



**Second meeting of the intersessional process considering the Strategic Approach
and the sound management of chemicals and waste beyond 2020**

Stockholm, Sweden, 13-15 March 2018

Item 4 of the provisional agenda*

Considerations for Beyond 2020

Gender and the sound management of chemicals and waste

Note by the secretariat

1. The secretariat has the honour to provide, in the annex to the present note, a document exploring gender and the sound management of chemicals and waste. The document is presented without formal editing.
2. A request was made at the first intersessional meeting for information on the relationship between women and chemical safety as it relates to emerging policy issues and issues of concern, covering in particular the period beyond 2020. The Bureau agreed at its May 2017 meeting for the secretariat to prepare a paper, for the second intersessional meeting, that reviews the broader concept of gender and the sound management of chemicals and waste, in line with the 2030 Agenda for Sustainable Development.
3. Stakeholders may wish to reflect on the information as presented by the secretariat.

*SAICM/IP.2/1

Annex

Gender and the sound management of chemicals and waste

Prepared for the intersessional process considering the Strategic Approach and the sound management of chemicals and waste beyond 2020

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1. Introduction

This document is to inform the intersessional process considering the Strategic Approach and the sound management of chemicals and waste beyond 2020 on gender and the sound management of chemicals and waste.

“Gender mainstreaming” has been defined by the United Nations Economic and Social Council as ‘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 programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated’.¹ In practice, gender mainstreaming supports both men's and women's equal contributions through policies and programs that address their specific needs.

The Sustainable Development Goals (SDGs) of the 2030 Agenda aim to address inequalities among all population groups, especially children, women and the impoverished. By directly addressing the links between the environment and gender in the context of the SDGs, it is believed that there will be new opportunities to help achieve them in a more sustainable and beneficial manner². SDG 5 has been created to achieve gender equality and improve women’s rights.

Gender is relevant to the sound management of chemicals and waste because women and men have different physiological susceptibilities as well as varying roles in societies that can impact decision-making and chemical exposure. Chemical safety is not present in all groups of the population in today’s world and the effects of chemical exposure differs depending on many diverse factors, e.g. geographical location, behavioural patterns, age, nutritional status, biological effect and/or exposure to a combination of chemicals at the same time (sometimes referred to as the “chemical cocktail”³).

When gender is mainstreamed across high priority development issues, it can create strategic opportunities to focus operations and provide benefits for both men and women. Identifying these strategic opportunities—such as promoting secure and safe working conditions—can yield tangible results.

2. Background

Gender refers to the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men. It varies from society to society and can be changed. Most people are taught appropriate norms and behaviours – including how they should interact with others of the same or opposite sex within households, communities and work places.

¹ UN Women at <http://www.un.org/womenwatch/osagi/conceptsanddefinitions.htm>

² UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya.

³ European Chemicals Agency (ECHA) definition at <https://echa.europa.eu/chemicals-in-our-life/hot-topics/chemical-mixtures-and-the-cocktail-effect>

These norms, roles, relationships and stereotypes about men and women have a systematic impact on which populations have access to resources and knowledge. This creates vulnerable populations for both men and women where they are at a greater risk for chemical exposure from environmental contaminants because, for example, women may not receive the necessary credit for proper business equipment or machismo ideals about men can result in extreme occupational environments, inducing exposure to environmental hazards.

According to the Global Gender and Environment Outlook (GGEO) the importance of the gender-and-environment nexus was scarcely recognized until recently but is today getting a growing acknowledgement, including in the Sustainable Development Goals (SDGs)⁴.

There is currently no reference to gender within core Strategic Approach texts, however women are highlighted in both their biological roles and social roles as key populations several times. At the same time, there are many examples where gender considerations are now incorporated in global multilateral environmental agreements, including in the following examples:

- The Secretariat of the three chemicals and waste conventions Basel, Rotterdam, and Stockholm (BRS) have integrated gender equality into the implementation efforts and projects. Developed in 2013 and updated in 2016, the BRS Gender Action Plan ensures that the principles of gender equality are firmly embedded in activities undertaken by the BRS Secretariat, in line with applicable UN Women and UN Environment gender policies. Although their Gender Action Plan is convention specific, one of its objectives includes *"Promoting the consideration of gender issues in hazardous chemicals and wastes management at the national and regional levels"*, which is in line with policies of the Strategic Approach⁵. The Conventions have a table of proposed actions that are tools that can establish gender mainstreaming and enable the conventions to implement and update policies and programs under the Secretariat and with stakeholders.
- The Minamata Convention on Mercury preamble notes awareness of, *"health concerns, especially in developing countries, resulting from exposure to mercury of vulnerable populations, especially women, children, and through them future generations."*⁶ Furthermore, National Action Plans to address artisanal and small-scale gold mining are to include, *"Strategies to prevent the exposure of vulnerable populations, particularly children and women of childbearing age, especially pregnant women, to mercury used in artisanal and small-scale gold mining"*⁷.
- COP 23 (UN Climate Change Conference in Bonn, 6-17 November 2017⁸) approved their first ever Gender Action Plan⁹ (GAP) to more directly include women in all climate activities

⁴ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya.

⁵ BRS Conventions at Gender Action Plan of the Secretariat of the Basel, Rotterdam and Stockholm conventions (BRS-GAP) for 2016-2017 Updated version

<http://www.brsmeas.org/Gender/BRSGenderActionPlan/tabid/3652/language/en-US/Default.aspx>

⁶ Minamata Convention on Mercury 2017

http://www.mercuryconvention.org/Portals/11/documents/Booklets/Minamata%20Convention%20on%20Mercury_booklet_English.pdf

⁷ Minamata Convention on Mercury 2017

http://www.mercuryconvention.org/Portals/11/documents/Booklets/Minamata%20Convention%20on%20Mercury_booklet_English.pdf

⁸ COP 23 at <https://cop23.unfccc.int/>

and to enhance gender-related mandates that have already been adopted. It also aims to raise awareness and offer support for the development and effective implementation of gender-responsive climate policy at all levels of government. The GAP is a two-year plan and includes five priority areas, beginning with improved capacity-building and knowledge sharing and increased participation of women across all levels, especially within national delegations. It also calls for gender-responsive implementation, including budgeting that takes gender specifically into account, and for better monitoring and reporting to assist experts to have a better picture of exactly what the gap is.

3. Susceptibility and Exposure

Biological factors — notably size and physiological differences between women and men and between adults and children — influence susceptibility to health impacts from exposure to chemicals and waste. While exposures to chemicals pose a constant risk, there are windows of susceptibility for both women and men when these exposures can have critical effects in regard to development and disease. For both girl and boy infants, the weeks just before and after birth are high-risk, as is puberty for both. Pregnancy, and lactation, are particular windows of susceptibility for women where they can transfer toxic chemicals to their children¹⁰. Related to this, health is addressed in the Sustainable Development Goals (SDGs), including target 3.9 (*By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination*)¹¹.

