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Gender, Poverty and the Conservation of Biodiversity

A Review of Issues and Opportunities

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EXECUTIVE SUMMARY

The loss of biodiversity affects everyone. The degree to which degraded resources impacts an individual depends on several key factors including economic status and gender. However, because women represent the vast majority of the world's poor, women are ultimately impacted more severely than men with regards to natural resource degradation.

The availability of open access and common resource property is instrumental for obtaining sustenance and resources with which to generate income. As these resource bases disappear, the rural poor, particularly women, face increasing levels of poverty and their security is jeopardized (including food, water, energy, economic and health security). In general, household burdens are increased, poverty is increased, and health is diminished. These resource pools are lost for a variety of systematic reasons as well as external pressures such as demographic changes, economic growth, and climate change.

The MacArthur Foundation is well position to provide leadership with regards to incorporating gender into conservation and sustainable development processes. There are several strategic steps that the MacArthur Foundation can take to achieve success with regards to integrating gender into is body of work. These steps include evaluating the types of grantees MacArthur Foundation supports as well as the types of partners with which the Foundation engages, ensure that the Foundation is aware and supportive of process based solutions and opportunities to incorporate gender into its body of work, consider expanding the types of grants the Foundation awards, and ensuring that data and scientific research, including data, is gender disaggregated. The Foundation also has the opportunity to build the capacity of its staff as well as that of partners to ensure that gender is mainstreamed through the Department and throughout the strategic process. Finally, the Foundation has the opportunity to broaden its set of implementing and collaborative partners to ensure a holistic, multi-disciplinary approach is applied to natural resource conservation, enabling the Foundation to address the root causes of natural resource degradation to improve the long term sustainability of outcomes.

It is important that as the Foundation moves forward in incorporating gender into its body of action that it carefully evaluate the risks in instituting a gender approach. There are risks associated with incorporating gender; however, these risks are likely marginal when compared with the risk of assuming business as usual and failing to recognize the imperative need to consider conservation strategies from both a gender and pro-poor perspective.

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SECTION 1. GENDER AND BIODIVERSITY

The degradation of natural resources and the loss of biodiversity impact everyone regardless of gender, race, age and level of income. However, the extent to which the loss of biodiversity impacts individuals varies depending upon several key factors, most significantly: economic status and gender.

Economic Status

Over half of the world's poor live in rural areas. Despite recent increases in migration toward urban centers, the correlation between poverty and remoteness remains strong and is predicted to be significant in most countries over the long term. Rural people are often isolated from economic opportunities, have less access to basic social services, and therefore rely heavily on goods and services derived from biodiversity and ecosystems.

In rural areas, while land-owners often receive the greatest benefit from increased productivity and farming yields, yet even land-owning households often cannot derive all of their survival needs by farming alone. Forests enable the rural poor to conduct activities such as gathering firewood, preparing charcoal, fishing, hunting, collecting materials for making handicrafts and accessing non-timber forest products such as medicinal plants, fruits, and rubber. Near shore and coastal systems enable activities such as the gathering firewood (mangroves), fishing for fin and non fin fishes, collecting ornamental materials for handicrafts, accessing building materials, and utilizing fresh water resources.

Because poor people rely disproportionately on the goods and services that are provided by the natural world for food, water, medicine, and fuel, they are disproportionately impacted by the loss of natural resources. Further, biological resources make up a larger proportion of the 'wealth' of developing countries and are the basis upon which development can be built (irish aid). Therefore, the loss of biodiversity not only undermines food, health and water security, and diminishes energy security it also increases the vulnerability and decreases resiliency of the poor to external forces such as climate change, rapid demographic shifts, and impacts from economic growth.

The use of biodiversity and natural resources is often a large proportion of the livelihood and sustenance needs for a community. For example, in Sub-Saharan Africa, a 30-50% range of reliance on non-farm income sources is common; in Southern Africa, the reliance increases to 80-90%. In South Asia approximately 60% of rural household income comes from non-farm sources (Ellis, 1999). However, because of degraded biodiversity, over 60% of the world's poorest people live in ecologically vulnerable areas (Angelsen, 1997). This degradation threatens not only the species and habitats within a region but contributes to furthering the poverty within the region.

Gender

Gender and environmental issues are linked in several different ways. First, women represent a disproportionate percentage of the world's poor. Although still not clearly quantified, it is largely held that over 70% of the worlds chronically poor are women (see text box 1). Second, women and men use natural resources differently and to different extents to accomplish their defined roles in the community. Finally, men and women are treated differently under legal, political and social regimes and such treatment has implications for their ability to manage resources effectively.

Because of the inherent connectedness between poverty, biodiversity use, and gender and the mutually self-reinforcing nature of these links, addressing rural poverty and environmental degradation requires a holistic, multidisciplinary approach and an understanding of gender in order to achieve successful sustained results. Conservation efforts that exclude communities and specifically women in those communities, fail to identify and deal with gender differences, or prohibit the ability of individuals to access resources for sustenance and livelihoods will be unsustainable in the long term and will contribute to increased poverty, inequality, and resource degradation. Further, development efforts that fail to recognize the link between communities and robust, healthy, biodiverse systems will ultimately fail in their ability to alleviate poverty in the long term. Conversely, improvements in poverty, equality, or biodiversity can leverage improvements in the other two arenas. For example, initiatives that recognize the links between health, education, and access to basic social services will have direct effects on the ability of rural men and women to pursue alternative livelihoods and reducing dependency on natural resource use. Access to effective reproductive health services and improved economic condition is needed to both provide people with an ability to manage the size of their family and reduce the need for larger families so that pressures on the natural resource base are reduced. Low literacy makes it more difficult for rural poor to obtain information about ways to use resources sustainably and productively and contributes to the inability to establish market based opportunities further reducing reliance on natural resources.

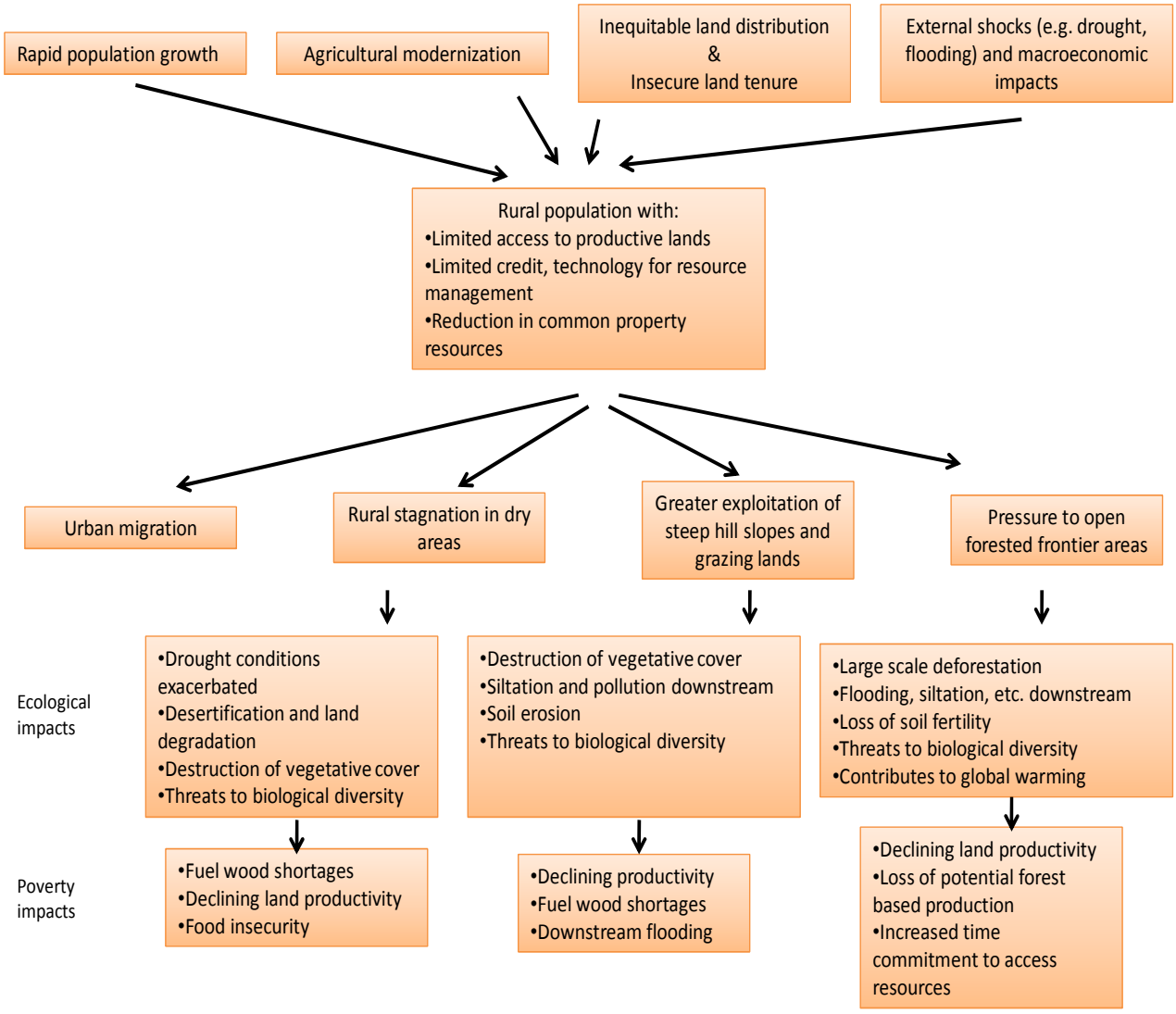

Figure 1 Links between poverty and environment. Because women represent the majority of the world's poor, with some estimates greater than 70%, the links between poverty and gender are largely as pertains to women. (OECD 2005).

WHY ARE WOMEN DISPROPORTIONATLYIMPACTED BY POVERTY?

- Gender inequality distorts women's access to assets
- Gender inequality distorts access to public goods and services that are designed to improve well being
- Gender inequality dictates unequal distribution of resources within the family
- Women's access to employment is gendered
- Women are constrained by time poverty

Text Box 1 The link between women and poverty. See For a more detailed discussion of the links between gender and poverty see (UNDP Bureau for Development Policy, 2005)

RESOURCE UTILIZATION BY THE RURAL POOR:

Much of the worlds' biodiversity exists in resource bases that are either managed as common property resources or as open access resources. Examples of common property or open access resources that are threatened with over-exploitation and loss of biodiversity include habitats such as near-shore coastal areas, coral reefs, pastoral lands, wetlands, lakes, and forests, among others.

