



GENDER AND NATURAL RESOURCES MANAGEMENT

This Thematic Brief provides quick guidance on the most important issues relating to gender and natural resources management

This Brief is addressed to staff from development cooperation agencies who are involved in natural resources management (NRM) programmes and projects.

Here they will find information on the most important gender issues at stake and how to address them, indicators that can be used to monitor whether a programme is integrating gender dimensions, examples of gender-sensitive development actions and references to further information and tools related to gender and natural resources management.

It is recommended that readers also make reference to the Thematic Briefs on Water and Sanitation; Agriculture and Rural Development; Climate Change and Disaster Risk Reduction; and Urban Development, all available in the Thematic Areas section of the EU Resource Package on Gender Mainstreaming in Development Cooperation.

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Introduction

Natural resources are fundamental to sustaining the human population, serving as the basis for many of the goods and services on which humans depend, including food, energy, clothes, manufacturing, medicine and sanitation. Across the world, the rural poor have the greatest dependence on natural resources; there are over 1.3 billion subsistence farmers, hunters and gatherers, waged farm labourers and fishers that require access to land, water and plant/animal species for their livelihoods¹. Approximately 60 million indigenous people rely fully on forests for survival; in developing countries, roughly 1.2 billion people depend upon agroforestry farming systems to increase agricultural yields and make a living (FAO et al., 2009). The condition of natural resources relates closely to the sustainability and quality of human livelihoods, particularly within the developing world and for individuals living in harsh environmental conditions. Although this thematic brief focuses primarily on rural areas, issues relating to natural resources management can also be acute within urban areas.

At present, access and control over natural resources remains deeply unequal across much of the world, both within and between countries. As competition for natural resources grows, it is likely that the rural poor – particularly women – will be hit the hardest. Natural resources management (NRM) programmes/policies thus have the dual challenge of protecting and widening access to resources, at the same time as promoting more sustainable practices for managing them.

Gender issues in natural resources management

Gender inequalities in natural resources management

- **Typically, women and men have different roles and responsibilities when it comes to the use and management of natural resources, such as land, water, forests, trees, biomass (fuelwood, dung, etc.), livestock and fisheries.** Women and girls tend to have responsibility for sourcing, collecting and transporting natural resources for domestic purposes. In the majority of developing countries, men are more prone to use natural resources for commercial purposes (agriculture, fishing, timber).

For example:

- ▶ In crop production, it is common for men to prioritise (market-orientated) cash crops for export, whereas women agriculturalists tend to focus more on food crops for the household and community (FAO et al., 2009; IFAD 2010). In developing countries, national food security often rests upon women's production of food crops (Open Society Foundations, 2014).
- ▶ In nearly all developing countries, women and girls are the main individuals responsible for collecting, transporting and managing water for domestic use (drinking, cleaning, etc.) (IFAD, 2012). Men and boys are likely to have other roles and priorities in relation to water supply and sanitation, such as watering livestock and undertaking irrigated agriculture (African Development Bank, 2009).

¹ FAO (2004), *The State of Food and Agriculture 2003–2004*, cited in FAO et al., 2009.



- ▶ Women in forestry and agroforestry landscapes bear responsibility for collecting forest resources to meet households needs (for example, wild foods, medicinal and aromatic plants, fuel and animal fodder) (CIFOR, 2013). A study of communities in 25 countries in Africa, Asia and Latin America supported the idea that men often focus on goods that will generate additional income (such as timber), whereas women focus on products that fulfil other household needs (UNREDD et al., 2013).
- **Often, the domestic responsibilities of women and girls in relation to natural resources management result in significant time burdens for them, undermining their ability to undertake productive activities, such as education, decision-making and entrepreneurship.** Women spend up to 3-4 hours each day collecting household fuel². On average, women in many developing countries are estimated to walk 6 km daily in order to collect water (UNFPA, 2002). Women in women-headed households have highlighted water and fuelwood collection as one of their most time-intensive responsibilities. (FAO/IFAD 2003, cited in FAO et al., 2009).
- **Women and men do not have the same rights and ability to access natural resources (land, trees, water, animals, etc.).** Although the situation differs, women generally do not have as many ownership rights as men (SIDA, n.d.). Despite their role as food producers, women do not normally own the land that they cultivate or have stable control (e.g. long-term lease) (ibid.). For example, women may have land-use rights rather than ownership rights, or may be more dependent on communal property (relative to men). These circumstances undermine women's ability to influence the control of the land and its products, as well as to produce food, accumulate income, gain access to agricultural credit and have expectations of long-term stability³. Furthermore, lack of secure land tenure brings down the incentive for rural people to invest in long-term techniques for rehabilitating and conserving soil: a key part of drylands management.
- **Limited access to secure land tenure⁴ has a knock-on effect on women's ability to access other natural resources, such as water and trees** (IFAD, 2012; CIFOR, 2013). For instance, tree rights are often linked to land rights. Due to having fewer formal land rights, women may have to travel long distances to collect fuel, despite having local trees closer to their homes (on private land). Alternatively, they may have to collect other types of fuel, such as dung and stalks.
- **The different roles of rural women and men in natural resources management affect the roles they have in managing, using and conserving biodiversity.** For instance, women often select and adapt local plants; manage and exchange seeds; and produce local varieties of vegetables, herbs and spices in their domestic gardens. These actions support biodiversity (unlike the crop monocultures often promoted by men (FAO et al., 2009). Conversely, men farmers, often responsi-

² World Health Organization (WHO) (2006), Fuel for Life: Household Energy and Health, cited in FAO et al., 2009.

³ In 2003, the Food and Agriculture Organisation of the UN estimated that around 1% of total agricultural credit goes to women in Kenya, Malawi, Sierra Leone, Zambia and Zimbabwe, as financial bodies do not tend to consider women worthy of credit. Taken from FAO (Food and Agriculture Organization of the United Nations), 2003, 'Dry Taps: Gender and Poverty in Water Resources Management', Eva Rathgeber, cited in IFAD (2012) (see References at the end).