Some chemicals have been shown to have different physiological impacts depending on the sex of the person. Mercury for example is affecting children to a much higher extent and is also affecting male and female fetuses differently already in the womb^{12,13}. Fetal, infant, adolescent periods are particular windows of susceptibility for men where several disorders can occur at different periods throughout life as a result of exposure to a given endocrine disrupting chemical (EDCs) (or mixture) at one of these periods¹⁴. Furthermore, women are the first environment for children and according to research results certain PCBs organochlorine pesticides, PFCs, phenols, PBDEs, phthalates, polycyclic aromatic, hydrocarbons (PAHs) and perchlorate are detected in 99 to 100 percent of pregnant women¹⁵.

Both parents have susceptibilities that must be understood for the health of future generations. Mens' reproductive health is also impacted by chemical exposure. For example, male workers in the fishery

⁹ UNFCCC Gender Action Plan at <http://unfccc.int/resource/docs/2017/sbi/eng/l29.pdf>

¹⁰ Ostojic, Natalija, 2016. UNDP "*Health Risks and Impacts of Hazardous Chemicals in Products on Women and Children*"

¹¹ Sustainable development goal 3 at <https://sustainabledevelopment.un.org/sdg3>

¹² Bose-O'Riley S., McCarty K.M., Steckling N., Lettmeier B. (2010) Mercury Exposure and Children's Health. *Curr Probl Pediatr Adolesc Health Care*. 40(8): 186–215. doi:10.1016/j.cppeds.2010.07.002.

¹³ Tatsuta, N., Kurokawa N., Nakai K., Suzuki K., Iwai-Shimada M., Murata K., Satoh H., (2017) Effects of intrauterine exposures to polychlorinated biphenyls, methylmercury, and lead on birth weight in Japanese male and female newborns. *Environmental Health and Preventive Medicine*. doi 10.1186/s12199-017-0635-6

¹⁴ Diamanti-Kandarakis, E., Bourguignon, J., Giudice, L. C., Hauser, R., Prins, G. S., Soto, A. M., Zoeller, R., & Gore, A. C. (2009). Endocrine-Disrupting Chemicals: An Endocrine Society Scientific Statement. *Endocrine Reviews*, 30(4), 293-342. doi:10.1210/er.2009-0002

¹⁵ Woodruff, T. J., Zota, A. R., & Schwartz, J. M. (2011). Environmental Chemicals in Pregnant Women in the United States: NHANES 2003–2004. *Environmental Health Perspectives*, 119(6), 878-885. doi:10.1289/ehp.1002727

and crop farming industries exposed to dibromochloropropane (DBCP), a pesticide, have had a high incidence of infertility and significantly reduced sperm count¹⁶.

Overall, there is limited data or hard numbers on how different gender roles differentially expose men and women to hazardous chemicals. One way to consider the gender differences in exposures is by looking at the occupation and domestic roles of men and women.

3.1. Occupational exposures

Of particular concern is the exposure of workers in areas where chemical use is rapidly expanding, including electronics, textiles, construction, agriculture, and services such as cleaning, maintenance, hairdressing, manicure and pedicure^{17,18}.

While men and women are generally both involved in all of these professions, women tend to have a higher level of informal employment than men, and therefore less access to benefits and social protection, low representation and more occupational hazards¹⁹. As an example case, a survey of female rice farmers in Thailand found that women lack basic training in handling pesticides. Their husbands, who were skilled using pesticides had left their wives to take over in the fields while they themselves searched for better paying jobs in urban areas or in the international work market²⁰. Despite the negative consequences for their health, the women were not willing to participate in training courses because of conflicting caring and housework commitments²¹.

Another example is the global industry for cut-flowers. Colombia, Kenya, Ecuador, and Ethiopia are today accounting for the largest share of global production and a high employer of women²². Pesticides are more extensively used in this sector since flowers are not subject to the much stricter regulations for food crops, leading to increased environmental and human health risks^{23,24}. In combination with weak health care systems, it is less likely to detect the effects of these harmful exposures to various chemicals at an early stage or they are not sufficiently treated at all. This leads to reduced life expectancy, prolonged poverty, and ultimately hinders sustainable development²⁵.

Moreover, there are certain groups that are more vulnerable to toxic chemicals in occupational settings due to biological factors including young and elderly workers and workers with health problems. There are also occupational workers that are more vulnerable due to risks associated with

¹⁶ Claman, Paul, 2004. "Men at risk: occupation and male infertility". *Sexuality, Reproduction and Menopause*, 2(1), 19-26. doi:10.1016/j.sram.2004.02.005

¹⁷ Ostojic, Natalija, 2016. UNDP "Health Risks and Impacts of Hazardous Chemicals in Products on Women and Children"

¹⁸ Scientific American at <https://www.scientificamerican.com/article/these-4-chemicals-may-pose-the-most-risk-for-nail-salon-workers/>

¹⁹ WECF. 2015. "Women and Chemicals: the impact of hazardous chemicals on women."

²⁰ Heong, Escalada (1997): *Pest management of rice farmers in Asia*. International Rice Research Institute

²¹ WECF. 2015. "Women and Chemicals: the impact of hazardous chemicals on women."

²² Hemmati, M. & Bach. A. 2017. Gender and Chemicals: Questions, Issues, and Possible Entry Points. Berlin: MSP Institute

²³ Buckingham, K. (2016): Love hurts: environmental risks in the cut-flower industry. APPS Policy Forum, February 9, 2016. <https://www.policyforum.net/love-hurts-environmental-risks-in-the-cut-flower-industry/>

²⁴ WECF (2016): Women and Chemicals: The impact of hazardous chemicals on women. Women in Europe for a Common Future (WECF), http://www.wecf.eu/download/2016/March/WomenAndChemicals_PublicationIWD2016.pdf

²⁵ Hemmati, M. & Bach. A. 2017. Gender and Chemicals: Questions, Issues, and Possible Entry Points. Berlin: MSP Institute

social factors such as workers in small, medium, and micro companies, those working in the informal economy, those subject to shift, migrant workers, and those living and working in low income areas – altogether significant percentages of the overall workforce in many countries²⁶. For both men and women, these groups are often subject to worse working conditions, have a higher risk of suffering health impairments and have less access to health services and health promotion plans at work²⁷.