These types of resources are utilized extensively by the rural poor. **Women are less likely to own land and therefore rely more heavily on common property resources or open access resources.** Women have customarily obtained materials for basic sustenance on common lands since they do not have access to other land. Women are therefore disproportionately impacted by environmental degradation, as well as by measures such as restrictions of access to forests, leasing or sale of common lands to private entrepreneurs and conversion of common lands to other uses.

Common Property

Common property resources represent a significant component of available land resources and have importance for the poor. These areas often include fallow fields, forests, fishing grounds, pastureland and wetlands. Common property resources provide food, fodder, fuel and medicinal plants as well as other materials for sustenance or income. In many instances common property resources may be the only or main source of food, fuel, building materials and income. Common property resources are usually governed by traditional rules that determine who can use which resource and when. Higher quality resources are often allocated to men.

Open access resources

Open access resources, unlike common property resources, are not controlled by any user and are generally considered open to all for use. In many cases states may actually have authority over the resource but are unwilling or unable to control resource use. Open access resources are often rapidly depleted as individual users race to exploit resources and maximize short term gain before other stakeholders are able to utilize the resource for their own gain. Often times users are illegally accessing the resource or are migrant stakeholders with little long term interest in the sustainable use of the resource. Further, private concessions by the State are often responsible for resource depletion.

WATER AS AN OPEN ACCESS RESOURCE

Water resources can be managed by several users as common property resources. However, in the absence of effective mechanisms for co-management at the watershed or river-basin level, water resources often become open access. Conflicts arise between upstream and downstream users or between wealthy and poor users. For example, irrigation users at the tail end of a large system may have the formal right to water, but their share may be taken by farmers near the head of the system. Access to finance and technology enables individuals to pump water from aquifers or dig deep wells. Consequently, rural poor may be limited in their access to water while powerful commercial farmers can effectively appropriate limited water resources for their own use. Further, fisheries resources can be degraded by pollution from upstream industry, aquaculture or agriculture. Inter-ethnic or inter-state competition over water resources is often a major factor behind violent conflict. This can occur in territories either where water resources cross borders, or where seasonal water availability causes social groups to move across borders in search of water.

Text Box 2 - For more information on Water as an open access resource (ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, 2001)

CAUSE: Why common property and open access resources are lost

Common property and open access resources are often lost by depletion and/or removal of resources from the common pool. There are a number of policies and factors that affect the availability and quality of resources such as official land use policies (including conservation set

asides and programs such as debt-for-nature swaps, no take zones, etc… see text box 3), resource extraction, intensified stakeholder use, economic development, legal system inadequacies, privatization schemes, and loss of traditional practices among others. The loss of open access and common property resources are detrimental to both the long term sustainability of biodiversity and poverty, particularly when women and other marginalized community members are excluded from decision making. Further, as the common property and open access resource bases are diminished, there is increased reliance and expansion of activity to marginal lands (see text box 7). Finally, legal systems are often ill equipped to decide on property laws and are often unable to effectively decide cases where traditional and constitutional laws do not align. Judges and legislature are often blind to traditional claims, claims made by women, or claims made by indigenous peoples. Therefore lands occupied or used and managed by women are often treated as open access and these resources are often under threat to loss of biodiversity because the stewards of the land (the women) are not represented in the process or as a clamant in enforcement/judicial processes.

Environmental NGOs and Gender NGOs – both deliver results for biodiversity conservation

Many environmental NGOs have implemented projects that simultaneously decrease debt and deforestation. A commonly used approach has been the debt-for-nature swap. A debt-for-nature swap usually involves environmental NGOs paying off a portion of a nation's debt in return for the recipient nation setting aside a certain amount of land for complete protection. In some cases, conservation tends to be conducted without due regard for the livelihood needs of local populations living in the area designated for protection. Consequently, local people, who depend upon the forest for survival, are denied access as part of the debt-for-nature swap. The effects of this problem are felt by many women in developing nations. NGOs should work with women's NGOs to ensure that conservation projects do not deny women access to forests. In the case of a debt-for-nature swap, this should include demarcating extractive reserves and ''buffer'' zones designated for other land uses (i.e., agroforestry projects). There should also be a focus on income generating activities around protected areas that are proposed and managed by women at the local level.

Text Box 3 Conservation efforts can increase gender inequality and poverty if they do not take gender perspectives into account. See (Shandra, 2008)

For example:

- Governments are often under pressure from outsiders to use open access resources unsustainably. For example, governments award logging concessions to timber companies, and sell fishing access rights to international governments often under situations of financial or political pressure. In these transactions, governments often fail to account for the site level use (particularly that of women) that occurs by individuals and the ecosystem services that the biodiversity provides.

- State policies often sponsor privatization schemes and the conversion of land operated under common property laws to private land held by a few large land owners. Privatization has the impact of marginalizing the poor and making them more vulnerable to drought. Sometimes privatization is de facto through powerful community members who refuse to honor traditional arrangements. The emergence of new technologies, improved crops, or new markets often increases incentives for powerful community members to make claims on common access resources for their exclusive use. Further, efforts that raise the value of common property incentivize a redistribution of land to powerful community members.

  Converting common property and open access lands to intensive farming, livestock grazing, fuel wood production, or other activities by better-off farmers directly impacts the livelihood of the poor, and increases pressures on remaining common resources. The resulting environmental impact can be severe. For example, in many parts of Asia and Latin America, mangroves have been converted to commercial aqua-culture, devastating large areas critical as fish breeding grounds, erosion-control buffers, natural silt traps, and water purifiers. In many of these areas, fish catches of the poor have declined as reefs are smothered by silt and there is less breeding area for fish. Conversely privatization of common property land for cultivation appears to be quite substantial in India. This has led to a notable increase in firewood collection time – borne almost entirely by women – decreased access to fodder, and a subsequent increase in market purchases.

Water makes up one of the three largest industries in the world (alongside oil, gas and electricity). Investor deals in infrastructure, including water and sanitation systems, soared to $145bn in 2006. The Summit Water Universe in 2005 was composed of 359 companies with $661bn of market value. In other words, those with the capital and the means regard the water sector as a high potential investment opportunity and will continue to prescribe market remedies and privatization solutions for water scarcity into the next millennium. These strategies will further impact women's ability to access this resource.

Text Box 4 Privatization of water has potential serious implications for women.

- Traditional systems to manage common property resources and open access land are built on common beliefs within a community. As these beliefs change, traditional management systems become less effective. In many countries, community beliefs are changing rapidly in response to a variety of pressures, such as changing land use practices, population growth, the introduction of market values, and the erosion of the power of traditional authorities. Increased incidence of immigration and emigration can also erode traditional social values. Long-standing and sophisticated traditional systems of community resource management thus often break down without being replaced by equally effective modern institutions. As customary management systems and agreements break down, many traditionally managed lands are converted to either exclusive or open access use.

EFFECT: Impact of loss of open access and common property resources.

The loss of common property resources and open access resources has distinct impacts on women and on the environment, including increased livelihood burdens, increased poverty and decreased health.

Increased workloads

Heavy reliance on common property and open access resources makes poor women particularly vulnerable to the loss of biodiversity and ecosystem function. First, they must travel further and increase personal risk in order to secure resources from new locations (Koda,

2004). For example, as forests are cleared, women must walk further to collect necessary resources such as fuelwood (Agarwal, 1992). During the 1970s women in Nepal were able to collect fuelwood in 2 hours; however, just ten years later, fuelwood collection took an entire day and involved walking through difficult terrain. In Sudan the time taken by women to collect firewood in some areas has increased fourfold during a 10-year period. It is not unusual for women in India to spend five hours daily collecting firewood although traditionally this chore has been done weekly (Buckingham-Hatfield, 2000).

As increased time and effort are needed to secure new resources, workloads on younger women and girls are increased and education is subsequently decreased as girls must leave school to increase their contributions at home. The lack of education in younger generations has implications for sustained gender inequality and continued cycles of chronic poverty and biodiversity degradation.

Increased poverty

In addition to loss of education opportunities, the increased amount of time dedicated to obtaining resources for sustenance contributes to 'time poverty' and prohibits women and girls from pursuing income generating activities. The inability to generate revenue contributes to greater resource loss and increased inequality. (Blackden, 2006). For example, wood is necessary as a fuel source for the preparation of food and alcohol for sale. As resource availability decreases due to unsustainable deforestation activities, such alternative livelihood activities become less viable and may be abandoned altogether (Shandra, 2008). Without the added income of food and alcohol sales, the women must rely more on biodiversity for sustenance and income. Another example includes women producing charcoal in Ghana. Their incomes declined as forests were cleared to expand agriculture for exporting. Because of unsustainable deforestation, the women were no longer able to access materials for charcoal. In Vietnam, as resources disappear and distances between forests and markets increase, women are increasingly unable to sell non-timber forest products in the markets (Quang, 2006).

In some instances, when open access and common property land increase in value or gain a marketplace, natural resources that are traditionally used for domestic consumption by women become commodities for sale, usually by men. This is frequently the case in lake and ocean based fisheries. For example, on Lake Victoria, following an export boom due to increased demand in world markets, the decline of post-catch processing had a direct impact on the women involved in local fish processing and trading.

Payment for ecosystem services and increased poverty

Because of the relationship between gendered control of resources and consumption patterns, it is important to plan who receives the benefits of payment-for-environmental-services (PES) and sustainable production programs. Failing to distinguish household income from individual income and how each are used can lead to unintended results. For example, sometimes men who receive cash subsidies for activities prioritized by women (such as watershed protection for clean drinking water, latrines, and food supplements) misdirect the funds, since men seldom value these benefits of environmental programs as much as do women (Commission on Sustainable Development, 2005; IDS, 1999).

Where international agricultural companies engage in contract farming with small producers, contracts are nearly always given to the men, with the assumption that men are the primary agriculturalists. Often, especially in Africa and some parts of Asia, women's roles dictate that they assume the bulk of agricultural labor. Yet, men receive the payments and control the income. Men in Kenya engaging in contract farming often take back the land they had formerly given to their wives for subsistence food production (Rojas, 2004).

