregated data, indicators and analysis;
- (e) deployment of adequate resources (human and financial).

Gender mainstreaming Tools are included in ANNEX 3

Chapter III will look specifically into potentials for strengthening gender-mainstreaming efforts in climate change (adaptation) policies, institutions, and practices.

Climate Change**Climate change in Indonesia**

Although still relatively new as a focus for the Government and communities of Indonesia, over the past years climate change has proven to be a major challenge for Indonesia. Addressing this phenomenon is one of the highest priorities of the Government. It does so by developing policies and action plans, and by undertaking measures towards the implementation of commitments as a Non-Annex I Party to the United Nations Framework Convention on Climate Change (UNFCCC), including fixing a national emission reduction target and executing mitigation and adaptation measures. In 2012, the National Adaptation Plan (NAP) of Indonesia is developed through a number of studies and extensive consultations.

Climate change impacts

Due to its geographical location, topography, and socio-economic factors, Indonesia is very vulnerable to the impacts of climatic variability and climate change. The manifestations and impacts of climatic changes are unpredictable and expected to be serious, and can be categorized as slow-

onset disasters (such as drought and slowly rising temperatures), sudden often-extreme disasters, and weather events (like flooding and storms).⁶

Although major differences exist in manifestations among the major islands and island groups and between different areas of the same islands, Indonesia has already experienced sudden climatic changes over the past 30 years, manifested directly through the measurable phenomena of: (UNICEF, 2011)

- changes in rainfall patterns
- increase in land surface temperatures
- increase in sea surface temperature
- Sea level rise.

In general, **Indonesia** can expect more extremes of existing climate related disasters, such as flooding in the deltas and in low-lying cities, tropical storms in the coastal region, landslides and flash floods in the mountains, as well as severe droughts. Indonesia will also experience more heat waves, rising sea levels and salt-water intrusion.

El Niño, that nowadays happens more frequently, and El Niña (ENSO) and other extreme meteorological conditions historically resulted in serious damage that affects a wide range of different socio-economic sectors. Increasingly high temperatures exacerbate extreme regional weather and acclimate anomalies. (GoI, Sec.Comm, 2011) See ANNEX 5 for an overview of Climate Change Effects and Impacts in Indonesia.

BOX 2. Reflections on the climate change situation in Indonesia.

During the Expert Group Meeting for the development of this policy paper (Jakarta, 19 July 2012) it was underlined by several participants that climatic changes are something new for many communities, and that it is difficult for many to understand its manifestations. However, people are nowadays experiencing the effects, such as the severe droughts and massive flooding, with failed crop harvests in 2010 and resulting loss of livelihoods. The group also underlined that the effects and impacts of climatic changes also reflect good or – on the other hand - irresponsible development, such as the role of extractive industries in peatland development and palm oil plantations in Kalimantan, coinciding with and exacerbating climate change effects. Monocultures threaten communities' access to land and farming systems, and diminish the availability of drinking water, in situations where land quality and water availability become scarce. It was also noticed that some climate change projects make indigenous communities vulnerable (example: Suku Anak Dalam), as they are sidelined and even evicted.

In future, more changes are expected in spatial rainfall patterns, length of wet season and inter-seasonal variability, with increasing occurrence of extreme weather events, particularly in the form of prolonged droughts.

⁶ Slow-onset disasters show gradual systemic change, whereby there is a slow deterioration in environmental conditions until customary practices or habitation become impaired. Although the impacts are subtle and are often considered indirect or secondary consequences of climate change, these issues warrant more attention, especially given their often irreversible nature.

Several broadly applicable predictions can safely be made regarding projected impacts: (UNICEF, 2011)

- Extreme weather events will become more frequent and more difficult to predict
- There will be an increased incidence of climate-related disasters, and these will exceed communities' traditional coping mechanisms.
- Minimum and maximum temperatures will increase throughout the country, with immediate impacts on human health and on ecosystem health and agricultural productivity.
- National staple food production will be negatively affected through a pattern of shorter and more intense rainy seasons and drier dry seasons in the main rice-reducing areas of Java and Bali.
- Fisheries will be negatively impacted by sea temperature rise, and access will be reduced through more frequent storm events and high wave conditions.
- Sea level rise will lead to significant loss of land, much of it in areas of current dense settlement and/or high agricultural productivity. A one-meter rise in sea level would inundate at least 405,000 ha of arable and/or densely populated land.

Climate change related policies and institutions in Indonesia

Indonesia signed the UNFCCC as Non-Annex I country in 1994 and in 2004 the Kyoto Protocol (see Annex 6a: International legal frameworks). During the C-20 meeting in Pittsburgh (2009), the GO of Indonesia committed to a 26% reduction of GHG emissions by 2020 on its own from the condition without any action (business as usual, BAU), and 41% if it receives international aid.

There are a number of relevant climate change related policies and programmes in Indonesia, which are reflected in ANNEX a. The planned reductions of GHG emissions in Indonesia, in the Agricultural Sector (-26%), Forestry and Peat Land Sectors (-26%), Energy and Transport Sectors (-26%), Industrial Sector (-21%) and the Waste Management Sector (-26%) are reflected in ANNEX 6b.

Box 3. Law on Disaster Management

Valuable lessons can be learned from steps being taken to organize disaster management in Indonesia. The recent APEC (Asia-Pacific Economic Cooperation) report "Women in Times of Disaster: The Integration of Gender Issues and Gender Perspectives in Disaster Management", to which also Dr. Yulfita Rahario contributed, says the following about the institutional preparedness:

"In Indonesia a significant shift of paradigm was reflected in the issuance of [new] Law named Law no. 24/2007 on Disaster Management, in which protection and safety are basis for government accountability. The new concept of disaster management system is to promote disaster management beyond emergency response and to reduce the risks at every phase of disaster (preparedness, emergency response, rehabilitation, and reconstruction). Its major focus is to strengthen public awareness and preparedness of the people, involving all stakeholders including the vulnerable community to manage all hazards. By doing this, it is expected that the implementation of disaster management will work properly coordinated, creating common ownership, avoid overlapping, redundancy and inefficiency. The new system is equipped with the necessary regulations regarding disaster management. [...] Indonesia structured local disaster management at province and district levels called Local Disaster Management Agency (LDMA). In accordance with the application of local autonomy, the new Law gives more authority to the local government, including management of disaster occurred locally, to ensure faster and more appropriate response to local needs and

conditions. In Indonesia, gender has been integrated into Disaster Management Law. Gender is described in the most strategic place, namely as the Basis, Principle and Aim of the Law. Gender is placed with other principles such as: *humanitarian; equity; equality before law and governance; harmony; orderliness; certainty of law; and togetherness*. In the Explanation Chapter of this Law, it is explained that “*equality before law and governance means that: the materials covered in disaster prevention cannot contain matters which differentiate background of the people, among others: religion, ethnic groups, race, class, **gender**, or social status*”. Gender dimension is also contained in the principles of the tackling of disasters, among others mentioned, is based on the *principle of non-discrimination*. Although the principle of the Law applies across all chapters of the Law, there is no further elaboration of gender inside the chapters.” (APEC, 2009: p.16 + 18-19)

The institutional framework for climate change in Indonesia, including national institutions and mechanisms, consists of:

- Minister of Environment (MOE), with Deputy Minister, under whose authority: Directorate of Climate Change Impact Management.
- Multiple line ministries, including Ministries of Agriculture; Energy and Resources; Forestry; Health; Industry; Marine and Fisheries; Public Works; and Transportation.
- The Ministry of Finance (MoF)
- The National Development Planning Agency (BAPPENAS)
- The Ministry of Home Affairs (MoHA)
- The National Council on Climate Change (DNPI), including its Task Forces, in which academics, nongovernmental experts, and other stakeholder representatives participate.

A number of technical agencies, including: the Agency for Meteorology, Climatology and Geophysics; the National Institute for Aeronautics and Space; Research and Implementation of Technology Board; National Coordinating Agency for Surveys and Mapping.

- Research Consortium on Climate Variability and Climate Change (established by Min. Agriculture)-
- The REDD+ Task Force and the REDD+ National Coordinating Agency (planned) - Indonesian Climate Change Trust Fund (ICCTF): alternative financing for CC mitigation and adaptation programs
- ICCTF: international financing mechanism channeling investments funds into national CC initiatives.
- National GHG Inventory System (SIGN).

BOX 4. According to WWF-Indonesia (2007/2008), **important actions to reduce Indonesia’s vulnerability to climate change** include:

- Increase education and technical skills
- Increase income levels
- Improve public food distribution
- Improve disaster preparedness and management and health care systems
- More integrated agro-ecosystems
- Increase water storage, water efficiency and re-prioritizing current water use
- Investment in drought-tolerant and salt-tolerant crops
- Crop diversification

- Better early warning systems
- Sustainable management of coastal zones
- Conservation of mangroves

II. RATIONALE FOR GENDER MAINSTREAMING IN CLIMATE CHANGE ADAPTATION (CCA)

1. Background: Climate Change is often a multiplier of existing inequalities⁷

The 2007-2008 Human Development Report: Fighting Climate Change: Human Solidarity in a Divided World (UNDP, 2007⁸) concludes that climate change threatens progress towards development itself and towards meeting the 2000 UN Millennium Goals in particular.

Climate change, and even the mitigation and adaptation strategies addressing it, potentially create new inequities, vulnerabilities, and insecurities.

BOX 5. Disadvantages and Discrimination of Women Farmers

A recent UNICEF study (2011) points out that many of these disadvantages and the discrimination that women farmers experience have been thoroughly observed and reported in a range of different rural contexts, namely lack of access to information, training, credit, inequitable land distribution and lack of sufficient labour power in women-headed households. These gender inequalities are being exacerbated by climatic changes. Currently in Indonesia, women undertake 75 per cent of the farm work in rice production, and 40 per cent of household food supplies are provided from vegetable gardens managed by women. What is significant from consultations for the UNICEF study in NTT and East Java, is that the climate change phenomena are already altering the composition of households and the agricultural burden on women. This pattern will render women and children even more vulnerable.

Although climate change affects everyone regardless of class, race, age and gender, its impacts are more heavily felt by poor persons, communities and nations. The Intergovernmental Panel on Climate Change (IPCC) concludes: 'Poor communities can be especially vulnerable, in particular those concentrated in high-risk areas. They tend to have more limited adaptive capacities, and are more dependent on climate-sensitive resources such as local water and food supplies' (IPCC, 2007⁹, p.9) Often climate change tends to increase existing inequalities, and increases chronic instability and potential of conflict. Vulnerabilities play an important role in this respect and very much shape people's resilience, or capacity to deal with climatic changes. (See also Annex 2. Glossary of Terms)

⁷ Adapted from: Dankelman, Irene (ed), 2010. *Gender and Climate Change: An Introduction*. Earthscan, London; pp.55-57

⁸ UNDP (United Nations Development Programme), 2007. *Human Development Report 2007-2008: Fighting Climate Change: Human Solidarity in a Divided World*. Palgrave Macmillan, New York

⁹ IPCC, 2007. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II (WG2) to the Fourth Assessment Report of the IPCC, Summary for Policy makers*. IPCC, Geneva.

The relative **vulnerability** of individuals and households to natural disasters and climate change is largely determined by their:

- baseline well-being (nutritional status, physical and mental health, morale);
- livelihood resilience (e.g. access to and control over resources and assets, and diversification of income sources);
- self-protection (the degree of protection by capability to build safe houses, use safe sites);
- social protection (disaster preparedness by society more generally, social networks and shelters), which also depends on the social status of different groups (men and women) in communities; and
- governance (institutional environment, power relations etc). (UN Vietnam and Oxfam, 2009)

The extent and depth of climatic changes' impacts are determined by peoples' and communities' length and intensity of (disaster) exposure, their sensitivity (or vulnerability) and their adaptive capacity. (Communication Dr. Siti Amanah, 29 October 2012)

Many authors argue that a vulnerability approach towards natural disasters, including climatic changes, is necessary, as the risks of the disasters are connected with the vulnerability created for many people, and therewith determine the resilience of individuals and communities towards such disasters and climatic changes. In Chapter III (2), a call for the use of an engendered vulnerability approach and assessment is made.

2. Gendered impacts of climatic changes: human security challenged¹⁰

"Climate change exacerbates existing inequalities and slows progress toward gender equality. Gender equality is a prerequisite for sustainable development and poverty reduction. But inequalities are magnified by climate change." (Lorena Aguilar, International Union for Conservation of Nature, in: World Bank, 2008, p.42¹¹)

Human security is at stake when climatic changes hit in their very diverse contexts, and women and men are impacted in diverse ways. In order to analyze these impacts, coping and adaptive strategies, as well as policy opportunities and options a Human Security Framework can be a useful analytical tool. If we define 'human security' as:

- (a) Security of survival: levels of mortality and injury; human health.
- (b) Security of livelihood: security of food, water, energy, environmental security, security of shelter, and economic security.
- (c) Dignity¹²: respect of basic human rights, enhancing people's capacities, participation,

¹⁰ Adapted from: Dankelman, 2010. Pp. 59-71

¹¹ World Bank, 2008. *Social Dimensions of Climate Change Report*. World Bank, Washington, DC.

¹² Next to *Security of Survival* and *Security of Livelihood*, also human *Dignity* forms an important dimension of human security. Under this category the framework identifies the following subcategories: (a) human rights (respect of basic human rights, including absence of violence), (b) the enhancement of human capacities and strengthening of their capabilities through education and training, and (c) participation, including participation in decision-making in the household, in the family and community.

It becomes clear that the impacts of climatic changes on all of these human security aspects are serious and diverse, that these often work out differently for women and men, and that women and men cope differently with these impacts. This demands diverse and gender-sensitive adaptation (and mitigation) strategies. Organized around these categories of human security Table 3 in A 8 shows the relationship between human security, climate change, and gender (in) equality. It gives an outline of the forms of impacts of climatic changes on gender equality, community-based coping and adaptive strategies, and policy options to avoid negative climate change impacts on individuals and their communities, and to strengthen their adaptive capacity.

Table 2. **Human Security, Climate Change and Gender Aspects** (SEE ANNEX 8: separate file) (Source: Irene Dankelman (2009) 'Bearing the Burden', UNChronicle, vol. 46, no 3-4, pp.50-53)

Box 6. Gendered Impacts: Livelihoods affected

"The impact of disaster on livelihood is obvious. Men and women can lose their jobs and their income. In Indonesia, disaster particularly in the tourist area has closed many of businesses and many people lost their jobs including women. Women were also enforced to earn a living as husband lost their jobs, however care giving and domestic works were not automatically released from them. For women who worked in agriculture, damage to their crops has also affected their livelihood. Assistance was needed to rebuild their businesses."

