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USAID CLIMATE CHANGE ADAPTATION PROJECT PREPARATION FACILITY FOR ASIA AND THE PACIFIC
(USAID ADAPT ASIA-PACIFIC)

An Online Sourcebook:

INTEGRATING GENDER IN CLIMATE CHANGE ADAPTATION PROPOSALS

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ACRONYMS

ADB	Asian Development Bank
AGDP	Agricultural Gross Domestic Product
CCA	Climate change adaptation
CLDP	Community Livestock Development Project
CNICs	National Identity Cards
DENR	Department of Environment and Natural Resources
DFID	Department for International Development
DSAP	Development of Sustainable Agriculture in the Pacific
EC	European Commission
ERRA	Earthquake Reconstruction and Rehabilitation Authority
FAO	UN Food and Agriculture Organization
GAP	Gender action plan
GCF	Green Climate Fund
GEF	Global Environment Facility
GFP	Gender focal point
GIS	Geographic Information System
GVAP	Gender and Vulnerability Action Plan
GWSSB	Gujarat Water Supply and Sewage Board
IAP	Indoor air pollution
ICRM	Integrated Coastal Resources Management
IFAD	International Fund for Agricultural Development
LDCF	Least Developed Countries Fund
LGED	Local Government Engineering Department
M&E	Monitoring and evaluation
MoAC	Ministry of Agriculture and Cooperatives
MoRD	Ministry of Rural Development
NAPA	National Adaptation Programmes of Action
NGO	Nongovernmental organization
NSCs	National Steering Committees
NTFPs	Non-timber forest products
O&M	Operation and maintenance
PNG	Papua New Guinea

PPCR	Pilot Program for Climate Resilience
PPTA	Project Preparation Technical Assistance
PRAP	Pacific Regional Agriculture Programme
PWRB	Pacific Women's Resource Bureau
REDD+	Reduced Emissions from Deforestation and Degradation (and Forest Conservation)
RMDC	Rural Microfinance Development Center
RWSS	Rural Water Supply and Sanitation
SCCF	Special Climate Change Fund
SEWA	Self-Employed Women's Association
SHGs	Self-help groups
SHS	Solar home systems
SPC	Secretariat of the Pacific Community
SRF	Sundarbans Reserve Forest
SWCs	Social welfare centers
ToRs	Terms of reference
UNFCCC	United Nations Framework Convention on Climate Change
VLGA	Victorian Local Government Association
VRCs	Village Reconstruction Committees
WASH	Water, Safety and Hygiene
WDCs	Watershed Development Committees Women development centers (Case Study I)
WORLP	Western Orissa Rural Livelihoods Project

1. INTRODUCTION

Welcome to the USAID Adapt Asia-Pacific[1] 's On-Line Sourcebook: Integrating Gender in Climate Change Adaptation Proposals. In accordance with the mandate of the USAID Climate Change Adaptation Project Preparation Facility for Asia and the Pacific (USAID Adapt Asia-Pacific), the Sourcebook focuses on climate change adaptation rather than mitigation. It focuses on the front end of the project cycle, specifically proposal preparation for accessing climate change adaptation financing. While many of the resources referenced are relevant across regions, we have used text boxes, case studies, and resource lists to highlight Asia-Pacific examples to support the work of country partners of USAID Adapt Asia-Pacific.

The Sourcebook's primary audience are those individuals and teams who prepare large-scale climate change adaptation (CCA) project proposals. The Sourcebook provides the reader with tools to help answer the question, "How do we best go about incorporating gender considerations into our CCA proposal?"and not "Why should we incorporate gender considerations into our CCA proposal?"We start from the assumption that readers who use our Sourcebook already understand that gender issues are relevant to climate change activities but may not be conversant or feel comfortable with organizing gender data or elaborating gender issues and strategies.

Rather than reinventing the gender "wheel,"our online Sourcebook helps proposal writers more easily navigate the extensive online gender resources already available and places them in a CCA context. The majority of the document includes brief summaries of key points, highly useful tables from other resources, short text box examples, links to the best available resources, and compilations of project cases employing gender best practices. Because many CCA projects focus on one or more development sectors, we have summarized the extensive gender issues for climate-relevant sectors in Section 7 and provided short sectoral case studies of projects which provide details of how gender best practices were incorporated into design and implementation. Most CCA projects that focus on climate institutional frameworks, policy, and planning processes are still in design phase or early implementation;most have yet to elaborate sufficient, detailed documentation on their gender mainstreaming practices. When available resources were insufficient, we created original materials, including a checklist of gender options by CCA proposal section and a summary of global and Asia-Pacific resource institutions for CCA/gender advice and resources.

We prepared the Sourcebook so that it can evolve and be updated, particularly as more experience is gained with gender mainstreaming during project preparation and implementation. Users are invited to tell us, in Section 12, about what was useful and what was not and what gender impacts resulted from more gender-sensitive proposals. We hope that users will submit examples of gender-sensitive proposals, terms of references (ToRs) for gender specialists, and reports on gender mainstreaming actions and gender equity and climate adaptation outcomes during project implementation.

2. SOURCEBOOK ORGANIZATION

Each section of the Sourcebook is self-contained. We expect that most readers will go directly to those sections, tools, and sectors of particular relevance to their work:

- Sections 3–5 describe the background for the development of the Sourcebook (Section 3) and the key assumptions made about CCA proposal preparation and gender mainstreaming (Section 4), and offer a glossary of terminology used in the Sourcebook (Section 5). Readers less familiar with gender issues may want to review the glossary before reading other sections.
- Section 6 provides a summary checklist (Table 1) for addressing gender within typical CCA proposal sections, as well as summarizing gender-related data needs and monitoring, and providing links to gender tools. This information is framed by the requirements and guidance available for six multilateral climate funds.
- Section 7 summarizes key gender analysis topics for climate-relevant sectors and recommends entry points and indicators. The sector modules covered are agriculture;forestry/watershed management;biodiversity conservation;coastal water resources and fisheries;water, sanitation and hygiene;health;energy;transport;and urban programs.
- Section 8 offers 10 concise case studies of gender mainstreaming for each of the priority sectors from Section 7.
- Section 9 provides ToRs for both international and host country gender specialists for different types of CCA assignments to collect gender-related data or influence decision-making processes.
- Section 10 is drawn from an existing resource that highlights when to use a Gender-Sensitive Stakeholder Analysis. Sources for other gender methodologies are referenced in Section 6.
- In Section 11, the CCA-relevant gender resources from international and Asia-Pacific regional sources, are presented in Table 16 so that a proposal writer can easily find a source of sectoral or country-specific gender information.
- The Sourcebook bibliography is presented in Section 13.
- In Section 12 (User Feedback and Contributions), we offer Sourcebook users the opportunity to tell us how they have used the Sourcebook for proposal preparation or other activities, which sections were most helpful, and what improvements should be made during future revisions. We would like to hear about the proposal adjustments that you make to address gender issues and strategies and the gender outcomes that are achieved during implementation. We also would welcome contributions of your gender-sensitive CCA proposals, ToRs for gender experts on different types of CCA projects, and reports about gender-related results during project implementation.

3. SOURCEBOOK BACKGROUND

3.1 LESSONS ABOUT THE RELEVANCE OF GENDER EQUALITY TO SUSTAINABLE DEVELOPMENT

Over the past 20-plus years, development practitioners have learned many lessons about the value and the necessity of gender-inclusive development planning, program implementation, and benefit sharing. There is an exhaustive body of literature regarding why gender mainstreaming and attention to advancing gender equity is key to good development practice. The World Bank and others have focused on "the business case"for gender mainstreaming;[2] human rights advocates, supported by international and national rights-based frameworks, argue that gender equity and equality are essential dimensions of basic human rights.[3] These arguments are also relevant to newer areas of development programming, such as climate change.

3.2 GENDER ISSUES AND GENDER STRATEGIES FOR CLIMATE CHANGE

A number of overviews are readily available for those in the climate change community who require information or further justification for paying attention to gender in climate change projects or components. These are listed in part 4.A. of the Bibliography in Section 13 and in the Gender Resources listed by institutional author in Section 11.[4] In sum, these documents highlight the following gender-climate linkages:

- Men and women are often impacted differently by climate change because there are differences among women and men, depending on their household assets, social status, resilience, and the like. Men and women also have different reasons and options for migrating in response to economic pressures, disasters, and conflicts (Box 1).

Box 1. Key areas of gender-based inequalities relevant to CCA projects

- Land rights
- Division of labor
- Existing knowledge systems and skills regarding CCA
- Power and decision-making
- Embedded inequalities in policies and institutions, both formal and informal
- Perceptions of risk and resilience.

Source: Adapted from Nelson, V. 2011. Gender, generations, social protection & climate change: A Thematic review. Overseas Development Institute, London. http://www.odi.org.uk/publications/5940-gender-generations-social-protection-climate-climate-change

- Women as a group are often more vulnerable to climate change impacts due to gender norms and discrimination that result in greater drudgery and a skewed division of labor, lower income and livelihood opportunities, less access and control of land and property, fewer legal rights, and less political representation. Within the Asia-Pacific region, gender relations and women's assets vary across subregions and within countries. For example, South Asian women generally have far lower rates of land ownership and may be less resilient to the impacts of climate change than women in several Southeast Asia countries where women at times have more secure access to land due to gender-sensitive land reforms (e.g., Lao People's Democratic Republic, Thailand, Philippines, and Vietnam).
- However, women are not just climate victims. Women are also key actors in CCA efforts at the household and community levels and are already practicing CCA skills every day, through farming practices or disaster mitigation, preparedness, or recovery. Their knowledge and skills can be harnessed to help design and implement CCA strategies, policies, and projects. For CCA program planning and implementation, women have been knowledgeable and active contributors at local levels;at national and international levels, gender advocates are promoting gender-sensitive CCA policies and programs and building their capacities for climate advocacy and leadership. In areas of the Asia-Pacific region where women are restricted from public

life and decision-making, women's involvement in community decision-making may be happening indirectly via household-level discussions.

- By tailoring adaptation actions at the local level to account for culturally specific gender differences, barriers, and opportunities, projects can more effectively reduce risk or decrease vulnerability of households.
- Planning processes—locally, nationally, or internationally—are often a central dimension of CCA projects and include climate-focused planning which spans multiple sectors and/or climate-relevant sectoral planning, such as watershed councils. Gender-sensitive approaches to planning include equal rights of women and men stakeholders, equitable sharing of the costs and benefits of CCA investments, and balanced data collection from men and women in order to ensure that planning data captures the differences in needs and interests among men and among women stakeholders. Additional process elements entail establishing fair processes and mechanisms for hearing men's and women's perspectives, setting action priorities, and resolving grievances.

Very few gender reports and toolkits organize gender issues under a framework of specific types of climate changes. One notable exception is a 2011 United Nations (UNEP) document, Women at the frontline of climate change: gender risks and hopes. A rapid response assessment,[5] which focuses on the mountainous regions of Asia. It addresses gender-related issues and impacts in scenarios of too much or too little water (i.e., flooding and drought). Both scenarios increase women's workloads, particularly with respect to water collection and purification, hygiene, health, and safety, more than for men but also the increased demand for women's labor for agricultural production. Flooding poses particular problems for women in situations where their roles in household decision-making are quite limited;cultural norms may limit their ability to make their own decisions about when to evacuate. Modesty and clothing norms for women, as well as skills in swimming and tree climbing, have made the difference between life and death.

For those interested in reading more about gender issues in the Asia-Pacific region, there is an abundance of material available that addresses the status of women, gender relations, and various sectors (Box 2 and Section 12). There are some gender and climate change materials written for an Asia-Pacific audience, but much of the content overlaps with discussions of global gender and climate issues. A 2013 gender and climate change toolkit for the Pacific Islands offers a useful summary of key gender–climate issues and impacts in various countries.[6] Country-specific gender analyses and place-based studies of gender and climate issues are available online, but these were not reviewed for our Sourcebook.

Box 2. Further reading about Asia-Pacific gender issues

Regional Summaries

- United Nations Development Programme. 2010. Power, voice and rights: A Turning point for gender equality in Asia and the Pacific. Asia-Pacific Human Development Report, Macmillan Publishers., India. http://www.undp.org/content/undp/en/home/librarypage/hdr/asia_and_the_pacifichumandevelopmentreport 2010/

Sub-Regional Summaries

- International Fund for Agricultural Development (IFAD). 2013a. Gender and rural development brief: South Asia. IFAD, Rome. http://www.ifad.org/gender/pub/gender_sa.pdf
- International Fund for Agricultural Development (IFAD). 2013b. Gender and rural development brief: Southeast Asia. IFAD, Rome. http://www.ifad.org/gender/pub/gender_sea.pdf
- International Fund for Agricultural Development (IFAD). 2013c. Gender and rural development brief: The Pacific Islands. IFAD, Rome http://www.ifad.org/gender/pub/gender_apr.pdf

3.3 GROWING DEMAND FROM FUNDERS FOR GENDER-SENSITIVE CCA PROPOSALS

Recognition of the importance of gender mainstreaming has increased for most CCA funders since the initiation of these funds, as have their expectations for how gender will be addressed in project proposals from

applicants. This trend is expected to continue in the foreseeable future, particularly with the hiring of a senior gender specialist by the Climate Investment Fund Administrative Unit, the implementation of the Global Environment Facility's (GEF) gender policy, and the start-up of the Green Climate Fund, which will emphasize the gender dimensions of climate change. Increasingly, climate fund applicants who ignore or only superficially address gender will be finding that their proposals are less likely to be funded or they will be asked by funders to revisit these dimensions of their proposals.

3.4 FRONT-END GENDER MAINSTREAMING: PROPOSAL PREPARATION

Experience with gender mainstreaming over the past 30 years suggests that early attention to gender issues in the project cycle is key to achieving both sectoral and gender equality outcomes. These measures include gender-sensitive data collection and analysis;inclusion of gender expertise on design, proposal, and project teams;identification of culturally appropriate and effective gender strategies based on gender data;assignment of dedicated budget for gender activities or components;gender indicators and targets;and gender-sensitive results monitoring. These actions are summarized in Table 3 in Section 6.

Proposal preparation, which is the focus of the Sourcebook and the USAID Adapt Asia-Pacific Project, is where "the rubber meets the road"in terms of a future project's gender commitments. A focus on gender issues and plans with stakeholders at the front end of the project cycle, including attention to how gender-specific barriers can be addressed, builds wider ownership for project activities and broader replication. Without explicit attention to social and gender issues and specific strategies, projects have unintentionally further exacerbated existing social and gender inequalities.

3.5 GENDER MAINSTREAMING CHALLENGES FOR PROPOSAL PREPARERS

Discussions with gender and climate informants for the Sourcebook and a review of the literature suggest that many past applicants had not given adequate attention to gender in their CCA proposals to the multilateral climate funds. For example, in a systematic 2012 review of the proposals to the Climate Investment Funds (Aguilar et al. 2012), only one in four proposed projects developed gender indicators. Informants proposed a number of reasons to explain why gender discussions and strategies were missing or inadequate:

- Written guidance for fund applicants is viewed as too vague regarding what to include in proposals, in terms of gender data and addressing gender issues.
- Applicants are not specifically asked to provide gender-specific information and strategies in their proposals.
- Some natural and physical scientists involved in CCA proposal preparation lack experience with gender data collection, analysis, discussion, and strategy development.
- Gender specialists have not been engaged to support proposal preparation efforts, or have been engaged but lack sufficient understanding of CCA issues.
- Proposal preparers have misconceptions about the time and effort required to collect, analyze, and incorporate gender-related data.
- The gender-related guidance in CCA project design manuals is too vague or limited.
- Available gender guides and toolkits for climate topics focus on small-scale community projects and work by grassroots organizations rather than the large-scale projects prioritized in CCA proposals to the multilateral climate funds.
- Proposal preparers find it difficult to navigate the extensive gender literature already available for the sectors prioritized by CCA proposals.

The Sourcebook focuses primarily on the last issue. Because so many CCA projects focus on prioritized sectors, the Sourcebook is designed to support the work of proposal preparers by providing: (1) short summaries of sectoral gender issues and strategic entry points for CCA projects, (2) detailed case studies that help proposal preparers understand best practices for gender mainstreaming for different sectors, and (3) navigational guidance to the best sources of gender information within the climate and sectoral literature. Section 6, which is a checklist created for the Sourcebook, summarizes many opportunities to address gender within CCA

proposals, including and beyond the sections required by some of the multilateral climate funds. Table 16 in Section 11 summarizes the types of gender publications, relevant to CCA proposals, that are available from international or regional institutions with gender expertise. Regional and country-specific information is also included in this table.

4. KEY ASSUMPTIONS FOR GENDER MAINSTREAMING IN CCA PROPOSAL PREPARATION

Government CCA project proposals to international climate funds tend to fall into three categories:

- **Dedicated adaptation measures (non-sector specific)** that seek to address specific climate change risks or create an institutional and policy "architecture"within a country for oversight of assessments of climate data and adaptation status, activity planning and implementation, and monitoring and evaluation (M&E).
- **Climate mainstreaming activities (non-sector specific)** that aim to enhance economic and development planning processes through climate data and awareness-raising of problems and strategies.
- **Climate-friendly sector-specific development activities** that increase climate resilience for a sector (e.g., agriculture, energy) and use asset-based approaches to building stakeholder and institutional capacity.

Stakeholder participation in CCA project design . Once adaptation projects are identified, the design process typically involves some type of stakeholder consultation and commissioned analyses. Consultation processes can reinforce social and gender inequalities or broaden access and reduce social inequalities. Some countries involve women's groups and representatives from gender ministries. Gender analysis may or may not be done for national climate planning. Depending on the commitments of the donor agencies, there may or may not be a gender analysis during project development. The involvement of gender specialists varies, as does the development, prior to implementation, of a gender action plan (GAP) for a particular project.

Many CCA programs already have a strong social dimension . They focus on building resilience and decreasing risk for communities, households, and individuals. As such, these programs have great potential to make significant positive economic and social changes in the lives of both women and men in developing countries.

Gender issues for the proposal topic, country, and project locations need to be identified via data collection . CCA proposal preparers, through collection of primary or secondary data, including stakeholder consultation, need to identify gender issues and needs, as well as national-level institutional and policy frameworks and national commitments to gender equality. Better proposals result from understanding the types of gender-sensitive interventions that have become good practices for particular sectors or regions. Secondary gender data are not always adequate and may need to be supplemented during project design.

CCA project activities and targets should be guided by national priorities and commitments for gender equality and also culturally based gender norms . These priorities and norms can be determined via the gender data collection process.

Gender expertise greatly enhances attention to gender in project design and proposal preparation . Early inputs by gender specialists can help proposal teams collect relevant gender data and understand the project implications of those data. While climate specialists engaged in proposal work may benefit from focused gender capacity building, it is also fair to say that many gender generalists will become more effective if provided with CCA training. Gender specialists working on both project design and proposal preparation need research and analytical skills as well as consultation facilitation expertise. They may come from fund staff, donor agency staff or consultants, or host country project partners from organizations with gender expertise.

Specifying people-level outcomes, including sex-disaggregated and gender-related indicators, can set the course for better gender mainstreaming during project implementation . Projects are much less likely to find the commitment and resources to address gender issues if targets, plans and budgets are not specified at the proposal stage.

5. GLOSSARY

- **Climate Change Adaptation** . Climate change adaptation, as per the United Nations Framework Convention on Climate Change (UNFCCC), refers to "adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts."Adaptation refers to changes in "processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change"(see http://unfccc.int/focus/adaptation/items/6999.php). The purpose of these adaptations is to decrease vulnerability and minimize risks for humans and ecosystems. Common approaches focus on expanding resilience or "adaptive capacity"by people, groups, and institutions.
- **Vulnerability and resilience** are inherently social concepts and tied to social equity. Someone's sex, socioeconomic standing, assets, age, education, ethnicity, and other variables strongly influence her/his relative vulnerability to the impacts of climate change and related risks. Adaptation to climate change is likely to be inefficient and inequitable if it does not consider the multidimensional and differentiated nature of poverty and vulnerability. Adaptation strategies are highly context-specific and culturally bound;they should build on capacity, assets, and traditional responses to climate variability and not erode long-standing adaptive capacities. While serving immediate needs is important, there is also a place for structural reforms to address vulnerability and its causes as well as incentives and capacity building for institutional and governance structures.
- **Gender relations** refer to the relations of power and dominance that influence the life chances of women and men. These relations impact individual and household vulnerability to climate-related risks, and also determine the acceptability of proposed CCA actions and their outcome.
- The term **gender** refers to how societies and specific cultures assign roles and ascribe characteristics to men and women on the basis of their sex. For example, many cultures share expectations that women and girls are responsible for water collection, family hygiene and sanitation practices, agricultural duties, and family care, whereas men are more involved in control over cash income and in household and community decisions.
- **Gender roles** , which are formal and informal beliefs about how men and women are supposed to behave, are learned. These roles, as well as the relations between men and women—referred to as *gender relations* —are not static. They change, depending on societal values and social change in women's status relative to men's status. For example, women are not taught or allowed to swim or climb trees in many cultures due to modesty issues. These limitations proved fatal for many women during tsunami-caused flooding in Aceh and elsewhere.
- The term **gender equality** , as enshrined in international and national constitutions and other human rights agreements, refers to equal rights, power, responsibilities, and opportunities for women and men, as well as equal consideration of their interests, needs, and priorities. Advancing gender equality often involves eliminating formal and informal barriers and other types of discrimination that are based on someone's sex. In insurance and loan schemes for CCA investments, women as individuals may have less access than men because they do not have land titles for use as collateral. Women own less land than men and have less secure access due to sex-based discrimination in formal and informal tenure systems.
- **Gender analysis** refers to a variety of methods that are used to understand the relationships between men and women, relative access to resources, and the different constraints that they face. These analyses can address multiple levels, from intra-household to community to higher social, political, or institutional levels. Box 1 above highlights several key gender topics for the gender analyses for CCA project design. Gender analyses also consider gender **balance** , which refers to the sex ratio of men and women, in terms of percentages, in various positions in societies, organization, and systems such as economic value chains. As part of gender analysis, other social differences (e.g., race, ethnicity, religions, culture, class, age, disability, and status) are considered to identify differences among women and differences among men. For example, both men and women from richer households are likely to be more resilient in the face of climate change and better able to adopt climate-friendly technologies.
- **Gender mainstreaming** refers to the art and science of interpreting gender data and creating tailored policy, program, or project strategies that are culturally appropriate, minimize negative social impacts, and advance gender equality while achieving other project objectives. Gender mainstreaming strategies are

relevant to project design, implementation, and M&E. To this end, many projects and institutions develop **gender equality principles** , **gender policies** , and **gender strategies** , as well as more specific GAPs, with commitments and delegation of responsibilities. In some cases, oversight is delegated to **gender focal points** (GFPs), who serve as internal gender advocates and resource people for other staff. Examples of these mainstreaming actions can be found in the case studies (Section 8).

- **Rights-based approaches** are a methodology employed during project preparation and implementation, which uses human rights as a framework to guide the development process. It starts from the assumption that people have a human right to achieve economic, social, and cultural development.

6. GENDER ELEMENTS FOR CCA PROPOSALS

6.1 OPPORTUNITIES FOR ADDRESSING GENDER WITHIN CCA PROPOSALS

There are many opportunities, within the proposal format, for designing a gender-inclusive component within a CCA proposal. As donors have strengthened their overall commitment to gender equality, they have increased expectations that their development partners will become more aware of gender issues and write proposals that meaningfully incorporate gender-related actions and strategies. Manuals, guides, checklists and similar tools can help countries gain a better understanding of opportunities to incorporate gender considerations into project design.

Manuals specific to CCA proposal development and project design tend not to offer much gender guidance. However, multilateral and bilateral donor organizations, development nongovernmental organizations (NGOs), and others provide guidance on incorporating gender issues into non-climate–related proposals, most normally on a sector basis. The gender checklists provided by these organizations can be adapted as a framework for organizing ideas about how to address gender in different CCA proposal sections.

Table 1 is a checklist of gender options that can be included in typical sections of CCA proposals. The proposal format is derived from the guidance provided by multilateral climate funds (see Section 6.2 for funds reviewed). The gender aspects are derived from a variety of sources, including the gender and climate overviews, gender guidance for proposal writers, and sector-specific material on gender mainstreaming. For further reading, see Box 3.

TABLE 1. Checklist for Gender-Sensitive CCA Proposals

Proposal Section	Elements	Gender
1. Background and Context	• Description and data on climate problem to be solved • Relevant climate change scenarios • Social, economic, development, and environmental context	• Climate problem: Include information from stakeholder consultations and other types of gender analysis regarding sex-disaggregated facts and perceptions of the impacts of the climate problem;use tools such as gender-sensitive vulnerability assessments to understand sex-based differences. • Context: Use primary data from stakeholder consultations or formal surveys or secondary data from gender reports to discuss gender differences relevant to the prioritized sectors, regions, or social groups (e.g., tenure differences, access to extension services and credit, ethnic differences in the gender division of labor, etc.).
2. Objectives	• Outcome objectives specific to certain stakeholder groups, sectors, a set of subsectors, or region	• Include people-level outcome objectives (e.g., improved livelihoods) and specify men and women rather than more generic terms (e.g., substituting "men and women farmers"instead of "farmers"and discussing intra-household issues). • Consider including women-focused objectives when interventions with women will have a particularly effective impact on household or community CCA or when women's constraints to CCA need particular attention (e.g., land tenure security for collateral and conservation).
3. Project/Program Justification	• Alignment of project/program objectives with fund's goals, objectives, framework, and institutional policies • Causal links between the proposed adaptation components and the identified climate threats;visible and tangible contributions of proposed components to improved climate-adaptive capacity of humans and natural systems • Expected economic, social, and environmental benefits and expected beneficiaries;negative impact analyses and mitigation plans • Possible non-climate barriers and risks • Comparison of cost-effectiveness of proposed approach and alternative actions • Sustainability assessment, including replication and scaling- up possibilities at project's end • Learning, linkages, and synergy plans with relevant potentially overlapping projects • Alignment and compliance with national, regional, or local plans/ strategies for sustainable development, poverty reduction, sectors, or climate change • Adherence to national technical standards, such as environmental impact assessments	• Alignment with funder: Reference the gender, public involvement, and indigenous people policies of the funding institutions. • Beneficiaries: Discuss gender-related vulnerabilities for different social groups and what actions the project/program will take to reduce gender barriers and increase opportunities for the equitable distribution of benefits. • Analysis and mitigating measures for social impacts: Any special impact studies should include information on project positive and negative impacts on men and women and propose sex-specific mitigation strategies. This information should be included in the proposal. • Non-climate barriers and risks: Discuss how gender-related barriers for women can inhibit their participation in the project and the equitable distribution of benefits. Lack of women's participation undermines local ownership and long-term sustainability of CCA interventions. • Comparison of alternative approaches, sustainability assessments, and linkage strategies with other projects: Discuss what has been learned and what can be gained from long-term synergies with similar CCA projects that have included gender mainstreaming. • Alignment with other plans: Mention national gender policies and gender commitments within sectoral policies.

4. **Stakeholder Consultation**	• Lists of consulted stakeholders, including their affiliations and roles, their direct or indirect stake in the project/program, the consultation date, and methodologies used for consultations • Key consultation finding and discussion of how stakeholder suggestions and concerns were addressed in the design of the project/program • Reflections on lessons learned about the process of consultation • Implementation stage plans for routine and/or periodic stakeholder consultation, including budget to reduce participation barriers for key stakeholders	• Stakeholder lists: Identify the sex of all stakeholders and highlight the level and type of involvement of representatives from women's organization, national women's ministries, and gender experts. • Consultation processes: Identify how methodologies will address social, tribal and traditional norms (including land tenure, access to land, kinship) about men's and women's participation in public fora and gender-sensitive outreach strategies. • Findings: Specify differences in men's and women's perspectives on CCA and climate impacts and how project design was adjusted accordingly. • Reflection: Identify how the consultation process could have been improved, in terms of methodology or logistics or follow-up, for separate and mixed-sex stakeholder groups. • Implementation plans: Specify plans for addressing women's specific mobility, cultural, time, and financial constraints to participation. • Gaps in gender data discussed
5. **Components**	• Logical links across components • Components descriptions, including numbers and types of activities and sequencing • Specific expected outputs and outcomes related to reducing climate risks and increasing resilience	• Improve service and information provision: Target specific gender barriers to obtaining services and information. • Diversify livelihood: Improve men's and women's skills, access to productive resources, and employment;introduce new opportunities. • Improve natural resource management practices: Adapt to gender division of labor and available resources, increase women's land access and tenure security. • Improve planning processes and decision-making: Improve gender balance and women's participation as members and leaders of groups and decision-making bodies;policy priorities. • Introduce climate-adapted shelter and transport: Improve women's access to home ownership and employment opportunities. • Improve food security and health: Balance men's involvement in family health, improvement of water quality, and cultivation of wild food/medicine. • Improving policy: Reduce gender-based barriers and improve women's opportunities, inclusive policy consultations, and priority setting.
6. **Calendar and Sequencing**	• Calendar overview of the timing of major activities under project components, M&E activities, and indicator milestones	• Gender baselines, strategies, and action plans can take place during project design or during Year 1, with intermediate targets, checks, and feedback loops. • Gender studies, either focused or integrated into other studies, have maximum impact during the first two years of implementation.
7. **Proposed Budget and Financing Plan**	• Project budget linked to components, specific activities, and outputs for projects • Program budget linked to subsets of stakeholders, regions, and/or sectors • Other financing and in-kind support	• Budget line items are at appropriate level for components, activities, or outputs that address gender-specific barriers or opportunities;support for women stakeholders'participation in consultations or project committees;gender-focused contracts with project partners, and gender staff or consultant contracts. • Priority funding for project activities addressing and reducing gendered "drudgery"of care and survival work. • Dedicated funding for capacity building (for women and to educate project implementers on gender).
8. **Knowledge Management and Communications**	• Plans for capturing, analyzing, and disseminating lessons learned, both internally and externally • Monitoring of dissemination outputs to internal communications material, project capacity-building activities, and targeted media • Monitoring of outcome changes in practices of staff, partners, others	• Proposal can include plans for highlighting gender and CCA mainstreaming success stories, reflecting both institutional changes and client changes, rather than stories of atypical women. • Proposal can discuss plans to ensure that project communication and training materials present gender-balanced images, gender mainstreaming lessons, and results. • Proposal can describe how to use women's groups in bringing CCA messages to the community as a whole.
9. **M&E**	• Results framework with logically linked objectives, sub-objectives, and outcomes • Selection of realistic activities, under sub-objectives, with outcomes or outputs that are measurable, conducive to monitoring, and verifiable • M&E plan with output and outcome indicators;milestones and targets;data collection plans for baseline, monitoring, and impact evaluation;timeline and budget	• People-level indicators should be sex-disaggregated with locally appropriate targets for women's and men's participation in CCA activities;disaggregate household-level indicators by sex of household head. • Other gender-related indicators may be appropriate to measure gender impacts, including changes in women's household and community status, changes in their livelihoods and decision-making participation, and changes in their access to productive resources, including land tenure, and time availability studies. • Plans for monitoring and impact data collection should consider the degree of local participation by men and women in data collection and special arrangements for data collection from women in societies with traditional gender norms. • Midterm and final evaluations should address gender impacts.
10. **Staffing and Partnerships**	• Description of staffing, including existing and new staff, and use of consultants • Description of recruitment and capacity-building plans • Description of existing and proposed partnership plans with local and international partners	• Proposal should highlight which project manager will assume primary oversight responsibility for gender mainstreaming, plans for including a dedicated gender staff member or consultant;criteria for selecting GFPs points or delegating responsibility. • Gender capacity building for government staff and NGO partners and plans to help support staff gender balance. • Plans for working with partners with gender expertise and strong field experience with women's groups and activities and building the CCA capacity of government gender staff.

11. **Project Management**	• Description of roles and responsibilities of the implementing and executing entities, partners, oversight committees, and clients • Reporting responsibilities and relationships (organizational chart)	• Plans for including representatives of women's interests, from government and civil society, on national oversight committees. • Organizational chart should reflect who will have primary responsibility for gender mainstreaming. • Plans for adoption of a gender policy by project institutions. • Plans for gender-sensitive redress mechanism to allow affected men and women to share experiences

Box 3. Further reading from donors and others about writing gender-sensitive proposals

- African Development Bank Group. 2009a. Checklist for gender mainstreaming in governance programmes. African Development Bank Group, Tunis-Belvedère, Tunisia. http://www.afdb.org/en/search/?tx_solr%5Bq%5D=Checklist+for+gender+mainstreaming+in+governance+programmes
  Organizes gender mainstreaming advice by the multilateral development bank project cycle and has helpful checklists for project design and appraisal, as well as reviewing terminology and explaining gender analysis.
- Aguilar, L., with R. Nicaragua. 1999. A Good start makes a better ending: Writing proposals with a gender perspective. World Conservation Union and Arias Foundation for Peace and Human Progress, San Jose, Costa Rica. https://portals.iucn.org/library/efiles/edocs/modulo1-En.pdf Reviews basic considerations and gender options for proposal sections.
- Asian Development Bank. 2012c. Guidelines for gender mainstreaming categories of ADB projects. ADB, Manila, the Philippines.
  http://www.adb.org/documents/guidelines-gender-mainstreaming-categories-adb-projects Discusses the project cycle and a useful list of gender-inclusive design features.
- United Nations/Office of the Special Adviser on Gender Issues and Advancement of Women. 2002. Gender mainstreaming: an overview. United Nations, New York.
  http://www.un.org/womenwatch/osagi/pdf/e65237.pdf Offers advice on gender mainstreaming for other categories of activities besides technical assistance, including policy analysis, research, servicing intergovernmental bodies and data collection, analysis, and dissemination.
- United States Agency for International Development. 2011. USAID gender integration matrix: Additional help for automated directives system chapter 201. USAID, Washington, DC.
  http://www.usaid.gov/sites/default/files/documents/1865/201sac.pdf Offers proposal-related gender mainstreaming advice from the perspective of the funding agency and its expectations for implementers.

6.2 GENDER AND THE INTERNATIONAL CLIMATE FUNDS

For those seeking an overview of the global climate finance architecture and differences in their priorities and practices, the resources listed in Box 4 are quite helpful.

Box 4. Further reading about climate funding fundamentals

- Nakhooda S., C. Watson, and L. Schalatek. 2013. The global climate finance architecture. Climate Finance Fundamentals 2. Heinrich Böll Foundation, Washington, DC, and Overseas Development Institute, London.
  http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8685.pdf
- Heinrich Böll Foundation and Overseas Development Institute. n.d. Climate funds update.
  http://www.climatefundsupdate.org
- The Climate Funds update, mentioned above, offers a series of 11 briefings on "Climate Finance Fundamentals"
- Manuamorn, O.P. 2012. An Assessment of specialized international funds with available resources for climate change adaptation projects in Asia and the Pacific. USAID Adapt Asia-Pacific, Bangkok, Thailand.

http://adaptasiapacific.org/library/assessment-specialized-international-funds-available-resources-climate-change-adaptation

- The on-line Funds Compendium created by USAID Adapt Asia-Pacific: http://adaptasiapacific.org/FUNDS-COMPENDIUM

During preparation of the Sourcebook, online application materials were reviewed for six major international funds providing climate adaptation (Table 2) to identify what the funds asked for and required with respect to gender and other social issues. Fund requirements and requests for gender often mirrored the gender practices of the parent institution (i.e., applicants to the GEF funds were expected to conform to the GEF Gender Policy). In addition, other information was obtained regarding the pending Green Climate Fund (GCF) and its gender-related plans. The latter is supposed to become a significant source of multilateral adaptation finance in the global climate finance architecture. It likely will be the largest single source of international adaptation funding as it has a mandate to "balance"its allocation between mitigation and adaptation. The governing instrument of the GCF mandates that it take a "gender-sensitive approach"to its funding. If fully implemented, this will make the GCF the first multilateral climate fund to integrate gender from the very onset.

TABLE 2. Climate Fund Facts

Fund Administrator	Name of Fund	Implementing Entities
Global Environment Facility (under auspices of the UNFCCC)	Least Developed Countries Fund (LDCF) http://www.thegef.org/gef/LDCF	Multilateral development banks, United Nations agencies (10)
	Special Climate Change Fund (SCCF) http://www.thegef.org/gef/SCCF	Multilateral development banks, United Nations agencies (10)
Adaptation Fund Secretariat (hosted by the GEF)	Adaptation Fund https://www.adaptation-fund.org/about/secretariat	National implementing entities that meet fiduciary standards, multilateral development banks
Climate Investment Funds Administrative Unit (hosted by the World Bank)	Pilot Program for Climate Resilience (PPCR) https://www.climateinvestmentfunds.org/cif/node/133	Multilateral development banks (NB: PPCR is one of three funding streams under the Strategic Climate Fund).
Nordic Development Fund	Nordic Development Fundhttp://www.ndf.fi/	Nordic Development Fund
Nordic Development Fund	Nordic Climate Facility http://www.nefco.org/financing/nordic_climate_facility	Nordic Climate Facility

For most of the funders, the stakeholder consultation element described in their application guidance was the main proposal location that had opportunities for engaging women's participation and eliciting their perspectives. There is variation across the funds in terms of their requirements for stakeholder participation and gender analysis. Some of these differences are likely to be attributable to the existing practices and guidance from the institutions which are administering the fund:

- The Nordic Development Fund and the Nordic Climate Facility do not mention stakeholder consultation or gender analysis in their guidelines to applicants.[7]
- For the funds administered by the GEF, its application guidance requests early coordination with stakeholders, prior to submission of a funding request to the GEF and consistency with GEF's Public Involvement Policy and the GEF Gender Policy.
- The Adaptation Fund lays out detailed requirements for stakeholder consultation prior to the submission of fully developed proposals. These requirements are a good practice example because they help both project designers and proposal writers understand how to undertake, use, and discuss these processes (Box 5). However, gender is not specifically addressed by these requirements.

Box 5. Good practice example: stakeholder consultation practices and proposal discussion

- Provides project formulation grants to facilitate a comprehensive stakeholder consultation process in the project preparation phase
- Requires comprehensive consultations for a fully developed proposal and that data collected reflect the project design
- Specifies that consultations should involve all direct and indirect stakeholders of the project/program, including vulnerable groups, with special attention to minority and indigenous peoples in the project

areas
- Specifies that gender considerations should be taken into account
- Requires applicants to include a proposal section that includes (1) a list of stakeholders already consulted (principles of choice, role ascription, date of consultation), (2) a description of consultation techniques used (tailored specifically per target group), and (3) the key consultation findings—in particular, the suggestions and concerns raised)
- Requests that, when possible, applicants include a framework, strategy, timetable, and budget about their plans and arrangements to ensure key stakeholder consultation and participation.

Source:

- Adaptation Fund. 2013. Instructions for preparing a request for project or programme funding from the Adaptation Fund. https://www.adaptation-fund.org/page/instructions-preparing-request-projectprogramme-funding-amended-november-2013
- Adaptation Fund. n.d.(b) Adaptation Fund project/programme review criteria. http://www.adaptation- fund.org/sites/default/files/Review%20Criteria%205.12.pdf

- The PPCR proposal requirements from the Climate Investment Fund provide another useful model for discussing stakeholder consultation within a proposal. What is unique about the Climate Investment Fund proposal requirements for consultations is that they go beyond lists of meetings and findings and ask country applicants to think critically about the strengths and weaknesses of how participatory processes for climate planning have been conducted in the past and at present. The Climate Investment Fund asks applicants to discuss how their governments'participatory processes could be improved for PPCR planning. One dimension of this meta-assessment is the consideration of how particular groups that are more vulnerable to climate risks can be identified and consulted, and how their views on solutions to climate risks have been considered, including women, youth, indigenous people and local communities, and other vulnerable social groups. Proposals are also expected to describe specific plans for public dissemination and awareness-raising of climate impacts and the PPCR in the country.

Besides the stakeholder consultation section of CCA funding proposals, two funders specifically mention gender requirements for other sections (Table 3). Two funds list gender-related criteria for fund eligibility: the Adaptation Fund has a requirement that the projects/programs provide social benefits, including gender considerations;and the Nordic Development Fund mentions gender as part of a proposal's consideration of "other impacts."

TABLE 3. Gender Requirements of the Climate Funds, by Proposal Section

Proposal Section	Gender Requirements	Fund
Project/Program Justification, including Beneficiary Analyses	"Describe how the project/program provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations."Discuss "the equitable distribution of benefits to vulnerable communities, households, and individuals."Discuss any concerns about negative development with respect to benefit distribution and how these threats and risks of further marginalization would be addressed.	Adaptation Fund
Climate Resilience Stocktaking	Summarize country-level activities already underway on climate resilience, by government, non-state actors, and development partners. Proposal should assess the adequacy of country-specific data on climate change impacts, vulnerabilities and adaptation, including the "degree of disaggregation of data by regions and by demographic groups, including by gender,"whether there is qualitative information to complement quantitative data and how participatory monitoring can be used.	PPCR

While these general requests and requirements establish floors for engaging stakeholders and addressing gender issues, applicants are given wide latitude to more thoroughly collect gender data and address gender issues in their CCA proposals. As noted above, the expectations of fund staff are likely to increase over time, with respect to how well proposals address gender issues and the quality of proposed activities, indicators, and others.

For the two funds administered by the GEF, the LDCF and the SCCF, the GEF's gender mainstreaming policy[8] applies to the proposals submitted by applicants, as does it Revised Programming Strategy on Adaptation to Climate Change.[9]

6.3 GENDER-RELATED DATA NEEDS AND TOOLS

A proposal writer may or may not have social and gender data from primary sources (i.e. consultations or surveys conducted for national climate plans and strategies or the project being elaborated in the funding proposal) or secondary sources (e.g., national statistics or existing gender reports). Below are various dimensions to consider when collecting gender-sensitive data. Box 6 lists additional literature sources on gender-sensitive data collection methodologies.

During project design, gender data are used to:

- Identify the gender-related barriers and opportunities relevant to project success
- Predict potential impacts of the project design on gender relations and gender equality
- Modify project objectives, strategies, and indicators to promote more gender-balanced participation and benefit distribution and identify ways to advance gender equality
- Supply baseline data for gender-related indicators
- Determine the level of financial resources required for gender sensitive/responsive design, implementation, monitoring and evaluation activities.

Gender analysis typically relies on a combination of primary and secondary data, both qualitative and quantitative data:

- Primary data methodologies include focus groups, workshops, key informant interviews, and formal surveys.
- Secondary data include formal national statistics and existing gender reports, including journal articles, project reports, and the like.

Gender-related data can be collected via:

- Dedicated gender analysis tools and methodologies (e.g., gender division of labor, gender budgeting, gender audit, social mapping)
- Adapted sectoral tools (e.g., gender-sensitive climate vulnerability assessments, institutional analyses, value chain analyses) or tools that span multiple sectors
- Adjustments to stakeholder analyses and participatory consultations conducted for project design, such as including more women in consultative processes;holding sex-segregated consultations;and tailoring questions to identify gender differences in climate change perceptions, needs and interests, barriers, opportunities, and priorities.

A gender-sensitive approach to stakeholder analysis (see Section 10) identifies differences in knowledge, interests, priorities, and power among:

- Key stakeholder groups, including gender advocates and women's organizations, as well as representatives from the ministries for gender/women's affairs
- Gender differences within stakeholder groups
- Differences of interest between women and men
- Differences of interest among women and among men.

A gender-sensitive approach to institutional analysis focuses both on staffing and programming capacity issues:

- For staffing, these analyses help to identify critical gender imbalances of staffing at various levels (e.g., too few women field staff or top managers)
- For program implementation, these analyses identify the existing gender mainstreaming capacity of staff to carry out projects in a gender-sensitive manner, needs for capacity-building and external gender expertise, and other barriers to gender-sensitive programming such as high-level commitment.

A gender-sensitive approach to stakeholder consultation includes:

- Gender-balanced invitations to consultation, as well as ensuring inclusion of legitimate representatives of

women's organizations
- Attention to logistical issues to ensure timings and locations that are convenient to women and facilitation conducive to women's full participation
- Fact-finding from men and women via direct observation, group and individual interviews, needs assessments, mapping, and formal surveys.

There are advantages and disadvantages of doing sex-segregated consultations and working with women-only groups. These decisions depend on local cultural preferences. In some settings, women-only groups encourage women to participate more fully and inspire greater ownership by women over the outcomes of the decision-making process. Disadvantages may include a less diverse knowledge base among group participants and lower priority for the recommendations of women.

