United Nations Economic Commission for Europe (UNECE)

United Nations Development Account project
on Strengthening Social Inclusion, Gender Equality
and Health Promotion in
the Millennium Development Goals (MDGs)

Measuring Gender Equality in the Economy

Research Report 2009

UNITED NATIONS

Note

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The views expressed herein are those of the author(s) and do not necessarily reflect the views of the United Nations.

Preface

Progress towards achieving gender equality is measured by monitoring indicators associated with development goals, such as Millennium Development Goal (MDG) 3: "Promote gender equality and empower women". Regional differences and national priorities suggest that the core MDG indicators are not always enough to give a full picture of progress towards gender equality. This research report was prepared as part of the United Nations Development Account project 06/07B on Strengthening Social Inclusion, Gender Equality and Health Promotion in the Millennium Development Goals (MDGs), with the UNECE focus being on mainstreaming gender into economic policies. Based on suggestions made in an initial stocktaking study for the project, it explores the possibility of establishing a more comprehensive set of indicators for measuring gender equality in the economy.

Official statistics are vital for understanding economic progress at the national level. There is also a strong demand for the compilation of international, regional and sub-regional data, enabling the measurement of trends across boundaries and comparison of progress against other areas. To facilitate international comparison, common sets of indicators, definitions, classifications and methods are needed. Countries can benefit from aligning their statistical production with such common standards, both for comparability purposes as well as to increase the quality of official statistics.

This report looks at a number of different subject areas and makes suggestions about possible indicators for each of these areas. It is designed to provoke further interest and discussion on the possibility of obtaining additional indicator information. The monitoring of additional indicators is expected to provide policymakers with a better understanding of progress towards equality between men and women. It does not claim to cover every aspect of gender inequality, but it is hoped that the work takes the debate forward.

The report was prepared by the United Nations Economic Commission for Europe (UNECE) with particular assistance from Ursula Hermelink, Jessica Gardner, Nina Cesnocova, Angela Me, Enrico Bisogno and Heinrich Brüngger. The UNECE has expertise in many areas of statistics and its gender activities have for a long time sought to advocate gender equality in the economy.

Table of Contents

Introduction

Equality between women and men is a fundamental right and a common value of most countries. Although inequalities still exist, significant progress has been made over recent times in achieving equality between women and men. Gender equality in the economy is an important aspect of progress towards internationally agreed development goals.

The MDGs recognize the impact of gender equality on economic and social development. Of the eight goals, one focuses specifically on gender equality, with indicators relating to education, employment and decision making (see table 1).

Table 1 Official MDG target and indicators of gender equality

Goal 3: Promote gender equality and empower women	
Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	3.1 Ratios of girls to boys in primary, secondary and tertiary education 3.2 Share of women in wage employment in the non-agricultural sector 3.3 Proportion of seats held by women in national parliament

Gender is also reflected as a contributing factor to development in the other MDGs, with the specification that all indicators should be disaggregated by sex as far as possible.

Gender equality in the economy has many dimensions. In addition to understanding the extent to which the essential needs of food, shelter, health, education and employment are met, the contribution of women and men in the economy can be measured in more detail. The 68 official MDG indicators (see Annex 2) are fundamental to measuring progress, but they are not sufficient for an in-depth understanding of gender equality issues in economic terms.

In order to understand the role of women and men in the economy, and to measure the extent and impact of gender equality, more information is needed. This report suggests a number of additional indicators for monitoring progress towards gender equality and its economic impacts. They are grouped under the following topics:

1. Poverty reduction
2. Access to resources
3. Entrepreneurship
4. Access to the labour market
5. The labour market
6. Education
7. Reconciliation of work and family responsibilities
8. Social protection
9. Economic decision-making and public life

For each of these topics, this report suggests indicators to measure the impact that gender may have on economic progress, together with a rationale for their selection and an indication of data sources. Annex 1 provides a summary table of all suggested indicators.

1.   *Poverty reduction*

Suggested Indicators

    1.1.   Income of individuals by sex and age

    1.2.   Income of households, by sex and age of head of household

          a.   Income of single adult households, by sex and age

          b.   Income of single parent households, by sex and age of parent

    1.3.   Percentage of population living on less than $2 per day, by sex and education

    1.4.   Percentage of population living below the national poverty line, by sex and education

    1.5.   At-risk-of-poverty rate, by sex and age

    1.6.   Percentage of undernourished/starving population, by sex

Rationale for chosen indicators

There are many causes and consequences of poverty and therefore, many ways to measure it. In poverty research, income and consumption data at the household level are often used to establish who is "poor".[1] While the income of individuals is useful to show differences between women and men (indicator 1.1), it does not reflect transfers of income within households or provide a picture of household composition, aspects that have a major impact on poverty.

At the household level, statistics are often available for the head of household, making it difficult to obtain detailed information about gender differences. For this reason, the income of single adult households and single parent households are suggested to provide sex-disaggregated data.

It is necessary to set certain standards of what to consider a "sufficient" level of income or consumption. A common way to do so is to establish a *poverty line*, i.e. an income or consumption level below which a person is unable to meet basic needs and thus is considered to live in poverty. Poverty lines can be expressed in absolute or relative terms.

The poverty line proposed here is an absolute one, that is the amount of $2 a day (indicator 1.3), which is the median poverty line for the developing world in 2005 prices.[2] Alternative measures include the "$1 a day"-line put forward in MDG 1, target 1 ("Halve…the proportion of people whose income is less than a dollar a day"). This is sometimes referred to as measure of extreme poverty and defines people living on less than $1.08 a day (at 1993 international prices) as poor.[3] Finally, the revised international poverty line used by the World Bank is $1.25 per person per day (in 2005 prices) representing the average of national poverty lines for the world's poorest 10 to 20 countries.[4]

---

[1] In general, consumption is preferred to income for measuring poverty (United Nations 2003), yet, consumption data is not always available and so income can be used as alternative.
[2] Chen and Ravallion (2008)
[3] United Nations (2003)
[4] Chen and Ravallion (2008)

Most countries have defined their own poverty line, as poverty depends on social norms and living conditions of a society (indicator 1.4). The chosen benchmark can be both an absolute poverty line and/or a relative line, the latter being defined in relation to the overall distribution of income or consumption in a country, such as the at-risk-of-poverty rate (indicator 1.5), which is set at 60 percent of the median income. If the aim is to monitor the reduction of absolute-income (or consumption) poverty as required by the MDGs, it is preferable to use an *absolute* benchmark.

An alternative way to measure poverty is to define the threshold of when the "basic needs" are met in terms of food consumption only (indicator 1.6), thus restricting the concept of poverty to "under-nourishment" or "hunger". This excludes non-food components of basic needs such as clothing and shelter. While there is correlation between food consumption and income poverty, this alternative measure may give additional insights to what extent the nutritional requirements of good health are met. It also provides data for analysis of MDG target 1.C[5] "Halve…the proportion of people who suffer from hunger".

A minimum maintenance level of food energy consumption of 2,100 calories per person per day has been widely adopted. However, this estimate of energy needs is based on many assumptions and is therefore subject to variation depending on the demographic structure of the population, the climate, level of physical activity and the consumption culture in a country.[6]

In general, poverty depends on factors such as sex, age, educational level, household size and structure, so ideally, data collected for its measurement should be disaggregated by these factors.