Hazardous chemicals in the workplace are among the most direct dangers to workers and the environment²⁸. Workers in the informal sector including occupations such as waste pickers, subsistence farming, and small scale gold mining are at a high risk of chemical exposure because of their working conditions, exclusion from protective legislation²⁹, and lack of knowledge about the chemicals they handle³⁰. This can lead to incorrect uses, application, and storage, lack of protection for workers, and waste disposal practices that pollute the environment³¹. Their perceptions and awareness of their work environment is often due to lack of knowledge about their chemical exposure increases their risk of chemical exposure to industrial toxins and inhaled particles³².

A recent publication called “Gender and Chemicals: Questions, Issues, and Possible Entry Points” highlights³³: *“With the globalization of supply chains, labour-intensive and high-risk jobs are often being moved to developing countries and countries in transition. While this could provide opportunities for economic growth, the environmental and human health risks are often transferred alongside: production moves to countries with lower labour costs as well as less restrictive health, safety, and environmental standards or less effective capacities to enforce them. This affects informal sectors, e.g. artisanal and small-scale mining, waste picking, and the recycling of electronic products. It also applies to formal employment, especially in the textile and manufacturing industries, where high percentages of women are involved at certain stages of production. Relevant hazards concern the exposure to solvent chemicals, respiration and skin contact with dyes and glues, inhaling smoke from burning plastics used as insulation or contact with sub-stances used in the production of electronic goods.”*

Organizations like ILO, UNDP and WHO all have an important role to play in protecting the health of workers and vulnerable populations and also to reach the goals of several SDGs. A report³⁴ from WHO concludes that the link between environmental risks and SDGs shows that improving environmental conditions for health is going to be an important element in progressing towards SDGs. *“There are direct pathways between environmental services and conditions and health, such as the type of energy used, access to safe water and sanitation, healthy, sustainable cities and climate change. In addition, the environment is closely linked to health through several other SDGs, such as*

²⁶ Ostojic, Natalija, 2016. UNDP "Health Risks and Impacts of Hazardous Chemicals in Products on Women and Children"

²⁷ Ostojic, Natalija, 2016. UNDP "Health Risks and Impacts of Hazardous Chemicals in Products on Women and Children"

²⁸ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya.

²⁹ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya.

³⁰ World Bank 2002. "Toxics and poverty: The impact of Toxic Substances on the poor in developing countries"

³¹ World Bank 2002. "Toxics and poverty: The impact of Toxic Substances on the poor in developing countries"

³² UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya

³³ Hemmati, M. & Bach. A. 2017. Gender and Chemicals: Questions, Issues, and Possible Entry Points. Berlin: MSP Institute

³⁴ WHO 2016. Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks. Geneva, Switzerland.

*poverty and working conditions.*³⁵ The SDGs also place healthy and equitable environments at the centre of their goals. Given the multiple linkages between environment, health, and sustainable development in the SDGs, creating health-supportive, sustainable and equitable environments will be a requirement to achieve the SDGs.³⁶

3.2. Domestic exposures

The ordinary nature of risks in domestic working is often overlooked yet they can be considerable. It is also not considered because it is often regarded as unimportant, not integrated in the formalized economy, and generally as “background” not worthy of much attention, or merely related to unpaid household, education and care work. As well, a perception of reduced severity can result in little attention to the chemicals used in for example, cleaning, cooking, drinking water and food packaging^{37,38,39}.

Personal care products such as soaps, creams, deodorants, shampoos, and cosmetics contain many chemicals that impact women and men differently. Women and men often have separate personal care products, with women and girls more likely to use more personal items per day than men, increasing dermal exposure to toxins. With over 5,000 different ingredients used in the personal care industry, many chemicals found in cosmetics have been linked to breast cancer, asthma, allergies, and reproductive disorders⁴⁰.

Safety data is lacking for most chemicals in makeup, shampoo, deodorants, skin lotions, nail polish and other personal care products⁴¹. Substances in personal care products may include lead, toxic metals, parabens, triclosan phthalates, mineral oils, nanomaterials and formaldehyde⁴². There are several national and international regulations for personal care products that are limited in protecting human health and the exposure to certain chemicals and also lacks a regulatory review before the products go on to the market^{43,44}. In some countries, manufacturers are responsible for ensuring that cosmetic products comply with the law before they are marketed. These manufacturers must substantiate safety and have proof available, rather than a system of government licensing or premarket review⁴⁵.

³⁵ WHO 2016. *Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks*. Geneva, Switzerland.

³⁶ WHO 2016. *Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks*. Geneva, Switzerland.

³⁷ UNEP 2016. *Global Gender and Environment Outlook*. UN Environment, Nairobi, Kenya

³⁸ Lorber M., Schechter A., Paepke O., Shropshire W., Christensen K., Birnbaum L. (2015) Exposure assessment of adult intake of bisphenol A (BPA) with emphasis on canned food dietary exposures. <https://doi.org/10.1016/j.envint.2015.01.008>

³⁹ Konieczna A., Rutkowska A, Rachoń D. (2015) Health risk of exposure to Bisphenol A (BPA). *Rocz Panstw Zakl Hig.* 66(1):5-11.

⁴⁰ Ostojic, Natalija, 2016. UNDP "*Health Risks and Impacts of Hazardous Chemicals in Products on Women and Children*"

⁴¹ Women in Europe for a Common Future. 2015. "*Women and Chemicals: the impact of hazardous chemicals on women.*"

⁴² Women in Europe for a Common Future. 2015. "*Women and Chemicals: the impact of hazardous chemicals on women.*"

⁴³ FDA at <https://www.fda.gov/Cosmetics/GuidanceRegulation/LawsRegulations/ucm074162.htm>

⁴⁴ Ministry of Health and Family welfare at <http://cdsco.nic.in/writereaddata/Drugs&CosmeticAct.pdf>

⁴⁵ Kingham, R., & Beirne, L. (2011). *Cosmetics Regulation in the United States and the European Union: Different Pathways to the Same Result. Food and Drug Law, Regulation, and Education*. Retrieved 2017, from <http://www.cosmeticsinfo.org/sites/default/files/CosmeticRegulations.pdf>

Domestic work using household cleaning products can lead to exposure to a wide range of chemicals. Common cleaning substances, such as bleaches, ammonia and various cleaning fluids containing solvents, may cause irritation of eyes and lungs, give off poisonous gases when combined with each other, and—in the case of some cleaning solvents—are suspected carcinogens⁴⁶. Homecare products are largely unregulated and inadequately tested⁴⁷. As domestic accidents are relatively common, particularly amongst older women and in older houses, the home can become an unhealthy working environment for domestic workers⁴⁸. Yet, as gender roles change in some cultures, this issue affects a bigger part of the population and is starting shift from becoming less of a women’s issue to more of a product issue.