Box 6. Further reading about gender-sensitive data collection methodologies

- Aguilar, L., I. Castaneda, and H. Salazar. 2002. In Search of the lost gender: Equity in protected areas. IUCN, San Jose, Costa Rica. http://www.cbd.int/doc/pa/tools/In%20Search%20of%20the%20Lost%20Gender.pdf Provides tools for context analysis, strategies for protected areas management and gender-sensitive monitoring.
- Aguilar, L., G. Briceno, and I. Valenciano. 2000. Seek … and ye shall find: Participatory appraisals with a gender equity perspective. IUCN and Arias Foundation for Peace and Human Progress, San Jose, Costa Rica. https://portals.iucn.org/library/efiles/edocs/modulo2-En.pdf Offers methodology for gender-sensitive participatory methodology for use with communities for project design diagnostics.
- Nigerian Environmental Study/Action Team (NEST). 2011. Gender and climate change adaptation: Tools for community-level action in Nigeria. NEST, Ibadan, Nigeria http://www.nigeriaclimatechange.org/projectpublications.php Elaborates six tools to ensure gender integration into climate change projects, including a Gender Equality Framework, a Gender Integration Checklist, Gender-Sensitive Stakeholder Analysis, Gender Monitoring Matrix and the Wheel with Ranking Exercise for Monitoring, and Guiding Questions for Assessing Gender Integration into Climate Change Policy.
- Fiegel, T., G. Alber, U. Röht, C. Mungal, F. Davis, and M. Hemmati. 2009. Gender into climate policy: Toolkit for climate experts and decision-makers. GenderCC—Women for Climate Justice, Berlin. http://www.gendercc.net/fileadmin/inhalte/Dokumente/Tools/toolkit-gender-cc-web.pdf Reviews gender impact assessment, gender budget, and gender equality audit methodologies, as well as gender-disaggregated data issues.
- Macchi, M. 2011. Framework for community-based climate vulnerability and capacity assessment in mountain areas. ICIMOD, Kathmandu, Nepal. http://www.climateadapt.asia/upload/events/files/4df5851ac678bicimod-framework_for_community-based_climate_vulnerability_and_capacity_assessment_in_mountain_areas.pdf Adapts a vulnerability assessment tool to include gender-related information.
- United Nations Development Programme. 2001. Learning and information pack: Gender analysis. UNDP, New York. http://www.undp.org/content/dam/undp/library/gender/Institutional%20Development/TLGEN1.6%20UNDP%20GenderAnalysis%20toolkit.pdf Provides tools and formats for SWOT Analysis, Harvard Analytical Framework, Moser Framework, Gender Analysis Matrix, and others.

6.4 MONITORING GENDER RESULTS AND IMPACTS

There are three main types of gender indicators (see Box 7 for further reading);menus of possible gender indicators are provided for each sector discussed in Section 7. Indicators should be selected after gender-sensitive consultation with clients and beneficiaries. Projects are likely to choose from one or more of these categories, depending on resources available and interest in project impacts:

- **Project performance indicators** monitor implementation progress (e.g., kilometers of flood-dikes built, number of people trained by a specific date during the project implementation period). Project performance indicators measure intermediate results during implementation. They differ from results indicators due to the timeframes involved.
- **Results indicators** measure quantitative and qualitative dimensions that are expected at the end of the project and compared to pre-set targets (e.g., service satisfaction indicators).
- **Impact indicators** can be quantitative or qualitative and typically assess the socioeconomic impacts of project interventions. Typically, these would be measured several years after project completion.

A baseline measurement is collected, either prior to or during the first year of a project. In some cases, these may come from secondary sources (e.g., carbon emissions), or they are collected by the project itself. CCA includes two complex concepts, vulnerability and resilience, that are typically measured by proxy or index indicators. Data collection for each type of indicator, bio-physical and socioeconomic, can be done through different methods, depending on the budget.

Box 7. Further reading about gender-related indicators

- Escalante, A.C., and M. Del Rocio Peinador. 2000. Eyes that see … hearts that feel: Equity indicators. IUCN and Arias Foundation for Peace and Human Progress, San Jose, Costa Rica. https://portals.iucn.org/library/node/7759 Covers a range of sectors and objectives, as well as a process for selection of indicators.
- Rodriquez, G., N. Melendez, E. Velazquez, and M.A. Fuentes. 2000. Taking the pulse of gender: Gender-sensitive systems for monitoring and evaluation. IUCN and Arias Foundation for Peace and Human Progress, San Jose, Costa Rica. https://portals.iucn.org/library/efiles/edocs/modulo4-En.pdf Reviews processes for organizations and projects
- World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development. 2009. Gender in agriculture sourcebook. World Bank, Washington, DC. http://worldbank.org/genderinag http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf Offers indicators for a wide range of agriculture subsectors, including forestry and fisheries.

7. SECTORAL MODULES

INTRODUCTION

Although successful climate change adaptation will depend on multi-sectoral approaches and cross-sectoral synergies, CCA proposals are generally organized by sectors, such as:

- Agriculture
- Forest management and watershed management
- Biodiversity conservation
- Coastal water resources/fisheries
- Water, Sanitation and Hygiene (WASH)
- Health
- Energy
- Transportation
- Urbanization and cities.

The gender "wheel"does not need to be reinvented for CCA projects. There is already a great deal of literature regarding gender issues and mainstreaming strategies for each of these sectors. There are also analyses of sector-specific climate impacts on women and the adaptation strategies already used by women (Table 4). CCA proposals can incorporate this information into discussions of the social and gender context and identify how women's existing CCA strategies can replicated and scaled-up. It is important to note that addressing gender issues often entails cross-sectoral approaches (e.g., transportation of water and fuelwood;water supply and sanitation with watershed management).

TABLE 4. Illustrative Climate Impacts on Women and Adaptation Strategies by Women for Sourcebook Sectors [10]

Sector/Issue	Direct or Indirect Impacts on Women	Adaptation Strategies Already Used by Women
Agriculture	• Reduced access to fertile land • Loss of tradtional land tenure rights • Reduced food insecurity, nutrition, and hunger • Increased time to collect wild food, clean water • Reduced time for school;lower literacy	• Adapt crop, animal, and tree practices • Save foods, seeds, or animals • Practice soil and water conservation • Diversify livelihoods • Purchase crop/livestock insurance
Forestry	• Increased time needed to collect fuelwood, wild food, and medicine with increased safety risks • Reduced time for school;lower literacy	• Reduce harvesting • Shift to other species • Reforestation and afforestation
Biodiversity Conservation	• Unsustainable collection of sources of wild foods and medicines • Reduced tourism-related income	• Reduce harvesting;growing wild plants in home gardents • Species substitution for plants or animals
Fisheries	• Reduced fish supplies for family nutrition and sale • Men fishers shift to gleaning, displacing women	• Shift to other species • Grow seaweed commercially
Watershed Management	• Displacement and resource loss from flooding • Increased health care duties with polluted water	• Take slope stabilization measures • Adopt water purification measures
WASH	• Increased time for family hygiene and health care • Increased water collection time	• Adopt water-saving practices/harvest rainwater • Buy water from vendors
Health	• Increased diarrheal, heat, respiratory, and stress-related illnesses;increased family healthcare time • Family medicine costs increase with reduced supplies of medicine from wild plans and animals	• Increase reliance on natural medicines • Adjust diets
Energy	• Reduced forest-based energy supplies • Increased use of crop residues for fuel • Increased fuel needed with lower temperatures at higher elevations	• Switch fuels and adopt more efficient stoves • Increase tree growing

Transportation	• Limited mobility options if no public transport • Increased personal security risks in traveling without public transportation	• Multitasking during travel to reduce the number of trips required and travel expense • Travel in groups to reduce vulnerability to violence
Urbanization and Cities	• More women's migration to informal settlements • Increased displacement during/after flooding	• Seek security of ownership for housing • Relocate and improve housing

Across sectors, there are common development objectives and associated gender strategies. Table 5 provides a number of illustrative gender strategies for the activities common to CCA proposals.

TABLE 5. Gender Strategy Ideas for Common Development Components in CCA Projects

Development Component	Illustrative Gender Strategies
Improve service and information provision	• Specify plans for addressing gender-specific barriers to obtaining services, including client support and capacity-building provider • Improve climate information flows by sex-specific communication strategies
Diversify livelihood	• Specify gender-specific plans for improving women client capacities • Introduce new products, skills, and technologies suitable to women's needs and resources • Improve women's access to markets and more profitable value chain roles • Expand access to natural resources, credit, insurance and other financial mechanisms
Improve natural resource management practices	• Adapt promoted practices to the existing gender division of labor for agriculture, forestry, and fisheries • Tailor capacity-building logistics by sex • Improve women's land tenure security • Elaborate on the underlying causes of gender-specific exposure to climate related disasters and vulnerabilities;any identified inequalities in exposure and sensitivity to climate related disasters as well as inequalities in access to resources (e.g., land tenure, access to water, forest stewardship, etc.)
Improve planning processes and decision-making	• Adapt participation/membership criteria and reduce participation barriers for women's active participation and leadership in decision-making bodies at all levels (i.e., forestry, watershed management, irrigation water, coastal management, biodiversity conservation, and disasters) • Offer capacity development training to build a pipeline of professional women in senior and management positions in the sector • Adjust priorities for policy agenda to represent men's and women's interests • Engage women in disaster risk management and recovery decision-making
Introduce climate-adapted housing, transportation, and infrastructure	• Adjust collateral and identity requirements to expand women's housing ownership and security • Expand women's skills and opportunities for equally paid labor in housing and infrastructure development • Adapt transportation and infrastructure design on the basis of consultations with men and women • Offer socialized tariffs and/or subsidies for connection fees to ensure that the households of vulnerable groups have access to basic infrastructure and services • Engage women in the design of disaster mitigation infrastructure
Improve food security and health	• Engage more men in making decisions about health;domesticate wild food and medicinal plants for sustainable production and sale by women • Introduce climate- and disaster-adapted food storage • Recognize and protect (including through formalization) informal land-use practices • Improve women's access to extension services, credits and appropriate seeds and technologies
Improve policy	• Reduce gender-based barriers, improve women's opportunities, access, and security;include gender issues as part of policy analyses • Adopt gender-inclusive practices for policy consultations

Across all sectors, there are commonalities with respect to allocating dedicated budget for facilitating greater participation of women stakeholders;involving gender specialists in design, proposal development, and implementation;undertaking a baseline gender analysis;creating a GAP;establishing gender indicators and targets after gender-sensitive stakeholder consultation and in advance of implementation;and ensuring collection of sex-disaggregated and gender-related M&E data. Sourcebook users who read multiple sectoral modules will notice that there is some duplication of gender issues, strategies, and indicators across the cases. This duplication ensures that those who read just one sectoral module will have the necessary information for proposal development.

Each module is organized to highlight climate impacts for a sector, gender issues influencing the sector, and the likely gender impacts for the sector as a result of climate change.

In the entry points section of each module below, ideas are provided about infusing gender mainstreaming into the following:

- The climate vulnerability assessment and context diagnostic exercises that occur prior to project design

- The planning and design processes for specific sectoral interventions for CCA adaptations
- The implementation plans for specific activities itemized under sectoral components.

The sectoral modules also include suggestions for gender-related monitoring and further readings. Box 7 (above) lists additional literature sources on gender-related indicators.

Each short module below provides a review of relevant gender issues for a sector, what kind of gender impacts result for that sector in a context of changing climate, recommended gender entry points for projects in the sector, advice on monitoring gender impacts, including illustrative gender indicators, and suggestions for further reading. Text boxes are included to highlight good practice examples;more in-depth cases can be found for the sectors in Section 8. These materials are intended to offer ideas to project designers and proposal writers about how to frame questions during data collection and how other projects have creatively mainstreamed gender strategies to achieve their sectoral objectives and advance gender equality.

7.1 MODULE A: AGRICULTURE

Detailed case studies of gender mainstreamed projects in agriculture can be found in Section 8: Case Study A, cropping activities in the South Pacific, and Case Study B, livestock management in Nepal.

7.1.1 Introduction

Agriculture is often defined quite broadly;for this module, the sector includes production and other value chain activities related to irrigated and dryland crops, horticulture, and livestock. Although sometimes included in the agricultural sector elsewhere, forestry, watershed management, fisheries, and integrated coastal management are discussed in other modules below.

Many countries have prioritized agriculture for CCA projects. "Climate-smart agriculture"is also being promoted through other development funding—for example, the UN Food and Agriculture Organization (FAO). These projects are designed to reduce household risks from unpredictable rainfall shortages and surpluses and increase economic resilience. Approaches range from changes to farming practices such as soil and water conservation or crop/animal species diversification;physical measures for wind, water, and erosion protection;integrated pest management;improving access to weather information;reducing risk via better weather information and insurance schemes;and increasing marketing profitability via value-added processes and group approaches to marketing.

7.1.2 Gender issues for agriculture[11]

Gender division of rural labor. Women are responsible for producing 60–80 percent of the food in developing countries.[12]

However, arrangements vary widely across the world, among men and women for dividing up agricultural responsibilities.

- Women's "double-day"has long been observed with respect to agricultural duties and family care responsibilities. In addition to dividing up work differently among men and women, there are also gender differences in men's and women's daily and seasonal time commitments that affect logistical arrangements for stakeholder consultations and project meetings.
- Female-headed households, with absent or migrant male members, often experience labor shortages. Project interventions can inadvertently increase women's work burdens if the gender division of labor is not considered.
- Within the value chains for various crops or animals, women often become restricted to less profitable nodes in the chain.
- Specific gender divisions of labor are particular to a location but they are not static. Changes are made over time, depending on economic and political circumstances and social changes.

Gender differences in production decisions. Gender relations and norms often drive household decisions regarding which crops and types of animals are managed by women or by men.

- Women may be discouraged from growing trees, which make a long-term claim on the land. In agroforestry activities, men will more often grow trees for building poles and sales, whereas women have a greater interest in horticultural trees for family nutrition. In most areas, men more often than women grow cash crops and women sometimes lose access to land when men expand their plots or shift to new cash crops.
- Men and women also have different roles in freshwater aquaculture and the collection of wild food sources to adapt to climate and economic variability. In addition, men and women often have different and complementary bases of traditional knowledge about plant and animal care, as well as wild plant and wildlife management. Women often shoulder a major part of the responsibility for the maintenance of animal health and productivity and understand and monitor wild ecosystem conditions for forage.This knowledge also drives gender differences in production decisions.
- Gendered patterns of decision-making and consultation in poorer rural households are often different and sometimes more egalitarian than the local cultural norms for gender relations and the division of labor that are practiced by more elite households.

Women have more insecure rights to land and water and lower rates of property ownership. Women's access to land and other natural resources is often mediated by spouses, fathers, or clan leaders.

- Women's rate of land ownership is very low in most countries, despite constitutional protections. They are often disenfranchised from community property that was shared with their spouse when they become widowed. (A World Bank project addressing this issue is summarized in Box 8.)
- Women are much less likely to own large livestock than men;women sometimes own cattle provided by their families as dowry. As noted above, women's more insecure tenure means that as land gains in value, either due to crop prices or land markets, women are often displaced from their allocated fields by male relatives.
- Lack of land ownership—or at least secure tenure rights—means that women do not have the required collateral for credit or other financial mechanisms from formal financial institutions or meet the requirements for membership in some producer, marketing, or water user associations. It also means that in areas where land-grabbing is occurring by large-scale agricultural interests, women's rights are at greater risk.

Box 8. Joint titling in Lao PDR

The Lao First Land Titling Project (World Bank) realized, after a large survey by the Lao Women's Union, that women were more likely to be disadvantaged by the design of the project. Under customary tenure without land titling, 82 percent of the land was recognized as woman-owned or conjugally owned. That number dropped to 23 percent with formal land titling. After retrofitting and a partnership agreement between the project and the women's organization, the project was able to formalize women's rights and increase their tenure security via formal land registration for women owners and joint couple ownership.

Source: Bell, K.C. 2009. "Trends in land administration and management with particular reference to World Bank support for projects in the East Asia region." Presented at the Seventh FIG Regional Conference, 19–22 October 2009, Hanoi, Vietnam. http://www.fig.net/pub/monthly_articles/november_2009/november_2009_bell.pdf

- Because of the largely subsistence nature and family-food provision orientation of their farming, women farmers are often not recognized by authorities as "farmers."Their provision of household foods and their land use is often unrecognized and may be at the end of the hierarchy of land uses, including in developed countries'agricultural development schemes. Yet their production is crucial for food security in countries affected by climate change.

Women have reduced access to other productive assets and services. Women have less access to formal credit and other financial mechanisms;increasingly, though, they gain access via membership in women's groups. However, they may have difficulty in borrowing more than microcredit amounts due to the following:

- They receive less service from government extension services for agriculture and livestock and may not be reached at all if they come from traditional societies and if there are few (if any) female extension workers. If extension agents do not use tailored gender-specific extension and information channels and approaches

that take account of women's roles, functions, mobility, and time constraints and schedules, they are less likely to be successful at reaching women.
- If women grow fewer or no cash crops and do not have other sources of income, they are less likely to be able to afford agricultural inputs or new technologies.
- Access to crop or livestock insurance is limited in general and women may not be members of the producer or marketing groups that secure group plans.

Women face more market-related barriers. Even in societies without purdah rules, women are less likely to have personal vehicles and bicycles, relying more on public transportation than do men. Women have lower rates of membership in producer cooperatives or may be restricted from joining. For those women who make their livelihood from buying and selling or selling in municipal markets, they often face greater levels of harassment, including sexual harassment, from officials when obtaining marketing permits or space.

Women receive lower pay and have less work security than men. For agricultural and off-farm work, women often cannot escape the informal sector or temporary seasonal work. They are often paid less than men and are fired before men.

Gender relations influence the division and expenditure of women's income. Cultures vary widely with respect to the degree of pooling of men's and women's income. Often, some income is pooled and some is retained separately.

- Women can, and do, retain control of many household expenditures (e.g., in the Philippines), but the size and nature of the expenditure can be assigned to one sex or the other.
- Women often have greater responsibility for expenses related to their children's education and health and for purchases of family food. Accordingly, they may have less cash to invest in their farms or agriculturally related businesses.
- Increased income to men for their cash crops does not necessarily benefit other family members.

7.1.3 Gender-agriculture issues in the context of climate change

Climate change leads to different choices about crop and animal species, management, and investments. Traditional varieties of crops, livestock, and trees may have lower productivity on an annual basis but may have more reliability under drought conditions. In theory, CCA projects would promote drought- or salinity-tolerant species to cope with ecosystem changes, but new species could put families at risk. If new crops or varieties are profitable and dominated by men, they may result in displacing women from the plots where they previously cultivated subsistence food crops and the increased income may not go toward family expenses.

Climate changes may increase agricultural labor demands. New breeds of animals and high-yield crop species often require elevated levels of care and more inputs than traditional varieties.

- For animal husbandry, women's workload may increase. If commercial livestock production technologies or new cash crops are only provided to men, women's traditional workload and responsibilities for family nutrition are likely to increase.
- The priorities of project planners for agricultural intensification may attach little value to women's time, risk management strategies, and responsibilities for family food security. To meet labor shortages, households may increase responsibilities for their children, especially girls, thereby reducing their school attendance. However, to increase resilience, time- and labor-saving technologies that are useful to women can have an overall positive impact on household livelihood and productivity. Zero-grazing schemes may provide insurance against reduced wild forage but often mean increased work load for women and girls.[13]

Climate change can result in seasonal food shortages. Rural households have traditional strategies for ensuring food supplies in the event of floods and droughts.

- Women are often responsible for food and seed storage. They generally control small livestock and process their by-products that can be a source of ready cash in emergencies.[14]
- Dairy products, which are often women's responsibilities, and other animal products (e.g., bees, silkworms) provide families with more regular income than either crops or animal sales.
- Women may increase their collection of wild plants and game to unsustainable levels to make up for crop

and protein shortages.

7.1.4 Gender entry points for CCA agricultural projects

Conducting gender-sensitive vulnerability assessments for agricultural systems . These activities can take place at the national, subnational, and local levels.

- At the local level, a number of *rapid participatory appraisal techniques* , modified to collect sex-disaggregated information about agriculture and land, integrate well with vulnerability assessments. (These are described in the further readings on gender analysis methodology in Section 6 and listed in the Bibliography in Section 13.) They document gender differences in farming practices and use of time. They map men's and women's plots;ownership, control, and access rights to resources for men and women;map social and institutional relations;highlight gender differences in indigenous traditional knowledge and resilience practices;and catalyze discussions of needs, priorities, barriers, and opportunities.
- *Gender-sensitive value chain analyses* can document men's and women's relative participation at various links of the chain for important crops, livestock, and non-farm products such as handicrafts.
- *Consultative meetings and exercises* , with representative numbers of women and men, can be applied at local, subnational, or national level to elicit gender differences in perceptions of climate vulnerability, priorities for CCA activities, and ideas for solutions.
- *Secondary information* can provide national statistics on land tenure laws and policies, gendered access to credit and insurance, and farm investment practices by women and men.

Planning and design of gender-sensitive adaptation strategies . Several types of agricultural activities for CCA projects are of particular priority because they can result in increased household resilience and also advance gender equality:

- Reform land tenure arrangements to increase security for women and men.
- Expand women's access to more profitable crops, animals, and value chain segments.
- Promote appropriate labor-saving technologies for women and men, with special attention to reducing the drudgery of women for care-related tasks.
- Expand women's access to credit, insurance, and other financial mechanisms.

For those activities focused on women's participation, buy-in and support from men are critical at the household and community levels and/or from the leadership of key organizations.

In this phase of the project cycle, prior to proposal writing, stakeholders are consulted to solicit and vet project design ideas. Communication activities are designed to build ownership and refine project design.

- *Gender-sensitive institutional analyses* of the proposed executing ministry/agency, as well as credit and insurance providers, can help to identify gender capacities and weaknesses. Client consultations can round out the picture of gaps with respect to gender-equitable services and staffing.
- *Institutional mapping* , within countries and regions, can identify possible partnerships and expertise available to support gender mainstreaming. At a local level, a closer look is needed at both producer and marketing groups, as well as social networks, in the proposed project areas to determine barriers and opportunities for women to become members (e.g., changing membership rules to joint husband-wife membership and setting targets for women's participation), to participate and benefit fully and to take leadership roles.
- *Social network mapping and conflict mapping* for a specific area can pinpoint where demand for agricultural land is particularly contentious and how the rights of the poor—especially women from female-headed households—will be protected.

Prior to selection of technologies, crops, and livestock with positive CCA outcomes, the top choices will need to be vetted with both men and women to identify which are most likely to be of use to and affordable for women, least likely to increase demand for women's labor, and what will be needed in terms of extension services and capacity building. For irrigated agriculture projects, it will be important to identify how to address other household and community water needs that touch the lives of the majority of women (e.g., aquaculture, personal hygiene and laundry, home gardens, potable water for humans and livestock) and how women can be engaged in decisions about the siting of canals and other infrastructure. (A CCA project targeting coastal

women farmers in Bangladesh is summarized in Box 9.) Box 10 lists additional literature sources on gender and agriculture.

Box 9. Supporting coastal women farmers in a climate adaptation project

Through CCA funding from the LDCF and government co-financing, the Community-Based Adaptation to Climate Change through Coastal Afforestation Project in Bangladesh was designed to "empower women through engagement in the planning and design of activities to build long-term adaptive capacity, such as the development of household- and community-level risk reduction plans, identifying climate-resilient livelihoods, and improving information flows regarding extreme events." There is a component for training 100 women in climate-risk reduction and livelihood diversification and monitoring training results.

Source: Schalatek, L., and M. Cook. 2011. The Least Developed Countries Fund and the Special Climate Change Fund: Exploring the gender dimensions of climate finance mechanisms. UNDP, New York.

Implementing gender-sensitive agricultural interventions for CCA. The agricultural sector was one of the first to begin gender mainstreaming for extension services. There are already well-established examples of reforms within agricultural ministries, at both high levels via gender training and creation of gender strategies and GAPs.

- Efforts have been made to reform recruitment practices to include more women technicians, such as the hiring of women livestock assistants from local communities for field work, and improving field conditions for women staff.
- Extension workers from both government and NGOs have adjusted what they promote, where they promote it (e.g., minimizing travel requirements), how they promote it via their communications and logistics, and whom they work with to ensure that women have improved access to extension services, input, technologies, and auxiliary services for credit, insurance, other financial products and marketing. For example, in the Nepal livestock development case (see Section 8, Case Study B), once the Ministry of Livestock Development learned that goats were of much greater interest to women clients than other livestock, it adjusted their offerings.

7.1.5 Monitoring Gender Impacts[15] ,[16]

TABLE 6. Illustrative Gender Indicators for Agricultural CCA Projects

Intervention Area	Illustrative Indicators
Consultation inclusiveness	Number and percentage of men and women, by social group, consulted about project plans and frequency
Improving gender balance of staff, partners or clients/client groups	Percentage of men and women for target group
Active participation	Number and percentage of men and women, actively participating in consultations, workshops, and committee meetings
Leadership	Number and percentage of women serving in leadership positions in producer, marketing, and planning groups
Increased farm productivity	Crop yield changes on men's and women's plotsYield changes or livelihood changes for households headed by women and those headed by couples or men
Technology/practice adoption	Uptake of new technology/practice by sex and land holding size
Nontraditional practices or roles adopted	Number and percentage of women engaged in agricultural practices and roles which are new for women in their areas
Women's status changes by household or community	Proxy measures related to relative roles, by sex, in household expenditure decisions or incorporation of women's priorities into group or community plans
Time availability	Changes in weekly forage and water collection time, by sexChanges in free time, per week, for women and menChanges in income earned by sex over time
Service provided	Percentage of men and women clients
Inclusive service provided	Percentage of women from female-headed households, socially marginalized, landless groups served by extension
Client satisfaction	Satisfaction level changes with agricultural extension or other services (e.g., credit providers)Reported extension visits/meeting in past year, by sex
Relative budget allocation for gender mainstreaming activities	Percentage of total budget spent on gender-focused and women-targeting empowerment activities

Adoption and level of implementation of gender strategies and plans	Number and type of activities undertakenPercentage of plan completed
Policy change	Inclusion, protection and/or improvement of women's tenure rights in new or reformed laws or regulation

Box 10. Further reading about gender and agriculture

- Asian Development Bank. 2006a. Gender checklist: Agriculture. ADB, Manila, the Philippines. http://www.adb.org/publications/gender-checklist-agriculture
- International Fund for Agricultural Development (IFAD). 2005a. Memory checks for programme and project design – household food security and gender. Part II: Thematic reminders (agriculture and livestock modules). IFAD, Rome. http://www.ifad.org/pub/memory/e/mem.htm *Succinct summary of key issues and entry points for agriculture and livestock.*
- World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development. 2009. Gender in agriculture sourcebook. World Bank, Washington, DC. http://worldbank.org/genderinag http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf

7.2 MODULE B: FORESTRY/WATERSHED MANAGEMENT

A detailed case study of a forestry projects with gender mainstreaming practices and results can be found in Case Study C from Senegal.

7.2.1 Introduction

About 350 million of the World's poorest people, including 60 million indigenous people use forests intensively for their subsistence and survival[17] Wood is used for cooking and building;forests provide food, medicine, animal feed, and compost for agriculture. For women in forest-dependent communities, forests support family subsistence, goods for marketing, and paid employment. Particularly in Asia, women are often the primary users and caretakers of forests. Women and men have different traditional knowledge about how to use and manage forest plants and animals. Women also face different barriers to public or community forests than men (e.g., sexual harassment by forest guards) and manually transporting forest products due to a lack of bicycles and carts. Forests form an important component of family food security and livelihood. They also provide numerous environmental services, from which men and women often benefit in different ways.

Increasingly, forest management has become intertwined, in development assistance, with watershed management. Watershed management encompasses a wider variety of upstream and downstream water users, including both rural and urban residents. It takes place at multiple governance levels, including transboundary arrangements. Watershed management is cross-sectoral and includes forestry, agriculture, freshwater fisheries, and water management dimensions such as water, sanitation and hygiene (WASH).

While many climate-related forestry management activities fall under the rubric of climate mitigation—in particular, Reduced Emissions from Deforestation and Degradation plus Forest Conservation (so-called REDD+) activities—there are particular activities related to forests and farm-based agroforestry that have adaptation objectives. From a farming household's perspective, forest products add to household economic resilience and food security. Trees, in forests or agroforestry systems, are an important "bank"and are viewed as a means to cope with drought and crop failures. Furthermore, on-farm tree planting has long been used for wind protection and hillside and riverbank stabilization from flooding. Drought is affecting the availability of non-timber forest products (NTFPs), including those from freshwater sources (e.g., fish, frogs, and other aquatic species), particularly in dryland areas;increases in rainfall affect the conditions needed to dry and process these products. CCA approaches include promoting and adapting on-farm agroforestry systems, domestication of NTFPs, improving women's tenure security for their use rights for common property and state forests, and increasing marketing profitability via value-added processes and group approaches to marketing certified and fair trade forest goods and products. For climate-smart watershed management, adaptation approaches focus on both household resilience, riverbank stabilization to reduce flooding risks, and adjusting watershed planning, at various levels of governance, to address climate change impacts.

7.2.2 Gender issues for forestry/watershed management

Gender division of labor. Men and women, as well as girls, often have different responsibilities for collection, process, and sales of timber and NTFPs. Their collection activities take up considerable time, particularly for collecting fuelwood.

- Men are more often involved in paid timber harvesting and timber value chains, have greater opportunities for paid employment in the forest sector, and grow poles for sale on their farms. Women and girls are more engaged in collection of NTFPs, with some involvement in value-added processing and marketing. Women prioritize fruit and fodder trees in their agroforestry systems.
- Responsibilities for hunting wildlife, processing, and marketing wildlife products vary by sex and across different cultures. Men and women have different responsibilities for different species of wildlife.
- Some plants and animals are harvested by both women and men;for other species, these duties may be specific to only men or only women.

Gender differences in indigenous technical knowledge. Women and men have different cultural knowledge of how to find, harvest, manage, process, and use NTFPs and wildlife for food and medicine. Many cultures have practiced sustainable management of forest-based wild products for centuries. Women, in particular, have understood how to find wild terrestrial and aquatic food resources for use as a family safety net for their families, even during drought periods, through their ecosystem knowledge. In addition, men and women often have different perceptions of the environmental services provided by forests and put different values on particular services.

Women have more insecure rights to land and water and lower rates of property ownership. Women's access to common property and private family or clan lands, as well as to trees and NTFPs, is often mediated by spouses, fathers, or clan leaders. As a result:

- Women's rate of land ownership is very low in most countries, despite constitutional protections, and their rights are imperiled if they become widows. Women are at risk of displacement when land values increase.
- Lack of land ownership, or at least secure tenure rights, means that women do not have the required collateral for credit from formal financial institutions or meet the requirements for membership in some producer and marketing groups.
- Furthermore, tree tenure and collection rights for NTFPs are often separate from land rights. Women's access rights tend to be less than men's;they do not always have formal collection rights due to gender barriers around negotiating with government officials and may face sexual harassment from forest guards.

Women face more market-related barriers. As with agriculture, women have greater mobility constraints for taking their products to wholesalers and retail customers.

- Women's groups may operate on a small scale but have weak market linkages.
- Women have lower rates of membership in producer cooperatives or may be restricted from joining.
- Women who make their livelihood from buying and selling or selling in municipal markets, often face greater levels of harassment, including sexual harassment, from officials in order to obtain marketing permits or space.
- For the sale of processed NTFP food products, women may not have the resources to meet export standards of hygiene and sanitation during preparation.
- With less access to credit, women may be unable to make the necessary investments to secure and maintain international certification for their products.
- The value chains for wildlife meat and medicines for urban and export markets varies widely in terms of women's opportunities.

Women are under-represented in forest/watershed institutions and governing bodies . Women are still quite under-represented in decentralized natural resource management for forests and watersheds. There has been more progress in achieving greater gender balance at the community level, but their percentage still declines at the multi-community sub-watershed level, national planning bodies, and transboundary watershed planning.

7.2.3 Gender and forestry/watershed management issues in the context of climate change

Climate change leads to forest ecosystem changes, including plant and animal species composition, wildlife habitat and populations, droughts and flooding of freshwater rivers, and salinity intrusion . For NTFPs, traditional areas for collection may shift, desirable species may decline, and other species may increase. Even long-time collection practices may result in unsustainable use of desirable species. This situation will be exacerbated if prices increase for scarce NTFPs. As women have greater economic dependence upon NTFPs as one of their few sources of income, they may suffer more than men from the negative impacts of climate change on forest composition. Supplies of wild food and medicine can decline, resulting in more food insecurity, declines in family health, and increased demands on women's time for family caretaking. When climate change results in increased forest pests that kill trees, women and men will benefit in the short-term from salvage harvesting but lose long-term access to fuelwood, timber, and NTFPs.

Climate change may increase labor demands for fuel and NTFP collection. As the main collectors of fuelwood and NTFPs, women may have to travel farther to collect sufficient supplies for home use and market sales. Households may shift responsibilities for their children, especially girls, thereby reducing their school attendance and literacy levels. Similarly, lack of wild forage for animals may lead to promotion of zero-grazing schemes, which often translates into increased workloads for women and girls.[18]

Climate change can result in seasonal and long-term shortages of wild food. Rural households have long relied on wild plants for ensuring food supplies in the event of floods and droughts;poor households, particularly the landless, rely heavily on wild plants and animals.

- If ecosystems change and natural supplies dwindle, households are likely to experience greater food insecurity. In many households, women and girls eat less protein than male household members. Climate change may exacerbate protein shortages in an unequal manner.
- While long-time residents in an area often know how to manage wild plants and animals sustainably, climate change often catalyzes migration of "climate refugees"who do not understand local ecosystems and over-harvest wild food sources.

7.2.4 Gender entry points for CCA forestry/watershed management projects

Conducting gender-sensitive vulnerability assessments for the forestry/watershed management sector. Gendered versions of forestry/watershed sector diagnostics are very similar to those described in Module A for the agricultural sector (e.g., rapid participatory appraisals focused on gender differences in land use, time allocations, practices, livelihood sources, land ownership/resources rights, activity and social mapping, indigenous knowledge, value chain analyses, priority setting exercises, and institutional analyses). However, because watersheds span administrative jurisdictions and borders, consultative meetings and exercises about vulnerabilities, priorities, and solutions are more complicated.

- While attention is given to representative numbers of women and men, the very nature of ecosystem-based management relies on convening stakeholders across larger land areas, which may pose logistical problems for some women who are constrained by mobility norms and childcare responsibilities.
- Forest departments are often perceived to be mostly male and authoritarian, and local women's interactions with them have not been frequent or positive.
- Secondary information can provide national statistics;data on the rights of men and women under existing forest, tree, and land tenure laws and policies;and studies on gendered resource use of forests.

Planning and design of gender-sensitive adaptation strategies. Several types of forest/watershed activities for CCA projects are of particular priority because they result in increased household resilience and also advance gender equality:

- Expand women's participation in forest and watershed governance institutions, including building capacity on climate change for the representatives from women's and gender ministries to enhance the quality of their participation and inputs.
- Reform land and tree tenure policies to increase ownership and the secure rights of access and use by both women and men.
- Expand women's access to more profitable segments of the value chain for forest products.

When planning, various actions can be taken and methodologies employed:

- *Stakeholder consultations* , prior to proposal writing, are intended to solicit and vet project design ideas and communication activities are designed to build ownership and refine project design.
- For watersheds, *gender-sensitive institutional analyses* can focus on the executing ministry/agency at relevant levels, and for different country partners, if relevant. These analyses, with client consultations, help to identify gender capacities and weaknesses among staff and in programming.
- *Institutional mapping* can identify possible partnerships and expertise available to support gender mainstreaming.
- At a local level, a closer look is needed at the gender dimensions of formal and informal systems of tenure for land and other forest-related natural resources (e.g., trees, NTFPs, and water). These analyses can point to specific policy reforms and local land allocation strategies to improve women's access, use, and ownership rights.
- *Social network mapping and conflict mapping* for a specific area can pinpoint conflicts over forest and watershed natural resources and how, at a minimum, to protect women's existing rights. Furthermore, when decisions involve infrastructure siting for physical structures to stabilize riverbanks or secure water access for watershed residents, these plans should take into account men's and women's land use and include consultation with both men and women.
- *Choices for the policy reform agenda* may also look at gender-specific market barriers for those involved with NTFP and wood product sales. These options could also include support to increase the gender balance of producer and marketing groups, remove bureaucratic disincentives, increase market information to remote rural communities, and slow land use conversion.
- *Capacity-building activities* for women's producer/marketing groups could focus on four types of value chain upgrades: processes, products, functions taken on by the group, and upgrades to other products.[19]

Implementing gender-sensitive forestry/watershed management interventions for CCA .

Improving women's participation in forest and watershed governance institutions will take high-level commitment and support from men at all levels to achieve. (See Box 11 on increasing women's participation on watershed management committees in Pakistan.) Targeted attention is needed to not just improve the number and percentage of women and improve the quality of women's participation and inputs but to also sensitize decision-makers to the added value of gender-balanced participation and inclusiveness.

- Projects must recognize and accommodate gender differences in availability and mobility issues, particularly for more distant meeting locations.
- Tenure issues related to forest use and watershed natural resources can and should be addressed through local regulations and social norms, as well as more formal policy reform.
- Similarly, value chain interventions aimed at women will include both capacity development as well as attention to gender-based market barriers. These interventions should also include women's NTFP craft and home-based industries.

Box 11. Disaster recovery and livelihoods via gender-balanced watershed management committees

A gender-sensitive damage assessment and a rehabilitation planning process conducted by FAO, following the 2005 Pakistan earthquake, found that high rates of male migration had left women with the major responsibilities for reconstruction, farming, and family care. Overcoming conservative traditions in the area, the FAO project focused on increasing women's roles in local watershed management committees as a means to reconstruct livelihoods and secure farming areas. The project built the gender mainstreaming capacity of local authorities and women's livelihood and erosion prevention skills. These interventions resulted in increased women's membership in watershed management committees, higher incomes for women, less farm erosion due to terracing and bioengineering, and more positive community attitudes about women's suitability for community decision-making. After the 2010–2012 floods, the communities recovered much more quickly.

Source: Food and Agriculture Organization of the United Nations (FAO). 2013a. Project to assist the earthquake reconstruction and rehabilitation authority and its partners in restoring livelihoods in earthquake affected areas of Pakistan. FAO, Rome. http://www.fao.org/emergencies/fao-in-action/projects/detail/en/c/180313/

7.2.5 Monitoring gender impacts[20]

TABLE 7. Illustrative gender indicators for forestry/watershed management CCA projects	
Intervention Area	**Illustrative Indicators**
Consultation inclusiveness	Number and percentage of men and women, by social group, consulted about project plans and frequency
Improving gender balance of staff, partners, or clients/client groups	Percentage of men and women for target group
Active participation	Number and percentage of men and women actively participating in consultations, workshops, committee meetings, and activities
Leadership	Number and percentage of women serving in leadership positions in producer, marketing, and planning groups
Increased farm productivity from adoption of agroforestry practices	Crop yield changes on men's and women's plotsYield changes or livelihood changes for households headed by women and those headed by couples or men
Technology adoption	Uptake of new technology by sex and land holding size
Non-traditional practices or roles adopted	Number and percentage of women engaged in forestry/watershed management practices/roles that are new for women in their areas
Women's status changes by household or community	Proxy measures related to inclusion of women's priorities in household expenditure decisions or forest/watershed plans
Time availability	Changes in amount of weekly collection time, by sexChanges in free time, per week, for women and menChanges in percentage of income earned from NTFPs earned, by sex
Forest access for collection activities	Number of forest access agreements signed, by sexChanges in harvest levels of specific NTFPs
Service provided	Percentage of men and women clients
Inclusive service provided	Percentage of women from female-headed households, socially marginalized, landless groups served by extension
Client satisfaction	Satisfaction level changes with extension or other servicesReported extension visits/meeting in past year, by sex
Adoption and level of implementation of gender strategies and plans	Number and type of activities undertakenPercentage of plan completed
Policy changes	Inclusion, protection, and/or improvement of women's resource and tenure rights in new or reformed laws or regulation

Box 12 lists additional literature sources on gender and forestry/watershed management.

Box 12. Further reading about gender and forestry/watershed management

- Carr, M., and M. Hartl. 2008. Gender and non-timber forest products: Promoting food security and economic empowerment. IFAD, Rome. http://www.ifad.org/gender/pub/timber.pdf
- International Fund for Agricultural Development (IFAD). 2005b. Memory checks for programme and project design – household food security and gender. Part II: Thematic reminders (environment and natural resources modules). IFAD, Rome. http://www.ifad.org/pub/memory/e/mem.htm *Succinct summary of key issues and entry points for agriculture and livestock.*
- Siles, J., and D. Soares. 2004. The Force of the current: Watershed management from a gender equity perspective. IUCN, San Jose, Costa Rica. http://genderandsecurity.researchhub.ssrc.org/the-force-of-the-current-watershed-management-from-a-gender-equity-pespective/attachment
- World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development. 2009. Gender in agriculture sourcebook. World Bank, Washington, DC. http://worldbank.org/genderinag http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf *See forestry section for overview, cases and indicators.*

7.3 MODULE C: BIODIVERSITY CONSERVATION

A detailed case study of a biodiversity conservation project with gender mainstreaming practices and results can be found in Case Study D from India.

7.3.1 Introduction

Conservation of biodiversity spans the continuum from development to CCA activities. A variety of approaches involve protected areas—from coordinated planning and management of landscape-level mosaics that include protected areas and buffer zones, to community-based and private conservation with different forms of resource ownership and use arrangements. These activities can be terrestrial or coastal, with marine protected areas. Although conservation activities include agricultural biodiversity, this module will focus on landscape-level conservation. Most biodiversity conservation projects now include environmentally friendly livelihood diversification activities, particularly those that increase returns from existing collection, production, or harvesting activities (i.e., forest certification, fair trade certification) or promote ecotourism. Another set of activities involves partnerships with health, WASH, and/or reproductive health providers in conservation areas.

With climate change, the dominant paradigm for conservation is shifting from a restoration and protection to one that is actively managing for changes, including climate change. Conservationists are managing for both ecosystem and human resilience. These approaches are still evolving. In some cases, even broader landscapes may become part of conservation mosaics. In other settings, a warmer climate may lead to an expansion of the optimal growing conditions for some species of plants. Some wildlife habitats will also increase. Elsewhere, weather may become too extreme for some protected species and non-native species will thrive;the results are not always negative from an economic perspective, but they do run counter to the long-standing goals of conservationists. Changing climate and extreme weather events may have negative impacts on ecotourism and may also foster the growth of pathogens for certified plants that generate local income near conservation areas, such as coffee and cacao.

7.3.2 Gender issues for biodiversity conservation

Gendered knowledge about ecosystems. Women and men often have different knowledge of plants and animals, including locations, uses, populations, and availability. Women may be more aware of the utility of neglected species that have nutritional or medicinal value. Indigenous men and women often lack formal intellectual property rights.

Women have more insecure rights to land and water and lower rates of property ownership. Women's access to common property and private family or clan lands, as well as to trees and NTFPs, is often mediated by spouses, fathers, or clan leaders.

- In the Asia-Pacific region, many forests are publicly owned. Women's rate of land ownership is very low in most countries, despite constitutional protections, and their rights are imperiled if they become widows. Women are at risk of displacement when land values increase.
- Lack of land ownership, or at least secure tenure rights, means that women do not have the required collateral for credit from formal financial institutions or meet the requirements for membership in some producer and marketing groups.
- Furthermore, tree tenure and collection rights for NTFPs are often separate from land rights. Women's access rights tend to be less than men's;they do not always have formal collection rights due to gender barriers around negotiating with government officials and may face sexual harassment from forest guards.

Women are under-represented in conservation planning and management committees, both locally and at higher levels.

While there has been more progress at achieving greater gender balance at the community level, women's percentage declines at higher scales as does the incorporation of their priorities. In situations with conservation on community lands, women may need to be members of the management committees to influence how earnings are distributed from private concession holders.

Women face more market-related barriers. Women have greater mobility constraints for taking their products to wholesalers and retail customers.

- Women's groups may operate on a small scale but have weak market links.
- Women have lower rates of membership in producer cooperatives or may be restricted from joining.
- Women who make their livelihood from buying and selling or selling in municipal markets, often face greater levels of harassment, including sexual harassment, from officials in order to obtain marketing permits or space.

- For the sale of processed NTFP food products, women may not have the resources to meet export standards of hygiene and sanitation during preparation.
- With less access to credit, women may not have the means to make the necessary investments to secure and maintain international certification (e.g., fair trade, forests) for their products.
- The value chains for wildlife meat and medicines, for urban and export markets, varies widely in terms of women's opportunities.