Text Box 5 see (Edmund, 2008)

Decreased health

Loss of access to open resources and community property resources affects women's health (Huyun, 2005). For example, a shift to alternative fuels, such as dung, often occurs when wood availability from nearby forests declines. However, the smoke from burning dung and crop residues is more toxic than fuelwood and has been associated with acute lower respiratory infections, chronic obstructive pulmonary disease, and lung cancer in women and children in poor nations (Shandra, 2008). This problem is exacerbated since fires fueled by dung or crop residues require continuous tending (Buckingham-Hatfield, 2000). Another health impact relates to the collection of resources such as fuel and water collection. Women often carry loads that weigh up to 75 pounds, often on their on their heads and back. As collection distances increase fuel wood and water loads have been linked to spine damage, pregnancy complications, and maternal mortality (Huyun, 2005). Fuelwood scarcity may also translate into the preparation of less food and/or less nutritious food (Buckingham-Hatfield, 2000). For example, in Bangladesh, there has been a shift from daily cooking of two meals to only one because of fuelwood shortages. In Mexico a shift from the staple diet of beans to other less fuel

intensive and nutritious foods has occurred (Huyun, 2005). In Vietnam, women who have ample rice are able to both consume and sell rice and collect non timber forest products, but poor women forgo their daily nutritional needs to save time to gather resources from nearby forests. These dietary shifts have important health implications for women, since often eating last these dietary shortages may result in malnutrition and anemia, which increase susceptibility to illness and pregnancy complications (Santow, 40)

In addition to time and energy burdens faced in procuring water as a resource, women and girls are more frequently exposed to disease, infection and toxic substances that contaminate water supplies simply because of their increased exposure to water.

THE SPECIAL CASE OF HIV/AIDS

As poverty increases, the spread of HIV/AIDS increases. The link between fishermen, in both coastal and inland villages (who rely largely on open access resources) and HIV/AIDS is particularly strong and fishing communities in Africa, Latin and South America, and South East Asia are considered hotspots for HIV/AIDS. For example, in Tanzania, fishers are estimated to be five times more likely to die of AIDS-related illness than farmers (Ainsworth & Semai, 2000). Women living and working in fishing communities experience similar constraints to poor women in rural communities. These result from gendered inequalities in access and ownership of assets, social marginalization, multiple caring and income generating roles etc. The general lack of income generating opportunities in fishing communities, however, leads to particularly high rates of women engaged in high risk activities including fish for sex trades (Appleton, 2000, Allison and Seeley, 2004). As a result women living and working in fishing communities are highly susceptible to HIV/AIDS infection and very vulnerable to the impact of infection (Tanzarn and Bishop-Sambrook 2003)

In Uganda, the link between the collapse of open access resources and increases in HIV stems from several issues. First, lack of sanitation and clean water result in cholera outbreaks which result in loss of export revenue because of bans on importation of fish from affected areas thereby increasing poverty. Second, high mobility rates driven by seasonal fluctuations in catch rate and regulations coupled with lack of alternative income opportunities contribute to high migration rates and an increase in transfer of HIV/AIDS. Finally, fisheries management strategies, such as enforcing gear regulations and the establishment of no take zones impact livelihoods of fishing community members resulting in a decrease in income.

In addition to fisheries, the links between HIV/AIDS and the degradation of other open access or common property resources is also strong. In South Africa, alarming high rates of HIV/AIDS have resulted in sever losses of natural resource management officials further hindering enforcement efforts. As HIV/AIDS families become sicker and more impoverished the family

members transition from electric power to fuelwood for energy resulting in increased deforestation. Further, the use of timber for coffins has also increased deforestation rates and efforts in South Africa are now focused on switching to bamboo and other sustainably sourced materials to build coffins.

EXTERNAL PRESSURES

In addition to the systematic pressures on open access and common property resources at the national and local levels discussed above, there are external pressures put on communities and women that stem from external forces such as changes in demographic trends, globalization and economic development, and climate change.

Demographic Pressures

Increases in population density result in impacts to the environment. For example, studies show that both the total and rural population growth rates are correlated with increased deforestation (Shandra, 2008). The response of 'the system' to demographic shifts ranges in type and severity. For example, in response to a growing population farm size often decreases. Because farmers must extract more food from smaller amounts of land, the farmers plant crops more frequently and allow the land to lie fallow for shorter periods of time. This higher turnover rate of crops has the long term consequences of reduced productivity of farmland and increased reliance on biodiversity resources. Farmers may also expand their activities onto marginal lands, or convert open access and common property resources into agriculture lands to increase farm size in response to demographic pressers. Fishing grounds become more intensely fished and fishers start to utilize marginal or destructive areas such as nurseries and rearing grounds as the numbers of fishers utilizing the resource increases.

The uncontrolled expansion of agriculture on marginal land is a major cause of biodiversity loss, including loss on officially protected areas. The expansion of agriculture to open access forests leads to serious land degradation. The combination of fragile, often steeply sloped terrain, low fertility, crops unsuited to the terrain, lack of external inputs, and slash and burn farming techniques results in serious and rapid soil exhaustion, erosion and sedimentation. Cleared parcels need to be abandoned in only a few seasons, triggering a need for further forest land conversion. The impacts of such expansion on infrastructure (including irrigation, water supply, and the loss of ecosystem services), often far exceed the value of the crops produced. Excessive forest exploitation for timber and fuel wood has similar impacts.

Population growth by itself may not always result in environmental degradation. There are case studies that provide evidence of farm households and communities developing technical and institutional innovations in natural resource management in response to increasing pressures on resources with the end effect of more efficient land use and little need to expand onto marginal or common properties. Such controlled responses are not the norm and such responses need to be induced and supported through policy measures and other development interventions. Fragile, biodiversity rich regions faced with heavy population pressure are priority areas for such intervention.

Like other poverty-environmental links, environmental degradation may be not only the consequence of population growth but it also may be a cause of population growth. As natural resource bases diminish and disappear, there is an increase in the demand for family labor in order to obtain natural resources and engage in agriculture for sustenance and income. Conversely, an improvement in environmental management which reduces degradation may be translated into a reduced demand for workers and therefore lower fertility. Similarly, increased educational and economic opportunity for women through improved agriculture condition decreases reliance on biodiversity resources. And both increased education and increased income result in a decrease in the number of children that women have.

In addition to population growth due to the number of children born, large scale migration is intensifying and likely to continue to do so over the coming years. Reasons for migration patterns include such things as conflict, climate change, a disappearing resource base, and market opportunities among others. For example, as sea-level rises, families must move away from low lying coastal areas and as droughts intensify, farmers move to urban centers or seek new livelihoods.

Because migrant populations have less knowledge of traditional practices, little vested interest in long term sustainable practices, and few resources, the impacts of migration on biodiversity are potentially significant.

Examples of the links between Population, Poverty and the Environment

"Poverty" affects "Population" through:

Limited access to water supply, fuel and labor-saving devices increases the need for children to help in fields and homes.
Low asset base increases the need for children as insurance against illness and old age.
Low level of education means less awareness of family planning methods, particularly for women.
Low status of women means that they have limited power to control fertility.

"Population" affects "Poverty" through:

Increasing landlessness - inherited plots divided and subdivided among many children.
Overstretching available social services, schools, health centers family planning clinics, water and sanitation services.

"Population" affects "Environment" through:

Increasing pressure on marginal lands, over-exploitation of soils and forests, overgrazing.
Soil erosion, silting, flooding.
Migration to overcrowded slums, problems of water supply and sanitation, industrial waste dangers, indoor air pollution, mud slides.

Text Box 6 *Source*: Alain Marcoux; FAO (1999).

Economic Growth

Economic growth can dramatically affect both poverty and the environment. The extent to which growth is equitable and the extent to which long term biodiversity and ecosystem services have been considered in economic growth policies determine the extent to which long term growth is successful. For example, inequitable economic growth can actually increase poverty in certain population segments as has been the case with women and indigenous

cultures. Growth patterns which neglect smallholder, agriculture workers and landless people tend to increase both poverty and negative environmental impacts.

In many instances economic growth and macroeconomic policies do not initiate or cause inequalities, increased poverty, or environmental degradation but rather amplify existing inequalities and poor practices. While impacts of macro-economic policies vary from state to state, one general tendency is that sudden economic contractions, which increase unemployment, generate increased pressures to seek livelihoods from agriculture or from oen access and common property resources (including forests and fisheries). For example, the financial crisis in Asia has intensified illegal fishing activities and the increased use of illegal practices such as dynamite fishing, leading to stock depletion and severe damage to coral reefs (World Bank, 1999). In Africa, a common consequence of limited or declining economic opportunities is an increase in valuable wildlife poaching such as with rhinos and other rare species. For a more comprehensive discussion of the links between economic growth see (OECD)

Climate Change

Climate change disproportionately impacts women. These impacts can generally be categorized into five issues: natural disasters, food security, water security, economic security, and energy security. All of these issues are associated with or stem from changes in natural resource patterns of availability or changes in ecosystem services. While the links between water security, food security and other open access resource and common property resource uses are previously in the report, it is worth briefly discussing the examples of increased natural disaster and water security as they pertain to climate change specifically:

Increased natural disaster

Impacts from droughts, flooding and climate change related natural disasters have links to poverty and women both in term of initial impact as well as in subsequent responses to the disasters.

- Droughts, for example, result in heavy crop and livestock losses. After droughts, poor livestock owners tend to engage in distress ales of livestock at depressed prices. Without livestock, the rural poor are trapped in chronic poverty ad have less ability to withstand additional impacts. Recurrent droughts in Sub Saharan Africa have had devastating impacts on both natural resources and on livelihoods.
- Natural disasters occurring in the coastal zone such as hurricanes, typhoons, and tsunamis can cause declines in agricultural output as well as damage infrastructure. The

tsunami of 2004 that impacted Southeast Asia killed 220,000 and left 1.6 million people homeless. Four times more women than men were killed in the tsunami (OXFAM). The reasons for the disproportionate impact on women vary between countries but generally include the role of the women as caregivers of children, elderly, and the ill, the inability of women to physically escape, cultural differences, and the different roles of women and men in society. In the aftermath of the tsunami the disproportionate number of men surviving led to increase in sexual violence in women.

- In Malawi, after the droughts, more girls dropped out of school to save money on school fees, to assist with household task. Further, during periods of drought girls are married at younger ages and usually to older men with numerous sexual partners. As a result of the drought and increased poverty, girls in Malawi were also forced to sell sex for gifts or money, which accelerated the spread of HIV/AIDS.