⁴ Tenure security for women implies that, whatever the tenure regime, women 'can use or manage land in a predictable fashion for a defined length of time'. Taken from Action Aid, (2008) 'Securing women's rights to land and livelihoods: a key to ending hunger and fighting AIDS', p. 13, cited in SIDA, n.d.



ble for large livestock, may have better knowledge of the breeds best adapted to the local environment.

- **Global environmental trends – including climate change, deforestation and over-exploitation of resources – are increasing the pressure on natural resources and undermining genetic diversity.** Climate change, mostly brought about through greenhouse gas emissions, represents a threat to ecosystems; the Intergovernmental Panel on Climate Change (IPCC) estimates that between 20% and 30% of plant/animal species are at risk of extinction if the average temperature rise is greater than 1.5°C to 2.5°C (IPCC, 2007). Deforestation also continues apace, affecting around 13 million hectares a year between 2000 and 2010 (FAO, n.d.). This threatens the position of forest-dependent communities, contributes to biodiversity loss, and undermines the role of forests in carbon sequestration. Poverty, unsustainable forms of land use and climate change are increasing the process of desertification⁵, which reduces soil fertility, crop yields and fresh water availability. If current trends continue, 1.8 billion people will be living in areas with absolute water scarcity by 2025 (FAO et al., 2009).
- **Biodiversity loss and the growing competition over natural resources is likely to hit the rural poor hardest, particularly women.** More than three-quarters (76%) of the world's extreme poor live in rural areas (World Bank and IMF, 2013). Poor rural households in developing countries are often those that depend the most upon local ecosystems – including the genetic diversity of natural resources – for their livelihoods. Many lack the productive resources to cope with rapid changes to ecosystems (IFAD 2010). Gender-based inequalities in access to land, credit, information, markets and other productive resources put women on the frontline of these risks. For instance, in the division of resources, women are often left with the most instable, marginal lands, which are particularly susceptible to environmental shocks. Land degradation and deforestation also impacts upon common property, on which many poor rural women rely for natural resources such as fuelwood, fodder and food. In general, land and water degradation increase food scarcity, malnutrition and instability (all of which affect the pool of natural resources).
- **Reduced access to natural resources can lead to significant rises in women's labour**, such as the distances they must travel and the amount of time they must spend collecting household food, water and fuel (UNEP/CBD, 2010). Lower access to resources can also heighten risks to women's health and security (for example, longer journeys can increase women's susceptibility to gender-based violence; degradation of water can bring greater likelihood of contracting water-borne diseases – such as cholera and diarrhea – during the process of collection). Land degradation can bring additional social costs, such as the migration of men from rural communities, leaving women to take on the traditional 'male responsibilities', but without the same ability as men to access supporting resources (for example, financial services, technology, social networks) (Lambrou and Laub 2004).

⁵ "Desertification is the process of land degradation that affects dryland areas and is caused by poverty, unsustainable land management and climate change" (IFAD 2010).



- **There are signs that natural disasters, to which women are particularly vulnerable, are becoming more common.** Long-term climate changes are expected to increase the incidence of extreme weather events, such as droughts, heat waves and tropical cyclones (IPCC, 2007). There are some signs to suggest that women are more vulnerable to these than men, largely due to social norms influencing the construction of gender roles and overrepresentation of women amongst vulnerable groups in society (e.g. the poor, the elderly) (Neumayer and Plümper, 2007). These events also have an impact upon the pool of available natural resources.

Several structural and cultural factors can explain gender inequalities in natural resources management

- **Legal systems (both formal and customary) of land ownership can discriminate against women:** Although a number of countries have formal legal systems (e.g. constitutional provisions) that enable gender-equal ownership of land, other laws often undermine these. For instance, marriage, divorce and inheritance laws often make women's rights contingent on their male relatives, leaving them vulnerable if they are widowed or divorced. Within customary law systems (often parallel to formal systems), women often cannot access land on an equal footing as men. In most African countries, customary systems of tenure cover 75% land or more (SIDA, n.d.).
- **Women may face institutional barriers when seeking to exercise influence and control over natural resources.** For example, in some cases, water user associations require that members have formal land rights – to which women have less access. Likewise, when applying to obtain access licenses for natural resources, women – more often illiterate than men⁶ – may be disadvantaged in the registration processes (for example, having to provide a signature).
- **Socio-cultural norms and practices may undermine women's access to secure natural resources.** For example, in the Sundarbans in Bangladesh, the bonojibi community traditionally believe that the forest Goddess does not permit women to enter the forest, due to their impurity. Such practices undermine women's power to collect non-timber forest products (NTFPs) (wild honey, essential oils, etc.), which can be an important source of extra income for them (UNREDD et al., 2013). In Asia, selling NTFPs is typically the only method that landless women can use to generate income (ibid.). Traditional practices can also undermine women's rights to water and land. For instance, women farmers are often allocated the most marginal and vulnerable lands.
- **Social norms may also impact upon women's ability take full advantage of markets.** Relative to men, women may have trouble in taking full advantage of markets, for example due to lower rates of literacy and limited access to private transport, information and commercial networks. In some areas, women are more like to sell domestic crops in local markets, whereas men more likely to focus on national/international markets.

