

## **I. WOMEN and ENVIRONMENT**

The primary concerns about gender differences in some practice areas are tend to have a more negative effect on women than on men. This is largely due to women's traditional roles and responsibilities, and inequality that limit women's control over and access to environmental and energy resources as compared to men. In many developing countries, women-as farmers and pastoralists, with primary responsibility for household food production-are the principal users of certain types of land and natural resources. However, the women generally do not own the land or control the allocation of natural resources, and they are often allotted the most marginal lands with the least secure rights of tenure. Another major difference between men and women is related to access to water resources. In areas where there is no pumped water, and supplies are scarce due to seasonal dry periods or drought conditions, women can spend many hours per week trying to get enough water. Improved water and sanitation facilities can give time to women for productive activities, and girls more time for school, besides safeguarding their safety, dignity and physical well-being. In addition to getting water, women in developing countries also spend a great deal of time collecting traditional biomass fuels-such as wood, dung and agricultural wastes for household needs. Over 1.6 billion people rely on these fuels, and the collection and management of these fuels is primarily done by women. When environmental degradation makes fuel supplies more difficult to find, women have to spend more time and effort searching for fuels long distances from home with consequently less time for other responsibilities. They are also at greater risk of rape, animal attacks and other threats as they travel farther away from home (UNDP Training Manuel, page: 11-13). Women- have no chance to use appropriate fuel with affordable prices- have to spend more time and energy to reach traditional sources such as coal, wood and dried cow dung in order to prepare food and heat. Rural women have to make cultivation without modern agricultural vehicle in order to provide their foods. They spend additional time to provide water from fountains, wells and rivers if they have no infrastructure or water pumps in their homes. At downscale areas, women are being exposed open fire for to prepare food and heat for long hours. Due to the reason of direct interaction with gaseous, particulates, carbon monoxide, benzene and some poisonous chemical compounds, there are 1.6 million people died in every year. Air pollution also causes cataract and low birth weight (Mies, Maria., Shiva, Vandana., 1993)

Women and Environment are very close each other but they are intimate friends of environment for the means of production. Women now make up more than 40 percent of the global labour force and 43 percent of the agricultural labour force on average. It extends to 50 percent in some countries in Africa and Asia (FAO,2010a) If this valuable resource, as well as the skills women offer, is not used effectively it places a heavy cost

burden on a national economy. Most women in the workforce in developing countries are engaged in agriculture and they produce between 60 percent and 80 percent of food crops in these countries. An estimated two thirds of poor livestock keepers, totaling approximately 400 million people, are women (Thornton et al., 2002). In 2008, nearly 45 million people worldwide were directly engaged, full time or part time, in the fishery primary sector. 5.4 million of them are women. It represents 12 percent of the total. Women also contribute to both formal and informal forestry sectors in many significant ways such as agroforestry, watershed management, tree improvement and forestry protection and conservation.

Although women are as good at farming as men; they are always behind men. Because women have less control on land, animal, modern inputs such as improved seeds, fertilizers, and pest control measures and mechanical tools. They also use less credit and often do not control the credit they obtain. The lack of education and less access to extension services prevent women from adopting new technologies as readily as men do. However, solid empirical evidence shows that the yield gap between men and women averages around 20–30 percent. The Food and Agriculture Organization estimates that if women farmers had the same access to resources as men, agricultural output in developing countries would increase by between 2.5 and 4.0 percent. Increasing production by this amount could reduce the number of undernourished people in the World in order of 12-17 percent. According to another latest estimation by FAO, 925 million people are currently undernourished. Closing the gender in agricultural yield could bring the number down by as much as 100-150 million people.

## II. GENDER MAINSTREAMING IN DEVELOPMENT POLICIES

According to UNEP, the discussion of Gender and Environment is based on two precepts<sup>1</sup>. The first one implies that gender mediates human/environment interactions and use, knowledge, and assessment of environmental issues. According to the second precept, gender roles, responsibilities, expectations and norms predict human-environment relationship. As such UNEP feels that the issue of concern should be “gender and environment” rather than “women and environment”. The two broad principles noted above manifest themselves in a variety of environmental relations and interactions.