Women are more often limited to low-profit, informal sector employment and enterprises related to ecotourism rather than formal employment and larger enterprises . Women's involvement in ecotourism is often limited to production and sales of food and handicrafts. While there is some gender bias in hiring, women do not always have the necessary literacy and education levels. Some of the employment opportunities have higher risks (e.g., serving as hunting or tracking guides) or require travel, driving skills, and time and lodging arrangements away from home and families. In some cases, larger tourism enterprises can displace women petty traders.

7.3.3 Gender and biodiversity conservation issues in the context of climate change

Climate change leads to ecosystem changes and availability of traditional foods and medicine. Women primarily collect wild products in many cultures. Higher temperatures can shift the species composition and increase disease vectors and pathogens. Women may find it more difficult to find their favored species or substitute others.

Climate change may expand the scale of protected areas and reduce access to land for production. As plant composition shifts, animal habitat changes and conservationists may want to expand protected areas to encompass new favorable habitat. If this practice were to remove marginal productive lands from use, women are more likely to end up with less available land.

Climate change, especially warming, can reduce the number of ecotourism visitors. Decreased tourism will have negative consequences on the local and national economies and reduce revenues for local governments and small business owners. As they are more often small-scale service providers in the informal sector, women's businesses are in a more precarious position when tourism declines.

7.3.4 Gender entry points for CCA biodiversity conservation projects

Conducting gender-sensitive vulnerability assessments for the biodiversity conservation sector . Several types of analyses can be used to assess both human and ecosystem vulnerability for conservation programming and project design. For conservation areas and landscape mosaics, vulnerability assessments should include information on gendered management and marketing of wild plants and animals, as well as access rights to land and natural resources. Analyses of the local/national ecotourism value chain, with respect to climate vulnerabilities and risks, could also include gender analysis to ascertain men's and women's respective roles in terms of employment, enterprise and profitability, and expected climate impacts.

Planning and design of gender-sensitive adaptation strategies. To increase household climate resilience and advance gender equality, several types of conservation activities for CCA projects should be prioritized:

- Expand women's participation in conservation management structures
- Reform rights of access and use of public conservation areas to improve women's tenure security
- Expand women's access to more profitable segments and employment within the forest products and ecotourism value chains.

When planning, various actions can be taken:

- As with forestry and watershed management, stakeholder consultations with conservation committees, collector and livelihood groups, and the men and women involved in ecotourism-related businesses and employment will provide project design ideas and feedback on proposals.
- Gender-sensitive institutional analyses can focus on the executing ministry/agency at relevant levels, and for different country partners, if relevant. These analyses, with client consultations, help to identify gender capacities and weaknesses among staff and in programming.
- Institutional mapping can identify possible partnerships and expertise available to support gender

mainstreaming.

- At a local level, a closer look is needed at gendered access and use rights to conservation areas, participation in conservation decision-making, and the ecotourism gender division of labor (see Box 13). Conflict mapping , for a specific area, can pinpoint conflicts between different communities and sub-groups and protected area authorities over access rights to resources. These analyses will suggest specific policy reforms and local arrangements for access to forest products that improve women's access, use, and ownership rights.

Box 13. Expanding Conservation Roles and Opportunities for Bangladeshi Women

Mangroves in Bangladesh are important wildlife habitat, fish hatcheries, and sources of wood. The Sundarbans Reserve Forest (SRF) have important global value as the world's largest contiguous mangrove areas and provide subsistence for 3.5 million people in 17 subdistricts within a 20-km radius. Traditional user practices and sustainable harvesting of fishery and forestry products have broken down. Women have had traditional roles in gathering firewood and processing forest products. Their new activities, particularly for poor women and girls, include fishing and crab collection. But these tasks expose women to health and safety hazards, as well as high debt levels for the acquisition of boats and nets. Working with a gender consultant, the Sundarbans Biodiversity Conservation Project was able to reach equal numbers of poor men and women and to establish a project priority of reaching poor, female-headed households. It worked via women's community-based organizations and expanded economic, employment, social infrastructure, and credit to benefit women. These organizations gave women critical mass and a legally recognized voice in resource management for the SRF and common property resources in the impact zone; it also offeredleadership training to women. Women used credit for alternative employment for women's groups, including charcoal making, seedling plantations, and reforestation, and it reduced their reliance on private moneylenders. In terms of influencing natural resources management and conservation decision-making, the project opened opportunities for women representatives to participate in the Stakeholders Advisory Council and work with the Sundarbans Management Unit.

Source: World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development. 2009. Gender in agriculture sourcebook. World Bank, Washington, DC.
http://worldbank.org/genderinag
http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf

Implementing gender-sensitive biodiversity conservation for CCA. While changes to local regulations, rules, and capacity building can help increase women's access to local conservation decision-making, improve collection rights within protected areas, and widen opportunities within ecotourism, policy reform activities can also help lift gender-specific barriers. For example, national policy changes in Nepal set in place requirements for a specific percentage of women as group members and in the executive committees of community forest user groups. National laws and regulations can also help guarantee a certain level of local use of conservation areas and specify equal rights by sex. Similarly, government collaboration with credit and microcredit programs can earmark specific funds to be made available for women and women's groups to invest or upgrade their ecotourism enterprises.

7.3.5 Monitoring gender impacts

TABLE 8. Illustrative gender indicators for biodiversity conservation CCA projects

Intervention Area	Illustrative Indicators
Consultation inclusiveness	Number and percentage of men and women, by social group, consulted about project plans and frequency
Improving gender balance of staff, partners, or clients/client groups	Percentage of men and women for target group
Active participation	Number and percentage of men and women actively participating in consultations, workshops, and committee meetings
Leadership	Number and percentage of women serving in leadership positions in collector, enterprise, marketing, and planning groups
Adoption of practices	Adoption of targeted practices, by sex
Increased livelihood diversification	Livelihood changes for households headed by women and those headed by couples or men

Certification adoption	Certification program enrolment by sex and land holding size
Nontraditional practices or roles adopted	Number and percentage of women engaged in practices and roles that are new for women in their areas
Women's status changes by household or community	Proxy measures related to relative roles, by sex, in household expenditure decisions or incorporation of women's priorities into group or community plans
Economic status	Changes in income earned by sex over timeChanges in nature-based employment over time, by sex
Service provided	Percentage of men and women clients
Inclusive service provided	Percentage of women from female-headed households, socially marginalized, landless groups served by extension
Client satisfaction	Satisfaction level changes with services (e.g., credit providers)Reported extension visits/meeting in past year, by sex
Policy change	Inclusion, protection, and/or improvement of women's rights in new or reformed agreements, regulations or laws

Box 14 lists additional literature sources on gender and biodiversity conservation.

Box 14. Further readings about gender and biodiversity conservation

- Aguilar, L., I. Castaneda, and H. Salazar. 2002. In Search of the lost gender: Equity in protected areas. IUCN, San Jose, Costa Rica. http://www.cbd.int/doc/pa/tools/In%20Search%20of%20the%20Lost%20Gender.pdf *Reviews gender dimensions of protected area establishment, conservation stakeholder identification, and management plan formulation and implementation, as well as monitoring.*
- Asian Development Bank. 2006a. Gender checklist: Agriculture. ADB, Manila, the Philippines. http://www.adb.org/publications/gender-checklist-agriculture *Short useful guides on issues and entry points for many agricultural subsectors, including forestry and fisheries.*
- World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development. 2009. Gender in agriculture sourcebook. World Bank, Washington, DC. http://worldbank.org/genderinag http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf *Gender dimensions of biodiversity conservation are addressed under Module 15 on forestry (terrestrial conservation) and in Module 13 about fisheries and aquaculture (marine conservation); climate is addressed under Module 10 on natural resources management.*
- Woroniuk, B., and J. Schalkwyk. 1998. Biodiversity and equality between women and men. Swedish International Development Agency, Stockholm. http://www.oecd.org/dac/gender-development/1849290.pdf *Provides brief overview of gender issues for landscape nature conservation, as well as agro-biodiversity*.

7.4 MODULE D: COASTAL WATER RESOURCES AND FISHERIES

A detailed case study of a coastal water resources/fisheries project with gender mainstreaming practices and results can be found in Case Study E from the Philippines.

7.4.1 Introduction

Densely populated coastal zones are at particular risk from climate change. Sea levels are expected to increase and lead to greater coastal erosion and more frequent flooding. The frequency and impacts of tropical storms appear to be increasing. In addition, climate change can lead to increased salt water intrusion into freshwater estuaries and aquifers. Small island states, such as those in the Pacific, are at particular risk. CCA measures have ranged from physical barriers, to improved access to weather information and insurance schemes, to communit y -enforced fishing regulations for species or areas, increased marketing profitability via value-added processes, group approaches to marketing, and livelihood diversification for fishing families.

This module focuses primarily on fisheries sector activities in coastal zones, including deepwater and near-shore activities. A broad definition of fisheries is used and includes not just fish harvesting from boats but also the range of coastal water resources that are harvested and managed by both women and men. It includes a range of value chain for fish, gleaned mollusks, frogs, wild aquatic products, mariculture, and both salt and freshwater aquaculture. It encompasses harvesting, processing, and marketing activities that are done by

women and men. While coastal households engage in a variety of livelihood activities, including agriculture, mangrove forest harvesting, tourism, and other formal and informal sector employment and enterprises, the main emphasis of this module is on fisheries-related value chains.

7.4.2 Gender issues for coastal water resources/fisheries

Gender division of labor. Men and women, as well as girls, often have different responsibilities for fisheries value chains, depending on local gender norms.

- In some areas, women have no role in boat fishing;elsewhere, women participate in these activities and own boats. Men more often own boats and nets and more expensive fishing gear. In some places, women own the boats and gear and hire men to do the fishing.
- Women and children are more often involved in gleaning activities from beach and mangrove areas.
- Women usually dominate postharvest activities such as fish processing, including cleaning, drying, smoking, and/or cooking. They perform these tasks for their families and also for sales. In some locales, women intermediaries also own freezers and refrigerators and transport processed fish to other markets.
- In addition to coastal fishing, some households are able to fish in either common property or private freshwater sources. However, women may less often have access to these resources due to the travel involved or the absence of many fishing lease agreements with landholders.
- With climate change, men are migrating elsewhere more often than women, leaving women and children with responsibilities for fishing and other livelihood activities.

Gender differences in indigenous technical knowledge. Women and men who have lived in coastal areas for their entire lives often have different cultural knowledge of how to find and harvest fish and other coastal resources for food and medicine. But in difficult times, either household misfortune, economic downturns, or after extreme weather events, sustainable patterns of use may be upended. In addition, coastal areas are magnets for economic migrants;the poorest of these households, without local ecological knowledge, may over-harvest "free"resources.

Lower rates of ownership for fishing boats and technology and agricultural lands for women. Women's rate of land ownership is very low in most countries and their access rights are usually mediated by men from their households or clans.

- Land ownership is often key as collateral for obtaining credit to purchase boats and other fishing gear. Without these types of property, women may not be allowed membership in marketing cooperatives for fishers since joint household memberships are not always allowed. Land ownership and access are also important to women's opportunities for freshwater aquaculture (Box 15).
- In addition to these issues, there are gender differences in men's and women's traditional fishing rights.

Box 15. Group leasing of aquaculture ponds by landless women

Bangladeshi NGOs, via the ADB-funded Bangladesh Meghna-Dhanagoda Command Area Development Project, organized 2,900 landless and marginalized poor people into groups. Women made up 96 percent of the group members. Via private leasing arrangements, the groups gained access to ponds for fish farming. The project also provided training in aquaculture skills and marketing, with additional arrangements for microcredit.

Source: World Bank. 2009b. Gender-responsive institutions for accessing and managing resources. In: World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development. 2009. Gender in agriculture sourcebook. World Bank, Washington, DC. http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf

Women face more market-related barriers. As with agriculture, women have greater mobility constraints for taking their products to wholesalers and retail customers.

- Women's groups may operate on a small scale but often have weak market links. Women less often benefit from the privileges associated with membership in fisher associations or cooperatives for marketing raw or processed fish and seafood.

- Women's entry into municipal markets may be more difficult than for men due to sexual harassment from bureaucrats and lack of suitable sanitation facilities.
- Women may not have the resources to meet export standards of hygiene and sanitation during product preparation.

Women are under-represented as members of fishing groups and planning bodies for integrated coastal management. They are also under-represented in the leadership of these entities. There are gender disparities in the participation of women, compared to men. There has been more progress at achieving greater gender balance at the community level recently, but the percentage of women still declines as the scale of management activities increases.

7.4.3 Gender-coastal water resources/fisheries issues in the context of climate change

Climate change leads to marine and coastal ecosystem changes, including plant and animal species composition, flooding, and salinity intrusion into freshwater sources. The availability of desirable species may decline or expand with warming waters;there may also be an increase in invasive species and pathogens. Overall shortages of fish have a particularly pernicious impact on the poorest households, most of which are often headed by women. Aquatic resources, including fish, frogs, snails, clams, and wild aquatic plants, are often a nutritional safety net for poor households. Climate change may reduce these supplies and exacerbate food insecurity and detrimentally affect people's health status due to less protein. Women will need to spend more time on family care-giving.

Climate change leads to increased reliance on non-fishing livelihood sources. Women with husbands who fish may respond by adopting less sustainable agricultural practices, as well as over-harvesting wild food sources. They will seek out employment in the formal and informal sector. For poor women, particularly those from women-headed households, they may resort to occasional or ongoing prostitution, either trading sex for fish or for cash. Trafficking of women and girls also increases when household income declines from fishing and non-fishing income.

7.4.4 Gender entry points for CCA coastal water resources/fisheries projects

Conducting gender-sensitive vulnerability assessments for the coastal water resources/fisheries sector. Vulnerability assessments in coastal zones include fisheries but are usually multisectoral.

- Assessments need to include climate impacts on the fish and seafood species harvested by both men and women, as well as other coastal products such as seaweed, and also examine traditional fishing rights arrangements for women and men.
- Assessments need to review the vulnerability differences for coastal men and women, as amply illustrated in lessons from the Aceh tsunami in which many more women than men perished due to the impact of cultural modesty norms on women's abilities and willingness to swim or climb trees.
- Given that many households engage in a mix of fishing, gleaning, agricultural, tourism, and informal sector production and services, vulnerability analyses must examine how these strategies vary for women and men across economic class and by household headship, using locally defined criteria.

Planning and design of gender-sensitive adaptation strategies. To increase household climate resilience and advance gender equality, several types of coastal water resources/fisheries conservation activities for CCA projects should be prioritized:

- Expand women's participation in coastal planning and management bodies.
- Support reforms to collateral requirements, including increased women's land ownership or group-based schemes, to enable investments in harvesting, production, and processing activities related to fishing, mariculture, and aquaculture.
- Expand women's access to more profitable segments and employment within the fisheries, agriculture, and tourism value chains.

When planning, various actions could be taken and methodologies employed.

- As with other natural resources management, *stakeholder consultations* with committees, cooperatives, tourism employees, and entrepreneurs will provide project design ideas and feedback on proposals.

- *Gender-sensitive institutional analyses* can focus on the executing ministry/agency at relevant levels, and for different country partners, if relevant. These analyses, with client consultations, help to identify gender capacities and weaknesses among staff and in programming.
- *Institutional mapping* can identify possible partnerships and expertise available to support gender mainstreaming.
- At a local level, a closer look is needed at gendered access and use rights to terrestrial and marine resources, participation in household and community decision-making, and the ecotourism gender division of labor. *Conflict mapping* for a specific area can pinpoint conflicts between different communities and sub-groups and protected area authorities over access rights to resources. These analyses will suggest specific policy reforms and local arrangements for improving women's access to coastal resources, credit and more accessible markets, and higher value tourism-related activities.

Implementing gender-sensitive coastal water resources/fisheries interventions for CCA. Gender-specific barriers to coastal zone governance, fisheries associations, credit, markets, and alternative livelihoods can be addressed via capacity building, education to change attitudes, tapping the potential of women's groups and cooperatives and collateral requirement changes.

- Projects can help to ensure gender-equitable access to fishing-related technologies (see Box 16). Other changes are required for local regulations, rules, and gender norms;in other settings, these may not be sufficient.
- National laws and regulations can be reformed to facilitate credit requirements, loan size and access to licenses, improve fish and agricultural pricing paid to men and women, create infrastructure that is accessible to women and facilitates their postharvest activities, and ensure equal access to tourism development.

Box 16. Good gender mainstreaming practices for coastal management and coral reef rehabilitation

The World Bank's Coral Reef Rehabilitation and Management Program Phase II focused on increasing family welfare from fisheries and aquaculture in 250 coastal villages in seven districts in eastern Indonesia. Its gender mainstreaming objectives are increasing the total number of women managing and implementing the program and also increasing women's economic and social empowerment. Good practices included setting specific gender targets for specific timeframes, taking into account the importance of women occupying key positions and being present in a critical mass, engaging directly with women in programs, and offering both technical and gender training.

Source: World Bank. 2009c. Indonesia: Coral reef rehabilitation and management program. In: World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development. 2009. Gender in agriculture sourcebook. World Bank, Washington, DC. http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf

7.4.5 Monitoring gender impacts

TABLE 9. Illustrative gender indicators for coastal water resources/fisheries CCA projects

Intervention Area	Illustrative Indicators
Consultation inclusiveness	Number and percentage of men and women, by social group, consulted about project plans and consultation frequency
Improving gender balance of staff, partners, or clients/client groups	Percentage of men and women for target group
Active participation	Number and percentage of men and women actively participating in consultations, workshops, and committee meetings
Leadership	Number and percentage of women serving in leadership positions in harvesters/fishing, enterprise, marketing, and planning groups
Adoption of practices	Adoption of targeted fishing/gleaning/other practices, by sex
Increased livelihood diversification	Livelihood changes for households headed by women and those headed by couples or men
Nontraditional practices or roles adopted	Number and percentage of women engaged in practices and roles that are new for women in their areas
Women's status changes by household or community	Proxy measures related to relative roles, by sex, in household expenditure decisions or incorporation of women's priorities into group or community plans

Economic status	Changes in income earned over time, by sexChanges in nature-based employment over time, by sex
Service provided	Percentage of men and women clients
Inclusive service provided	Percentage of women from female-headed households, socially marginalized, landless groups served by extension
Client satisfaction	Satisfaction level changes with services (e.g., credit providers)Reported extension visits/meeting in past year, by sex
Policy change	Inclusion, protection, and/or improvement of women's rights in new or reformed agreements, regulations, or laws

Box 17 lists additional literature sources on gender and coastal water resources/fisheries.

Box 17. Further readings about gender and coastal water resources/fisheries

- Vunisea, A., B. Leduc, K. Bernard, K. Duaibe, L. Cleary, M. Manley, and P. Leavai. 2013. Pacific gender and climate change toolkit: Tools for practitioners. Secretariat of the Pacific Community, Noumea, New Caledonia. http://www.pacificclimatechange.net/components/com_booklibrary/ebooks/Toolkit%20booklet%20pages.pdf *Focused on the Pacific nations, the manual elaborates gender issues and analytical learning activities for food security, water, energy and disasters, under conditions of a changing climate.*
- World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development. 2009. Gender in agriculture sourcebook. World Bank, Washington, DC. http://worldbank.org/genderinag http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf *Gender dimensions of fisheries and aquaculture are discussed in Module 13.*
- Asian Development Bank. 2006a. Gender checklist: Agriculture. ADB, Manila, the Philippines. http://www.adb.org/publications/gender-checklist-agriculture *Short useful guides on issues and entry points for fisheries, as agricultural sub-sectors.*
- Arenas, M.C. and A. Lentisco. 2011. Mainstreaming gender into project cycle management in the fisheries sector: Field manual. FAO, Bangkok, Thailand. http://www.fao.org/docrep/014/ba0004e/ba0004e00.pdf *Developed by FAO's Regional Fisheries Livelihoods Programme for South and Southeast Asia, this field handbook includes tools for gender analysis in fisheries development projects and guidance on how to integrate gender aspects at various stages in the project cycle.*
- Aguilar, L., and I. Castaneda. 2001. About fishermen, fisherwomen, oceans and tides: A Gender perspective in marine-coastal zones. IUCN, San Jose, Costa Rica. http://crmi-undp.org/documents/documentos/120.pdf *Reviews gender dimensions of proposal writing, participatory appraisals, project planning, and M&E for marine- coastal projects.*

7.5 MODULE E: WATER, SANITATION AND HYGIENE (WASH)

A detailed case study of a WASH project with gender mainstreaming practices and results can be found in Case Study F from Cambodia.

7.5.1 Introduction

WASH programming encompasses both supply and demand dimensions. The needs are immense. WHO-UNICEF estimate that one billion people around the world are currently without access to improved water supply and 2.6 billion have no form of improved sanitation services, primarily in Asia and Africa.[21]

Rural and informal peri-urban settlements have particularly low coverage. Water shortages result from inadequate rainfall, over-extraction, and pollution. Many millions of people are killed from w aterborne diseases each year. Millions more suffer from diarrhea, malaria, hepatitis, and other diseases due to lack of unsafe water and sanitation facilities.

Climate change is expected to have both direct and indirect impacts on the WASH sector. Besides impacts on water resources and the natural environment, climate change also affects infrastructure, demand, and access.

[22] Water supplies, reliability, and temperature are directly affected by a changing climate;indirect effects include land-use changes, agricultural intensification, water quality, groundwater decline, and increased waterborne pathogens. Climate change will have expensive impacts from major construction projects of flood prevention, water storage, and also new WASH systems in urban and inland areas settled by new migrants. Water demand will increase for potable water, multiple use systems, and irrigation systems. If incomes decline, people may be unable or unwilling to pay water prices. Conflicts across users will increase. Access to WASH services will become more problematic in flood-affected areas, and competition will increase between different uses and users. Potable water users will need to rely more on unregulated private water vendors. While the climate impacts on WASH are clear;to date, there are not yet many WASH (or health) projects being submitted to the major CCA funders.

7.5.2 Gender issues for WASH

Gender division of labor . Women and girls more often collect water for families and animals, purification, food, family hygiene and sanitation practices, and home-based businesses in their households.

- When women and girls have to travel long distances to collect water or defecate openly, they are more vulnerable to assault and harassment and urinary tract infections. Women and girls have less time for economic activities due to their unpaid duties related to water collection.
- Clean and private sanitation facilities play a significant role in enabling girls to stay in school;clean water supports better family health, including improved maternal and infant mortality.
- Tasks related to sanitation are also assigned by sex (e.g., families expecting women to have greater responsibilities for toilet care, although women are not always involved in household choices about these facilities).

Men have had greater commercial and community roles in water and sanitation services supply. Men are more often engaged, as employees and entrepreneurs, in private water and sanitation services, municipal services, and ancillary technology and equipment sales. Men have also had more involvement in operations and maintenance (O&M) of water systems technology. However, with skills capacity building, women have risen to the challenge of new occupations and enterprises. (See Box 18).

Box 18. Women gaining new paid work opportunities in operations and maintenance

With active support from the women's NGO Self-Employed Women's Association (SEWA) and another NGO, Gujarati women in India were trained to maintain and repair village hand pumps. These women overcame the gender-based prejudices of both the Gujarat Water Supply and Sewage Board (GWSSB) and their fellow villagers. They proved that the required education standards for the GWSSB training were not needed to fix the pumps. The trained women began maintaining more than 1,500 hand pumps with a repair time of two days rather than the six weeks to six months required under prior arrangements led by the GWSSB.

Source: Verhagen, J., and SEWA. 2002. SEWA's barefoot water technicians in Sarbarkantha (India): In: SEWA. Women's struggle for water. Series of field notes on SEWA's Water Campaign in Gujarat, India. SEWA, India.

Women have had a greater role in family hygiene oversight and education . As with other health services, women more often have greater involvement and programs are directed to them. Hand-washing education and communication campaigns are more often targeted to women and their children.

Women do not always have the same level of information as men regarding the timing of drought forecasts, water shortages, and supply disruptions. Access to information varies by sex.

Women are less involved WASH decision-making and planning at community and higher levels.

There has been more progress in recent years at achieving greater gender balance at the community level, but women's percentage still declines as the scale of management activities increases. WASH issues are often priority ones for women and provide a way to involve women in larger multiple-use water management

decisions in their communities (see Box 19).

- For sanitation, women have not always been involved in community decision-making about service level, type of system, design, and construction, and the distribution of all opportunities brought by sanitation.
- For both water and sanitation, women have also not been as involved as men in decisions about what is affordable and in willingness to pay, even though women may be responsible for paying for family water or sanitation services.

Box 19. Women's water monitoring sparks interest in watershed management

A Mindinao watershed management project in the Philippines focused on the causes and rates of siltation for an upland lake used to generate electricity. The project first invited young men to help monitor the water to determine the siltation impacts of new soil conservation techniques for local farmers. They were not particularly interested nor were the women farmers who were asked to help monitor. The women were more interested in health than soil loss, so the project expanded monitoring to include fecal coliform levels in order to increase women's involvement. This change spurred greater involvement of the women in a wider range of environmental activities and increases in adoption, by men and women, of soil conservation practices.

Source: UNDP. 2003. Mainstreaming Gender in Water Management. A Practical journey to sustainability: A Resource guide. UNDP, New York. http://www.wsscc.org/resources/resource-publications/mainstreaming-gender-water-management-practical-journey

7.5.3 Gender-WASH issues in the context of climate change

Climate change disproportionately increases women's time burdens . These include:

- After a flooding event, women have to spend additional time collecting water, cleaning their home, and ensuring family well-being.
- Coastal flooding may lead to increased salinization of household and business water sources, which is a particular problem in the Asia-Pacific region. As a result, water security and conflict will become a bigger issues and multiple agencies will become involved.
- With droughts, women need to spend more time and calories on water collection and suffer physical strains from heavy loads.
- As waterborne or sanitation-related illnesses increase, so do demands for women's time for family caregiving.

Climate change increases conflicts over competing water uses. Communities are increasingly faced with allocating scarce water across multiple uses and users, including potable water for humans and animals, irrigation, water for hydropower and other energy, and business usage. With less involvement in community water decision-making and planning, women's priorities may get less attention.

7.5.4 Gender entry points for CCA WASH projects

Conducting gender-sensitive vulnerability assessments for the WASH sector. Focusing on supply and demand for water and sanitation and hygiene practices, gender-sensitive vulnerability assessments should elaborate, using men and women informants of different economic classes, current gendered patterns of collection and usage, commercial activities, and decision-making service and past coping strategies during flooding and droughts. For siting decisions of both water supply and solid waste facilities, it will be important to know women's and men's land-use patterns and use rights.

Planning and design of gender-sensitive adaptation strategies . To increase household climate resilience and advance gender equality, priorities for WASH projects include:

- Expand women's participation in WASH decision-making bodies, particularly at the local level, to advance their input into choices about competing water uses, technologies, and siting (see Box 20).
- Increase men's roles in family sanitation education and community promotions.

- Expand women's access to nontraditional employment and enterprise, particularly in the service provision opportunities for WASH.

When planning, various methodologies can be employed:

- *Gender analyses* can offer information on project design choices related to technology, siting, and logistics;delivery mechanisms for weather-related information;labor availability;and how to build capacity to expand women's demand-side opportunities in O&M and supply-side opportunities for water and sanitation enterprises and employment. These types of analysis can also pinpoint how to improve women's roles in WASH decision-making bodies.
- *Gender-sensitive institutional analyses* for executing agencies, as well gender-budgeting exercises at local and higher levels, can improve the design by assessing staffing, gender mainstreaming capacity, and financial commitments to helping women clientele.
- *Hygiene education and communication programs* , unlike those for natural resources and agriculture, are primarily geared to women in their roles as mothers. Gender analyses during project design can highlight how men can be attracted to, and integrated into, hygiene promotion efforts. Additional information about men's hygiene practices and attitudes, as well as service provision strategies, should be gathered.

Box 20. Understanding gender issues before locating improved water facilities

Failure to consult with women during water project design can have unintentional negative impacts. In Nepal's Terai region, improved water services, tap-stands, and tube wells were located along roadsides. However, for local women, these locations provided no privacy for bathing freely or washing clothes used during menstruation. Because of cultural modesty norms, women had to either wait until dark to do their washing and bathing or they carried water from the roadside taps and wells to their home several times per day. Women spend four to five times more time on water collection *after* "improved" facilities were constructed.

Source: Regmi, C., and B. Fawcett. 2001. Men's roles, gender relations, and sustainability in water supplies: Some lessons from Nepal. In: Sweetman, C. (ed.). 2001. Men's involvement in gender and development policy and practice: Beyond rhetoric. Oxfam Working Papers. Oxfam, Oxford, UK. http://www.irc.nl/docsearch/title/121479

Implementing gender-sensitive WASH interventions for CCA. Changing attitudes about women's abilities to take on nontraditional work and be involved in WASH decision-making outside of their households and men's legitimacy as sanitation educators will require both campaigns and capacity-building activities. There may be policy dimensions as well that can help to reduce any gender-specific business barriers to women's services enterprises for water and sanitation. Women's businesses, either home-based or outside the home, often receive too little attention in WASH discussions. These women can be approached as a separate stakeholder group.

7.5.5 Monitoring gender impacts

TABLE 10. Illustrative gender indicators for WASH CCA projects

Intervention Area	Illustrative Indicators
Consultation inclusiveness	Number and percentage of men and women, by social group, consulted about project plans and consultation frequency
Improving gender balance of staff, partners, or clients/client groups	Percentage of men and women for target group
Active participation	Number and percentage of men and women actively participating in consultations, workshops, water management/village development committee meetings, supervisory, construction, O&M, data collection, and monitoring
Leadership	Number and percentage of women serving in leadership positions in harvesters/fishing, enterprise, marketing, and planning groups
Adoption of practices	Number and percentage adopting targeted hygiene practices, by sex (adults, children)
Increased livelihood diversification	Livelihood changes for households headed by women and those headed by couples or men
Women's status changes by household or community	Proxy measures related to relative roles, by sex, in household expenditure decisions or incorporation of women's priorities into group or community plans

Economic status	Changes in income earned over time, by sex Changes in nature-based employment over time, by sex
Service provided	Percentage of men and women clients
Inclusive service provided	Percentage of women from female-headed households, socially marginalized, landless groups served by extension
Client satisfaction	Satisfaction level changes with services (e.g., credit providers) Reported extension visits/meeting in past year, by sex
Policy change	Inclusion, protection, and/or improvement of women's rights in new or reformed agreements, regulations or laws
Staffing within water sector and delivery agencies	Number and percentage of men and women in management, technical expert and field delivery positions

Box 21 lists additional literature sources on gender and WASH.

Box 21. Further readings on gender and WASH

- Batchelor, C., S. Smits, and A.J. James. 2011. Adaptation of WASH services delivery to climate change and other sources of risk and uncertainty. Thematic overview paper 24. IRC International Water and Sanitation Centre, the Hague. http://www.irc.nl/page/66836
- Khosla, P., C. van Wijk, J. Verhagen, and V. James. 2004. Gender and water. Thematic overview paper. IRC International Water and Sanitation Centre, Delft, the Netherlands. http://www.source.irc.nl/page/16549
- UNDP. 2003. Mainstreaming Gender in Water Management. A Practical journey to sustainability: A Resource guide. UNDP, New York. http://www.wsscc.org/resources/resource-publications/mainstreaming-gender-water-management-practical-journey
  Beyond overviews of gender for a range of water issues and integrated water resources management, this resource guide offers helpful checklists regarding competency goals for gender training, a bibliography, a gender mainstreaming list of questions for different phases of the project cycle, and case studies.
- _____. 2006. Resource guide: Mainstreaming gender in water management. Version 2.1. November 2006. Gender and Water Alliance, Dieren, the Netherlands, and UNDP, New York. http://www.undp.org/content/undp/en/home/librarypage/environment-energy/water_governance/resource-guide-mainstreaming-gender-in-water-management.html
- WaterAid/Nepal. 2009. Seen but not heard?: A Review of the effectiveness of gender approaches in water and sanitation service provision. WaterAid, Kathmandu, Nepal. http://www.wateraid.org/~/media/Publications/gender-approach-water-sanitation-provision.pdf

7.6 MODULE F: HEALTH

7.6.1 Introduction

Climate change can affect human health through a range of mechanisms. These include relatively direct effects of hazards such as heat waves, floods, and storms. Also included are altered infectious disease patterns and disruptions of agricultural and other supportive ecosystems with resulting nutritional impacts.[23] Gender disparities, whether due to distinct roles and relations of men and women in a given culture or to gender norms that systematically value one group often to the detriment of the other, foster inequities between men and women in health status and access to health care.

"Health"is a sector in itself, but it is also an overlay of all human interactions with natural resource endowment, people, and built environments. Individual decisions and responsibilities as well as many collective decisions impact people's health. The (mostly negative) impact of climate change on human health is by itself an essential reason for climate change adaptation and mitigation.

While the climate impacts on health are clear, to date there are not yet many health projects being submitted to the multilateral CCA funders.

7.6.2 Gender issues for health

Gender health inequalities start at birth (Box 22). A large number of baby girls are not given the chance to live, are killed in the womb, or die from starvation and illness in infancy. Four million women are estimated "missing,"either from higher death rates than men's or killed in the womb, simply because they were females; [24] the largest numbers of missing women are in China and India.

Gender health inequalities continue throughout adult life in developing countries. A wide range of reasons contribute to these inequalities: women die in labor or at childbirth for lack of transport, clean water, or energy. Women experience higher rates of morbidity due to domestic chores (water and fuel transport, indoor air pollution from cooking). Women also experience higher rates of malnutrition as they tend to prioritize feeding the family before themselves. In certain cultures, women cannot access health services unless accompanied (at times too late) by a male or a family member.

Men are exposed to different risks than women . Young boys have higher morbidity rates from poor hygiene, and migrating men are more exposed to infectious diseases such as HIV/AIDS. Men's mortality rates from motorized transport are higher.

Box 22. Barriers to gender equality in health

- Traditional societal roles impact women's health more than men's
- Socioeconomic conditions limit women's access to public health
- Educational levels limit access to health information
- Women's lesser decision-making power over their body exposes them to higher health risks
- Limited health and transport infrastructure make women and children more vulnerable to access care
- Social stigma hamper access to care for both women and men.

7.6.3 Gender-Health Issues in the context of climate change

Climate change impacts aggravate prevailing gender disparities in health.

Women's health risks increase with the consequences of climate change. Because of their low economic status and malnutrition, women are more susceptible to heightened bacterial and infectious diseases that result from changing weather conditions and the deterioration in water quality from floods or droughts. Women are also at greater health risks from extreme events such as floods, droughts, heat waves, and windstorms.

- Rising temperatures may increase the transmission of malaria in some locations, which already causes 300 million acute illnesses and kills almost 1 million people every year.[25] Pregnant women are particularly vulnerable to malaria as they are twice as "attractive"as non-pregnant women to malaria-carrying mosquitoes. Maternal malaria increases the risk of spontaneous abortion, premature delivery, stillbirth, and low birth weight.

Vulnerability varies by sex . Several studies, mainly in cities in developed countries, have shown that death rates increase as temperatures rise or fall from the optimum temperature for that population. More women than men died during the 2003 European heat wave, for example. However, men are more likely to die of heat-strokes as they tend to be more active outdoors during heat waves;old men are at greater risk because of social isolation. Women are also exposed to waterborne diseases more than men, both in rural and urban areas;women remain closer to the homestead and furthermore care for the sick, adding to their exposure to risk.

Natural disasters have a differentiated negative health impact on women and men (Box 23). A review of census information on the effects of natural disasters across 141 countries showed that, although disasters create hardships for everyone, on average they kill more women than men, or kill women at a younger age than men. These differences persist in proportion to the severity of disasters and depend on the relative socioeconomic status of women in the affected country. This effect is strongest in countries where women have very low social, economic, and political status. In countries where women have comparable status to men, natural disasters affect men and women almost equally.[26]

- The study found that natural disasters lower the life expectancy of women more than of men. Since life expectancy of women is generally higher than that of men, natural disasters actually narrow the gender gap in life expectancy in most countries. The study verified that the effect on the gender gap in life expectancy varied inversely in relation to women's socioeconomic status.
- Mortality is not the only gender-differentiated health impact of climate extreme events. Mental stress has been observed after disasters. In Australia and India, depressions and suicides increase among male farmers affected by droughts.

Box 23. More women than men die in natural disasters

In the 1991 cyclone disaster that killed 140,000 people in Bangladesh, 90 percent of victims were women. The death rate among people aged 20–44 years was 71 per 1,000 women, compared with 15 per 1,000 men. Explanations for this include the fact that more women than men are homebound and looking after children, old family members, and valuables. Even if a warning is issued, many women die while waiting for their relatives to return home to accompany them to a safe place. Other reasons range from the saris women wear that restrict their movements and put them more at risk at the time of a tidal surge, and the fact that women are less well-nourished and hence physically less able than men to deal with these situations. In Myanmar, among the 130,000 people dead or missing in the aftermath of the 2008 cyclone, 61 percent were female.

In Nepal, after the floods of 1993, a survey established age- and sex-specific flood-related deaths among more than 40,000 registered participants (including deaths due to injury or illness in the weeks after the flood). Flood-related fatalities were 13.3 per 1,000 girls aged 2–9 years, 9.4 per 1,000 boys aged 2–9 years, 6.1 per 1,000 adult women, and 4.1 per 1,000 adult men. The difference between boys' and girls' fatalities existed mostly among children under 5 years of age. This possibly reflects the gender-discriminatory practices that are known to exist in this poor area: when hard choices must be made in the allocation of resources, boys are more often the beneficiaries. This could be reflected in rescue attempts as much as in the distribution of food and medical attention.

Source: 7.6.4 Gender entry points for CCA health projects income countries. IIED Human Settlements discussion paper series, Theme: Climate change and cities – 2. IIED, London. http://pubs.iied.org/pdfs/10556IIED.pdf

7.6.4 Gender entry points for CCA health projects

Choosing appropriate gender-sensitive health interventions . All adaptation solutions can have a positive impact on human health and nutrition, and on gender equality in health. Therefore, CCA proposal writers and other practitioners can be confronted with a major dilemma (i.e., whether to include health components in all climate adaptation projects or to have health-focused adaptation projects).

- The first approach is likely to optimize the benefits from adaptation investments and activities as it will bring women and men faster to a good health status, therefore to a higher productivity level;however, it may lead to more complex projects.
- The second approach is likely to deal with more focused but equally effective health interventions.
- The selection of one or the other approach could be determined by the results of a screening process, whereby all sector vulnerability assessments and adaptation strategies would be screened through a gender-sensitive health lens.

In terms of development effectiveness, it is clear that health can become the best advocate for climate change adaptation. It is to be noted that mitigation projects can also have significant health impact on women, and could also benefit from being screened through a gender-sensitive health lens.

Conducting gender-sensitive vulnerability assessments of health systems and health interventions . A possible approach[27] for assessing human health vulnerability and public health interventions to adapt to climate change is to start with a thorough gender-sensitive assessment of health issues in the project area and/or at the national and regional levels, and describe, with sex-disaggregated data, the health risks and likely

outcomes of climate variability and risks. Such an assessment, which requires significant community participation, needs to confront the appraised situation with current strategies, policies, and measures to reduce the burden of climate-sensitive health determinants and outcomes. Such an assessment of likely health impacts of climate change would document, for example, if the climate change health risk is an increase in infectious diseases, in malnutrition, or in increased mortality in zones prone to extreme events. It would establish how women and men are likely to be affected differently and what policies or activities may be needed to ensure a gender-equitable response (e.g., outreach activities targeted separately to women and men, targeted emergency food distribution).[28]

Planning and design of gender-sensitive climate adaptation health interventions. The preparation of a *gender-sensitive climate adaptation health plan* can form the basis for identifying targeted health interventions as part of a sector project (agriculture, transport, urban, etc.) or as a self-standing project. Such a plan will record priority activities, which may include, for example:

- Expanding health care services
  for poor women and men is a direct way to reduce climate change vulnerability and enhance adaptive capacity.
- Increasing accessibility to formal health clinics and medical personnel to serve the poor, to enhance not only the well-being of poor residents but also their resilience to climate change impacts. This may require significant investments in weather-proofing road infrastructure as well as adapted vehicular transport. Such an approach was taken in Ethiopia by the Government's Road Department when they engaged in designing affordable "maternity taxis"to transport women on newly weatherized roads.
- Enhancing the disaster-preparedness of public health services, including staff training, establishing stocks of essential medicines and bottled water, and developing public information systems.
- Establishing monitoring and information systems to monitor diseases and provide early warnings
  about disasters can help to improve resilience by influencing behavior. This is especially true if such systems are deployed in conjunction with public awareness campaigns that effectively leverage community sources of knowledge and communications (Box 24). Infrastructure investments, in particular those that will improve water and sanitation and housing conditions with a focus on gender equality, will be needed to complement adaptation activities to improve health systems.[29]

Box 24. Health information tools help manage health impacts of climate change inBrazil and China

An increase in the incidence of dengue fever is a well-documented consequence of climate change. Rio de Janeiro developed an extensive website on dengue, outlining the symptoms of the disease, prevention measures, and places to go if an individual contracts the disease. This information is also transmitted through the official anti-dengue effort that brings public health workers and other volunteers to the slums to educate residents about the disease. Another tool is the use of *Geographic Information Systems* to establish the location of disease prevalence and identify the most vulnerable groups. For example, using Geographic Information Systems have helped the Amazonian city of Manaus in Brazil to gather information and identify groups vulnerable to malaria.

In China, a heat warning system in Shanghai has been established to alert residents to high temperatures, and the Municipal Health Bureau ensures the preparation of hospitals and public services during these extreme heat conditions. Based on research conducted in Hong Kong, such steps are expected to contribute to lower mortality compared to previous heat waves.

Source: World Bank. 2011a. Guide to climate change adaptation in cities. World Bank, Washington, DC. http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387-1318995974398/GuideClimChangeAdaptCities.pdf

Implementing gender-sensitive climate adaptation health interventions. Community involvement and the participation of women and men in health committees are ways to ensure the success of adaptation interventions. Health activities are particularly relevant to mobilize women's leadership skills and to capitalize on their experiential knowledge as health care-takers as well as capitalize on their kinship networks. With

supplemental training on climate change health risks, women's effectiveness can be considerably enhanced. Health adaptation activities can also be carried out as *income-earning activities* , supported by the community or micro-enterprises (see Box 25). In some cases, such activities may need to be supported by adapted credit facilities.

Box 25. Women take the lead in safe water businesses in India

To increase the availability of safe water and mitigate the impact of climate change, a commercially viable water kiosk was established in the slum settlement of Kalandar in Delhi, India. The water kiosk is managed by a women's committee and provides safe water at affordable prices. Each household receives a user identity card, a membership number, and a set of coupons for a fixed daily quota of water per family. This initiative is the result of work done by NGOs and a research institute to raise women's awareness on the poor water quality and organize a community mobilization process. Women were engaged in the planning, and the operation and maintenance of the water kiosk became a community enterprise. In several slums in the Tiruchirapalli district, women's groups, with guidance and funding from NGOs, installed drinking water facilities and individual toilets in order to address the poor sanitary conditions, thereby minimizing the risks of contamination arising from increased variability in weather conditions. The state government initiated the program and provided the land, electricity, water supply, and loans to community members. A gender- sensitive community mobilization program with a focus on gender mainstreaming carried out by the women was part of the project.

Source: Gotelind, A. 2011. Gender, cities and climate change. Thematic report prepared for Cities and Climate Change. Global Report on Human Settlements. UN-Habitat, Nairobi, Kenya. http://www.unhabitat.org/downloads/docs/GRHS2011/GRHS2011ThematicStudyGender.pdf (URL is no longer available).

7.6.5 Monitoring gender impacts

Monitoring and evaluation of gender results and impacts of CCA health interventions. Whether health interventions are part of other sector projects or of a health-focused project, monitoring and measuring gender results and impacts are most important. Results are likely to focus on the participation or women and men in health activities (consultations, training, employment as health workers), the increase in the rates of access to relevant services and infrastructure (health clinics, clean water and sanitation, access to clean energy, access to transport, and improved housing), and the disaster-preparedness of public health services for extreme events. Documenting the impacts with sex-disaggregated data by age groups is essential, in particular the trends in morbidity by type of disease as well as the trends in mortalities, in order to determine whether policy changes are needed.