⁶ In 2013, the UNESCO Institute for Statistics estimated that there are 774 million adults (15 years and older) who cannot read or write, of whom two-thirds (493 million) are women. <http://www.uis.unesco.org/literacy/Pages/data-release-map-2013.aspx>



- **Women are under-represented within local, national and international decision-making bodies in natural resources management, which reduces their power to influence the allocation and use of the resources.** Women generally have a low presence within local and regional governance structures, such as water user associations (WUAs), forest user groups and farmers' bodies (IFAD, 2012; UNREDD et al., 2013). Likewise, men are the main decision-makers within national and international policy-making processes on climate change, forestry, and biodiversity. The gender imbalance within these platforms is significant, given that the different roles and responsibilities of women and men in relation to natural resources management are likely to impact upon their priorities and needs. For instance, rural women are the main individuals practising traditional agroforestry techniques in South and Southeast Asia, as well as those domesticating indigenous fruits (FAO et al., 2009). However, they have low representation with the policy-making arenas on agroforestry (ibid.).
- **Policies, programmes and conventions in natural resources management (NRM) can be 'gender-blind'⁷.** Women have far-reaching knowledge of where to find natural resources to support household food security and nutrition, but these are often ignored or underestimated in NRM policies/programmes (FAO et al., 2009). For example, the forestry sector continues to be seen as a more masculine area (UNREDD et al., 2013), despite the role of women in forest resource management. NRM programmes often transfer access rights to individual owners, partly for efficiency and partly due to a belief that owners require 'exclusive' rights for management. However, women's access rights can be strengthened through programmes that enable multiple users to access resources for multiple purposes (for example, focusing on community forest management).
- **Globalisation can undermine genetic diversity and weaken the position of poor farmers in developing countries, including women.** For instance, poor farmers may fare poorly within global trade agreements. The World Trade Organization's Trade Related Intellectual Property Rights Agreement (TRIPS) has been criticised for undermining poor farmers' ability to share in the benefits of their unique knowledge of local ecosystems (Mukherjee, 2012). Likewise, global agroindustry often rests on moving towards more uniform, high-yield crop varieties. This mode of farming can leave women farmers behind, given the barriers they face in accessing agricultural credit, technology and commercial seeds and fertilisers. Furthermore, given that women are the main individuals managing seeds, domesticating indigenous plant varieties and practising agroforestry techniques, the move towards agroindustry may also undermine the role they play in maintaining local genetic diversity. For instance, home gardening is a prominent, multispecies form of land use by women, within the subhumid tropics of South and Southeast Asia. The marketisation of agriculture has resulted in species losses from home gardens, particularly in Sri Lanka, India and Indonesia, where multiple mango and jackfruit varieties have gone extinct. (FAO et al., 2009).
- **Negative environmental trends reinforce one another, with the potential to exacerbate existing inequalities in natural resources management.** For example, natural resource degradation increases the greater incidence of small-/medium-impact disasters, such as recurrent floods and landslides. These often hit the poorest households hardest, with the least access to 'livelihood assets' that would support their adaptation.

⁷ Some exceptions are the Convention on Biological Diversity (CBD) and the Global Plan of Action on Plant Genetic Resources, which appreciate the different roles of women and men in biodiversity management.



How to address gender inequalities in natural resources management

For natural resources management programmes to reach their potential, gender disparities must be addressed and effectively reduced. They need to be **gender-sensitive**, following the steps described below.

- Make use and create demand for **sex-disaggregated data**, for example on land tenure and the membership of forest user groups and water user associations.
- **Ensure that women's needs and priorities are voiced, understood and addressed.** For instance, if women are under-represented in decision-making bodies on natural resources management, it is important to consider methods of supporting actively their involvement, such as working with rural women's groups, introducing membership quotas, strengthening women's legal rights in relation to natural resources, scheduling meetings at alternative times/venues, reducing entry criteria for women and/or offering leadership training. For example, as part of a land certification scheme in Ethiopia, it was a requirement for land administration committees to have a minimum of one woman involved; furthermore, land certificates encouraged the recognition of joint ownership by leaving space for pictures of both partners within a couple. These steps enhanced the capacity of women to have an influence within land administration committees (SIDA, n.d.).
- **Avoid reinforcing gender inequalities**, by ignoring the existing gender relations and power disparities between women and men. Many extension staff address only men during training on agricultural technology and natural resources management, based on the assumption that they will tell their wives (which often transpires to be wrong) (FAO et al., 2009). For example, research suggests that it is unusual for extension staff teaching farmers about drought-resistant crop varieties to address women farmers directly⁸. This reinforces existing inequalities in the capacity of women and men to access productive resources.
- **Plan gender-specific actions**, to address problems relating more particularly to one or the other gender, either as separate initiatives or as part of larger programmes. For instance, women-focused enterprises and cooperatives can be an important way of strengthening women's position in the market, especially their bargaining power (UNREDD et al., 2013).
- **Adopt longer term “transformative” perspectives**, supporting women's participation in decision-making and changing prevalent negative attitudes on women's leadership capacities and social roles.
- **Engage men**, creating awareness on gender disparities and proving the benefits of gender equality for communities. For instance, much research shows the wider benefits of involving women in forest user groups, including better forest regeneration, more transparent financial management and greater funding for pro-poor programmes⁹. Other research suggests that greater tenure security for women comes with higher rates of agricultural production and food security (SIDA, n.d.), as well as greater autonomy for women in relationships¹⁰.

⁸ Kurukulasuriya, Pradeep, and Shane Rosenthal. 2003. “Climate Change and Agriculture: A Review of Impacts and Adaptations.” *Climate Change Series 91*, Agriculture and Rural Development Department and Environment Department, World Bank, Washington, DC, cited in FAO et al., 2009.

⁹ Examples include Agarwal, B. 2007. Gender inequality, cooperation, and environmental sustainability. In: Baland, J.M., Pranab, B., and Bowles, S. (eds.) *Inequality, cooperation, and environmental sustainability*, 274–313; Agarwal, B. 2009. Gender and forest conservation: The impact of women's participation in community forest governance. *Ecological Eco-*