Efforts to label and classify chemicals help consumers make informed choices. There are many industries that are already responding to the calls for the sound management of chemicals and supporting, for example, household decision-making. For example, Target, the second largest retail store in the United States, unveiled a Sustainable Product Standard that will rate thousands of personal care, baby care, and beauty products, as well as household cleaners to identify chemicals of concern⁴⁹. The policy was developed in partnership with industry experts, vendors, and NGOs⁵⁰.

4. Women and the Strategic Approach emerging policy issues and other issues of concern⁵¹

Within the SAICM process, a set of emerging policy issues and other issues of concern have been identified. The following list highlights the identified issues and provides some reflection on possible linkages to gender:

Emerging policy issue / other issue of concern	Gender aspects
Lead in paint	Lead is a toxic metal that is widely used in many different sectors and has caused environmental contamination and extensive public health problems in many parts of the world ⁵² . Children are especially vulnerable to lead and exposure can lead to profound and permanent adverse health effects. Furthermore, lead also causes harm in adults, including

⁴⁶ WHO 1999. *Women and Occupational Health: issues and policy paper for the global commission on women’s health*.

⁴⁷ UNEP 2016. *Global Gender and Environment Outlook*. UN Environment, Nairobi, Kenya

⁴⁸ WHO 1999. *Women and Occupational Health: issues and policy paper for the global commission on women’s health*.

⁴⁹ Lascher, B. (2013, December 18). Target aims for healthier products under veil of secrecy. Retrieved August, 2017, from <https://www.theguardian.com/sustainable-business/target-sustainable-products-standard-health-chemicals-regulation>

⁵⁰ Lascher, B. (2013, December 18). Target aims for healthier products under veil of secrecy. Retrieved August, 2017, from <https://www.theguardian.com/sustainable-business/target-sustainable-products-standard-health-chemicals-regulation>

⁵¹ This section is developed following a request at the first intersessional process considering the Strategic Approach and the sound management of chemicals and waste beyond 2020. The SAICM Secretariat was requested to develop a document exploring the relationship between women and chemical safety as it relates to emerging policy issues and issues of concern.

⁵² WHO and UNEP 2011. *Operational framework - Global Alliance to Eliminate Lead Paint* at http://www.who.int/ipcs/assessment/public_health/framework.pdf?ua=1

	<p>workers. As of today, there is no known level of lead exposure that is considered to be safe⁵³.</p> <p>The human fetus is vulnerable to the effects of lead; therefore, pregnant women are a vulnerable group due to their ability to transfer lead to the fetus. Lead can also be transferred through breast milk from a nursing mother. As noted by the WHO, "<i>Exposure of pregnant women to high levels of lead can cause miscarriage, stillbirth, premature birth, low birth weight, and minor malformations.</i>"⁵⁴</p>
Chemicals in Products	<p>The Chemicals in Products programme promotes transparency of information in supply chains, empowering everyone from the manufacturer to the consumer in decision-making. The programme is currently focused on, but not limited to, the following sectors: textiles, toys, building materials, and electronics. The Chemicals in Products programme is an important entry point for working with specific downstream sectors in the SAICM context. By engaging with consumer product sectors, there are opportunities to empower workers and consumers, for example, to understand potential exposures to chemicals and to target initiatives to empower particular vulnerable groups.</p> <p>Because of largely gender segregated labour markets, there are many occupations involving chemicals that affect either women or men to a larger extent. For instance, the garment industry heavily employs women and is noted for chemical use and pollution⁵⁵.</p>
Hazardous substances within the lifecycle of electronic products	<p><i>"The manufacture of electrical and electronic products relies on and uses more than a thousand chemicals and other materials, many of which are known to be hazardous and lack comprehensive toxicological health and safety information due to weak regulatory policies."</i>⁵⁶ In shifting to Latin America and Asia, the electronics industry, which in some specific countries consists of women as the primary labor force for low-skilled jobs⁵⁷, has continued to expand to areas with limited capacity for sound management of chemicals.</p> <p>In the field of electronic waste collection, <i>"there is not even a reliable profile of workers in the global e-waste industry; anecdotal evidence indicates high involvement of women and children, but the nature of the e-waste varies considerably from place to place"</i>⁵⁸. These groups of workers are exposed to high levels of lead, cadmium, chromium, polybrominated diphenyl ethers, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons⁵⁹ through burning cables, acid baths, breaking equipment open and breaking apart soldered components⁶⁰.</p>

⁵³ WHO and UNEP 2011. Operational framework - Global Alliance to Eliminate Lead Paint at http://www.who.int/ipcs/assessment/public_health/framework.pdf?ua=1

⁵⁴ WHO at <http://www.who.int/mediacentre/factsheets/fs379/en/>

⁵⁵ Women in Europe for a Common Future. 2015. "*Women and Chemicals: the impact of hazardous chemicals on women.*"

⁵⁶ American Public Health Association (2012) Improving Occupational and Environmental Health in the Global Electronics Industry, Policy Number 20124 <https://apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/21/08/43/improving-occupational-and-environmental-health-in-the-global-electronics-industry>

⁵⁷ 7 Rana S (2013) Fulfilling Technology's Promise: Enforcing the Rights of Women Caught in the Global High-Tech Underclass. *Berkeley Journal of Gender, Law & Justice* 15:272-311
<http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1166&context=bglj>

⁵⁸ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya

⁵⁹ Grant K., Goldizen F.C., Sly P.D., Brune M-N., Neira M, van den Berg M., Norman R.E. (2013) Health consequences of exposure to e-waste: a systematic review. [https://doi.org/10.1016/S2214-109X\(13\)70101-3](https://doi.org/10.1016/S2214-109X(13)70101-3)

⁶⁰ Chen A, Dietrich KN, Huo X, Ho S (2010) Developmental Neurotoxicants in E-Waste: An Emerging Health Concern, *Environ Health Perspect* 119:431-438