Gender dimension

With respect to gender, data needs to be improved. It is frequently suggested that poverty has a female face, i.e., that the vast majority of the world's poor are women.[7] Against the background of generally higher unemployment rates of women compared to men, lower incomes and more employment in informal types of jobs, feminized poverty seems likely. The 1995 Beijing Platform for Action states that "*more than 1 billion people in the world today, the great majority of whom are women, live in unacceptable conditions of poverty...*"[8] and it is argued that "*women's poverty is directly related to the absence of economic opportunities and autonomy, lack of access to economic resources, including credit, land ownership and inheritance, lack of access to education and support services and their minimal participation in the decision-making process*".[9] However, empirical evidence on *feminized* poverty has so far been limited, mainly due to the lack of sex-disaggregated data. In contrast, there is some consensus that women are much more vulnerable than men to impoverishment during periods of transition or crises, thereby leading to a *feminization* of poverty during these periods.[10]

Data sources

Data can be collected directly from the population and households in household sample surveys or population censuses.

---

[5] The official list of MDG targets and indicators is available at
http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm.
[6] For a more detailed information on how to measure malnourishment and about the average minimum dietary energy requirements per country, please refer to the Food Security Statistics published by the FAO, notably:
http://www.fao.org/faostat/foodsecurity/Files/undernourishment_methodology.pdf and
http://www.fao.org/faostat/foodsecurity/Files/MinimumDietaryEnergyRequirement_en.xls.
[7] See e.g. UNDP (1995), United Nations (1996) and UNIFEM (2000).
[8] Beijing Platform for Action, §47.
[9] Idem, § 51.
[10] See e.g, UN (1995), Prokofieva (2000) and Moghadam (2005).

2. Access to resources

Suggested Indicators

2.1. Land owners, by sex

2.2. Land tenure, by sex

2.3. Dwelling ownership, by sex

2.4. Livestock owners, by sex

2.5. Ownership of cars, by sex

2.6. Share of population regularly using a computer, by sex and age group

2.7. Share of population regularly using internet, by sex and age group

2.8. Number of people receiving credit and micro-credit funding, by size of loan and sex

Rationale for chosen indicators

Ownership of and control over assets play an important role in the determination of the economic status of women and men. Many assets have income-generating potential and hence can contribute to poverty reduction and economic independence. They represent a store of value, and can provide safety in emergencies or crises when assets can be sold to bridge periods of economic difficulty. Land and housing assets help guarantee a minimum standard of living. Ownership of or decision making authority over assets also enhances social status and increases bargaining power. The types of assets included in the indicators are both tangible assets, such as land, livestock, housing, vehicles and credit, and intangible assets, such as knowledge, technology and networks.

Land, whether owned (indicator 2.1) or occupied on some other form of tenure (indicator 2.2), represents an important source of wealth. Also, especially in rural areas, it can represent self-employment possibilities and food production, thus contributing to food security and well-being. Furthermore, both land and dwellings (indicator 2.3) are forms of capital that can be used as collateral to secure loans and credit, funding for agricultural equipment or other productivity-enhancing investments. Finally, land and housing provide a secure place to live..

Livestock (indicator 2.4) is an important asset, particularly for the rural population. As well as contributing to nutrition and health of the owner, livestock can serve as financial instrument or savings account, where savings and accumulated capital can be stored and hedged against inflation.[11] While this may also be true for land and dwellings, livestock is a more liquid asset, as it can be bought and sold much more easily. This is especially important if access to standard financial markets is difficult or impossible (e.g. for the rural population, minorities and socially excluded).

Car ownership (indicator 2.5) is an indicator of mobility and has potential implications for the economic opportunities of the owner. With a car it is easier to locate and maintain employment as the distance to paid work is reduced and the radius in which paid work is searched for increases.[12] Furthermore, cars save travel time to work, schools, health care appointments, etc., thereby freeing time for other activities. This can, for example, impact on the labour force participation of women.

---

[11] Randolph et al (2007). See also Moll (2005).
[12] Raphael and Rice (2000), Cervero et al (2002)

In general, it has been suggested that access to private (as opposed to public) means of transportation is a key factor in determining economic inclusion.[13] While access to a car may be enough to reap the above-mentioned benefits, ownership has the advantage in that that there are no restrictions imposed on whether, when and for how long the car is to be used.

Computers (indicator 2.6) are another time-saving asset, which can substantially facilitate the management of resources, both in a household and business. Particular economic advantages arise when the computer is connected to the Internet (indicator 2.7). Having access to the Internet implies not only a direct and inexpensive means of communication, but also access to information, networks and education (e.g. in the form of distance learning).[14] This in turn can facilitate the search for jobs, enhance competitiveness of businesses and increase market outreach.[15] Moreover, with access to a computer and the Internet, the cost of bureaucratic procedures can be reduced. As an example, in some countries it is possible to fill in and submit an individual tax declaration via the Internet.

Finally, access to finance (indicator 2.8) is a determinant of economic inclusion and independence and a prerequisite for entrepreneurship. This is especially so where no collateral can be used to back up a loan, which is often the case for vulnerable groups, and micro-credit is the only funding possible.

Gender dimension

Access to assets has a clear gender dimension. Where gender-differentiated data exists, research shows that women face more obstacles to land ownership than men[16], men and women tend to own different animal species (women normally own smaller ones like goats and poultry)[17], women are less likely to own a car[18] and there is a gender divide in computer and ICT use.[19]

Improving women's access to assets has implications that go beyond improving their economic status. Economic independence implies more bargaining power and increased involvement in decision-making, not only within a household or family, but also in society at large. Thus it significantly contributes to women's empowerment and as such, to reaching MDG 3: "Promote gender equality and empower women". In addition, it has been shown that increases in the relative resources controlled by women generally translate into a larger share of household resources going to family welfare[20] and that the impact of borrowing, in particular micro-financing, on poverty reduction, children's schooling and nutrition is greater if women rather than men are the borrowers.[21] As a consequence, facilitating women's access to assets has important implications also for MDGs 1 (Eradicate extreme poverty and hunger), 2 (Achieve universal primary education) and 4 (Reduce child mortality).

---

[13] Dobbs (2005)
[14] UNDAW (2005)
[15] UNECE (2004)
[16] ICRW (2007)
[17] Swiss Agency for Development and Cooperation (2000)
[18] Peters (1999)
[19] UNDAW (2005)
[20] World Bank (2001), p.158
[21] World Bank (2001), Nader (2007), Khandker (1998)

Data sources

Data on ownership generally come from administrative data such as local administrations of municipal property: land, real estate, movable property, register of equity owners and others. Most data about the rural population and their land and livestock ownership will come from agricultural censuses or agricultural registers.

There is a wide disparity in the amount of data collected by countries reporting the availability of sex-disaggregated data on use of computers and the Internet. It ranges from countries, such as Finland, which collects extensive data on the use of new technologies to countries like Cyprus, where data on information and communication technologies (ICT) by sex consists of one ICT related question added to a regular Labour Force Survey. The optimal source would be a separate ICT survey. However, if the cost is prohibitive, a module may be possible to be added to existing household surveys. For most countries, information on computer availability in households is collected in household based surveys or population censuses.

There is no known statistics currently available on access to micro credit by sex. It may be necessary to launch negotiations with national banks regarding data collection of such information.

3.   Entrepreneurship

Suggested Indicators

3.1.   Self-employed as a percentage of total employed excluding agriculture, by sex

   a.   Share of own-account workers, by sex

   b.   Share of employers, by sex

3.2.   Percentage of enterprises managed by women/men, by size of enterprise and economic activity

3.3.   Percentage of managers of enterprises who received bank credit and/or state subsidies, by sex

3.4.   Percentage of farms managed by women

3.5.   Percentage of managers of farms who received financial support for development of agricultural activity, by sex

3.6.   Percentage of land owners who use agricultural machinery, irrigation systems, fertilizers, by sex

3.7.   Number of students involved in tertiary education in business, by sex

Rationale for chosen indicators

Entrepreneurship is a special form of economic activity and has received increasing attention during recent times. Examples include the Lisbon Strategy of the European Union, for which the promotion of entrepreneurship is one of the keys to competitiveness and sustainable economic growth[22], and the experience of economic development in countries such as India, which is believed to be at least partly attributable to the rapid growth of knowledge-intensive entrepreneurship.[23] There are many definitions of entrepreneurship and entrepreneurs.[24] For this report, the term "entrepreneurs" comprise the group of self-employed and managers.