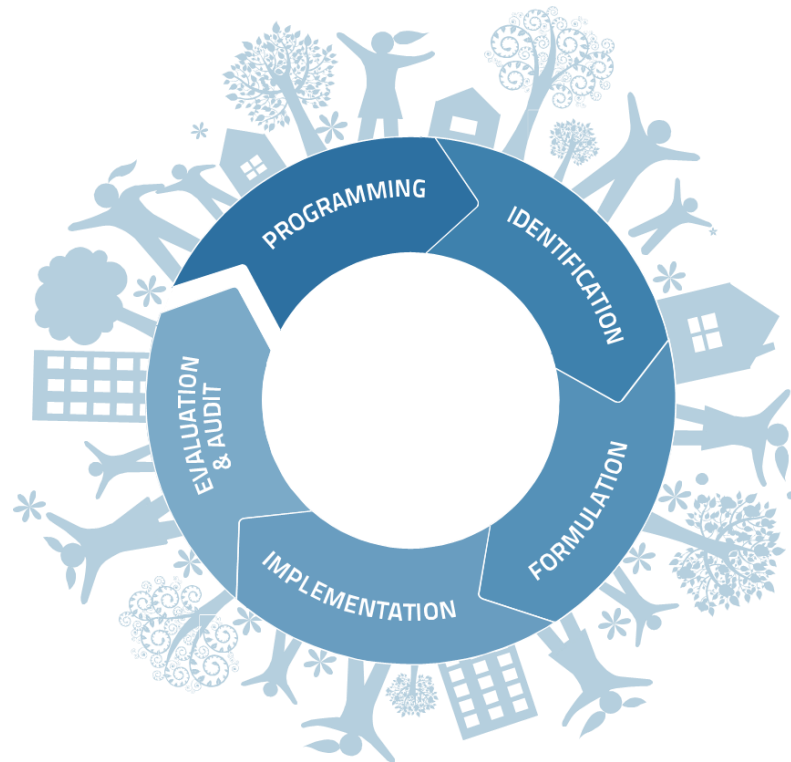
- **When planning small sized women- or gender-equality specific projects, see them as part of larger scale programmes to protect rural livelihoods and promote inclusive and sustainable management of natural resources.** For instance, strengthening the voice and rights of rural women is crucial for ensuring that local knowledge and practices in biodiversity management are not lost during a period of far-reaching environmental change.

nomics 68(11): 2785–99; Agrawal, A. and Chhatre, A. 2006. Explaining success on the commons: community forest governance in the Indian Himalaya. *World Development* 34(1): 149–66; Acharya, K.P. and Gentle, P. 2006. Improving the effectiveness of collective action: sharing experiences from community forestry in Nepal. CAPRI Working Paper No. 54. International Food Policy Research Institute, Washington, DC.

¹⁰ COHRE (2006), A Survey of Law and Practice related to women’s inheritance rights in the MENA Region, cited in SIDA, n.d.



A roadmap for gender mainstreaming in natural resources management development programmes



Gender equality considerations should be integrated throughout the whole cycle of development planning.

This Section proposes a roadmap for gender mainstreaming in the various phases of a programme – or project - lifecycle.

1. Analysis, programming and identification of country strategies

Programming and identification are strategic moments to promote natural resources management programmes which serve to redress gender inequalities and promote sustainable and inclusive forms of natural resources management. The most essential steps are:

- To keep gender equality in the policy dialogue agenda;
- To carry out gender sensitive analysis for the diagnostic stage.

Dialogue and negotiations related to natural resources management should:

- Be grounded in the shared objectives of the global agenda for natural resources management and sustainable development, and in the common respect of the human rights framework, including gender equality: the Sustainable Development Goals (due to be approved in autumn 2015)¹¹; the Millenium Development

¹¹ The proposed SDGs include many aspects relevant to gender mainstreaming in natural resources management. For instance, SDG 2 is to "End hunger, achieve food security and improved nutrition and promote sustainable agriculture", which includes the task to double the agricultural productivity and the incomes of small-scale food producers, particu-



Goals (MDGs); the Beijing Declaration and Platform for Action (especially critical area K); the Convention on Biological Diversity (CBD)¹²; the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW); the Cancun Agreement (2010) of the United Nations Framework Convention on Climate Change (UNFCCC) (especially paragraph 72¹³); and the (upcoming) International Agreement of Forests (IAF) of the United Nations Forum on Forests (UNFF).

- Align with the country commitments (laws, policies, strategies) to promote gender equality and encourage sustainable and inclusive management of natural resources. For example, Nepal's Forestry Act recognises women as primary forest users and enabled the development of gender-sensitive policies and regulations in the forestry sector (UNREDD et al., 2013).
- Analyse the different roles and take-off positions of women and men in natural resources management, using sex-disaggregated data in diagnostic studies (e.g. establishing gender differences in access, control and use of natural resources). Gender country profiles or other sectoral studies should be used or commissioned.
- Systematically involve and support "gender stakeholders", from Government, donors and civil society, at all stages. This can include gender coordination groups, gender focal points in relevant ministries (e.g. environmental or forest ministries), gender experts and representatives of women's groups and networks (especially those of rural women), forest management committees, water user associations (WUAs), farmers' organisations and conservation groups.
- Build on previous and current initiatives to promote gender equality in the sector or in contributing sectors, map existing needs and financing gaps, and avoid duplication of efforts.
- Assess whether the institutions who will be responsible for programme management and service delivery have resources and capacities to promote gender equality and plan for competence development initiatives, including at service delivery level.

2. Formulation and budgeting

- The results of gender analysis should be used to tailor the formulation of NRM-programmes and projects. The formulation phase is particularly important, as it affects all subsequent phases of the programme (implementation, monitoring and evaluation). To do so, one must follow the steps described below.

larly women, by 2030, including through "secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment". SDG 5 is "Achieve gender equality and empower all women and girls", including through reforms to give women "equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance, and natural resources in accordance with national laws". SDGs 6, 14 and 15 are also relevant. <https://sustainabledevelopment.un.org/sdgsproposal.html> [accessed 23 July 2015]

¹² The CBD recognises "the close and traditional dependence of many indigenous and local communities embodying traditional life-styles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components". It also recognises the "vital role that women play in the conservation and sustainable use of biological diversity" and affirms the "need for the full participation of women at all levels of policy-making and implementation for biological diversity conservation".

¹³ This paragraph requests that the national strategies or action plans of developing countries "address, inter alia, the drivers of deforestation and forest degradation, land tenure issues, forest governance issues, gender considerations".