(APEC, 2009; p.37)

Determining factors

Important **factors** that determine gendered resilience to climatic changes include: agency, vulnerability, economic (in) security, attitudes and decision-making, access to and control over resources, (in) security of place, and personal security.

Agency

Women worldwide, but certainly also in Indonesia have been crucial **actors** in coping with and adapting to climate change at the household and community level, and they are playing crucial roles in society in raising awareness around the issues of climate change and the need for climate change mitigation.

Box 7. Gendered Impacts: Women are actors

"Besides of being the victims, women have capacities to manage disaster. This capacity in fact operates immediately after disaster occurs. If the government collapsed by disaster because the office damaged, network failed and facilities broken down, it will return to operation after assistance get in, facilities are fixed, and network reestablished. It is not the case of women. They start immediately after disaster occurs, gathering their family members, finding foods for the children, getting shelter and help others." (APEC, 2009; p.37-38)

Vulnerability

In many societies, vulnerability to natural disasters, including climatic changes, differs for women and men. In many cases, but not always, women are more vulnerable to disasters than men through their

socially constructed roles and responsibilities, and because they lack adequate power and assets. For example, women made up 55-70 per cent of the Banda Aceh, Indonesia, tsunami deaths in 2004, and in the worst affected village, Kuala Cangko (N.Aceh district) 80 per cent of the deaths were women (UNIFEM, 2005¹³; Oxfam, 2005¹⁴). Existing gender-disaster literature teaches us many lessons to understand the gender-specific impacts of climate change.

Economic (in) security

When poor women lose their livelihoods, they slip deeper into poverty, and often the inequality and marginalization they suffer from increases. In 2005, Hurricane Katrina in the US entrenched poor African-American women, who were already the most impoverished group in the nation, into deeper levels of poverty (WEDO, 2007¹⁵). In this case, also ethnicity and class were important determinants of the effects of the disaster.

BOX 8. Gendered Impacts: Study on natural disasters

Important lessons can be learned from existing gender and (natural) disaster studies. In a study by the London School of Economics, the University of Essex, and the Max-Planck Institute of Economics, a sample was analyzed of 141 countries in which natural disasters occurred during the period 1981-2002 (Neumayer and Plümpner, 2007¹⁶). The main findings of this study were: (a) natural disasters lower the life expectancy of women more than that of men (generally life expectancy is higher for women than it is for men; if the gender gap in life expectancy decreases due to an event it means that relatively more women die, or they die at an earlier age); (b) the stronger the disaster, the stronger this effect on the gender gap in life expectancy; (c) the higher the socio-economic status of women, the weaker this effect on the gender gap in life expectancy. The conclusion is that it is the socially constructed gender-specific vulnerability of women and men that leads to the relatively higher female disaster mortality rates than men.

Box 9. The Dynamics of Decision-making in Indonesia

In Indonesia the situation with regard to women's role in decision-making in the households and communities varies: for example women living at the north coast of Java are not decision-makers, whereas in other parts of the country they might be with regard to the management of natural resource (e.g. in agriculture). It is important to take these context-specific dynamics into account, also with regard to access to information and decision-making. (Communication, Expert Group Meeting, 19 July 2012)

Attitudes and Decision-making

Empirical studies show that women and men act and make decisions differently. Whereas men are more risk-taking and tend to be over-confident, women tend to be more risk averse and careful. So sometimes, we see that more men are affected than women are. For

¹³ UNIFEM (United Nations Development Fund for Women), 2005. *UNIFEM responds to the Tsunami Tragedy – One Year Later: a Report Card*. UNIFEM, New York

¹⁴ OXFAM, 2005. 'Gender and the tsunami', briefing note, March 2005. Oxfam, Oxford.

¹⁵ WEDO (Women's Environment and Development Organization), 2007. *Changing the Climate: Why women's perspectives matter*. Factsheet, WEDO, New York.

¹⁶ Neumayer, E. and T. Plümpner, 2007. *The Gendered Nature of Natural Disasters: the impact of catastrophic events on the gender gap in life expectancy, 1981-2002*. London School of Economics, University of Essex and Max Planck Institute for Economics, London

example, immediate mortality caused by Hurricane Mitch in 1998 in Central America (particularly Honduras and Nicaragua), was higher for men as they took more risks trying to save themselves and their families. (Bradshaw, 2004)

Access to and control over resources

In many societies worldwide, often more women than men are affected in their multiple roles as food producers and providers, as guardians of health, caregivers to the family and community and as economic actors. As access to basic assets and natural resources, such as shelter, food, fertile land, water and fuel, becomes hampered, particularly women's workload increases. Gender inequalities permeate access to and control of natural resources, including water resources for irrigation and domestic use. Lack of natural resources, caused by flooding, drought and erratic rainfall particularly cause women to work harder to secure natural resources and livelihoods. In such situations, women and girls have less time to receive education or training, earn an income or to participate in governing bodies. As an UNDP report of 2007 stated:

"Loss of livelihood assets, displacement and migration may lead to reduced access to education opportunities, thus hampering the realization of Millennium Development Goal 2 (MDG2) on universal primary education. Depletion of natural resources and decreasing agricultural productivity may place additional burdens on women's health and reduce time for decision-making processes and income-generating activities, worsening gender equality and women's empowerment (MDG3)" (UNDP, 2007b¹⁷, p.1)

Women are traditionally responsible for household water collection, which is especially arduous during floods and droughts, and this drudgery is likely to increase as climate change impacts are felt in the future unless adaptations can be taken to improve the situation. When a husband is injured or killed during a disaster, the wife may lose her land to relatives. (UN Vietnam and Oxfam, 2009, p.33-34)

Box 10. Access to resources

Although the situation changes from one region to another, in Indonesia, women often bear the burden of water and energy scarcity and lack of sanitation due to climatic changes and related disasters. Not only are they extra vulnerable to the increase of water-borne diseases, including malaria and dengue, and do they have to bear the burden of the provisioning of scarce livelihood resources for their families, managing family expenditures becomes more arduous if they have to buy water a.o. resources. In urban settings, health and sanitation issues emerge, due to failing waste management, that is worsened by flooding or droughts. (Communication, EGM, 19 July 2012)

Box 11. Impact of climate change on women and on the nutritional status of children

Even without factoring in climate change, malnutrition rates among children are generally high in Indonesia. Poor maternal, childcare, and feeding practices have been identified as the main cause of under-nutrition in children and women. Recent data have shown declining rates of exclusive

¹⁷ UNDP, 2007b. *Poverty Eradication, MDGs and Climate Change*. UNDP, New York

breastfeeding (from 40 to 32 per cent between 2003 and 2007), poor caring practices and, in particular, poor complementary feeding and poor maternal nutrition.⁽¹⁾ There is also suboptimal access to health services, safe water and sanitation, which is compounded by high absolute poverty levels.

The study found shifts in wet and dry season onset patterns in Indonesia, with reports of variable and failed harvests with multiple impacts. These included the undermining of the economic security of households, leading to reduced meal intakes, and an increase in the agricultural burden on mothers, which impacts on care and feeding practices for themselves and their children. Climate projections suggest that climate change will increasingly be a cause of food production disruptions and food price increases and, if unaddressed, may result in food availability being an issue for Indonesia.

⁽¹⁾ BPS-Statistics Indonesia, 2008. *Indonesia Demographic and Health Survey 2007*. Jakarta.

Access to information

In addition to access to resources, another important gendered aspect of climate change in Indonesia is access to information. Especially in preparedness against disaster, in APEC (2009) it is stated that: "Communication and information is one important issue in preparedness against disaster. The experience of Indonesia, indicated that one of the important variables determined the shape and degree of participation was the way how the information was distributed to all relevant societies. Experience also taught that information is critical in anticipating the danger of disaster. The pattern of communication showed that women are least exposed to information. The flow of information correlated to age and gender roles of the people in the community. Adult males were most exposed to information, and the intensity of exposure of information decreased to male youngsters, female youngsters, adult female, children, and the elderly." (APEC, 2009; p.38-39)

(In) security of place

As poor families, many of which are headed by females, often live in precarious situations, for example on lowlands, along riverbanks or on steep slopes, they are in danger of losing their shelter and land. People's environmental, food, water, energy, shelter, and economic security are at stake. In addition: in many situations women are less mobile, because they tend to stay behind with children, sick and elderly, do not have the means or are not allowed to move, or in some cases, have not learned to swim. Apart from material gender inequality, also culture plays an important role in this respect.

Personal security

Conflicts that arise from a shortage of natural resources, safe places to go or stress, amplify existing gender inequalities, and in many of those situations violence against women increases. Women and girls are particularly vulnerable in post-disaster situations, as they lack assets to help them cope and not only face food shortages, but also sexual harassment, unwanted pregnancies, trafficking and could be forced to dropout of school and marry earlier.

Box 12. Gendered Impacts: Sexual violence and climate-related disasters

In emergencies, many women and girls face the danger of sexual abuse of rape when staying in temporary shelters, when using unsafe latrine facilities, or when collecting water and firewood. A recent study of Plan in Bangladesh and Ethiopia underlined that in the aftermath of a disaster, girls

are often more susceptible to sexual exploitation, especially if they are separated from their parents or are left orphaned. Sexual violence increased in Indonesia after the 2004 tsunami, and families in refugee camps turned to child marriage to protect their daughters against rape.¹⁸ In Bangladesh, girls and NGOs reported sexual abuse in shelters as a major challenge both in rural and urban areas. According to the African Network for the Prevention and Protection of Child Abuse and Neglect (ANPCAN), a local NGO in Ethiopia, “most of the rapes and abduction occur when girls have to walk for firewood and water”. Another problem is that gender-based violence remains a taboo, and that women and girls who have experienced sexual abuse or rape are often seen as an embarrassment to their families.

Source: Plan International, 2011, pp.16-17

The above mentioned gender aspects of climate change and drawn from experiences in various countries climatic changes often result in: (Dankelman, 2010, p.41)

- Loss of (wo)men’s access to and control over natural resources and (eco)systems of good quality, such as land, water, energy sources and forest products;
- Loss of (wo) men’s access to and control over other sources of production and livelihood, such as knowledge, technology, schooling, and training.
- Loss of safe housing and living conditions

These will affect adversely, the health, survival, welfare and even human rights with the increase of work burdens, limitation in development opportunities, increase of poverty and declining people’s autonomy and decision making power.

Climatic changes also **affect gender relations** in diverse ways, and impact women and men in different ways in their diverse tasks, namely in their:

- (a) **Productive tasks:** agriculture, animal husbandry, forestry, fisheries/aquaculture; wage labour and non-agricultural self-employment in micro- and small enterprises;
- (a) **Reproductive tasks:** child bearing, rearing, care, household tasks, education and health care;
- (b) Social and community **participation**;
- (c) **Personal security** options.

Box 13. Gendered Impacts: School drop-outs will effect girls’ education

A recent UNICEF study on children and climate change in Indonesia incorporated a survey in NTT Province and in Eastern Java designed for children and youth; the study canvassed their perspectives, information desires, and direct experience of climate change impacts. The survey found that rural children had commonly experienced harvest failure, drought, and a corresponding shortage of water. Significant in these responses is the indication of food and water security stresses. Almost a quarter of the rural children surveyed also responded they had been obliged to drop out of school because of not having enough money – linked to weather events – and that almost one third of the rural children respondents had parents move for work because of food shortage or harvest failure. (Source: UNICEF, 2011; pp.6-7)

¹⁸ Felton Bierman, C., 2006. ‘Gender and Natural Disaster: Sexualized violence and the tsunami’. *Development* 46 (3)

3. Coping with Climate Change: gender implications

“Local wisdom is part of the coping mechanism. In Indonesia, local wisdom taught the people to learn the changes of the environment and strengthen social cohesion. “ (APEC, 2009; p.41)

Members of households tend to employ a wide variety of coping strategies to respond to environmental challenges and climate stress. These can be changes in agricultural production, food preparation, labour input, income diversification, out-migration, and in some cases even human trafficking or (early) forced marriages. Many of these strategies depend on the local ecological, social, and cultural context, and not all of these are sustainable.

Women face several constraints in coping with climatic changes, because of: limited access and control over resources and assets (including land titles), limited access to (weather forecast) information, lack of capacity, status, and power. For example: fishponds are often all registered under men’s names. Women are also seldom involved in formal disaster risk prevention and risk management strategies.

Local men and women worldwide apply some coping strategies, such as: ¹⁹

- **More time, effort and energy** are put into work, particularly by local women. However, there are limits to how much time and effort one person can spend, particularly when this occurs over longer period; and time poverty limits opportunities for training, education, community participation, and income generating activities.
- People **economize on the use of resources**. A common strategy is, for example, shifting to other food products that need less cooking time (often these products are less nutritious), limiting the number of (cooked) meals or the boiling of water – with all its health consequences, particularly for women and children, who are more vulnerable or (women) often eat last in families.
- Specific activities aimed at **making available more natural resources** and increasing their supply. Examples are initiatives in tree planting and reforestation, as well as forest conservation activities, kitchen gardens, installation of water points and regeneration of degraded land and watersheds.
- Another issue, which has been taken up by some (groups of) women is **reuse and recycling**. In situations of water scarcity, for example, they manage to recycle and reuse water for several purposes.
- Communities also look into **using alternatives**, such as solar energy for cooking, switching to alternative crops or changing planting patterns.
- When the natural resource base becomes too limited to sustain livelihoods, a common strategy is to look into **alternative means of income generation**.

¹⁹ Adapted from: Dankelman, 2010, pp.43-44

- Men and women in particular **get organized**. Already used to working together in the field or in the collection of natural resources, women might share with each other problems they face and potential solutions. Groups or committees might be formed, or pre-existing women's organizations take up the environmental issues in their livelihoods.
- As consumers, producers and citizens women can play powerful roles in **resisting** environmental degradation and in the **promoting** environmentally sound products and production processes.

Many of these coping strategies could contribute to deal with the immediate effects of climate change, but they can also put people's health and incomes at risk (see e.g. the first two points). Due to their roles, responsibilities and local situations, women cope differently than men.