Nanotechnology and manufactured nanomaterials	Since nanomaterials are still fairly new materials on the market, there are not many studies on gender implications, but toxicity studies in animals indicate that nanomaterials found in consumer products can impact their reproductive system. Titanium dioxide nanoparticles can cause ovarian dysfunction, affect genes regulating immune response, disrupt the normal balance of sex hormones, and decrease fertility ⁶¹ . Nanomaterials can also be found in food additives, cosmetics, and many consumer products ⁶² . The most common sectors using nanotechnology today are the medical/pharmaceutical (30%), chemicals and advanced materials, information and communication technologies, energy, automotive, aerospace, textiles, and agricultural sector (1%) ⁶³ .
Endocrine-disrupting chemicals (EDCs)	EDCs impact the hormone systems of men, women and children. The International Federation of Gynecology and Obstetrics noted that the global rise in non-communicable diseases (NCDs) as well as increased preterm births, low birth weight babies, and the early onset of breast development can be partially attributed to EDCs ⁶⁴ . Gender aspects of exposure to EDCs pertain to occupation, consumer products, waste management, education, and socio-economic status. Occupational exposures to EDCs may include agriculture, manufacturing facilities, and service jobs. A number of chemicals addressed under the Stockholm Convention are identified as EDCs due to their abilities to impact the hormone systems of both men and women.
Environmentally persistent pharmaceutical pollutants (EPPPs)	Sources of pharmaceutical pollution vary, and include drug manufacturing, disposal from households, hospitals, and nursing homes, large-scale livestock or poultry operations using hormones and/or antibiotics, and excretion through water sources ⁶⁵ . In terms of gender aspects and EPPPs, research results are still limited and the methods are limited to measure their impact since these pollutants are widely spread and rarely found in an isolated environment.
Highly hazardous pesticides (HHPs)	Agriculture is, relative to manufacturing and services, the most important source of employment for women in South Asia, East Asia and in sub-Saharan Africa ⁶⁶ . Pesticide use and application varies greatly from country to country and while it is predominately men who are exposed in some countries, women are the main workers on the fields in others ⁶⁷ . The reasons for these differences include cultural and social norms, educational levels and awareness ⁶⁸ . <i>“Women and men may be exposed to agricultural pesticides and related</i>

⁶¹Sun J, Zhang Q, Wang Z, Yan B (2013) Effects of nanotoxicity on female reproductivity and fetal development in animals models, *Int J Mol Sci* 14:9319 – 9337 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3676785/>

⁶²Senjen R, Foladori G, Azoulay D (2013). Social and Environmental Implications of Nanotechnology Development in the Asia Pacific Region. NTN (National Toxics Network Australia) / ReLANS (Latin American Nanotechnology and Society Network) / IPEN <http://ipen.org/sites/default/files/documents/Social%20and%20Enviro%20Implications%20of%20Nano%20Development%20in%20Asia-Pacific.pdf>

⁶³ Pitkethly M.J. (2004) Nanomaterials – The driving force. *Nanotoday*.

⁶⁴DiRenzo GC, Conry JA, Blake J, DeFrancesco MS, DeNicola N, Martin JN, McCue KA, Richmond D, Shah A, Sutton P, Woodruff TJ (2015) International Federation of Gynecology and Obstetrics opinion on reproductive health impacts of exposure to toxic environmental chemicals, *International Journal of Gynecology and Obstetrics* <http://dx.doi.org/10.1016/j.ijgo.2015> http://www.ijgo.org/sites/default/files/uploads/News/Final%20PDF_8462.pdf

⁶⁵ WHO 1999. *“Women and Occupational Health: issues and policy paper for the global commission on women’s health.*

⁶⁶ FAO 2011. *The Role of Women in Agriculture.*

⁶⁷ UNEP 2016. *Global Gender and Environment Outlook.* UN Environment, Nairobi, Kenya

⁶⁸ Gupta, C.D., Gupta, V.K., Nema, P. and Patel, J.R. (2012). ‘Gender differences in knowledge, attitude and practices regarding the pesticide use among farm workers: A questionnaire based study’. *Research Journal of Pharmaceutical, Biological and Chemical Sciences* 3(3), 632-639 https://www.researchgate.net/publication/289093240_Gender_differences_in_knowledge_attitude_and_practices_regarding_the_pesticide_use_among_farm_workers_A_questionnaire_based_study

	<p><i>hazards along different pathways. The health effects of chronic pesticide exposures on women and men vary considerably</i>⁶⁹.</p> <p>In addition to pesticide application, women particularly, perform many other agricultural tasks that create new routes of exposure, including weeding and thinning pesticide exposed crops, picking tea-leaves, picking cotton, harvesting, washing pesticide containers, and cleaning pesticide-contaminated clothing. The report produced from the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) process showed that in some countries, the gender division in farm activities has undergone important transformation and has tended to become more flexible. <i>“Women are now (also) in charge of tasks formerly performed only by men such as soil preparation, spraying and marketing. This requires women's access to additional skills and presents new risks to girls and women”</i>⁷⁰. Furthermore, the Global Gender and Environment Outlook noted that <i>“women may be at greater risk of adverse effects from pesticides partly because of lower literacy rates, as well as limited access to training and to personal protective equipment”</i>.⁷¹</p> <p>Understanding gender roles in agricultural communities can create opportunities to unpack root causes of unsustainable behaviour in communities and has potential to support transformational change. All efforts linked to agriculture are underpinned by SDG 2: <i>End hunger, achieve food security and improved nutrition, and promote sustainable agriculture</i>.</p>
Perfluorinated Chemicals (PFCs)	<p>Perfluorinated chemicals have been used since the 1950s as intermediates of surface protectors for various industrial and consumer applications⁷². They are for example used to make fabrics stain-resistant or water repellant, in coating of cooking pans, in floor polishes, and insecticides⁷³. During the last decade they have been recognized as highly persistent, potentially bioaccumulative and toxic and many have been detected worldwide in the environment, biota, humans and food items and especially in fish, polar bears and seals⁷⁴. PFOA and PFOS are the most frequently detected and enriched in the blood, lungs, liver and kidneys of the general human population⁷⁵. <i>“High levels of PFOS and PFOA are toxic for reproduction and development of the fetus and are potentially carcinogenic in animal tests”</i>. Elevated PFOA blood levels has also been linked with high cholesterol (hypercholesteremia), ulcerative colitis, thyroid diseases, testicular cancer, kidney cancer, preeclampsia, and elevated blood pressure during pregnancy^{76,77}. In communities living near chemical plants, PFOS and PFOA have been associated with preeclampsia, birth defects, and increased uric acid levels⁷⁸.</p>

⁶⁹ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya

⁷⁰ UNEP 2009. *Agriculture at a crossroads*.

⁷¹ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya

⁷² OECD(2013), OECD/UNEP Global PFC Group, Synthesis paper on per- and polyfluorinated chemicals (PFCs), Environment, Health and Safety, Environment Directorate, OECD.

⁷³ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya

⁷⁴ OECD(2013), OECD/UNEP Global PFC Group, Synthesis paper on per- and polyfluorinated chemicals (PFCs), Environment, Health and Safety, Environment Directorate, OECD.

⁷⁵ OECD(2013), OECD/UNEP Global PFC Group, Synthesis paper on per- and polyfluorinated chemicals (PFCs), Environment, Health and Safety, Environment Directorate, OECD.

⁷⁶ OECD(2013), OECD/UNEP Global PFC Group, Synthesis paper on per- and polyfluorinated chemicals (PFCs), Environment, Health and Safety, Environment Directorate, OECD.