Entrepreneurship can be motivated by necessity or opportunity.[25] The former is the case if, in absence of other economic opportunities, people are forced to sell self-made products or services in order to make a living. The latter is often the consequence of an innovative (business) idea that people pursue, not because circumstances force them to do so, but because they feel it to be an attractive alternative to their present economic activity (e.g. a job as an employee).

The number of self-employed as a percentage of total employed persons (indicator 3.1) shows the general importance of entrepreneurial activity in a country. However, the self-employed are a heterogeneous group ranging from micro-entrepreneurs (heads of "one-[wo]man-enterprises") to owners of small and medium-sized enterprises. Therefore, a distinction needs to be made between own-account workers (indicator 3.1.a) who are micro-entrepreneurs working without the help of any employees, and employers (indicator 3.1.b). More often than not, own-account workers are entrepreneurs by necessity (e.g. due to unemployment) and thus may have an important impact on poverty alleviation. In contrast, employers tend to be entrepreneurs by opportunity and can significantly contribute to an economy's employment, innovation and growth.

---

[22] European Commission (2003)
[23] Mani (2009), National Knowledge Commission (2008)
[24] Please refer to the definitions section for a short discussion on the definition of entrepreneurship.
[25] See e.g. Desai (2009) or Naudé (2008).

Ideally, data for employers should be disaggregated by number of employees (e.g. 1-5, 5-50, etc) or turnover in order to measure differences in the size of the enterprises owned and in the employment opportunities created. For indicators 3.1 and 3.2, data should be collected both as percentage of total employed and total self-employed and should be differentiated by gender (share of females in total own-account workers / employers / self-employed).

Indicators 3.2 and 3.4 deal with entrepreneurs in the urban versus rural context. They reveal the extent that the "glass ceiling" still exists for women, thus preventing them from reaching higher positions in an organization. They also reveal in which types of enterprises women tend to be more successful.

In order for entrepreneurial activity to be efficient, certain preconditions need to be met, notably access to finance, technology and education. The percentage of managers of enterprises (indicator 3.3) and of farms (indicator 3.5) receiving bank credit or state subsidies, disaggregated by the gender of the manager, shows any gaps between women and men in terms of access to financial resources. The percentage of land owners who use agricultural machinery, irrigation systems and fertilizers (indicator 3.6) highlights the technological aspect of rural entrepreneurship. The number of students enrolled in tertiary education in business (indicator 3.7) is an indicator of future potential for entrepreneurs and gives an insight into the educational aspects of entrepreneurship.

Gender dimension

Research based on gender-differentiated data shows that there is a strong gender dimension to entrepreneurship. According to the Global Entrepreneurship Monitor, men are about twice as likely as women to be involved in early-stage entrepreneurial activity in high-income countries. For countries in Eastern Europe and Central Asia, the gender gap is even larger.[26] Moreover, men are more likely than women to be an entrepreneur by opportunity rather than necessity.[27]

With respect to the types of enterprises, evidence suggests that women tend to run smaller businesses than men.[28] This seems at least partly due to the fact that women are more capital constrained, i.e., that they have more difficulties to obtain financing and if they do, they are often charged higher interest rates than men.[29] Similar patterns are observed in rural areas where women are under-represented as farm holders and tend to run smaller farms than men.[30]

Being an owner or manager of a rural or urban business implies not only economic independence but also a certain social status associated with decision-making power and being an employer. As a consequence, female entrepreneurship can contribute to strengthening the role of women in local communities.

Data sources

Countries that currently collect data on entrepreneurship and gender use various sources:
- Household Budget or Household Expenditure Surveys, where information, for example on status in employment and occupation of the household members can provide data on people who are self-employed, employers, managers or other leading positions

---

[26] Global Entrepreneurship Monitor (2007a)
[27] Global Entrepreneurship Monitor (2007b)
[28] Elias in UNECE (2009), Sabarwal and Terrell (2008)
[29] Muravyev et al (2007)
[30] See e.g. European Commission (2008).

- Enterprises surveys where information can be collected, for example, on owners or executive directors. Data collected through this source is not always gender-disaggregated since the focus is not on employees of the enterprise but rather to the enterprise itself.
- The Labour Force Survey (LFS) is a major source of data on entrepreneurship. The LFS provides data on numbers or percentages of women and men who are self-employed or in leading position (employers, managers or owners).
- Administrative data sources such as business or enterprise registers are a potential source. However, they have been traditionally developed for usage in economic statistics and gender is often not collected.
- Censuses, whether economic, population or agricultural, are a potential source of data.

There are other specialized studies carried out by the private sector, academic and non-governmental institutions, but they often do not have a national dimension and are ad hoc activities not integrated into the regular statistical programme of countries. These studies, however, can provide useful data, which may be more up-do-date and targeted at answering current or specific questions.

4. *Access to the labour market*

Suggested Indicators

4.1.   Employment rate by age group and sex

4.2.   Labour force participation rate, by sex

4.3.   Employment by economic activity and sex, %

4.4.   Employment by sex, level of education and age group, %

4.5.   Unemployment rate by sex, level of education and age group, %

4.6.   Part-time employment by sex, %

Rationale for chosen indicators

The indicators presented in this section are based on the International Labour Organization's (ILO) key indicators of the labour market. They reflect the extent that a country provides equal *employment possibilities* to women and men.

The employment rate (indicator 4.1), or employment-to-population ratio, provides information on the efficiency of an economy to provide jobs, as well as indicating how much of the population of a country is contributing to the production of goods and services[31] . It also shows how much employment potential is not yet utilized. As an alternative, the labour force participation rate (indicator 4.2) defines people actively looking for work as actively engaged in the labour market.

A breakdown of employment by economic activity (indicator 4.3) allows an insight into which sectors employment is concentrated (answering the question "*Where* do people work?"), while a breakdown by age group and education (indicator 4.4) reveals more about the characteristics of the employed.

The unemployment rate (indicator 4.5) measures the number of jobless that are actively looking for employment and is an indicator of a country's mismatch in labour demand and supply. Its disaggregation by sex, level of education and age is useful to discern the characteristics of the unemployed labour force and to identify groups of workers most vulnerable to unemployment.[32]

Measuring part-time employment (indicator 4.6) allows a more detailed analysis of the types of employment. While flexibility may be one advantage of part-time work, disadvantages such as lack of employment guarantee, lower hourly wages, ineligibility for certain social benefits and constraints related to professional training or career promotion opportunities, may exist in comparison to those employed full-time.[33] Again, a breakdown by age, sex and level of education reveals any systematic differences between certain groups.

---

[31] ILO (2007)
[32] idem
[33] idem

Gender dimension

Sex-disaggregated data on access to employment is necessary to detect possible gender segregation. The analysis of gender-differentiated statistics has repeatedly shown that, while increasing in many countries, the labour force participation of women is still lower than for men.[34] Given that the population is ageing in many countries, it is increasingly recognized that the inclusion of women is one of the main sources of potential new labour supply and that consequently female labour force participation should be further encouraged.[35]

Moreover, women's employment tends to be concentrated in certain sectors, mainly in services and occupations traditionally considered "female", such as nursing and teaching. This is often referred to as occupational or horizontal segregation.[36] Furthermore, within an occupational group, women normally hold lower-status and thereby lower-paid jobs, a phenomenon known as vertical segregation.[37] Linked to this is the fact that women are much more likely to work part-time than men[38] as this is often the only way to combine professional activity and family obligations.