**“A gender sustainable development perspective should be infused with a commitment to change the cultural values and sexual division of labor, to attain, in the near future, a state where men and women share power and labor in the**

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<sup>1</sup> [http://www.wikigender.org/index.php/Women\\_and\\_the\\_Environment](http://www.wikigender.org/index.php/Women_and_the_Environment)

**management and control of fragile ecosystem" (Abromovay and Lerner, 1998,page:11)**

Promoting gender equality in agriculture is critically important in the means of reducing hunger and extreme poverty. Because Millenium Development Goal on Gender equality (MDG 3); Poverty and Food Security (MDG 1) are mutually reinforcing, Ensuring Environmental Sustainability (MDG 7) are mutually reinforcing.

Unfortunately, with only for years left until 2015, the target date for achieving the MDG's, ending gender based injustices that create barriers to women's and girls' opportunities must be the centerpiece of further action. Some practical approaches to putting women's rights at the heart of the MDG's include; increasing the rate of access to services for women (including reproductive health; using stipends and cash transfers to encourage girls to go to school, delaying marriage and continuing their education for the critical secondary years, putting women on the front line of service delivery to make public services more accessible and amplifying women's voices in decision-making, from the household up to local and national levels, enhancing women's ability to accumulate assets including through laws, increasing women's voice in society by introducing quotas and fostering women leadership and ensuring that policies reflect the realities of women's lives.

One of the main outcomes of the Rio+20 Conference was the agreement by member States to launch a process to develop a set of Sustainable Development Goals (SDGs), which will build upon the Millennium Development Goals and converge with the post 2015 development agenda.

Agriculture and food systems are at the centre of the debates as well as water –related challenges around post-2015 development goals and targets. Hunger and food insecurity remain major development priorities, made worse by climate change, price volatility in globalised food markets and over-consumption in wealthy countries. Existing agriculture and food systems are central to sustaining poor people's livelihoods and are technically capable of producing adequate food for all, but they place major stress on environmental assets including soils, water, fisheries and biodiversity.

In the framework of post-2015 development goals and targets, the protection of water resources from over exploitation and pollution was evaluated under the title of "Securing sustainable water for all". However the management of water and food systems in order to reach the future we want, should be done by integrating a gender-sensitive approach. Because. There is enough evidence to show that integrating a gender-sensitive approach will create a positive impact on the nature. Involving both men and women in the design and implementation of interventions leads to effective

new solutions to environmental problems; helps governments to avoid poor investments and expensive mistakes; makes projects more sustainable; ensures that infrastructure development yields the maximum social and economic returns; and furthers development goals, such as reducing hunger, child mortality and improving gender equality.

### III. WOMEN EMPOWERMENT and GREEN JOBS

Growing income inequality, rising unemployment and marginalization of women workers are blocking progress on ecological aims. But these social issues are politically sensitive, making them the hardest to address and the most difficult to rectify, thus jeopardizing the overall achievement of sustainable development. The current financial and economic crises have highlighted the political threat of the lack of corporate responsibility and rising unemployment.

While green economy strategies can also generate green jobs, they have paid scant attention to the quality of these jobs (in terms of labour standards and wage levels) or the widening gender gap at both the national and international levels. Green economy strategies will not be an engine of sustainable development without the full integration of the social pillar of sustainability in terms of pay equity and gender equality.

Developing new job fields is the guarantee for to provide sustainability in businesses. Because the adaptation of green rules to the company's regulations and rules, it will be possible to increase in the efficiency of energy and the amount of raw materials including water by recycling. It means that high profit in medium and long term. Green jobs are also the guarantee of our future by reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions and preventing the excess amount of natural resources such as water.

Green jobs are found across a range of industries and occupations. Although some of the green jobs required a specialized knowledge, many others not. The "greening of occupations" refers to the extent to which green economy activities and technologies increase the demand for existing occupations, shape the work and worker requirements needed for performance of the occupation, or generate unique work and worker requirements. There are three categories of green occupations as outlined by the National Center for O\*NET Development:

**Green Increased Demand Occupations:** These are occupations that already existed prior to the green economy but now are more in demand. There are no significant changes in the work and worker requirements. Examples include electricians, logger supervisors, wildlife biologists, and chemical engineers.