Table 11 provides illustrative gender-sensitive indicators for CCA health interventions.[30]

TABLE 11. Illustrative gender indicators for health CCA projects

Intervention Area	Illustrative Indicators
Consultation inclusiveness	No. of gender-sensitive technical health information sessions and consultations sessions No. of climate-related health information documents designed with gender-sensitive information
Improving gender balance of staff, partners or clients/client groups	No. and percentage of men and women serving as health committee members and leaders No. and percentage of women and men employees in health services
Active participation	No. of people participating in consultations, disaggregated by sex
Leadership	No. and percentage of men and women board members No. and percentage of men and women management staff of health service institutions
Adoption of practices	Capability of men and women to manage daily and extreme event challenges Capability of communities to manage daily and extreme event challenges
Increased livelihood diversification	Wages levels of health workers, disaggregated by sex No. of skilled and unskilled people employed in public health services, skilled and unskilled, disaggregated by sex

Nontraditional practices or roles adopted	No. of health professionals who received skill training related to the health impacts of climate change (new diseases, mental illnesses/PTS, etc.), disaggregated by sex No. of people trained in climate-related emergency care through community-based activity, disaggregated by sex No. of health professionals capable of handling climate-related illnesses, disaggregated by sex
Women's status changes by household or community	Ability of women to manage climate change related health issues, and preparedness for extreme events
Economic status	Relative wage parity between women and men working in public health services Annual income from employment in health services, disaggregated by sex
Service provided	No. of childcare services available on or close to workplaces Relative effectiveness of Early Warning Systems for reaching men and women Monitoring systems for the incidence of climate-related illnesses, disaggregated by sex
Inclusive service provided	Availability (no. and geographical distribution) of shelters and emergency health facilities that are safe for women and men
Client satisfaction	Stabilization or improvements in nutritional* level statistics, disaggregated by sex and age group Rate of malnutrition-related hospitalizations for children under 5 hospitalized for malnutrition, disaggregated by sex Rate of anemia prevalence for women of reproductive age Illness and disease rates, disaggregated by sex *Nutrition is associated with the decline in food availability due to climate change or extreme events, hence the importance of monitoring nutritional levels as a result of more effective health programs and services
Policy change	Level and percentage of budget allocations committed to gender-sensitive climate-related health programs, climate-relevant health and other infrastructure provision, and provision of emergency supplies of water, food, and medicine. Number of gender-sensitive, climate-change related health training programs offered Number of training-hours of gender-sensitive, climate-change related health training programs offered

Box 26 lists additional literature sources.

Box 26. Further readings on gender, health, and climate

- Addison, J. 2013. Impact of climate change on health and wellbeing in remote Australian communities: A Review of literature and scoping of adaptation options. CRC-REP Working Group Paper CW014, Ninti One, Ltd., Alice Springs, Australia. http://www.crc-rep.com.au/resource/CW014_ImpactClimateChangeHealthWellbeing.pdf
- Costello, A. (et. al.). 2009. Managing the health effects of climate change. Lancet 373: 1693–1733. May 16, 2009. The Lancet and University College of London, London. http://www.ucl.ac.uk/global-health/project-pages/lancet1/ucl-lancet-climate-change.pdf
- Ebi, K., K.R. Sari, and B. Menne. 2006. An Approach for assessing human health vulnerability and public health interventions to adapt to climate change. Environmental Health Perspectives 114(12): 1930–1934. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1764166/
- World Health Organization. 2011a. Gender, climate change and health. WHO, Geneva. http://www.who.int/globalchange/GenderClimateChangeHealthfinal.pdf
- _____. 2012b. Mainstreaming gender in health adaptation to climate change programmes. WHO, Geneva. http://www.who.int/globalchange/publications/mainstreaming_gender/en/

7.7 MODULE G: ENERGY

A detailed case study of a forestry and energy project with gender mainstreaming practices and results is presented in Case Study C from Senegal. A detailed case study of a rural electrification project with gender mainstreaming practices and results can be found in Case Study J from Lao PDR.

7.7.1 Introduction

The linkages between energy and climate change have been clearly established. The production of usable energy implies harvesting (biomass, sun, wind, river waters), extracting (coal, uranium, petroleum, gas), and transforming natural resources. The direct use and transformation of primary energy resources are among the principal sources of greenhouse gas emissions contributing to climate change. Energy infrastructure and services and energy users are exposed to significant climate-related risks and vulnerable to climate change manifestations. Significant work has been done on mitigation, particularly for thermal power, much less on adaptation beyond sustainable forestry development and the introduction of clean renewable energy

technologies.

The need for adaptation and mitigation projects is all the more important that energy is one of the motors of sustainable economic and social development, and one of the most effective tools to combat poverty. Availability of efficient, reliable, and affordable energy infrastructure and services is indispensable both to meet basic human needs (cooking, lighting, power, transport fuels) and to grow household incomes and economies (power and fuels). Equitable access by women and men to such energy services is therefore on the critical path for sustainable economic and social development. Building the resilience to climate change of energy systems and energy users is the challenge to be addressed through CCA projects. As change agents and nurturers of future generations, women can also power CCA.

7.7.2 Gender issues for energy

Energy affects people throughout their lives, with significant disparities between women and men. Lack of energy to sterilize water or obstetrical instruments, lack of fuel to transport women to clinics, and lack of lighting for safe deliveries are the main causes of maternal deaths at childbirth in developing countries. Women in developing countries

are already facing many challenges, especially those who are living in poverty and/or depend on small-scale agriculture and collection of fuel from their local environment to meet their daily needs. As wood-fuel resources diminish as a result of climate change, the lives of women, girls, and young boys are likely to become more difficult, with additional demands on their time to collect and transport wood over longer distances from the homestead.[31]

Examples of gender and energy issues are given below;chief barriers to gender equity are shown in Box 27.

Dependence on traditional biomass fuels for basic cooking needs negatively impacts people's lives, in particular that of women and children. About 2.4 billion people on the planet still rely on wood, charcoal, and animal waste as cooking fuels—most of them in Asia and Africa. Women, girls, and young boys bear most of the burden of this dependency. Collection and preparation of wood and animal waste as well as charcoal production and trade are activities done by both women and men, depending on the regions. However, women spend a disproportionate amount of time on tasks related to these activities.

- Women spend 2–20 hours per week on these chores in Asia, several times more than men.[32]Beyond time, women and girls are more vulnerable to assault and harassment.
- When households switch to modern fuels (e.g., liquid propane gas), gender responsibilities change: men become responsible for fuel procurement.[33]
- Women, girls, and young children are the most exposed to indoor air pollution (IAP) from using traditional stoves. It is estimated that 2.0 million women die prematurely each year from respiratory illnesses. In India, IAP is ranked third on the burden of disease. Women exposed to heavy indoor smoke are three times as likely to suffer from chronic obstructive pulmonary diseases (e.g., chronic bronchitis) than women who use cleaner fuels.[34]

Lack of energy-based technologies for domestic work limits women's ability to engage in other productive and leisure activities . Poor households lack basic technologies, such as modern lighting, stoves, grinders, and pumps that could ease their daily household burdens. They also lack any modern equipment that could provide opportunities for higher productivity and sustainable livelihoods. Women and girls are more affected than men as they bear the greatest share of domestic chores.

- *Time-poverty* for lack of energy resources is one of the main constraints to women's development. Women's workday exceeds men's by 4–8 hours in many regions;they have limited time to invest in education, knowledge acquisition, leisure, and personal development. They have limited time to access paid employment, and as a result stay longer in poverty—women's share of the world's GDP is only 11%—which itself impacts the welfare of future generations.[35]
- The poorest households spend about one-third of their cash income on poor quality energy services (candles, kerosene, dry batteries).[36]

Traditional ownership rights favor men over women, and leave women with limited decision-making power

over energy endowments and assets . Because of traditional land rights that favor men over women, women have limited decision-making power on land and energy resource uses: forestry resources, plantation of biomass fuels into the cropping system, and control of community hydro-resources. Women's traditional knowledge of these resources (forest regeneration, soil fertility, water discharge) is rarely recognized as an asset to the community.

- As men generate or have more control over cash income, they usually also control most of the household decisions to invest family income in new energy sources—for example, dry batteries, solar home systems (SHS), and home appliances. For female-headed households, lack of collateral and cash income impedes ability to obtain credit to access modern energy (services and appliances).
- When new energy technologies become available, in particular for rural electrification, men make the decisions and women's priority energy needs are rarely systematically taken into account. When consulted, rural women prioritize improved cooking fuels and/or stoves over lighting and power, and electrifying community facilities such as health clinics and schools over individual connections.

Women's role as energy suppliers and consumers of energy services in businesses and small and medium-sized enterprises is rarely given proper recognition. Both men and women are household and business customers to energy providers. Energy efficiency technologies are relevant in both situations;women's financial constraints may limit their adoption, relative to men. Energy planners more often think of women as domestic energy users than commercial users. As a result, women are given less voice in energy planning and design.

Box 27. Barriers to gender equality in energy

- Cultural and social norms put the burden on women to procure traditional cooking fuels.
- Women have limited land rights.
- Women have lesser access to technology, training, and credit to energy-based economic activities.
- Cultural norms may also exclude women from political and decision-making processes to have their voices heard on the priorities and choices of energy solutions.
- Women's demand for efficient cooking energy and appliances and time-saving devices is rarely recognized as a priority energy issue in national energy plans.
- There is lack of institutional capacity in energy to address gender disparities.
- Gender-disaggregated data are lacking on household energy consumption patterns and geographical distribution of households for network planning purposes.

7.7.3 Gender-energy issues in the context of climate change

Climate change impacts energy resources, infrastructure and services, and energy users. These impacts are generated by both climate variability and the incidence and intensity of extreme events such as typhoons and cyclones, high winds, droughts, and flooding.

Women are likely to be more affected than men by changes in the availability of energy resources due to climate change. Climate change, in particular droughts and floods, adds stress on biomass resources and may cause declines in the productivity of natural or plantation ecosystems used for fuelwood or to source raw materials for charcoal production. Women are likely to bear the brunt of this impact, having to walk longer distances and to less accessible areas to obtain the fuelwood needed for the basic household cooking needs. Climate change is also causing increasing variations in hydrological cycles, water availability, and river flow conditions, consequently affecting hydropower. In areas where pico-hydro, micro-, and small hydro systems have been developed for dual purposes (irrigation and power), women's sources of livelihood from irrigated crop cultivation become more vulnerable. Adaptation measures are therefore needed to protect forestry ecosystems and catchment areas, and manage biomass and water resources more efficiently in order to protect livelihoods and rural incomes, for women in particular.

Climate change increases the vulnerability of energy infrastructure and the operational efficiency of energy systems and may affect differently the male and female customers. The frequent location of thermal plants near coastal areas or water transport (i.e., close to fuel supplies) makes them particularly vulnerable to rising sea-levels, increased soil instability, water temperature rise, and salinity. In mountainous areas, high levels of

precipitations can cause landslides and destroy hydropower plants. Extreme weather conditions (winds, typhoons) are likely to damage the power infrastructure, regardless of the source of energy, and more specifically the power transmission and distribution systems. Such damage in turn disrupts power supplies and the operational efficiency of the power systems. Other elements of energy systems (fossil fuel production, transport, and distribution) may be equally affected by climate events. High temperatures impact not only the infrastructure but cause wide variations in demand, in turn causing stress on energy systems.

- The livelihoods of both women and men are thus likely to be affected, especially for those engaged in economic activities that rely on network electricity.
- Disruptions and increased operational costs are likely to have a greater negative impact on small and medium enterprises and individual businesses (which constitute a greater proportion of women's businesses) than on large businesses where men are predominantly employed.

Careful analysis by gender of these expected impacts is needed to foster gender-equitable climate change related energy policies.

Climate change affects energy security for women and men. Regardless of the source of energy, climate change increases energy insecurity at all levels—national, community, and household. All impacts on resources, infrastructure, and services have a high cost that may be difficult to absorb, in particular by the poorest (hence by women).

- After a major breakdown in energy supplies, women commonly spend a lesser proportion of family income on cooking fuels and so cook less. As a result, they tend to reduce their own food intake in order to protect their families. This compromises their nutrition levels, their health, and their resilience to climate change.
- Other consequences of energy system disruptions include increased transport costs: women return to traveling by foot when they can no longer afford motorized transport. They may also return to higher levels of poverty.

7.7.4 Gender entry points for CCA energy projects

CCA measures are required to increase the resilience of energy systems. All stakeholders—national and local governments, households, and individuals—need to commit to adaptation, from planning to consumption of energy services. The selection of adaptation measures is most challenging for energy given the very wide range of energy resources and uses, and the wide range of technological options. Tools and activities are suggested below.

Undertaking gender-sensitive vulnerability assessments of energy resources and use .

- *A participatory vulnerability assessment* of energy resources and use in a given community is a first entry point (see Box 28). The objective is to establish the baseline data on the availability of energy resources to the community (primary or end-use);the costs of energy;the distribution of access to households, businesses, and community facilities;and the procurement and use of energy by women and men. Vulnerability cannot be measured or observed directly. It has to be deducted from the analysis of various variables for estimating physical exposure, sensitivity, and adaptive capacity.[37]Observed changes in climate patterns need to be recorded to inform the assessment, as well as the particular exposure of infrastructure (of whatever scale) to climate events and the community's response capacity. For example, villages where SHS are common and women and men are capable of dismounting them to protect them from rising winds are more resilient to an extreme event than villages where only men can dismount the systems. The various components of the energy system in a particular location can be ranked by vulnerability criteria.
- *Combined rapid appraisal methodologies* may be adequate to undertake a vulnerability assessment, provided that GIS information and other documentation on the area and on the energy system is already available.
- For integrated systems (e.g., power), *national vulnerability assessments* may also be needed to complement and support local-level findings and adaptation options.

Box 28. Vulnerability assessment of Albania's power sector to climate change

A study undertaken with support from the World Bank documented that, unless prompt action is taken, climate change will worsen Albania's energy security over the mid to long term. This study estimates that a reduction in runoff of 20 percent by 2050 driven by climate change could lead to 15 percent less electricity generation from Albania's large hydropower plants and 20 percent less from small hydropower plants. At the same time, increases in extreme precipitation events could increase costs for maintaining dam security. Rising sea levels and increased rates of coastal erosion will threaten energy assets in the coastal region. Rising air temperatures are also estimated to reduce the efficiency of TPPs by about 1 percent by 2050. If river-water-cooled TPPs were developed in future, these would be affected by changes in river flows and higher river temperatures, further reducing their efficiency.

Source: World Bank. 2009a. Climate vulnerability assessments: An Assessment of climate change vulnerability, risk, and adaptation in Albania's power sector. World Bank, Washington, DC. http://documents.worldbank.org/curated/en/2009/12/11935944/climate-vulnerability-assessments-assessment-climate-change-vulnerability-risk-adaptation-albanias-power-sector

Planning and design of gender-sensitive integrated CCA energy projects. Various options are available to adapt energy solutions to climate change. *Consultations* with women and men have demonstrated to be effective in selecting options and mobilizing the communities on priorities.

- Measures to protect fuelwood ecosystems (Box 29;Case Study C on Senegal), adopting energy efficiency measures, and sustainable renewable energy technologies are likely to be among women's priorities in the rural areas, as a means to enhance household energy security and reduce energy expenditures.
- Communities (including large urban centers) are likely to be more concerned with strengthening of infrastructure against storms or wind, protection of infrastructure against flooding with dykes or berms, or construction of new infrastructure in areas unlikely to be affected by future flooding, salinity, or storm events.
- Where employment opportunities are limited, informing women and men during consultations of potential employment in such adaptation activities may be effective in building consensus.

Box 29. CCA options in Madagascar

Given the heavy reliance on wood and charcoal for cooking, improved sustainability of charcoal production (enforcement of regulations against illegal charcoal production activities, improving yields from existing legal charcoal activities using plantation materials, and development of new plantations for charcoal production on degraded lands) is seen as a priority to reduce the pressure on natural resources and deforestation that has been exacerbated by both climate change and population growth. Diversification of household and community energy generation—for example, with solar energy and small-scale hydropower—is seen also as an option to reduce pressure on natural systems and to improve the quality of life. At the national level, climate proofing of existing and future hydropower and thermal infrastructure through the implementation of structural and/or nonstructural measures is considered a priority by the government.

Source: World Wild Fund for Nature/Madagascar. n.d. Adaptation in the energy sector. http://www.wwf.mg/ourwork/climatechange/howwework/adaptation_in_the_energy_sector

Capacity building and training in gender analysis of project implementation institutions and the hiring of gender specialists as needed can be usefully done during project preparation. This will accelerate the readiness of these institutions once the project is approved. Furthermore, if adaptation solutions entail displacement and relocation of families (retrofits or new infrastructure), it is essential that resettlement plans be gender equitable, and therefore, that the institutions have the capacity to provide gender equality oversight.

Ensuring gender equality for accessing adaptation technologies during implementation. By definition, adaptation energy projects include technology transfers.

- Training both women and men to new technologies is key to building the resilience of individual households and communities to climate events. Likewise, all information on climate change resilience and on emergency

management must be equally communicated to women and men;this may imply hiring female communicators (e.g., radio announcers).

- Technology transfer, especially for decentralized energy systems and energy efficiency, often requires credit and other finance mechanisms, as well as providing technical assistance for the development of productive activities that generate income (to pay for the service or the asset). Responsiveness to women's specific needs is essential.
  - As women's poverty and literacy levels are inferior to men's, financing mechanisms and eligibility criteria may need to be adjusted so that women are not excluded.
  - Giving women equal opportunity to become energy entrepreneurs effectively reduces the gender gap on women's income.[38] Special programs for women to acquire business skills may be called for.
- Setting gender balance on energy management committees, at all levels (national, subnational, local) is another way of making sure that women's and men's needs are well taken into account during project implementation. In Bangladesh (see Box 30), the rural electrification cooperatives with higher female representation on the boards have performed better, with very low default rates on utility bills. This is largely because they can explain to female and male users how to budget their expenses in a way that allows for utility bills to be covered.[39] Box 31 summarizes a project that demonstrated the benefits of SHS in Lao PDR.

Box 30. Benefit from technology training of both women and men in Bangladesh

As part of an Energy Sector Management Assistance Program (ESMAP)-financed project, women of the southern island of Char Montaz assemble and install SHS. During the November 2007 cyclone, whoever was at home when the warnings came, women and men promptly took down the SHS. No system was reported lost. They were reset immediately after the passage of the cyclone, phones were recharged, and information transmitted to the emergency services in Dhaka on the location of the most needed help.

Source: Lallement, D. 2008a. Evaluation of women's energy cooperative in Char Montaz. In ESMAP. 2013. Integrating gender considerations into energy operations. Knowledge Series 014/13. ESMAP, Washington, DC. http://www.esmap.org/node/2743 http://www.esmap.org/node/2743

Box 31. Benefits from adaptation technologies: SHS in Lao PDR

In Pakoup, 46 of the 52 houses supplied with SHS were using electric lights in the evenings to increase production of woven scarves and skirts. The looms had been moved into the main rooms, and lit by one solar lamp. The women and teenagers were proud that they could contribute US $5 per month to family incomes, and were happy to do this after nightfall with the family gathered around. This compensated for declining income from fisheries—it certainly more than covered the hire-purchase payments made on the solar systems. Villagers routinely used solar systems to charge portable six-volt batteries to power flashlights; these were used to fish and catch frogs at night. With electric lighting available to mend nets in the evening, fishermen could increase their fishing rotations on the lake, and increase both their food security and incomes.

Source: World Bank. 2006a. People's Democratic Republic of Lao–Rural electrification (Phase 1-APL) project. World Bank, Washington, DC. http://documents.worldbank.org/curated/en/2006/03/6722513/peoples-democratic-republic-lao-rural-electrification-phase-1–apl-project

7.7.5 Monitoring gender impacts

Examples of result areas for which specific gender-sensitive monitoring indicators can be established include:

- Improved sustainable access to biomass energy resources. One indicator would be the trend in time spent and distance covered to collect fuelwood.
- Increased access to modern energy. Indicators would be the rates of connections or off-grid systems between female and male-headed households.
- Increased availability of energy efficient appliances and equipment. The indicators should separate

appliances primarily used by women (rice cookers, sewing machines), those used by men (soldering guns), or used by both (water pumps).
- Participation of women and men in planning and design of energy adaptation options. The indicators would record participation in consultations, working groups, and planning/design committees.
- Participation of women and men in energy CCA activities. Indicators would relate to employment, energy enterprise creation, and access to credit and other financial mechanisms.
- Strengthening of institutional capacity. Indicators would relate to the staff capacity to provide oversight on gender equity for resettlement plans, participation of women and men in training and information, and to design and analyze gender-sensitive surveys.

Examples of impact areas on improving the sustainability of livelihoods and the improvement in the quality of life thanks to adaptation actions:

- Improved energy security, for both women and men, in terms of sustained availability and affordability of energy resources and services
- Improved safety after dark
- Reduction of energy resource/asset losses and service interruptions as a result of climate change events
- Women's empowerment, through increased participation of in governance, decision-making, and management structures in national and local governments, professional organizations, and at community level.

Other intervention areas and examples of illustrative indicators which could be used in CCA energy projects are shown in Table 12.

TABLE 12. Illustrative gender indicators for energy CCA projects

Intervention Area	Illustrative Indicators
Consultation inclusiveness	Number and percentage of men and women, by social group, consulted about project plans and frequency
Improving gender balance of staff, partners, or clients/client groups	Percentage of men and women for target group
Active participation	Number and percentage of men and women, actively participating in consultations, workshops, and committee meetings
Leadership	Number and percentage of women serving in leadership positions in energy producer, marketing, and planning groups and enterprises
Increased wood fuel availability	Wood yield changes on men's and women's and community plots
Technology/practice adoption	Uptake of new energy technologies (renewable energy, biogas, SHS, energy efficiency, improved stoves) by male and female headed households
Nontraditional practices or roles adopted	Number and percentage of women and men employed in energy infrastructure work (dams, hydro or power plants, transmission and distribution systems, etc.) and in energy businesses: • No. of women and men employed, skilled and unskilled • Wage parity between women and men • No. of childcare services on construction sites • No. of women and youth employed in female-owned energy businesses
Women's status changes by household or community	Incorporation of women's energy priorities into household, community or national plans
Time availability	Changes in weekly fuelwood collection time, by sex and age groupChanges in free time, per week, for women and menChanges in income earned by sex over time Changes in time spent procuring modern fuels by sex
Service provided	Percentage of men and women formal energy clients
Inclusive service provided	• Percentage of female-headed households, socially marginalized groups, connected to power grids or served with off-grid solutions, including through adapted tariff structures • No. of women and men trained in energy-based productive uses and energy business development • Gender-sensitive resettlement (caused by infrastructure retrofitting or new construction): —No. of female- and male-headed households resettled —No. of joint (husband and wife) land/housing titles granted —No. of titles to female-headed households —Amount of compensation payments directly to women's (bank) accounts
Client satisfaction	Satisfaction level changes by sex, with the quality and reliability of energy services, both in households and community facilitiesNo. of women and men with new skills in energy technology use, installation, operation and maintenance

Relative budget allocation for gender mainstreaming activities	Percentage of total budget spent on gender-focused and targeted women's empowerment, income support and information activities
Improved welfare and incomes	• Women's and men's annual income from employment in energy projects and companies • Women's and men's annual income from energy-based and energy-consuming economic activities • Percentage of female and male literacy rates • No. and business results of new or expanded women's and men's energy businesses and energy-based productive activities • Women's and men's after-sunset activities • Time spent on school work by boys and girls • Health improvements from: (1) cleaner energy and more efficient appliances. Indicator: sex-disaggregated statistics on morbidity and mortality related to IAP and outdoor air pollution (2) safe child deliveries due to lighting or availability of clean water. Indicator: statistics on women and children mortality at birth (3) street lighting. Indicator: statistics on aggressions and rapes at bus stops
Policy change	Inclusion, protection and/or improvement of women's ownership rights to natural resource and other energy assets in new or reformed laws or regulationProvision for adapting tariff structures and payment methods adapted to the needs of the lowest income groupsShare of energy budget allocated to gender-sensitive activities

Box 32 lists additional literature sources on gender, energy, and climate change adaptation.

Box 32. Further readings on gender, energy, and climate

- Asian Development Bank. 2012b. Gender tool kit: Energy – Going beyond the meter. ADB, Manila, the Philippines. http://www.adb.org/documents/gender-tool-kit-energy-going-beyond-meter
- Karlsson, G. 2013. "The Benefits of gender balance in climate change mitigation investments and sustainable energy initiatives." Presented at Improving Energy Access Through Climate Change: Picking the Winners Conference, 26-28 March 2013, Leusden, the Netherlands. http://www.energia.org/fileadmin/files/media/pubs/ENERGIA_Gender_Balance_CC_Mitigation_Investments_Sustainable_Energy_Initiatives.pdf
- Cecelski, E., and S. Dutta. 2011. Mainstreaming gender in energy projects: A Practical handbook. ENERGIA, Leusden, the Netherlands. http://www.energia.org/fileadmin/files/media/DropBox/Module1/Mainstreaming_gender_in_energy_project
- International Network on Gender and Sustainable Energy (ENERGIA). 2007. Where energy is women's business: National and regional reports from Africa, Asia, Latin America and the Pacific. ENERGIA, Leusden, the Netherlands. http://www.energia.org/fileadmin/files/media/pubs/karlsson_csdbook_lores.pdf
- ———. 2010. Gender, energy and climate change. Special Issue of ENERGIA News 13(1): May 2010, ENERGIA, Leusden, the Netherlands. http://www.energia.org/fileadmin/files/media/energianews/en-052010.pdf
- ———. n.d.(a) The Gender face of energy: An online course. ENERGIA, Leusden, the Netherlands. www.moodle.energia.org
- Energy Sector Management Assistance Program of World Bank (ESMAP). 2013. Integrating gender considerations into energy operations. Knowledge Series 014/13. World Bank/ESMAP, Washington, DC. http://www.esmap.org/node/2743
- Skutsch, M. 2002. Protocols, treaties and action: The 'Climate change process' through gender spectacles. *Gender and Development 10(2): 30–39*. http://www.energia.org/fileadmin/files/media/pubs/skutsch_climate_gender.pdf
- United Nations Development Programme. 2004. Gender and energy for sustainable development: A Toolkit and resource guide. UNDP, New York. http://www.undp.org/content/undp/en/home/librarypage/environment-energy/sustainable_energy/energy_and_genderforsustainabledevelopmentatoolkitandresourcegui/

7.8 MODULE H: TRANSPORT

A detailed case study of a transportation project with gender mainstreaming practices and results can be found in Case Study G from Peru.

7.8.1 Introduction

Transport is one of the key sectors for sustainable economic and social development. Efficient mobility of goods and people is what permits the development of markets for goods and labor that support economic growth, the development of social services, and social interactions. Each transport mode—pedestrian, roads, railways, waterways and ports, and air transport—is impacted differently by climate risks depending on geographic location, standards of construction, existing condition, maintenance capacity, and patterns of use. The impact of climate change on transport systems is likely to also affect women and men differently, as there are significant differences in their respective travel patterns, modes of transport, mobility, and safety.

In case of climatic disasters and extreme events, a functioning and efficient transport system determines people's ability to cope with the event, evacuate the area if needed, receive emergency support (food, medical services, etc.), and therefore limit the number of deaths from the event. In transport, as in most infrastructure programs and projects, the key challenges are to find CCA solutions that will build up the resilience to climate change of the transport infrastructure and services. At the same time, resilience of the women and men using the transport infrastructure and services needs to be strengthened to meet their basic economic and social needs under increasingly risky climatic conditions.

7.8.2 Gender issues for transport

Gender dimensions of transport are evident when transport systems (infrastructure and services) are viewed as enabling the mobility of people and goods for different purposes.

Women and men have different travel patterns . Women and men use transport to access markets and social services and fulfill their demand for leisure and social obligations. However, women's transport decisions and mobility are determined by the complexity of their gender roles.

- Women have to combine domestic (food purchase and cooking) and care-giving (taking children to school or health centers) tasks with employment and income-earning activities, and community and social obligations. Men's mobility is determined largely by their income-earning responsibilities and leisure.
- In rural areas, women's travel patterns are also affected by their responsibility for water and fuel-wood collection.

Women and men use different transport modes.

- In rural areas, most women lack access to motorized transport owing to cost, distance, and other factors. Instead, they predominantly walk or take slower non-motorized or intermediate modes of transport. Men, when they can afford it, use motorized transport and travel longer distances to access labor and goods markets. Women act themselves as freight transport for crops, water, and fuelwood, especially in the rural areas.
- In urban areas, women rely more than men on public transport, and are therefore more affected by service reliability, scheduling, and affordability. Sexual harassment in public transport also deters women from using such modes.

Women and men experience different mobility and safety constraints . Women's mobility is largely affected by socio-cultural contexts, whereby traveling alone away from home without being accompanied by a male family member or an older woman may not be acceptable. Personal safety and sexual harassment are risks confronted more significantly by women than by men, both in rural and urban areas (public transport). By contrast, men are more prone to accidents and deaths from vehicular transport (roads, rail). In case of extreme events, violence against women increases sharply, in shelters and transport during evacuations.

Given gender differences and barriers, key questions for proposal writers of CCA projects in transport are:

- To what extent and how women and men are affected differently by the impact of climate change on transport systems?
- Can CCA projects effect greater gender equality and reduce the gender barriers that would prevent women and men to fully derive the economic and social benefits from the projects?

7.8.3 Gender and transport issues in the context of climate change

Women and men will be affected differently by the impacts of climate change manifestations on the physical transport structures depending on the transport mode they use most . Overall, climate change increases the vulnerability of infrastructure, accelerates the deterioration of infrastructure assets, and increases the need and cost of maintenance. Women will be affected more by the deterioration of non-vehicular roads, whereas for men, it is likely to be the opposite.

For example, changes in temperatures and increased radiation damage the surface of roads and airport runways (melting asphalt, cracks, water infiltration);they cause significant stress on steel structures (bridges, rail tracks). Increased or decreased precipitation increases ground movement;affects the level of water tables;and accelerates the degradation of materials, structures, and foundations for roads, tunnels, bridges, airports, or ports.

- Men will be more affected by likely disruptions or damage in such physical transport infrastructure as they make greater use of motorized transport than women, or are engaged in businesses that rely of such infrastructure.
- By contrast, women's mobility may be more affected by increased precipitations, sea levels, coastal winds, and increased variability and frequency of extreme events in coastal areas and lowlands which make pedestrian transport extremely difficult.

Women and men may be affected differently by the impact of climate change on the efficiency and operations of transport services . Because they rely more on motorized transport, men are likely to suffer more from damaged surfaces, the increased cost of vehicular road and railway transport, and the increase risk of accidents. Likewise, men's businesses and employment are likely to be more affected by increased rates of down-time of airports, waterways, and ports caused by high temperatures and winds and extreme events.

- Women, especially rural women, are likely to be more affected by the increased vulnerability of pedestrian and intermediate transport means caused by high winds and precipitations and floods.
- In urban areas, women will be more affected by interruptions in bus public transport, whereas men will be more affected by disruptions in railway operations.

7.8.4 Gender entry points for CCA transport projects

The relatively long design life of transport infrastructure means that the infrastructure designed today will need to be able to resist climatic pressures and extreme events 50 or 100 years from now. Gender-sensitive adaptation in transport infrastructure and services therefore implies finding short-term solutions to improve the resilience of the existing stock of infrastructure and configuration of services to respond to the needs of both women and men. Long-term gender-sensitive adaptation solutions are likely to only occur as structures reach the end of their design life. The challenge for proposal writers is therefore to ensure that a gender-sensitive vulnerability assessment of the existing transport system be undertaken and gender-sensitive adaptation solutions proposed. Examples of tools and gender-sensitive elements are discussed below.

Conducting gender-sensitive vulnerability assessments for transport systems. The vulnerability assessments aim to identify the susceptibility of the transport infrastructure and services to fail as a result of various climate change manifestations, and on what time horizon.

- An assessment of women's and men's travel patterns, including modal use, time spent on transport, and economic and social activities, will provide the basis for finding adaptation solutions which will equally benefit women and men.
- A *gender assessment* needs to be part of the transport vulnerability assessment in order to generate sex-disaggregated socioeconomic data, including gender differences in education and access to information, incomes, employment, asset ownership, and access to credit and other financial mechanisms, and cultural norms on mobility. All of these elements are critically important to assess resilience and/or vulnerability of women and men to climate-related impacts on transport systems.

Planning and design of gender-sensitive land-use and transport infrastructure . Land-use planning for the development or retrofitting of transport infrastructure is among the most important adaptation solutions. It is complex, and requires a thorough understanding of existing land ownership and use patterns. CCA solutions for infrastructure are likely to entail expropriations and resettlement in order to build or retrofit transport

infrastructure, for example, to displace roads, airport, or rails away from coastal areas or redesign transport access to flood plains. Land-use planning needs to be carried out in a highly participatory manner, through consultative processes with both women and men, to ensure that women will be able to continue with their economic activities or be equally compensated in case of displacement.

Consulting with women and men on adaptation solutions. Consultations on adaptation solutions are the opportunity to listen to women's and men's needs and priorities for transport services. For example:

- Women may give priority to improving the weatherization of footpaths and pedestrian bridges, while men may give priority to improving the design of the motor-road.
- Women may rank safety improvements on roads that permit access to community clinics or schools, while men may rank higher highway improvements connecting to more distant towns where they find employment.

Delivering information and training programs. Information on climate change and CCA opportunities is critical to build women's and men's capacity to manage their travel patterns and modal use, and to have the ability to respond in case of extreme events (see Box 33). Personal evaluations of risk factors and perceived threats as well as social ties influence travel decisions. In the context of extreme events, personal decisions influence evacuation rates and successful survival: during evacuations, traffic is denser and slower than normal, compounded by overloaded vehicles. Women need to be as well informed as men, which is rarely the case, and information services and training programs need to be tailored in such a way that both women and men are reached.

Box 33. Targeting information and training to both women and men

In the case of the Bangladesh 1991 cyclone, warning information was transmitted from men to men in public places, meaning that women were not informed directly. In Peru, early warning messages about the arrival of El Niño were only transmitted to the fishermen, who were warned that fish abundance was going to be severely affected and that this could have serious economic implications. Women were not alerted since they were not directly involved in fishing; but in fact, they managed the household budgets. Had women known about the onset of El Niño, they might have saved more household funds and budgeted differently to prepare for the event, reducing the eventual economic impact.

Source: UNISDR-UNDP-IUCN. 2009. Making disaster risk reduction gender-sensitive. UNISDR, UNDP and IUCN, Geneva. http://www.preventionweb.net/files/9922_MakingDisasterRiskReductionGenderSe.pdf

Creating employment opportunities for both women and men in transport. CCA projects in transport provide significant employment opportunities. Employment and increase in income are ways to build up the resilience to climate change of both women and men. Successful solutions are available from gender-sensitive transport projects. Skill training targeted at women is another solution to enable women to move up on the employment ladder and not remain confined to unskilled jobs.

- In the post-war reconstruction effort in Liberia, special training was offered for women to become masons and carpenters, and work on road construction sites in drainage and culvert construction.
- In Haiti, the Department of Public Works designed a dedicated training program for women to become heavy machinery operators.

Preparing project gender action plans. A GAP is a useful tool to record such gender actions as employment targets and to monitor the results of ender focused actions (Box 34).[40]

GAPs also record the expected results by a definite date and the monitoring indicators.

Box 34. Gender targets are reflected in the GAP for the rural roads improvement program in Cambodia

This US $67 million program aims to rehabilitate and weatherize over 500 km of rural roads between 2010 and 2015. The GAP prepared as part of the project proposal indicated that contractors had to

reserve 40 percent of unskilled labor jobs for women, ensure equal pay for equal work and no child labor, delegate 50 percent of road maintenance and road safety activities for women, and involve women in tree planting and caring as part of the CCA technologies introduced to protect the rural roads.

Source: Jain, A. 2011. "Gender and transport, Making rural road improvements in Cambodia; More gender-inclusive". Presented at Africa Regional Workshop on Mainstreaming Gender Equality in Infrastructure Policies and Projects, 22-24 March 2011, Addis Ababa, Ethiopia. http://siteresources.worldbank.org/EXTGENDER/Resources/workshop-032211-Day-1- AJain_RuralRoadsImprovement.pdf

Strengthening governance and capacity building . This can be done through the following:

- Developing adequate governance structures and building the capacity of all transport stakeholders for CCA and for the management of extreme events are most important (e.g., lack of coordination amongst transportation agencies, lack of general knowledge on the need to adapt infrastructure and services for climate change, lack of knowledge on the selection of appropriate adaption methods create inertia amongst transport stakeholders).
- Increasing the number of women in transport policy and planning in relevant ministries and public bodies, and in transport operating companies is an effective way to have women contribute to the design and implementation of adaptation solutions that will meet the needs of both women and men.
- Proposing quotas for women in governance structure and capacity-building programs is an effective way to capitalize on women's management and planning competencies as well as making sure that their needs are heard. What women have achieved in the construction sector in India (see Box 35) could well be applied to the transport sector.

Box 35. Women lead earthquake-reconstruction efforts in India

In India, since the Latur Earthquake, women have been supervising, monitoring, and undertaking construction, encouraging repairs, and determining if engineers have certified the constructions. They participate in the construction of community buildings and model houses, and conduct education campaigns on earthquake-resistant technology.

Source: UNISDR-UNDP-IUCN. 2009. Making disaster risk reduction gender-sensitive. UNISDR, UNDP and IUCN, Geneva. http://www.preventionweb.net/files/9922_MakingDisasterRiskReductionGenderSe.pdf

Contracting gender specialists . Transport agencies may need to contract gender specialist consultants to provide technical support to design and implement gender actions, and to monitor and report on results and impacts. It is important for executing agencies to assess the availability of local consultants, institutions, and NGOs.

7.8.5 Monitoring gender impacts

Examples of result areas for which specific monitoring indicators can be established are the following:

- Overall mobility for women and men, year round
- Travel time, in particular for women on their domestic and family care responsibilities
- Access to markets, incomes, and employment opportunities for women, therefore increased resilience to climate change
- Year-round access to health and education facilities by women and girls
- Access to more efficient transport mode
- Safety and security among mobile women and girls during travel
- Violence against women during extreme events
- Human losses from transportation bottlenecks during extreme events, in particular of women and children
- Increased skills and decent jobs for women in the transport sector
- Gender responsiveness of transport authorities and project management
- Participation of women in governance and management structures in national and local governments,

transport organizations, and at community level.

Examples of gender-sensitive intervention areas and monitoring and impact indicators are given in the Table 13.

TABLE 13. Illustrative gender indicators for transport CCA projects

Intervention Area	Illustrative Indicators
Consultation inclusiveness	No. and percentage of men and women, by social group, consulted about project plans No. of information documents designed with gender-sensitive information No. of gender-sensitive information and consultations sessions
Improving gender balance of staff, partners or clients/client groups	Percentage of men and women for target group
Active participation	No. and percentage of men and women, actively participating in consultations, workshops, and committee meetings
Leadership	No. and percentage of women and men serving in leadership positions in transport policy, planning, design, and implementation groups No. of women and men on community road committees, and in what position (member or leader) No. of women elected officials (as a result of increased mobility)
Economic Status	Women's and men's annual income from employment in transport activities Women's and men's annual income from other economic activities
Gender-sensitive infrastructure design (e.g., non-vehicular paths)	No. of women's trips to health centers Time spent on water and fuelwood chores Time spent going to market
Nontraditional practices or roles adopted	Employment in road and other transport infrastructure construction, operation and maintenance: examples of indicators: • No. of women and men employed, skilled and unskilled • Level of wage parity between women and men • Level of child labor
Women's status changes by household or community	Proxy measures related to relative roles, by sex, in household expenditure decisions or incorporation of women's priorities into group or community plans
Time availability	Changes in weekly trips to markets and other domestic responsibilities, by sex Changes in income earned by sex over time Changes in modal use, by sex over time
Service provided	Percentage of men and women using various transport modes
Inclusive service provided	Transport tariff adjustments for (poor) female-headed households
Client satisfaction	Satisfaction level changes with: Skill acquisition and training indicators: • No. of women and men in skills training sessions in road construction • No. of women and men in business training on non-transport productive activities Health (from greater mobility and road safety). Indicators: Sex-disaggregated statistics on morbidity and mortality Availability, reliability, safety, and affordability of climate resilient transport services. Indicators: • Increase in women's usage of public transport, over time • Decrease in sexual harassment in public transport, over time • Increase in children's ridership (and increase in school attendance), by sex over time • Decrease in downtime of transport services • Stabilization or decrease in transport costs due to infrastructure deterioration
Relative budget allocation for gender mainstreaming activities	Percentage of budget spent of gender-focused activities compared to total budget
Adoption and level of implementation of gender strategies and plans	Number and type of activities undertaken Percentage of plan completed
Policy change	Inclusion, protection and/or improvement in laws or regulations to provide safe and equitable access to transport sector employment and services to both women and men.

Box 36. Lists additional literature sources on gender, transportation, and climate.

Box 36. Further readings on gender, transport, and climate

- Asian Development Bank. 2013a. Gender tool kit: Transport – Maximizing the benefits of improved mobility for all. ADB, Manila, the Philippines. http://www.adb.org/sites/default/files/gender-tool-kit-transport.pdf
- Evans, C., D. Tsolakis, and C. Naudé. n.d. Framework to address the climate change impacts on road infrastructure assets and operations. ARRB Group, Melbourne.

http://www.atrf.info/papers/2009/2009_Evans_Tsolakis_Naude.pdf
- Dalkmann, H. and C. Brannigan. 2007. Transport and climate change: Module 5e, A Sourcebook for policy makers in developing cities. GTZ, Eschborn, Germany. http://www.sutp.org/component/phocadownload/category/52-5e?download=107:5e-tcc-en
- Kahn Ribeiro, S., S. Kobayashi, M. Beuthe, J. Gasca, D. Greene, D.S. Lee, Y. Muromachi, P.J. Newton, S. Plotkin, D. Sperling, R. Wit, and P.J. Zhou. 2007. Transport and its infrastructure. In: Metz, B. et al. (eds.) Climate change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, U.K. and New York, NY. http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch5.html
- World Bank. 2001a. Module 5: Tools for mainstreaming gender in transport, 5.14 monitoring and evaluation. World Bank, Washington, DC. http://www4.worldbank.org/afr/ssatp/resources/html/gender-rg/module5/index-p14.html

7.9 MODULE I: URBANIZATION AND CITIES

A detailed case study of an urban and disaster preparedness project with gender mainstreaming practices and results can be found in Case Study H from Bangladesh.

7.9.1 Introduction

Cities, especially in developing countries, are on the front lines of climate change impacts. These impacts range from an increase in extreme weather events and flooding to increased air temperatures and public health concerns. Climate change affects both human well-being and the economy, threatening the livelihoods and assets of people living in cities. Most vulnerable to these impacts are poor residents, the elderly, women, children, and communities living on the margins of society.[41] The people most at risk are slum dwellers, which include an increasing proportion of female-headed households. While the world's urban population is expected to rise to 60 percent by 2030 (6.4 billion people)[42] and to 70 percent by 2050, cities are expected to be increasingly subject to the consequences of climate change. Urban poverty continues to grow. The number of slum dwellers increased from 767 million in 2000 to 828 million in 2010.[43] Under climate stress, local economies are likely to be disrupted and populations risk being stripped of their assets and livelihoods.

The impacts of climate change will be particularly severe in low-elevation coastal zones, where many of the world's largest cities are located. Although they account for only 2 percent of the world's total land area, approximately 13 percent of the world's urban population lives in these zones—with Asia having a higher concentration. According to the Maplecroft's Climate Change Vulnerability Index, seven cities are at "extreme risk,"out of a list of 50 that were chosen for their current and future importance to global business. Dhaka, Bangladesh (ranked 1), Manila, Philippines (2), Bangkok, Thailand (3), Yangon, Myanmar (4), Jakarta, Indonesia (5), Ho Chi Minh City, Viet Nam (6), and Kolkata, India (7). These seven cities emerged as the most at risk from the changing temperatures and weather systems that are forecast to take hold in the coming years.

The vulnerability of cities also stems from the poverty of their populations and the poor capacity of governments to undertake local adaptation measures to combat the potential effects of climate change.[44] The challenge of CCA is particularly formidable in large and densely populated cities as they cover a wide range of infrastructure and services (housing, transport, energy, water, sanitation), ecosystems, and economic activities, including commerce and industry.

7.9.2 Gender issues for urbanization and cities

Immigration of poor rural women and men who flee poverty and at times conflicts is the main cause for the rapid growth of cities in developing countries . Although men migrate to cities largely in search of employment, women migrate both for jobs and for safety. Both women and men settle in precarious marginal lands (hillsides or flood plains) with limited or no tenure rights. Slum dwellers constitute today about 33 percent of the world's urban population. All slum dwellers are affected by poor living conditions, but women and girls suffer most. Shelter deprivation, lack of access to water, sanitation, public transport, and employment opportunities are

areas where gender disparities are significant.[45]

Women are greater risk than men to access decent shelter and sanitation, and safe water .