- Design objectives and activities to address gender gaps identified and include them in programme documents, plans, logical frameworks, financing agreements and budgets.
- Include and budget for initiatives to address specific needs and constraints faced by women or men, including long-term capacity building of women in leadership and guardian skills; literacy (if necessary); technical skills in NRM (such as irrigation techniques); practices in the sustainable management and restoration of natural resources; and business development skills.
- Allocate resources for gender mainstreaming, capacity building and awareness raising at all levels and in ways that are adapted to the needs of different target groups (for example, programme staff, women and men beneficiaries of NRM programmes, members of natural resource user groups, staff from local institutions and/or service delivery organisations, marginalised communities, indigenous women).
- Commit to pursue a strategy for continued gender mainstreaming in the programme (donor and country led processes). This may be formalized in an action plan which should then clearly assign responsibilities, resources and results to be achieved, as part of the broader programme's result chain.
- Establish formal mechanisms of consultation with gender stakeholders.
- Design and budget for participatory and gender-sensitive monitoring processes, particularly at service delivery level e.g. in assessments of new technologies introduced, including indicators to capture changes in power relations or in agricultural roles and productivity.
- Define performance monitoring frameworks and processes which can capture progress in gender-related objectives.
- In direct budget support initiatives, include gender indicators in financing agreements between donor and recipient countries (e.g. minimum percentage of women on NRM groups, such as forest management committees; changes in the average number of hectares of land owned by women- and men-headed households; number of women and men receiving training in NRM techniques).
- Respect equal opportunity principles in management arrangements and establish accountability structures for gender mainstreaming at programme level.

3. Implementation and monitoring

At this stage what is planned in relation to gender equality should be maintained, monitored and corrected as needed. The most important points to consider are:

- Continued coordination, dialogue and consultation on gender equality within working groups on natural resources management; with institutional stakeholders (such as the gender units of the relevant ministries) as well as with a broader range of actors from civil society.
- Effective monitoring of the progress of the various gender dimensions of the programme and sub-programmes, including at service delivery level, collecting opinions and experiences of women and men. For example, the Consultative Group for International Agricultural Research (CGIAR) Research Programme on Forests, Trees and Agroforestry has a specific gender strategy and monitors multiple aspects, such as the gender integration process (e.g. percentage of projects generating sex-disaggregated data, number of scientists trained in gender analy-



sis); outputs (e.g. changes in the capacity of partners); and impacts (e.g. level of reduction in the gender gap between the income of women and men from Forest, Agroforestry and Tree (FAT) goods and services; percentage of women in forest management committees, etc.) (CIFOR, 2013).

- Integration of gender in joint sector reviews and policy dialogues, particularly at the level of the Sector-Wide Approach (SWAP) committee;
- Monitoring if resources planned for gender equality are spent, and if not, why.

4. Evaluation

- Terms of Reference of (mid-term) evaluations should require gender expertise in the evaluation team and give account of the differential impacts of a programme on women and men, identify potential negative impacts on women or men and offer recommendations and lessons learned useful to further pursue gender equality in the sector.
- Evaluators and monitors should be able to use participatory evaluation techniques and sex-disaggregated beneficiary assessments of service delivery.
- Evaluations should also build on past gender evaluations of programmes in the sector.

GENDER TOOLS FOR THE DIFFERENT AID MODALITIES

An ample selection of analytical and planning tools useful at each phase of the development cooperation cycle, according to the different aid modalities, is available in the “Aid Modalities” Section of the EU Resource Package on Gender Mainstreaming in Development Cooperation.

The following Section offers a list of gender-analysis questions that can be used in Programmes related to natural resources management.



Questions for gender analysis in natural resources management¹⁴

Gender analysis helps acquire a different perspective on the complexity of a development context, and understand how to better address other forms of social inequalities. It looks at how economic and social structures at multiple levels can reinforce, or help overcome, gender inequalities and imbalances in power relations between women and men.

DIFFERENT LEVELS OF GENDER ANALYSIS

Macro analysis looks at national level law, policy and decision making, including trade and finance policies and national development plans. It helps identify how natural resources management programmes can contribute to, or hamper, broader development strategies. It assesses whether legislation and policies relating to natural resources management contribute to gender inequalities, or to their elimination. It is particularly useful when programming or identifying development cooperation strategies, programmes and projects.

For example:

Analysis at the macro level may reveal that forestry legislation offers particular protection to forest-dependent communities, but that this conflicts with national policies for deforestation and economic growth. These protections, then, may support the case for development programmes that promote sustainable management of forests and strengthen the rights of forest-dependent communities, particularly women (who may have some of the weakest rights).

Meso level analysis looks at markets, institutions, services, infrastructures which serve as a link between laws/policies and people, enabling them to benefit (or be excluded) from policy effects: communication and transportation systems, health services, education, decentralized public services (revenues, rural development, land registration), credit institutions, markets and extension systems.

This is particularly useful at programme formulation, as it also assesses the extent to which gender roles relationships and cultural issues can influence the effectiveness of service delivery and other policy and programme implementation mechanisms.

For example:

Analysis at the meso level may reveal that systems for land registration place illiterate people at a disadvantage, as individuals must provide their signatures, rather than giving fingerprints or photos. If women are over-represented amongst illiterate adults in the specific country, this may undermine their ability to access development programmes that aim to strengthen the formal land rights of rural people.

¹⁴ More on gender analysis is available in the EU Resource Package, Section “Building Blocks”.



DIFFERENT LEVELS OF GENDER ANALYSIS

Micro level analysis studies people: women and men as individuals, and the **socio-economic differences** between households and communities. It considers women and men's roles, activities and power relations within the household and the community, and how these influence their respective capacities to participate and benefit from development programmes. It is particularly useful at formulation, implementation and monitoring levels.

For example:

Gender analysis at the micro level may reveal that the traditional roles of women in natural resource management expose them to particular health risks. For example, the majority of rural people in sub-Saharan Africa, India and Indonesia depend upon traditional biomass (wood, straw, etc.) as their primary cooking fuel. The main individuals responsible for cooking (typically women) will likely be exposed to unventilated fires, which result in high levels of carbon monoxide and nitrogen oxide. Smoke inhalation may thus affect women particularly badly.