**Green Enhanced Skills Occupations:** These are occupations that already existed prior to the green economy but have undergone significant changes in work and worker requirements to include new tasks, skills, knowledge, and credentials. Demand for workers may or may not have increased. Examples include construction managers, heating and air conditioning mechanics, transportation managers, and environmental engineers.

**Green New and Emerging Occupations:** These are occupations with unique work and worker requirements relating to the green economy. They may be entirely new or “born” from an existing occupation. Examples include biomass plant engineers, climate change analysts, geothermal technicians, and logistics managers.

Some of the green jobs at grass-root level don’t require a specialized knowledge such as filtering water, using simple biological treatment techniques, producing organic fertilisers and some other organic products. However, they enable people with different backgrounds and skills to build career paths and achieve economic self-sufficiency. As everybody knows well, women especially in rural areas continue to face with difficulties to procure employment with wages, social security. It is possible to say that in green industries, rural women have a chance to use their environmental competences that are coming from their traditional roles and come by their economic freedom. This path gives an opportunity for a women to use this simple job as a stepping stone to improve your skills and move you toward your ultimate career goal.

### **III.1 BEST PRACTICE EXAMPLES**

#### **III.1.A INDIA**

**III.1.A (i) Waste Collectors:** The implementation that was realised by a union in the Indian city of Pune is stupendous. It has secured concrete improvements for waste collectors, who are mostly female, through promoting a socially viable and environmental model of waste recovery. It is estimated that there are between 9000 and 9500 waste collectors in Pune, 90% of whom are women. About 6500 or over two-thirds of these workers are affiliated to the Waste Collectors’ Union KKPKP.

There are several types of waste collectors in India: 1) those who collect the waste in the streets and from public bins; 2) those who work in the landfills; and 3) those who go house to house with a trolley, buying waste that is worth a little more and that people do not throw directly in the bin, such as beer bottles, paper, etc.

The union has carried out a campaign with the authorities to integrate an ecological dimension into local waste management. In the past, all the waste was placed in bins on the roadside and the municipal trucks would regularly come to empty them and

take the waste to the dump – a costly process. The union is promoting the separation of waste at the household level whereby families divide their waste into biodegradable and non-biodegradable. The waste collectors go from house to house to collect it and then sell what can be sold. What cannot be reused is sent to the dump, and the biodegradable waste is composted at the source.

The union carried out a study in 2007 to identify the types of waste that ended up at the dumps and it revealed that 90% of this waste was biodegradable. So 80 out of the 85 or 90 trucks collecting waste each day were doing so unnecessarily, constituting a huge waste of public money. Through such initiatives, empowered unions can generate economic savings and environmental benefits as well as social gains for women workers.

**III.1.A (ii) Commercial Forestry:** Agriculture and forestry are the dominant economic sectors and the main employers in many developing countries. In India, nearly 400 million people are dependent on forests for their livelihoods. In their informal subsistence contributions to these resource-based sectors, women play an important role in rural communities and are the main source of income in many rural households. Whereas men are engaged in commercial forestry, women are more concerned with biodiversity conservation and sustainable forest management which ensures a regular supply of firewood, fodder, water, and other products for basic human needs. The ability to identify and use forest plants, trees and shrub species is higher among women, who also have a special interest in planting trees as an alternative to walking long distances to gather firewood.

As the principle harvesters of forest products, women are among the worst affected by forest degradation and deforestation due to increasing urbanization. However, due to the traditional patriarchy of Indian society, women are subjected to gender-biased treatment in terms of their social and political rights, inheritance rights, access to and use of household resources, and right to education. The female contribution to the primary economy is exacerbated by socio-economic stresses including seasonal unemployment, unplanned motherhood, poverty, and illiteracy.