- Female-headed households, which make up 20 percent of urban households in the 160 countries surveyed by UN-Habitat for its State of the World's Cities Report 2008–2009, relative to men-headed households, lack durable housing and have insufficient living space, poor access to clean water, and inadequate sanitation. They are often denied tenure rights as they have no collateral, and are more at risk of eviction. Without tenure, they cannot get access to electricity, water, or sewage connections.
- Women and girls typically are responsible for fetching water when supply is poor. This can take hours out of their day, reducing time for education, employment, childcare, and rest. When relatives become sick because of poor hygiene, it is also women and girls who bear the greatest burden of care.
- A lack of separate-sex toilet facilities in schools, including those in informal settlements and shelters, can cause girls to miss classes, drop out of school in adolescence, or abstain from going to shelters at times of evacuations.

Women have lesser access than men to education, formal employment mobility . With limited cash income, long distances to public transport, and vehicles crowded with men, women have limited opportunities to seek employment in wealthier neighborhoods. In cities like Rio de Janeiro, low-income men commute to their job at the beginning and end of the week;they sleep in the streets during the week as they cannot afford to return to their neighborhood;it is too risky for women to do the same.

Women stay longer in the vicious circle of poverty. Because they cannot access formal employment, poor illiterate women stay longer in poverty. Women cannot benefit from literacy and skill development training offered by enterprises. Illiteracy and lack of skills block opportunities for accessing higher-paying jobs. As a result, women and children of female-headed households remain longer in poverty than men.

7.9.3 Gender-urbanization and cities issues in the context of climate change

The impact of climate change on women and men compounds on prevailing gender disparities in urban settings.

An increasing number of rural women and men can be expected to move to urban areas at least in part due to climate change impacts affecting their rural communities . Increasing food and water scarcity due to climate change in rural areas may accelerate the dramatic rural migrations in the developing world where urban areas offer access to the cash economy (rather than subsistence farming) and can make it easier to access services. However, rapid and unplanned urbanization has serious implications for urban welfare.

- High population densities and high contact rates help to spread disease, such as dengue fever in India.
- The effect of climate change-related migration on women and gender dynamics is complex. Women left behind by male migrants may experience more autonomy and have greater decision-making power because they become de facto household heads after their husbands migrate. However, they may become poorer and more vulnerable (lack of labor, inability to mobilize labor on account of social taboos, uncertainty of remittances), before migrating themselves to urban areas as a solution of last resort.[46]

Climate change increases the vulnerability of women and men living in urban areas. Since 1975, there has been a fourfold increase in urban natural disasters, 70 percent of which were related to climate change. Disasters do not affect all income groups equally. Wealthy households live in better-built housing, and recover faster, as they can draw on their savings. As female-headed households are amongst the poorest, they are even more at risk of climate change related natural disasters than men-headed households.

Poor women and men tend to have lower rates of participation in decision-making and disaster-management activities. The higher death rates of women (three-times higher than men's) suggest that poor women are even more vulnerable than poor men. Women, especially poor women, tend to less informed and trained about disaster prevention and responsiveness measures.

Women are more at risk of domestic violence and sexual harassment during calamities . Poor women and men scramble to find food, fuels, lighting;poor women find it even more difficult to find materials to rebuild their homes. *Women, when given the opportunity, can bring their leadership and management skills as change*

agents on CCA, and contribute to reducing the vulnerability of their communities. Poor urban women bring the knowledge, ecosystem management experience, and negotiating skills they used in rural settings. Building up on their experience as courageous risk-takers, a large number of women become community leaders in urban slums. Initiatives such as the one developed in Bangladesh in villages can be equally effective in flood-prone small cities or neighborhoods of large urban centers (see Box 37).

Box 37. Women lead CCA and Disaster Risk Reduction in Bangladesh

This women-centered initiative helps communities in Bangladesh adapt to climate change by addressing extreme weather conditions such as cyclones and flooding, as well as the consequence of increased salinity conditions in agriculture in Bangladesh. The initiative, which is implemented by ActionAid Bangladesh, brings together groups of women who lead vulnerability assessments of climate risks and then identify action plans. The same groups of women implement the plans. As a result, improved cooking-stoves were installed in 110 households, 10 temporary dams were built to preserve fresh water for irrigation and reduce salinity in the land, and a raised cluster village was created for landless families in flood-prone areas. Scalability is a key element of this initiative, which channeled resources to the local government to enhance its capacity. The initiative facilitates dialogue between communities and the local government to ensure that the good practices piloted by the women-led groups are scaled up.

Source: United Nations Framework Convention on Climate Change (UNFCCC). 2013a. Momentum for change: Lighthouse activities. UNFCCC, Bonn.
http://unfccc.int/secretariat/momentum_for_change/items/7159.php

7.9.4 Gender entry points for CCA urbanization and cities projects

The process of adapting to climate change and building the resilience of cities and citizens is complex. It requires an intricate set of measures to secure the urban infrastructure against climatic events, to grow the urban economy in order to afford the cost of adaptation, to reduce poverty amongst the most vulnerable groups, and empower women and men to manage climate-related disasters. CCA projects may cover a wide array of interventions, from initial diagnostic of the needs and priorities for adaptation to the design of strategies and plans, the implementation of specific interventions, forging networks and partnerships for success, and monitoring and reporting results and outcomes.

Preparing gender-sensitive assessments of needs and priorities. Mapping the physical and socioeconomic vulnerabilities of cities is the first entry-point to identify gender differences on women's and men's vulnerability to climate change.

- *Participatory assessments* with strong participation of women and men, neighborhood grassroots groups, male and female business representatives, and opinion leaders will ensure a broad-based collection of perspectives on risks, potential objectives, and options to reduce those risks. One of the challenges is to plan adaptation options for the possibility of much more substantial climate change impacts than currently anticipated in the next decades.
- *Adaptation of current city plans* may be needed as a result of the vulnerability assessments.
- *Capacity building* in gender-sensitive climate adaptation of city leadership (elected city officials and staff) is essential and can be undertaken at the same time as the vulnerability assessment. This includes developing political support (i.e., high-level commitment to adaptation), hence the need for equal representation of women and men at the political level;understanding the specific needs of women and men;and operational knowledge of new rules and norms of city operations for climate change management (zoning, construction standards for housing and other infrastructure). It also includes relationships to city and external actors who may need to be involved in adaptation efforts;scientific expertise or competency to advise decision-makers;and explaining investment needs, costs, financing options (tax and other instruments, economic stimulus programs/activities). Box 38 summarizes programs in urban CCA planning in Asia.

Box 38. Resources for urban CCA planning

PAKLIM, an Indonesian-German program, is offering an integrated climate action planning framework for Indonesian cities, intended to build the internal capacity of city officials to incorporate climate change into the design and implementation of their day-to-day business.

The Asian Cities Adapt partnership is working with eight cities in the Philippines and India to conduct local vulnerability assessments and subsequently develop concrete adaptation strategies. ICLEI—Local Governments for Sustainability coordinates the project, in conjunction with the Potsdam Institute for Climate Impact Research, the Indian Institute of Technology—Delhi, and the University of the Philippines.

Source: ICLEI/Europe. 2011. Asian cities adapt. http://www.asian-cities-adapt.org/

Developing gender-sensitive city-based adaptation strategies and activities. Few cities in the developing world have adopted CCA strategies. Experience from developed countries underlines the importance of engaging local communities in developing the vision where they want their future development to go and find ways to relate climate change responses to urban development aspirations. Engaging women and men in decision-making on the formulation of strategies is key to success. Examples of tools are provided in Box 39.

Box 39. Engaging women and men and community groups in adaptation

A number of communication products and platforms can be used to engage residents and community groups in the development of adaptation strategies, if they have not already been engaged in the assessment process. Objectives can include (1) building awareness among women and men regarding climate impacts that their city faces; (2) informing women and men about adaptation plans, policies, and actions that the city proposes to undertake in order to meet these threats and ensure their well-being; (3) inviting the involvement of women and men in the decision-making process by soliciting their ideas and inputs; and (4) suggesting how actions taken by individuals and groups can contribute toward the city's resilience. Some of the approaches include the following:

- *Communication products*, such as pamphlets, that identify the climate vulnerabilities of the city and proposed adaptation activities and actions, as well as indicate where citizens can find more information and how they can get involved. Maps of vulnerability can be visually effective in communicating the local areas most likely to be affected by climate change.
- *Consultations* in which adaptation plans are discussed, with reference to corresponding climate change impacts.
- *Meetings,* potentially facilitated by NGOs, in different and diverse parts of a city.
- *Local media*, social networks, and popular gathering places to spread climate change awareness and reach large audiences.

Source: World Bank. 2011a. Guide to climate change adaptation in cities. World Bank, Washington, DC. http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387- 1318995974398/GuideClimChangeAdaptCities.pdf

Screening adaptation strategies through the gender lens and preparing a GAP is an effective way to ensure gender equity . Adaptation activities in cities are strongly anchored in infrastructure, and can provide employment opportunities for women and men: flood protection measures, soil stabilization through tree planting, drainage works, and others are all labor intensive tasks. The GAP can specify terms of employment, such as minimum quotas for female workers, provision of child-care close to work sites, and equal pay for equal work. Retrofitting existing infrastructure or building new infrastructure is complex is costly and may imply relocation of residents. The GAP can also record goals for equal representation of women and men on implementation committees, gender-equity in resettlement/ relocation plans, and equal access to improved housing and services.

Including provisions for the promotion of infrastructure-related and other micro-enterprises can be an effective way of stimulating pro-poor economic development from CCA projects (Box 40) . Lessons from post-disaster

reconstruction efforts in Aceh, Indonesia, demonstrate that well-done strategies can allow women to have land-tenure and housing rights, appropriately designed toilets, and representation.[47]

Another example is the development of women-owned solar home system businesses;these are effective in reducing the demand for thermal-generated network electricity while creating income and employment opportunities for women.[48]

Box 40. Community-based microclimate resilience

This approach helps urban poor communities in Gorakhpur, India, adapt to climate change by designing and building new types of flood-resilient and affordable houses. The Mahewa ward of Gorakhpur, India, is prone to flooding during the monsoon season, affecting more than one million people in Uttar Pradesh. Many of the people who live in this community are poor and marginalized and are therefore more vulnerable to the impact of climatic hazards, such as floods, cyclones, altered rain patterns, and heat waves. Locally available bricks are used, with technologies and techniques that make building brick walls less energy intensive. This building method is more environmentally friendly than conventional practices, both in terms of optimization of resources and energy efficiency. Climate-friendly construction techniques use 19 percent fewer bricks and 54 percent less cement mortar; bricks from local areas are used in construction, which reduces greenhouse gas emissions associated with transporting bricks long distances. People who benefit from the project are involved in the construction process and then help others who want to adopt the design.

Source: United Nations Framework Convention on Climate Change (UNFCCC). 2013a. Momentum for change: Lighthouse activities. UNFCCC, Bonn.
http://unfccc.int/secretariat/momentum_for_change/items/7159.php

Implementing gender-sensitive CCA strategies. Implementing gender-sensitive CCA strategies is not necessarily easy. Good intentions do not always become reality unless strong political commitment to gender is maintained and accountability systems are in place.

- Gender budgeting of implementation plans is an effective tool to maintain momentum. The experience with gender budgeting from cities like Curitiba in Brazil has demonstrated that women and men's priorities can be adequately integrated during budget consultations. The annual budget vote by the city council has to first explain the gender results from the previous year.
- Local governance, with proper accountability and transparency, is facilitated with adequate gender balance amongst elected municipal officials and staff.
- Independent NGO monitoring of adaptation plans and activities is also an effective tool to monitor that the poor, marginalized groups, women, and men actually equitably benefit and contribute to implementing adaptation plans.

Building strong gender-equitable social and institutional relationships.

Building resilience requires not only robust decision-making by those in positions of formal authority, but also a strong web of institutional and social relationships that can provide a safety net for vulnerable populations.[49]

This also requires:

- Enhancing coordination and streamlining between sector and administrative entities (e.g., to make sure that decisions by one city to protect coastal areas with barriers do not have impacts on basins that are suppliers of fresh water, or wetland ecologies that are important to the economic base of that city or other cities inland and would in term impact the welfare of women and men in those cities).
- Developing partnerships with the private sector to share risks (e.g., national governments can work with private insurance providers to offer gender-equitable protection to each city without requiring each to make a sizeable).
- Developing strong partnerships with communities and NGOs, in particular to create economic activity for women and men around CCA projects, to ensure that women have access to information, training, and

decision-making on adaptation and disaster-risk management, and to ensure that in case of disaster, information, and evacuation modalities will take into account women's vulnerabilities.

7.9.5 Monitoring gender impacts

Measurement, reporting, and verification are important steps in evaluating the efficiency and effectiveness of gender equity in a CCA effort. Demonstrating that a gender-equitable adaptation action or suite of actions has minimized vulnerability, reduced risk, and increased adaptive capacity for both women and men helps to inform future decisions and satisfy taxpayers and funders.

Results areas and indicators[50] can be derived from the initial vulnerability assessments, for example:

- Trends in the percentage and location of land area known to have informal settlements with inferior infrastructure, including flood or landslide protection works
- Number of women and men living in a floodplain or in a low-elevation coastal zone
- Trends in the availability of climate resilient shelters, including quality of construction, percent of homes without air conditioning, natural cooling, or heating in a city expected to experience more days of extreme high/low temperatures
- Existence of a cohesive social network in an informal settlement, including strong communications channels in times of crisis
- Trends in women and men's economic resilience (incomes and savings).

Impact evaluation areas would address:

- Sustained improvements in the quality of life
- Reduction in morbidity of women, men of different age groups due to lack of quality water and sanitation
- Reduction in mortalities of women, men of different age groups in case of climate-related disaster
- Increased self-reliance of cities and their communities to manage climate change, in terms of financial resources, governance, partnerships, information systems, and disaster-response capacity.

Examples of gender-sensitive intervention areas and monitoring and impact indicators are in Table 14.

TABLE 14. Illustrative gender indicators for urban CCA projects

Intervention Area	Illustrative Indicators
Consultation inclusiveness	No. and percentage of men and women, by social group, consulted about project plans No. of information documents designed with gender-sensitive information No. of gender-sensitive information and consultations sessions: • No. of gender-sensitive technical information sessions e.g. on clean water and sanitation technologies • No. and content of gender and climate change radio programs
Improving gender balance of staff, partners or clients/client groups	Percentage of men and women for target group
Active participation	Number and percentage of men and women, actively participating in consultations, workshops, and committee meetings
Leadership	No. of women and men on city councils and committees, and in what position (member or heads) No. of women-led urban initiatives
Economic Status	Women's and men's annual income from employment in urban infrastructure and services Women's and men's annual income from other economic activities and businesses
Gender-equitable access to land, housing, utility and other services	No. of neighborhoods mapped in cadastral surveys No. of joint (husband and wife) land/housing titles granted No. of titles to female-headed households Gender-sensitive design of community facilities (e.g., water and sanitation) in poor neighborhoods
Nontraditional practices or roles adopted	Employment in urban infrastructure construction, operation and maintenance (housing, street construction, flood protection, etc.): examples of indicators: • No. of women and men employed, skilled and unskilled (especially during and after extreme weather events) • Wage parity between women and men • No child labor • Availability of childcare close to worksites • No. of women and youth employed in female-owned urban infrastructure businesses (street cleaning, O&M of infrastructure) Women and men's after sunset activities
Women's status changes by household or community	Proxy measures related to relative roles, by sex, in household expenditure decisions or incorporation of women's priorities into group or community plans
Disaster Warning Systems	No. of women and men trained on evacuation procedures

Service provided	Percentage of men and women using various municipal services and service companies
Inclusive service provided	Transport tariff adjustments for (poor) female-headed households
Client satisfaction	Satisfaction level changes with: • Skill acquisition and training. Indicators —No. of women and men in skills training sessions for urban infrastructure works and services —No. of women and men in business training on urban infrastructure and services productive activities —No. of women and men trained on climate adaptation for city management • Health (from better housing and access to health services). Indicators: —Sex-disaggregated statistics on morbidity and mortality from CC-related (vector-borne) diseases and extreme events — Statistics on women's and men's respiratory illnesses • Availability, reliability, safety, and affordability of climate resilient urban infrastructure and services. Indicators: —No. of [improvements in] water and sanitation facilities and drainage — No. of lighted bus stops —Average distance from homestead to all-weather road and public transport —Reduction in flooding —Statistics on aggressions and rapes (at bus stops, in shelters) • Sex-disaggregated data on time spent to and from work • Space and quality of housing for female- and male-headed households • Residents sense of safety and community cohesion
Relative budget allocation for gender mainstreaming activities	Percentage of budget spent of gender-focused activities compared to total budget
Adoption and level of implementation of gender strategies and plans	Number and type of activities undertaken Percentage of plan completed
Policy change	Inclusion, protection and/or improvement in laws or regulations to provide safe and gender equitable access to sector employment and services, resettlement, and land/housing titling.

Box 41 List of additional literature sources on gender and urban programs.

Box 41. Further readings on gender and urban programs

- Angel, S., with J. Parent, D.L. Civco, and A.M. Blei. 2011. Making room for a planet of cities. Lincoln Institute of Land Policy, Cambridge, MA. http://www.lincolninst.edu/pubs/1880_Making-Room-for-a-Planet-of-Cities-urban-expansion
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- United Nations Framework Convention on Climate Change (UNFCCC). 2013b. Momentum for change: Women for results and urban poor. UNFCCC, Bonn. http://unfccc.int/secretariat/momentum_for_change/items/7318.php
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8. CASE STUDIES OF SECTORAL PROJECTS USING GENDER BEST PRACTICES

INTRODUCTION

The gender and climate change adaptation literature was extensively reviewed to locate real-world examples of how design teams are effectively integrating gender considerations into CCA projects. This section summarizes salient information on these projects, to provide you with concrete examples of good practices. Each case study begins with a tabular presentation of key project information, including identification of project implementers;funding partners;project dates, locations, and budgets;project objectives;notable gender-related activities and results;and references to project reports. This is followed by a more in-depth description of the project and its gender components and results.

We have focused particularly on projects related to natural resources development, including agriculture, forestry, and water, because these sectors are of vital importance to CCA in the Asia-Pacific region. Case studies from this region have been used whenever possible, but because efforts to integrate gender into CCA projects are still quite new, our review included sector case studies from other regions when a suitable one from Asia-Pacific could not be found. Future updates of this Sourcebook will provide additional case studies as new information becomes available.

This section covers case studies from the following areas:

A. Agriculture: Development of Sustainable Agriculture in the Pacific (South Pacific)
B. Agriculture: Community Livestock Development Project (Nepal)
C. Forestry/Energy: Second Sustainable Participatory Energy Management Project (PROGEDE II) (Senegal)
D. Biodiversity Conservation: Western Orissa Rural Livelihoods Project (India)
E. Coastal Water Resources/Fisheries: Integrated Coastal Resources Management (Philippines)
F. WASH: Tonle Sap Rural Water Supply and Sanitation Sector Project (Cambodia)
G. Transportation: Rural Roads Program (Peru)
H. Urban/Disaster Preparedness: Secondary Town Integrated Flood Protection Project (Bangladesh)
I. Disaster Recovery: Earthquake-Displaced People Livelihood Restoration Program (Pakistan)
J. Energy: Rural Electrification Phase I Project (Lao PDR)

A. AGRICULTURE: DEVELOPMENT OF SUSTAINABLE AGRICULTURE IN THE PACIFIC (SOUTH PACIFIC)

(NB: To read more about gender, agriculture and CCA, see Sectoral Module A.)

Project Name:	Country:	Sector(s):
Development of Sustainable Agriculture in the Pacific (DSAP)	South Pacific (Regional) Fiji, Cook Islands, Federated States of Micronesia, French Polynesia, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea (PNG), Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna	Agriculture

Implementing Organizations: Secretariat of the Pacific Community (SPC)

Funding Partners: European Union

Budget (US$): 5,824,300 (€4,306,000)

Timeframe: 2003–2010 (2008 and 2009 in some countries)

Project Objectives: (Source: UNDP-PC and AusAID 2008)

- Improve food security and livelihoods to increase resiliency for disaster risks and climate change impacts
- Make agricultural production more sustainable

Notable Gender-Related Activities and Processes: (Source: Seniloli 2010)

- Gender-sensitizing training of staff and partners
- Gender-sensitive consultation with men and women farmers and their respective crops
- Gender-specific appropriate technologies for sustainable agriculture
- Strategic selection of project partners: Tonga Development Community Trust, for projects for women
- Guiding project principle of involvement of all stakeholders, including people of different ages, gender, and background, at all project stages

Notable Gender-Related Results:

(Source: Seniloli 2010)

- Staff trained in gender-sensitive participatory approaches and technologies
- Partnerships strengthened between agricultural extension providers and NGO partners working with women
- Balanced representation of men and women in DSAP publications
- High levels of women participating in DSAP project activities
- Culturally specific, gender-sensitive activities and extension strategies (e.g., tapa making in Tonga, separation of male and female activities in Fiji, women's taro farming in PNG).

Sources:

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1. Introduction

Beginning in 2003, the Secretariat of the Pacific Community (SPC) undertook a sustainable agricultural development program throughout the Pacific region to improve the resiliency of farm households and communities to disaster risks and climate change impacts the DSAP worked across 17 Pacific nations (Aguilar 2009).

DSAP evolved from a prior Pacific Regional Agriculture Programme (PRAP) of the SPC. DSAP was intended to build upon the foundation of PRAP projects on lowland and atoll farming. DSAP differed in several ways from the previous PRAP projects. In the atolls, the DSAP approach focused on the identification of problems and the testing of technologies with farmers to improve the traditional tree crop-based multi-story agricultural systems as well as ensure the integration of livestock into this system. In the lowlands, the emphasis moved from research to identification and promotion of promising technologies that included improved crop varieties, pest and disease management, land conservation, and agroforestry technologies (Adaptation Learning Network). DSAP also deployed extension communication outreach tools to better promote project efforts within member countries—for example, the use of radio, and the production and use of posters, handbooks, brochures, and videos at a national level.

The project was designed on a model that encourages country-level planning, implementation and coordination. This has been achieved by establishing National Steering Committees (NSCs) involving a range of relevant stakeholders from both government and civil society (Aguilar 2009). The DSAP used participatory approaches to work with local farmers across the Pacific to improve their food security and livelihoods (Seniloli 2008).

DSAP had two objectives (UNDP-PC and AusAID 2008):

- To improve food security and livelihoods to increase resiliency for disaster risks and climate change impacts
- To make agricultural production more sustainable.

DSAP recognized that women farmers have significant roles in food production and marketing in the Pacific. When determining client needs, the project design took into account the different roles that women and men have in the production process, postharvest activities, in the rural household economy, and their differing constraints (EC 2003).

2. Summary of Project

General description of proposal preparation

Besides lessons from the prior regional agriculture project, DSAP used a participatory planning workshop in October 2001 to finalize the design and content of the project. This workshop included representatives from various government, NGOs, and donor organizations from numerous Pacific Island Countries and Territories and the SPC (Adaptation Learning Network).

Gender integration during project design/formulation and proposal preparation

The foundation of DSAP was participatory methodologies at community and higher levels that focused on improving sustainable agricultural production and food security. Using a participatory rural appraisal with gender analysis for the needs assessment created the space for women's participation and inputs on priorities and strategies. This combined approach identified the needs of women, men, and youth throughout the community. It yielded data on the variations in crops grown by men and women on the different islands and also the division of labor for various farm activities and crops. Information from the consultative process about local needs informed project choices about the right tools and appropriate technologies for farmers in different parts of the Pacific. The design stage consultations with all stakeholders at the regional, national, and community levels took time but led to the establishment of inclusive participatory consultation mechanisms, at all levels, during project implementation. The project also took the time to create sustainable linkages across levels of consultation mechanisms and earn the trust of local communities (Aguilar 2009).

Other gender-friendly mechanisms in the design of DSAP involved partner, staffing, and client choices:

- The project made plans to link with the activities and expertise of the Pacific Women's Resource Bureau (PWRB) and other organizations with greater experience working with women farmers (e.g., Tonga Development Community Trust) (Seniloli 2010).
- For field staffing, DSAP recognized the need for gender balance in staff and made plans for selecting gender focal points (GFPs) among the staff (EC 2003).
- As part of its client base, DSAP chose to target women's groups at the grassroots level and to involve representatives from these groups into the national steering committee (ibid.).

Gender integration during project implementation (Sources: Seniloli 2008, 2010;EC 2003)

- Building gender capacity building for project staff and implementing organization. The staff and team members of DSAP received gender sensitivity training.
- Building gender capacity within client communities. With the Pacific Platform for Action for women as basis for the approach to engaging communities, DSAP built the capacity of both men and women.
- Ensuring technology training for women. DSAP made a point of increasing women's participation in technology training.
- Emphasizing participatory approaches. DSAP focused on the widespread participation of women.
- Appointment of GFPs. These individuals provided ongoing impetus to the inclusion of women and incorporation of gender analysis into the participatory approaches.
- Women's roles in project decision-making. Women's groups were included on the NSC.
- Tailoring culturally specific gender approaches across the 17 Pacific Island countries. DSAP adjusted its technology promotion to be suitable for different locations, depending on crops, cottage industries, and the existing gender divisions of work (e.g., women's taro farming in PNG).
- Engaging men and women farmers in technology testing. Both women and men farmers who were participating in the project were involved identifying, testing, and demonstrating the value of selected appropriate technologies.
- Addressing food security. When participatory analyses revealed that some segments of the population did not know how to prepare certain crops for consumption, DSAP added training on food preparation to its services.
- Gender-balanced material in DSAP publications. Images and text aimed for balanced representation of men and women.
- Sex-disaggregated baseline and other data. To monitor the adoption of appropriate technologies, the project conducted annual participatory impact assessments, including gender analysis and identification of benefits in each country.

Key gender-related results (Source: Seniloli 2010)

- Improved staff capacity for gender-sensitive participatory approaches and technologies
- Strengthened partnerships between agricultural extension providers and NGO partners working with women
- Increased adoption of new technologies by more women farmers.

3. **Conclusions**

Strengths

- The adoption of a participatory consultative approach, during design and implementation, created more opportunities for women to participate in project decision-making and priority setting.
- The project recognized cultural differences within a region, including culturally specific differences in the gender division of labor for various crops and agricultural tasks, and adapted strategies and technologies accordingly.
- The implementer built its own capacity to collect and apply gender-related information and operate in a gender-sensitive manner within project interventions. But it also reached out to use local organizations with greater gender expertise and networks.
- The project adopted a guiding project principle that specified that both men and women stakeholders should be involved.

Lessons learned and missed opportunities

- The indicators in the logical framework mention sex-disaggregation of data but do not include specific indicators or targets for women's participation.
- Indicators were not sufficient to understand impacts on women's lives, including their economic, social, or political status within their households and communities, or how their project involvement impacted their families.

B. AGRICULTURE: COMMUNITY LIVESTOCK DEVELOPMENT PROJECT (NEPAL)

(NB: To read more about gender, agriculture and CCA, see Sectoral Module A.)

Project Name:	Country:	Sector(s):
Community Livestock Development Project (CLDP)	Nepal	Agriculture/Livestock

Implementing Organizations:

- Primary Executing Agency: Government of Nepal Department of Livestock Services (DLS)/ Ministry of Agriculture and Cooperatives (MOAC).
- Management and Livestock Services Delivery: Five DLS regional directors overseeing District Livestock Services Offices (DLSOs) and NGOs at the district level.
- Microfinance Executing Agency: The Rural Microfinance Development Center (RMDC)
- Technical Support: Food and Agricultural Organization of the United Nations (FAO)

Funding Partners : ADB

Budget (US$): 33 million (ADB)/Asian Development Fund: $20 million, Government: $5 million, RMDC: $6.5 million, beneficiaries: $1.5 million

Timeframe : 2003–2011

Project Objectives : (Source: ADB 2011b)

Reducing poverty in a gender-inclusive and socially equitable manner through the livestock sector:

- Improved food security
- Improved nutrition
- Increased incomes
- Increased livestock-related employment.

Notable Gender-Related Activities and Processes: (Source: ADB 2010c)

- Strengthened the institutional capacity of DLS through the provision of a gender consultant for the 6-year project period
- Mandated 35 percent women's participation in mixed farmer groups, and in beneficiary-level training activities
- Required all training activities to have a session on gender issues, in addition to specific gender capacity-building activities
- Recruited at least 35 percent women community livestock assistants to ensure larger outreach and benefits to women farmers
- Improved women's access to technology and extension by directing such training to at least 35–50 percent women
- Stipulated at least 35 percent women's representation in umbrella ward-level farmer coordination committees and similar executive committees
- Promoted one model woman entrepreneur per project district to increase women's participation in enterprise development
- Ensured that at least 35 percent women beneficiaries were informed of project activities, including information on microfinance and lending modalities, and the proposed 15 livestock investment models
- Strengthened linkages with the Department of Women Development to expand opportunities to farmer groups
- Facilitated increased support for gender mainstreaming activities through the establishment of GFPs at the field to review progress made in addressing gender concerns
- Required all data to be gender-disaggregated
- Allocated budget for gender mainstreaming activities
- Required NGO partners to have at least 50 percent women field staff

- Gave special attention to increasing women's resilience via non-formal education for business literacy, skills development, savings and credit, and participation in production and marketing activities.

Notable Gender-Related Results: (Sources: ADB 2010c, 2011b)

- Increased number of farmers groups that had at least 30 percent women members
- Increased percentage of community livestock assistants (CLAs) that were women (58 percent)
- Increased capacity built for understanding and addressing gender issues via gender-focused training (i.e., 4,781 farmers, 300 cooperatives, staff of 134 NGOs, 119 livestock enterprises, 50 CLAs, 317 DLS officers, and 2202 DLS junior executive staff;47 DLS officers involved in a national workshop on gender strategies)
- Increased capacity building for understanding and addressing gender issues via management, leadership, and technical training (i.e., 200+ DLS officers, 280 key farmers, 55 feed millers)
- Increased percentage of women seed growers (52 percent)
- Increased percentage of women on farmer group committees (58 percent)
- Increased access to farmer group-based livestock insurance security schemes (40 percent women in insurance groups)
- Gender policy for the DLS was approved.

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1. **Introduction**

Livestock are an important source of nutrition, power, and income for the 80 percent of the rural population of Nepal who depend upon agriculture as a primary livelihood source. Livestock also provide draft power, family food, and marketable commodities. Agriculture accounts for one third of Nepal's Gross Domestic Product. In 2003, when the CLDP was being designed, livestock contributed 31 percent to the Agricultural Gross Domestic Product (ADB 2011b). Dairy is the most important livestock activity, accounting for 62.7 percent of the total livestock sector contribution to AGDP, followed by meat (32.4 percent) and eggs (5.0 percent) (ADB 2003b). Various government development plans for agriculture and the entire economy emphasized the potential of the livestock sector to improve the nutritional and economic status of small and marginal farm families, if animal quality was upgraded, forage and feed production was promoted, and access to extension services and markets was improved. The plans envisaged a participatory modernization process that would in turn, boost the contribution of livestock to 45 percent of the AGDP (ADB 2011b).

Over 70 percent of Nepal's women are engaged in livestock rearing. While they make many of the household decisions associated with livestock keeping, they lack sufficient status, negotiating skills, and social networks for effective marketing of livestock products. Although women took most of the responsibility for livestock production, they lacked property rights. Without these rights, they were unable to take loans because they

could not meet loan collateral requirements. They were also not part of the priority lending agenda for commercial banks. Women involved with livestock management had a critical stake in obtaining services, supplies, and finance to sustain their efforts. For marketing, they needed greater access to membership benefits and leadership opportunities within farmer groups, umbrella organizations, and cooperatives (ADB 2003b).

The CLDP built upon lessons learned from three ADB livestock development projects implemented in Nepal between 1980 and 2003 (ADB 2003b). These projects covered 24 of the 75 districts of Nepal, but many poorer families did not benefit. The western districts received only limited ADB or other external assistance and these areas coincided with high activity areas for the civil war. The emphasis and geographic scope of the CLDP was intended to promote technologies that poor beneficiaries were able to adopt and support changes in the DLS to become a more facilitation- and output-oriented organization. There was a need for a greater emphasis on social mobilization and gender equality, including micro-credit for women. Past experience also suggested the importance of forming government partnerships with private sector enterprises, cooperatives, community-based organizations, and NGOs to establish and strengthen competitive agricultural livestock and crop value chains. The project was intended to benefit 164,000 families through "increased livestock productivity in an environmentally sustainable and socially equitable manner, while strengthening the capacity of women and men to manage the development process"(ADB 2011b).

Besides a Project Management Services component with administration, procurement, reporting, and capacity-building functions, there were four fieldwork components (ibid.):

- Community development and capacity building for a variety of actors, working through partner NGOs and assisted by government CLAs
- Livestock productivity improvement (i.e., goats, buffalos, feed development, animal health services, microfinance and livestock mortality insurance in 22 districts of the Far-Western, Midwestern, and Western Development regions)
- Livestock processing and marketing (i.e., meat and dairy processing, hygiene, marketing, and enterprise loans, consumer awareness, and education program in 21 districts of Mid-Western, Western, Central, and Eastern Development regions)
- Livelihood pilot program in higher altitudes (i.e., baseline survey and participatory data collection, multi-sectoral planning, and pilot livelihood activities implementation in five districts in the Mid-Western and Far-Western development regions).

Although CCA was not considered when this project was designed, livestock are an important dimension of household livelihood resilience in Nepal and elsewhere. Any climate change that affects feed and fodder supplies, vector multiplication and animal health, and transportation conditions will have important impacts on family and national income (ibid.).

2. **Summary of Project**

General description of proposal preparation

- The Government of Nepal requested technical assistance and funding from the ADB to engage government staff and key stakeholders in a participatory process to design the CLDP.
- Poverty analyses were used to select project districts. Factors included (1) the proportion of marginal and small farm holdings (weighted for rural population, and quality of land), (2) the proportion of ethnic and disadvantaged caste groups, (3) people in low-paying occupations and unpaid family workers, (4) literacy levels, and (5) lack of access to drinking water. The project design included 48 districts across all five development regions of the country. In addition, poverty mapping proved to be a useful tool to determine the beneficiaries and suitable ways to involve them in project activities (ibid.).

Gender integration during project design/formulation and proposal preparation

- Covenants were added to the ADB loan to (1) ensure attention to gender and implementation of the project's GAP in the loan agreement and (2) completion, within six month of the loan's effective date, of the gender-disaggregated initial baseline physical and socioeconomic surveys, submission of a detailed implementation and monitoring plan, and annual reports for ADB review (ibid.).

- Findings from a gender analysis (ADB 2003b) conducted prior to the loan agreement determined that:
  - Women have significant roles in the livestock subsector, particularly in day-to-day decisions about animal grazing, collection of water, fodder, and forest leaf-litter;watering the livestock;application of compost;and the use and home-based processing of livestock products. Their limited access to resources and decision-making power in livestock management are serious constraints to their involvement in livestock enterprises offering greater returns on their labor and, hence, higher income.
  - Women experience a heavy time burden with their productive and reproductive duties. Wood and fodder collection take considerable time;the project planned to help women grow forage plots next to their homes and free their time for other activities such as calf-rearing and commercial forage production.
  - Extension and training are often provided to men on the erroneous assumption that the message will trickle down to women. Consequently, livestock knowledge has been transferred inefficiently, or not at all, from husband to wife. The CLDP planned to increase the number of women in contact with extension services, increase gender sensitivity among policymakers and managers, and routinely measure gender impacts.
  - Women, particularly those from poorer households, lack access to finance for their livestock activities. With banks, women lack the required collateral, their literacy levels make it difficult to understand and negotiate the application process, and they are more constrained with respect to mobility options to travel to bank branches. Group guarantees and community-based service were more likely to be beneficial to women.
- A GAP was part of the project loan and design document. It specified activities, features, and targets for women's participation under each project component to help achieve gender-inclusive project outcomes. It specified an allocated budget for gender mainstreaming activities. Under the loan covenant, DLS agreed to recruit the services of a gender consultant from FAO for work with the DLS on organizational transformation, recruitment, and capacity building;service delivery;monitoring;and a gender policy over the project period. Both men and women GFPs were planned for central, regional, and district field levels. The project manager was intended to serve as the GFP and convene periodic focal point meetings. The project set a 35 percent target for women from among the 390 CLAs proposed for the project;the CLAs were identified by their communities and were expected to eventually become self-supporting via the sale of livestock improvement/para-veterinary services to the community.
- For the NGO partners of the DLS who would be responsible for gender-sensitive social mobilization work, the project established selection criteria for partner NGOs to have at least 50% women field staff.
- Specific community-based targets were set for client women's participation and benefit distribution (i.e., raising women's involvement as members in mixed-sex groups and various trainings to at least 35 percent) and logistical adaptations for meetings time, place, and delivery.
- A women's literacy training component was added in locations where a low level of literacy constrains livestock enterprise development.
- The Project Steering Committee and the Implementation Coordination Committee were designed to include representatives from the Ministry of Women, Children, and Social Welfare (ADB 2011b).

Gender integration during project implementation

- The project deepened understanding of gender dimensions of project districts via district-specific, sex-disaggregated poverty, and social mapping and analyses in 27 districts, as well as baseline surveys, and set up a gender-disaggregated performance monitoring system (ADB 2010c). The project ensured that gender data were collected through all surveys and participatory rural appraisals for the high-altitude livelihood pilot component, including information on livelihoods, livestock production, and processing activities at high altitudes, and that both men and women were consulted (ibid.).
- CLDP improved gender mainstreaming capacity and service practices of the DLS via 26 months of technical assistance from a gender and development specialist consultant, training staff at all levels, assignment of GFPs, recruitment of 50 percent women among the selected CLAs, and forming local partnerships with the Department of Women's Development and NGOs with gender mainstreaming experience. The Department of Women's Development at the Ministry of Women, Children and Social Welfare were also part of the Project Steering Committee, which was chaired by the Secretary of MOAC and also the Implementation Coordination Committee, which was chaired by the Director General of the DLS. The DLS also field tested two tools: the gender audit system and gender budgeting (ADB 2010c, 2011b).
- The project built the capacity of client women in mixed-sex groups via technical, gender, and literacy

training, and improved gender mainstreaming knowledge for men in these groups.

- Logistical accommodations were made to improve women's participation, particularly in technology-related training at district and regional centers far away from women's homes and villages, by providing childcare facilities at training sites;more field-based trainings;and curriculum revision of technology-related training to suit less educated trainees (ADB 2010c).

Key gender-related results

- Gender sensitivity knowledge and skills were strengthened at the DLS and microfinance institutions. DLS capacity was built through training for 93 field staff and 50 DLS officers on gender and development issues in the livestock sector;convening of a national workshop on gender policy with 50 officers;and assignment of GFP duties to 75 DLS staff at the central, regional, and district levels (ADB 2010c). The project also developed training manuals on livestock and gender mainstreaming that DLS continued to use in its regular program (ADB 2011b). The microfinance institutions undertook gender sensitization training and incorporated specific features to meet women's financial needs (ibid.).
- For the 134 NGOs signing partnership contracts, these organizations had a 55 percent proportion of women staff. These organizations provided services in social mobilization, awareness raising, and institutional capacity development of farmer groups. In total, the project trained 206 staff of partner NGOs and 50 staff of microfinance institutions on gender sensitization and other social and technical areas (ADB 2011b).
- The DLS formalized its gender equality objectives, commitments, priorities, and responsibilities through the DLS Gender Strategy for the Livestock Sector, finalized in June 2009 (ADB 2010c).
- The CLDP adopted a number of mechanisms to keep track of the distribution of benefits to different categories of men and women farmers, including (ADB 2003b):
  - A baseline survey
  - An information system to identify key information and indicators at the household, district, department, and ministry levels
  - A recording system for client and partner groups and organizations
  - A sex-disaggregated participatory M&E system that emphasized changes in poor men's and women's well-being (i.e., basic needs, assets, social indicators, and access to savings and credit) and set specific gender-related targets (Table 15)
  - Process monitoring via reports from CLAs
  - Periodic review workshops on project progress, by local livestock action teams, local authorities, and other stakeholders
  - Project progress reports will include sex-disaggregated data on project impact, outcomes, and output indicators in the design and monitoring framework, as well as ethnicity and caste disaggregation
  - Audit reports on NGO performance
  - Independent midterm evaluation of the project's results, poverty impact ratios, NGO usefulness, and sustainability
  - Benefit M&E studies.

TABLE 15 CLDP Indicators and Targets

Indicators	Target
Women's participation in mixed farmer groups and beneficiary capacity-building activities	35%
Training activities which include a session on gender issues, in addition to specific gender capacity-building activities	All
Percentage of female CLAs to ensure larger outreach and greater benefits to women farmers	50%
Percentage of women participants involved in technology training	35–50%
Percentage of involvement by women in 10,000-ha perennial forage coverage and fodder seed production	50%
Percentage of women among 1,500 contract seed growers	35%
Percentage of women training participants among 1,200 rural milk collectors for 30 urban communities	50%
Percentage of women loan recipients through RMDC's 76 microfinance institutions	50%
Percentage women's representation in umbrella ward-level farmer coordination committees, and similar executive committees of community associations and cooperatives	35% minimum
Percentage of women beneficiaries who are informed of project activities, including information on credit and lending modalities, and the proposed 15 livestock investment models	50% minimum

No. of model women entrepreneurs per district to increase women's participation in enterprise development	One/district
Percentage of women field staff required for NGO and community-based organization project partners	50% minimum

According to project implementation reports, the CLDP made good progress in achieving targets for women's participation and pursuing initiatives to reduce gender disparities (ADB 2010b):

- Women's representation met or exceeded expectations for the 32,394 farmer groups (62 percent women), cooperative membership (55 percent women and 16 women-only cooperatives out of a total of 54), livestock committee membership (64 percent women), contract seed growers (at least 60 percent women among 1,500 growers);micro-financing program participants (100 percent women), private para-veterinarians (31 women), and training workshops (40 percent women in meat hygiene awareness workshops) (ADB 2010c). At least one model woman entrepreneur was selected in each project district to promote women's agro-processing and marketing enterprise, management, fodder tree and seed management, and cooperative management and leadership. Men became more accustomed to seeing women more as equals contributing to the economy, the family, and the community.
- The positive project outcomes for rural women included:
  - Expanded technical capacity for women in entrepreneurship and other topics
  - Increased production, under the Livestock Productivity Improvement component, for goats, pigs, poultry, and forage, for 63,523 families (62 percent women), which were from disadvantaged castes, resource-poor ethnic groups, and former bonded laborers (ADB 2011b)
  - Increased hectares of land under improved perennial forage (i.e., 12,542 ha of community land and 300 ha of private land), which directly involved 58,149 farmers, of which 60 percent were women (ibid.)
  - Broadened income-generating opportunities for women from livestock rearing to employment, including nontraditional jobs such as butcher shops, processing and marketing milk, milk collectors, forage seed producers, work in meat shops, work as village animal health workers, and CLAs (ADB 2010c)
  - Increased access of women to financial services with 86 percent of the $23.6 million loaned by microfinance institutions going to 90,222 women for their livestock production and to 6,420 men for livestock marketing and processing enterprises, with 100 percent loan repayment performance (ADB 2011b)
  - Reduced drudgery for women from the plantings of fast-growing perennial forage species (e.g., fodder collection time of women to distant areas decreased by two to five hours per day and women)
  - Increased income for women to use on children's education, family healthcare, and purchase of food (ADB 2010c).

3. **Conclusions**

Strengths

The Nepal CLDP demonstrates the opportunities for designing and implementing activities that support women's various roles in the day-to-day tasks associated with the livestock value chain, particularly in the context of a pro-poor approach. Livestock are a key asset for poor households and they fulfill multiple economic, social, and risk management functions. Climate change is expected to heighten the vulnerability of households engaged in the livestock value chain, increase pressures on forage and water supplies, change grazing ecosystems, increase the spread of livestock diseases, and intensify conflicts over scarce resources. Losing livestock assets can lead to a household spiral into chronic poverty. For women, lack of land rights and tenure security;lack of access to information, technology, services, and finance;and lack of political power further increase their vulnerability to the risks to their livestock livelihoods from climate change. Accordingly, gender-sensitive strategies are needed to improve livestock management and increase resilience in a sustainable and socially equitable manner.