The following section proposes guiding questions for gender analysis in natural resources management, at macro, meso and micro levels.

Macro level

Macro level. Policies and laws

- What gender equality commitments have been made by the government, for instance in the framework of the Beijing Platform for Action, CEDAW, the SDGs? Is there a law and/or a policy on gender equality in the country?
- Do national policies for natural resources management reflect these commitments through awareness of inequalities between men and women, and do they outline the means to address them?
- Are there gender policies and action plans in natural resources management? Do national NRM programmes and sub-programmes align to and support these gender plans?
- Do current policies, laws and regulations address women's and men's needs separately? Do they have measures for equal opportunities and women's rights (for example, encouraging schemes of joint land ownership)?
- Do current policies, laws and regulations have discriminatory provisions towards women? For example, do marriage and inheritance laws mean that women must depend on men relatives to gain access to natural resources?
- What is the role of customary law in influencing women and men's access to natural resources?
- Is the social and health protection system inclusive of women, (e.g. right to maternity care)? Are certain groups excluded (e.g. women in the informal economy)?



Macro level. How are decisions made in national-level institutions?

- Are there decision makers (in Government, Parliament) who are ready to champion gender equality and women's empowerment in natural resources management?
- What is the gender balance within the key national decision-making bodies dealing with NRM (Parliament, ministries, etc.)?
- Are governmental institutions responsible for women's and gender issues, involved in decision-making at national policy and planning levels on NRM?
- Are there gender thematic groups that could be involved in sector level consultations?
- Do relevant ministries – for example, forestry or environmental ministries – engage in public consultations? Do these include representatives of women's groups and networks?
- How much do national-level institutions take into account the contributions of local community in relation to the allocation, use and management of natural resources?

Macro level. Data and information

- Are there policy documents or agreed gender assessments that provide information and statistics on the gender gaps and priorities in natural resources management? For example, do gender strategies exist in relevant sectors (forestry, water, etc.)?
- Are sex-disaggregated data available to provide an insight into the access and control of natural resources within the programme area? Is it possible to draw upon committee meeting minutes, case studies, household surveys, cadastral surveys, records from environmental ministries, records from NRM committees, records from land registration departments?
- Have similar programmes/projects been implemented in the country? Were gender-sensitive evaluations carried out? What are good examples of women's empowerment in the study area? Which attempts to achieve gender equality were failures (e.g. because they were taken over by men or had adverse effects on women)?
- Have similar programmes/projects been implemented in other countries, but in the same sector? Is it possible to learn from these?

Macro level. Monitoring frameworks

- How is the country faring on gender equality targets established at international level?

Has the government developed indicators that allow for monitoring progress in natural resources management from a gender equality perspective? Which data exists to show the impacts of the programme/project for women and men (for example, increases in individual/household income, average number of land hectares owned by women- and men-headed households)?

Note: examples of gender-sensitive indicators in natural resources management are given towards the end of this document.



- Is it possible to introduce a requirement for service providers to collect new sex-disaggregated data on natural resources management?
- Has there been a gender analysis of government spending in this sector and in the sub-sectors? Does the government have a system to track the gender sensitivity of development programmes?
- Is it possible to have a benefit incidence analysis by sex of beneficiaries? (method of computing the distribution of public expenditure across different demographic groups, such as women and men.)
- In sector budget support modality, can payments be linked to progress made on the gender objectives and gender indicators (for example, percentage reduction in the gender gap between the income of women and men from particular natural resources; number of service providers trained in gender analysis; percentage of women in resource user groups)? Is part of the budget earmarked for specific gender equality objectives?

Meso level

Meso level . Service provision

- Who provides water supply and sanitation (WSS) services (e.g. NGOs, business, local governments)?
- How accessible are the WSS services? For example, can individuals access them at all times of the day? Is there a fee, and is this the same for all users? Is the fee payable by individuals or by organisations (e.g. WUAs, municipal government)? Is credit available to pay the fee?
- If financial mechanisms or facilities are in place (e.g. agricultural credit schemes), are they accessible for women as well as for men?
- Which bodies uphold the natural resource rights of women and men (e.g. land administration committees, forest user groups), and do these carry out their function in a 'gender-equal' way? In community allocation of natural resources, are women and men offered resources of the same quality, or is one sex given 'sub-standard' resources (e.g. water supplies that are far away, ecologically fragile lands, etc.)?
- Do local leaders and officials who influence land allocation/management know about tools to support women's rights? Is it necessary to undertake capacity-building activities amongst the bodies that have a role in land management (e.g. surveying, allocation), as to the need for gender-equal access to land?
- Are there plans to improve the outreach capacity of local-level service delivery institutions to poor communities and in particular to women (for example, holding meetings of resource user groups in areas that are easily accessible and safe for women to attend)?
- Are workers' organisations or NGOs able to promote the rights of women working in natural resources management? For instance, are there representative groups of women working in the forestry sector, not only of women who manage natural resources from the forest, but also women working in unskilled jobs relating to the sector, such as women in sawmills and plantation nurseries?



- Is there a gender balance in programme and project implementation units? At which levels? Having women staff can be particularly beneficial for reaching out to women in the community. For example, the World Bank-supported Matruh Resources Management Project in Egypt aimed to overcome the degradation of natural resources, by working with local community bodies to develop plans for local resource management. As part of this, women extension agents were in place to work with women.
- What grievance mechanisms are in place for women and men to use if their rights to natural resources are breached? Are these gender-sensitive?
- Do registration procedures for NRM programmes enable illiterate people to access rights to natural resources? If not, how could they?