Box 14. Coping and adaptive capacities in West Timor

Oxfam Great Britain has conducted a study on women and climate change in West Timor and found that women (and women-headed households) experienced the following issues:

- Illiteracy was higher among women than men (14.34 per cent compared with 8.27 per cent in the sample surveyed). This creates an obstacle to women farmers accessing the information they need to adapt and alter planting patterns or crops.
- Women farmers did not have the time or social space for informal interaction with peer farmers, the way most men did, and so they missed opportunities for peer learning on adaptive farming techniques tried by some. One impact of this was that some women farmers in one village had never encountered composting techniques. When such techniques were introduced by Oxfam, it allowed several of them to boost their production.
- Men had many more channels to obtain capital: They could borrow from male relatives, from the church or from a cooperative and generally did not have to pay interest. Women did not have the same networks. People were less willing to lend to women, and if they did, would usually ask for interest. For instance, 21 per cent of men surveyed had borrowed money without interest, compared with 4 per cent of the women. Men could use the loan capital to diversify their livelihood base, buying animals to raise, hand tractors and artificial fertilizers.
- Many women lost their farming land when they were widowed because the land was reclaimed by their late husband's families.
- When late heavy rains destroyed the first planting of corn, most women farmers had no further stock of seed to do a second planting and thus they had to either use up food grain or leave their fields unplanted.
- Women had fewer alternative coping strategies available in case of crop loss. Most had fewer or no animals to sell, had no access to capital or credit, and could not take up the option of labour work in a town or city. At the same time, when crops were lost locally, the price for food in the market tended to increase.
- One strategy used by many farmers to mitigate loss was to build bunds around their cornfields, to hold some of the rain runoff and reduce erosion. Households with no male support could not easily do this, nor could they build the watering troughs that were needed to raise large animals (cows, pigs).

Source: Oxfam GB, 2009b. *Gambling with the Future: women's struggle with climate change in West Timor*. Oxfam GB, Oxford.

Migration as coping strategy

In order to diverge income and livelihoods, and to fly from unsafe situations, temporary or permanent migration is often exercised as an important coping strategy. Although 'climate migration' as a distinct phenomenon in which climate change is the only driver of migration, is (still) scarce, worldwide, what is clear is that climatic changes and related weather events can be significant factors that motivate people to decide to migrate. Migration is crucial to development: in 2008, migrants worldwide sent US\$305 billion home to developing countries — three times the volume of aid.²⁰ Remittances from migrant workers are an important source of national income and support families that are e.g. affected by climatic changes. Migration has gendered social impacts in the population staying behind and those who migrate. This is often negative when women's workloads increase and yet their access to key livelihood assets remains limited. It can also be positive when women are able to challenge traditional roles and increase their status in the community.

Box 15. Gendered Impacts: Early and forced marriage as coping strategy

As families living in poverty struggle to survive due to slow-onset and sudden climate-induced natural disasters, there is also emerging evidence of a rise in early and forced marriage. Not only does this mean one person less to feed: even in cultures where normally the girl's family provides a dowry, marriages are arranged through a broker who will negotiate a price. In effect, a growing number of girls are being sold to their future husbands.²¹ Early marriage increases the likelihood of early pregnancy, with all its dangers of maternal mortality and social exclusion.

Source: Plan International, 2011, p. 18

Intensification of natural disasters as a result of climate change is already leading to **greater migration** and temporary outmigration and local non-farm labour are likely to increase. Mostly male household members migrate, but also young women from certain areas for example for looking for employment in the textile and garment industry or as caregivers, domestic helpers and as entertainers (sex workers). Women who migrate often earn less than men do, and the types of labour women and men can take up are often gendered. On the other hand, remittances can play an important role in maintaining household resilience for poor households. A key indicator of household resilience is that of remittances being sent by relatives abroad or children working in cities. In these situations quite often, male household members are away when disasters strike and women are forced to conduct most of the disaster reduction management (DRM) activities. (UN Vietnam and Oxfam, 2009).

Outmigration clearly places a strain on **those left behind** who have to complete the same agricultural tasks sometimes with lesser access to labour and associated skills. It is also possible that increased social conflict will occur when men return to households. It is important to mention that not only women are burdened by climatic change related migration. Some studies reveal that men stated that

²⁰ www.unifem.org/gender_issues/women_poverty_economics/facts_figures.php#14

²¹ Donahue, A. , 2011. 'Adolescent Girls, Cornerstone of Society: Building evidence and policies for inclusive societies', prepared for the 5th UNICEF-GPIA Conference, New York City.

men would have preferred to stay at home. Separation clearly had emotional costs for the husbands and fathers, as well as for the female members of the household. (UN Vietnam and Oxfam, 2009)

4. Climate Change Adaptation

Adaptation²² intends to increase **resilience** and decrease **vulnerability** to climatic changes and future disasters. Therefore, adaptation that is focusing at the root causes of vulnerability and resilience is

Box 16. Livelihood induced migration: Case from NTT

In NTT Province most of the population depends on rain-fed agriculture, such as corn and tuber crops. The ENSO cycle has tended to cause significant drought. Farmers have relied on a variety of coping strategies, among which different forms of migration have been significant:

- Both women and men have moved seasonally to Kupang and other urban centres within the province, with men working as labourers or *ojek* (motorcycle taxi) drivers and women as domestic workers.
- Women in particular have taken contract work overseas, most often as domestic workers, through official labour-recruiting agencies and usually for the standard period of two years at a time.
- NTT has been one of the most important recruiting areas for undocumented migration to Malaysia; they work throughout Malaysia as plantation workers, as well as in domestic service, fisheries and factories.

(Source: UNICEF, 2011, pp.73-74)

different from the day-to-day coping practices in which local women and men are involved. Various types of adaptation are distinguished, including anticipatory, autonomous, and planned adaptation. (IPCC WG2, 2007)

Climatic changes increase the potential of risks, and therefore it is important to manage such risks. **Disaster risk reduction and management** are fundamental elements of climate change adaptation. It allows women and men, and institutions to analyze the surroundings, and develop and decide on proposals of concerted action designed to reduce existing risks, that might become disasters if not properly managed. (GGCA, 2009).

Adaptation tends to be **location-specific**, which makes it difficult to draw general lessons. However, what we know is that successful adaptation needs to build on the adaptive capacity of communities (community based adaptation efforts), starting with providing support to them to adapt to uncertainty and variability. (Both ENDS, 2007²³)

Box 17. Climate Field Schools help to respond to climate change

²² Coping with the effects and impacts of climate change or climate related disasters is not the same as adaptation. Where coping much more means dealing with the short term effects for better or for worse, adaptation has a far more forward-looking character, and is linked to preparedness and resilience.

²³ Both ENDS, 2007. Adapting to Climate Change: how local experiences can shape the debate. Both ENDS, Amsterdam

Female and male farmers are good observers and experimenters in the context of climate change. They already adapt but could adapt even more. Following the successful Farmer Field School approach, since 2005 Climate Field Schools (CFSs) have been set up in Indonesia. In 2005-2006, an experimental CFS was set up - in a partnership between the Indonesian Ministry of Agriculture, the Asian Disaster Preparedness Center (Bangkok), the Indonesian Agency for Meteorology and Geophysics, and the University of Agriculture in Bogor - in Indramayu, West Java, to increase farmers' knowledge on using climate information in their decision-making. This area was chosen because of the unpredictable variations in water availability, making rice farmers in the lowlands insecure. They developed diverse agricultural systems under different water regimes: full technical irrigation, partial technical irrigation, and rained agro-ecosystems, with one to three growing seasons per year.

In 2007, a second CFS was established in Gunung Kidul in Central Java, where an active farmers' group existed already. In this dry hilly area, farmers cultivated multiple cropping systems the whole year round where water allows. The CFS lasted almost five months, with twenty farmers attending twelve meetings. Participants set out to improve water management through establishing ridges in their rice fields. Participants' local knowledge and practices, and their responses to climate change have been studied since May 2007 by a research team coming from the Gadjah Mada University (Yogyakarta). Like many Javanese farmers, the farmers in Gunung Kidul depend on the *pranata mangsa* cosmology, based on the lunar cyclical calendar. Farmers were confused that the information they got from that system and from local observations, is no longer of much use; for example false starts of the rainy season and unusual dry spells are now being experienced

Although the farmers learned a lot about climate change in the CFSs, they also wanted to learn about soil and water management, pests and diseases, crop choices and their adaptations: a complete livelihood approach is needed. So follow-up meetings dealt with soil and water management in the context of climate change, pests, and diseases, and choice of crops under a changing climate. Much better access to climate information, sharing of experiences and advice are needed. It was also concluded that farmers' experiences should be documented, and new cropping systems could be tested.

Source: Yunita T. Winarto, Kees Stigter, Esti Anatasari and Siti Nur Hidayah, Dec.2008. Climate Field Schools in Indonesia: Improving "response farming" to climate change. In: ILEIA, 24.4, pp.16-18

The United Nations Framework Convention on Climate Change (UNFCCC), defines a **three-staged approach** towards adaptation:

Step 1: Assess impacts and vulnerabilities (including vulnerability mapping).

Step 2: Develop measures to prepare for adaptation, including capacity building.

Step 3: Implement adaptation measures.

Adaptations to adjust to increased climate variability, could include the timing of crop planting (earlier or late) and harvesting, e.g. of rice before the typhoon and flood season, or the introduction of flood resistant crop varieties.

Constraints to community-induced climate adaptation are plenty:

- villagers and urban citizens might lack the resources, knowledge and capacities
- they might lack the (decision-making) power to undertake relevant activities
- the intensity, character, and duration of the climatic changes and related slow-onset and sudden disasters.

Support from authorities and experts are therefore imperative.

Climate proofing – adaptation and mitigation

In order to adapt to climatic changes, variability and uncertainty, and to encourage climate change mitigation and adaptation **climate proofing** is being promoted. Climate-proofing initiatives could include:

- **Adaptations in agricultural practices:** changes in cropping patterns and introduction of more resilient crops and animals, or planting alternatives, such as planting of trees.
- **Shifting to innovative and alternative systems:** such as organic farming that helps increasing production while reducing methane release.
- **Reduced Emissions from Deforestation and Forest Degradation (REDD):** Indonesia is preparing the implementation of the international REDD(plus) mechanisms, that is based on the experience of payments for environmental services, such as providing GHG sinks.
- **Disaster preparedness:** steps taken to increase resilience to future (climate related) disasters, such as infrastructural measures, the availability of rescue systems and primary resources (such as water and food supplies), enhanced functioning of early warning systems.
- **Diversification of income:** in more insecure situations, in order to adapt to worsening conditions, the strategy of income diversification is an important strategy.
- **Promotion of sustainable energy systems.** Innovative energy technologies can promote resilience and at the same time mitigate the causes of climate change. For example, studies have identified various positive benefits of the production and use of **biogas** from animal manure, especially for women.
- **Renewable energy** for lighting is popular, especially solar power, wind and (small-scale) hydro. Solar-powered battery charging stations (including for mobile phones), flashlights, and radios are powerful tools for people living in poverty and facing climatic changes. (UNIFEM and WEDO, 2010) The availability of lighting, for example, increases the options of children, including girls, to attend schools and do their housework. (Plan, 2011)
- **Sustainable water supply, sanitation, and health practices:** technology for water sourcing – such as rainwater-harvesting technologies - and distribution is being explored and innovations are being promoted. In flood-prone areas, clean and potable water requires technical knowledge and information dissemination. In particular technology for and promotion of safe sanitation in flooded areas should be supported. (UNIFEM and WEDO, 2010)

- **Access to Information and increased awareness:** climate-proofing, adaptation and mitigation efforts benefit from well-informed women, men, and children. **Education** is not only a critical escape route from poverty, but it increases changes of understanding of and having access to climate and weather related information. **Increasing climate-resilience in cities:** climate-proofing of houses, buildings, new and existing infrastructure is an urgent priority. Urban planners worldwide are designing more sustainable cities. In such planning, they focus on issues such as flood safety, shelters, as well as the promotion of renewable energy, carbon-neutral goals, and sustainable transport and eco-efficiency. (Newman et al, 2009²⁴)

BOX 18. Adapting Indonesian cities

Indonesian urban areas have been allowed to grow and “develop” according to plans which give only low priority (at best) to environmental and climate change considerations. Cities need to become “climate smart,” with resilience embedded in their infrastructure and built environment. They need to reflect an urban design which is both people-friendly and environment-friendly. ...There is a need to think of “virtuous cycles,” connecting human populations and living ecological systems (i.e. not simply of reducing our ecological footprint). A good way to do this is to use principles, which mimic nature. Making Indonesian cities climate smart needs to be seen as an essential component of the country’s climate change adaptation (and mitigation) strategies because the cities – especially Jakarta – are the country’s principal “engines of economic growth,” and to allow them to become more dysfunctional would undermine development. Furthermore, an ever-larger proportion of the population lives in areas designated as urban; if the population is to adapt to climate change then its cities must become climate smart. This requires a redesign of the urban built environment, and a rethink of urban values and lifestyles.

Source: UNFPA, 2011; p.63

5. Gender aspects of climate change adaptation

Climate change adaptation is not gender neutral. There are different ways to look at the gender aspects of related policies, strategies, and projects:

- (a) ***Women and men have diverse capacities and contribute differently to adaptation, and women, like men, can be powerful agents of change and leaders.*** Women and men have different bodies of knowledge (including traditional knowledge), skills, and experience that contribute to these strategies. There are many examples that show that women’s participation has been critical to community survival. *In the forestry sector in Indonesia, for example, women have showed to be important and creative agents of change and play important leadership roles. And through their diversification of livelihood strategies in the informal sector women often prove to be “the cushion” of local households and communities.* (Communication, EGM, 19 July 2012) (see also Box X).

²⁴ Newman, P., T. Beatley and H. Boyer, 2009. *Resilient Cities. Responding to Peak Oil and Climate Change.* Island Press, Washington.

Box 19. Local women in Indonesia: crucial forest managers

Avi Mahaningtyas, an Indonesian expert on forest management and Reducing Emissions from Deforestation and Forest Degradation (REDD) told Amantha Perera of AlertNet, that it was rural women who knew intimately the forest's value to their lives. "They know it by heart and by birth", said Mahaningtyas, who heads the Environmental and Economic Governance Cluster of the Kemitraan-Partnership for Governance Reform in Indonesia, a national organization working on good governance.

She stresses that if a forest is to be preserved, like any other natural resource, it needs to carry a value. "A forest with a value will not easily be cut down. And it is the people who work within it who will know intimately that value," says Mahaningtyas. While other identities such as ethnicity, socio-economic status, and geo-political location also play a critical role in forest management and tenure in Indonesia, gender discrimination is still rampant. Women who are important forest managers are left out from the decision making process, that is usually dominated by the male elite leaders of the village. Mahaningtyas and Siscawati (2011) elaborate how their identities often put women in a marginalized position, especially in terms of land tenure and decisions on the management of the forest area. Hence, organizations working on natural resources management have to ensure meaningful participation of women in decision making, especially in government-initiated programmes and/or projects.