In most countries, there are persistently higher unemployment rates for women than for men.[39] A breakdown of unemployment by education and age is useful to discern whether the age groups most affected by unemployment depend on gender and whether unemployment by educational attainment affects women and men differently.[40]

Data sources

The main sources of data are labour force surveys and population censuses.

---

[34] See e.g. Jaumotte (2003) and ILO (2009).

[35] See e.g. Burniaux et al (2003) and Bloom et al. (2008); see also Euwals et al (2007) on the effect of increased female labour force participation in the Netherlands.

[36] See e.g. ILO (2009) and Eurofound (2007).

[37] See e.g. ILO (2004).

[38] See e.g. European Commission (2009), Petrongolo (2004), Dolado et al (2002)

[39] ILO (2009).

[40] idem

5.   The labour market

Suggested Indicators

5.1.   Employment by activity, occupation and sex, %

5.2.   Average salary by sex and occupation, %

5.3.   Employment by status in employment and sex, %

5.4.   Share of employed in vulnerable employment by sex, %

5.5.   Workers in informal employment as % of total number of employed, by sex

5.6.   Number of occupational accidents, including fatal accidents, per 100 workers, by economic activity and sex

5.7.   Number of working children up to 16 years old, by sex

5.8.   Gender pay gap by economic activity, %

5.9.   Gender pay gap by level of education, %

Rationale for chosen indicators

While the previous section dealt with the *access to* the labour market, this section concentrates on *the situation* of the labour market, in particular with respect to wages and decent work. In order to determine the economic status of women and men, not only employment as such has to be considered For example, people could belong to the "working poor", i.e., not earn enough to make a decent living in spite of having a job, or they could find themselves in vulnerable employment. Thus, remuneration and working conditions have also to be taken into account when analysing women's and men's economic situation and differences between them.

In order to determine in which sectors and in what positions women and men tend to work, data on employment should be disaggregated by activity, occupation and sex (indicator 5.1). This allows any gender segregation of the labour market to be identified.

For most employees, wages represent the main part of their total income[41]. Thus the average salary by occupation (indicator 5.2) gives an indication of the living standards and conditions of work and life of different occupational groups. Differences in average wages can often be attributed to differences in education, training, qualifications required and different relative supply and demand conditions for the occupations.[42]

Another important aspect to take into consideration when analysing the labour market is the *decency* of work. In this context, it is useful to disaggregate employment by status of employment and sex (indicator 5.3). Special attention should be paid to the percentage of vulnerable employed. (own-account workers and contributing family workers) in total employment (indicator 5.4). As the ILO notes, "*in comparison with wage and salaried workers, contributing family workers, as well as own-account workers, are less likely to benefit from formal social protection, and more likely to face obstacles in*

---

[41] ILO (2009), Chapter 6
[42] idem

engaging in meaningful social dialogue with a view to improving working conditions or ensuring rights at work."[43] As a consequence, they are also more vulnerable to economic cycles.

Similarly, most workers in informal employment are not covered by labour legislations and social protection. The number of workers in informal employment as a percentage of all employed (indicator 5.5) allows the extent of a country's informal economy to be determined.[44]

The number of accidents per 100 workers (indicator 5.6) gives information about the risks faced by men and women in the workplace. The number of working children (indicator 5.7) shows the extent to which unacceptable forms of employment exist in a country. Moreover it is an indicator of the lack of access to education and can therefore be considered in the in the context of MDG 2 "Achieve universal primary education".

Gender dimension

In most countries, there are significant gender differences in employment, salary and working conditions.[45] As mentioned above, women's employment tends to be concentrated in certain sectors (occupational or horizontal segregation)[46] and in lower-status group, and thereby lower-paid, jobs (vertical segregation).[47]

Linked to the occupational labour market segmentation is the gender pattern of occupational accidents. In virtually all countries for which data is available, men are reported to be significantly more affected by accidents at work than women, which is often a consequence of occupational choice.[48] Therefore it is useful to classify occupational accidents according to economic activity.

Measuring the gender pay gap over time allows determination of the extent to which wage differentials between women and men are persistent across economic activities (indicator 5.8) and educational levels (indicator 5.9). Often, these wage differentials are a consequence of occupational and vertical gender segregation of the labour market[49], the distribution of time between paid and unpaid work (which is often more skewed towards unpaid work for women than for men) and differences in educational attainment[50] and job seniority. It may also to some extent reflect unequal treatment of women and men.[51]

With respect to employment conditions, women's economic self-determination and hence their status in society and within the family depends heavily on whether they find themselves in vulnerable and informal employment or formal wage and salaried work. According to the ILO, "*economic independence or at least co-determination in resource distribution within the family is highest when women are in wage and salaried work or are employers, lower when they are own-account workers and lowest when they are contributing family workers*".[52]

---

[43] ILO (2007), Chapter 1.B., p.4
[44] Depending on the national definition of "informal employment", this indicator may to some extent overlap with the previous one. See the section on definitions for more information.
[45] See e.g. ITUC (2008) and European Commission (2009).
[46] See e.g. ILO (2009) and Eurofound (2007).
[47] See e.g. ILO (2004).
[48] See e.g. data from Eurostat and ILO Laborsta.
[49] Only relevant for indicator 4.
[50] Only relevant for indicator 3.
[51] See e.g. European Commission (2006).
[52] ILO (2009), p. 11

Many studies of the labour market situation of women and men have shown that there is a decent work deficit for women globally, as illustrated by the higher share of women in informal and vulnerable employment in most countries[53]. Notable exceptions are the economies of the UNECE region, where at least with respect to vulnerable employment, women are in a better position than men.[54]

With respect to child labour it is recommended to disaggregate data by gender, and ideally also by economic activity and age groups, in order to detect possible systematic differences between boys and girls and to tailor policy responses accordingly. Available international data suggests that more boys than girls are affected by child labour.[55]

Data sources

The suggested indicators are available in the official statistics of many countries. The data source is usually labour force surveys and enterprise based surveys.

---

[53] See e.g. UNIFEM (2005) and ILO (2009).
[54] ILO (2009)
[55] ILO (2006)

6.   Education

Suggested Indicators

6.1.   Net enrolment ratio in education, by sex and education level

6.2.   Early school leavers, %

6.3.   Tertiary Students by field of study, type of programme and sex

6.4.   Educational attainment of the adult population (18-65 years old) by age group and sex, %

6.5.   Participation in life-long learning by age group and sex, %

Rationale for chosen indicators

From a macroeconomic point of view, education is one of the main factors contributing to labour productivity and hence economic development. It therefore plays a pivotal role in economic analysis.[56] From the individual point of view, the level of education is often a critical determinant of labour market opportunities and wages and, as a consequence, the economic situation of a person.

The net enrolment ratio in education (indicator 6.1) gives an indication of the educational level of the future labour force and allows measurement of unused potential. While enrolment in primary education is an official indicator for MDG 3, secondary and especially tertiary education are often more relevant in determining employment opportunities. It has been identified that early school leavers (indicator 6.2) face substantial disadvantages in the labour market as a lack of education often leads to much lower rates of employment.[57] With respect to tertiary education, it is often useful to examine the different fields and types of studies (indicator 6.3) chosen by groups in the population[58] in order to detect any systematic patterns in the choice and accessibility of studies.

The educational attainment of the adult population (indicator 6.4) provides an opportunity to assess the quality of human capital of the current working-age population. Ideally the indicator is disaggregated by age groups or at least separating the group of young adults (18-25 year-olds) from the others (26-65 year-olds), as the former is more likely to be still involved in education and may therefore distort the aggregate for the total working-age population in terms of highest educational attainment. As mentioned in previous sections, differences in employment rates and average wages can be partly attributed to differences in educational attainment.