Meso level. Decision making and consultation

- If the programme envisages support to community-based organisations and co-operatives, are women represented and at which levels? Which women? Are poor women able to make their voices heard?
- *Note:* Different groups of women may have different, sometimes conflicting, priorities in relation to NRM (due to class, caste, ethnicity, etc.). For instance, a study in India concluded that the caste system impacted upon women's water needs; in this case, elite women's preferences over where to place hand pumps, made it harder, rather than easier, for poor women to access water (Singh, 2006). How will the programme avoid the reinforcement of other social inequalities when supporting women's representation?
- How will consultation processes be organised at various levels? Will both women and men be involved in community level consultation processes? How are women's interests going to be represented? Is there a need to set up new fora?
- Is it necessary to consider the promotion of women-only groups for natural resources management? In some cases, when women go to mixed meetings, they lack the confidence to speak up, or are denied respect, time, etc. (FAO et al., 2009).
- How can NRM meetings be organised with a view to supporting women's participation? For instance, one India-based NGO, Vasundhara, tailored the location, time and seating arrangements of meetings to support women's involvement, as part of a project that aimed to enable women to have a greater role in tendu leaf picking operations (a potential source of income) (UNREDD et al., 2013).
- Are gender equality institutions and structures at local level being involved?
- If there are mechanisms to increase access to productive resources (technology, agricultural credit, etc.), training, local markets, or employment, are there provisions to promote equitable access for women and men?

Meso level. Data collection and monitoring processes

- Which data can be collected throughout the programme to monitor the impacts for women and men? Who will be responsible for collecting this data, and how frequently (e.g. providers of water services, land administration committees, women's networks)? Will they be trained in participatory, gender-sensitive data collection techniques?



- *Examples of sex-disaggregated data for monitoring at this level:* the number/proportion of women and men forest guards, the number/proportion of women and men trained in NRM skills (e.g. irrigation techniques, sustainable land management), the number/proportion of women and men gaining access to agricultural credit.
- Are adequate resources allocated for participatory consultation, monitoring and sex-disaggregated assessments of service beneficiaries?
- Are data collected at the meso level disaggregated by sex? What is the capacity of the national statistical office, and of enumerators, to collect sex disaggregated data and produce gender-sensitive statistics?

Micro level

Micro level. Gender division of tasks and labour

- What are women and men's traditional activities in relation to natural resources management? Which of these activities are paid and unpaid?
- How easy is it for women and men to fulfil their traditional activities? For instance, what is the time burden and level of travel needed? Are there any risks involved, for example to health or security?
- What is the impact of women's (and girls') unpaid work on their opportunity to engage in 'productive' activities, such as education, training, paid work or business development?
- If women and men cannot fulfil their traditional NRM responsibilities (e.g. due to extreme weather events), what are the consequences for households and the community?
- What are the differences in rural women and men's knowledge of indigenous plants, fish and livestock biodiversity? What are the cultural norms and/or belief systems that impact upon practices and knowledge?
- Are there different biodiversity management practices used by rural women and men to withstand environmental disasters (e.g. droughts) and other threats (e.g. HIV and AIDS)?
- Are children involved in household work? Which different tasks are allocated to girls and boys?

Micro level. Gender relations: Access and control over resources

- What are the general economic and demographic conditions of the household? Of the community? What are men and women's main sources of income (e.g. agriculture, fisheries, non-timber forest products)?
- Which factors influence access to and control over resources (for example, age, sex, wealth, ethnicity, peri-urban versus rural locations, education level, networks and patronage)?
- Are there gender inequalities in access to and control over natural resources and benefits? For instance:
- Which natural resources are present in the community? Who uses and who owns these?



- Are there differences in women and men's access to land rights and secure tenure? Are women more likely to have use rights than ownership rights? During times of environmental shock (e.g. natural disasters), are the land rights of women and men respected?
- How do the land rights of women and men impact upon their access to other natural resources (e.g. water, trees, forests)? It is worth bearing in mind that people can assert different rights over the same resource. For example, a tree in Kenya may be owned by a man, but the land may be leased to a woman, who collects fruit for a group of women; furthermore, members of the community may be able to access the land freely to collect fuelwood etc. (Both Ends, 2012). Here, the same resource is subject to multiple claims, often based on the resource use in question.
- At the household level, who takes decisions about resources and activities?
- At the community level, how are decisions made about resources and activities?
- If community-based organisations exist (e.g. natural resource user groups, co-operatives, traditional sociocultural organisation, religion-based etc.), are women members? Do they participate? At which level? If not, why not?
- Are women and men equally able to share in the benefits of resource use and management? For example, who receives the income of community user groups (forests, water, etc.)?
- Which markets can women and men access to generate income from natural resources? Are women at a disadvantage in terms of enterprise development (e.g. less access to commercial networks, agricultural credit, technology)?
- What changes are needed in women's control and access of natural resources in order for their preferences to have greater impact upon management decisions (e.g. where to plant trees, where to place hand pumps, how to manage communal property, etc.)?
- *Note:* At the community level, it may be useful to develop a participatory gendered resource map, which is a "method of visually presenting who uses, and who has access to and control over different natural resources", such as pastoral lands, water, minerals, trees, etc (Both Ends, 2012).

Micro level. Perceptions about gender equality

- Are women aware of their rights? Are they able to voice them in the community or with service providers?
- What are the views of law enforcement bodies (courts, police, local councils etc.) about the rights of women and men to different natural resources? Are they aware of tools to support women's access to land?
- What are women and men's perceptions on gender-based violence (domestic and at work) and harmful traditional practices?
- Are men openly resistant to gender equality? Are there groups of men who are more supportive/resistant than others? Who can influence them?



Gender sensitive indicators for the natural resources management sector

Gender sensitive indicators aim at ‘creating awareness of the different impacts of a development intervention on men and women, taking into consideration their socio-economic and cultural differences.’ (FAO, n.d. – Gender sensitive indicators for Natural Resources Management). Gender sensitive indicators reveal valuable information to identify the specific problems faced by women and men; to assess the extent of gender inequalities in access to and use of resources and services in NRM programmes, and provide the basis for evidence-based policy-making processes (FAO, n.d.).

The table below provides some examples of gender-sensitive indicators.