Sources: Amantha Perera, 2 August 2012. Women 'are the foot soldiers of climate change adaptation' - expert. AlertNet. Accessible at:

http://current.com/technology/93860741_women_are_the_foot_soldiers_of_climate_change_adaptation.htm

Avi Mahaningtyas and Siscawati, 2011. Gender Justice: Forest tenure and forest governance in Indonesia, Brief 3 of 4 from *The Challenges of Securing Women's Tenure and Leadership for Forest Management: the Asian Experience*. Accessible at: http://www.rightsandresources.org/publication_details.php?publicationID=5224

- (b) ***Women and men have different (practical and strategic) needs and interests in adaptation efforts.*** Studies have shown that ensuring women access to early warning systems often achieves positive results. In Hawaii, during the 1998 El Niño event, women were targeted with early warning information that included information about treating drinking water; this succeeded in a significant reduction in the incidences of diarrhea (Kinoti, 2008²⁵).
- (c) ***Adaptation strategies and actions, on the other hand, can have a differentiating impact on women and men, and have the potential of increasing or decreasing existing inequalities.*** For example, if in disaster management and recovery in the form of shelters and temporary camps, gender needs in sanitary and health provisions are neglected, women and girls face extra burdens of lack of privacy, health problems, and more incidences of violence.

²⁵ Kinoti, K., 2009. Natural Disaster Reduction: Lessons on Empowering Women. AWID.

(www.awid.org/eng/Issues-and-Analysis/Library/Natural-Disaster-Reduction-Lessons-on-Empowering-Women2)

Box 20. Women's roles in sustainable consumption decisions

According to studies conducted by the Organization for Economic Cooperation and Development (OECD, 2008²⁶) and by Johnsson-Lathan (2010²⁷), gender has a huge influence on sustainable consumption, partly due to the differing consumption patterns of women and men. In some OECD countries, women make more than 80 per cent of the consumer decisions and they are more likely to be sustainable consumers. This also has influence on women's role in climate change mitigation and adaptation practices.

In summary, the arguments reflected below show that gender mainstreaming is essential in all climate change adaptation efforts.

Box 21. Five Arguments for Gender Mainstreaming in Climate Change Adaptation

Climate Change Adaptation (CCA) policies could gain a lot from gender mainstreaming:

- (1) **Capitalize** on the talents, capacities, and contributions of both women and men, both around 50% of the population, so the policies will be more **successful, efficient, and effective**.
- (2) **Avoid** increasing (unintended) effects of CCA policies and actions on gender (in) equality and poverty.
- (3) Be **mutually benefiting**: CCA policies and actions can empower women and improve living conditions and livelihoods of women, their families, and whole communities.
- (4) Ensuring more **coherence** with existing social/gender policies and gender and human rights obligations, therewith contributing to gender equality and the achievement of the MDGs.
- (5) As gender sensitivity acts as an **'eye-opener'** for other social dimensions of climatic changes.

²⁶ OECD (Organisation for Economic Co-operation and Development), 2008a. *Promoting Sustainable Consumption: Good Practices in OECD countries*. OECD, Paris and OECD, 2008b, *Environmental Policy and Household Behaviour: Evidence in the Areas of Energy, Food Transport, Waste and Water*. OECD, Paris.

²⁷ Johnsson-Latham, Gerd (2010). Why more attention to Gender and Class can help combat climate change and poverty. In: Dankelman, Irene (ed), 2010. *Gender and Climate Change: An Introduction*. Earthscan, London, pp. 212-222

III. GENDER MAINSTREAMING IN CLIMATE CHANGE ADAPTATION IN INDONESIA: RECOMMENDATIONS AND GUIDELINES

All the above-mentioned arguments illustrate the gender-specific aspects of climate change and climate change adaptation.

➔ ***Therefore, there is an urgent need to address gender differentiated needs, roles and priorities through gender mainstreaming in climate change adaptation.***

This chapter presents recommendations, principles and guidelines to mainstream gender in Indonesia's climate change adaptation (CCA) policies, institutions, capacity building and research, and its financial mechanisms, as well as its CCA programmes and projects.

1. Policies and Institutions

Focus of this section will be on policies and institutions, capacities and mechanisms. In the context of Indonesia's decentralization, it is important to stress that these recommendations address not only the Government at national levels, including its diverse line ministries²⁸ dealing with (the consequences of) climatic changes, but intends to address also authorities and other stakeholders at the country's 34 provinces and almost 500 provinces. Policies are reflected in their budgets, so gender-responsive budgeting forms an important approach to materialize gender mainstreaming at policy level.

(a) Climate Change Adaptation Policies (at all levels):²⁹

Should be: *gender sensitive, gender responsive, and promoting gender equality*

- CCA policies should have specific objectives referring to the promotion of gender equality, including a clear argumentation for including these objectives
- Gender assessments of the draft CCA law and its related action plans is needed
- Gender analysis and monitoring should be part of the development and implementation of Sectoral Annual Work plans; to enable this process, gender indicators should be developed and applied.
- Existing CC (A) action plans should be reviewed and revised in order to adequately reflect gender equality.
- The development of the policies should be informed by and promote the generation of sex disaggregated data (gender aspects of CC adaptation).
- The policies and related implementation mechanisms need to be attuned to the various adaptation needs and priorities of both women and men.

²⁸ These include amongst others, Ministries of Agriculture, Forestry, Marine and Fisheries, Health, Public Works, and Education, next to Ministries of Home Affairs, Planning (Bappenas), and Finance,

²⁹ Oxfam, 2010; UN Viet Nam and Oxfam, 2009; Dankelman, 2010, Aguilar, 2010, Otzelberger, 2011

- Meaningful and equitable participation of women in CCA policy development and decision-making should be encouraged and ensured.
- To this end involvement of women's NGOs, CSOs, gender experts and gender institutions should be promoted.
- Support policy coherence and ensure active cooperation between technical (CC) ministries and institutions, and those working on gender equality.
- Decentralization of this approach is necessary.

Box 22. Policy Principles

Ensure that local and national-level policymaking on climate change adaptation:

- Promotes gender equality and women's rights, and that women actively participate alongside men.
- Supports the enhancement of local women and men's adaptive capacities.
- Builds on (indigenous) knowledge systems and practices of local women and men.
- Ensures favorable conditions for gender sensitive climate change responses, including promotion of women's land and property rights, security of tenure, assets,, and protection and restoration of critical ecosystem services to improve resilience.

Box 23: Implementation of Gender Responsive Budgeting and Planning in Indonesia: an Entry Point to Mainstreaming Gender into Climate Change Adaptation

Since the Presidential Instruction No. 9/2000 concerning Gender Mainstreaming in National Development Plan is enacted, the process of gender mainstreaming in line ministries has been initiated. The Presidential Instruction also applies to the sub-national level. Under the guidance of the Ministry of Home Affairs, government agencies down to the district level are obliged to mainstream gender in regional development plans. The Ministry of Women's Empowerment and Child Protection is the government agency in charge to provide technical assistance to other ministries on gender mainstreaming, including training on gender.

However, the process of gender mainstreaming had not taken a full stride until the wake of Gender Responsive Budgeting (GRB) in Indonesia. Since the official introduction - by the Minister of Finance Regulation of 2009 - of GRB into the budgeting system in seven pilot ministries (four line ministries, - namely the Ministries of Agriculture, Education, Health, and Infrastructure- , and the Ministries of Finance, National Planning and of Women's Empowerment as drivers), at last gender mainstreaming has gained its ground. Government ministries and agencies (*Kementerian dan Lembaga or, K/L*) are requested to submit Gender Budget Statements as appendix in their annual work plan budget; in these they have to outline gender inequalities or gaps that they are going to address in their programme and activities, in accordance to their strategic planning document.

One of the steps to be taken by the Ministries before submitting their Work Plan Budget is the trilateral discussion between the Ministries who wish to submit their Gender Budget Statement, the

Ministry of Finance and the Ministry of Planning. The discussion seeks to ensure coherence between the national priority programme and gender equality, to be addressed in the programme and related activities and should be reflected in the government budget.

Using the pillars of draft NAP (National Adaptation Plan) on Climate Change Adaptation (economic resilience, livelihood resilience, environmental services, special regions and supporting measures), the Ministry of Planning has identified at least eight ministries that could directly contribute to climate change adaptation and gender equality, namely: the Ministries of Health, Social Affairs, Agriculture, Manpower and Transmigration, Environment, Public Works, Marine and Fisheries, and the Ministry of Women's Empowerment. Government commitments and current directions on Gender Responsive Budgeting could form an entry point on how recommended actions in this policy paper could be implemented.

Source: Bappenas, 2012, List of Ministries Submitting their Work Plan Budget

(b) Climate Change Institutions (at all levels; including line ministries and institutions): should be *gender aware, inclusive, sensitive and ready to act*

- Gender equality should form an institutional principle, supported by commitment at the highest level, in order to create enabling organizational environments for effective gender mainstreaming.
- There should be gender expertise available in the institution.
- Ensure awareness raising and training around the relevance of gender equality for climate change policy development and implementation.
- Develop, use and implement gender policy and related guidelines.
- Support gender sensitive human resource management (HRM), and ensure equitable participation of women and men in the institution, including in the senior management.

(c) Capacity Building and Research:

need to contribute to *knowledge, understanding, awareness*

- Build understanding, knowledge and expertise on gender and climate change (adaptation).
- Raise awareness on gender equality and climate change at all levels.
- Include knowledge about social dimensions, including gender equality, and climate change in educational systems and curricula at all levels.
- Enhance the participation of women in climate (change) science, practice, and technological disciplines.
- Support research on gender aspects of climate change, climate change adaptation and mitigation in Indonesia.

(d) Climate Change (Adaptation) Financing and related mechanisms:³⁰

should be available, *accessible and benefiting local women and men*

- Enhance women's individual, community and group access to (and control over) CC(A) funding, including national, international and donor funding.

³⁰ UNDP & GGCA, 2011. Ensuring Gender Equity in Climate Change Financing. UNDP, New York.

- Ensure that other CC(A) funds and financial mechanisms and services (including microfinances) are gender responsive and benefit (local) men, women and children and their (micro)enterprises.
- Promote access to climate change insurance, including farming insurance, for local women and men.
- Ensure primary informed consent on CCA initiatives.

2. Climate Change Adaption (CCA) Practices³¹

should be gender sensitive, responsive, inclusive and beneficial

Climate change adaptation programmes, projects and other initiatives can greatly benefit from women’s and men’s active and meaningful participation, agency and involvement, and form important opportunities to challenge gender inequalities, and to enhance gender equality.

Some **basic principles** include:

- Consideration of gender issues is imperative as without an expressed consideration of gender issues from the very beginning of the project cycle, adaptation interventions can have unintended gender implications.
- Execute an engendered vulnerability assessment of the area(s) involved, including generating and analysing sex-disaggregated data and enhancing multistakeholder approaches.
- Include a gender analysis in all planning and design of CCA initiatives. Ensure that different concerns and priorities of women and men shape the programme and project cycle
- Generate sex-disaggregated data and execute research regarding gender aspects of climate change (adaptation).
- Enhance the role of women and men in communities in CCA and enable their meaningful participation in planning, implementation, monitoring and evaluation of CCA.
- Encourage and ensure meaningful participation of women’s organizations in CCA at all levels.

As women in Indonesia are not officially recognized as fishers (as they are not going out to the sea for fishing) they are excluded from adaptation programmes and projects for fisherman. Such policies neglect the fact that women play important roles in fishing communities. (Communication, EGM, 19 July 2012)

BOX 24. Checklist for appraising the gender responsiveness of sectoral and generic CCA programmes assesses if the initiative³²:

- (a) Promotes women’s greater access to and control over resources, including land and water of good quality, and assets, including women friendly energy technologies
- (b) Reduces women’s (work) burdens and avoids overburdening these, e.g. through compensation and creating enabling environments

³¹ Adapted from: Dankelman (2010); Oxfam (2010); UNDP (2010); UNDP (2011); and based on Kick-off Meeting and EGM, Jakarta, 18 and 19 July 2012, and Dissemination Workshop, Jakarta, 29 October 2012.

³² See also: Annex 10. Checklist for Gender-Sensitive Risk Assessment.

- (c) Recognizes and respects women's and men's knowledge and capacities
- (d) Is aware of the vulnerabilities, capabilities and concerns of different groups of women, such as widows, girls, women from ethnic minorities, women with disabilities
- (e) Supports women's participation and leadership in decision-making and implementation
- (f) Increases women's capacities in CCA, e.g. through training and education
- (g) Increases a sense of empowerment of local women and men
- (h) Ensures women's access to (understandable) CC(A) information, through early warning, weather information, education and (local) media
- (i) Actively promotes and protects women's rights, and protects them from gender-based violence
- (j) Challenges attitudes and beliefs and stereotyped gender roles that discriminate against women
- (k) Works with men to secure their support for programme activities that uphold women's rights and empowerment.

Specific **Suggestions on Strengthening Gender Equality in RAN AP Priority Areas** are presented in Annex 11 of this Policy Document.

CCA Programs and Projects

Following **the programme and project management cycle**, specific recommendations are:

(1) Identification

- Execute a **Gender Analysis**, that allows to understand how the livelihood and living conditions of women and men, boys and girls – with diverse backgrounds -, differs, how climate change effects impact on each of these groups, and what their specific needs, concerns and priorities are in the context of CCA. An initial analysis of community dynamics is imperative to determine how to most effectively addressing gender issues.

Box 25: Good Practice on Gender Mainstreaming: Strengthening Community Based Forest and Watershed Management Project, Ministry of Forestry

The *Strengthening Community Based Forest and Watershed Management* project of the Ministry of Forestry aims to restore the watershed function, while increasing the wellbeing of the people who live near the forest and watershed. The project is executed in six locations in Dodokan (Nusa Tenggara Barat Province), sub-watershed of Gopgopan (North Sumatra Province), sub-watershed Besiam (Nusa Tenggara Timur Province), sub-watershed Besai (Lampung Province), sub-watershed Tulis (Central Java Province) and Palu watershed (Southeast Sulawesi Province). As gender issues had not been integrated in the previous project, the full objective of that project had never been fully achieved. Women are the poorest group in the communities, while their roles in ensuring family well-being have been taken for granted. Now, the current project has identified the practical and strategic needs of the women in the communities, including their participation in decision making to ensure that women's needs are being taken into consideration.

During the planning stage of the project, a gender analysis was conducted. The process of learning about gender issues through the “learning circle of gender issues in watershed management” is of great importance; it starts with identification of gender specific issues, learning from the field and completed by discussions with key stakeholders. The process is owned not only by project managers, but also by the field workers, who all contribute to the process of gender mainstreaming in the Ministry of Forestry. This approach can be adapted and replicated in other projects; if the ministry in charge gives, it is with full support and commitment.

Source: Final Report of Gender Consultant, *Strengthening Community Based Forest and Watershed Management Project*, Ministry of Forestry, 2012.