Strengths of the project's design and implementation for advancing gender equality included:

- Donor loan covenants that support specific gender mainstreaming actions or targets (e.g., gender expertise, gender-sensitive poverty mapping, and consultations at the community level during the design process and performance monitoring).
- Developing a comprehensive GAP with specific activities, features, and targets for women's participation

under each project component and support for the development of a gender policy for the government implementing agency.
- Seeking out gender expertise via partnerships (e.g., local NGOs, Department of Women Development and the gender consultant) and building internal gender mainstreaming capacity for the service delivery agency (ADB 2011b).
- Delegating gender responsibilities and data collection from women to GFPs at the central, district, and village levels for GAP implementation (ADB 2010c).
- Gender capacity building for project staff, NGO partner staff, and DLS leadership and field staff, including gender sessions in all topical training, gender-focused training, and a gender policy workshop (ibid.).
- Establishing a results framework, performance management systems, indicators, and targets that require all data to be gender-disaggregated and ensured that field staff pay greater attention to gender mainstreaming.
- Allocation of a specific budget for gender mainstreaming activities specified in the three-year GAPs in 22 livelihood project districts (ibid).
- Establishing targets for women's participation in training and other activities and set minimum eligibility criteria for groups to ensure that women were part of mixed-sex farmers groups (ibid.).
- Adapting the project approaches and promoted practices and technologies to findings from gender data collection (e.g., using poverty mapping findings to shift to a greater emphasis on goat-breeding improvement program for women and disadvantaged groups, particularly in remote areas with no access to microfinance) (ADB 2010c, 2011b).
- Bringing microfinance to more women using local microfinance intermediaries and a group guarantee system (ADB 2010c).
- Increasing the visibility and value of women's contributions to various links in the livestock value chain, as farmer groups and cooperative members, CLAs, private para-veterinarians, and training participants (ibid.).

Lessons learned and missed opportunities

- Women's participation in more sophisticated enterprise activities (e.g., commercial processing and marketing enterprises) needed to be linked to capacity building, institutional loans on a group guarantee basis, and better linkages with marketing institutions (ADB 2010c).
- The project's GAPs and disaggregated project performance monitoring system facilitated the project's systematic, comprehensive, and coordinated approach to address gender issues. It combined institutional capacity building of the implementing agencies while mandating and enabling women's participation at the community level in all project activities, including farmers groups, technical and leadership skills development, gender sensitization training, and enterprise development (ibid.).
- The project's performance monitoring system disaggregated data across different categories of men and women farmers and was possible due to baseline survey, which disaggregated by sex, caste, and ethnicity. All executing partners, including the farmers groups, were required to keep sex-disaggregated records (ibid.).
- The project missed the opportunity to track women's direct benefits and the impact of the project on women, including basic social indicators;empowerment indicators (i.e., economic changes, social networks and status, leadership changes);impacts of women's gains on children's well-being;and gender relations at the intra-household and community level (e.g., bargaining power, mobility restrictions, expenditures).

C. FORESTRY/ENERGY: SECOND SUSTAINABLE PARTICIPATORY ENERGY MANAGEMENT PROJECT (PROGEDE II) (SENEGAL)

(NB: To read more about gender, forestry and CCA, see Sectoral Module B;to read more about gender, energy and CCA, see Sectoral Module G.)

Project Name:	Country:	Sector(s):
Second Sustainable and Participatory Energy Management Project	Senegal	ForestryEnergy (Fuelwood and Charcoal)

Implementing Organizations : Ministry of Environment, Water and Forestry Department;Directorate of Local Collectivities;local NGOs, and private sector entrepreneurs

Funding Partners: World Bank (IDA) and Nordic Development Fund

Budget (US$): 19.37 million

Timeframe: 2010–2016

Project Objectives: (Source: World Bank website;2010b)

- Contribute to increased availability of diversified household fuels in a sustainable and gender-equitable way
- Contribute to increased income of participating communities while preserving forest ecosystems

Notable Gender-Related Activities and Processes: (World Bank, 2010b)

- Information, education, and communication campaigns for women and men on the impact of climate change on the forestry sector and on charcoal production concessions
- A study to evaluate capacity of local female and male charcoal producers to access urban markets
- Small business management training of women and men charcoal traders
- Counterpart grants (against a 50 percent down-payment by owner) for male and female charcoal producers to establish or improve efficient charcoal processing units
- Counterpart grants (50 percent) for male and female charcoal traders to diversify their economic activities (establishment of liquid propane gas depot, charcoal packaging unit, energy shops, non-fibrous forest product, beekeeping)
- Gender-sensitive rapid rural appraisal to establish the baseline for the integrated and participative community forest resources management
- Training of local government, including focus on women and youth, to participate in local government bureaus and forestry village management committees
- Recruitment of three experts in stakeholder organization with gender competencies
- Eco-friendly agro-forestry income generation activities (vegetable gardening and orchards, biofuels;beekeeping/honey production and poultry raising)
- Promotion through social marketing of manufacturing and sale of over 400,000 efficient cooking stoves, including those adapted to biofuel (jatropha), with the participation of women potters.
- Gender-sensitive household surveys of cooking fuels and equipment, and fuel prices in urban centers.

Notable Gender-Related Results: (World Bank, 2010b)

Achieved:

- Project implementation staff at all levels (from central to local governments and technical agencies) received gender-sensitive training and consensus built among them on project gender objectives
- PROGEDE II design reflects the lessons learned from PROGEDE I gender audit

Expected:

- 50 percent of project beneficiaries are expected to be women, and 50 percent men
- More staff trained in gender-sensitive participatory approaches and technologies

- Sex-disaggregated data to be available through household surveys

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1. Introduction

Despite Senegal being a Sahelian country subject to severe droughts, it still has rich forest ecosystems. Fuelwood and charcoal have been the main energy resource for domestic consumption of cooking fuels and a wide range of industries (e.g., brick-making, small-scale iron and steel). With increasing urbanization, the demand for charcoal has been growing significantly and is threatening the sustainability of forest ecosystems. Charcoal production and trade have become major sources of incomes, benefiting mostly urban traders but relatively few in the producing communities.

With the added pressure of climate change on rainfall patterns and forest growth, the government of Senegal undertook major policy reforms aimed at ensuring the long-term viability of the forestry ecosystems as well as redistributing income from forest products from the urban to the rural areas. It set in place in 1998 a national program for the management of domestic energy—PROGEDE (French acronym). Implemented from 1998 through 2010, including a transition phase, PROGEDE I focused on the regulation of wood-based energy supplies and on streamlining the demand for cooking fuels, in particular through the promotion of improved stoves. Noting that the forest ecosystems provided significant economic resources to women, PROGEDE I introduced a gender element in program design: technical support to increase the productivity of forest-related activities such as beekeeping and collection of medicinal plants, introduction of new or improved economic activities (poultry farming, animal husbandry), and some representation of women on village land-use committees.

The gender audit of PROGEDE I observed that women had indeed benefited from targeted economic activities but had been completely excluded from the charcoal value chain. It also observed that in most cases, women's representation on village land-use committees was "honorary"and that they were kept out of decision-making processes and from financial information. When consulted, women explained that they were already very active in the charcoal trade and that they could take on charcoal production if properly trained. Furthermore, the lessons from PROGEDE I confirmed that involving all members of the communities in forestry management was essential for the protection of the forest ecosystems, and that further training was needed for women to participate fully in the community and on local government management committees.

The design of PROGEDE II therefore recognizes that women have significant economic roles from the agricultural land and forest resources, that they have strong marketing and technical skills in some areas (ceramic pottery), and that they can contribute to the development of a sustainable forestry and charcoal

value chain. The project design also recognizes that women must benefit from training opportunities on equal footing with men in order to have more effective representation. This is culturally acceptable in Senegal, even when women have lower educational levels, although the cultural traditions vary amongst regions.

The project has two objectives (World Bank 2010b):

- Contribute to increased availability of diversified household fuels in a sustainable and gender equitable way
- Contribute to increased income of participating communities while preserving forest ecosystems.

2. Summary of Project

General description of proposal preparation

The project preparation process was highly participatory. Salient features included:

- Establishment of a project steering committee with representation from the national government ministries in charge of forestry management, agriculture and rural development, and local government, and from the World Bank as the main donor. The committee was co-chaired by the Ministry of Environment.
- The forestry management plan and the reforms and regulations of the charcoal value chain were adopted as a result of a very vast consultation process with all stakeholders from communities and from the private sector (charcoal traders).
- A gender audit of PROGEDE I was carried out to identify strengths and weaknesses and lessons learned.
- A gender training/awareness-raising workshop was conducted for the government/donor project development team, which included representatives of all key central and local government agencies, representatives of communities, and of the private sector.

Gender integration during project design/formulation and proposal preparation

- The head of the steering committee (male) and the World Bank task manager (female) were both extremely committed to gender equality and provided strong leadership on mainstreaming gender.
- The gender audit of PROGEDE I was conducted as part of the project preparation process by a two-female team—a sociologist and a gender and energy practitioner.
- Depending on the cultural values in the different regions, consultations were conducted in some regions with joint participation of women, men, youth, and seniors. In other regions women and men were engaged separately, usually combining the various age groups by sex: women of all ages with young children, and men of all ages, including male youths.
- Some complex observations were made on the need to anchor the program on traditional family units (which may include 100 members) and new developments whereby young couples strive to function as one economic unit rather than on the traditional sex-based distribution of tasks.
- Significant consultations with local communities and representative of local governments in all the project regions were held, including to assess the range of socioeconomic and ecological differences.
- Key members of the project steering committee conducted a joint reading of the draft project formulation document through the gender lens. Through this process, they agreed on:
  - Integrating gender into the project objectives
  - Integrating gender in all the appropriate components and subcomponents (see above)
  - Gender indicators, in particular on income levels, representation/empowerment, and training
  - Including household surveys to improve sex-disaggregated baseline data and document project results
  - The need to hire experts on stakeholder organization with gender competencies, and at least one gender.

Gender integration during project implementation

- The stakeholder organization experts with gender competencies were recruited in the first year of the project
- Gender criteria have been adopted for the selection of sub-projects
- The participation of women potters is increasing
- Women's participation in the charcoal value chain is increasing
- The representation of women on Inter-villages Land Use Management Committees is increasing

- Staff training is conducted on a gender-based approach
- A monitoring assessment mechanism for gender issues is being established.

Key gender-related results (see project form above)

3. Conclusions

Strengths

- The adoption of a participatory consultative approach, during design and implementation, created more opportunities for women to participate in project decision-making and priority setting.
- The project recognized cultural differences between the various regions of Senegal, including culturally specific differences in the gender division of labor for various crops and agricultural and animal husbandry tasks, and adapted strategies and know-how transfer accordingly.
- The project anchored its gender approach on the national gender policy, and adopted a guiding project principle that gender should be mainstreamed in all project components, with the aim for equal representation of women and men in project activities, equal opportunities for training, equal participation of women and men in the charcoal trade, capitalization of women's specific talents in some activities (e.g., female potters for the manufacturing of improved stove components), and equal distribution of project benefits in the rural areas.
- Quantified sex disaggregated indicators in the results framework.

Lessons learned and missed opportunities

- The gender audit of PROGEDE could have been undertaken earlier in the project preparation process if the donors had allocated the needed budget earlier. This could have possibly permitted a better distillation of all the lessons learned from PROGEDE I as well as more up-front training of the project implementation staff in the regions.
- The indicators may not be sufficient to understand impacts on women's lives, including their economic, social, or political status within their households and communities, or how their involvement impacts their families. However, an end-of-project gender-sensitive household survey is envisaged and should be able to assess these questions.

D. BIODIVERSITY CONSERVATION: WESTERN ORISSA RURAL LIVELIHOODS PROJECT (INDIA)

(NB: To read more about gender, biodiversity conservation and CCA, see Sectoral Module C;to read more about gender and forestry/watershed management, see Sectoral Module B.)

Project Name:	**Country:**	**Sector(s):**
Western Orissa Rural Livelihoods Project (WORLP)	India	Biodiversity (NTFPs) Watershed Management Forestry

Implementing Organizations:

- Watershed Development Mission of the Government of Orissa
- NR International
- Natural Resources Institute
- Regional Centre for Development Cooperation—Forestry and Governance
- Traidcraft

Funding Partners: Department for International Development (DFID)

Budget (US$): 53.62 million (£32.75 million)

Timeframe: 2001–2011 (includes one-year no-cost extension)

Project Objectives: (Pattnaik 2006)

- Create a favorable environment for fair trade of NTFPs
- Encourage investment and public-private partnerships in the NTFP sector
- Promote women's collector or other types of cooperatives as successful alternative trade institutions for NTFPs, and ensure their control over procurement, enterprise development, and trade in NTFP
- Ensure sustainable harvesting of NTFPs and conservation of forest resources
- Shift emphasis of trade from raw materials for industries to value-added products via supply chain management.

Project goal: "More effective approaches to Sustainable Rural Livelihoods adopted by government agencies and other stakeholders in Kalahandi Balangir Koraput districts and elsewhere."(Source: Sambodhi Research and Communications Pvt Ltd. n.d.)

Notable Gender-Related Activities and Processes:

- Pro-poor, NTFP orientation and participatory orientation created opportunities for women's involvement
- Selected several indicators focused on increasing women's participation, as both clients and staff, or improving women's status
- Hired women staff as community specialists
- Worked through women's self-help groups (SHGs)
- Encouraged women's participation on watershed management committees
- Innovate application of project-specific (Women's) Empowerment Index to track project impacts on project clients and a control group.

Notable Gender-Related Results:

- Improvements in women's economic status, for those involved in SHGs
- Economic status changes led to increased household and community-level respect for women
- Increased membership and leadership in watershed management decision-making
- Improved access by women to information and key institutions for NTFP activities.

Sources:

Department for International Development (DFID). 2004. Logical framework—Western Orissa rural livelihoods project. DFID, London. (URL is no longer available).

http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&ved=0CCkQFjAA&url=http%3A%2F%2Fprojects.dfid.gov.uk%2Fiati%2FDocument%2F3518556&ei=kF2BUpCYK-uxsATxkIDQDQ&usg=AFQjCNHt4oJYJq0RnQhv7OE3Kz2HIC9oag&bvm=bv.56146854,d.cWc

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Traidcraft. n.d. Building sustainable livelihoods for collectors of non-timber forest produce (NTFP). A web-page description of Western Orissa Livelihood Development Project. http://www.traidcraft.co.uk/international_development/overseas_programmes/Completed_projects/south_asia/ntfp_india

Pattnaik, M. 2006. Western Orissa rural livelihoods project: Strategy for non-timber forest produce based livelihood interventions. Working Paper No. 58. Government of Orissa and DFID, London. http://www.worlp.com/images/publication/WORKING%20PAPER%2058.pdf

Contacts: NA

1. Introduction

For centuries, rural residents in India and elsewhere have managed forests for timber and NTFPs. NTFPs provide food and medicine for humans and animals, building materials, and are also valued for their chemical properties by industrial interests. They provide a daily safety net for the poorest and landless rural residents and are a source of survival for many households during and after droughts, floods, and other climate or natural disasters. In recent years, the latter products have constituted an important part of conservation-related livelihood strategies and some have been targeted for fair trade certification schemes.

Orissa is the poorest state in India, with about 46 percent of its 36 million people living in poverty. It also has a large tribal population (Traidcraft n.d.). Many tribal and other communities depend on forests and the collection of NTFPs for their livelihoods. In Western Orissa,[51] NTFPs are an important part of livelihood strategies of the poorest households. The NTFP sector provided more than six months of work to the people living in the villages around forests;as a whole, a family living near the forest earns more than 50 percent of its cash income from the sale of collected NTFPs (Pattnaik 2006). Women are involved in the collection and processing of many of the NTFPs. Despite their hard work to collect and process NTFPs, collectors received very little income in return. Even with policy reforms in 1996 and 2002 to break forest concession and NTFP trade monopolies and devolve NTFP trade oversight to local government, collectors still lacked capacity to engage with buyers and policymakers to assert their interests. The sector was still neglected by trade bodies and the state;not much was being done to develop products, transfer technology, or improve markets (ibid.). It is also important that forests and NTFPs are managed in a sustainable way to ensure they continue to support the livelihoods of local communities in the long term, particularly as the frequency of droughts increase in Western Orissa.

Starting in 2001, the Western Orissa Rural Livelihoods Project (WORLP) was designed by DFID to improve the livelihood status of the rural poor in 290 watersheds in four districts of western Orissa. It is implemented by the Watershed Development Mission of the Government of Orissa. Although there is a broader livelihood approach, the discussion within this case focuses mainly on the NTFP activities. The 10-year objectives for the project were to:

- Create a favorable environment for fair trade of NTFPs
- Encourage investment and public-private partnerships in the NTFP sector
- Promote women's collector or other types of cooperatives as successful alternative trade institutions for NTFPs, and ensure their control over procurement, enterprise development, and trade in NTFPs
- Ensure sustainable harvesting of NTFPs and conservation of forest resources
- Shift the emphasis of trade from raw materials for industries to value-added products via supply chain management.

2. Summary of Project

General description of proposal preparation

Overall, the project took a participatory approach. However, neither its consultation process for project design nor its analytical assessments are described in the available literature.

Gender integration during project design/formulation and proposal preparation

WORLP was implemented from 2000 to 2001 by the Orissa Watershed Development Mission of Government of Orissa, through funding from DFID. The project was originally designed for 290 watersheds (Phase I). Its "watershed-plus"approach was extended to 387 additional watersheds in the four WORLP districts during Phase II, after the midterm evaluation (Sambodhi Research and Communications Pvt Ltd. n.d.). The project targeted 3,000 households across four districts. WORLP built on an existing watershed management program and shifted its orientation to identify appropriate livelihoods strategies for those watersheds with maximum concentrations of poor households.

The WORLP's NTFPs activities focused on:

- Promoting the formation/strengthening of over 200 SHGs, eight cooperatives, and two apex cooperatives so that NTFPs collectors could work together and develop a collective voice, making them better able to negotiate with buyers and policymakers and demand their rights to a fair price and vital social services.
- Providing training in sustainable harvesting practices, like leaving seeds, small saplings, and roots intact, and not cutting branches when harvesting fruits.
- Promoting/strengthening village forest protection committees and area- and district-level forest protection organizations to improve forest management practices.
- Supporting NTFPs collectors to undertake value addition of forest products so they could command a higher price, such as cleaning, grading, drying, processing, packing, and branding.
- Providing training in business skills and fair trade.

Gender integration during project implementation

- The project collected sex-disaggregated information during a baseline survey, including both household and group information, such as SHGs, Watershed Development Committees (WDCs), as well as the composition of village specialists.
- Several indicators set targets for women's participation or aimed to improve their status:
  - For output activities related to organization and participatory livelihood capacities of the poorest (Output 1), the project tracked and set targets (30 percent) for women's membership and self-reported active involvement for the WDCs and set a 30 percent minimum target for women village specialists who were trained by the project.
  - For activities to enhance and diversify the livelihood asset base for the poorest (Output 2), the project was one of the few cases for this report that tracked reductions in drudgery (35 percent reduction, reported by women, of agricultural and household related drudgery) over multiple years.
  - For project management indicators (Output 8), the project sets a target of 30 percent women field staff for two districts after the first year and in two more districts at the end of year three. At the block level, the indicator targets called for 35 percent women staff on fully staffed implementation teams.
- There may have been sex-disaggregated data collection for other people-level indicators, but that requirement is not specified in the performance management plan (available online).
- The project worked through SHGs, which tended to be mostly women. Through these groups, women took part in income-generating activities, gained access to microfinance and micro-savings opportunities, and the revolving and grant component of the project funds.
- In its seventh year, WORLP included gender analysis as part of a 2008 impact assessment exercise for all activities. The consultants involved designed an interesting Empowerment Index that served as a benchmark for the impact assessment conducted in 2011 (Sambodhi Research and Communications Pvt Ltd. n.d.) at the close of the project. The index is derived from a weighted average of several component indices: involvement in livelihood activities index, access to information index, access to institution index, and household decision-making index. Project clients were compared to a control group for the three-year study

window. Results of this impact assessment are described in the section below.

Key gender-related results (Source: Sambodhi Research and Communications Pvt Ltd. n.d.)

- Women's participation increased to 34 percent of members of the WDCs and nearly 13 percent of the WDCs are headed by women members as president.
- A total of 12,960 SHGs, composed of mostly women, were formed and strengthened during the project period. Of these, more than 1,500 were engaged with property rights institutions for accessing use rights of natural resources and government schemes.
- The percentage of village specialists who were women was less than expected, 17 percent compared to the 30 percent minimum target.

The impact assessment study found:

- Client women scored significantly higher on the Empowerment Index than non-client women in 2008 and 2011, but the increase was greater for the control group in 2011. The consultants attributed the improved scores to better access to information and greater involvement in livelihood activities for women in the project areas.
- WORLP's efforts to recognize women's free time periods when scheduling project and SHG meetings paid off with greater participation by women.
- Women clients reported change in the attitudes of male members in the family. Men have grown more comfortable with women handling cash and dealing with banks, incurring expenditure on behalf of family, meeting in SHGs and village events, and being more mobile. At the outset, men were not very comfortable with the idea of women getting engaged in SHGs and venturing out, but with time the level of discomfort has mellowed. In some households, men have increased their time spent on childcare.
- There were also changes reported in terms of male respect for, and recognition of, women's expanded contributions to civic life due to the government's focus on SHGs and women's active participation in local bodies.
- Women's new economic knowledge and skills also earned them greater respect within and outside their households, as did their enhanced income from SHG income-generating activities, microfinance access, and access to the revolving and the grant component of the project funds. The SHGs have provided an avenue to poor women to make micro-deposits at regular interval.
- Nearly half the women respondents in the project villages reported increased involvement in agricultural activities. In control villages, approximately 38 percent of the women reported increase. Similarly, almost 41 percent of the women (18 percent in control villages) reported increased involvement in livestock activities with almost one third attributing the same to project activities.
- In 2008 and 2011, about half of the women respondents reported increased access to agricultural information, around 42 percent reported increased access to livestock information, and almost one third reported increased access to information on NTFPs. These scores exceeded women in the control group in both years.
- Women's access to common property resources, markets, credit, and property rights institutions increased from 2008 to 2011.

3. Conclusions

Strengths

- Women's SHG strategies were balanced by engaging women in mixed-sex WMCs.
- Indicators aimed to not just "count beans"but to understand changes in women's status.
- Gender impact analysis is not very common for most projects, particularly with data from a control group. The Empowerment Index has utility for other projects that want to go beyond output and outcome indicators.

Lessons learned and missed opportunities

- Men's support was necessary for women's involvement in SHGs and community-wide meetings and decision-making. However, it is not clear what the project did to engender this support for the targeted women participants.

- Obvious people-level indicators did not appear to be sex-disaggregated nor were household indicators disaggregated by the sex of the household head or land indicators disaggregated by sex of the land owner. For indicators focused on the poorest households, it is likely that these clients should include a high percentage of female-headed households.
- The gender analysis was conducted quite late in the process. As a result, baseline gender information on the project was taken from year 7 rather than year 1.

E. COASTAL WATER RESOURCES/FISHERIES: INTEGRATED COASTAL RESOURCES MANAGEMENT (PHILIPPINES)

(NB: To read more about gender, coastal water resources/fisheries and CCA, see Sectoral Module D.)

Project Name:	**Country:**	**Sector(s):**
Integrated Coastal Resources Management (ICRM)	Philippines	Coastal Management

Implementing Organizations:

Executing Agency: Department of Environment and Natural Resources (DENR) Implementing Agency: Municipal Development Fund Office

Funding Partners: ADB

Budget (US$): 33,800,000 (Loan, Grant)

Timeframe: 2007–2013

Project Objectives:

Enhanced coastal resources and reduced poverty among municipal fisherfolk

Notable Gender-Related Activities and Processes:

- The ICRM project applied baseline social gender information into a GAP and followed through with commitments for ongoing systematic gender data collection via routine project monitoring, as well as planning for gender-focused studies and gender elements for other types of analytical studies for planning and policy reform.
- The project applied the same approach to training—using gender-focused trainings and weaving gender elements into technical and managerial trainings.
- The project set women's participation targets for both clients and staff.
- The project recognized women's economic and governance roles and aimed to improve women's level of participation in both types of activities.
- The project tracked employment opportunities for women, as generated through new enterprises.

Notable Gender-Related Results:

- Project is still under implementation and midterm evaluation is not available publicly.
- Implementation results are available but do not detail gender outcomes:
  - A total of 352 enterprises have been developed, of which 271 are being implemented. The rest are in various stages of preparation. Livelihood projects consist of abalone/tilapia/ bangus culture, chicken/poultry, hog raising, seaweed farming, and bagoong making. Some of these have completed the first cycle of production.
  - A total of 54 ecotourism subprojects (reef discovery, forest adventure, river expedition, arts and crafts, and nature village) have been identified with estimated funding of Php9.3 million;21 of these have been established, 17 are undergoing procurement and 22 are awaiting funding.
  - Fourteen subprojects geared to improve the health and social conditions in the coastal communities have been identified, of which 11 are being implemented with one expected to have been completed in April 2013. Procurement of the remaining three subprojects are ongoing. An additional three infrastructure subprojects are expected to be implemented by end of 2013.

Sources:

Asian Development Bank. 2006b. Report and recommendation of the President to the Board of Directors, proposed loan and administration of grant from the Global Environment Facility, Republic of the Philippines:

Integrated coastal resources management project. ADB, Manila, the Philippines. http://www.adb.org/sites/default/files/projdocs/2006/33276-PHI-RRP.pdf

———. 2007a. Project administration memorandum. PHI: Integrated coastal resources management. ADB, Manila, the Philippines.

———. 2013b. Project data sheet. Integrated coastal resources management. ADB, Manila, the Philippines. http://www.adb.org/projects/33276-013/main

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Responsible ADB Officer: Bui Minh Giap **Government of the Philippines:** Analiza Teh (Attorney, Assistant Secretary, Project Management Unit/FASPO, Dept. of Environment and Natural Resources, Foreign-Assisted and Special Projects Office, Visayas Avenue, Quezon City;Phone: (632) 926-8074

1. Introduction

The coastal and marine resources of the Philippines are under severe threat due to human actions and climate change. Owing to their biodiversity and economic value, these resources are of national and global importance. The stresses on coral reefs, mangroves, sea grass, and other important coastal habitats have resulted in a decrease in the production of coastal fisheries. Poor fisherfolk are already living in poverty, and their livelihoods are affected by this resource depletion.

Coastal women in the Philippines are extensively involved in both the collection and marketing of fish and other aquatic products as well as in both subsistence and commercial activities. However, they are not well represented in coastal resources management, or in training, meetings, and other related activities (ADB 2006b).

In response to diminishing fisheries and biodiversity destruction, the Government of the Philippines has implemented a number of coastal resources management projects since the mid-1980s. Most were technical assistance projects from multilateral and bilateral agencies. Others were part of major investment and policy initiatives in the sector. Most of the emphasis was on marine protected areas. However, there were positive biophysical, local governance, law enforcement, and attitudinal changes among local officials and coastal communities on the need for conservation and protection of coastal ecosystems (ADB 2013b). Building on the experience of past programs, the proposed ICRM project was designed to help the government adopt a holistic approach to coastal resources management to reduce pressure on coastal resources. Activities integrated terrestrial and coastal environments for coastal zone planning, addressed the policy and institutional framework, developed local government capacity, and diversified and increased income for coastal households in 80 municipalities in seven priority marine biodiversity corridors in the provinces of Cagayan, Cebu, Davao Oriental, Masbate, Romblon, Siquijor, and Zambales (ibid.). The project aimed to maximize impacts on women, as well as their impacts on coastal resources management.

The project's four components (ADB 2013b) were:

- Component A: Policy and Institutional Strengthening and Development
- Component B: Integrated Coastal Resources Management and Biodiversity Conservation
- Component C: Enterprise Development and Income Diversification
- Component D: Social and Environmental Services and Facilities.

2. Summary of Project

General description of proposal preparation

The project preparation and design process included a stakeholder analysis. The stakeholders identified as additional stakeholders coastal communities, fisherfolk, civil societies, municipal and provincial governments, and national government sector agencies (ADB 2006b).

Socioeconomic surveys were conducted in the potential project areas. These coastal communities were characterized by a much higher rate of poverty (76 percent) than in inland areas within the same provinces (42 percent) or nationwide (34 percent). These areas have limited social infrastructure. Nearly three quarters

of the households lack household toilets, access to potable water is unreliable, and there is poor community management of solid waste (ibid.).

The socioeconomic surveys included gender-related information. Women in coastal communities were more disadvantaged compared with their male counterparts. The prevailing gender division of labor, together with traditional practices in coastal communities, hindered women's access and control of community resources. There were few opportunities to use or improve their coastal management skills or tap into the potential for coastal fisheries development and resource management. Women's contribution to the household and community services remained largely under-valued (ibid.).

Gender integration during project design/formulation and proposal preparation

A GAP was part of the covenants in the loan agreement with the ADB. The Government of the Philippines committed itself to fully implementing the GAP in a timely manner and with adequate resources and gender-related reporting. The GAP promoted women's participation in, and equal benefit distribution from, project activities (ADB 2006b). Measures included:

- Collecting gender-disaggregated data via household socioeconomic studies as well as other types of studies for biodiversity and related ICRM research and policy and legal studies
- Integrating gender analysis into the municipal ICRM planning and M&E
- Capacity building for government staff via national and municipal gender sensitization training
- Capacity building for community members with a gender and development orientation
- Including women as a major stakeholder for the enterprise development and income diversification component of the project under Component C
- Ensuring women's membership in self-reliant groups and involvement in the identification, establishment, and demonstration of viable enterprises and livelihood activities
- Including women as primary stakeholders in the identification, planning, construction, and O&M of social and environmental infrastructure and facilities under Component D.

Participatory approaches for the collection of baseline data and livelihood projects were used and included inputs from men and women in the affected communities (ADB 2013b).

Gender integration during project implementation (Source: ADB 2006b)

- Activities to improve women's livelihoods: The project worked through women's groups to build capacities related to livelihoods. It included women as role models for demonstration enterprises.
- Activities to improve women's participation in coastal resources management planning and plan implementation, as community members and professionals: The project engaged women's interest groups in consultations on ICRM policy issues. It designed information, education, and communication campaigns tailored to include women's roles in ICRM. It increased the numbers of women members on marine protected area boards. Enforcement and technical trainings included aspects related to gender. There were also activities to increase women's roles in the maintenance of social and environmental infrastructure. More women staff were recruited for the executing agency (DENR).
- Activities to sensitize project implementers: The project integrated gender issues and skills into ICRM and biodiversity training for staff.
- Activities to track gender-disaggregated data on men's and women's participation in all stages of ICRM development. The project performance management system was established at national and regional DENR operations. It monitored the level and adequacy of participation of various stakeholders in planning and implementing project activities, collection of gender-disaggregated data in benchmark surveys and policy and legal studies, and monitoring of the project's socioeconomic impacts (ADB 2007a):
  - For membership of ICRM and marine-protected area planning bodies, staff and client training participants, and self-reliant group membership and leadership, and incremental staff recruitment for the project, the project set minimum targets of 33 percent.
  - For indicators focused on new enterprises, the project added a minimum target of at least 30 percent women who would obtain the supplemental employment opportunities.
  - For indicators focused on information, education, and communication campaigns, the project targeted a minimum of 33 percent women among the audience of health workers and 25,000 community members in

68 municipalities.

Key gender-related results

- Project is still under implementation and midterm evaluation is not available publicly.
- Implementation results are available (ADB 2013b) but do not detail gender outcomes:

- A total of 352 enterprises have been developed, of which 271 are being implemented. The rest are in various stages of preparation. Livelihood projects consist of abalone/tilapia/ bangus culture, chicken/poultry, hog raising, seaweed farming, and bagoong making. Some of these have completed the first cycle of production.
- A total of 54 ecotourism subprojects (reef discovery, forest adventure, river expedition, arts and crafts, and nature village) have been identified with estimated funding of Php9.3 million;21 of these have been established, 17 are undergoing procurement and 22 are awaiting funding.
- Fourteen subprojects geared to improve the health and social conditions in the coastal communities have been identified, of which 11 are being implemented and one is expected to have been completed in April 2013. Procurement of the remaining three subprojects are ongoing. An additional three infrastructure subprojects are expected to be implemented by end of 2013.

3. Conclusion

Strengths

- ICRM projects are a common priority for CCA country strategies and funding proposals.
- The ICRM project applied baseline social gender information into a GAP and followed through with commitments for ongoing systematic gender data collection via routine project monitoring, as well as planning for gender-focused studies and gender elements for other types of analytical studies for planning and policy reform.
- The project applied the same approach to training—using gender-focused trainings and weaving gender elements into technical and managerial trainings.
- The project set women's participation targets for both clients and staff.
- The project recognized women's economic and governance roles and aimed to improve their level of participation in both types of activities.
- The project also tracked employment opportunities for women, as generated through new enterprises.

Lessons learned and missed opportunities

- Gender-related outcomes and impacts were not discussed in implementation reports online.

F. WASH: TONLE SAP RURAL WATER SUPPLY AND SANITATION SECTOR PROJECT (CAMBODIA)

(NB: To read more about gender, WASH and CCA, see Sectoral Module E.)

Project Name:	Country:	Sector(s):
Tonle Sap Rural Water Supply and Sanitation Sector Project	Cambodia	WASH

Implementing Organizations: Ministry of Rural Development (MoRD)

Funding Partners: ADB

Budget (US$): 18,000,000

Timeframe: 2006–2010

Project Objectives:

Sustained access by all community members, including the poorest, to safe water and hygiene and better sanitation to improve the quality of life and health of rural residents of the project areas.

The project targets were to:

- Increase the percentage of the rural population with access to safe water to 50 percent
- Increase the percentage of the rural population with access to sanitation facilities to 30 percent.

Notable Gender-Related Activities and Processes: (Source: ADB 2011a)

- Hired gender specialist to participate on review teams.
- Gender awareness included in the capacity-building program for the MoRD, along with other project management topics in 30 separate multiday training sessions.
- Developed a gender strategy output, with capacity-building and institutional support elements, for the Rural Water Supply and Sanitation (RWSS), as an input to the national RWSS strategy.

Notable Gender-Related Results: (Source: ADB 2011a)

Impacts included:

- Women's time spent on water collection decreased with improved water supply and hygienic latrines for individual households
- Reduced household income spent on water purchases from private vendors
- Increased safety and convenience for women when household latrines replaced nighttime open defecation practices.

Sources:

Asian Development Bank. 2005. Report and recommendation of the President to the Board of Directors on a proposed grant to the Kingdom of Cambodia for the Tonle Sap rural water supply and sanitation sector project. ADB, Manila, the Philippines. http://www.adb.org/sites/default/files/projdocs/2005/rrp-cam-34382.pdf

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1. Introduction

Cambodia has inadequate water and sanitation resources. Climate change is expected to exacerbate these problems by likely reducing water availability and quality problems. Inadequate water supplies and sanitation lead to higher rates of diseases, causing public health hazards and requiring more of women's time for family caretaking. Although Cambodians have made improvements, their rural water coverage remains one of the lowest in Asia. As a result, the Government of Cambodia developed the national water supply and sanitation policy, which established the objective that "every person in rural communities has sustained access to safe water supply and sanitation services and [is] living in a hygienic environment by 2025."

Women are the primary users of water, family hygiene educators, and managers of RWSS. They are not always invited to participate in the development of these local systems, and their roles are limited in formal management and O&M. Furthermore, they are underrepresented in professional positions in water and sanitation sectors but likely overrepresented in hygiene education. Hygiene programs and communication campaigns tend to focus on women as primary family educators.

Beginning in 2006, the ADB Tonle Sap Rural Water Supply and Sanitation Sector Project assisted the MoRD in Cambodia to achieve its RWSS Investment Plan (2005–2015) and the Cambodian Millennium Development Goals in the five provinces around the Tonle Sap Basin: Battambang, Kampong Chhnang, Kampong Thom, Pursat, and Siem Reap (ADB 2013c). There were 859 targeted communities in 129 communes in 18 districts (ADB 2011a). The project aimed to increase the percentage of the rural population with access to safe water supply to 50 percent and sanitation facilities to 30 percent by 2015, and the project is in line with the Cambodia Millennium Development Goals targets. The project also aimed to reduce child mortality from waterborne diseases by half of the 1990 level. The project had four components:

- Community mobilization and skills development
- Water supply improvement
- Sanitation improvement
- Capacity building and institutional support

2. Summary of Project

General description of proposal preparation

- Household surveys that included usage, interests, and average willingness and capability to pay monthly fees for water supply (ADB 2005).
- Gender analysis covering demographic, rights, and use issues for the various ethnic groups in the project areas (ADB 2009a).
- Stakeholder analysis that identified primary stakeholders as including rural residents, resettlement-affected peoples, the poorest households and vulnerable groups, water and sanitation users, village authorities, planning and budgeting committees, commune councils, the private sector, gender working groups, and all administrative levels of the MoRD. Secondary stakeholders were provincial rural development committees, the Inter-Ministerial Resettlement Committee, mass organizations, and relevant line agencies. Female-headed households were treated as a specific stakeholder group and consulted (ADB 2005).
- The project was developed through a set of public consultations, workshops, and meetings with stakeholders, including formal surveys and participatory rural appraisals. Issues discussed included water supply and sanitation issues, poverty levels, beneficiary contributions and affordability of services, land acquisition and environmental concerns, hygiene practices, and O&M challenges (ibid.).

Gender integration during project design/formulation and proposal preparation

- Convened community meetings with potential beneficiaries to discuss water supply and sanitation issues, poverty levels, beneficiary contribution and affordability issues, land acquisition and environmental concerns, hygiene practices, and O&M challenges (ADB 2013c).

- Conducted a gender analysis during project preparation and refined it during project implementation. The earlier study found that women comprised about 52 percent of the combined population of the five provinces and headed about 27 percent of all households (ADB 2005). The study found that the latter group was not homogeneous. Gender relations and inheritance rights differed among the Khmer majority and the Cham Muslim minority, as well as between Vietnamese and Chinese families. The proposed project activities were expected to be of greater benefit to women than men with respect to time-savings, a reduced burden of labor, and improved family health. Three-quarters of the respondents reported that women and children are responsible for collecting water. During the dry season, they spend up to three hours per day collecting water with frequent trips and long queues at water points. Most people (65–75 percent) perceived women as the household members who were responsible for proper hygiene and for cleaning water jars and around the well area (ADB 2009a).
- Developed a GAP as a precondition for the ADB loan agreement, secured government agreement to fully implement the GAP as part of the loan covenants, and conducted an assessment of the GAP's impact and results in a 2009 study.
- Identified minimum targets for women's participation and included these in the GAP: Water and Sanitation User Group boards (40 percent women;50 percent of O&M training participants), staff of contracted NGOs (50 percent women), skills development participants (40 percent women and 50 percent of trained maintenance personnel), and male participation in hygiene and sanitation education (40 percent men) (ADB 2005).
- Made plans to develop national guidelines for gender mainstreaming in RWSS to build the capacity of the gender working group within the MoRD (ibid.).
- Focused livelihood development for women and the poorest residents via provision of information on livelihood opportunities arising from water and sanitation-related activities (e.g., (installation, construction, and O&M of latrines, wells, rainwater, and filter equipment, sludge removal, etc.);identifying potential participants;offering skills capacity development and linkages;or referral to livelihood improvement projects.
- Relied on NGO providers to apply a user-friendly, gender-sensitive approach to community development and livelihood activities and planned to offer NGOs training on participatory, gender, and technical issues and tools.
- Developed a capacity-building program that included gender awareness with other technical and administrative topics for MoRD staff at national and subnational levels and the commune councils.
- Monitored the level of participation of women and vulnerable groups and the degree to which they benefit. Results were compared to baseline survey data for each community (ADB 2005). NGO partners organized data through villages and communes, and the data was stored in a database maintained by the Project Implementation Units and the Project Management Unit. All monitoring data and indicators were disaggregated by gender, ethnicity, and income (ibid.).

Key gender-related results

- Women's participation in project activities is widespread. By the end of the project, half of the almost 920,000 participants in the project information dissemination meetings that were organized in every project village were women. Just over 43 percent of the Water and Sanitation User Group board members trained on hand-pump O&M were women (ADB 2013c). In late 2009, the project recorded that women constituted about 56 percent of the participants in village-level meetings on the formation of water user groups and information dissemination sessions on community water management and technology. The boards of 5,330 newly established Water and Sanitation User Groups were 43 percent women, or approximately two of the five board members (ADB 2009a).
- Construction of separate school latrines for girls to respect local modesty norms and encourage girls to stay in school. (ADB 2005)
- Developed guidelines on mainstreaming gender in the RWSS sector in 2009 (ADB 2013c).

3. Conclusion

Strengths

- Both community-level socioeconomic surveys and gender analysis at the beginning of the project provided site-specific information for shaping project choices, based on gender and ethnic norms.

- Targets set for women's participation led to different project strategies.
- Targets addressed women's representation at various levels, including group leaders and members.
- Included activities to increase women's roles in RWSS enterprises and O&M.

Lessons learned and missed opportunities

- Monitoring was sex-disaggregated, but these results are not discussed for many of the indicators. Similarly, the sex of household heads does not appear in final reports.
- Women's roles in formulating water supply and sanitation village plans are not well-articulated in the project design nor is their involvement discussed in final reports.
- It is not clear how many women were able to find work with RWSS enterprises, compared to men, or who played a role in O&M maintenance of village hand pumps.
- Men's participation in hygiene education is unknown.
- Nationwide awareness campaign on water use and hygiene education could have been tailored differently to reach men and women (e.g., messages, media channels). There is no evidence that baseline information was used for this purpose.

G. TRANSPORTATION: RURAL ROADS PROGRAM (PERU)

(NB: To read more about gender, transportation and CCA, see Sectoral Module H.)

Project Name:	Country:	Sector(s):
Rural Roads Program	Peru	Transport

Implementing Organizations: Provias Rural (renamed Provias Descentralizado in 2006)

Funding Partners: World Bank, Inter-American Development Bank (IDB)

Budget (US$): 151,000,000

Timeframe: Three successive projects: 1995–2000;2001–2006;2007–2011

Project Objectives: (Source: Dasso 2009)

- To increase access to basic social services and economic and income-generating activities with gender equity
- To help alleviate rural poverty and raise living standards of rural communities in Peru.

Notable Gender-Related Activities and Processes:

- Consultation workshops during project preparation, including separate sessions for women and men
- Participation of women in road maintenance committees, with a goal of at least 20 percent
- Improvement of non-motorized transport tracks included in the project to respond to women's needs
- Creation of community-based road maintenance micro-enterprises, with a goal of at least 10 percent women
- An innovative "Local Development Window"program[52] was established to develop micro-enterprises for road construction and other productive activities, with a goal of at least 30 percent female participation. Membership criteria were adjusted to account for women's lower education level, and to account for their experience in road maintenance rather than construction, and to take their experience as household "managers"as management experience.

Notable Gender-Related Results:

- Reduction in women's level of poverty
- Improved incomes (from more accessible product and labor markets)
- Increased empowerment through participation in decision-making and micro-enterprise management
- Gains in girls'education.

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1. Introduction

About 40 percent of Peru's overall population lives in poverty, and about 20 percent in extreme poverty. However, 78 percent of the rural population is poor, and 51 percent extremely poor. Poverty is highly correlated to the education level of the household head, of which 20 percent are women. Women are poorer as they perform informal agricultural labor and have little employment opportunities. In the rural parts of the Andean mountains, nonexistent or very inefficient transport infrastructure limits people's access to local markets, schools, and health centers, effectively hampering income-generating opportunities, social services, and knowledge. In 1999, only 28 percent of the rural population had access to a road in good condition. The poorest are the indigenous people, and among them women, who suffer the most from the lack of access to functioning roads and transport. According to a 2004 survey conducted by the World Bank, 60 percent of the trips traveled in rural areas were to visit local markets, either to sell or to shop. The typical distance traveled was 15–35 km. For 60 percent of rural households, freight transport services were available only one to three times a week, if at all.

Since 1995, Peruvian authorities have successfully designed and implemented an innovative approach to road management in the poorest areas of rural Peru, with the help of the World Bank and the IDB. The Peru Rural Road Program consists of a series of three projects: the Peru Rural Road Rehabilitation and Maintenance project (1995–2000), the Second Rural Road Project (2001–2006), and the Decentralized Rural Transport Project (2007–2011).