Participation in life-long learning (indicator 6.5) is important for career development, enhances employability and job flexibility and therefore increases a person's adaptability to the labour market (especially in view of rapid technological changes).[59]

---

[56] See e.g, Barro (1997) and Mankiw et al (1992).

[57] See e.g. O'Shea and Williams (2001).

[58] In the context of this report, the focus is on gender, but as many others, this indicator can also be used to study educational characteristics of the urban/rural population, migrants, minorities, etc.

[59] See e.g. Gonon et al (2008) and Brown et al (2004).

Gender dimension

Systematic gender differences in education have a potentially strong impact on the labour market situation of men and women, thus educational indicators need to be differentiated by gender.

Evidence shows that in the UNECE region, primary and secondary school enrolment rates are nearly gender-balanced, whereas on a global scale, significant differences are still present with girls being disadvantaged vis-à-vis boys.[60] In contrast, where data is available, it indicates that more boys than girls belong to the group of early school leavers.[61]

In tertiary education, the gender distribution has changed dramatically over recent decades, especially in Western European countries where the former male domination in university enrolment has been replaced with slightly more women than men being enrolled in tertiary studies in most countries. Notable patterns emerge when data is disaggregated by field of study and gender. Existing data reveals that women tend to cluster in few fields of studies, such as education and health, and are under-represented in studies such as mathematics, engineering or science.[62] This shows that the occupational gender segregation of the labour market and the related gender pay gap mentioned in the previous section begins much earlier than upon entry into the labour force. Systematic collection of gender-disaggregated data enables measurement of the extent of this "educational segregation" and thus provides the necessary background information for the identification of its origins and possible policy responses.

Finally, differentiating educational data according to gender makes it possible to measure the extent that vertical gender segregation of the labour market may be due to systematic gender differences in educational attainment (indicator 6.4), types of programmes in tertiary education (indicator 6.3) and participation in continuing education (indicator 6.5).

Data sources

Most information comes from labour force surveys, population censuses, or specific collections from education institutions.

---

[60] United Nations (2008)
[61] See e.g. data available on Eurostat.
[62] UNECE database, Eurostat, UNESCO database

7.   *Reconciliation of work and family responsibilities*

Suggested Indicators

7.1.   Employment rate by age group, martial status and sex

7.2.   Couples by working pattern and age of youngest child

7.3.   Employment rate by age of youngest child and sex

7.4.   Employment rate by number of children under 16 and sex

7.5.   Time use structure by activity and sex

    a. Time use structure of employed persons by activity and sex

    b. Time spent in domestic activities by activities and sex

    c. Free time spent by activity and sex

    d. Number of hours spent in paid and unpaid work per week, by sex

        i. Number of hours per week spent on childcare and dependent adults, by sex

7.6.   Number of childcare facilities over the total number of pre-school children

7.7.   Cost of childcare

Rationale for chosen indicators

A challenge for many families, often influencing the decision whether and in what type of employment to work, is how to combine paid work with family responsibilities, such as housework, childcare and care of dependant adults. An aspect in the analysis of the distribution of paid and unpaid work is to identify possible differences in employment between married people and singles (indicator 7.1).

Martial status alone is not the main factor in changing the distribution of time spent on paid or unpaid activities. Therefore it is of particular interest to evaluate to what extent the presence and age of children affect the working pattern of parents (indicators 7.2, 7.3 and 7.4).

Time use statistics (indicators 7.5.a-d) offer insight into specific activities that people spend their time on. This information allows the detection of systematic differences between various groups[63], which may be the consequence of differences in labour market situations. For example, having a child is often the cause of cutbacks in the time spent on paid employment; and being active in volunteer work may be a consequence rather than the cause of not being in full-time paid employment.

In general, the indicators may assist in highlighting the amount of unpaid work carried out in a country and thus give some indication of its economic value. Without volunteer work, a number of organisations (NGOs, charities, cultural organisations) and events, such as sports and cultural events or community festivals would not exist. Furthermore, the time spent on childcare and

---

[63] As mentioned earlier, these indicators are not limited to measuring differences between women and men but are likewise applicable to study other groups, such as the urban and rural population for example.

education of children is a significant investment into the future of a country and benefits the whole population Care of dependent adults contributes to saving funds of public health systems.

Unpaid work does not only result in a lack of remuneration. People engaged in unpaid work are mostly not covered by pension and social security systems, thereby becoming economically dependent on others and at risk of old-age poverty, although the work they perform is of a significant value to the economy and society at large. To date, the economic value of unpaid work is widely under-estimated or not recognized at all.

Important indicators for an infrastructure facilitating the reconciliation of paid work and family responsibilities are the availability and affordability of childcare facilities (indicators 7.6 and 7.7).

Gender dimension

Differences between women and men in the labour market - with women being less participative in the labour force and dominating part-time and informal employment – can be attributed to the traditional gender roles of most societies, with family responsibilities continuing to fall in a disproportionate way to women. In order to measure the extent of this, accurate data is needed to show how martial status and the presence of children affect women's working pattern and whether a similar effect can be observed for men. Available data suggests that among 25 to 49-year-olds, the employment rate of married women is far lower than for unmarried women, while the contrary is true for men.[64]

Gender-disaggregated time-use statistics are particularly revealing with respect to the "double burden" for women. Traditionally, the division of duties within a family was clearly defined. Women took care of the housework, children and other dependants, while men spent most time in gainful employment (male breadwinner-female carer model). As mentioned in previous sections, during recent decades, more and more women have entered the formal labour market in many countries, both for reasons of economic independence (or emancipation) and out of necessity in order to ensure a decent family income. The role of women in many societies has changed and more women are now breadwinners.

Statistics on time-use help to provide evidence that women have not been relieved of household and care duties and as a consequence, working women risk to be left with the double burden of paid and unpaid work within a new "male breadwinner-female carer and breadwinner" structure, limiting their employment and career options. This illustrates that gender equality policy is not only about women, but should also take into account the role of men in society.

If it is true that women carry out more unpaid work than men, the under-estimation of the economic value of unpaid work may be one of the reasons for the lower status of women in many societies.

Data sources

Labour force surveys and time use surveys. While indicators 1-6 are well defined and can be collected relatively easily through labour force and time use surveys (and are already collected by many countries), no internationally agreed indicators exist to date measuring the cost and particularly the affordability (relative cost) of childcare. More work is therefore needed to explore this issue and agree on effective ways of measurement.

---

[64] UNECE gender statistics database (www.unece.org/stats/org).

8.   Social protection

Suggested Indicators

8.1.   Children/family-related allowances as percentage of total social security expenditure

8.2.   Old-age benefits as percentage of total social security expenditure

8.3.   Life expectancy at age 65 by sex

8.4.   Old-age population by age groups and sex

8.5.   Number of old-age pension beneficiaries as a percentage of the old-age population, by sex

8.6.   Average pension by sex, total and in agricultural and non-agricultural sector

8.7.   Average pension by martial status, age groups and sex of the beneficiary

8.8.   Average pension by number of children and sex of the beneficiary

8.9.   At-risk-of-poverty rate of older people, by sex

Rationale for chosen indicators

This section focuses on public spending and the role of the state in alleviating gender differences in economic status, particularly in old age. The percentage of children/family-related allowances in total social security expenditure (indicator 8.1) allows the examination of total social security spending of the "investment" in families and children. Data collected over time on old-age benefits and their weight in total social security expenditure (indicator 8.2) can serve as a comparison.