(2) Planning

- The outcomes of the Gender Analysis should be built into the community programming and project **objectives**, initiatives, and budgets: ensure that all objectives acknowledge and address gender differences, and identify specific objectives to strengthen gender equality and women’s empowerment.
- Develop gender **indicators** for programme and project planning.
- Ensure **gender responsive budgeting**.
- Inform, consult and involve **(local) women and men** about and in the CCA programmes and projects, and inform them about their rights.
- Ensure that women **participate** equally and actively alongside men, and are enabled to take up leadership positions throughout the programme and project management; good facilitation is essential.
- Proactively seek out and engage with **women’s organizations** and female community leaders when selecting partners.
- Include **gender expertise** in the programme/project team.
- Ensure that the **institutional arrangements** of implementing organizations are gender sensitive.
- Identify opportunities for ensuring that **women (co)benefit** from CCA initiatives, e.g. through income diversification, increased access and control over resources.

(3) Design and Implementation (see also Checklist Box 24 above)

- Ensure that programmes, projects, and initiatives are informed by **gender analysis**.
- Acknowledge and respect **women’s knowledge** about CCA.
- **Develop capacities** of women, and draw upon their skills, experiences, and agency.
- Enhance CCA and livelihood **resilience** by promoting greater diversity and risk spreading and greater adaptive capacity of local women and men.
- Enhance **early warning** and strengthen women’s **access to weather- and climate related information**.
- **Support women** to carry out their responsibilities easier, and support and encourage women and men to take on non-traditional gender roles so that women and men are able to share reproductive and productive work.
- Support **women’s right** to ownership and control of strategic assets, such as housing and land; where appropriate, create ‘collective asset bases’.

- Support **women’s and girls’ access** to safe water, sanitation, and sustainable energy resources and to health and reproductive health services.
- Support women working **in the informal sector** with enhancing their capacities and assets in order to cope with and adapt to climatic changes.
- Improve **social protection** and **working conditions** for female migrants, wage laborers, and tackle gender inequality in **resettlement**, including through land entitlements.
- Support **pilot projects** on gender and CCA in priority regions, with gender equality as a specific goal and draw lessons from these.
- **Support women’s organizations** and networks working on CCA, and enhance their networking.

(4) Monitoring and Evaluation (M&E)

- Develop and apply **gender –specific indicators** for M&E.
- Monitor and evaluate **changes in gender relations** using these indicators, assessing the different implications of planned programme and project interventions and activities on women and men.
- Integrate gender in **data gathering and analysis** for M&E purposes.
- Ensure **accountability** by establishing mechanisms that enable both female and male beneficiaries to give feedback, including on programme/project activities that relate to gender issues.
- **Document** the planning and implementation phases of the programmes, and **collect gender-specific data**.
- **Support research** on gender and CCA in Indonesia in different contexts.

Table 3. **Examples of Gender-sensitive Climate Change Adaptation in rural areas**
(Adapted from: Oxfam, 2010, p.9)

Change	Impact	Gendered programme activity examples
Temperature increase on land and water	Heat stress on crops	Ensure that women farmers as well as men have access to heat-tolerant crops and varieties, and that their cultivation and/or processing do not place an additional burden on women.
	Increased water demand for crops	As above, for drought-tolerant and vast-maturing crops and varieties.
		Include women in training sessions on how to increase soil’s organic content.
		Include women in training session on water-conserving crop-management practices and ensure that the practices promoted do not place an extra burden on women.
	Promote water capture and storage, ensuring that women are consulted on appropriate systems.	
	Heat stress on livestock	Tree planting (for shade and fodder) done in consultation with women and men so that it is done in appropriate areas and women are included and treated equally in planting activities.
Sea-level rise	Saline intrusion	Provision of water for households and productive use, ensuring that women are involved in designing systems that meet their requirements.
Changed seasonality	Farmers uncertain about when to cultivate, sow and harvest	Ensure that both men and women farmers have access to appropriate, accessible and reliable weather forecasts and know how to use this information.
		Promote crop diversification and crop mixing, ensuring that their cultivation and/or processing do not place an additional burden on women.
	Crops damaged by	Ensure that both men and women farmers have access to appropriate,

	dry spells within growing season	accessible and reliable weather forecasts and know how to use this information.
		Promote crop diversification and crop mixing, ensuring that their cultivation and/or processing do not place an additional burden on women.
		Water capture and storage; access to fast maturing/drought tolerant (local) varieties; soil and crop management to conserve water.
	Crops damaged by unseasonal heavy downpours	Ensure that both men and women farmers have access to appropriate, accessible and reliable weather forecasts and know how to use this information.
		Ensure that women farmers as well as men have access to flood-tolerant crops and varieties, and that their cultivation and/or processing do not place an additional burden on women.
		Promote crop diversification and crop mixing, ensuring that their cultivation and/or processing do not place an additional burden on women.

IV. CONCLUSIONS

This policy document that is illustrated with many cases from throughout the country is intended to inspire and support gender mainstreaming in Indonesia's climate change adaptation policies, institutions, mechanisms and initiatives. It has done so by sharing information on the country's situation with regard to gender (in) equalities and climatic changes, and related policy and institutional frameworks. From this description it becomes clear that, although there has been important progress regarding gender equality, still major challenges persist (for example in the areas of tenure rights, participation in decision-making, economic perspectives and violence against women). The intensity and unpredictability of climatic changes pose major threats to all dimensions of human security of Indonesia's communities, challenge their resilience, as well as their coping and adaptive capacities. It does so in gender-specific ways. A human security framework helps in analysing such impacts, coping and adaptation strategies and policy options. In this context, the importance of intersectionality of gender with other aspects of social differentiation, such as age, ethnicity, welfare and education, has been underlined.

Five arguments have been presented for gender mainstreaming in climate change adaptation policies and actions. Women like men, are crucial actors and agents of change in climate change adaptation and mitigation efforts, and their involvement and meaningful participation could make CCA much more effective, equitable and sustainable. Also needs, interests and priorities of women and men in rural and urban settings differ in many ways, so both have to be taken into account. However, as has been shown, not only are women still underrepresented in many related policies and actions, also are benefits from CCA efforts distributed unequally. This contrasts sharply with the fact that women and children are often more disadvantaged when climatic changes hit.

In an effort to promote gender mainstreaming processes throughout CCA, specific recommendations have been presented in order to make policies, institutions, mechanisms and practices more gender sensitive, responsive, inclusive and beneficial. Recommendations vary from making gender equality a specific objective of CCA policies, institutions and efforts at all levels of Indonesia's society, and ensuring full commitment towards that end at the highest level of governance, to the use and application of gender-sensitive approaches, tools, instruments and devices, such as enhancing women's access and control over resources, services and finances, enhancing their participation, the use of gender analysis and the generation of sex-disaggregated data. In an annex, specific recommendations have been presented with regard to gender mainstreaming in the RAN-API priority areas: economic resilience, livelihood resilience, environmental services, special regions and supporting measures.

Although the process of developing this Policy Paper has been participatory and involved many parties and stakeholders at national level, there is still a major need for awareness raising at regional and district levels, and for a thorough involvement of civil society as well as the private sector in these efforts. In addition, existing national and local governance systems and mechanisms for gender mainstreaming need support and strengthening. Overall, this document has shown that there are already many lessons to learn from existing situations and initiatives throughout the country. The need to document and research these thoroughly, and by doing so, developing an important body of knowledge on gender aspects of climate change and climate change adaptations in Indonesia, can not be underestimated. Pilot projects in the area of gender and climate change adaptation, could have a catalytic effect. A next step from Policy Paper towards real gender mainstreaming in practice would be the development of Gender Action Plan(s) for climate change adaptation. In the end, it is a question of actions on the ground, of sharing lessons and applying these widely.

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RELEVANT ORGANIZATIONS AND WEBSITES:

- ENERGIA – International network on gender and sustainable energy: www.energia.org
- Gender and Disaster Network: www.gdnonline.org
- Global Gender and Climate Alliance: www.gender-climate.org
- IUCN Gender and Environment website: www.genderandenvironment.org
- Oxfam GB: www.oxfam.uk.org Oxfam International: www.oxfam.org
- United Nations Development Programme (UNDP) – Climate Change: www.undp.org/climatechange
- UN International Strategy for Disaster Reduction (ISDR): www.unisdr.org
- United Nations Framework Convention on Climate Change (UNFCCC): www.unfccc.int
- UN Women: www.unwomen.org
- Women’s Environment and Development Organization (WEDO): www.wedo.org

ANNEX 2. Glossary of Terms on Gender and Climate Change

Gender: refers to socially ascribed roles, responsibilities, rights and opportunities associated with men and women, as well as the hidden power structures that govern relationships between women and men. These relationships are dynamic, change over time and are context-specific. Gender is a social stratifier, like age, race, ethnicity, social status and education. (Dankelman, 2010)

Gender differentiation: diverse roles, responsibilities, functions, levels of participation, access to and control over resources and assets, levels of education, actual rights and opportunities.

Gender relations: the socially constructed form of relations between women and men (Momsen, 2004, p.2³³); these are contextually specific and often change in response to altering circumstances.

Gender roles: refer to how men and women should act, think and feel according to the norms and traditions in a particular place and time. (GGCA, 2009).

Gender division of labour: the allocation of the tasks and responsibilities of women and men at home, at work and in society, according to patterns of work that are felt to be acceptable in a particular place and time. (GGCA, 2009) Often a division is made between: (a) productive tasks (agriculture, animal husbandry, forestry, fisheries/aquaculture, self-employment, workers in enterprises); (b) reproductive tasks (child bearing, rearing, care, education, household tasks, family health and protection); (c) community and political tasks.

Gender equality: similar rights, potentials, assets and chances for women and men (in all their diversity); refers to equal rights, voice, responsibilities and opportunities for women and men in society, at work and in the home.

Gender inequality: refers to unequal rights, voice, responsibilities and opportunities for women and men in society, at work and in the home. Gender inequality one of the most pervasive of all inequalities (UNDP, 2005)

Gender gaps: are societal differences between women and men that are felt to be undesirable. The Factsheets in Annex 2, based upon factsheets from UN Women, give further information on gender issues worldwide and how these affect 'women, poverty and economics' - with emphasis on poverty and employment, as well as the impact of the economic crisis on women -, on 'violence against women', and on 'gender and governance' issues.

See: http://www.unifem.org/gender_issues/democratic_governance/ , retrieved 19 August 2011.

³³ Momsen, J.H. , 2004. *Gender and Development*. Routledge, London

Gender Mainstreaming: Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies and programmes, in all areas and at all levels. It "...is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes (in all political, economic and societal spheres), so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality." (ECOSOC 1997/2)

Gender analysis: gives an understanding of how the identities of women and men determine different vulnerabilities and capacities to deal with climate change. (UNDP, 2008) See also Annex X.

Climate Change related Definitions

Climate: in a narrow sense is usually defined as the 'average' weather. More rigorously, according to the definition of the World Meteorological Organization 'climate' stands for the mean and variability or relevant variables over a period of time, ranging from months to thousands or millions of years, but with a classical period of 30 years. These variables are often temperature, precipitation and wind.

According to the Intergovernmental Panel on Climate Change (IPCC), '**climate change**' refers to a change in the state of the climate that can be identified by changes in the mean climate and/or variability of its properties, and that persists for an extended period, typically decades or longer (IPCC, 2007). Climate change may be due to natural internal processes and fluctuations, and/or to persistent anthropogenic changes, coming from our society with manifestations in the composition of the atmosphere or in land use. Changes in the atmospheric concentrations of greenhouse gases (GHGs) and aerosols, land cover and solar radiation alter the energy balance of the climate system.

Greenhouse Gases (GHGs) are gases in the Earth's atmosphere that absorb and re-emit infrared radiation. These gases, including carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), ozone and CFCs, occur both natural and are influenced by human activities, such as burning of fossil fuels, agriculture (methane from animal husbandry and rice cultivation) and clearing of land (degradation of carbon sinks).

Climate Change Adaptation: The Intergovernmental Panel on Climate Change (IPCC) defines **adaptation** as follows: "adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects and impacts, which moderates harm or exploits beneficial opportunities." (IPCC WG2, 2007)

Climate Change Mitigation, on the other is a human intervention to reduce anthropogenic forcing of the climate system. It includes strategies to reduce Greenhouse Gas (GHG) sources and emissions and to enhance Greenhouse gas (GHG) sinks (IPCC WG2, 2007) In other words mitigation is meant to reduce the potential of climatic changes. Mitigation is defined in Indonesian CC policy as: "the effort to control and to reduce risks of the impacts of CC through activities that may reduce the emissions and/or increase the absorption of GHGs from various emission sources." (Pres.Reg. 61, 2011)

Examples of mitigation measures include: national laws and regulations to reduce greenhouse emissions, technological innovations, changes in agricultural production and land management.

Risk management is a process that has as ultimate goal the permanent reduction and control of disasters in society and as a result the enhancement of capacities of (individuals in) societies to transform to risk by acting on its external and underlying causes. It includes intervention methods and means that aim to reduce, mitigate and prevent sudden and slow-onset disasters.

Vulnerability: the characteristics and circumstances of a person, community, system or asset that make it susceptible to the damaging effects of a hazard. (CECI/JANI, 2010?)³⁴ Vulnerability can also be defined as (UNEP GEO-3 report, 2002)³⁵: 'The interface between exposure to physical threats to human well-being and the capacity of people and communities to cope with those threats'. Others define it as: 'the characteristics of a person or a group and their situation influencing their capacity to anticipate, cope with, resist and recover from the impact from natural hazard' (Wisner et al, 2004, p.4)³⁶). Vulnerabilities and capacities are usually place-based and context-specific.

Resilience: the capacity to maintain social, ecological and economic security and activities or structures in the face of climate change; affects the capacity of individuals and communities to deal with climatic changes.

Capacity: the combination of all the strengths, attributes and resources available within a person, a community, society or organizations that can be used to achieve set or agreed goals. (CECI/JANI, 2010?)

³⁴ Centre for International Studies and Cooperation, 2010? Framework for Community Based Disaster Risk Management in Viet Nam. Joint Advocacy Networking Initiative in Vietnam (JANI). CECI, Ha Noi.

³⁵ UNEP (United Nations Environment Programme), 2002. *Global Environment Outlook 3 Report*. UNEP, Nairobi

³⁶ Wisner, B., B. Piers, T.Cannon and I. Davis, 2004. *At Risk: Natural Hazards, People's vulnerability, and Disasters*, 2nd edition. Routledge, London

ANNEX 3. Gender Mainstreaming Tools

There are different tools available to mainstream gender in policies and practices, such as:

Gender analysis:

- examines the differences in women's and men's lives, including those which lead to social and economic inequity for women, and applies this understanding to policy development and service delivery;
- is concerned with the underlying causes of these inequities;
- aims to achieve positive change for women.