Area/Sub-sector	Indicator
Access and management of land and water	<ul style="list-style-type: none"> Average number of hectares of land owned by womenheaded and men-headed households Percentage of women and men with de facto and de jure land rights Number of women and men with decision-making authority in cooperatives and marketing associations Proportion of farms registered to women/men Ratio of number of men and women with access to credit based on land rights Ratio of women and men who are members of water users associations Ratio of number of irrigated farms managed by women and men Number of hours spent Change in the number of hours of labor required by men and women with the introduction of irrigation projects
Forestry	<ul style="list-style-type: none"> Number of women and men in forest user groups/management committees Income of women and men generated from forest, trees and agroforestry goods/services, including from non-timber forest products (flowers, honey, oils, etc.) Proportion of annual household income from forest, trees and agroforestry goods/services Number of beneficiaries, by sex, of relevant capacity-building (e.g. on community forest management, business skills, etc.) Average number of hours of women and men spent in the collection of forest resources for domestic purposes (e.g. fuelwood) Percentage of women and men forestry extension workers and forest guards



Area/Sub-sector	Indicator
Fisheries	<p>Number of women and men in fishers' groups, fish marketing and processing businesses, or marketing bodies</p> <p>Percentage of income of women and men generated from fish-based activities</p> <p>Number of women and men beginning small enterprises in fish processing or marketing</p> <p>Number of women and men trained in sustainable fishing techniques</p>
Biodiversity	<p>Percentage of men and women farmers who have access to high-quality, locally adapted planting material</p> <p>Number of households headed by men, women, or couples benefiting from intellectual property rights</p> <p>Ratio of the number of livestock owned by men and women</p> <p>Amount of credit and microcredit available to women and men for improving livestock enterprises</p>
Bioenergy	<p>Percentage of women-headed and men-headed rural households with access to electricity, water, markets, and adequate storage facilities</p> <p>Percentage of men and women owning and using energy-efficient technologies and low-carbon practices</p> <p>Percentage of men and women who participate in decisions about biomass use for energy</p> <p>Number of hours spent by men and women in obtaining biomass for household consumption and small-scale enterprises</p> <p>Number of men and women producing bioenergy crops.</p>
Natural resources decision-making	<p>Percentage of women and men actively part of natural resource management committees (e.g. land administration committees, forest management committees, water user associations)</p> <p>Percentage of women and men within national decision-making structures on natural resources management (e.g. forestry departments, environmental ministries)</p>

Source: Based upon FAO et al., 2009

Examples of gender-sensitive projects in natural resources management

Several development and cooperation programmes have successfully addressed the issue of gender inequalities in natural resources management. Some examples are provided in the table below, and additional documents gathering good practices are listed in the following page.

Programme/project	Challenges	Gender Strategy	Source
<p>Action research project of Bangladesh Resource Centre for Indigenous Knowledge (BARCIK), Sundarbans in Bangladesh</p>	<p>In the bonojibi community in Bangladesh, typical responsibilities of men include fishing and collecting honey and bee wax from the Sundarban forest (facing risk of tiger attacks). Women process the honey and wax, although also go into the forest to collect fuel and spawn.</p> <p>Challenges:</p> <ul style="list-style-type: none"> ▪ Women's work in NRM is not valued to the same extent as that of men ▪ Women lack a license to enter the forest, meaning they have no support mechanism if something goes wrong ▪ Men dominate the decision-making structures and own the main resources (land, boats, fishing nets) ▪ Forest-dependent women have trouble accessing government loans ▪ Social taboos, conservatism and lack of understanding of women's skills undermine gender equality e.g. it is socially and religiously unacceptable for women to go into the forest ▪ Women whose husbands die in the forest face stigma, social exclusion and precarious living conditions ('tiger widows') 	<p>BARCIK carried out multiple gender training workshops with forest-dependent women and men, including some with a focus on natural resource conservation and the equal rights of women. In some of these, BARCIK deliberately gave women the roles of leaders.</p> <p>The workshops also served as a way to connect forest-dependent people and service bodies, such as the Forest Department, the Department of Children and Women Affairs and the Social Welfare Department. The final workshop (May 2011) aimed to strengthen the voice of the bonojibis in their interaction with the media and the government, including that of women.</p> <p>Results:</p> <ul style="list-style-type: none"> ▪ Higher gender awareness of the community, especially in regard to the access and control of natural resources ▪ Greater empowerment of women to contribute to workshops ▪ Led to the creation of women development association in the bonojibi community, bringing together more than 200 women ▪ Set a new precedent: the first woman was voted in as member of local government board (Union Parishad) ▪ Made forest-dependent people more aware of government services e.g. widow allowance, maternity allowance for poor women, training 	<p>Both Ends (2012) www.bothends.org/uploaded_files/document/120125_Workable_approach_to_gender_report_FINAL.pdf</p>
<p>Nepal's Community Forestry Program</p>	<ul style="list-style-type: none"> ▪ Under-representation of women within forestry decision-making ▪ Domination of community forest user groups by high-caste men landowners 	<ul style="list-style-type: none"> ▪ Mandatory for 50% of members of executive committees of community forest user groups (CFUGs) to be women, with core positions subject to rotation 	<p>UNREDD et al., 2013 http://www.wocan.org/news/new-report-scoping-</p>

Programme/project	Challenges	Gender Strategy	Source
		<ul style="list-style-type: none"> <li data-bbox="1211 268 1780 327">▪ Joint listing of women and men's names in CFUG memberships 	study-good-practices-strengthening-women%E2%80%99s-inclusion-forest-and-other
Wulin Mountains Minority-Areas Development Project, China	<ul style="list-style-type: none"> <li data-bbox="586 419 1137 544">▪ Women's responsibility to collect water results in a significant time burden for them, diverting their time away from other activities, such as education or employment 	<ul style="list-style-type: none"> <li data-bbox="1211 419 1780 639">▪ This IFAD-World Food Programme project reduced women's workloads through providing time-saving technologies and developing supply systems of drinking water. It also encouraged organic farming to improve soil productivity, and the conversion of dryland into paddies, which improved crop yields. 	IFAD (2010) www.ifad.org/pub/gender/desert/gender_desert_leaf.pdf



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