With respect to old-age benefits, the life expectancy at age 65 and the old-age population (indicators 8.3 and 8.4) summarize who are the possible beneficiaries and how long benefits can be expected to be paid. The number of old-age pension beneficiaries as a percentage of the old-age population (indicator 8.5) reveals possible gaps in pension coverage, while the average pension (indicator 8.6) allows estimation of the income of the elderly. In this context it is of particular interest to evaluate whether significant differences emerge in average pensions when disaggregated by martial status (indicator 8.7) and number of children (indicator 8.8).

The consequences of increasing longevity combined with limited pension benefits and coverage are summarized by the at-risk-of-poverty rate (indicator 8.9). If possible, this indicator should also be disaggregated by martial status and number of children in order to reveal potential differences in the risk of old-age poverty depending on family structure.

Gender dimension

A gender perspective in the analysis of social security is necessary for several reasons. Family benefits are often an important source of income, especially for single-parent households, most of which are headed by women.

Similar to the gender pay gap evident in the working-age population, there is evidence of a gender *pension* gap at old-age with women's pensions being, in general, considerably lower than men's. This is largely attributable to inequalities in the labour market[65] that directly translate into pension inequalities, especially where pensions are heavily dependent on lifetime earnings and caring

---

[65] See section 5 of this report.

activities do not lead to the accrual of pension entitlements. Against the background of the often lower retirement age of women, their higher life expectancy vis-à-vis men and the resulting asymmetry of the (old-age) population pyramid, means that women have to live with sometimes substantially less income than men while depending on old-age benefits longer and being more likely to live alone at old age (i.e. without possible help/care of a husband).

It is worth examining whether there are significant differences in women's average pensions depending on martial status, notably being divorced or widowed, or the number of children and whether the same differences can be observed for men. As an example, if a higher number of children is associated with lower average pensions for women, while little or no correlation is found with men's pensions, this would provide another indication that women rather than men are active in childcare at the expense of time spent on paid work and therefore on the accumulation of pension benefits.

Finally, a direct consequence of the previous points is a potential gender dimension in old-age poverty. Indeed, where data is available, it suggests that the women are much more likely to risk poverty at old age than men.[66]

The above-mentioned indicators shed light on the gender dimension of current design of pension systems and offer insights that provide inputs for discussions on possible pension reforms.

Data sources
Mostly administrative data, but sometimes population censuses and surveys.

---

[66] See e.g. data from Eurostat.

9.   Decision-making and public life

Suggested indicators

9.1.   Members of national parliament by sex

9.2.   Government ministers by sex

9.3.   Senior level civil servants by sex

    a.   Ambassadors by sex

9.4.   Members of municipal councils or other local area governing bodies by sex

9.5.   Judges by sex

9.6.   Members of the constitutional court by sex

9.7.   Central Bank board members by sex

9.8.   Number of members of executive boards of enterprises with more than 500 employees by sex

9.9.   Heads of universities by sex

9.10.   Police staff by sex

Rationale for chosen indicators

The status of women and men is strongly interlinked with the extent to which they are represented in decision-making and public life. Even though this report concentrates mainly on economic indicators, the indicators presented above are not restricted to purely economic decision-making such as Central Bank board members (indicator 9.7) and members of executive boards (indicator 9.8). Decision-making has been interpreted in its broadest sense, including the full range of legislative (indicator 9.1), executive (indicators 9.2-9.4 and 9.10) and judiciary power (indicators 9.5 and 9.6), thereby allowing a more holistic analysis of the representation of women and men in decision-making. Heads of universities (indicator 9.9) are added as a measure of women's and men's representation in public life.

Indeed, the patterns observed in the existing hierarchical structures of economic decision-making are not unique to the economic area, but rather a reflection of the prevailing culture throughout society. This implies that a significant improvement in the representation of women in one area (e.g. the legislative power) may very well spill over to other areas, including economics.

Gender dimension

In most countries, women are significantly under-represented in decision-making. As an example, only 21 % of members of national parliaments and 15 % of ambassadors in the UNECE region are women, while their share in Central Bank boards in many countries is often zero and rarely exceeds 30%. With respect to judges, the picture is more encouraging for the UNECE region. In Western European and North American countries, on average about two thirds of judges are men, while the opposite is true for former planned-economy countries.[67]

Achieving gender equality in decision-making is not just about "breaking the glass-ceiling". A higher incidence of women as decision-makers may influence decision-making itself. Indeed, some

---

[67] Based on data from the UNECE database for 2006-2008.

research suggests that women take decisions differently to men, that they have – partly due to their specific roles and situations - other preferences and therefore may give weight to other policy issues than men.[68] [69] The rationale behind this line of argument is summarized by the following statement that was made about female judges but which is equally applicable to women in decision-making in general. They "*bring an individual and collective perspective to [their] work that cannot be achieved in a system which reflects the experience of only a part of the people whose lives it [a]ffects.*"[70]

Thus, increasing the share of women in decision-making not only improves the status of women and sets an example for others to follow, but it may also affect the style of decision-making and the policy agenda of decision-makers.

Data sources

Labour force surveys, administrative data, business statistics, the information of national stock exchanges.

Almost all proposed indicators can be collected easily and on a regular basis in national statistical systems. The structure of executive boards of large enterprises is data that is not easily accessible for official statistics, however it can be gathered through the inclusion of specific questions in enterprise surveys.

---

[68] See e.g. Peresie (2005) and Songer and Crews-Meyer (2000) on decision-making in courts, Krogstrup and Wälti (2007) on women and budget deficits and Fehr-Duda et al. (2006) on gender and risk averseness.
[69] Anecdotal evidence for this claim is e.g. put forward in Corner (1997): "*An Australian woman politician recently pointed out that it was only when women entered the Australian parliament in significant numbers that issues such as childcare, violence against women and the valuation of unpaid labour were even considered by policy makers. As a result of these issues entering the agenda, Australia now promotes family-friendly employment policies, including work-based child care. It also recently undertook a nationally representative survey of violence against women collects time allocation data and is now using that data to try to incorporate the value of unpaid work in national policy making.*"
[70] In : Barteau (1997)

Conclusion

This paper proposes a significant number of indicators in a range of different areas. The suggested indicators have links to important policy matters related to gender equality and these links have been explored in the paper.

This current study has allowed for only limited analysis of the availability of these indicators. It is clear that some countries already collect these kinds of disaggregated data, although it is rarely used to give a comprehensive overview of gender equality and its economic impacts. It should be feasible to compile most of the indicators from existing data for most countries. As the data generally comes from regular statistical collections, it should be possible to monitor progress over time.

The following next steps are recommended:

1. Review and agree on this as a set of indicators for further analysis
2. Develop agreed definitions for each of the indicators[71]
3. Attempt to compile the indicators for a number of countries
4. Based on the experience from step 3, revise and refine the list of indicators
5. Compile and maintain a list of indicators for all countries

These indicators go beyond what is encompassed in the current MDGs. Once established, it should be possible to develop a set of targets so that the indicators can be monitored against these. This will raise the awareness of policy makers about gender equality issues and hopefully allow better targeted decisions to be made.

---

[71] A draft set of definitions, based on the authoritative international sources, has been compiled.