Actions that lead to the protection of mangroves, estuaries and controlled shoreline development, protected watersheds, intact forests and maintence of natural vegetation cover will protect biodiversity as well as help protect the lives, homes and livelihoods of individuals and communities that live in environments that are susceptible to violent natural events. Well placed investments that are informed both by community needs, particularly the needs of women, as well as by biodiversity needs will return duel benefits. Further, collaborations that include early warning systems and response protocols, particularly those that include women, will result in improved survival rates and increase abilities of communities to recover from natural disasters.

Water security

Climate change has the simultaneous effect of decreasing the amount of readily available water while causing an increase in the demand for fresh water. For example, global warming increases people's need for water by speeding up evaporation from the surface of plants and from water sources such as ponds and lakes and irrigation systems**.** By 2025 two-thirds of the world's population will be affected by water shortages. It is estimated that in South Asia alone, 2.5 billion people will be affected by water scarcity by the year 2050. Further, changes in precipitation patterns have major implications for issues such as flood protection, food production, water-based transportation and many other forms of water-based livelihoods.

Climate change has been shown to increase the vulnerability of communities to regular access to clean sources of freshwater. Women and children are disproportionately impacted as they often have the responsibility to provide nearly all the water for household use. Domestic water

is used for processing and preparing food, for drinking, bathing and washing, for irrigating home gardens and watering livestock. The time spent in locating, collecting, and transporting sufficient quantities of water for household use is one of the most critical and time consuming daily activity for women and girls. For example, in Egypt 30% of women walk over an hour a day to meet their water needs, while in other parts of Africa women and children spend eight hours a day collecting water. Recent data shows that women and girls carry approximately 71% of the water when none is available on the premises. Increasingly arid conditions make this process more difficult, time consuming and physically dangerous. As water collection times increase from climate change, girls are often forced out of school. Women have an increased labor burden, and this has implications for their health and their children's health.

Although women's role in securing water resources is clear, programs and policies related to water security, rights, and sustainable management fail to factor in their involvement and in many cases are detrimental. Interventions such as irrigation habitually fail to take into consideration the existing imbalance between men's and women's ownership rights, division of labor and incomes. By raising the value of the land, irrigation brings about social change which usually favors men. Irrigation systems also tend to favor mono-cropping, often for the production of cash crops, and thus may exclude provisions for a more diversified cropping pattern supporting a variety of food crops. As cash crops are usually controlled by men, decisions regarding the scheduling of irrigation water tend to be made without consideration for women's farm and household activities.

Further, many of the technologies that are available to women do not respond to their specific needs. For example, water pumps may not have handles that women can reach or manipulate. In many cases, women have not been trained to repair wells and the long term sustainability of the wells is jeopardized. In other instances wells are not located in culturally or socially appropriate locations and women cannot access the wells.

Increased desertification and climate change

Long term deterioration of biological productive land results in soil erosion, soil compaction, reduction in organic matter, loss of nutrients and increased salt levels of water and land with the collective result of desertification. Estimates suggest that 70% of the world's dry lands (excluding arid deserts) are degraded to some degree. The problem of desertification affects more than 900 million people in 100 countries. (Dixon et al 1998). For example, in Madagascar, a full10% of the countries land has been lost to desertification resulting from slash and burn agriculture techniques. As climate change impacts areas, desertification will increase. Desertification is now recognized to be inextricably linked to social, cultural economic and political issues. As people are forced to encroach further on fragile soils, sparse vegetation and limited water resources fail to meet daily needs.

The poor, particularly women, are likely to be affected most as wealthier community members assert their rights to limited resources. Solutions include mechanisms to assist environmentally displaced persons, drought plans, provision of foods storage and marketing facilities, promotion of alternative livelihood protects to provide incomes in drought prone areas, and sustainable irrational programs for stock and livestock.

Text Box 7 links between climate change, poverty and desertification.

SUMMARY

Men and women throughout the developing world are adversely affected by the loss of biodiversity, particularly through the loss of access to open access and common property resources. Women are most severely impacted and these impacts include increased household labor, increased poverty, and impaired health.

Expanding agriculture to open access forest lands, increased fishing pressure, conversion of mangroves, disappearing water sources and other impacts to common property resource and open access resource bases are a major environmental consequence of poverty, food insecurity, and landlessness in many countries.

External forces such as demographic changes, economic growth and climate change add additional pressures to both biodiversity conservation and poverty alleviation efforts.

Because the relationships between poverty, gender, and environmental degradation are interlinked, as poverty and inequality increase and health decreases – loss of biodiversity increases.

SECTION 2. OPPORTUNITIES FOR CHANGE

The MacArthur Foundation's reputation as a prominent, thoughtful, and informed organization provides a tremendous opportunity to catalyze action, improve processes, shape policies, and drive change. Given the Foundation's institutional recognition of the links between gender and environmental sustainability, the Foundation has a unique opportunity to bring awareness to these links and to fundamentally change the way environmental conservation efforts are approached. By ensuring that gender is incorporated as a core component of conservation actions and by demonstrating that the process of conservation and sustainability is dramatically improved when women and girls are engaged, included, and benefit from conservation efforts, the Foundation will valuably contribute to both the biodiversity protection and to human well-being more generally. By providing leadership to the broader philanthropic community and to those organizations that are implementing field based activities, developing and informing policy, and generating scientific information and data the MacArthur Foundation can ensure that not only are environmental practices improved but that strides are also made in gender equality and poverty reduction, thereby ensuring that environmental outcomes are sustainable over the long term.

On a programmatic level there are several reasons to address the nexus between gender, poverty and environmental change. Incorporating gender into the MacArthur's environmental program will be beneficial for four key reasons.

1. It will improve the return on investment in MacArthur's environmental portfolio.
2. MacArthur Foundation will be able to recognize, account for, and improve outcomes that it has likely not previously been aware because they have been achieved through the environmental program as opposed to a human focused program.
3. The environmental program will be able to identify opportunities for other Foundation departments/programs to align with and provide improved outcomes for the environmental program

4. MacArthur Foundation will be able to improve returns on investment by partnering more effectively.

MacArthur Foundation options to drive change

There are several opportunities environmental department to ensure that gender and poverty linkages are incorporated in conservation and sustainable development opportunities. The primary mechanisms through which MacArthur Foundation can facilitate change include:

- Through grant making

    1. Types of organizations to which MacArthur Foundation provides grants
    2. The process by which grantees engage in activities
    3. The types of work MacArthur Foundation funds.
    4. Promoting science and knowledge acquisition

- Internal capacity building (program officers) and capacity building of technical and implementing partners/grantees

- Opportunity to catalyze change

- Opportunity to promote cross sector solutions

THROUGH GRANT MAKING

1. Types of organizations -

MacArthur Foundation should consider evaluating the types of grantees it traditionally engages with and expand that pool to include organizations that approach conservation and sustainability issues from different angles, especially from a gender perspective. Recent cross-national research demonstrates that the presence of women's NGOs, in addition to environmental NGOs, have a significant impact on conservation and sustainability efforts. For example, there is substantial evidence that both environmental NGOs and women focused NGOs are correlated with lower rates of deforestation. Understanding the specific mechanisms of the role that NGOs in protecting the environment requires attention. Evaluating the role and

extent to which gender focused NGOs should be engaged in conservation issues is an important next step.

In addition to gender based NGOs, other groups that focus on issues of importance to women and other marginalized groups, including organizations and institutions focused on freshwater management and security, food security, energy security, health and poverty alleviation are likely to contribute meaningfully to conservation efforts either directly or through coordination of efforts.

For example, data suggests that conservation efforts in Vietnam should engage groups focused on the food security of forest dwellers in order to conserve the forest. Households who live in or near the forests who have enough food throughout the year are significantly less likely to rely on non-timber forest projects thereby reducing pressures on biodiversity. Further, poverty alleviation strategies applied to forest dwellers with priority to the households with high female labor rates will likely result in higher efficiency of conservation biodiversity and forest management (Quang, 2006)

By broadening the types of organizations and institutions that are able to receive grants through the MacArthur Foundation's environmental program, return on investments as well as the pool of innovative solutions from which success will result, are likely to be increased.

2. Process based approaches

A significant portion of gender-poverty-environmental linkages stem from the disproportionate reliance of women on open access and common property resources. While environmental degradation has impacts at the local, regional, national, and global levels (and require response at the respective level); fundamentally, if local users are not included and their needs are not addressed, efforts to slow and reverse resource degradation and to reduce poverty will not be realized. Further, because local users are most often women but women still remain largely excluded from conservation and sustainability processes, practices and efforts – the long term sustainability of conservation efforts are jeopardized.

Uneven access to resources and opportunities to participate in resource related decision making limits the effectiveness and unfairly distributes benefits and burdens of resource governance. For example, poor and low status households that are resource dependant, the majority of which are women, bear a disproportionate share of the burden and receive a lower share of benefits in resource management (carter and gronow 2005, Colvers 2005). These same groups also tend to have the least influence in decision making but are the most affected by insecurities resulting from decentralization especially on issues of land and resource tenure, rights of resource access, and benefit sharing.

Across countries, women and disadvantaged groups are typically underrepresented in institutions, organizations and forums focused on resource related decision making. Resource committees, natural resource departments, and different levels of government agencies dealing with resources are generally male dominated. This domination and control of process includes such thing as building the agenda, modes of operation, and resource allocation, all of which inhibit the participation of women and other marginalized groups . Interventions and changes in way s of working are necessary to enable women and marginalized groups to participate in conservation processes.

External interventions, such as donor supported programs, have the ability to mitigate (or exacerbate) local inequalities and introduce new norms and standards of behavior. For example, insisting that a minimum number of village forest council seats are reserved for women, has helped boost women's participation in village resource management in India. The space for women's participation in forest councils has in turn expanded an increasing numbers of women in village based forest councils and subsequently helped women to get elected to positions in local governments.

Conversely, in most Asian counties the involvement of women in development process is largely ignored; decision making and benefit sharing in forestry are controlled by local elites. Gender mainstreaming and capacity building would improve women's participation in forestry. (Page 227 lessons from forest decentralization). However, when capacity, confidence building, and space for participation are not adequately provided, woman and disadvantage groups risk becoming token participants as opposed to agents of change.