In 1990, the Indian government initiated the Joint Forest Management Regime where communities manage forests in partnership with government forest departments. Recognizing that forest policies were gender insensitive and ignored the synergistic relationships between women and forestry resources, the new forest management framework requires that 50% of the oversight board and one-third of community committees be composed of women. Due to this mandate, women are becoming active participants in the co-management of forests and programs to reduce their vulnerability to urbanization and climate change. Women are also managing small green businesses based on forest and agricultural products allowing them to participate in the workforce both as labourers and entrepreneurs. However, women

are not reaping the full benefits of their work owing to exploitation by middle men and others who take a share of the profits. Further government action is needed to realize the ability of green forestry jobs to provide a better way of life for women workers and sustainable livelihoods for Indian households (Source: Jadhav, 2009).

### **III.1.B ITALY**

The growing photovoltaic sector –which converts sunlight directly into electricity– offers substantial future employment opportunities. Photovoltaic production has doubled every 2 years since 2002, making it the world's fastest-growing energy technology. However as shown in the case of southern Italy, gender gaps in employment and traditional attitudes may block these green opportunities for women workers.

The photovoltaic market in sunny southern Italy is exploding, partly due to a new building code requiring that a portion of electricity be generated by solar energy. The Italian photovoltaic capacity is expected to grow from 100 MWp in 2007 to 600 MWp in 2009. Job opportunities will be provided for solar system designers and installers as well as architects for Building Integrated Photovoltaics (BIPV). With regard to the latter, over 51% of architecture graduates from southern Italian universities are now female. But less than 30% of women in southern Italy are employed largely due to a lack of family-friendly services, particularly childcare. The share of children aged 0-2 in day care centres in the southern region is less than 6% far lower than the national average of 11.3% and the European target of 33%. The burden of unpaid family work falls largely on women thus limiting their participation in the labour force. For women to realize their work potential in the photovoltaic and other green sectors in regions such as southern Italy, family support services must supplement the targeted recruitment of women and specialised job training.

## **IV. THE ROLES OF RELEVANT STAKEHOLDERS**

### **IV.1 GOVERNMENTAL MEASURES**

Today all over the World, a green component of an economic stimulus packages is accepted key organizing principle to achieve sustainable development. According to the Report that was developed by the Center for American Progress and the Political Economy Research Institute, \$150 million investment in clean energy (just one of the green jobs areas) would generate 2, 5 million jobs. By comparison, this same level of investment in the fossil-fuel industry would generate about 800,000 jobs.

In the United States, the US\$800 billion spending initiative allocates US\$142 billion to environmental investments in transport infrastructure, renewable energy and other

green projects, which are forecast to create 5 million new jobs (Jones, 2008). In Europe, economic recovery packages totaling €490 billion include €42 billion of environmental spending, ranging from 1% of the total in Italy to 11% in Germany. Close to 60% of the cross-cutting stimulus contributions of the European Commission are characterized as green including spending on energy-efficient buildings and “factories of the future”, with high expectations for green job creation (OECD, 2009a).

#### **IV.1.A Good Examples for Governmental Measures**

The Women in Apprenticeship and Nontraditional Occupations (WANTO) Act became law in the United States in 1992, providing for technical assistance to employers and labour unions in the placement and retention of women in apprenticeships and nontraditional jobs. Funded at a level of US\$1 million per year, the program awards competitive grants to community-based organizations which work with unions to start training and placement programs. Studies show that when a WANTO-funded program is implemented in an area, local women are 25% more likely to hold and retain a nontraditional job. WANTO programs include pre-job training programs, support networks and mentoring to shape workplaces to better receive and retain women, to teach women how to design, install and maintain renewable energy systems in their communities (Source: WOW, 2009).

The American Recovery and Reinvestment Act (ARRA) provided an influx of new funds for green jobs that can be used to educate and train a diverse set of workers, including women, to benefit from the developing green economy. The majority of green jobs, however, are in fields with historically minimal female participation, such as construction laborers, roofers, plumbers and civil engineers.