⁷⁷ Webster, Glenys 2010. *“Potential human health effects of perfluorinated chemicals (PFCs)”*. National Collaborating Centre for Environmental Health.

http://www.nccch.ca/sites/default/files/Health_effects_PFCs_Oct_2010.pdf

⁷⁸ Webster, Glenys 2010. *“Potential human health effects of perfluorinated chemicals (PFCs)”*. National Collaborating Centre for Environmental Health.

http://www.nccch.ca/sites/default/files/Health_effects_PFCs_Oct_2010.pdf

In general, all of the emerging policy issues and other issues of concern have susceptibility and exposure considerations related to gender, though no on-going activities are formally identified within the Strategic Approach context.

Overall, the emerging policy issues and other issues of concern could benefit from a gender lens in work-planning, implementation and decision-making. This could include for example:

- Data-sets – Gender-disaggregated data is important. There are opportunities for supporting more effective environmental decision-making by strengthening the focus on developing, collecting and analysing gender-disaggregated data, indicators and other information (including at the intra-household level)⁷⁹.
- Gender analysis – Understanding gender roles in the relevant sectors can create opportunities to understand the root causes of unsustainable behaviour and has potential to support sustainable solutions.
- Women’s voices and leadership – Promoting gender equality in the science and research community linked to the emerging policy issues can empower women, consistent with SDG 5, and help to ensure that gender perspectives are incorporated into decision-making.

A full gender review across the current emerging policy issues and other issues of concern may be beneficial in designing the beyond 2020 framework, supporting the identification of gender-related opportunities and priorities in moving forward.

5. Gender Mainstreaming in the Project Cycle

A key initial step to incorporate gender-related aspects into project preparation is for country and strategy documents to reflect gender dimensions of representation, living conditions, resources, norms, and values, since they form the basis for developing sector programs and interventions.

Gender issues are often included in the project design, but can comparatively easily get lost in the implementation and monitoring and evaluation phase. Challenges due to inefficient gender related indicators can make follow through on gender mainstreaming challenging. Presently, health and educational programs and interventions have had the greatest success⁸⁰.

Gender considerations are now part of the project development process with funding agencies, such as the Global Environment Facility and the Special Programme on Institutional Strengthening at the national level for implementation of the Basel, Rotterdam and Stockholm Conventions, the Minamata convention and the Strategic Approach to International Chemicals Management (SAICM). There are a number of tools that can effectively support the mainstreaming of gender in the project cycle. UNDP, for example, offers tools that can be used regularly during project implementation particularly to make sure that the gender aspect is part of the project in all implementation stages.

5.1. Gender analysis

Gender analysis is a critical examination of how differences in gender roles, activities, needs, opportunities, and rights/entitlements affect men, women, girls, and boys in context. Gender analysis examines the relationships between females and males and their access to and control of resources and

⁷⁹ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya

⁸⁰ UNDP 2006. “*Evaluation of Gender Mainstreaming in UNDP*”.

the constraints they face relative to each other. This must occur during the project formulation phase. It is a necessary step to create the most effective strategies that take into account the particularities of the potential policy or program. Programmes and policies should include a component on women's empowerment to address the identified gap of women in decision-making roles. Gender analysis can facilitate the proper inclusion of women and men to transform power between individuals and social groups.

The collection of qualitative and quantitative gender-disaggregated data lays the foundation of increasing the inclusion of women and gender considerations. Interviews, pilot studies, sex-disaggregated national data, literature reviews, focus group discussions, surveys, consultations, and community and social mapping are all potential tools that can assist in increasing the visibility of gender considerations in decision-making and program formulation. Increased science and data on the health outcomes specific to women and men as a result of chemical exposure from occupational and domestic societal roles will help inform the policy-making process.

5.2. Gender indicators

Indicators are criteria or measures against which changes can be assessed. They may be pointers, facts, numbers, opinions or perceptions – used to signify changes in specific conditions or progress towards particular objectives⁸¹.

Gender norms vary depending on the local contexts, and it can be difficult to create indicators and measures in order to monitor the achievement of gender equality in policies and programmes. There are often benchmark goals that are important to measure and monitor for the overall policy or programme's success, however these measures are often limited due to systematic gender differences that impact the interpretations of the results during the evaluation phase.

Therefore, there are two approaches when creating gender indicators for gender disaggregated data. Quantitative indicators produce data with quantifiable results. This means that they focus on issues which can be counted, such as percentages of women and men in parliament, male and female wage rates, or blood mercury concentrations for school age girls and boys⁸². Quantitative data can also show changes in gender equality over time – for example, the number of women in management positions compared to men. Qualitative indicators capture human experiences, opinions, attitudes and feelings – for example women's experiences of the constraints or advantages of working in the informal sector, or parent's views, both male and female, on the importance of removing lead from paint⁸³. Often participatory methodologies such as focus group discussions and social mapping tools are used to collect data for qualitative indicators.

5.3. Communicating gender results

Creating a communication strategy where gender equality work and results can be communicated through regularly used channels can promote gender mainstreaming efforts, increase awareness, and raise advocacy efforts.

⁸¹ OECD at <http://www.oecd.org/dac/gender-development/43041409.pdf>

⁸² OECD at <http://www.oecd.org/dac/gender-development/43041409.pdf>

⁸³ OECD at <http://www.oecd.org/dac/gender-development/43041409.pdf>

Email, twitter, progress reports, and website pages dedicated to successful stories are all means of communication that work to reduce the information gap, support information exchange among stakeholders and show gender mainstreaming as a tool that is adaptive to different needs and realities among donors, policy-makers, communities and project staff.

6. Voices and leadership

Goal 5 of the 2030 Agenda for Sustainable Development to “*achieve gender equality and empower all women and girls*” is relevant to the sound management of chemicals and waste. In particular, SDG Target 5.5 is an entry point in addressing chemicals and waste, calling for “*women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life*”.

For decades, it has been demonstrated that women are under-represented in decision-making positions worldwide⁸⁴. At the same time, it has been shown that gender equality and diversity have beneficial effects on organizations, institutions and the overall economy⁸⁵. The need for comprehensive, multi-stakeholder and long-term approaches to sustainably attain women’s equality in public administration and, in particular, their participation in decision-making is becoming a pressing issue⁸⁶.

The inclusion of women in decision-making roles is helpful in managing the complexities of chemical risks for both genders. This is already recognized for SAICM with “equal participation of women in decision-making on chemicals policy and management” embedded in the SAICM Overarching Policy Strategy (OPS) paragraph 16.h.