Bibliography

Barro, R. (1997), Determinants of Economic Growth: a Cross-Country Empirical Study, Lionel Robbins Lectures, Cambridge, Mass.: MIT Press

Barteau, B. (1997), Thirty Years of the Journey of Indiana's Women Judges: 1964-1994, *Indiana Law Review* Vol. 30, No. 1, Indianapolis: Indiana University School of Law (internal quotation marks omitted) (quoting Utah Supreme Court Justice Christine M. Durham)

Bloom, D., D. Canning and G. Fink (2008), Population Ageing and Economic Growth, PGDA Working Paper No. 31, Boston: Harvard School of Public Health

Brown, A. (Ed.) and PARTICIPA Project Consortium (2004), Participation in Continuing Vocational Education and Training (VET): a Need for Sustainable Employability – A State of the Art Report for Six European Countries, ITB working paper No. 38, Bremen: ITB – University of Bremen

Burniaux, J.-M., R. Duval and F. Jaumotte (2003), Coping with Ageing: A Dynamic Approach to Quantify the Impact of Alternative Policy Options on Future Labour Supply in OECD Countries, Economics Department Working Paper No. 371, Paris: OECD

Cervero, R., O. Sandoval and J. Landis (2002), Transportation as a Stimulus of Welfare-to-Work, *Journal of Planning Education and Research* 22: 50-63

Chen, S. and M. Ravallion (2008), The Developing World is Poorer than we thought, but no less Successful in the Fight against Poverty, Policy Research Working Paper 4703, Washington DC: World Bank

Corner, L. (1997), Women's Participation in Decision-Making and Leadership – a Global Perspective, in: **Asian Women in Cooperative Development Forum and ICA Regional Office for Asia and the Pacific (eds.)**: Women in Decision-Making and Co-operatives: Report of a Regional Conference; 7-9 May 1997, Tagaytay City, Philippines

Desai, S. (2009), Measuring Entrepreneurship in Developing Countries, UNU-WIDER Research Paper No. 2009/10, Helsinki: UNU-WIDER

Dobbs, L. (2005), Wedded to the Car: Women, Employment and the Importance of Private Transport, *Transport Policy* 12: 266-278

Dolado, J.J., F. Felgueroso and J.F. Jimeno (2002), Recent Trends in Occupational Segregation by Gender: A Look Across the Atlantic, IZA Discussion Paper No. 524, Bonn: Institute for the Study of Labour

Elias, G., Women's Self-Employment and Entrepreneurship in the UNECE Region, in: UNECE (2009): Gender Gap and Economic Policy, Geneva: UNECE

Eurofound (2007), Gender and Career Development, Report, Dublin: European Foundation for the Improvement of Living and Working Conditions

European Commission (2003), Green Paper on Entrepreneurship in Europe, Brussels: EC

European Commission (2006), The Gender Pay Gap: Origins and Policy responses – A Comparative Review of 30 European Countries, Brussels: EC

European Commission (2008), Agricultural Statistics – Main results 2006-2007, Luxembourg: Office for Official Publications of the European Communities

European Commission (2009), Equality Between Women and Men - 2009, Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Brussels: European Commission

Euwals, R., M. Knoef and D. van Vuuren (2007), The Trend in Female Labour Force Participation: What Can Be Expected for the Future?, IZA Discussion Paper No. 3225, Bonn: Institute for the Study of Labour

Fehr-Duda, H., M. Gennaro and R. Schubert (2006), Gender, Financial Risk and Probability Weights, *Theory and Decision*, Vol. 60, Issue 2: 283-313

Global Entrepreneurship Monitor (2007a), 2007 Executive Report

Global Entrepreneurship Monitor (2007b), 2007 Report on Women and Entrepreneurship

Gonon, P., K. Kraus, J. Oelkers and S. Stolz [eds.] (2008), Work, education and employability, Studies in Vocational and Continuing Education, Vol.4, Bern: Peter Lang Publishers

International Center for Research on Women [ICRW] (2005), Property Ownership for Women Enriches, Empowers and Protects, *ICRW Millennium Development Goals Series*

International Labour Office (2004), Breaking Through the Glass Ceiling – Women in Management, Geneva: ILO

International Labour Office (2006), Global Child Labour Trends 2000 to 2004, Geneva: ILO

International Labour Office (2007), Key Indicators of the Labour Market, Fifth Edition, Geneva: ILO

International Labour Office (2008), Child Labour Statistics, 18th International Conference of Labour Statisticians, Report III, Geneva: ILO

International Labour Office (2009), Global Employment Trends for Women – March 2009, Geneva: ILO

International Trade Union Confederation [ITUC] (2008), The Global Gender Pay Gap, Report, Brussels: ITUC

Jaumotte, F. (2003), Female Labour Force Participation: Past Trends and Main Determinants in OECD Countries, Economics Department Working Papers No. 376, Paris: OECD

Khandker, S.R. (1998), Fighting Poverty with Microcredit: Experience in Bangladesh, New York: Oxford University Press

Krogstrup, S. and S. Wälti (2007), Women and Budget Deficits, *HEI Working Paper* No. 13/2007, Geneva: HEI

Mani, S. (2009), The Growth of Knowledge-Intensive Entrepreneurship in India 1991-2007 – Analysis of its Evidence and the Facilitating Factors, Working Paper 409, Center for Development Studies, Kerala: CDS

Mankiw, G., D. Romer and D. Weil (1992), A Contribution to the Empirics of Economic Growth, *Quarterly Journal of Economics*, pp. 407-37

Moghadam, V.M. (2005), The 'Feminization of Poverty' and Women's Human Rights, SHS Papers in Women's Studies / Gender Research, No.2, Paris: UNESCO

Moll, H.A.J. (2005), Costs and Benefits of Livestock Systems and the Role of Market and Nonmarket Relationships, *Agricultural Economics* 32: 181-193

Muravyev, A., D. Schafer and O. Talavera (2007), Entrepreneurs' Gender and Financial Constraints: Evidence from International Data, Discussion Paper, DIW Berlin, German Institute of Economic Research

Nader, Y.F. (2007), Microcredit and the Socio-Economic Wellbeing of Women and their Families in Cairo, *Journal of Socio-Economics* 37: 644-656

National Knowledge Commission (2008), Entrepreneurship in India, New Delhi: National Knowledge Commission

Naudé, W. (2008), Entrepreneurship in Economic Development, UNU-WIDER Research Paper No. 2008/20, Helsinki: UNU-WIDER

O'Shea, C. and J. Williams (2001), Issues in the Employment of Early School Leavers, ESRI 159, Economics and Social Research Institute (ESRI) Research Series, Dublin: ESRI

Peresie, J.L. (2005), Female Judges Matter: Gender and Collegial Decision-making in the Federal Appellate Courts, *The Yale Law Journal*, Vol.114, Issue 7: 1759-1790

Peters, D. (1999), Gender Issues in Transportation: A Short Introduction, published in: UNEP Collaborating Centre on Energy and Environment (1999), Working Paper No. 9: Papers presented at the UNEP Workshop "Deals on Wheels: Sustainable Transportation Initiatives in Developing Countries", El Salvador, July 27-30, 1999

Petrongolo, B. (2004), Gender Segregation in Employment Contracts, CEPR Discussion Paper No. 4303, London: Center for Economic Policy Research

Prokofieva, L.M. (2000), Feminization of Poverty in Russia, Report, Moscow: World Bank

Randolph, T.F., E. Schelling, D. Grace, C.F. Nicholson, J.L. Leroy, D.C. Cole, M.W. Demment, A. Omore, J. Zinsstag and M. Ruel (2007), Invited Review: Role of Livestock in Human Nutrition and Health for Poverty Reduction in Developing Countries, *Journal of Animal Science* 85: 2788-2800

Raphael S. and L. Rice (2000), Car Ownership, Employment and Earnings, JCPR Working Paper, No.179

Sabarwal, S. and K. Terrell (2008), Does Gender Matter for Firm Performance? Evidence from Eastern Europe and Central Asia, IZA Discussion Paper No. 3758, Bonn: Institute for the Study of Labour

Songer, D.R. and K.A. Crews-Meyer (2000), Does judge gender matter? Decision Making in State Supreme Courts, *Social Science Quarterly*, Vol. 81, Issue 3

Swiss Agency for Development and Cooperation (2000), Livestock and Gender: A Winning Pair, Bern: SDC