Specific actions that can be taken to improve conservation and sustainable management processes include:

- Men's and women's roles in resource knowledge and use vary greatly from one region to another and by gender, cultural preferences, and economic status. Resource management planning should take those existing roles into account and be mindful of the division of labor, the costs, and benefits of planned actions, and the distribution of benefits within households and within communities. Greater understanding of these local realties can be obtained by directly involving rural women in the planning process.

- Workshops within and between stakeholder groups (and potentially between men and women) can be potent tools for arriving at shared goals, determining priorities, dividing up responsibilities, and clarifying benefit distribution. Identifying structures for workshops that enable the needs of all stakeholders to be heard is an important step in ensuring inclusive participation processes.

- Facilitation of the participatory management process is important for success. Ensuring that grantees, partners, and officials engaged in the process consider the needs, interests, and desires of the various segments of communities is pivotal to achieving outcomes. Further, ensuring that the participatory management process is conducted in a manner that is cultural sensitivity with regard to gender and economic status is paramount to success. Effective facilitation can ensure this process is appropriate.

- Targeted capacity building of women and other marginalized groups, including the capacity to negotiate, effectively communicate, building literacy and educational skills, providing increased access to credit and livelihood resources, and adjustments in the scheduling and conduct of activities will increase the ability of women and other marginalized groups to participate in resource decision making.

- Poor people, particularly women, are often excluded from government processes and decisions and this exclusion in turn creates uncertainty about future access to resources. Such uncertainty creates disincentives for sustainable agriculture research. Participatory decision making processes that include women are necessary to ensure that there is transparency, accountability and inclusion of key stakeholders. Further, women in many different countries tend to operate through informal networks. Providing ways to engage and legitimize these networks is a process based approach that will generate significant improved returns.

- Improving the information about and access to technology and information for women is a critical component of process based approaches. Traditionally 'technology' is perceived as appropriate for men and women do not have access to these resources or decisions about these resources despite the fact that women are frequently the implementing agents of these tools.

3. Types of grants

In addition to more traditional conservation and sustainable development types of grants, MacArthur Foundation might consider expanding the type of grants it provides to partners to ensure that the link between gender, environment, and poverty is addressed in a holistic, broad scope approach.

Investing in improved tenure through tenure security and enforcement

By increasing the capacity of the rural poor to respond to economic and environmental pressures, especially rural women, conservation and sustainable development efforts will be dramatically improved. A prerequisite of this approach is to provide a clear incentive for the rural poor to engage in conservation and sustainable development activities. This incentive must be a clear stake, through tenure, in using resources sustainably and knowledge as to best practices of resource use that are appropriate within a local context. Tenure will in turn increase security over resources and the ability to derive benefits from sustainable practices over the long term. Improved access to markets, finance, social services, health will follow.

Currently, tenure laws are largely discriminatory towards women, particularly land and credit markets tend to favor men (with the exception of micro-finance institutions). For example, despite the fact that women represent 80% of the farmers in Africa, women have access to only 5% of the agriculture extension services and 10% of the credit.

Security of tenure over resources is essential to empower users to make effective management decisions, create incentives for sustainable use, and to enhance alternative livelihood options. Secure tenure also enables users to invest in costly, near term expenditures that will have a benefit over the long term. For example, planting shrubs to prevent soil erosion is a worthwhile investment, however if resource are not secured over the long term, the incentive to plan shrubs when the full return on investment will not be realized for several years is diminished. Further willingness to invest in infrastructure or capital expenditures that benefit the environment is reduced. For example, a community has little incentive to save money to buy a boat for enforcement and patrolling when the long term security of a fishery is not evident.

Specific actions that will help to secure resource tenure including land, water, and fisheries include:

- Improve land tenure security, water security and access rights for women. In many cases female headed households and wives are excluded from land titles and land is inherited by male children only. These exclusions are common even when women are the sole users of lands. Microjustice organizations are making important strides in improving tenure issues.

- Where local authorities are reluctant to enforce women's rights to lands, the capacity of lawyers and judges must be improved to handle customs, regulations and laws that prevent women from controlling, owning or inheriting resources.

- Improved enforcement of resource tenure rights is also important. For example, in marine systems a full 30% of harvests are illegal captured. Without the ability to enforce tenure rights, communities cannot assume long term resource integrity. Ensuring that the legal system has the capacity to enforce existing resource laws and policies is an important component of improved resource protection.

Poverty alleviation and improved access to markets

Income and services derived from environmental resources, including land, forests and woodlands, freshwater and wetlands, coastal and marine resources, and wildlife (flora and fauna) are central to the livelihoods of many rural people and to Africa's economy as a whole. In fact, natural capital constitutes a quarter of the total wealth in low-income countries. For the poorest people in these countries (those living in rural areas) soil, water, fisheries, forests and minerals are the principal sources of income. Thus, to achieve pro-poor economic growth, low-income countries should build on the natural resource assets of the poor. Because of the potential for poverty reduction, management of natural resources is critical. Further, by recognizing the link between poverty reduction and natural resources as an asset base, the value of natural resources in terms of growth, employment, exports and fiscal revenues can be captured. Conversely, the failure to manage resources contributes to increased poverty, disease and inequality and diminished options for economic growth.

Poor people are not effectively able to capture the full benefits associated with the use of natural resources. This is partly because resource use by the poor is primarily focused on providing sustenance. Value-adding and marketing is neglected either because of lack of time, lack of knowledge, or lack of access to financial resources (such as credit) to transition from subsistence to value-added resource use. Maximizing the opportunities available to the rural poor requires moving beyond subsistence resource use to using the available resource in an efficient, equitable, productive and sustainable manner.

Access to markets is necessary so that the rural poor can realize economic benefits from their natural resource base. Improved access to markets stems not only from physical access to markets (improved infrastructure) but also access to information about demand, price, trends and opportunities. In some cases, navigating regulatory processes may be necessary for example to obtain permits and licenses. Access to markets can help local users access more affordable and more sustainable inputs, and high-value trade options (for example organic vs traditional crops). Further, access to markets will provide options for increased investment, employment creation in processing, trade and related services, and small and micro resources-based entrepreneurship. These options as integral components of biodiversity strategies are increasingly being considered and employed by donors, development organizations, and implementing groups

Specific actions that improve the access to markets, especially for women, include:

- Improved literacy, improved mobility, and decreased time constraints facilitate the ability of women to gain access to markets. Supporting communities, specifically women, to have information, technologies, and opportunities to access markets is critical. Further, recognizing that products for domestic use in addition to cash-based market products are of value to the community given that these products are particularly important for the role that women play.
- Helping rural workers to navigate licenses, permits, and regulations and paper work will increase market access.
- Recognizing the real market value of women's products will enhance resource value for communities and families. Traditionally, much of the products and services that women provide our outside cash economies and not assessed in biodiversity and poverty alleviation strategies.
- Improved access to finance and credit will improve the ability of women both to access markets and to scale up within markets.
- Subsidy reform is necessary to ensure that market places are not being distorted

In addition to improved access to market, building the capacity and options for women and communities to resist cycles of environmental instability or uncertainty is an important investment that should be considered. For example, OXFAM and partners are working to create micro-insurance schemes to insure that women and farmers in general have the ability to sustain their livelihoods and farming options in periods of extreme drought. Innovations such as these are pivotal efforts to ensure that women do not need to rely on open access and common property resources.

4. Science and data

The absence of scientific information and basic knowledge as to the links between gender, natural resource management, and poverty reduction is a major problem in implementing gender based approaches to conservation and sustainability. Key gaps in knowledge are described below. MacArthur Foundation has the opportunity to contribute some of these knowledge gaps either through grant making or through process changes that encourage grantees and partners to acquire key data sets, including sex-disaggregated data sets of information already being acquired. Other opportunities include:

- **Gender disaggregated data in resource mapping**: is critically needed in terms of both the access to and use of access to and use of water, forests, fisheries, and other common pool resources as well as the differential impacts of resource loss on women and men. This data would facilitate an understanding of the causes and consequences of environmental degradation and would inform policies that are developed to improve natural resource management. Resource patterns of sex differentiated use, vulnerability and risk patterns linked to gender, and links between resource use, gender and issues such as security, migration, and disasters should also be evaluated. For example, women's and men's income-generating activities may require specific resources (fuel, water) that produce particular wastes; environmental contamination produces different health hazards for men and women; women may be particularly vulnerable to home-based hazards such as indoor pollution; women's workload in providing resources for the household (water, fuel, food) increases when resources become scarce. If environmental hazards produce illness, men and women have different responsibilities for caring for ill family members. Responses to environmental change vary with age, class, family hierarchy, and gender. Biases in educational and training systems may mean that women are less equipped than their male counterparts to understand, cope with, and anticipate environmental change or resource conditions. These differences must be understood to develop appropriate responses and policies that mitigate biodiversity loss and continue increase in poverty.

- **Institutional analysis** is an important component in understanding gender relations and their impacts on natural resource use. Institutions such as the household and community provide the rules for tenure, property rights, decision-making processes and control over resources. Usually, these are biased in terms of gender, with women often being disadvantaged. Women's tend to be excluded from conservation and sustainable development processes and decision making. A focus on institutions enables a more in-depth understanding of gender environment linkages, in addition to a deeper understanding of the roles that women and men play is critical.

  Within different institutions, men and women enjoy different forms of access and control over resources. A woman's access to income and assets may be entirely reliant on her marital status or on other kinship networks. An institution-based analysis of gendered rights can ensure that women's existing rights in non formal institutions and under customary law (such as women's use rights over forest resources) are identified and safeguarded or strengthened.

- **Gender disaggregated data in conservation planning:** Environmental assessments and conservation strategies are usually presented as a gender neutral activity, but evidence from gender based research suggests it is necessary and beneficial to assess indicators, information, tools, conceptualization of problems, and policy approaches through a gender lens. Land and resource management can be improved by research, extension, and education activities, but these will be significantly more effective if women are included in the process and information about women and men's roles is included in the data sets.

- **Understanding if gender disaggregated data is translating into scientific analysis**: One of the cumulative effects of gender relationships is that *perceptions* of the environment and of the state of the environment are often shaped by gender. Women may have distinctive views on the state of the environment and on identifying changes in the environment. Many of these situational based (and locally-based) perceptions are not compatible with highly technologies and large-scale environmental change detection regimes or with perceptions by male stakeholders. This discrepancy has implications for resource planning and policy development. Understanding the differences in perceptions between genders and how these perceptions are successfully or unsuccessfully transferred to technologies such as GIS, modeling, and subsequent resource planning is critical.