#### **IV.2 INTERNATIONAL ORGANISATIONS and ACCOUNTABLE GOVERNANCE PHILOSOPHY in BUSINESS LIFE**

The UN Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption. By doing so, business, as a primary driver of globalization, can help ensure that markets, commerce, technology and finance advance in ways that benefit economies and societies everywhere.

This ever-increasing understanding is reflected in the Global Compact's rapid growth. With over 12,000 corporate participants and other stakeholders from over 145 countries, it is the largest voluntary corporate responsibility initiative in the world. According to the 9<sup>th</sup> Principle of Global Compact "Businesses should encourage the development and diffusion of environmentally friendly technologies"



The Women's Empowerment Principles which are the result of a collaboration between the the United Nations Global Compact and the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) through multi-stakeholders' process (including BPW International), offer guidance to companies on how to empower women in the workplace, marketplace and community. According to the Principle 3, Companies have to ensure the health, safety and well-being of all women and men workers. It is the opportunity to increase awareness about differential impacts of hazardous and waste materials on women and men and provide safe working conditions by eliminating potential risks. According to the Principle 4, Companies have to promote education, training and professional development for women. Through the company-supported training programs, it is possible to encourage women to enter nontraditional job fields as well as developing their vocational capacities.

Another important initiative of UN Global Compact is named by WASH which was launched by the UN Secretary-General in July 2007. It has been developed in order to assist companies in the development, implementation, and disclosure of water sustainability policies and practices. The Mandate recognizes that the business sector, through the production of goods and services, significantly impacts water resources—both directly and through supply chains.

In November 2010, the Mandate released the Guide to Responsible Business Engagement with Water Policy (Guide to Responsible Engagement). The publication defines responsible engagement as “corporate water management initiatives that involve interaction with government entities; local communities; and/or civil society organizations. The Guide to Responsible Engagement presents five principles that foster effective, sustainable, and equitable external engagements related to water. Effective collective action is both the key to approaching shared water risk successfully and to addressing a substantial point of vulnerability for many companies. In its most productive form, collective action leads to a strong sense of shared interests, shared responsibility, and shared benefits. Companies will typically embrace collective efforts with interested parties to benefit from their experience, gain fresh ideas and perspectives, enhance credibility and legitimacy, increase the momentum for tackling a water challenge,

The United Nations World Tourism Organization (UNWTO) is the United Nations agency responsible for the promotion of responsible, sustainable and universally accessible tourism. It is the leading international organization in the field of tourism, which promotes tourism as a driver of economic growth, inclusive development and environmental sustainability and offers leadership and support to the sector in advancing knowledge and tourism policies worldwide. It encourages the implementation of the Global Code of Ethics for Tourism to maximize the contribution

of tourism to socio-economic development, while minimizing its possible negative impacts, and is committed to promoting tourism as an instrument in achieving the United Nations Millennium Development Goals (MDGs), geared towards reducing poverty and fostering sustainable development. The UN World Tourism Organization (UNWTO) has started an initiative with the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) to enhance the role of women in sustainable tourism, which could be the ultimate green job opportunity for females.

#### **IV.3 THE ROLE of TRADE UNIONS**

Female consumers, who are more likely to buy sustainable products than men, are particularly attracted to gender considerations in production and the Fair Trade mark which guarantees sustainable livelihoods for women workers (OECD, 2008c). As women increase their union membership in developing countries, they are powering the development of green sectors. However, increased efforts by unions to organize women in the emerging green economy will contribute to the power and sustainability of the labour movement. It will simultaneously advance environmental and social well-being in the long-term interests of both men and women. Green jobs should be unionized jobs where concerted efforts are made to employ, recruit, train, pay equitably and organize women.

In Latin America, the banana and coffee unions have been transformed as more women work in traditionally male jobs and push ecological and social concerns up the agenda. The work of the Self-Employed Women's Association (SEWA) in northwestern India shows how unionized approaches to organic farming and other efforts at greening livelihoods are reaping mutual environmental and social benefits, including gains for women workers. They become self-reliant, both individually and collectively, and obtain social security for themselves and their families (SEWA, 2009).