Overall when equal representation is lacking, gender issues and considerations are more likely to be systematically neglected and gender perspectives and insights are more rarely entering or benefiting the discussion⁸⁷. To address root causes of unsustainable development, both gender analysis can help experts to represent stakes and interests⁸⁸. An increased role of women as decision-makers at the national level could also help recognize and understand the complexities of chemical and waste in occupational settings.

The Global Gender and Environment Outlook (GGEO) concludes that it is essential to promote and support women’s voices, leadership and organization. “*The science, technology, engineering and math (STEM) disciplines are particularly important in environmental management and in promoting gender equality along the environmental and science expertise pipeline, but they are highly gender unbalanced. Gender equality also needs to be addressed in the agricultural extension, forestry, water*

⁸⁴ UN Women at <http://www.unwomen.org/en/what-we-do/leadership-and-political-participation>

⁸⁵ Profeta Paola, 2017. Gender Equality in Decision-Making Positions: The Efficiency Gains, *Intereconomics* at <https://doi.org/10.1007/s10272-017-0640-4>

⁸⁶ UNDP, 2014, Gender Equality in Public Administration at http://www.undp.org/content/undp/en/home/librarypage/democratic-governance/public_administration/gepa.html

⁸⁷ Hemmati, M. & Bach. A. 2017. Gender and Chemicals: Questions, Issues, and Possible Entry Points. Berlin: MSP Institute

⁸⁸ Hemmati, M. & Bach. A. 2017. Gender and Chemicals: Questions, Issues, and Possible Entry Points. Berlin: MSP Institute

*management and technical advisory fields, as well as in wildlife management, parks conservation and management, and training to carry out environmental and strategic impact assessments.*⁸⁹

Hemmati & Bach⁹⁰ set out the following statistics that illustrate some of the challenges with respect to underrepresentation of women in the field of chemicals and waste, noting in particular that large multi-national companies characterize the chemical industry and male executives dominate management positions in these companies. *“In 2016 women occupied 16.7% of a total of 430 board director seats and 14.2% of 402 executive positions of 42 large U.S. chemical companies. In the 13 largest European companies their share of supervisory positions is higher, with women occupying 28.6% of the 154 board seats, but lower for executive positions with only 10%⁹¹.”*

Furthermore, Hemmati & Bach note that *“While women’s representation is slowly increasing in the industry, international and multi-stakeholder processes like SAICM are necessary in order to highlight issues and questions that affect all. Ultimately, only equal access to transparent and well-governed decision-making, by all affected people and groups, can ensure that decisions are balanced.”⁹²*

Along with an increased role of women as decision-makers, there must also be increased resources as a vital tool in raising awareness in local and national governments. Improving and advancing in the development and implementation of gender-sensitive environmental policies relies on adequate funding and resources. Women as well as men still need information to work towards gender parity during the sound management of chemicals and waste.

7. Gender and the Strategic Approach

Currently in the Strategic Approach, the inclusion of women is highlighted as an important aspect through direct mention once in the Dubai Declaration, five times in the Overarching Policy Strategy, and twice in the Global Plan of Action. Women are referenced in both their biological roles and social roles as key populations that need equal participation and specific risk prevention measures. However, there is no statement of gender within these key documents. To date, there has been no formal review of women or gender and the Strategic Approach.

The Quick Start Programme (QSP) Impact Evaluation Report (2015) reported that the QSP projects did not explicitly and proactively ensure the participation of women. At the same time, the Impact Evaluation noted that gender is well balanced, although not explicitly reported at the Secretariat, Executive Board, and Focal Point level. The Impact Evaluation gives two concrete suggestions in line with UNDP's Chemicals and Gender publication in order to increase gender-related achievements within QSP projects: a) raising awareness of the linkages between chemical exposures, the effects on human health and the environment, and gender differences in risk, and b) promote a multi-stakeholder

⁸⁹ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya

⁹⁰ Hemmati, M. & Bach, A. 2017. Gender and Chemicals: Questions, Issues, and Possible Entry Points. Berlin: MSP Institute

⁹¹ Tullo, A.H. (2016): Women in industry 2016. Chemical & Engineering News, Volume 94, Issue 34 (August 29, 2016), pp. 22-25. <https://cen.acs.org/articles/94/i34/Women-industry-2016.html>

⁹² Hemmati, M. & Bach, A. 2017. Gender and Chemicals: Questions, Issues, and Possible Entry Points. Berlin: MSP Institute

approach to ensure the participation of women in policy development and decision-making⁹³. The report also highlights that there were civil society organizations (CSO) and agriculture-focused QSP projects that explicitly addressed gender differences in chemical exposure by looking at the differing roles of parents and children in the rural economy in places such as Kenya, Rwanda, and Uganda⁹⁴.

The overall global approach to address gender has evolved since the Strategic Approach was adopted by the First International Conference on Chemicals Management (ICCM1) in 2006. Some key developments at the global level include:

- The creation of the Network of Women Ministers and Leaders for the Environment and United Nations Environment Programme (UNEP) high-level gender forum, which was held at UN Environment headquarters, Nairobi, on 15 February 2009;
- Formation of the United Nations entity for gender equality and the empowerment of women called UN Women in July 2010 consolidating the Office of the Special Adviser on Gender Issues and Advancement of Women, the Division for the Advancement of Women (including the ECOSOC Functional Commission on the Status of Women CSW and the CEDAW Convention), the United Nations Development Fund for Women and the International Research and Training Institute for the Advancement of Women;
- Formation of UN-SWAP (UN system-wide Action Plan) which assigns common performance standards for gender-related work for all UN entities (2012 - 2017) (2018- 2023);
- The emphasis on gender equality in the 2030 Agenda for Sustainable Development, particularly sustainable development goal 5 to achieve gender equality and empower all women and girls.

8. Looking Ahead

One of the conclusions in a survey made by UN Women in 2014 was that a sustainable future can't be achieved without taking gender equality into account. The Sustainable Development Goals try to shift the progression of the 21st century, by addressing key challenges like for example poverty, inequality, and violence against women and girls⁹⁵.