- **A Global assessment** of places where the link between women and environment are most profound is necessary to determine where to focus gender-poverty-environment approaches. For example, "efforts to enhance farm production generally concentrate in zones with high agricultural potential. The Inherent difficulties and seemingly low returns involved in raising sustainable production under adverse biophysical conditions have tended to deflect attention from low potential marginal lands, despite estimates that 65% of rural populations in developing countries, and probably a similar percentage of the rural poor, live in such areas" (ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, 2001).

- **Agricultural research** as well as improved agriculture technologies and techniques and agricultural training are usually focused on men. Understanding and developing techniques that benefit women in order to help women secure food and water resources for improved stability of food, water, energy and health security, is a necessary component of biodiversity conservation. Further, women are often forced to obtain food security in marginal habitats. Redirecting agricultural research,

extension, and education efforts towards improved farming systems in marginal or fragile lands will provide tremendous benefits to augmenting conservation of biodiversity efforts. Examples include such things as Identify high value market crops suitable for fragile environments and ensuring that users, including women and migrants communities have access to information on markets. Facilitate agricultural research that are participatory approaches and farmer led innovations which have the potential to be replicated among multiple scales.

THROUGH CAPACITY BUILDING

Building the capacity of MacArthur Fund staff and the staff of partners and grantees to understand the links between gender, poverty, and conservation of biodiversity is an important strategic goal. By ensuring that internal staff recognize and include gender as a best practice and is enabled to include and interpret gender data sets and research results to create more effective conservation strategies and to include gender metrics in reporting the Foundation will be well position to guide other organizations, including grantees, to a more comprehensive and informed conservation methodology.

Gender mainstreaming is a relatively common applied methodology within institutions in an effort to build the capacity of staff to integrate gender. Gender mainstreaming requires the systematic inclusion of gendered perspectives throughout the programmatic, policy, conceptual, and analytical work of an organization. Gender issues need to be identified and incorporated into all planning stages and strategic initiatives. A classic definition drafted by ECOSOC (the coordinating body for the social and economic policies of the United Nations) to define gender mainstreaming is widely held as the standard definition: "Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in any area and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of the policies and programs in all political, economic and societal spheres so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal is to achieve gender equality."

The development of a gender policy is an excellent common starting point for organizations focusing attention on gender issues.

A gender policy would provide*:*

- a valuable opportunity to involve staff and other key stakeholders in thinking through why gender and social equity are important to MacArthur's work and what the implications are for practice in conservation of biodiversity and sustainable development
- a public statement of MacArthur's commitment to taking gender issues seriously under the Conservation and Sustainable Development program
- departmental gender-related action and indicators of change
- an instrument of accountability against which to evaluate the Foundation's performance
- a mechanism for engaging members of the Foundation and partner organizations in capacity building for gender issues

Drafting a gender policy at the MacArthur Foundation would require four key steps:

- Understand and compile existing capacities, skill, and expertise of staff and partners.
- Draft a statement that identifies why the Foundation considers gender issues to be important and a vision for gender sensitive practices including ways in which this understanding will influence the Foundation's work across the board.
- Develop an action plan that will detail 1. how to implement the policy including implementation phases over specific periods of time, time bound targets, and budgets, 2 identifying authority and responsibility for implementation 3. identifying indicators for monitoring success.
- Ensure that the Foundation's gender policy is communicated effectively to Board members, partners and the general public.

Enabling Institutions Processes

The success of incorporating gender as part of the Foundation's mission and operational strategy within the Conservation and Sustainable Development program will depend to a large

extent on ensuring the policy of incorporating gender appreciates broad based support from within the institution. For this reason, process must be carefully considered.

The attitude of senior management staff to gender issues will be a determining factor of the success or failure of implementing a gender strategy including the attitude of both formal and informal opinion leaders. Further, it will be necessary to define and clearly articulate who the decision making bodies are for the various steps in the development of a gender policy.

Ensuring Success

Assessments of gender mainstreaming indicate that there are several key areas that result in a failed attempt to create a gender policy and mainstream gender as a working component of an overarching strategy. Key factors attributed to **lack of success** include:

A hostile or indifferent institutional culture characterized by:

- professional staff not knowledgeable about, actively hostile to, or indifferent to the importance of gender mainstreaming;
- attitudes that trickle down if managers and directors are indifferent or hostile, gender mainstreaming;
- few women in positions of influence or authority within the organization;
- an overtly sexist or misogynist institutional culture in which there is official tolerance of or inaction on issues of sexual harassment.

The "silo-ing" of gender:

- the assumption that if one person in the organization is officially responsible for "doing gender," then no one else needs to worry about it;
- the assumption that "gender" only means "women";
- the assumption that gendered perspectives are relevant only to a limited set of issues, and that those are the issues already identified as "women's issues".

The framing of gender mainstreaming as a single and finite target:

- the classic mistake of assuming that simply increasing the number of women in bureaucracies is sufficient; the assumption that gender mainstreaming is a

single, discrete goal that, once achieved, needs little subsequent tending. An overarching myth is that gender mainstreaming can happen overnight; that it is a fixed action that once taken is complete. In addition, there is often a failure to anticipate and prepare for a backlash against it.

Components of success

The components of success are often driven by the removal of barriers. Where gender mainstreaming has been most successful, there are the following commonalities:

An institutional culture that is open to gender perspectives and willing to undertake the self-assessment necessary to identify the obstacles and the potential for mainstreaming gender perspectives. Predictors of success in this realm include:

- a professional staff that is given the resources necessary,
- the tools and the encouragement to become knowledgeable about gender issues
- attitudes that trickle down: if managers and directors are overtly open to gender mainstreaming, and actively encouraging of work towards gender mainstreaming goals, others in the organization will take these issues seriously;
- a workplace culture in which women have achieved parity or near-parity across all job ranks; nonetheless, an understanding that increasing the numbers of women is a necessary but not sufficient condition for mainstreaming.

Importantly, ensuring a staff that is committed to gender mainstreaming as a cross-cutting responsibility is a much more important goal than ensuring a female staff. In fact, gender mainstreaming is most successful when it is also conceptualized as an institutional "cross-cutting" responsibility. An assumption that all members of the work team will take gender into account in their work, even at the same time that some staff members are designated with specific responsibility for gender implementation or review, is paramount to success.

Gender mainstreaming should be approached as a continuous institutional responsibility as opposed to a static goal. First, gender issues themselves evolve and need to be continually renewed. Staff also turns over. Second, the Foundation's goals focus, and structure can change

and gender needs to be taken into account when such changes occur. Consequently, gender mainstreaming is a process that costs money and is long term.

EVALUATING RISKS

The MacArthur Foundation should necessarily consider the risks both of engaging in gender as a conservation tactic as well as the risk in failing to incorporate gender into its strategic plan. The Foundation should preliminarily consider if the issue of gender is appropriate for the institutional culture, available resources, and risk profile. The institution should ensure that it is willing and able to allocate the necessary resources to solve problems of solve key problems and determine ways such as effective partnering, leveraging resources, and engaging in for profit and not-for-profit partnerships etc. that will help to attract sufficient supporting funds from other foundations and implementation efforts. Further, the Foundation should ensure that it is not discouraging the engagement of others through its own actions.

The Foundation must recognize that solving issues of gender and environment has both temporal and cultural implications and reaching success will require long term vision and planning. The Foundation must commit to success if is going to pursue gender as a key aspect of its work. The Foundation must be willing to commit to its partners and its grantees over the long haul. Further, the Foundation must ensure that by engaging it will not get half way through a process and then change course leaving the individuals the Foundation is focused on or the problems we are focusing on in a worse situation than when the Foundation began the process.

What is the institutional risk profile? Some risks that might be considered include:

- Risk of losing credibility and prestige
- Risk of watered financial resources – are we willing to commit the funds, the resources, the capacity and the time
- Risk of lost time
- Risk of damaged morale among staff
- Risk of public cynicism and hopelessness when highly touted initiative proves inadequate
- Worsening the problem by encouraging the public and other organizations to assume all is solved

SECTION 3: PARTNERS AND POTENTIAL FOR COLLABORATION

Organization (focused exclusively on gender & environment)	**Description**	**Example**	**Link**
Women's Environment & Development Organization (WEDO)	Focus: empowering women; economic, social and gender justice; the environment; and human rights. Programs include Economic and Social Justice, Gender and Governance and Sustainable Development. Their strategy includes coordinated political action, building alliances with other groups, research, and connecting global policy work to local and regional advocacy efforts in the global South.	WEDO has a partnership initiative with NGOs and governments in various countries to integrate the gender perspective into national responses to climate change and to publish their lessons learned.	http://www.wedo.org
Association for Women's Rights in Development (AWID)	Focus: gender equality, sustainable development and women's human rights. The organization's aim is to achieve this through a range of strategic initiatives (e.g. research, dialogue with policy makers, and capacity building institutes).	Influencing Development Actors and Practices for Women's Rights (the initiative produces and disseminates knowledge on developmental issues with special emphasis on women's perspectives; undertakes advocacy actions and alliance building to influence development policy and practices; and mobilizes women's organizations and groups on development discussions and key policy processes); Women's Right Information Strategic Initiative (aims to build knowledge and understanding of the forces that undermine or promote women's human rights a the global level, put new issues on the agenda of women's rights movements globally and amplify the voices and perspectives of marginalized women from around the world); AWID International Forum	http://www.awid.org/eng

Women's Voices for the Earth (WVE)* *affiliated with Environmental Support Center	Focus: engaging women to advocate for the right to live in a healthy environment. WVE seeks to reduce and ultimately eliminate environmental pollutants that cause health problems for women, their families and communities. To this end, WVE creates opportunities for women to influence environmental decision-making.	*Women's Health & the Environment Initiative*: report published after 1 yr. study highlights importance of environmental groups collaborating with low-income and racial minority demographics; calls for new environmental/social justice approach to addressing climate change (*Everybody's Movement).* Congressional lobbying campaigns for issues related to women's health.	http://womenandenvironment.org
New Course	Focus: Work with partners to connect women with these vital resources through sustainable development and natural-resource management to help improve the well-being of women and girls as well as the health and welfare of their families and communities	Working in the congo basin to ensure that resource mapping includes a gender perspective so that future rounds of funding by aid agencies are not directed toward a narrowly focused set of solutions that have not taken the perspective of women user groups into account.	www.anewcourse.org
HotPink	Focus: Building a multimedia archive of images, videos, and best practices/scientific information that is available to ngo's and decision makers to articulate the impacts of climate change on women.	Emmy winning videographer mic davie is shooting short videos in Africa that will be used by the state department to explain why climate change disproportionately impacts women.	www.hotpink.org
Genanet	A project of the organization LIFE, genanet was created to raise awareness of gender equity in environment and sustainability policy and to integrate it into research, to implement gender mainstreaming in environmental policymaking and into the activities of environmental organizations.	See WECF example	www.genanet.de