Gender analysis recognises that:

- I. women's and men's lives and therefore experiences, needs, issues and priorities are different;
- II. women's lives are not all the same; the interests that women have in common may be determined as much by their social position or their ethnic identity as by the fact they are women;
- III. women's life experiences, needs, issues and priorities are different for diverse ethnic groups;
- IV. the life experiences, needs, issues, and priorities vary for different groups of women (dependent on age, ethnicity, disability, income levels, employment status, marital status, sexual orientation and whether they have dependants);
- V. different strategies may be necessary to achieve equitable outcomes for women and men and different groups of women.

(Source: <http://www.gdrc.org/gender/framework/what-is.html>)

A **Gender Analysis** (Oxfam, 2010) should identify the following issues:

- Differences in the lives of women and men, boys and girls in the target community/ties;
- The status of women and their ability to exercise their human rights;
- The different skills, capacities, and aspirations of women and men;
- The division of labour between women and men;
- The different access and control over resources by women and men;
- The different levels of participation and leadership enjoyed by women and men;
- Indications of the number of women experiencing gender-based violence; and
- The barriers that unequal gender relations present to women's development in the community/ties.

Questions to be raised in a gender analysis include:

- Which men and which women hold the power in this community?
- Who owns and controls resources? which?
- Who takes the decisions?
- Who sets the agenda?
- Who gains and who loses from processes of development and interventions?

Sex-disaggregated data: every data that is cross-classified by sex, presenting information separately for women and men, boys and girls. The collection and analysis of sex-disaggregated data are paramount in implementing gender mainstreaming.

Gender specific indicators: are pointers [measurement, number, fact, opinion or perception] that point to changes in the status and roles of women and men over time, and therefore are a tool to measure if gender equity has been achieved. (CIDA, 1997.³⁷)

Gender responsive budgeting: means a gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process and restructuring revenues and expenditures in order to promote gender equality. Source: European Commission, 2003.

http://ec.europa.eu/employment_social/gender_equality/framework/opinion_on_gender_budgeting_en.pdf

Women's empowerment: refers to the process in which women reflect upon their reality and question the reasons for their situation in society. It includes developing alternative options and taking opportunities to address existing inequalities. It enables them to live their lives in the fullness of their capacities and capabilities and their own choices in respect of their rights as human beings.

A Participatory Capacity and Vulnerability Analysis (PCVA): is a participatory learning and action planning process which facilitates understanding of the hazards faced by a population and the factors which make them vulnerable to these hazards, as well as identifying the capacities they have to respond to disasters. (Oxfam, 2010)

³⁷ Canadian International Development Agency (CIDA), 1997. *Guide to Gender Sensitive Indicators*. CIDA, Hull, Quebec

ANNEX 4. International Conventions, Legislation and Regulatory Framework on Gender Equality

International Convention	
UN Convention on Political Rights of Women.	Ratified in 1958
Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)	Ratified in 1984
CEDAW Optional Protocol	Signed in 2000 not yet ratified
ILO Convention nr. 100 on Equal Remuneration for Men and Women Working for Work of Equal Value (and other ILO conventions followed)	Ratified in 1957
Copenhagen and Declaration on Social Development	Recommendations followed/acted upon
Cairo International Conference on Population and Development	Recommendations followed/acted upon
Beijing Platform for Action	Recommendations followed/acted upon
UN Millennium Declaration	Implementation MDGs set as Goal
United Nations Convention on the Rights of the Child (CRC)	Ratified in 1990

Gender (relevant) Legal Frameworks, Policies and Actions in Indonesia	
Indonesia's Constitution Undang-Undang Dasar (1945)	Commitment to the principle of equal rights between women and men. Every citizen has the right to employment commensurate with human dignity.
Amendment to Indonesia's Constitution (2000)	"While the constitution provides a sound foundation for the establishment of equal rights between men and women, much remains to be done in passing of laws and regulations to put the principle into practice".
Law 23/2004 on Elimination of Domestic Violence	Enacted in 2004
Marriage Law (1974) / Marriage Law Implementation (1975)	Marriage age: minimum marriage age: 19 years for males and 16 years for females. Provides for the adoption of the concept of joint ownership of property (article 35); however the Civil Code stands in the way of married women from entering into contracts on their own behalf.

Basic Agrarian Law no.5 (1960)	Women have land rights and may obtain title to land. However, in practice implementation and enforcement of laws often discriminate against women.
Presidential Regulation No. 9 on Gender Mainstreaming in Development Programme	Direction for each ministry to conduct gender analysis for developing plans and programmes, both at national and sub-national level, including the utilization of Gender Analysis Pathway (GAP) as tool to conduct gender analysis.
National Medium Term Development Plan 2010-2014	Gender mainstreaming is one of the cross cutting issues in addition to good governance and sustainable development to guide overall development plans and programmes
Law No. 52/2009 on Population Development and the Development of the Prosperous Family	Stipulates the obligation for sex-disaggregated data and efforts to alleviate poverty among women headed households. Yet there are still some issues with regards to family planning issues, the law stipulates that family planning services be restricted to married couple.
Law No. 23/2009	The law prohibits abortion except for the rape victims and pregnant mother after the consent of the husbands
Civil Code (non-Muslims), Islamic Law, Customary law	The Civil Code provides for equal inheritance. Islamic law dictates that women inherit less than men, and widowers receive a bigger share than widows. Customary law depends on matrilineal or patrilineal societies.

ANNEX 5. Climate Change Effects and Impacts in Indonesia

Climate Change Effects in Indonesia

Temperature

- * Maximum and minimum temperatures have increased consistently over the past decades (MoE, 2007);
- * Mean annual temperature has increased by about 0.3°C in Indonesia, and a warming from 0.2 to 0.3°C per decade is expected. (WWF, 2007/2008?)

Precipitation

- * Overall annual precipitation has decreased by 2 to 3%, and precipitation patterns have changed, with a decline in annual rainfall in the southern regions of the country and an increase in precipitation in the northern regions.
- * It is projected that annual precipitation will increase across the majority of Indonesian islands, except in the southern regions where it is projected to decline by up to 15%. (WWF, 2007/2008?)
- * Also the seasonality of precipitation has changed; the wet season rainfall in the southern region of Indonesia has increased while the dry season rainfall in the northern region has decreased. (WWF, 2007/2008?)
- * There have been significant decreases and/or increases in rainfall in many areas, with a lot of variation: significantly decreasing trend in Dec-Jan rainfall in small parts of Java and Papua, Sumatra and Kalimantan, with an overall significant increase trend in most of Java and Eastern Indonesia (Bali, NTB, NTT); the Jun-Aug rainfall shows significantly decreasing trends in most areas, except of some specific areas in W.Java, S.Sulawesi, I.Jaya and Maluku
- * A further change in seasonality of precipitation is expected: parts of Sumatra and Borneo may become 10 to 30% wetter by the 2080s during December-February; and Jakarta is projected to become 5 to 15% drier during June-August. (WWF, 2007/2008?)

Monsoon/dry seasons

- * Monsoon onset has changed in many parts of Indonesia, with delays in some parts of particularly Jan, and a tendency to a reduction in the length of the wet season, and with extreme dry months in coastal areas in E.Java (4-8 months), and in mountain areas (1-4 months). A delay of the monsoon of 30 days will be very likely to occur in 2050 in Java and Bali. (2nd comm.)
- * In future a 30-day delay in the annual monsoon is expected, 10% increase in rainfall later in the crop year (April-June) and up to 75% decrease in rainfall later in the dry season (July-September). (WWF, 2007/2008?)

Extreme weather events and sea level

- * Historical natural hazard data (1907-2007) (OFDA/CRED International Disaster Database 2007): first climate-related natural hazard occurred in early 1950s; by 1980s they were occurring more frequently, with the 20 top natural hazards – with huge human and economic losses - occurring after the 1980s, esp. flooding, followed by landslides and water or vector borne diseases, forest fires, and high tides/storm surges.
- * Extreme weather events: particularly changes in rainfall patterns and extreme droughts will impact the country severely.
- * Stronger, more frequent El Niño events will exacerbate drying and/or flooding trends and could lead to decreased food production and increased hunger.

Sea level:

- * Increasing trends in mean sea level have occurred in a number of locations, with a rate that varies per location. It is very likely that sea levels will increase more in the coming decades, most significantly impacting areas where coastal erosion is already removing material or where land border has already been subsiding. It is expected that sea level will increase by about 25 cm in 2050 and 50 cm in 2100.
- * Currently increasing at 1-3 mm/year in coastal areas of Asia and is projected to accelerate to a rate of about 5 mm per year over the next century. (Cruz et al., 2007)
- * Under very conservative sea-level rise scenarios, there will be an increase from 13 to 94 million people flooded annually in South Asia. (Wassmann et al., 2004)

Sources: Second Communication Government of Indonesia Under the UNFCCC, November 2011; WWF-Indonesia, 2007/2008?

Climate Change Impacts in Indonesia

Climatic changes have serious impacts for many sectors in the Indonesia's society and for the people depending on these.

Agriculture and fish breeding:

- Decreased rainfall during critical times of the year may translate into high drought risk, uncertain water availability, and consequently, uncertain ability to produce agricultural goods, economic instability, and drastically more food insecurity and undernourished people. (Wang et al., 2006)
- Delayed wet season (monsoon) and a temperature increase beyond 2.5°C is projected to substantially drop rice yields and incur a loss in farm-level net revenue of 9 to 25%. (Lal, 2005)
- Current cropping pattern of rice-irrigated agriculture may no longer be the most effective food production system, as with extreme droughts availability of irrigation water will be limited, resulting in major rice production losses, and frequent crop failures.
- Also the development of crop pests and diseases will be triggered.
- Sea level rise will reduce local rice supply and maize output in some areas.
- This will also impact on fish, prawns and shrimp production.
- This all will result in loss of employment for farm laborers.

Housing and settlements/infrastructure:

- Sea level rise will result in increased problems of saltwater intrusion and salinity, but also many coastal cities (Jakarta, Semarang, Surabaya and Medan) and areas will be inundated, with land subsidence exacerbating this.
- 1 million people are at risk from flooding and sea-water intrusion due to sea-level rise and declining dry-season precipitation, negatively impacting the aquaculture industry (e.g. fish and prawn industries) and infrastructure along the coasts of South and South-East Asia. (Cruz et al., 2007)
- Increased rainfall during already wet times of the year may lead to high flood risk, such as the Jakarta flood on 2 February 2007 that inundated 70,000 houses, displaced 420,440 people and killed 69 people with losses of Rp.4.1 trillion (US \$ 450 million). (WHO, 2007)

Water:

- Water availability highly sensitive and vulnerable sector to changes in temperatures and precipitation.
- Already in most of Java and Eastern islands of Indonesia there is a water deficit for most of the year, further restricting e.g. rice production.
- Under a changing climate, more districts will have water scarcity problems, while at the other hand there is an increase in demand, esp. in urban areas.

Marine ecosystems and sector:

- Increase of sea temperature is already causing serious problems for coral ecosystems, 88% loss is expected of coral reefs in Asia in the next 30 years because of warming sea-surface temperatures, sea level rise and other added stresses. (Wilkinson, 2004)
- Massive coral bleaching leads to widespread loss of coral reefs and biodiversity; coral bleaching forms already serious problem in many places, such as Sumatra, Java, Bali and Lombok: already 90-95% of the corals located 25m below sea surface have been bleached.
- This will also have impacts on the fisheries, food security, and tourism sector and livelihoods in general; significant declines in fish larvae abundance and large-scale changes in fish habitats.
- Sea-level rise, reduced freshwater flows, and salt-water intrusion, in addition to existing stresses from human activities, threaten Indonesia's mangroves.

Forests and Peat Land sector:

- An increased risk of forest fires exists, esp. in Sumatra and Kalimantan; also hotspot density patterns have increased already rapidly;

- More frequent forest fires have significant impacts on wildlife habitat and biodiversity and translate in serious economic, domestic and transboundary pollution consequences; the economic costs of the droughts and fires in 1997-1998 were about US\$ 9 billion (Applegate et al, 2002).

Health:

-More frequent and severe heat waves, floods, extreme weather events, and prolonged droughts already lead to increased injury, illness and death; extreme weather conditions can increase crowd mortality for heat-sensitive populations (e.g. the old, weak and babies), decrease immunity and destroy sanitation.

- Poor nutrition occurs due to food production disruption.

- These conditions already contribute to outbreak of human diseases such as malaria, dengue, diarrhea, cholera, and other vector borne diseases;

-Dengue cases increased rapidly in La Nina years and during the rainy season, esp. in large cities in Java, and in future these risks will increase.

- Increase communicable diseases by directly increasing density and intensity of disease vectors, increased cholera (more phytoplankton blooms, habitats for survival and spread of infectious bacterial diseases) and diarrheal disease and endemic morbidity and mortality. It is well known that epidemics follow natural disasters; climate-sensitive diseases include heat-related diseases, vector-borne diseases, waterborne diseases, diseases from urban air pollution, and diseases related to extreme weather conditions such as floods, droughts, windstorms and fires.

-Rise in severe respiratory problems due to increase in frequency and spread of wildfires that release toxic gases such as carbon monoxide, ozone, nitrogen dioxide and hydrocarbons.

Population:

-Most affected are poorest sections of society, who are most exposed and least resilient; they have limited resource availability, and limited access to climate information and technologies; their dependency on national and local support will increase in future.

Sources: Sec.Comm, 2011; WHO, 2007; WWF-Indonesia, 2007/2008?

ANNEX 6. International frameworks to promote climate change mitigation, adaptation and disaster risk reduction include:

United Nations Framework Convention on Climate Change (UNFCCC): one of the three co-called Rio conventions, that was agreed upon at the United Nations Conference on Environment and Development (UNCED) in 1992 in Rio de Janeiro and came into force in 1994. The convention enjoys near universal membership; Viet Nam – being a Non-Annex I country - has ratified the UNFCCC in 1994. The UNFCCC sets an overall framework for intergovernmental efforts to tackle the challenges of climate change, and focused originally mainly on climate change mitigation measures. Under the UNFCCC, governments: gather and share information on greenhouse gas emissions, national policies and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support for developing countries; and cooperate in preparing for adaptation to the impacts of climate change. The implementation of the convention is elaborated upon in the Conference of Parties (COP) sessions, held every year amongst state parties. Recently in the COPs more attention has been put on climate change adaptation.

The **Kyoto Protocol** is a further elaboration of the UNFCCC and came into force in 1997 and will last until end 2012. Viet Nam has ratified the Kyoto Protocol in 2002. The protocol focuses mainly on climate change mitigation measures to reduce the level of greenhouse gas (GHG) emissions. Presently the climate change debate focuses on the post-Kyoto regime, to be decided upon at COP-17 , November-December 2011, in Durban (South Africa).