2. Summary of Program

General description of proposal preparation

- Consultation workshops revealed the main constraints on travel faced by women: women's heavy time burdens caused by their "double day";cultural barriers to women's use of public transport and to long-distance travel;women's limited control over household resources, including lack of money and inability to access privately held modes of transport;and their limited voice in the planning of previous transport interventions, which had resulted in their transport needs being largely ignored.
- Results from the workshops were used to establish the final project designs (i.e., the selection of roads and paths to be maintained, the integration of women into community road maintenance committees and the

labor force);3,000 km of paths were included in the second project.

Gender integration during project design/formulation and proposal preparation

- At the consultation meetings, an NGO facilitated the appointment of villagers as members of Roads Committees, to undertake and contract out maintenance in the local area. Responsible to the community from which they were elected, these committees approved operations, assigned tasks, paid wages, and organized contributions of labor. The committees involved traditional community groups, including women's groups, to ensure that the transport needs of all community members were met.
- Preparation of a GAP
- Participation of women in project design.

Gender integration during project implementation

- Two training modules on rural road maintenance works with a gender focus targeting male and female micro-entrepreneurs and project staff. Organization of workshops for members of Microempresas de Mantenimiento Vial with quotas stipulating that 10 percent had to be women, operators, and to the transport agency management.
- GFPs and gender champions were identified in implementation agencies.

Key gender-related results

- A total of 532 micro-enterprises performing the routine maintenance of rehabilitated roads, representing 6,000 permanent jobs, with 24% of female members
- A total of 121 Provincial Road Institutes were created, of which 36 have reached full capacity
- Women accounted for 46 percent of treasurers of Rural Roads Committees;21 percent of their members;4.6 percent of the presidents, and 18.7 percent of the secretaries
- A total of 167 productive initiatives supported by the "Local Development Window"were developed, with 50 percent of women's participation
- Reported benefits included the following:
- Increased availability of transport services by 115 percent
- Decreased travel times by 53 percent
- Increased cultivated areas by 22 percent
- Reduced number of children age 0–5 suffering from illness or accident by 8.1 percent
- Increased primary school enrollment of girls by 6.7 percent and secondary school enrollment of boys by 9.7 percent.
- A 2007 survey reported that 67 percent of women felt safer traveling after road improvements, 77 percent traveled more and further, and 43 percent had increased their income.
- Gains on women's empowerment were made through their active participation in decision-making during the consultation processes to prioritize the roads and tracks to be improved, from their leadership roles in rural roads and community village infrastructure committees, and from their participation in new micro-enterprises.
- Women's interactions outside homestead facilitated acquisition of skills, knowledge, and the confidence that such interactions bring about.
- Women increased their travel, farther and more frequently, and felt safe and secure. As a result they were able to access more temporary employment opportunities, purchase new tools, earn additional income, and more easily take their children to the health clinics.
- A study on the Impact on Democracy and Citizenship in rural areas of Peru highlighted that the Rural Roads Program had contributed to greater voters'participation in the municipal elections, particularly for women, and that it had enabled the strengthening of rural institutions.

3. Conclusions

Strengths

- Participatory leadership and institutional arrangements gave opportunities to the most vulnerable segments of the Peruvian rural population—such as women and indigenous peoples—to voice their needs and seize

new opportunities.
- The projects demonstrated that women can successfully participate in road maintenance and construction work.
- The projects demonstrated that involving women in project design can help increase impacts, for example, by integrated improvements in non-motorized transport.
- The projects proved that quotas can help jump-start a gender agenda.

Lessons learned and missed opportunities

Major lessons include:

- The critical role of a diverse Project Implementing Agency open to innovation
- The importance of M&E: three thorough impact evaluation surveys were conducted in 2001, 2005, and 2007, comparing the actual impact of the program in areas where transport conditions were improved to control groups where no intervention had been performed. The results from these impact evaluations were applied to project design from one phase to the next and they contributed to the building of a culture of learning and innovation in the implementing agency.
- The merits of including a component supporting the development of productive activities in order to harvest the full benefits of rural road improvements
- The value of disseminating results from such a program. The participatory processes and such design features as the micro-enterprises were adopted in Bolivia, Ecuador, Guatemala, Haiti, and Honduras, and in a pilot project in China.

H. URBAN/DISASTER PREPAREDNESS: SECONDARY TOWN INTEGRATED FLOOD PROTECTION PROJECT (BANGLADESH)

(NB: To read more about gender, urbanization and cities, and CCA, see Sectoral Module I.)

Project Name:	**Country:**	**Sector(s):**
Secondary Town Integrated Flood Protection Project	Bangladesh	UrbanDisaster Prevention/Adaptation

Implementing Organizations:

Bangladesh Water Development Board

Ministry of Water Resources (lead EA), and Local Government Engineering Department (LGED), Ministry of Local Government, Rural Development and Cooperatives

Funding Partners: ADB, OPEC

Budget (US$): Phase I: 70 million;Phase II: 128.9 million

$80 million ADB loan

$33.8 million Government of Bangladesh

$15.0 million OPEC Fund

$0.1 million beneficiaries

Timeframe: 1993–2002 (Phase I);2004–2010 (Phase II)

Phase II: Loan effectiveness: June 2005;Closing date: December 2009 (revised to June 2011)

Project Objectives:

To promote economic growth and reduce poverty in nine towns by providing a flood-free and secure living environment within the framework of integrated flood protection.

Notable Gender-Related Activities and Processes:

- Consultations with women and men during project preparation
- Comprehensive sex-disaggregated baseline survey data and database
- Gender design features included in each project activity
- Employment targeting (25 percent set by government policy) for poor women in infrastructure construction
- Wage parity, childcare facilities, and training for women in infrastructure construction and maintenance
- 100 percent target for women's employment in tree plantation and routine maintenance
- Gender-responsive sanitation (e.g., toilet design and location)
- Resettlement consultations and compensation for women and men, with special attention to female-headed households
- Gender and development training for local government officials

Notable Gender-Related Results:

- Local government and management: Town-level GAPs developed;environmental committees and slum improvement works led by women's groups
- About 26 percent of the 902,400 person-days of employment in flood protection work went to women (just over the target of 25 percent)
- Training, guidelines, and monitoring forms provided to contractors on equal wages and appropriate working conditions for women
- Nine women engineers hired by the project
- Gender training provided to 150 staff members of the executing agencies
- Women sanitation motivators and signatories of certificates

- Displaced female-headed households fairly compensated.

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1. Introduction

In Bangladesh, flooding is a perennial problem that threatens lives, damages basic infrastructure, exacerbates health problems, and destroys people's assets and sources of livelihood, especially among the poor. Urban areas are more prone to economic and human losses due to their high population density and concentration of industrial and investment sites. After the devastating floods of 1987/88, government and the international community together formulated a comprehensive program, called the Flood Action Plan. ADB supported its implementation with a first project (loan-1202), implemented between 1993 and 2002. Learning from preceding flood protection efforts, ADB recommended an integrated approach, whereby flood protection works would be complemented by municipal drainage and sanitation, potable water supply, and slum improvement. After the first loan, consulted citizens from non-slum and slum areas reported satisfaction with improved flood protection, sanitation and hygiene, and water supply.[53] The second project was to address flood protection and sanitation needs of six towns: Dinajpur, Habiganj, Khulna, Kurigram, Moulvibazar, and Panchagarh.

2. Summary of Project

General description of proposal preparation

The government of Bangladesh requested ADB to provide Technical Assistance for Project Preparation. ADB provided a $900,000 reimbursable grant to cover the foreign exchange costs of international consultants and equipment. The preparation team also included local consultants. The grant application was prepared by a team of three ADB staff. The grant did not have any expressed gender objectives, but socioeconomic considerations were well taken into consideration. In fact, poverty screening was used to select 6 towns out of the 10 identified as candidates for Project II. The international team included a resettlement and a social development specialist;the local consultants included a gender expert. The ToRs for the preparation team were quite clear on the need for holding participatory workshops, with women representation: at inception, midterm, and a final workshop. The ToRs also specified that project preparation was to be a participatory process, using an "appreciative inquiry approach,"and participatory rapid assessments, involving disadvantaged people including women, so that the project design would meet their needs. The midterm workshop had a whole day dedicated to discuss gender issues and retain those to be included in the GAP.

The ToRs of the Project Preparation Technical Assistance team (PPTA) were also very clear on gender:

The project activities will have significant gender dimensions. Poverty reduction and improvement in the living standards (urban development, slum and drainage improvement and thereby environment improvement) etc. will require women's participation as agents and beneficiaries. Detailed gender analysis will be undertaken to identify strategies, mechanisms, and components for addressing gender concerns. The PPTA will identify measures to ensure women's participation in the design and implementation of the proposed project components, including participation in the work force and post-construction phases (maintenance). Findings from the gender workshop will form the basis for the PPTA to develop the gender action plan and to identify ways and means to enhance the capacity of the female municipality commissioners, and citizens, and ensure their participation in implementing the project.

The ToRs for the socioeconomic survey , carried out by a local institution, were clear on gender: "The data will include income and expenditure, demographic trends, gender issues, health, water and sanitation, child labor, and urban environment. Detailed analysis of the dynamics of poverty, at economic (income) and non-economic (non-income) levels, the causes (real and perceived), manifestations and outcomes of poverty will be conducted."

Gender integration during project design/formulation and proposal preparation

The project design recognized that "women have a particular stake in initiatives that protect the poor in slums and shantytowns from floods and improve environmental conditions, as women are particularly disadvantaged among the urban poor."The project included four major components: flood-control protection works, drainage, and basic municipal services, including slum improvements;urban environmental improvements (sanitation);capacity building for municipal agencies;and implementation assistance. The design responded to most of the gender issues identified.

The socioeconomic assessment done as part of the project planning process pointed out that:

- Women had fewer employment opportunities and lower wages and worked mostly as unskilled laborers. The pay disparity was even greater during floods, when men were offered work below regular rates and women were reduced to work for payments in kind or in exchange for a meal. The project had an employment objective of at least 25 percent (the national quota) on flood protection works and equal pay for equal job.
- Women had higher work burdens with greater responsibilities for family water, cooking, and hygiene. These tasks were more difficult in the absence of basic amenities and less mobility. Unsanitary conditions also increased illness and the burden of family care. The location of public sanitation facilities were decided by women, and wherever possible in-house toilets were installed.
- Owing to rural-urban migration, there was an increasing number of women and female-headed households (7–30 percent). Women had greater vulnerability to human trafficking due to increasing migration, uncertainties of shelter, and earnings. The resettlement plan emphasized special compensation and assistance to female-headed households.
- Priorities were often different for men and women. "Women are particularly concerned about shelter for themselves and their animals, children's access to schools, and access to medicine and health care, particularly during floods. …Lack of drainage and sewerage leaves inhabitants struggling through stagnant

and contaminated water."Improving the drainage infrastructure and slum upgrading became important project components.
- Women councilors were found to lack capacity to be heard and to represent the views or their constituents. A new law requiring that women be represented on city councils brought many women into public life. However, few women had skills and experience, their role was unclear, male commissioners proved reluctant to work with them, and women were relegated to marginal functions in council work. Enabling female councilors to be effective members of council became an important project goal.

The Land Acquisition and Resettlement Plan prepared for the project was also gender-sensitive. Surprisingly, sex-disaggregated data were not collected for all important questions. For example, occupations and educational levels were documented by sex, but neither incomes nor relocation preferences. Female-headed households were identified as particularly vulnerable, in particular to find and pay for land where to relocate and to move. The local government agency therefore committed to help these households. The resettlement plan included other gender-sensitive aspects:

- The formation of a Grievance Redress Committee with women representation
- Special compensation for the poorest female-headed household (but the form of compensation was not clear)
- The stipulation that resettlement teams in each town should include women
- The stipulation that NGOs in charge of monitoring the implementation of the resettlement plan pay special attention to women issues.

The project design may have also benefitted from the Urban Governance and Infrastructure Improvement (sector) project (Loan 1947), another ADB-supported project being prepared at about the same time and implemented between 2003 and 2010. That project emphasized capacity building for municipalities as well as gender-sensitive monitoring and financing of urban investments.

Gender integration during project implementation

The project still is under implementation, but some salient gender results include:

- *Training and outreach* : The project involved men and women in gender training and made efforts to reach women to improve project effectiveness.
- *Indicators* : Specific performance criteria for women's participation were an effective means of ensuring high-level agreement from the outset.
- *Contractor requirements for gender equality in hiring and wages* : LGED's policy and guidelines for contractors are increasingly followed.

The following positive gender impacts were reported by the project director:[54]

- Improved living environment
- Reduction in waterborne diseases
- Easier access to clean water
- Better protection of floods in slum areas.

3. Conclusions

Strengths

- Integration of gender by project preparation team
- Solid gender sensitive baseline socioeconomic survey and resettlement plan
- Gender workshop during project preparation
- Sustained commitment to gender of LGED, the main implementation agency
- Increasing capacity of local women
- LGED's Generic Gender Action Plan Models and Guidance: "An effective innovation where there are many participating towns is to develop a generic or guideline gender action plan (GAP) in the project plan and then require each participating town to adapt it to their own circumstances."

- Perseverance by LGED and local women and men to achieve gender results
- Learning across projects.

Lessons learned and missed opportunities

Areas where improvements are needed:

- Increasing the numbers of women employed in the project's drainage construction components
- Addressing the wage discrimination against women, which remains prevalent (even though there are some indications of changed behavior among contractors)
- Increasing contractor attention to the full set of core labor standards, including working condition and health and safety measures
- Increasing the support for the development of entrepreneurial skills and effectiveness of use of savings accumulated.

Other questions to assess results include (Source: ADB. 2010b):

- Have environmental and sanitary improvements resulted in reduced workloads for women? (Reduced hours required for water collection, waste disposal, and care of the sick?) Has overall health improved (and are improvements equally evident for women and girls as for men and boys)?
- What are the levels of satisfaction of slum and shanty dwellers with new facilities and services (i.e., water supply, lighting, toilets, and waste disposal)? Is this the same for women and men? Do both feel that their voices have been heard in decision-making?
- Have project initiatives to strengthen the participation and skills of elected women councilors in project management had a broader impact on their involvement in other council activities and committees?
- Have the project and LGED initiatives to promote equal pay for women been reflected in other council projects and had an impact on other employers in project towns?

I. DISASTER RECOVERY: EARTHQUAKE-DISPLACED PEOPLE LIVELIHOOD RESTORATION PROGRAM (PAKISTAN)

Project Name:	Country:	Sector(s):
Earthquake-Displaced People Livelihood Restoration Program (ADB)	Pakistan	Disaster

Implementing Organizations: Earthquake Reconstruction and Rehabilitation Authority (ERRA)

Funding Partners: ADB, Government of Pakistan, other funding partners

Budget (US$): Total Costs (2007): 1,142 million

ADB: 416 million (2007)

World Bank: 400 million (2007) plus 300 million (2009)

International Fund for Agricultural Development (IFAD): 26.4 million (2006)

Others: 209 million (Bilateral agencies)

Government of Pakistan: 177 million

Some of the funds were pooled, some were managed as parallel financing, others as co-financing.

Timeframe: ADB (2007–2008);World Bank (2006–2010);IFAD (2005–2011)

Project Objectives: (Source: ADB 2007b;World Bank 2011c)

- To support the efforts of the Government of Pakistan to (1) reduce the immediate suffering resulting from the effects of the earthquake and restore livelihood destroyed by the earthquake;(2) restore basic services to the affected population and rebuild public infrastructure;and (3) start the recovery and reconstruction process (World Bank)
- To finance the reconstruction of seismically compliant houses (ADB)
- Help build the capacities of the ERRA and other related institutions in seismic training, financial and strategic management, and environmental and social protection to support ADB's reconstruction and rehabilitation program.

Notable Gender-Related Activities and Processes:

- Female-headed households (widows, divorcees, separated, or single) identified amongst vulnerable target groups eligibility criteria, in particular for the Housing Reconstruction program activities (ADB) and Livelihood Cash Grant Program ($85 million for the World Bank)
- Gender-equality was at the core of the capacity building program (ADB)
- A comprehensive Gender and Vulnerability Action Plan (GVAP) was included in the ADB project preparation documents and its implementation was covenanted in the loan agreement
- The World Bank and IFAD project documents did not have a similar GVAP, but female-headed households were identified among the most vulnerable groups targeted for the Housing Reconstruction program and the Livelihood Support Cash Grants
- Implementation agency-ERRA and ADB staff were mandated to report quarterly on GVAP implementation progress
- Gender-sensitivity training was conducted for ERRA, volunteers, NGOs, and other local implementation agencies included in project design
- Vulnerable groups, including women, were to receive priority assistance to acquire land rights and house ownership
- Completion surveys and workshops addressed some of the projects'benefits to female-headed households.

Notable Gender-Related Results:

- *Training in Disaster Rehabilitation and Reconstruction* (DRR): Of the 720,000 people trained, 200,000

women were included through 27 partner organizations in 232 union councils. Women represented 30 percent against a target of 50 percent.

- *Housing* : Over 55,000 houses (16 percent), of the 319,304 reconstructed, are owned by female-headed households;7 percent in KP and 11 percent in AJK. *Access to housing* : 233,344 households, or 52 percent of the total, were the identified vulnerable population (elderly, disabled, orphans, female-headed households), of which 96,581 are the latter. The Rural Landless Program provided 5 marlas (125 yd 2) of land to 12,311 landless households, 10 percent of which were female-headed households.
- Over 200 new *rural model houses* were built by partner organizations for extremely vulnerable women.
- *Skills training* : Over 200,000 (27 percent) women participated, against the original target of 50 percent. Skills included seismic building techniques, financial management, M&E, protection of vulnerablegroups, and environmental and social safeguards.
- Against the GVAP goals of 10 percent women in senior management positions (at all levels) in ERRA and 20 percent in technical positions at ERRA, State Earthquake Reconstruction, and Rehabilitation Agency, and Provisional Earthquake Reconstruction and Rehabilitation Agency achievements have been 1 percent and 10 percent, respectively (20 percent in Provisional Earthquake Reconstruction and Rehabilitation in June 2010, 8 percent a year later). In ERRA, only the gender advisor and media advisor are women. In ERRA a *Gender Working Group* was formed, composed of program managers from all sectors, who met regularly to discuss and resolve issues regarding gender-issue integration and mainstreaming.
- *Representation in Village Reconstruction Committees (VRCs)* : Against a 50/50 target, of the 5,595 VRCs formed, 22 percent were for women only and nearly 7 percent were mixed, with men and women equally represented. The rest were all male.
- *Representation of women in social mobilization teams for community outreach*: Thirty percent achieved against a target of 50 percent.
- *National Identity cards* (needed for property rights and entitlement to benefits): Over 9,000 National Identity Cards (CNICs) were issued. Of those who registered at the National Database and Registration Authority (NADRA) mobile van for CNICs, 33 percent were females. The Authority also appointed 13 female lawyers to help the women. CNIC requests accounted for 63 percent of the cases documented by the legal assistance centers.
- *Medical rehabilitation program* : 56 community rehabilitation workers, including 19 women, have been trained. The program has reached 35,553 beneficiaries, of which 40 percent were women.
- *Women development centers (WDCs) and social welfare centers (SWCs)* : Eight WDCs were built in the earthquake-hit areas. Of these, one WDC and one SWC were operational (June 2010) and had provided services to 1,000 women;the SWC has provided services to 800 women. The SWC has been offering training in a number of marketable skills (e.g., knitting, sewing, embroidery, small rug making, block printing, graphic arts).

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1. Introduction

The October 2005 earthquake that struck Pakistan was devastating, killing almost 80,000, destroying over 600,000 homes, and leaving 2.8 million[55] without shelter and 2.3 million without adequate food. Almost 18 months after the disaster, about 30,000 people were still living in tents and 3.5 million more were living in temporary or semi-permanent shelters. In 2007, there was fear of another earthquake. Given the harshness of the preceding two winters, the government was determined to complete housing reconstruction by May 2008.

The first loans and grants from the international community for the EEA Project were approved in 2005 and targeted the reconstruction in several infrastructure sectors, including power, roads, health, and education. The Earthquake-Displaced People Livelihood Restoration Program was the second loan of the ADB for earthquake reconstruction and rehabilitation in Pakistan following the devastation caused by the October 2005 earthquake. The World Bank made a first loan in 2005, and a supplemental loan in 2009. IFAD became a co-financier in 2006. There were several other major partners (UNDP, WHO, UNICEF, and bilateral agencies).

Besides reconstructing housing, the program was to strengthen the capacity of agencies, skilled workers, and households in seismically compliant reconstruction design and standards. Shortly after the earthquake, the World Bank and the ADB undertook a joint impact and vulnerability assessment. Female-headed households (widows, wives of disabled husbands, divorcees, separated, single, orphans) were amongst the most vulnerable groups. The reconstruction and livelihood restoration program maintained a strong gender focus throughout design and implementation.

2. Summary of Program

General description of proposal preparation (Source: ADB 2007b).

- Shelter and livelihood were the two most pressing needs
- The ADB staff team included a social development specialist and a safeguard specialist
- A tight deadline for completing housing reconstruction was set (May 2008)
- An owner-driven implementation approach was to be followed, where money was to be provided to a large number of individual households which would procure needed materials and build their own houses based on the seismically compliant housing designs provided by ERRA.
- *Restoration of livelihoods* : The reconstruction of housing and infrastructure was also expected to create many jobs for skilled workers in the construction industry. Owing to the increased demand, the region was facing a shortage of such skilled workers.
- The ADB provided financing through a technical assistant project to provide additional support for all the institutions related to the earthquake Rehabilitation and Reconstruction program in key areas. This support included (1) community-based training on seismic standards and construction monitoring techniques, (2) financial and strategic management, and (3) environmental and social protection (emphasizing gender and vulnerability aspects of social protection). Special attention was paid to capacity building at the state, provincial, and district levels.
- An independent firm was used to carry out monitoring and data collection and another independent firm used to conduct annual evaluation of the program.

Gender integration during project design/formulation and proposal preparation

- Lessons were learned from previous experience in disaster reconstruction programs, in particular the need for strong community participation, consultations with affected populations, and due attention to gender issues and the needs of the most vulnerable.

- On-the-ground investigations confirmed that the earthquake has shifted gender roles of women and men in the earthquake-affected areas. Owing to the loss of male partners, some of the women's responsibilities had increased, having to assume the additional burden of caring for orphaned children and persons with disabilities, while also emerging as heads of households (23 and 31 percent, respectively, in the two major zones affected by the earthquake). This new reality required rethinking social conditioning, as well as the type of contributions that members of the household and the community could make. In particular, stakeholders reported that women-headed households, widows, and orphaned children (mostly girls) had little access to supplies and services due to their limited mobility or absence of proper identity documents to support these claims.
- A GVAP was prepared to ensure that essential needs, constraints, and priorities voiced by women, and extremely vulnerable individuals and families, were reflected in the design of the program and monitored during loan implementation.
- A comprehensive social protection strategy was developed with assistance from development agencies and NGOs. The strategy aimed to ensure that vulnerable groups would be provided with basic social services, livelihood assistance, and support for rehabilitation, primarily within their own families and communities. It also strived to establish links with the mainstream social welfare structures and services.

Gender integration during project implementation

- A comprehensive gender policy was prepared for earthquake-affected areas. The policy aimed at promoting the principles of inclusion, equality, and sustainability in reconstruction and rehabilitation to increase the likelihood that benefits will accrue equitably to women, children, and other vulnerable groups.
- A report prepared in 2007, "Services of Interest to Women and Gender Programming in the Earthquake-Affected Areas of Pakistan,"mapped out the interventions implemented by organizations to meet the needs of women and girls specifically, and to address gender-related issues in reconstruction and rehabilitation. A research study concluded in March 2009, "Economic Opportunities for Women in Earthquake-Affected Areas,"highlighted important areas and issues regarding economic equity and the extension of benefits to women. All these efforts both at policy and operational level were based on inputs provided by the women of the affected areas regarding their needs and concerns.
- Forty gender awareness workshops were conducted under the plan for over 900 persons in the province, state, and districts. These workshops were aimed at improving understanding of the purpose and practice of promoting gender-equality considerations during planning;sensitizing the participants to the importance of gender-related analysis and planning;transferring skills in gender analysis and diagnosis;translating skills into planning practices;and highlighting the importance of sex-disaggregated data in gender programming.
- On-the-job coaching for priority sector staff was carried out.
- A gender-training manual on integrating gender considerations into responses to disaster situations was published, and was seen as a valuable resource for trainers.
- A gender-specific budget was allocated for some priority areas, including livelihood, education, and social protection. Projects involving women's economic empowerment were initiated. The project involved training in Kashmiri embroidery and stitching, and is being implemented in collaboration with Aik Hunar Aik Nagar, a local NGO.
- *ERRA's management commitment to gender* : Gender and reconstruction and rehabilitation networks were set up in all the earthquake- affected districts. They were formed to "connect the voices of the vulnerable groups and women, men, boys and girls from earthquake-affected areas to decision makers, policy makers, program planners and implementers in reconstruction and rehabilitation efforts."The project was operational until March 2011.
- *Technical supervision* : The findings of visiting teams were disseminated among relevant stakeholders. Several departments—including the Social Welfare and Women Development Department, Pakistan Bait-ul-Mal, the Department of Zakat and Ushr, and the Benazir Income Support Program—worked together to address the grievances of vulnerable people. More than 95 percent of camp population had moved back into temporary shelters next to their houses within six months of the earthquake.
- Gender checklists and key performance indicators were defined and reported on periodically.

Key gender-related results

Outcome results are listed in the project form above. No comprehensive impact evaluation is available to

document the impact of the reconstruction effort on women's and men's quality of life, livelihoods, and incomes.

3. Conclusions

Strengths (Sources: ADB 2007b;and World Bank 2011c, 2012a)

- The approach from the start of the gender mainstreaming effort developed a sense of ownership on the part of all the stakeholders, so they could carry the agenda forward with or without guidance and support from ERRA. A conscious effort to actively engage all stakeholders from the start, particularly the relevant government departments, was made in all gender-related initiatives.
- Efforts were also made to ensure that the required gender mainstreaming skills were transferred to ensure continued action by the relevant government departments, particularly the social welfare and women development departments and line departments in the province, state, and districts.
- Joint donor gender vulnerability assessments were effective, with one donor taking the lead on the preparation of the GAP and on capacity building.
- Donors seemed to work from their comparative advantage (e.g., the Livelihood Support Cash Grant provided by the World Bank). From the Completion Workshop, it seems that livelihoods were restored within one percent of pre-earthquake levels. Overall satisfaction with the economic situation was, however, lower (minus five percent) than before the earthquake.
- Significant progress was made on women's empowerment. They gained identity (through registration for their identity card), land and housing ownership, and experience in community leadership through the various VRCs. For some, this was the first time they had a bank account—and in their own name.

Lessons learned and missed opportunities

Major lessons include:

- A post-disaster program provides an opportunity to address gender gaps and gender equity.
- Gender targets help monitor progress.
- Gender parity in representation is difficult to achieve.
- Good sex-disaggregated data are necessary to target interventions.
- Sustained commitment for the project implementation agency is indispensable, to align all local institutions (public, private, or NGOs) and the donors. The publication of ERRA's gender policy is worth noting.
- Sustainability of interventions requires an exit strategy for gender programming. In this case, such a strategy has been developed over the last five years, and capacity-building workshops were organized to improve the understanding of the purpose and practice of promoting gender equality considerations in planning processes. The Ministry of Women Development has committed funding for the WDCs (once completed) for three years, by signing a memorandum of understanding with the regional departments for social welfare development. Furthermore, in line with ERRA's exit strategy, the provincial/state social welfare departments are already being encouraged to get more actively involved in the Gender Restoration and Reconstruction Network, so that they can carry forward ERRA's responsibilities on their own. Through the skill development projects, vulnerable women in the earthquake-affected areas will get vocational training and access to job markets. They will also be required to train other women, thereby steadily increasing the pool of beneficiaries in the target communities.

Missed opportunities: (Sources: IFAD 2011: ADB 2007b)

- IFAD's livestock replacement program was barely implemented. Livestock were an important source of income for women and of nutrition for the whole population. Roughly 30,000 head of livestock were killed in the earthquake. IFAD's $3.0 million was to help replace 4,000 head;only 318 were actually replaced. The balance of the funds were reallocated to housing, which still benefitted the most vulnerable groups, including women.
- Small improved water supply and sanitation works, irrigation, and road access improvements had been planned in IFAD's financing to benefit the health and livelihood of women and children in particular. However, these were not considered priorities by the communities. The few drinking water and sanitation facilities implemented were of poor design and lacked maintenance.

- Income surveys at program completion did not provide sex-disaggregated data. So it is not known whether women and men were equally satisfied with the restoration of their livelihood and incomes.

J. ENERGY: RURAL ELECTRIFICATION PHASE I PROJECT (LAO PDR)

(NB: To read more about gender, energy, and CCA, See Sectoral Module G.)

Project Name:	Country:	Sector(s):
Rural Electrification Phase I Project	Lao PDR	Energy

Implementing Organizations: Ministry of Energy and Mines (MEM), Electricitédu Laos (EdL)

Funding Partners: World Bank (IDA), GEF, NORAD, AUSAID

Budget (US$): $46.2 ($36.3 at design;supplemental financing mobilized in 2010)

Timeframe: 2006–2012

Project Objectives: (Source: World Bank 2006a and 2013b)

Project Development Objectives:

- Increase access to electricity of rural households in villages of targeted provinces
- Improve the financial performance of the power sector
- Improve the living standards and increase the income of rural households by providing access to electricity

Project Environmental Objectives:

- Substantial adoption of off-grid renewable energy in the government's rural electrification program
- Increased efficiency of energy supply by EdL and consumption by customers, resulting in greenhouse gas emission reductions as increased hydropower exports substitute for thermal power production in Thailand.

Notable Gender-Related Activities and Processes: (Sources: GEF 2004;World Bank 2006a and 2013b)

- A socioeconomic survey was carried out in 2004 to identify benefits from RE, constraints, and location of target villages
- Training in gender and social analysis of staff in main implementation agencies
- The project was re-designed during early implementation to target female-headed households, which resulted in a pilot activity that was later adopted as part of the national program.

Notable Gender-Related Results: (World Bank 2006a)

- All female-headed households were electrified in participating villages
- Gender capacity of host country institutions, MEM and EdL, was increased for gender and social analysis skills, and these methodologies were integrated into their regular business processes
- Improved quality of life for women (i.e., less time spent cooking, going to markets, and lesser drudgery on agricultural activities) and other household members
- Increased income earning opportunities both for women and men
- Improved health for all household members
- Improved women's sense of security and improved community relations.

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1. Introduction

After years of support by such donors as the ADB and the World Bank, the Government of Lao PDR adopted the ambitious goal of electrifying 90 percent of the country's households by 2020 (i.e., 70 percent by 2010 and 80 percent by 2015) and increasing hydropower exports to neighboring counties. Increasing household connections from about 16 percent in 1995

to about 44 percent in 2004 was already a remarkable achievement in the socioeconomic development of Lao PDR. However, affordability of new electricity connections was one of the main constraints to extend access to the poorest households. The financial situation of EdL, the national electric utility parastatal, had been strongly weakened by the dramatic currency devaluations during the East Asia financial crisis. As its ability to continue the rural electrification program was at risk, in particular for the most remote areas where grid extension is costly, the government was keen to provide subsidies to EdL to achieve its rural electrification goals. Climate change issues were also of great concern: high level of fossil fuels consumption, especially diesel oil, by the industry, transport, and agriculture sectors;methane emissions from paddy fields;use of fuel wood and charcoal for cooking in the rural areas;and need for reforestation and grasslands conservation.

The main components of the program were:

- Electricity grid extension targeted for 540 villages
- Off-grid renewable energy for remote villages primarily with solar home systems and micro- and small hydropower
- Energy efficiency sensitization with all customers (government, domestic, and commercial)
- Improvements in the technical and financial management of the national utility, in order to reduce technical losses and improve the financial viability of the company
- Technical assistance of village workers and staff in gender and social analysis as well as in the development of productive uses of electricity.

2. Summary of Project

General description of proposal preparation

The project preparation process did not have a specific gender focus. However, a comprehensive household survey was carried out in 2004 to assess the location of the poorest villages as a priority for electrification. The survey found that women bore the brunt of drudgery for cooking and had the least income-earning opportunities due to lack of access to modern energy services.

Gender integration during project design/formulation and proposal preparation

- MEM and EdL staff were sent for training on gender, energy, and poverty reduction at an ESMAP/GVEP regional workshop in Cambodia, 2005
- Implementation agencies'staff were closely associated with the design and analysis of field surveys

- Survey results were integrated to determine project results indicators and benefits, even though they were not sex-disaggregated.
- The review by the GEF-Scientific and Technical Evaluation Committee (STEP) identified the need for community workers to help people identify how and where electrification could add value to rural micro-enterprises and also help to create new micro-enterprises. It also identified the need for making micro-credit available to women (e.g., purchasing of electric sewing machines) and for men (e.g., power drills, sanders and small equipment) so that the rural electrification program could improve the quality of life and rural incomes.

Gender integration during project implementation

- In spite of good baseline information on the differentiated benefits to women and men from rural electrification, the project initially had no gender element.
- Following a socioeconomic survey carried out in the first year of project implementation (2007), the project was partly redesigned to include a focus on the poorest households, in particular on female-headed households.
- An innovative pilot program was introduced, called Power to People. Funds were reallocated to it to finance a special subsidy that could improve the affordability of household connections to the poorest households. Most of the poorest households were female headed-households.
- Given the success of the pilot project, Power to People was scaled up to the national program and additional financing was mobilized from a new donor.
- MEM and EdL staff were sent for gender training (e.g., the Multilateral Development Bank Regional Workshop on Gender and Infrastructure).
- EdL took a bottom-up approach for the village screening that was based on social impact indicators and least cost connections.

Key gender-related results

- Female-headed households benefited proportionately more from the Power to People electrification program than male-headed households. The former represented about 6 percent (2011) of the newly electrified households, but there was an increase of 28 percent in the rate of electrification of female-headed households under the project.
- The poor and female-headed households felt more integrated into the village community and more respected.
- Final quantitative goals exceeded initial targets, by 39 percent as compared to initial project design, in terms of electrified villages and households, including female-headed households.
- The main implementation agencies (MEM and EdL) gained capacity for integrating social and gender analysis into their standard operating procedures and processes.
- Women and girls engaged in productive activities after dark as a result of lighting.
- Women's and men's agricultural productivity was improved as solar home systems were transported from home to fields to continue cropping activities after dark.
- Women's cooking work was facilitated with new appliances.[56] Electric rice cookers cooked food more rapidly and cleanly and were more convenient;they also reduced the demand for fuelwood. Refrigerators preserved food and reduce the frequency of women's trips to markets.
- The hygiene and health of all family members was improved with refrigerators and the light generated from clean energy rather than candles, kerosene, or diesel.
- With home and street lighting, security and community relations were greatly improved.
- New micro-enterprises were started, including those owned or managed by both women and men.

Other key results:

- The quality of life and incomes of remote ethnic groups improved through improved irrigation conditions, creation of new income opportunities in handcraft, availability of cheap lighting option, and the reduced burdens for water collection and rice dehusking by women and children.
- The affordability of clean and modern energy was enhanced, both through more efficient production of electricity and more efficient consumption.

3. Conclusions (Source: Summary of Stakeholders Workshop, 2012, reported in World Bank 2013b;Carlsson-Rex and Tang n.d.)

Strengths

- The 2004 household baseline survey provided good socioeconomic data for the project regarding the benefits of rural electrification and affordability issues for proposed project villages.
- The 2007 survey enabled the redesign of part of the project to reach the poorest households, including female-headed households, and identified other vulnerable groups such as households with disabled people.
- Periodic effectiveness assessments of the Power to People pilot were carried out in 2010 and 2011 and used to inform final project resource allocations.
- The government and EdL demonstrated a very strong and sustained commitment to gender and poverty objectives. When donor resources were short, the government and EdL allocated their own resources to continue the Power to People program so that households could benefit equitably from the socioeconomic impact of rural electrification.
- Donors demonstrated flexibility, starting with project redesign, to allow the pilot Power to People program to reallocate resources and mobilize another donor during implementation.
- From the stakeholders'perspective, the keys to success were the adoption of ambitious targets (i.e., 80 percent of the country electrified by 2015) with a clearly defined action plan and responsible parties at the central and provincial levels.
- The Project was also commended for promoting renewable energy for off-grid electrification in addition to grid extension in order to reach out to remote villages and households.
- The adoption of a participatory consultative approach to select the households to be electrified and benefit from the Power to People subsidies helped achieve the gender objectives and solidify community relations.
- The project recognized cultural differences of various indigenous groups in the way that the consultations were carried out. Where needed, consultations were structured to first start with the village chief and village councils, then address women and men in separate groups.
- The project anchored its gender approach by using national and donors'gender policies.

Lessons learned and missed opportunities

- The 2004 Survey did not systematically collect sex-disaggregated data;by comparison, the 2007 survey identified that female-headed households were amongst the poorest and those left out of rural electrification.
- No quantified sex-disaggregated indicators were included in the results framework.
- No socioeconomic survey was undertaken at project completion.
- Technical assistance on productive uses did not seem to have taken place and accordingly, the full benefits from rural electrification may not have yet been achieved. This gap was to be addressed under the Phase 2 follow-up project, with the support of a $500,000 grant from ESMAP.
- There was a need for more regular and improved consultations amongst stakeholders and exchanges on progress and issues in rural electrification.
- Better consultation was needed with SHS users on the size of the SHS, the potential uses of the electricity generated, and the life span of the batteries.
- It was difficult to monitor the performance of the private sector operators who were contracted for the off-grid SHS program.
- The Ministry had a slow response time for handling complaints about Village Energy Managers.

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9. ILLUSTRATIVE TORS FOR GENDER AND CLIMATE SPECIALISTS

Terms of Reference #1National Gender and Climate Specialist for the Tourism Sector

Climate Change Resilience Project

Background

The United Nations Development Programme (UNDP) and local authority for tourism in Pacific Country X have secured funding from the LDCF to prepare a project that will enhance the resilience of tourism-reliant communities to climate change risks. There is a specific focus on the small and medium-scale tourist operators and their neighbouring communities. Thematic focus areas include: coastal processes, water resources, flooding, emergency access and egress, drought, biodiversity, catchment management and risk transfer. The project will identify the costs and benefits of different adaptation options tailored to specific local contexts and examine the robustness of specific adaptation strategies including the nature and timing of specific adaptation measures in light of the underlying uncertainty on the extent and severity of climate related risks and impacts for each of the selected tourist district areas and its facilities.

UNDP and the host country Tourism Authority (STA) have engaged an international consultant and USAID Adapt Asia-Pacific has supported the hiring of one international coastal management specialist and three supporting national consultants *(i.e., natural systems, coastal infrastructure and gender specialists)* to assist in the project document (Pro-Doc) preparation. The international consultancy work will involve several missions to the country, with support from national consultants in the research, consultation and project design. The team will be known as the Project Preparation Grant (PPG) team. The engagement of consultants in the PPG team will be utilized to conduct preparatory assessments and consultations for the formulation of a full-size, UNDP/GEF compliant project document. The main project components to be designed include:

Outcome 2.1: Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas;

Output 2.1.1: Adaptation measures and necessary budget allocations included in relevant frameworks,

Outcome 2.2: Increased adaptive capacity to climate change in development tourist sector;

Output 2.2.1: Vulnerable physical, infrastructure and social assets strengthened in response to climate change impacts, including variability.

The timeframe for development the Pro-Doc is very tight. The country needs to generate a final document by mid- October 2012. The project is therefore seeking a highly qualified, short-term **National Climate Change Gender Specialist** ('The Consultant') who meets the qualifications list below. Under the guidance of the Project Team Leader (TL), The Consultant will undertake the assignment to inform the development of a full Pro-Doc in the standard UNDP/GEF format that will address the main project components of the selected Tourist District Areas (TDAs).

Project Objectives

The overall objectives of the project are to enhance existing climate initiatives by strengthening capacity for long term investment in, and management of climate-resilient sustainable development in the tourism sector. This will be achieved through the realization of the following four outputs:

- Dynamic, long-term planning mechanisms to manage the inherent uncertainties of climate change introduced in the tourism agency's policies and strategic plans;
- Leadership capacities and institutional frameworks is introduced manage climate change risks and opportunities in an integrated manner within the tourism sector strengthened;
- Climate-resilient policies and measures implemented in priority areas within the tourism sector;
- Knowledge on adjusting national development processes to fully incorporate climate change risks and

opportunities generated and shared across the tourism industry.

Scope of the Assignment

Integrating gender dimensions into national climate changes policies, strategies, action plans and projects or programmes has become critical for realizing Government commitments put in place to respond to climate change impacts and vulnerabilities. This is certainly the case with this project design. To get it right all initiatives require a gender analysis to understand the dynamics of gender differences across a variety of issues critical for achieving adaptation as well as building resilience to climate change. On the basis of the information collected as part of the gender analysis, the Consultant will identify and design a specific and discreet gender component above and beyond gender mainstreaming aspects, with funding commitment, which could address climate change adaptation in the project's main sectors like *inter alia* water resources, coastal management, tourism, infrastructure, ecosystems, etc. In regard to assessing the gender sensitivity of climate risk in this project, the following aspects need to be considered when conducting research and preparing recommendations for this assignment:

- To what extent are gender differences recognized in climate change discussions and research in the tourism sector? If so –how;if not, what are some practical options that could be explored through this project design?
- What are the ways in which women participate in decisions related to climate change within levels of the tourism sector, through the existing bodies and mechanisms? Which decisions are they involved in and for which are they less involved? Which women participate? What are the barriers to women's participation?
- Are the implications of climate change sufficiently understood by men and women in various stakeholders and social groups at the community level so that gender-balanced involvement in decision-making can be achieved?
- How has gender mainstreaming been incorporated into climate change actions on the part of the tourism sector? If so –how? If not what are some practical options that could be explored through this project design?
- Is sex-disaggregated data on employment categories, income and tourist arrivals collected and published within the tourism sector? If not, what are the barriers?
- Are measureable gender-related targets and indicators established for tourism projects at the national and sub-national levels?
- Are practical tools available to help integrate gender equality in climate protection of the tourism sector? If so –what are these? If not what are some practical options that could be explored through this project design?
- Have outreach, capacity building, education and training been designed in a gender-sensitive manner? Do they enhance women's access to and participation in disaster risk reduction and climate change adaptation strategies and developmental activities of the tourism sector? What are the lessons learned from past initiatives, and what can we build upon to ensure gender-sensitive outputs and outcomes are achieved?
- Do adaptation and mitigation strategies support basic human security and the right to sustainable development, for all, and especially for the most vulnerable groups in the Samoan context?

Description of Responsibilities

The work responsibility of the Consultant shall include the following but may be expanded to other tasks as time and resources allow:

- Reviewing the literature on gender relations, especially as they pertain to natural resources and the various stakeholders involved in the climate-dependent tourism sector in general and specifically in the Pacific region and Pacific Country X;
- Interview key informants, either individually or in groups, in Capital City X and field sites A, B and C to identify how women and men, as householders, business owners and workers are impacted differently by the identified risks, their vulnerabilities and capacity to cope and adapt, including issues relating to the gender division of labor, time use, activities, gender division of resources, patterns of public and private decision-making, needs, vulnerabilities, capacities and opportunities in the context of climate change and the tourism sector;

- From the literature and interviews, identify global and Pacific best practices in gender-differentiated adaptation strategies for the tourism sector;
- Analyze the findings of the assignment using agreed upon academic and socially accepted methodology;
- Compiling a detailed report on the findings, highlighting the following:
  - National gender policies and commitments
  - Women's and men's respective roles in decision-making at household and community levels;
  - Women's and men's different vulnerabilities—access to resources, division of labor, the gender dimensions of different climate change impacts (e.g. droughts and flooding) and how they would affect women and men
  - Understanding how men's and women's roles and gender relations change and may complement each other when coping with climate change;
  - Provide recommendations for gender best practices to ensure that participatory planning methods are culturally appropriate, inclusive and can encourage women and men to engage in the process;
  - Explain and evaluate practical barriers to women's participation in climate change discussions, planning and decision-making within the tourism sector;
  - Ensure that the gender issues identified and analysed are relevant and of interest to both men and women —this will help both sexes formulate ideas and engage in the adaptation process;
  - Establish a method for gender-focused and disaggregated monitoring and evaluation of tourism projects which address climate change.
- Prepare recommendations for planned outcomes, outputs and activities outlined in the Pro Doc, including identification and design of a specific gender component for the project, with funding commitment. Advise where additions and adjustments may be required to ensure that the project is more gender-sensitive. Provide broader recommendations for STA policies and programmes to address issues identified in the assignment.