Network	**Description**	**Example**	**Link**
Women in Europe for a Common Future (WECF)	Network of organizations with the aim to give women a stronger voice in sustainable development and environmental policy. Their goal is to implement solutions locally and influence policy internationally.	Various African and European women's organizations, including LIFE/Genanet, Women in Europe for a Common Future (WECF), South African Gender and Energy Network (SAGEN), and ENERGIA, all launched efforts related	http://www.wecf.eu

		to gender and climate change during UNFCCC's COP-9.	
ENERGIA	Focused on gender and sustainable energy; holds that projects, programs and policies that explicitly address gender and energy issues will result in better outcomes. They are currently focusing on the regionalization of activities through supporting emerging national and regional networking activities in Africa and Asia.	See WECF example	http://www.energia.org
Managing Ecosystems and Resources with Gender Emphasis (MERGE)	Collaborative network of organizations working to address the issues of conservation, development, gender relations and their implications for natural resources use and management.	Case study series- "Conceptual Framework for Gender and Community-Based Conservation" (http://www.generoyambiente.org/admin/admin_biblioteca/documentos/case1ing.pdf)	
Women's Environmental Network (WEN)	Works for a healthy and sustainable environment and we seek to educate and engage the greater community about these issues and to foster a strong community of women and enhance stewardship of the environment through networking and career development.	One program we hope to focus on is a mentor matching program that would enable us to foster young peoples' interest in preserving and protecting the environment and to encourage them to enter the environmental field.	www.wencal.org
African Women's Development and Communication Network (FEMNET)	A consortium of five subregional networks representing north, central, west, east, and southern Africa. Serves to strengthen the role of non-governmental organizations (NGOs) concerned with the integration of women in the development process in Africa. The network facilitates collective action and the institutionalization of systems that monitor project and program progress toward improving the status of women.	Member of WWG on FfD (Women's Working Group on Financing for Development)	www.femnet.or.ke
Development Alternatives with Women for a New Era (DAWN):	Working for economic and gender justice and sustainable and democratic development. DAWN provides a forum for feminist research, analyses and advocacy on global issues (economic, social and political) affecting the livelihoods, living standards, rights and development prospects of women, especially poor and marginalized women, in regions of the South. Through research, analyses, advocacy and, more	Member of WWG on FfD (Women's Working Group on Financing for Development) In collaboration with several networks DAWN co-convened a strategy meeting, including a feminist analysis, on threats from BANG technologies (manipulation of Bits, Atoms, Neurons and Genes at the nano scale) as a response to the	http://www.dawnnet.org

	recently, training, DAWN seeks to support women's mobilization within civil society to challenge inequitable social, economic and political relations at global, regional and national levels, and to advance feminist alternatives.	climate, food and fuel crises. The meeting was attended by over 35 environment, development, food sovereignty, women's, farmers, and indigenous rights organizations from across the world.	
International Gender & Trade Network (IGTN)	Network of feminist gender specialists who provide technical information on gender and trade issues to women's groups, NGOs, social movements and governments and acts as a political catalyst to enlarge the space for a critical feminist perspective and global action on trade and globalization issues.	Builds South/North cooperation in the work of developing more just and democratic policy from a critical feminist perspective; currently organized in: Africa*, Asia, Caribbean, Central Asia, Europe, Latin America, Middle East and Gulf, and North America. *E.g. IGTN Africa workshops initiate movement building and mobilization of African women around gender and trade in order to counteract the inequities between North and South and women and men that continue to be perpetuated by trade agreements.	http://web.igtn.org/home/
Women in Development-Europe (WIDE)	Moniters and influences international economic and development policy and practice from a feminist perspective. WIDE´s work is grounded on women's rights as the basis for the development of a more just and democratic world order and the search for alternative approaches to the economic mainstream. WIDE enables members and partners to articulate alternatives to the negative impacts of globalization, and makes feminist alternatives visible.	Member of WWG on FfD (Women's Working Group on Financing for Development)	www.wide-network.org

UN Organizations	**Description**	**Examples**	**Link**
The United Nations Environment Program (UNEP)	Working to highlight the important role that women play in sustainable development. UNEP recognizes gender as a cross-cutting priority, and its program promotes women's participation in all environmental protections and sustainable development activities. UNEP's commitment to gender mainstreaming is strong and has	Within UNEP, it has primarily been two Divisions (DEWA and Division of Policy Development and Law – DPDL) that have taken concrete steps towards incorporating gender into their work. Organized the WAVE (Women as the Voice for the Environment)	www.unep.org

	UNEP has a long history of engaging in gender mainstreaming as a strategy.	assembly in Oct. 2004.	
The United Nations Development Fund for Women (UNIFEM)	The women's fund at the United Nations, dedicated to advancing women's rights and achieving gender equality. It provides financial and technical assistance to innovative programs and strategies that foster women's empowerment. It focuses its activities on one overarching goal: to support the implementation at the national level of existing international commitments to advance gender equality.	UNIFEM took a leading role in organizing responses received to help women affected by the tsunami in Asia in 2004, including studying gender impacts, holding participatory consultations, and supporting the integration of gender perspectives into relief efforts.	www.unifem.org
The Food and Agriculture Organization of the United Nations (FAO)	FAO's SEAGA program emphasizes the socio-cultural, economic, demographic, political, institutional and the linkages between them from a gender perspective. SEAGA examines the linkages at three levels- macro, intermediate and field.	FAO has published several research reports on the links between gender and climate change, beginning with *Gender Perspectives on the Conventions on Biodiversity, Climate Change and Desertification*.	www.fao.org
The United Nations Development Program (UNDP)	Committed to gender mainstreaming; has been in the lead in asserting that gender equality is critical to achieving specific goals such as poverty reduction and sustainable economies. The UNDP's annual *Human Development Reports* are an important influence in refocusing attention on the human dimensions of development. Within this framework, UNDP locates gender equality as clearly fundamental to development. UNDP has taken the lead in developing indicators that reveal global progress (or lack of progress) in gender equality – indicators such as the widely-used "Gender Empowerment Measure" and "Gender Development Index."	The Caribbean Risk Management Initiative (CRMI), with offices in UNDP Cuba and UNDP Barbados/OECS, with the collaboration of BCPR, CDERA, UNIFEM, SURF, UNFPA, the Latina Genera project and ECLAC, has launched the project Improving Gender Visibility in Risk Management in the Caribbean. The project will conduct a gender analysis of the present situation of climate change risk management in various countries in the Caribbean. Later, it will present a series of political recommendations.	www.undp.org

Organizations (involved with gender and environment, but not exclusively)	**Description of Organization**	**Examples**	**Link**
World Bank	One of the major knowledge producing agencies and a key source of data and analysis on gender, particularly on gender, particularly on gender in relation to development. Its "genderstats" web portal is on e of the key global sources for gender-disaggregated data. Their strategy on gender mainstreaming was endorsed and put into effect in late 2001. The Bank-wide mainstreaming strategy emphasizes working with country governments and other key partners on a country-by-country basis to diagnose key gender issues in each country, and from that to identify priority gender responsive policy and intervention needs.	In 2006, the World Bank's Community Development Carbon Fund Project signed an Emissions Reduction Purchase Agreement (ERPA) with Kenya's Green Belt Movement, founded by Nobel Peace Prize winner Wangari Maathai. As part of the ERPA, groups of women will plant hundreds of trees in Kenya, enough to eliminate 375,000 tonnes of carbon by 2017, maintain regular precipitation restore land lost to erosion and, at the same time, provide an income for poverty-stricken rural women.	www.worldbank.org
Oxfam	OXFAM was an early leader among NGOs in developing extensive gender mainstreaming commitment. Works directly with communities and seeks to influence the powerful to ensure that poor people can improve their lives and livelihoods and have a say in decisions that affect them. Focuses on issues including gender justice and climate change, with the belief that respect for human rights will help lift people out of poverty.	In Mali, Oxfam's project works with rural women producers who are members of cooperatives, associations, and groupings in the cotton growing areas of Sikasso, Koutiala, Fana and Kita. Oxfam and our partners aim to create fair opportunities, resources, and benefits for women and men in the fight against the negative impacts of climate change.	www.oxfam.org
OECD	Support sustainable economic growth; Boost employment; Raise living standards, Maintain financial stability, Assist other countries' economic development, Contribute to growth in world trade. The organization provides a setting where governments compare policy experiences, seek answers to common problems, identify good practice and coordinate domestic and international policies	The OECD has a long and progressive history of foregrounding gender issues, especially through the policies and programs of its "Development Assistance Committee" (DAC).	http://www.oecd.org