Climate change mechanisms: Countries with commitments under the Kyoto Protocol must meet their targets primarily through national measures. As an additional means of meeting these targets, the Kyoto protocol introduced three market-based mechanisms, thereby creating what is now known as the “carbon market” (in 2006: worth 30 billion USD, and growing). The Kyoto mechanisms are: Emissions Trading, the Clean Development Mechanism (CDM) and Joint Implementation (JI). CDM and JI are two project-based mechanisms which feed the carbon market. JI enables industrialized countries to carry out joint implementation projects with other developed countries, while the CDM involves investment of finances and/or technology in projects in order to reduce emissions in developing countries.

The **Nairobi Work Programme (NWP)** of the UNFCCC promotes projects and initiatives and sharing of information on impacts, vulnerability and adaptation to climate change. Partners include NGOs, UN affiliated organizations, intergovernmental and regional organizations, international networks, national institutes and research organizations, universities and private sector enterprises. An increasing number of partner organizations are undertaking actions that build the capacity of communities to take part in decision-making, planning and implementation of adaptive strategies.

Climate change finance: The financial mechanism of the Convention is the Global Environmental Facility (GEF), and there are three special funds: the Special Climate Change Fund (SCCF), the Adaptation Fund (AF) and the Least Developed Countries Fund (LDCF). The development of the Green Climate Fund is on its way.

Technology: Under the Convention, the developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly to developing countries to enable them to implement the provisions of the Convention (Article 4.5). This commitment is echoed in similar provisions under the Kyoto

Protocol (Article 10 c). Parties have taken decisions to promote the development and transfer of environmentally sound technologies.

Reducing Emissions from Deforestation and Forest Degradation (REDD and REDD+): this newly developed mechanism, offers incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. Related measures are aimed at increasing the storage of GHG (carbon sinks).

Hyogo Framework of Action (HFA)³⁸: adopted at the World Conference on Disaster Reduction in Hyogo in 2005. The Framework runs from 2005-2015, and focuses on necessary steps to be taken to prevent and reduce risks from disasters. The framework promotes the development of disaster risk reduction (DRR) strategies and the integration of disasters risk reduction and management strategies with climate change adaptation strategies. The HFA includes a clear recognition of links between **gender** equality issues and disasters, including climate related disasters. It calls for a gender perspective in disaster risk management policies, plans and decision-making processes, which includes incorporating gender concerns in early warning systems and providing women equal access to training. (ISDR, 2005)

Sources: <http://unfccc.int>; Radzek, Blomstrom and Owen, 2010

³⁸ The HFA mentions that: “a **gender** perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training.”

ANNEX 6b. Gender aspects international CC policies

The current global policy response to climate change has remained weak on securing social and gender justice. Originally UNFCCC, the Kyoto Protocol and its mechanisms failed to specifically include social dimensions and to recognize **gender aspects** of climate change; it omitted issues of gender equality and women's participation. (Otzelberger, 2011) Pressured by intense advocacy work by women's NGOs and with support of some governments and UN agencies more recently at the Conferences of Parties (COPs) and intersessionals, gender equality issues get more attention since COP 14 in Poznan (in 2009), and draft texts on the climate change mechanisms and the post-Kyoto regime do reflect some reference to gender aspects. The (provisional) 'gender and women constituency' was recognized, that enables the group to make official interventions on the floor on behalf of women and gender equality.

Carbon markets, climate change funds and **financial mechanisms** until now, very rarely benefit women. Most climate change finance is intended for large-scale, technological and market-focused climate change mitigation initiatives aimed at low-carbon growth, while smaller-scale initiatives tend to have more gender co-benefits. (Otzelberger, 2011) Therefore women's organizations worldwide have started a focused advocating campaign to guarantee that local women also have access to and control over adequate financial resources. (UNDP & GGCA, 2011³⁹)

GHG emissions mitigation initiatives have, by and large, been market-led and technical in nature. Within the Clean Development Mechanism (**CDM**), there are projects which seek to provide development benefits to low income communities, but these have so far suffered from low delivery of direct benefits to local communities, and are often inaccessible to those groups, particularly to women, because of limited size of such initiatives. (Boyd et al, 2009⁴⁰)

REDD+ mechanisms represent a source of climate finance which could be used in developing countries to protect forests and theoretically reduce carbon emissions. Concerns have been expressed about carbon trading to fund REDD, e.g. it might lead to dispossession of indigenous peoples and local communities. At the same time women tend to have less secure state and customary forest resource tenure and therefore a comprehensive gender analysis and assessment of the potential impacts of REDD initiatives is needed, as well as targeted action and continuous monitoring.

It is critical that implications of **new technologies** for women and men, and for gender relations for different groups of households are analysed in depth and that actual implementation is regularly monitored, as access to and control over (new) technologies has the potential of increasing (or decreasing) existing gender inequalities.

³⁹ GGCA and UNDP, 2011. Ensuring Gender Equity in Climate Change Financing. UNDP, New York

⁴⁰ Boyd, E., N. Grist, S. Juhola and V. Nelson, 2009. 'Exploring Development Futures in a Changing Climate: Frontiers for development policy and practice'. *Development Policy Review*, 2009, 27(6). Overseas Development Institute (ODI), UK

ANNEX 7a. Climate Change related policies and programmes in Indonesia, include:

- First National Communication to UNFCCC, 1999
- Second National Communication to UNFCCC, 2011
- National Greenhouse Gases Emissions Inventory (NGHEI) for the years 2000-2005
- National Long-Term Development Plan (RPJP), 2005-2025 (2007)
- Law on Meteorology, Climatology and Geophysics (2009)
- Law on Environmental Protection and Management (2009)
- National Medium-Term Development Plan (RPJMN), 2010-2014 (Presidential Regulation, 2010; Yello Book)
- National Action Plan on Climate Change (MoE, 2007) into the RPJMN
- Development Climate Change Roadmap (ICCR); priority sectors: agriculture, coastal, ocean and fishery, energy, forestry; secondary sectors: health, transportation, infrastructure, water, industry; cross-cutting issues: R&T, national security, biodiversity, poverty.
- National Action Plan for Greenhouse Gas Emissions Reduction (RAN GRK) (Presidential Regulation, Sept. 2011): workplan for the implementation of various direct and indirect measures to reduce GHG emissions, in accordance with national target should: (1) not hinder economic growth, prioritize people's welfare, esp. with regard to energy resilience and food security; (2) support protection of poor and vulnerable communities, incl. environmental conservation; (3) consist of core activities to reduce emissions.

* the RAN GRK needs to be operationalized and baseline information (e.g. baseline calculation should take into account the development scenarios of the different sectors, translated into trajectories of GHG emissions until the year 2020) is needed; but no plausible back up calculation available yet for sectoral targets in RAN GRK;

* mitigation actions for -26% need to be reviewed, and the policy direction given in the RAN GRK need to be further developed and put into practice → NAMAs developed (Nationally Appropriate Mitigation Actions);

* National Appropriate Mitigation Actions (NAMAs), since 2009: committed target of 26%, and low carbon development path; should be designed to serve as important means for the implementation of the RAN GRK and to achieve successful deviation from the business as usual scenario as well as the national GHG emission reduction targets; will help to realize the ambitious targets, and should help in attracting funding from the international community.

* Local Action Plans on GHG Emissions Reduction (RAD GRK) is coordinated by the provincial government and is one of the instruments to fulfill the national target at provincial level, based on cross sectoral approach; should include GHG emission reduction potential, provincial BAU baseline, strategy for GHG emissions reduction, selected local GHG mitigation action plans, and identify key stakeholders and institutions and financial resources.

* Regional Action Plan for Greenhouse Gas Emissions Reduction (RAD GRK) – see above

* Low Carbon Development Strategy (Green Economy)– in development

* Formulation of National Strategy for Emissions Reductions from Deforestation and Forest Degradation (REDD+).

Source: BAPPENAS/GIZ,20..?;

ANNEX 7b. Planned reductions of GHG emissions in Indonesia

(according to National Plan for Greenhouse Gas Emissions Reductions, 2011):

= Agricultural Sector: -26%; optimize land and water resources, land management, water level management, optimization land use, utilization organic fertilizers and bio-pesticides, land clearing without burning.

= Forestry and Peat Land Sectors: -26%; support rate of forest deforestation and degradation, increase planting, secure forest areas from fire and illegal logging, improvement and optimization land and water resources, sustainable management of peat lands, forest and land rehabilitation, social forestry, forest fire control, forest investigation and protection, spatial planning, monitoring and research.

= Energy and Transport Sectors: -26%; energy saving, use of cleaner energy, promotion new and renewable energy utilization, promotion sustainable, low emissions national mass transport, reduce travel needs, improve energy efficiency, biogas utilization, post-mining reclamation, promote non-motorized transport (pedestrian and bicycle).

= Industrial Sector:- 21%; increase in industrial growth by optimizing use of energy, conduct energy audit esp. on energy-intensive industries, energy conservation and audit, low carbon and environmentally friendly technology in cement and steel industries, "Green Industry", CO₂ emission Roadmap, monitoring and evaluation.

=Waste Management Sector: -26%: enhancing domestic solid waste and waste water management, waste (water) management ad regional and urban areas, promotion 3R (reduce, reuse, recycle), monitoring open burning of waste, reuse of waste.

ANNEX 8. TABLE 2. Human Security, Gender and Climate Change Framework

HUMAN SECURITY	SECURITY ASPECTS	CLIMATE CHANGE IMPACTS	GENDERED IMPACTS/WOMEN-specific	COPING AND ADAPTIVE STRATEGIES BY WOMEN	POLICY OPPORTUNITIES
Security of Survival	Mortality/injury	*Mortality/injury from different extreme weather events/disasters	*Overall more women than men die or are injured	*Searching for safe shelter/improving homes *Disaster risk reduction and preparedness by women's groups	*Gender specific and sensitive disaster risk reduction and preparedness *Early warning systems addressing both women and men
	Health	*Increase in infectious diseases *Physical and mental stress *Loss of medicinal plants/biodiversity	*Bearing the burden of taking care of the sick/disabled *Increase in mental stress *Lack of access to reproductive health services *Greater risk of HIV/AIDS due to early marriage, forced prostitution, sexual violence	*Increase in tasks for family care *Use of medicinal plants and application of alternative healing methods	*Access to health facilities, especially reproductive health services for women *Monitoring health situation of most vulnerable groups
Security of livelihood	Food Security	*Harvests destroyed *Agricultural production changes/drops *Fish stocks decrease	*Bearing the burden of more time, energy and budget requirements for food production and purchase *Stand in line for humanitarian food distribution *Increase in work burden *Increase in calorie-deficiency and hunger	*Adapting agricultural practices/switching to other crops/animals *Saving food, seed and animals *Adapting diet	*Agricultural adaptation: mixed cropping, better suited crops/livestock *Affordable and ecologically sound agricultural inputs *Nutritional extension services *Secure land rights for women *Credit and Marketing facilities *Managing fish stocks for local fishing communities
	Water security	*Lack of water *Pollution and water salination *Flooding	*More time/energy needed to provide water for household/farm *Increase in work burden *Suffer from water-related health problems	*Water saving, including rainwater harvesting *Purchasing water from water-vendors	*Safeguarding affordable and safe drinking water *Efficient irrigation technologies *Safe sanitation facilities *Preserving wetlands

	Energy security	<ul style="list-style-type: none"> *Lack of biomass fuel *Dysfunctioning hydropower *Disruption in electricity supply 	<ul style="list-style-type: none"> *More time and energy needed to collect fuel *Increase in work burden *Inferior energy sources – more indoor pollution 	<ul style="list-style-type: none"> *Switching to other energy sources *Use of energy-saving devices *Reforestation 	<ul style="list-style-type: none"> *Providing fuel sources, especially clean sustainable energy *Providing and training in using energy saving devices *Ecological restoration
	Environmental security	<ul style="list-style-type: none"> *Environmental processes and services jeopardized 	<ul style="list-style-type: none"> *Poorest women living in insecure environments most affected 	<ul style="list-style-type: none"> *Building more sturdy houses *Clean up and regeneration of environment *Forming advocacy groups 	<ul style="list-style-type: none"> *Ecological restoration *Safe shelters
	Shelter security	<ul style="list-style-type: none"> *Housing, infrastructure and services destroyed 	<ul style="list-style-type: none"> *Limited land rights *Not included in land management *Decrease in mobility 	<ul style="list-style-type: none"> *Building more sturdy houses *Seeking shelter *Migration 	<ul style="list-style-type: none"> *Safe shelters and sturdy homes *Land and housing rights for women
	Economic security	<ul style="list-style-type: none"> *Decrease in income generating opportunities 	<ul style="list-style-type: none"> *Women in informal sector most effected *Household expenses increase *Males migrate – more <i>de facto</i> female headed households 	<ul style="list-style-type: none"> *Saving expenses or money for lean time *Selling of assets and services *Alternative income generating activities 	<ul style="list-style-type: none"> *Affordable and reliable credit and financial facilities for women *Providing alternative livelihood options *Ensuring women’s access to climate change funding and technologies
Dignity	Basic human rights	<ul style="list-style-type: none"> *Triggers violation of basic human rights 	<ul style="list-style-type: none"> *Increase in domestic violence against women *Suffering from conflicts over resources 	<ul style="list-style-type: none"> *Social networks and groups * Organization of women 	<ul style="list-style-type: none"> *Counseling and legal services *defending women’s rights
	Capacity	<ul style="list-style-type: none"> *Lack of opportunities for education and income generation 	<ul style="list-style-type: none"> *Girls drop out of school *Little time for education/training/income generation 	<ul style="list-style-type: none"> *Self-training, support groups and networks 	<ul style="list-style-type: none"> *Ensuring education, particularly of girls during/after disasters *Skills training *Environmental regeneration
	Participation	<ul style="list-style-type: none"> *None or limited involvement in decision-making *Lack of information *Lack of time 	<ul style="list-style-type: none"> *Lack of participation in climate change negotiations, planning and activities *Women-specific priorities neglected 	<ul style="list-style-type: none"> *Organization *Advocacy *Participation 	<ul style="list-style-type: none"> *Access to information *Ensuring women’s participation in planning/decision-making/climate change and mechanisms *Involving men in gender training *Generate and use sex-disaggregated data

ANNEX 9. Gender Equality in Disasters - Six Principles for Engendered Relief and Reconstruction

1. THINK BIG. Gender equality and risk reduction principles must guide all aspects of disaster mitigation, response and reconstruction. The “window of opportunity” for change and political organization closes very quickly. Plan now to:

- respond in ways that empower women and local communities
- rebuild in ways that address the root causes of vulnerability, including gender and social inequalities
- create meaningful opportunities for women’s participation and leadership
- fully engage local women in hazard mitigation and vulnerability assessment projects
- ensure that women benefit from economic recovery and income support programs, e.g. access, fair wages, nontraditional skills training, child care/social support
- give priority to social services, children’s support systems, women’s centres, women’s “corners” in camps and other safe spaces
- take practical steps to empower women, among others:
 - consult fully with women in design and operation of emergency shelter
 - deed newly constructed houses in both names
 - include women in housing design as well as construction
 - promote land rights for women
 - provide income-generation projects that build nontraditional skills
 - fund women’s groups to monitor disaster recovery projects

2. GET THE FACTS. Gender analysis is not optional or divisive but imperative to direct aid and plan for full and equitable recovery. Nothing in disaster work is “gender neutral.” Plan now to:

- collect and solicit gender-specific data
- train and employ women in community-based assessment and follow-up research
- tap women’s knowledge of environmental resources and community complexity
- identify and assess sex-specific needs, e.g. for home-based women workers, men’s mental health, displaced and migrating women vs. men
- track the (explicit/implicit) gender budgeting of relief and response funds
- track the distribution of goods, services, opportunities to women and men
- assess the short- and long-term impacts on women/men of all disaster initiatives
- monitor change over time and in different contexts

3. WORK WITH GRASSROOTS WOMEN. Women’s community organizations have insight, information, experience, networks, and resources vital to increasing disaster resilience. Work with and develop the capacities of existing women’s groups such as:

- women’s groups experienced in disasters
- environmental action groups
- women and development NGOs; women’s e
- advocacy groups with a focus on girls and women, e.g. peace activists
- women’s neighbourhood groups
- faith-based and service organizations
- professional women, e.g. educators, scientists, emergency managers

4. RESIST STEREOTYPES. Base all initiatives on knowledge of difference and specific cultural, economic, political, and sexual contexts, not on false generalities:

- women survivors are vital first responders and rebuilders, not passive victims
- mothers, grandmothers and other women are vital to children's survival and recovery but women's needs may differ from children's
- not all women are mothers or live with men
- women-led households are not necessarily the poorest or most vulnerable
- women are not economic dependents but producers, community workers, earners
- gender norms put boys and men at risk too, e.g. mental health, risk-taking, accident
- targeting women for services is not always effective or desirable but can produce backlash or violence
- marginalised women (e.g. undocumented, HIV/AIDS, low caste, indigenous, sex workers) have unique perspectives and capacities
- no "one-size" fits all: culturally specific needs and desires must be respected, e.g. women's traditional religious practices, clothing, personal hygiene, privacy norms

5. TAKE A HUMAN RIGHTS APPROACH. Democratic and participatory initiatives serve women and girls best. Women and men alike must be assured of the conditions of life needed to enjoy their fundamental human rights, as well as simply survive. Girls and women in crisis are at increased risk of:

- sexual harassment and rape
- abuse by intimate partners, e.g. in the months and year following a major disaster
- exploitation by traffickers, e.g. into domestic, agricultural and sex work
- erosion or loss of existing land rights
- early/forced marriage
- forced migration
- reduced or lost access to reproductive health care services
- male control over economic recovery resources

6. RESPECT AND DEVELOP THE CAPACITIES OF WOMEN. Avoid overburdening women with already heavy work loads and family responsibilities likely to increase.

- identify and support women's contributions to informal early warning systems, school and home preparedness, community solidarity, socio-emotional recovery, extended family care
- materially compensate the time, energy and skill of grassroots women who are able and willing to partner with disaster organisations
- provide child care, transportation and other support as needed to enable women's full and equal participation in planning a more disaster resilient future

Source: Gender and Disaster Network: <http://www.gdnonline.org>

ANNEX 10. Checklist for Gender-Sensitive Risk Assessment

[Source: UNISDR, UNDP and IUCN, 2009. *Making Disaster Risk Reduction Gender Sensitive: Policy and Practice Guidelines*. UNISDR, Geneva; pp. 52-54]

A gender-sensitive risk assessment can be achieved if gender issues are considered when planning and conducting the main steps of risk assessment: Identifying the nature, location, intensity, and probability of a threat; determining the existence and degree of vulnerabilities and exposure to risk; identifying the capacities and resources available to address or manage threats, and determining acceptable levels of risk.

This section presents a short and simple checklist with the gender-sensitive elements, actions, and practices required during risk assessment.

A gender-sensitive risk assessment can be achieved if gender issues are considered when planning and carrying out the main steps of risk assessment:

- Identify the nature of the risk;
- Determine the human vulnerability to the risk;
- Identify the capacities and available resources for managing and reducing vulnerability;
- Determine acceptable levels of risk.

This checklist is based on the premise that a baseline gender analysis of social relationships is available for the area under investigation.

Step 1: Identifying risks

- Identify and implement strategies that are socially and culturally sensitive to the context, to actively engage women and men from the communities in local risk identification;
- Map the available community organizations that can ensure the participation of both men and women, and involve them in consultation on hazards, including collecting and sharing information, and assessing risk;
- Determine the risks faced by men and women separately, in each region or community;
- Include women's traditional knowledge and perception in the analysis and evaluation of the characteristics of key risks;
- Involve women and men equally in the process to review and update risk data each year, and include information on any new or emerging risks.

Step 2: Determining vulnerabilities

- Ensure the active engagement of men and women in vulnerability analysis (by engaging men and women's organizations, and setting schedules that enable the participation of both men and women);
- Conduct gender analysis for the identification of gender-based inequalities between men and women;
- Map and document the gender-differentiated vulnerabilities (physical, social, economic, cultural, political and environmental);
- Ensure the inclusion of gender-based aspects of age, disability, access to information, mobility, and access to income and other resources that are key determinants of vulnerability;
- Conduct historical analysis of disaster damage experience disaggregated by sex for vulnerability and capacity identification;
- Identify and include women's needs, concerns, and knowledge in the community vulnerability assessments conducted for all relevant natural hazards.

Step 3: Identifying capacities

- Acknowledge and assess women and men's traditional knowledge;
- Ensure that the capacities of all women's groups, organizations or institutions are assessed along with those of men;
- Identify the specific functions, roles and responsibilities carried out by women and men and build these into the analysis;
- Identify the gender specific support mechanisms required for women to get involved in risk management programmes and actions (e.g. mobility and childcare issues);
- Identify mechanisms to enhance the existing capacities of both men and women, and ensure that capacity building programmes incorporate measures to enable women's participation;
- Recognize the equal importance of the capacities and authority of women and men empowered to conduct risk assessment programmes or train other members of the community;
- Actively engage women's organizations to assist with capacity building;
- Identify female role models to advocate for gender-sensitive risk assessment.

Step 4: Determine acceptable levels of risk

- Involve both women and men in the development of hazard and risk maps;
- Collect and analyze gender-differentiated data for assessing acceptable levels of risk;
- Ensure that hazard maps include the gender-differentiated impacts of risk;
- Ensure that hazard maps include gender-differentiated vulnerability and capacity.

ANNEX 11. Suggestions for Strengthening Gender Equality in RAN-API Priority Areas

RAN AP Priority areas	Sub-categories	Gender equality aspects	Suggested actions
Economic Resilience	<i>Food security</i>	<ul style="list-style-type: none"> -women play crucial role in productive tasks, incl. agriculture, forest use and fisheries, that are badly affected by climate change; -valuable (traditional) knowledge, experience, skills. - women often responsible for ensuring HH food security; -women make many HH consumption choices differently from men; - women's access to and control over resources (incl. land) is limited; -if food production fails, more women than men migrate to look for alternative income sources. 	<ul style="list-style-type: none"> *execute gender analysis to determine women's and men's roles, tasks, needs and priorities in production, incl. their knowledge; *ensure women's access to productive resources, including land, seeds (seed banks), sustainable agricultural information, financial resources; *guarantee the participation and leadership of local women and their organizations in related projects and initiatives; *enhance the access of local women and men farmers to farmer insurance systems; *involve consumer organizations in food security initiatives; *collect gender differentiated data on female/male outmigration, and impacts on the family; *ensure social protection of migrant workers.
	<i>Energy autonomy</i>	<ul style="list-style-type: none"> -rural women are often responsible for HH energy use, that is badly effected by climate change; - women lack access to new and/or sustainable energy devices; -women important users of energy in public areas; - technology sector is male dominated. 	<ul style="list-style-type: none"> *execute gender analysis to determine uses, needs and priorities of women and men regarding access to and uses of energy; * ensure women have access to affordable clean energy, energy devices and to the grid system; * promote sustainable energy for hospitals and schools and for other public areas; * promote technical and science education of women and girls.
Livelihood Resilience	<i>Public health</i>	<ul style="list-style-type: none"> -climatic changes impact seriously on public health, incl. increase heat stress, vector-born infectious diseases, respiratory diseases; - women and children extra susceptible because 	<ul style="list-style-type: none"> *execute a gender analysis of public health plans in urban and rural contexts; * survey and research gender-differentiated health impacts of climatic changes, including in vector-

		<p>of under-nutrition, and reproductive functions, and for diseases like malaria;</p> <ul style="list-style-type: none"> -women are key actors of awareness raising and behavioral changes in environmental health; - women's access to health services, esp. low-income, indigenous, often limited; -women play important roles in health care within the family and in the health sector. 	<p>mapping;</p> <ul style="list-style-type: none"> *improve community awareness and capacity re. climatic impacts on public health; *ensure women's access to public health services and mother and child care, including to reproductive services; *guarantee the participation and involvement of women in public health planning and management, including as rapid responses under CCA; * affordable health insurances should be made available and accessible for women.
	<i>Spatial planning</i>	<ul style="list-style-type: none"> -climatic changes could potentially impact badly on urban settlements, and therewith specifically hinder women's economic and livelihood tasks and functions, and their security. 	<ul style="list-style-type: none"> * make a gender analysis of urban and rural plans; * involve local women and their organizations in spatial planning, identifying their needs and priorities.
	<i>Infrastructure</i>	<ul style="list-style-type: none"> -the quality and accessibility roads, bridges, rail-tracks, sewage systems, waste disposal, and other forms of infrastructure are vulnerable to climatic changes -this impacts negatively on the already more limited mobility of local women. 	<ul style="list-style-type: none"> *ensure women's access to safe public transport before, during and after disasters hit; *promote improvement of the quality of the urban environment, including sewage systems, waste and water management and management air pollution; * involve local women and their organizations in planning and design of rural and urban infrastructure.
	<i>Housing</i>	<ul style="list-style-type: none"> -houses need to be safe to withstand extreme weather events; - in many situations women manage the household, and spend most time with their children in the house, so they are affected most when housing constructions collapse; - lack of safe sanitation facilities due to bad planning and disasters, negatively affect women and girls' health and safety; 	<ul style="list-style-type: none"> *design and construct houses and housing schemes after thorough needs assessments are executed in which both women and men are involved; *ensure women access to affordable and safe housing and sanitation facilities; *ensure that women and girls participate in design and construction training.

		-women's ownership of land and houses is often limited.	
Environmental Services	<i>Ecosystem management</i>	-women and men use and are knowledgeable about ecosystems in diverse ways; -negative impacts of climatic changes on ecosystem services, affect women and men in diverse ways.	*ensure women and men access to natural resources of good quality; *assess women's and men's knowledge, needs and priorities with regard to ecosystem management; *ensure the participation of local women and their organizations in ecosystem planning and management.
	<i>Biodiversity conservation</i>	-women and men use and are knowledgeable about biodiversity (incl. agrobiodiversity) in different ways; - negative impacts of climatic changes on biodiversity, affect women and men in diverse ways; - biodiversity conservation is mainly a male dominated sector.	*ensure women and men access to natural resources of good quality; *assess women's and men's knowledge, needs and priorities with regard to biodiversity conservation; *ensure the participation of local women and their organizations in biodiversity conservation; *educate and train women and girls in biodiversity conservation.
	<i>Water resources</i>	-women are important users of water resources for HH use; -women have specialized knowledge about water quality and water management.	*prepare and apply guidelines for gender mainstreaming in water management planning, implementation, monitoring and evaluation; *prepare a gender analysis of water management plans and programs; *encourage the meaningful participation and involvement of women and their organizations in water management planning and implementation; *build the capacities, educate and train women and girls in all aspects of water management.
Special regions	<i>Urban areas</i>	-urban areas are particularly vulnerable to climatic changes, and often are not climate proof yet; - this has major impacts on its residents, men and women, particularly those living in	*make a gender analysis of urban plans; * involve local women and their organizations in urban planning and design, identifying their needs and priorities; *ensure safe places for those living in most

		vulnerable areas (such as slum areas, industrial sites, on river banks) and those living in poverty; -heat stress in cities affects the health of its inhabitants.	vulnerable situations; *plan parks and green areas in cities, and make cooling places accessible for most vulnerable groups, including pregnant women, young children and elderly.
	<i>Small Islands</i>	-small islands are particularly vulnerable to climatic changes, such as extreme weather events and sea level rise; - this has major impacts on its residents, men and women, particularly those living in vulnerable areas (such as coast lines) and those living in poverty ; -coastal ecosystems and fish stocks will be negatively impacts by climatic changes, and therefore affect the livelihoods of fishing communities.	*make gender analysis of island development plans, including (temporary) migration; *ensure local women benefit from island development plans; *ensure the participation of local women and their organizations in island development plans; * ensure women access to alternative income resources and employment.
Supporting measures	<i>Data</i>	-gender-specific data on the effects, impacts of slow-onset and sudden climatic changes, and coping and adaptation strategies in Indonesia is still scarce and not location specific.	*ensure the collection of sex-disaggregated data in climate change research, studies, monitoring and evaluation; *develop and use gender specific indicators to monitor progress of CCA initiatives; *make these data widely and easily available.
	<i>Climate information</i>	-women have limited access to climate and weather-related information and early warning systems.	*ensure local women access to climate and weather related information, in forms that suit their cultural and educational backgrounds (e.g. through radio, TV).
	<i>Research & Development</i>	-there is limited information on gender and CC and CCA in Indonesia; -many lessons can be learned from existing disaster-gender literature.	*develop case studies on gender and CCA in Indonesia; *support and promote social research on CC and CCA in Indonesia; *learn lessons from gender-DRM research for CCA; *publish this research and make it widely available.

	<i>Capacity Building</i>	<p>-gender awareness and expertise in CC and CCA in Indonesia is limited;</p> <p>-many CC related sectors and technical occupations are male dominated.</p>	<p>*provide (long-term) gender training to staff and management of CC-institutions;</p> <p>*make gender mainstreaming tools and instruments available to staff and management of CC-institutions;</p> <p>*promote women's and girls' education on CC and CCA.</p>
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