Gender equality has already been committed to by governments through a number of multilateral environmental agreements and policies, notably the 2030 Agenda. It is important to ensure that gender equality is understood as more than just counting the number of women participating in a meeting to be able to implement those commitments. Actual development is required at the country level, starting with the integration of gender into national action plans, monitoring and reporting systems, prioritization of the collection and analysis of gender-disaggregated data, and gender budgeting.⁹⁶

⁹³ UNEP 2015. *Quick Start Programme Impact Evaluation Final Report*

<http://www.saicm.org/Portals/12/Documents/QSP/QSP%20Impact%20Evaluation%20Report.pdf>

⁹⁴ UNEP 2015. *Quick Start Programme Impact Evaluation Final Report*

<http://www.saicm.org/Portals/12/Documents/QSP/QSP%20Impact%20Evaluation%20Report.pdf>

⁹⁵ UN Women. SDG 5: Achieve gender equality and empower all women and girls. At

<http://www.unwomen.org/en/news/in-focus/women-and-the-sdgs/sdg-5-gender-equality>

⁹⁶ UNEP 2016. *Global Gender and Environment Outlook*. UN Environment, Nairobi, Kenya

The multi-dimensional aspects of the sound management of chemicals and waste provides opportunities to consider gender issues throughout the chemical life cycle in the multitude of ways, including⁹⁷:

- Exposures and susceptibility: recognizing that exposure, risk, and impacts can be different between the sexes.
- Gender, as a social category: linking to gender-specific norms of behaviour, roles in society as well as the development of ‘feminine’ and ‘masculine’ identities, which in turn influence people’s behaviour, including their impact on the environment, their affectedness by environmental degradation, and their access to and power over resources.
- Gender analysis: asking questions that help understand and unpack root causes of unsustainable behaviour and societies, and hence have a transformational potential.

To ensure more efficient and sustainable natural resources management as well as waste reduction, it’s important to understand women’s and men’s roles as potential agents of change at different levels as it helps finding pathways to equal opportunities and equal participation in decision-making⁹⁸.

Overall, there are many relevant stakeholders and sectors at the local, national, regional, and international level that can contribute and enable gender mainstreaming in chemicals and waste management. Key stakeholders include national governments, intergovernmental organizations, regulatory bodies, donor organizations, non-governmental organizations, women organizations, gender experts, industry associations, farmer organizations, media, consumers, employers, researchers, health professionals, workers and trade unions, indigenous peoples, local governments, and others.

Furthermore, the 2030 Agenda for Sustainable Development and SDG 5 provide new and renewed opportunities to incorporate gender into decision-making. In designing the future framework for beyond 2020, all stakeholders have the opportunity to tap into the potential to address gender issues, promote equality and protect vulnerable populations in the context of sound managements of chemicals and waste.

⁹⁷ Hemmati, M. & Bach. A. 2017. Gender and Chemicals: Questions, Issues, and Possible Entry Points. Berlin: MSP Institute

⁹⁸ UNEP 2016. Global Gender and Environment Outlook. UN Environment, Nairobi, Kenya

Appendices

Appendix 1 – Acknowledgements

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Appendix 2 – Terminology

Women in Development:

Women in development (WID) strategies advocate for women's projects or project components. The overall goal of WID was the integration of women into existing development processes.

Gender in Development:

Gender and development (GAD) evolved in the 1970s to challenge the focus of women as an important target group, to focus on the social roles and needs of women and men. This approach specifically acknowledges a distinction between the biological and social differences of men and women.

Gender mainstreaming:

Gender mainstreaming, an approach developed in the 1990s, refers to systematic differences between the conditions, situations, and needs of women and men in all policies and actions. The ultimate goal is to achieve gender equality.

Social mapping tools:

Social mapping is a visual method of showing the relative location of households, and the distribution of different types of people (such as male, female, adult, child, landed, landless, literate, and illiterate) together with the social structure and institutions of an area.

Appendix 3 – Selection of relevant United Nations documents

Title	Author	Overview
Global Gender and Environment Outlook (GGeo) (2016)	United Nations Environment Programme (UNEP)	Provides an understanding of gender issues and environmental assessment for decision-making. It gives an overview of certain SAICM focus areas such as pesticides. http://www.unep.org/ggeo
Policy and Strategy for Gender Equality and the Environment (2014-2017)	United Nations Environment Programme (UNEP)	This publication is a complete gender mainstreaming policy statement and operational framework to guide work in all UN Environment subprogramme areas. Downloadable from here: http://www.unep.org/gender/what-we-do/policy
Gender Action Plan of the Secretariat of the Basel, Rotterdam and Stockholm conventions (BRS-GAP) for 2016-2017	Secretariat of the Basel, Rotterdam, and Stockholm conventions (BRS)	The BRS Gender Action Plan was developed to ensure that the principles of gender equality are firmly embedded in activities undertaken by the BRS Secretariat in line with applicable UN and UN Environment gender policies. The updated Plan identifies specific actions to be implemented in the short to medium term (2016-17) which will enable the Secretariat to assess whether its activities impact men and women differently and if so, to take steps to rectify the situation. http://www.brsmeas.org/Gender/BRSGenderActionPlan/tabid/3652/language/en-US/Default.aspx
Gender Heroes: from grassroots to global action <i>a collection of stories featuring gender perspectives on the management of hazardous chemicals and wastes</i> (2015)	Basel Convention Rotterdam Convention Stockholm Convention (BRS)	These varied stories from around the world provide a snapshot of how gender perspectives are being incorporated into the sound management of chemicals and wastes. The stories featured in this publication bring forth a picture of grassroots action being taken around the world every day by individuals and communities to protect the most vulnerable segments of our population from the potentially harmful effects of certain chemicals and wastes. http://www.brsmeas.org/Gender/GenderHeroes/Overview/tabid/4748/language/en-US/Default.aspx
Mainstreaming Gender at the GEF (2015)	Global Environment Facility (GEF) World Bank Group	Literature and studies on gender mainstreaming recognize that failure to understand and address gender dimensions within environmental projects risks wasted development resources and negative effects on household welfare, women's equality, and environmental sustainability. Moreover, various studies, including an evaluation of gender conducted by the World Bank, find that project results are superior when gender considerations are integrated into the design and implementation of projects. https://www.thegef.org/sites/default/files/publications/Mainstreaming_Gender_Eng_3.pdf
Chemicals and Gender (2011)	United Nations Development Program (UNDP)	There is an established link between poverty and the increased risk of exposure to toxic and hazardous chemicals. Exposure of poor people to toxic chemicals is often strongly correlated to geography. Determined by social roles, women, men, and children are exposed differently to toxic chemicals in daily life. The differences include the kinds of chemicals encountered as well as the level and frequency of such exposures. http://www.undp.org/content/dam/aplaws/publication/en/publications/environment-energy/www-ee-library/chemicals-management/chemicals-and-gender/2011%20Chemical&Gender.pdf
Health Risks and Impacts of Hazardous Chemicals in Products on Women and Children (2016)	United Nations Development Program SAICM Republic of Serbia Ministry of Agriculture and Environmental Protection	This publication is set within a larger project to implement capacity building and strategic partnerships for chemical safety. This study on health risks for women and children will increase general awareness of chemical safety management among stakeholders. http://www.alhem.rs/wp-content/uploads/2015/12/gender-srpski.pdf (in Bosnian only)