CARE	Dedicated to fighting global poverty. They place special focus on working alongside poor women because, equipped with the proper resources, women have the power to help whole families and entire communities escape poverty.	In Vietnam, as a response to the destructive typhoon and in the light of coming climate change, Da Loc commune started to replant the mangrove forest with the help of CARE in August 2006. To take care of the mangrove forest, CARE help to set up a democratic management system, including a Women's Union.	www.care.org
Green Belt Movement International	Works to empower communities worldwide to protect the environment and to promote good governance and cultures of peace. Takes a holistic approach to development; addresses the underlying social, political, and economic causes of poverty and environmental degradation at the grassroots level.	One of their main goals is to empower Africans, especially women and girls, to nurture their leadership and entrepreneurial skills. In 2006, the World Bank's Community Development Carbon Fund Project signed an Emissions Reduction Purchase Agreement (ERPA) with Kenya's Green Belt Movement.	http://greenbeltmovement.org
World Conservation Union (IUCN)	Committed to helping societies throughout the world to conserve the diversity and integrity of nature by developing locally sustainable initiatives that promote the equitable and ecologically sustainable use of natural resources. This organization works to promote conservation arrangements that are mutually beneficial to local communities and those in favor of development. Specifically committed to a gender mainstreaming policy.	The Office of the IUCN World Gender Counsellor has led the efforts to include the political impact of the themes of gender, the environment and climate change in United Nations fora. In 2007, it promoted the awarding of prizes, on International Women's Day, to women who contributed to work on climate change.	www.iucn.org
The Nature Conservancy	Operates both domestically and abroad as one of the largest charitable environmental conservation organizations. It takes a science-based, multilateral approach to protecting wildlife by preserving critical environments, and has successfully pioneered new methods of land protection and acquisition (e.g., "debt for nature swaps"). Though "The Nature Conservancy does not have a specific gender mainstreaming policy," the emphasis of	Gender has been considered throughout the history of the Nature Conservancy's keystone "Parks in Peril" program funded largely by the United States Agency for International Development (USAID). The Nature Conservancy has formed research and project-based alliances with WIDTECH, a USAID Women in Development technical assistance project, and with MERGE, Managing Ecosystems and Resources with Gender Emphasis, and a	www.nature.org

	the Nature Conservancy on inclusiveness and the involvement of communities in conservation provide a framework for the inclusion of gender.	collaborative network in Latin America housed at the University of Florida.	
World Wildlife Fund (WWF)	The world's largest independent conservation organization. Set up as a charitable trust, the WWF takes a strategic approach to supporting a range of goals—the protection of endangered species, preservation of biodiversity, sustainable use of natural resources, pollution reduction and climate change—through lobbying, research, and consultancy.	The "Conservation Strategies Unit" of the WWF has undertaken several gender initiatives, including a "population and gender review" & a publication, "Social Dimensions in a Biological World" (both 2002). Engendering Eden is a recent multilateral research effort sponsored by the WWF, the IUCN, and several academic institutions and other NGOs, "Engendering Eden," assesses state-of-the-art research on linkages between gender and "Integrated Conservation and Development Projects" in Asia and Africa.	www.wwf.org
Community Conservation Coalition (CCC)	Forum consisting of diverse organizations interested in the human dimension of biodiversity conservation worldwide. The mission of the CCC is to contribute to the conservation of biological diversity by fostering communication, collaboration, and institutional change within member organizations and their partners concerning the linkages among conservation, population dynamics, health, education, and the economy. The CCC has integrated gender as part of its social focus.	Coalition members collaborated in facilitating a workshop, "Mainstreaming Gender in Conservation: A Workshop Sponsored by The Nature Conservancy, World Wildlife Fund and WIDTECH," in Nov. 2001. This event brought together representatives from major conservation organizations to share field lessons and to critically examine their respective approaches to gender integration. From this workshop emerged the Conservation and Gender Alliance (CONGA).	http://pdf.usaid.gov/pdf_docs/PDABW705.pdf
Biodiversity Project	Working to protect, restore and conserve North America's land and water resources through strategic, targeted, research-based communications. Works to connect people to nature and engage them in the topics and issues critical to human health and wellbeing.	Communications capacity-building initiative	www.biodiversityproject.org
Grassroots Organizations Operating Together	GROOTS operates as a flexible network linking leaders and groups in poor rural and urban areas in the South and the	Presented a discussion paper, "Beneficiaries to Stakeholders: Grassroots women's groups drive the	www.groots.org

in Sisterhood (GROOTS)	North. Goals including strengthening women's participation in the development of communities and the approaches to problem solving, and helping urban and rural grassroots women's groups identify and share their successful development approaches and methods globally.	demand for good governance through pro-poor development," to the Social Development Unit of the World Bank. GROOTS was invited to present innovative practices in driving the demand for good governance from the community perspective, along with the Social Development Department's stocktaking of demand-driven good governance practices within the Bank itself.	
Conservation International (CI)	Committed to helping societies adopt a more sustainable approach to development.	Population-Environment program- Based on the "Healthy Families, Healthy Forests" project, they believe that gender analysis of the constraints and opportunities is a critical step in building broad-based strategies to achieve health and conservation outcomes.	www.conservation.org
Coordination of the Indigenous Organizations of the Brazilian Amazon (COIAB)	Works to represent its member organizations and provide services in guaranteeing indigenous land rights, health, gender and women's issues, the environment, and public policies that favor indigenous peoples throughout the region.	Now comprised of 75 member organizations from all 9 states of the Brazilian Amazon. These organizations are of various kinds – local associations, regional federations, organizations of indigenous women, indigenous teachers and indigenous students. Together they account for more than 60% of the indigenous population of the Amazon.	www.coiab.com.br
USAID Women in Development (WID)	USAID WID has a special interest in the advancement of women worldwide and is working to improve women's equality and empowerment. USAID's support for programs in democracy and legal reform, girls' education, maternal and child health, and economic growth improves the status of women and enhances their opportunities.	Greater Access to Trade Expansion (GATE) project (2004-2009)- The goal is to ensure that trade-related efforts encompass the poor and women to help them take advantage of the opportunities offered by globalization. Emphasis is placed on identifying gender-based constraints to participation in trade-related activities.	http://www.usaid.gov/our_work/cross-cutting_programs/wid/

Donor	Description	Program related to G/E	Link
Charles Stuart Mott Foundation	Supports efforts that promote a just, equitable and sustainable society with the focus on civil society, the environment and poverty	Programs include: conservation of fresh water ecosystems in North America; improving the outcomes for children, youth and families at risk of persistent poverty	http://www.mott.org/about/appprocedures.aspx
Tides Foundation	The foundation gives primarily in the areas of the environment and natural resources, international affairs, economic public policy and enterprise development, social justice, and community affairs.	Indigenous People's Fund- grants are available to organizations with a focus on preserving and enhancing the rights, health, safety, and education of women and girls in native communities.	http://www.tidesfoundation.org/
Rockefeller Foundation	Supports work around the world to expand opportunities for poor or vulnerable people and to help ensure that globalization's benefits are more widely shared. Two main areas of focus include Climate and Environment and Social & Economic Security.	Advancing Innovation Processes to Solve Social Problems; Climate Change Resilience	http://www.rockefellerfoundation.org/
PepsiCo Foundation	Supports programs designed to promote health, the environment, and inclusion in underserved regions.	Environment- emphasis is directed toward programs designed to promote water security; sustainable agriculture; and adaptive approaches to changing climate. Inclusion- supports programs designed to promote diversity in education and workforce development to foster economic achievement and mobility for underserved and minority populations. Special emphasis is directed toward programs designed to promote access to education and training; and women's empowerment.	http://www.pepsico.com/Purpose/PepsiCo-Foundation.html
The David and Lucile Packard Foundation	Goal is to improve the lives of children, enable the creative pursuit of science, advance reproductive health, and conserve and restore earth's natural systems.	Conservation and Science; Population; and Children, Families, and Communities.	http://www.packard.org/

The Marisla Foundation	Two main areas of interest are Environment (concentration on activities that promote the conservation of biological diversity and advance sustainable ecosystem management), and Human Services (objective is to assist women, primarily regarding their physical, mental and financial health).	Environment; Marine science; Women's centers/services	https://online.foundationsource.com/public/home/marisla
Grassroots International Inc.	Works with social movements and progressive organizations to build a global movement for social justice by supporting the initiatives of peasants and family farmers, women, and indigenous groups to protect human rights to land, water, and food.	Grants categories: sustainable livelihood grants, which provide "seeds and tools" and other basics necessary for dignified livelihoods and community-led development projects; movement building grants, which nurture leadership (especially among women and youth)	www.grassrootsonline.org
Foundation for Sustainable Development	The organization supports underserved communities in Africa, Asia, and Latin America (through providing human and financial resources to more than 200 community-based organizations).	Microfinance, health, environment/appropriate technology, youth and education, women's empowerment, human rights, and community development.	http://www.fsdinternational.org
The Ford Foundation	Goals are to: strengthen democratic values, reduce poverty and injustice, promote international cooperation, and advance human achievement. Core issues include: Sustainable Development; Human Rights; Sexual and Reproductive Health and Rights.	Sustainable development program: supports the development of natural resource policies and programs that give poor communities more control over these resources and a stronger voice in decision making on land use and development.	http://www.fordfoundation.org
Blue Moon Fund	Supports initiatives that elevate the human condition by comprehensively addressing human consumption, the natural world, and economic	Balancing Human and Natural Ecosystems Initiative- promotes new economic and culture approaches to reducing resource pressure and preserving biodiversity. The fund is primarily concerned with the value of	http://www.bluemoonfund.org/

	advancement	diverse ecosystems for human quality of life. The fund seeks economically sustainable development models that do not displace humans.	
Novo Foundation	Ending violence against women and girls, promoting gender equity worldwide, women empowerment.	Places strong emphasis on investing in women and girls. Places emphasis on education including the education of men and boys so that their role may serve to move toward a more just and balanced society.	www.novofoundation.org
Nike Foundation	Empowering adolescent girls	Economic Empowerment, mentoring programs, savings products and services, market-based economic solutions, grassroots efforts, institutional innovation, microinsurance. .	www.nikefoundation.org

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MDG 1: Eradicate extreme poverty and hunger

Biodiversity and ecosystem services are essential to the productivity of agriculture, forests, and fisheries. Ecological goods and services enable people to derive livelihoods and incomes from natural and managed landscapes. Degraded ecosystems make the poor more vulnerable to droughts, floods, landslides and other natural disasters.

MDG 2 and 3: Achieve universal primary education; Promote gender equality and empower women

Impacts of environmental degradation often fall disproportionately on women and girls. The increased time they must spend searching for drinking water, fuel wood, and other forest products limits their opportunities for education, literacy and income generating activities.

MDG 4, 5 and 6: Reduce child mortality; Improve maternal health; Combat major diseases

Eighty per cent of Africans rely on traditional medicines derived largely from local plants. The modern pharmaceutical industry also depends on biodiversity: of the 150 most frequently prescribed drugs, more than half are based on natural compounds. Environmental degradation can also increase the spread of malaria, dengue fever, and other insect- and water-borne diseases. Loss of biodiversity and ecosystem services can lead to economic disruption and population dislocation, particularly to crowded urban areas, which encourages the spread of infectious diseases such as tuberculosis, hepatitis, and HIV

MDG 8: Develop a global partnership for development

Maintaining biodiversity and critical ecosystem functions will require global partnerships of governments, the private sector, and civil society in developing and industrialized countries. This goal commits, among other things, developed countries to increase development aid and open their markets to developing-country products. Such efforts should support rather than degrade the biological resource base on which achievement of the MDGs depends.

Annex 1. Links between gender, environment and Millennium Development Goals.