The Consultant will be the liaison point for all consultative issues related to gender matters that arise during the project preparation phase. The consultant will facilitate the collection and synthesis of baseline information from key partners and stakeholder discussions, identify the current policy framework and capacity, as well as research gaps for the gender dimensions of the project. The Consultant will assist with consolidating stakeholder input and guide the preparation of the project in line with the project components.

Methodology

The data collections will be accomplished via a desktop review and stakeholder interviews in the field. The Consultant will submit a work plan with specific plans for methodologies and interview guides to accomplish the required tasks described above. The Consultant will support the PPG team delivery of presentation and information at the two Consultation Workshops at Place A and Place B.

Expected Outputs and Deliverables:

The Consultant is expected to produce an electronic copy of the following deliverables:

- A work plan with methodology, interview guides, timelines and report outline (within five days of work initiation).
- A first draft report, including a specific gender component, which will be presented to the TL for endorsement, five days prior to the due date of the presentation of the team's first draft report for national consultation (Estimated length: 30 pages main body and additional pages for annexes).
- A second draft report (i.e., introduction chapter, literature review, methodology, baseline data findings, conclusions and recommendations for a gender component) which will be presented, for review to the TL and other stakeholders, five days after the completion of the two consultation meetings in Upolu and Savaii. (Estimated length: 30 pages main body and additional pages for annexes).
- A final report, including a detailed gender component, which incorporates and addresses review comments from the Technical Task Force Committee on Climate Change and other stakeholders. The report should conform with the tasks as spelled out in sections of the GEF Compliant Pro-doc for the UN Agency. (Estimated length: 30 pages main body and additional pages for annexes).

Duration

It is anticipated that this assignment will be completed within an overall total of 20 person-days spread over a period from August and September 2012.

Required and Recommended Qualifications

Requirements:

- A minimum of a Master's degree or higher degree in Social Sciences, Environmental Science, Political Sciences, Development Studies, Tourism, or Gender/Women's Studies
- A minimum of ten-year experience in the area of gender research and analysis, project design and implementation of field-based, institution building and policy programs, stakeholder consultations, gender monitoring and evaluation and mainstreaming including policy analysis and design of programmes that address gender equality issues, of which, at least five years of experience should be in Pacific Country X.
- Strong research and writing skills (research design, data collection using a variety of methodologies, analysis and reporting). Ability to locate gender data, analyze data using simple statistics and translate findings into useable conclusions and recommendations.
- Skills in social research and statistics will be an added advantage
- Strong proficiency in oral and written English with excellent communication skills as demonstrated by an ability to express ideas clearly, logically and effectively.
- Computer literate with competencies in word processing, spreadsheets, electronic presentation and the use of Internet.
- A citizen of the Pacific country
- Past work with gender dimensions of tourism

Recommended:

- Experience working with United Nations agencies.
- Experience in gender analysis and climate change.
- Experience working on the social dimensions of climate change adaptation and mitigation.

Submission of Applications

Interested and qualified consultants are invited to submit their application materials to the USAID Adapt Asia-Pacific (genderconsultant@adapt-asia.com). They should provide a cover letter explaining their capacity and experience for the assignment described above, a detailed CV, a five-page writing sample in English and contact information for three traceable referees. Applications close 2pm on Friday 31 st August . Only shortlisted applicants will be invited for an interview.

Terms of Reference #2Social, Cultural and Gender Expert for Pacific Country Y

Background

USAID Adapt Asia-Pacific is a five-year project of the U.S. Agency for International Development (USAID). The project assists eligible Asian and Pacific countries to gain improved access to finance for climate change adaptation. USAID Adapt Asia-Pacific has established a financing facility that provides a combination of technical assistance, capacity building and networking related to accessing climate adaptation funds. USAID Adapt Asia-Pacific also works with regional, international and U.S. partners to share and replicate best practices among national and local stakeholders. The project serves 13 countries in Asia and 14 countries in the Pacific Islands. It is implemented by AECOM, a global leader in providing fully integrated professional technical and managerial support services for a broad range of markets, and several sub-contractors.

In partnership with UNDP, USAID Adapt Asia-Pacific is supporting the Government of Pacific Country B with a range of climate change-related issues through an economy-wide approach. This approach integrates climate change adaptation and disaster relief, recovery and mitigation into national development planning and programming, targeting communities as first responders to natural disasters. In 2012, UNDP supported this Pacific Country with undertaking a Climate Public Expenditure and Institutional Review which examined recent

public expenditures related to climate change adaptation, and relevant policy and institutional frameworks for managing anticipated risks and opportunities. That analysis led to recommendations on how to integrate climate change in national development planning and budget management. Building on the findings of various nationally led initiatives, UNDP has partnered with the Government of Pacific Country B and outlined a program to promote catalytic changes in advancing adaptation to climate change at all levels. The program promotes an economy-wide approach to climate change adaptation. The program seeks to increase the efficiency of integrating adaptation and disaster relief, recovery and mitigation into the national development policy, planning, and budgeting processes. It aims to enhance the resilience of important economic assets and livelihoods for communities country-wide so that they can better cope with climate change induced disasters. Financing for this program has been committed from the Least Developed Country Fund (LDCF).

The main project components include:

- Strategic integration of climate change adaptation and DRM in national development policy, planning and budgeting through an economy-wide approach;
- Enhance resilience of communities as first responders of climate change-induced hazards;and
- Monitoring and Evaluation and Knowledge Management.

In order to operationalize the program that is currently in the conceptual stage, UNDP will initiate a six to twelve-month project preparatory phase. During this period, in-depth consultations with key stakeholders and beneficiaries, potential partners as well as technical feasibility/capacity assessments will be completed to help define an operationally viable and compliant UNDP-GEF/LDCF project document.

Primary Objectives of the Consultancy

UNDP is committed to promoting social and gender equality and empowerment of youth and disabled people in its country programs. The Social, Cultural, and Gender Expert (The Expert):

- Assess the extent to which all social groups are participating in the decision-making and implementation of development interventions in targeted communities.
- Develop and recommend measures that promote social and gender equality and youth empowerment for all interventions of the program.

The Expert will work closely with staff from the government of Pacific Country Y and the UNDP Country Office, as well as the USAID Adapt Asia-Pacific Project Preparation Specialist and the Project Preparation Team Leader.

Detailed Tasks

The UNDP Country Office and the Project Preparation Team Leader will coordinate the team of experts, including the Social, Cultural and Gender Expert, who are providing technical inputs for this preparation phase. Their task is to create a full-fledged project document. For overall guidance and quality assurance oversight, the Government of Pacific Country Y, the Project Preparation Team Leader and other experts on the PPG team will be involved.

The Expert will assess the current level of all social and women's groups'participatory involvement in decision-making/implementation of development interventions in targeted communities. The assessment will involve different methodologies to collect information on the extent of the participation of women and various social groups, including youth, in the conceptualization, decision-making and implementation of development interventions in targeted communities, as they relate to all the planned activities of this project, especially those under Outcome 2 of the LDCF project. The Expert will identify shortcomings, challenges and obstacles in the active engagement of all social and womens groups.

Based on this assessment and identified gaps and opportunities, the Expert will provide recommendations on:

- How the specific needs of different women and men and women in various social groups can be considered in these processes.
- Opportunities to strengthen their roles and bring about transformational change in people's lives and community well-being in the context of activities to be financed by the LDCF
- The design of specific approaches which will ensure that planned activities under all the outcomes of this

project, especially Outcome 2 of the LDCF project (Annex A) are socially and gender inclusive and lead to strong social and gender equality results.
- How women's empowerment initiatives and their contributions to equitable climate-resilient national policies and programs be enhanced and given greater visibility.

For this purpose, the Expert will travel to Pacific Country Y at least once (no more than two missions based on prior approval of the UNDP CO) and engage in:

- Multi-stakeholder consultations and planned meetings with communities that will benefit from the LDCF project, relevant Ministries, NGOs (including grassroots/community groups), resident and non-resident development agencies,as arranged by the UNDP-led project development team.
- Collaborative meetings with the UNDP staff and Government stakeholders who are currently working on the Gender Equality Program and Gender Responsive Governance Program for Samoa, and Youth Programs to identify synergy opportunities, ensure consistency and avoid duplication of efforts between the programs and the LDCF project.

Deliverables, Outputs and Schedules

- The Expert will draft a workplan with tasks, deliverables, interview guides and a report outline within one week of starting the assignment.
- The Expert will provide a draft and final report for this assessment, including key recommendations and action points that should be taken into account in the design of the LDCF Project. The draft will be presented and discussed with the UNDP-led Project Development Team to ensure that it meets the consultancy objectives and contributes to the design of the LDCF project, as articulatedin the UNDP Project Document that is prepared for GEF approval. The report will include:
  - A project implementation approach or methodology that ensures that the LDCF project, especially the activities outlined under Outcome 2, contribute to concrete and tangible equality results, which are in line with the Government of Samoa's priorities on gender and social issues. The design must also be in line with UNDP's 2008-2013 Gender Equality Strategy and other global and regional resources on social and gender issues and climate change adaptation. In this context, the expert will ensure that the project document integrates specific social and gender outputs and activities (if relevant) and the necessary budget allocation to undertake these.
  - A final Strategic Results Framework for the project proposal which integrates a country-specific social and gender perspective by including appropriate baselines, capacity assessments, targets, indicators and sources of verification.
- The Expert will develop also detailed Concept Note (length to be determiend) which defines specific activities that will be budgeted within the full-fledged project document, and it will ensure women and youth contribution to and involvement in equitable climate resilient national and subnational policies and programmes. In this regard, the Expert will give particular attention to "Output 2.1.2 Development of micro-businesses (business incubators for youth/women;business hubs for youth, etc.) on agro-food, manufacture and tourism with a sustainable and resilient value chain approach, to promote diversified livelihoods"and ensure that the detailed concept note provides specific guidance on how the project design can ensure that vulnerable women and women-headed households benefit directly and substantially from livelihood development activities.

Duration of Assignment, Duty Station &Expected Places of Travel

The assignment covers 50 working days. The Consultant will be home-based with one or two expected missions to Pacific Country Y.

Reporting

All required tasks and reporting of deliverables by the specialist will be managed and coordinated by the USAID Adapt Asia-Pacific Project Preparation Specialist.

Required Skills

Education

- Minimum of a Master's Degree in international development, public administration, development economics, gender/women's studies or related field of expertise

Experience

- At least ten years of professional work experience as a gender specialist on development projects.
- Experience in developing and implementing social and gender mainstreaming strategies in on-the-ground projects, especially within Pacific region.
- Experience with national development and economic planning processes.
- Sophisticated understanding of social, gender and cultural issues in the context of human development.
- Experience in social aspects and climate change adaptation/ sustainable development analysis and research, policy development and project management.
- UNDP/UN experience, particularly in development programming in the Pacific region would be an asset.
- Work in the Pacific Region is preferable.

Language requirements:

- Excellent written and oral communication skills in English is required.

Submission of Applications

Interested and qualified consultants are invited to submit their application materials to the USAID Adapt Asia-Pacific (genderconsultant@adapt-asia.com). They should provide a cover letter explaining their capacity and experience for the assignment described above, a detailed CV, a five-page writing sample in English and contact information for three traceable referees. Applications must be submitted by close of business (Bangkok time) on Date X . Only shortlisted applicants will be invited for an interview.

Terms of Reference #3International Gender Specialist

Strengthening Community Resilience to Climate-Induced Natural Disasters

in the Here to Eternity Road Development Corridor in Asian Country A

Background

Local communities in Here to Eternity (HTE) Road Development Corridor of Country A are already experiencing highly unpredictable weather events, including high intensity rainfall, extended drought and dry periods and variable seasonal timings. Recent climate change projections for the country suggest that these trends are likely to continue in the future and potentially intensify, including: increasing surface air temperatures;increasing intensity and frequency of extreme heat events;increasing intensity and frequency of extreme rainfall events;and gradual increases in mean sea levels. These factors translate to a range of disaster-related hazards and risks for vulnerable, natural resource dependent, rural communities. Local consultations carried out during the NAPA process revealed some of these effects. The reported impacts of climate induced disasters include landslides and flooding from rapid rainfall run-off, damage to homes and public infrastructure (particularly roads and bridges), reduced access to markets and related loss of income.

The Government is investing heavily in transport infrastructure as a basis for securing the country's long term development goals. This investment recognizes both the challenging physical environment and the increasing climatic variability of recent years. For this reason, investments in key arteries (East-West and North-South) are building in greater physical redundancy into designs and maintenance schedules with support from various multilateral and bilateral donors. However, these measures tend to be limited to the existing Rights of Way (RoW) and their immediate vicinity. By contrast, many of the challenges of sustaining the value of these investments over the long term require consideration of the wider landscape. For example, through watershed management measures that can help to move and filter surface water through rather than over the soil profile. At this point, such measures are only being considered in a very piecemeal way.

For the HTE Road Development Corridor, there is no strategy in place that can link wider landscape management to road infrastructure management. Consequently, existing landscapes can present an additional hazard to infrastructure maintenance rather than acting as a buffer protecting this infrastructure from disaster events. This situation undermines the Government's ability to secure the necessary social and economic benefits to bring vulnerable communities out of poverty in a way which is sustainable in the long term. In response to this challenge, the Government of Country A has requested LDCF funding to protect critical economic infrastructure from climate induced natural hazards (flooding, landslides, wind damage). Proposed strategies include better policies, strengthened local disaster risk management institutions and investments in risk reduction measures within the HTE Road Development Corridor.

The proposed project is linked with the World Bank investment in the upgrade of critical economic infrastructure in the HTE Road Development Corridor, together with complementary disaster recovery and mitigation measures with a total indicative co-financing of approximately USD 65 million). While the additional risks to this infrastructure from climate related disasters are being factored into the design and works within the RoW of the main road, and some of its branch roads, wider measures to manage climate and disaster risks both to assets and related livelihoods are yet to be designed. These additional risks will be addressed through a joint approach to be implemented through the WB local disaster risk management component and the proposed LDCF grant.

Therefore, the LDCF project will be designed to accomplish a number of objectives. It will enhance knowledge and understanding of critical local drivers of climate induced natural disasters. It will strengthen the capacities of local disaster risk management institutions to effectively assess, plan, budget and deliver investments in climate change related disaster prevention, which are linked to critical economic infrastructure and assets in the HTE Road Development Corridor. It will also strengthen capacities to implement direct, community-driven investments to reduce climate change and disaster induced losses to critical infrastructure assets and the wider economy.

Gender Dimensions

This consulting assignment for an International Gender Specialist (The Consultant) is based upon the premise that natural disasters do not affect people equally. In fact, a vulnerability approach to disasters would suggest that inequalities in exposure and sensitivity to risk as well as inequalities in access to resources, capabilities, and opportunities systematically disadvantage certain groups of people, rendering them more vulnerable to the impact of natural disasters. Since women are affected differently by climate change than men, and quite often more severely, it is critical that the project undertakes gender disaggregated approaches to climate change impact and vulnerability assessments.

Therefore, the project preparation phase will make special efforts to identify gender specific vulnerabilities and gender specific roles to elicit behavioral changes necessary for adaptation processes. It will also identify and design components of these additional measures so that they provide tangible socio-economic benefits directly to vulnerable women and their families.

Specific gender-related outputs have already been developed in the Project Identification Form (PIF). These indicate that we must:

- Take stock of available gender responsive climate risk and vulnerability assessments
- Develop a succninct methodological guide for community-level climate change vulnerability and risk assessments to be applied within the HTE Road Development Corridor
- Apply the gender-responsive assessment methodology to at least 35 administrative units, informing district and sub-district level planning, prioritization and budgeting, with a specific focus on gender (Output 3.1 of the project document).

Terms of Reference

The consultant will:

- Design and guide a gender-responsive vulnerability assessment which can clasify the most vulnerable groups in the target districts and sub-districts, based on socially constructed definitions of vulnerabilities;

- Identify gender-specific exposures to climate related risks, sensitivity and adaptation needs of target population;
- Analyze existing baseline data on climate related disasters and disaggregate, where possible, the possible damages and losses incurred by men and women, including gender specific mortality rates);
- Analyze and disaggregate the benefits in the process of recovery and compensation (as relevant);
- Elaborate the underlying causes of gender-specific exposure to climate related disasters and vulnerabilities;any identified inequalities in exposure and sensitivity to climate related disasters as well as inequalities in access to resources (e.g. land tenure, access to water, forest stewardship etc);
- Identify women's role in spearheading the behavioural changes that are necessary to instigate adaptation processes in relation to flood / flash flood/ landslide risks to target infrastructure;
- Use the findings and conclusions of the risk and vulnerability assessment to recommend gender- responsive options under all Outcomes of the project, including the outcome-level indicators;
- Guide the Project Development Specialist and the technical team on how to best integrate budgeted gender-specific activities into climate change related disaster risk management programming;
- Guide the project formulation team on building specific activities that create opportunities for women to act as important agents of change towards adaptive behavour;
- Work together with the Project Development Specialist and the technical team to provide design inputs to one or more community-driven investments so that they deliver economic benefits directly to vulnerable women and their families;
- Identify the roles the women can play in securing effectiveness of early warning systems, as possible and relevant. This task could include identifying elements of the early warning system that the project may need to put in place in order to effectively reach out and address women's exposure and preparedness to climate risks;
- Provide narrative contributions to the project document which clearly articulate and justify the rationale for gender-responsive options under each individual outcome of the project;and
- Work closely with the Project Development Specialist and contribute to finalization of a gender-sensitive Results Framework and definition of indicative budgeted project activities that address gender issues.

Deliverables

- Create the methodological guide for community level *climate change vulnerability and risk assessments* to be applied within the HTE Road Development Corridor
- Apply the guide to at least 35 administrative units, informing district and sub-district level planning, prioritization and budgeting, with a specific focus on gender (output 3.1 of the project document);
- Provide narrative inputs which incorporate gender findings from the vulnerability and risk assessments for the Project Document and Endorsement Document so that there is meaningful integration of gender dimensions into the project strategy, gender activities and indicators for the various project outcomes
- Provide written recommendations for the design of one or more community driven investments that deliver tangible economic benefits directly to vulnerable women and their families.

Qualifications and Experience

Education:

- Hold at least a Master's degree in fields with relevance to the gender dimensions of disaster management (e.g., gender studies, rural development, development planning)

Experience:

- At least ten years of professional experience in gender-responsive approaches to disaster management, natural resource management, infrastructure or climate change with demonstrated track record of relevant experience and expertise (publications, reports, project proposals)
- Extensive knowledge of Country A or other countries in Southeast Asia, demonstrated by previous experience and involvement in the country/region
- Experience in gender-sensitive project design
- Evidence of development and/or implementation of specific gender-related activities.
- Sophisticated understanding of the relationship between climate change/environment issues, gender

equality and gender mainstreaming.

Language Requirements:

- Proficiency in English is required, including both verbal and writing skills

Competencies:

- Technical expertise in gender considerations in disaster management solutions
- Ability to communicate effectively in order to articulate complex, technical information
- Good knowledge of results based management.

Level of Effort and Location

25 days from September 2013-April 2014, including 10 days in-country

Submission of Applications

Interested and qualified consultants are invited to submit their application materials to the USAID Adapt Asia-Pacific (genderconsultant@adapt-asia.com). They should provide a cover letter explaining their capacity and experience for the assignment described above, a detailed CV, a five-page writing sample in English and contact information for three traceable referees. Applications must be submitted by close of business (Bangkok time) on Date X . Only shortlisted applicants will be invited for an interview.

10. WHEN TO USE A GENDER STAKEHOLDER ANALYSIS

When to use a Gender-sensitive Stakeholder Analysis

A gender-sensitive stakeholder analysis can be undertaken throughout all stages of the project cycle, but most importantly should be undertaken at the outset of a project in the **Design phase**

- **Design Phase:** In this phase of the project, a detailed gender-sensitive stakeholder analysis, involving all key stakeholders will help shape the development of strategic actions and inform risk analysis
- **Implementation Phase:** to help identify who, how and when women and men stakeholders should be involved in project activities
- **Monitoring and Evaluation Phase:** to serve as a reminder, providing a benchmark against which projects can monitor and evaluate the effectiveness of their engagement with both women and men stakeholders.

Gender-sensitive stakeholder analysis in the context of a climate change project involves the assessment of:

- The distribution of tasks, activities, and rewards associated with the division of labour at a particular locality or across a region;
- The relative positions of women and men in terms of representation and influence;and
- The benefits and disincentives associated with the allocation of tasks to women and men.

How to Develop and Use a Gender-Sensitive Stakeholder Analysis

There are a number of ways to undertake a gender-sensitive stakeholder analysis. Workshops, focus groups and interviews are three common approaches. During the course of the project cycle, all three methods can be used, matching the technique to the evolving needs of the project. Whatever approach is used, there are essential steps in gender-sensitive stakeholder analysis:

- Identifying the key female and male stakeholders and their interests (positive or negative) in the project;
- Assessing the influence of, importance of, and level of impact upon each female and male stakeholder;and
- Identifying how best to engage female and male stakeholders.

Below are some key steps to do a gender-sensitive stakeholder analysis:

Step 1: Identify key stakeholders and their interests

Who is most dependent on the resources at stake (women or men)? Is this a matter of livelihood or economic advantage?

- Brainstorm on all possible stakeholders using the above question as a guide, talking with various stakeholders and asking them who they would see as potential stakeholders for the proposed project. The list of stakeholders may grow or shrink as the analysis progresses and the understanding deepens.

Learn about each stakeholder group in as much depth as possible:

Who are the women and men that are the most knowledgeable about, and capable of dealing with, the resources at stake? Who is managing these resources and with what results? Has there been a similar initiative in the region? If so, to what extent did it succeed? Who was in charge and how did local female and male stakeholders respond?

- Use the matrix on page 33 to obtain more information about stakeholders. To fill out the first column in the matrix below, list the female and male stakeholders in relation to the above question and number each stake holder for easy reference. Then describe the interests or mandate of each stakeholder in the second column. The mandate refers to the nature and limits of each stakeholder's stake in the resource (e.g. livelihoods, profit, lifestyles, cultural values, spiritual values, etc.), and the basis of the stake (e.g. customary rights, ownership, administrative or legal responsibilities, intellectual rights, social obligation, etc.)
- For each stakeholder, describe their potential role in the project in column 3. Then note in column 4 if the stakeholder belongs to a marginalized group (e.g. women, indigenous peoples, ethnic minorities, youth, or other impoverished or disenfranchise groups).

- Marginalized stakeholders may lack the recognition or capacity to participate in collaboration efforts on an equal basis, and particular effort must be made to ensure and enable their participation. In the last column you may decide who the key stakeholders are. For example those who, because of claims over or direct dependence on the resources, or their power, authority, or responsibility, are central to the initiative at hand. You may choose to validate this in a workshop where these and perhaps other findings, are presented to programme partners and stakeholders.

Step 2: Key questions to guide Gender-Sensitive Stakeholder Analysis

To conduct and effective gender-sensitive stakeholder analysis, both traditional and non-traditional research methods should be used to collect data. Traditional methods include formal interviews, surveys, mapping and research through libraries and organizations. Non-traditional methods include household interviews and focus group sessions, informal conversations, walking tours observing community practices, and other methods where there is participation by a diverse group of people.

When deciding what questions to ask in a gender-sensitive stakeholder analysis, the following should be borne in mind:

- The purpose of the research
- The level of gender awareness among the participants (W/M)
- The literacy level of the participants (W/M)
- Time and logistical limits (W/M)

To assess the influence and importance of each female and male stakeholder as well as the potential impact of the project upon each stakeholder, the following questions may be helpful:

- Who is directly responsible for decisions on issues important to the project (W/M)?
- Who holds positions of responsibility in interested organizations (W/M)?
- Who is influential in the project area (both thematic and geographic areas) (W/M)?
- Who will be affected by the project (W/M)?
- Who will promote/support the project, provided that they are involved (W/M)?
- Who will obstruct/hinder the project if they are not involved (W/M)?
- Who has been involved in the area (thematic or geographic in the past (W/M)?
- Who has not been involved up to now but should have been (W/M)?

Gender specific questions:

- Who has the capacity to contribute to gender equality in the project?
- Who has the capacity to hinder efforts at gender equality in the project?

Step 3: How to engage stakeholders: Forming partnerships

The next step involves determining how to involve the different stakeholders. Different types of stakeholders will be engaged in different ways in the various stages of the project, from gathering and giving information, to consultation, dialogue, working together, and partnership.

This third step in the gender-sensitive stakeholder analysis focuses on partnerships. Determining who needs or wants to be involved, and when and how that involvement can be achieved provides the basis for developing collaborations. Once the views of both female and male stakeholders are understood, a decision can be made on whether to pursue collaboration.

The importance of the process in planning and conducting successful collaborations cannot be over emphasized. Good-faith efforts are often derailed because the parties are not skilled in the collaboration process, and because insufficient attention is given to designing and managing it. Using an inclusive, transparent approach during project development and implementation will help build ownership and commitment. If it is not possible or realistic to have all key stakeholders involved from the outset, then a process for gradual involvement may be needed (WWF, 2005).

(Source: Nigerian Environmental Study/Action Team (NEST). 2011. Gender and climate change adaptation: Tools for community-level action in Nigeria. NEST, Ibadan, Nigeria)

11. KEY INSTITUTIONS TABLE

TABLE 16. Key institutions for gender and climate change expertise and resources

Institution Name	Type of Institution	Website (gender/ climate homepages)	Topical Expertise and Resources	Regional or Country Expertise and Resources
Asian Development Bank	Multilateral donor	http://www.adb.org/themes/gender/main	**Multiple sectors** Gender and development case studies (Multiple sectors and countries) http://www.adb.org/themes/gender/case-studies Sectoral gender toolkits (Multiple sectors) http://www.adb.org/publications/search?keyword=gender%20checklists Project gender action plans (Multiple sectors) http://www.adb.org/projects/search?keyword=project%20action%20plans	**Multiple countries in the Asia-Pacific region** Country Gender Assessments http://www.adb.org/themes/gender/country-gender-assessments Gender Equality Results country overviews with case studies (Multiple Asian countries) http://www.adb.org/publications/search?keyword=gender%20%2B%20equality
AusAid	Bilateral donor	http://aid.dfat.gov.au/aidissues/climatechange/Pages/home.aspx (Climate change homepage)	**Multiple sectors, climate change**	**Asia-Pacific** Partnership with UNDP for a joint climate change adaptation project in India, with a strong emphasis on gender-mainstreaming http://www.undp.org/content/dam/undp/documents/projects/IND/Project%20Document%20-%2086975.pdf
Canadian International Development Agency (CIDA)	Bilateral donor		**Multiple sectors, climate change** Gender equality and climate change: why consider gender equality when taking action on climate change? http://www.oecd.org/dac/gender-development/44896501.pdf Links to various gender analysis tools: http://www.acdi-cida.gc.ca/acdi-cida/acdi-cida.nsf/eng/JUD-31194519-KBD Project-level gender indicators (1998): http://www.acdi-cida.gc.ca/INET/IMAGES.NSF/vLUImages/Policy/$file/WID-HAND-E.pdf	**Multiple regions**
CARE	Development NGO	http://www.careclimatechange.org/gender-empowerment	Gender and women's empowerment is one of four themes for CARE's climate change work. Publications or videos are typically project-specific;one brief is more general:Adaptation, gender, and women's empowerment (2010) http://www.careclimatechange.org/files/adaptation/CARE_Gender_Brief_Oct2010.pdf	
CGIAR:CCAFS (Research Program on Climate Change, Agriculture and Food Security)	International agricultural research organization	http://ccafs.cgiar.org/gender-and-climate-change#.Up0SPyoo7rc	**Sectoral research** CGIAR institutions have different research foci;their gender and climate work is focused on key research questions, creating training guidelines for researchers and field cases. **Gender mainstreaming for climate-related research:** Training Guide for Gender and Climate Change Research in Agriculture and Food Security for Rural Development (2013) [With FAO] http://www.fao.org/docrep/015/md280e/md280e.pdf Policy Brief: Addressing gender in climate-smart smallholder agriculture Working Paper: Participatory gender-sensitive approaches for addressing key climate change-related research issues Working Paper: Investigating climate information services through a gendered lens	**Multiple regions**
CIFOR	International agricultural research organization	http://www.cifor.org/es/gender/home.html	**Forestry sector** Gender and natural resources governance indicators (2013) http://www.cifor.org/online-library/browse/view-publication/publication/4181.html	

Deutsche Gesellschaft für Internationale Zusammen arbeit GmbH (GIZ)	Bilateral donor	http://www.gender-in-german-development.net/background-climate-change.html http://www.gender-in-german-development.net/ (Gender resources home page)	**Multiple sectors, climate change** Gender and climate change: gender experiences from climate-related projects (2011): http://www2.gtz.de/dokumente/bib-2011/giz2011-0131en-gender-climate-change.pdf Climate change and gender: economic empowerment of women through climate change mitigation and adaptation? (2010): http://www.oecd.org/dac/gender-development/46975138.pdf	**Multiple regions** Gender consultants pool: http://www.gender-network.net/ **Country-Specific Gender Knowledge Platforms:** http://www.gender-in-german-development.net/ • Bangladesh • China • Indonesia • Pakistan • Cambodia • India • Nepal • Vietnam
ENERGIA	Gender sectoral network for energy	http://www.energia.org/	Informal network with an International Secretariat which is hosted by the ETC Foundationin the Netherlands.ENERGIA publications, capacity building materials and other resources: http://www.energia.org/knowledge-centre/	
FAO	Multilateral donor	http://www.fao.org/climatechange/49379/en/	**Multiple sectors, climate change** Gender mainstreaming for climate-related research: Training Guide for Gender and Climate Change Research in Agriculture and Food Security for Rural Development (2013) (with CGIAR) http://www.fao.org/docrep/015/md280e/md280e.pdf	**Multiple regions** Country-specific database on gender and land rights: http://www.fao.org/gender/landrights/en/
GEF	Multilateral donor	http://www.thegef.org/gef/gender	**Multiple environmental sectors, climate change** *Gender mainstreaming lessons learned report* (2013) with discussion of climate change programming http://www.thegef.org/gef/sites/thegef.org/files/publication/Mainstreaming%20Gender%20Eng.pdf Mainstreaming Gender in the GEF: Good Practices in the Climate Change Adaptation Portfolio http://www.thegef.org/gef/sites/thegef.org/files/documents/document/Gender,%20June%202011.pdf	**Multiple regions**
Gender Action	Gender NGO	http://www.genderaction.org/prg_climatechange.html	**Gender watchdog NGO that monitors gender investments of the International Finance Institutions** Gender Action Link for Climate Change (overview): http://www.genderaction.org/images/Gender%20Action%20Link,%20Climate%20Change.pdf **Climate fund analysis documents:** Governing Climate Funds: What Will Work for Women? (2011) Doubling the Damage: World Bank Climate Investment Funds Undermine Climate and Gender Justice (2009) From Ignorance to Inclusion: Gender-Responsive Multilateral Adaptation Investments in the Middle East and North Africa (MENA) Region (2012) "From Ignorance to Inclusion: Gender-Responsive Multilateral Adaptation Investments in the Middle East and North Africa (MENA) Region" (2013) (with Heinrich Böll Foundation)	
Gender and Disaster Network	Gender sectoral network for disasters	http://www.gdnonline.org/	Educational project for documenting and analyzing gendered experiences before, during, and after specific disasters;conducting cross-disciplinary, multi-organizational collaborative research and applied projects;foster information sharing and resource building among research and activist network members. The Gender and Disaster Network website as an international forum for discussion, networking, and information exchange.	
Gender and Fisheries Network(WorldFish)	Gender network		The Gender and Fisheries Network, which was founded by members of the Asian Fisheries Society together with WorldFish, provides a platform for information sharing and collaborative research among scientists, development and extension workers and managers.	

Gender and Water Alliance(GWA)	Gender sectoral network for integrated water resources management	http://genderandwater.org/en/water-sectors/climate-change-disasters	Open international network focused on mainstreaming gender in integrated water management. More than 2,100 members, including 638 organizations, from over 125 countries.GWA activities and products GWA member activities Gender and water library	
GenderCC-Women for Climate Justice	Gender NGO network	http://www.gendercc.net/about-gendercc.html	Advocacy and information network. Online platform with information, knowledge, and networking on gender and climate change. Literature, case studies, and tools. http://www.gendercc.net/resources.html	
GERNA – Gender and Environment Research Network in Asia(Bangkok)	Regional gender and environment network	http://www.gdrc.org/icm/wind/gerna.html	**Environmental sectors**	**Asia Region** Regional research network and interdisciplinary, cross-cultural information sharing forum of researchers and organizations in the field of gender and environment.
Global Gender and Climate Alliance(GGCA)	Gender network	http://www.gender-climate.org/index.php	GGCA tracks gender-related investments by the international climate funds and plans for the new Green Fund.GGCA website collates many relevant gender and climate change publications including policy briefs, training guides, general gender and climate overviews and sectoral pieces. http://www.gender-climate.org/Publications/	
Heinrich Böll Foundation	Private foundation	http://www.boell.org/web/141.html	Tracks and analyzes gender mainstreaming actions and progress for existing and proposed international climate funds, as well as a few site-specific studies of climate change impacts on women. Making Progress toward a Gender-Sensitive Approach in the Green Climate Fund: Recommendations for the 5th Meeting of the GCF Board (2013) Advancing Gender Balance and Gender Responsiveness in Climate Finance Bodies under the UNFCCC (2013) Operationalizing a Gender-Sensitive Approach in the Green Climate Fund (2013) Engendering the Climate for Change (2012)	
ICIMOD	International agricultural research organization	http://www.icimod.org/?q=430 (Gender home page)	**Mountain development** Women at the frontline of climate change: gender risks and hopes—a rapid response assessment (2011) [with UNEP] http://www.unep.org/pdf/rra_gender_screen.pdf **General gender mainstreaming tools:** Guidelines for a Gender Sensitive Participatory Approach (PDF, 241.09KB) Guidelines for Gender Sensitive Programming (PDF, 137.69KB) Guidelines for Gender Sensitive Research (PDF, 148.93KB) Guidelines for Gender Sensitive Training (PDF, 265.8KB)	
ICSF Women in Fisheries	Newsletter of the International Collective in Support of Fishworkers	http://wif.icsf.net/	The Gender and Fisheries Newsletter of ICSF, Yemaya , deals with issues that are of direct relevance to women and men of fishing communities and discusses recent research, meetings and workshops that have raised gender issues in fisheries.	

IFAD	Multilateral donor	http://www.ifad.org/gender/regional/climate.htm	**Multiple sectors** **See publication link for all documents listed here:** http://www.ifad.org/gender/resources/index.htm **Memory Check series for gender sectoral issues:** • Agriculture (1999) • Environment and natural resources (1999) • Livestock (1999) • Rural enterprise (1999) • Savings and credit (1999) • Social and infrastructure constraints (1999) **Gender-sensitive market linkage analyses sourcebook and toolkit:** Gender and Poverty Targeting in Market Linkage Operations (2002) **Gender-focused field analyses of rural communities:** A manual for gender-focused field diagnostic studies (2001)	**Multiple regions** Asia-Pacific resource materials: http://www.ifad.org/gender/regional/apr.htm
Isis International	Gender NGO	http://www.isiswomen.org/ http://www.isiswomen.org/index.php?option=com_content&view=article&id=29&Itemid=241	**Multiple sectors, climate change** Gender and climate toolkit (2012) http://www.isiswomen.org/index.php?option=com_content&view=article&id=1530:gender-and-climate-change-toolkit-for-women-on-climate-change&catid=168:publication	**Global and Asia Region** Feminist advocacy organisation engaged in research and analysis of the issues affecting women globally;building women's capacity to use media and communications for advocacy, social change and women's rights;media education.
IUCN	Gender Unit of Nature Conservation Federation	https://www.iucn.org/about/work/programmes/gender/gender_work/gender_ggca/	Advocacy and education NGO that works closely with GGCA and others to include gender considerations in the UNFCCC framework, particularly for mitigation activities (i.e., REDD+). Production of various analysis of the climate funds, case studies and tools, including a training manual: Training Manual on Gender and Climate Change	
Pacific Gender Climate Coalition		http://www.gefngo.org/formmaster.cfm?&menuid=22&action=view&orgid=785&preaction=main	**Climate change**	**Pacific region** Network of individuals, organizations and institutions;public education through information sharing and media literacy;advocacy on relevant regional and global climate change commitments;climate change projects and research studies focusing on Pacific communities. Partners/activities in: Cook Islands, Fiji, Kiribati, Micronesia, Niue, Papua New Guinea
Secretariat of the Pacific Community	Regional development NGO	http://www.spc.int	**Multiple sectors**	**Pacific region** Pacific Gender and Climate Toolkit: Tools for Practitioners (2013): http://reliefweb.int/sites/reliefweb.int/files/resources/Toolkit%20booklet%20pages.pdf
Secretariat of the Pacific Regional Environmental Programme	Regional environmental and developmentNGO	http://www.sprep.org/about-us	**Multiple sectors**	**Pacific region** Climate and gender activities include various gender-related meetings, trainings, research and advocacy activities.
SIDA	Bilateral donor	http://www.sida.se/English/About-us/our-fields-of-work/Democracy-human-rights-and-equality/Our-work-towards-gender-equality/ (Gender home page)	Women's Economic Empowerment Series:Quick guide to what and how: increasing women's access to land (n.d.) http://www.oecd.org/dac/gender-development/47566053.pdf Comprehensive set of gender-sensitive environment and climate change indicators (2011): http://www.sida.se/Publications/Import/pdf/sv/Environmental-and-Climate-Change-Indicators_3317.pdf	
SNV	Bilateral donor	http://www.snvworld.org/en/countries/mali/our-work/gender-inclusion (Gender home page)	**Multiple sectors (i.e., Agriculture, Renewable Energy, WASH)** SNV Practice Brief series: Agriculture (2012) http://www.snvworld.org/sites/www.snvworld.org/files/publications/gender_mainstreaming_in_vcd.pdf Gender mainstreaming in value chain development: practical guidelines and tools (2011): http://www.snvworld.org/sites/www.snvworld.org/files/publications/gender_mainstreaming_in_vcd.pdf	**Multiple regions** Gender mainstreaming in agriculture, water and sanitation and renewable energy, Asia Practice Brief (2012): http://www.snvworld.org/sites/www.snvworld.org/files/publications/final_gender_pb.pdf Vietnam climate change adaptation project with gender mainstreaming: http://www.snvworld.org/sites/www.snvworld.org/files/publications/cca_gender_mainstreaming_in_cca_project_case_study.pdf

UNDP	Multilateral donor	http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/strategic_themes/climate_change/focus_areas/gender_and_climatechange/	**Multiple sectors, climate change projects and gender analyses of international funds** Resource guide on gender and climate change (2009) http://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/resource-guide-on-gender-and-climate-change/ Integrating Gender in Disaster Management in Small Island Developing States: A Guide (2013) http://www.undp.org/content/undp/en/home/librarypage/crisis-prevention-and-recovery/integrating-gender-in-disaster-management-in-small-island-develo/ Making disaster-risk reduction gender-sensitive (2011) http://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender_and_cpr/making_disaster_riskreductiongender-sensitivepolicyandpracticalg/ Ensuring gender equity in climate change financing (2010) http://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender_and_environmentenergy/ensuring_gender_equityinclimatechangefinancing/ Gender dimensions of the Climate Investment Fund (2011) http://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender_and_goverance/gender_dimensionsoftheclimateinvestmentfunds/ Gender Dimensions of the Least Developed Countries Fund and Special Climate Change Fund (2011) http://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender_and_environmentenergy/gender_dimensionsoftheleastdevelopedcountriesfundandspecialclima/ Gender dimensions of the Adaptation Fund (2011) http://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender_and_goverance/gender_dimensionsoftheadaptationfund/	**Multiple regions** Region-specific overview of the status of gender equality progress, barriers and trends **Asia-Pacific Human Development Report 2010** : A Turning Point for Gender Equality in Asia and the Pacific http://www.undp.org/content/undp/en/home/librarypage/hdr/asia_and_the_pacifichumandevelopmentreport2010/
UNEP	Multilateral donor	http://www.unep.org/gender/data/Genderinpr iorityareas/ClimateChange/tabid/55110/Default.aspx	**Multisectoral (Environment), Climate change** Women at the frontline of climate change: gender risks and hopes—a rapid response assessment (2011) (with ICIMOD) http://www.unep.org/pdf/rra_gender_screen.pdf	**Multiple Regions** Roster of gender experts (free registration) http://www.unep.org/gender/data/GenderDatabase/tabid/54768/Default.aspx
UN Women	Multilateral donor	http://www.unwomen.org/en/where-we-are/asia-and-the-pacific	**Multiple sectors, climate change** Listing of projects addressing women/gender issues in disaster risk reduction and climate change in the Asia Region (2013) – available from http://www.unwomen.org/	**Multiple regions**
USAID	Bilateral donor	http://www.usaid.gov/what-we-do/gender-equality-and-womens-empowerment (Gender homepage)	**Multiple sectors, climate change** Fact sheet: climate change and gender http://www.oecd.org/dac/gender-development/46460915.pdf	**Multiple regions**
WEDO	Gender NGO	http://www.wedo.org/category/learn/campaigns/climatechange	International advocacy and training of UNFCCC policymakers;tracking of gender dimensions of various declarations and action plans arising from international summits.	
Women Organizing for Change in Agriculture and Natural Resource Management(WOCAN)	Gender sectoral NGO for agriculture and natural resource management	http://www.wocan.org/	Work areas on climate include policy advocacy, research, women's leadership, women's empowerment and networking. More focus on climate change mitigation than adaptation.	
Women's/ Gender Studies Network in Asia-Pacific	Regional network of experts working in women's/ gender studies departments	http://www.unescobkk.org/rushsap/gender-studies/womensgender-studies-network-in-asia-pacific/	**Gender-climate expertise unknown**	**Asia-Pacific Region** Networking, discussions and collaborative work.

World Bank	Multilateral donor	http://www.worldbank.org/en/topic/gender	**Multiple sectors** **Gender sourcebooks for sectors** *Agriculture* : http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/Resources/CompleteBook.pdf *Energy* : http://www.esmap.org/node/2757 *Transportation* : http://www4.worldbank.org/afr/ssatp/resources/html/gender-rg/index.html *WASH* : http://documents.worldbank.org/curated/en/1995/01/697732/gender-issues-sourcebook-water-sanitation-projects *Gender Action Plan database (2007–2010)*: http://www-esd.worldbank.org/gapdatabase/	**Multiple regions** **for country gender data:** *The little data book on gender 2013* http://data.worldbank.org/products/data-books/little-data-book-on-gender **For country and thematic data:** *Gender equality data and statistics* http://datatopics.worldbank.org/gender/
WorldFish	International agricultural research organization	http://www.worldfishcenter.org/our-research/research-focal-areas/gender-and-equity/research	**Fisheries sector** The Wetland Alliance (2009) Gender mainstreaming in community fisheries management Nireka Weeratunge and Katherine Snyder (WorldFish) (2009) Gleaner, fisher, trader, processor: understanding gendered employment in the fisheries and aquaculture sector Nireka Weeratunge and Jharendu Pant (WorldFish) (2011) Gender and aquaculture: sharing the benefits equitably	
World Health Organization	International public health organization	http://www.who.int/gender/en/	**Health sector** Resources on gender and health in disasters http://www.who.int/gender/other_health/disasters/en/index.html Resources on increasing men's and boys'participation in health activities (2007) http://www.who.int/gender/documents/Engaging_men_boys.pdf	

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ENDNOTES

[1] The principal objective of USAID Adapt Asia-Pacific, a USAID-funded regional project supported by the Regional Development Mission for Asia, is to establish a fully functional and self-sustaining adaptation project preparation facility that will not only support preparation of specific projects, but also build the capacity of the region's governments to independently access climate adaptation funds. To establish a sustainable project preparation facility, USAID Adapt Asia-Pacific works closely with funding organizations and government agencies from countries across the region in focused activities in five key areas: (1) sustainable regional knowledge sharing platform; (2) annual forum to bring adaptation funds and project proponents together; (3) climate change adaptation project capacity building program; (4) technical assistance in preparing funding proposals; and (5) overarching program management and coordination for the aforementioned four technical tasks. As crosscutting themes, USAID Adapt Asia-Pacific will promote regional networking, gender, and other social equity issues. Eligible focus countries include 13 Asian countries and 14 countries in the Pacific.

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South Africa (13); Rio de Janeiro, Brazil (21); and Hong Kong (14), Guangzhou (18), Shenzhen (19), Wuhan (23), and Shanghai in China (24). Chicago, London, St. Petersburg, Paris, and Madrid, meanwhile, were the only four cities to be classified as low risk.

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TABLES

BOXES