United Nations (1995), Second Review and Appraisal of the Implementation of the Nairobi Forward-looking Strategies for the Advancement of Women, Report of the Secretary-General, New York: UN

United Nations (1996), The Beijing Platform for Action, New York: UN

United Nations (2003), Indicators for Monitoring the Millennium Development Goals, New York: UN

United Nations (2008), The Millennium Development Goals Report 2008, New York: UN

United Nations Development Fund for Women [UNIFEM] (2000), Progress of the World's Women 2000, Biennial Report, Chapter 4, New York: UNIFEM

United Nations Development Programme [UNDP] (1995), Human Development Report 1995, New York: Oxford University Press

United Nations Division for the Advancement of Women [UNDAW] (2005), Gender Equality and the Empowerment of Women through ICT, *Women 2000 and beyond*, New York: UN

United Nations Economic Commission for Europe [UNECE] (2004), Access to Financing and ICT for Women Entrepreneurs in the UNECE Region: Challenges and Good Practices, Geneva: UNECE

World Bank (2001), Engendering Development – Through Gender Equality in Rights, Resources, and Voice, Policy Research Report 21776, New York: Oxford University Press

Annex 1 - Indicators of gender equality in the economy

1. Poverty reduction

1.1.   Income of individuals by sex and age

1.2.   Income of households, by sex and age of head of household

    a.   Income of single adult households, by sex and age

    b.   Income of single parent households, by sex and age of parent

1.3.   Percentage of population living on less than $2 per day, by sex and education

1.4.   Percentage of population living below the national poverty line, by sex and education

1.5.   At-risk-of-poverty rate, by sex and age

1.6.   Percentage of undernourished/starving population, by sex

2.   Access to resources

2.1.   Land owners, by sex

2.2.   Land tenure, by sex

2.3.   Dwelling ownership, by sex

2.4.   Livestock owners, by sex

2.5.   Ownership of cars, by sex

2.6.   Share of population regularly using a computer, by sex and age group

2.7.   Share of population regularly using internet, by sex and age group

2.8.   Number of people receiving credit and micro-credit funding, by size of loan and sex

3.   Entrepreneurship

3.1.   Self-employed as a percentage of total employed excluding agriculture, by sex

    a.   Share of own-account workers, by sex

    b.   Share of employers, by sex

3.2.   Percentage of enterprises managed by women/men, by size of enterprise and economic activity

3.3.   Percentage of managers of enterprises who received bank credit and/or state subsidies, by sex

3.4.   Percentage of farms managed by women

3.5.   Percentage of managers of farms who received financial support for development of agricultural activity, by sex

3.6.   Percentage of land owners who use agricultural machinery, irrigation systems, fertilizers, by sex

3.7.   Number of students involved in tertiary education in business, by sex

4.   Access to the labour market

4.1.   Employment rate by age group and sex

4.2.   Labour force participation rate, by sex

4.3.   Employment by economic activity and sex, %

4.4.   Employment by sex, level of education and age group, %

4.5.   Unemployment rate by sex, level of education and age group, %

4.6.   Part-time employment by sex, %

5.   The labour market

5.1.   Employment by activity, occupation and sex, %

5.2.   Average salary by sex and occupation, %

5.3.   Employment by status in employment and sex, %

5.4.   Share of employed in vulnerable employment by sex, %

5.5.   Workers in informal employment as % of total number of employed, by sex

5.6.   Number of occupational accidents, including fatal accidents, per 100 workers, by economic activity and sex

5.7.   Number of working children up to 16 years old, by sex

5.8.   Gender pay gap by economic activity, %

5.9.   Gender pay gap by level of education, %

6.   Education

6.1.   Net enrolment ratio in education, by sex and education level

6.2.   Early school leavers, %

6.3.   Tertiary Students by field of study, type of programme and sex

6.4.   Educational attainment of the adult population (18-65 years old) by age group and sex, %

6.5.   Participation in life-long learning by age group and sex, %

7.   Reconciliation of work and family responsibilities

7.1.   Employment rate by age group, martial status and sex

7.2.   Couples by working pattern and age of youngest child

7.3.   Employment rate by age of youngest child and sex

7.4.   Employment rate by number of children under 16 and sex

7.5.   Time use structure by activity and sex

    a.   Time use structure of employed persons by activity and sex

    b.   Time spent in domestic activities by activities and sex

    c.   Free time spent by activity and sex

    d.   Number of hours spent in paid and unpaid work per week, by sex

        i.   Number of hours per week spent on childcare and dependent adults, by sex

7.6.   Number of childcare facilities over the total number of pre-school children

7.7.   Cost of childcare

8.   Social protection

8.1.   Children/family-related allowances as percentage of total social security expenditure

8.2.   Old-age benefits as percentage of total social security expenditure

8.3.   Life expectancy at age 65 by sex

8.4.   Old-age population by age groups and sex

8.5.   Number of old-age pension beneficiaries as a percentage of the old-age population, by sex

8.6.   Average pension by sex, total and in agricultural and non-agricultural sector

8.7.   Average pension by martial status, age groups and sex of the beneficiary

8.8.   Average pension by number of children and sex of the beneficiary

8.9.   At-risk-of-poverty rate of older people, by sex

9.   Decision-making and public life

9.1.   Members of national parliament by sex

9.2.   Government ministers by sex

9.3.   Senior level civil servants by sex

          a.   Ambassadors by sex

9.4.   Members of municipal councils or other local area governing bodies by sex

9.5.   Judges by sex

9.6.   Members of the constitutional court by sex

9.7.   Central Bank board members by sex

9.8.   Number of members of executive boards of enterprises with more than 500 employees by sex

9.9.   Heads of universities by sex

9.10.   Police staff by sex

Annex 2 – Official list of MDG indicators (mdgs.un.org)

All indicators should be disaggregated by sex and urban/rural as far as possible.

Effective 15 January 2008

Millennium Development Goals (MDGs)	
Goals and Targets **(from the Millennium Declaration)**	**Indicators for monitoring progress**
Goal 1: Eradicate extreme poverty and hunger	
Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	1.1 Proportion of population below $1 (PPP) per day[i] 1.2 Poverty gap ratio 1.3 Share of poorest quintile in national consumption
Target 1.B: Achieve full and productive employment and decent work for all, including women and young people	1.4 Growth rate of GDP per person employed 1.5 Employment-to-population ratio 1.6 Proportion of employed people living below $1 (PPP) per day 1.7 Proportion of own-account and contributing family workers in total employment
Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	1.8 Prevalence of underweight children under-five years of age 1.9 Proportion of population below minimum level of dietary energy consumption
Goal 2: Achieve universal primary education	
Target 2.A: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	2.1 Net enrolment ratio in primary education 2.2 Proportion of pupils starting grade 1 who reach last grade of primary 2.3 Literacy rate of 15-24 year-olds, women and men
Goal 3: Promote gender equality and empower women	
Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	3.4 Ratios of girls to boys in primary, secondary and tertiary education 3.5 Share of women in wage employment in the non-agricultural sector 3.6 Proportion of seats held by women in national parliament
Goal 4: Reduce child mortality	
Target 4.A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	4.1 Under-five mortality rate 4.2 Infant mortality rate 4.3 Proportion of 1 year-old children immunised against measles
Goal 5: Improve maternal health	
Target 5.A: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	5.1 Maternal mortality ratio 5.2 Proportion of births attended by skilled health personnel
Target 5.B: Achieve, by 2015, universal access to reproductive health	5.3 Contraceptive prevalence rate 5.4 Adolescent birth rate 5.5 Antenatal care coverage (at least one visit and at least four visits) 5.6 Unmet need for family planning
Goal 6: Combat HIV/AIDS, malaria and other diseases	
Target 6.A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	6.1 HIV prevalence among population aged 15-24 years 6.2 Condom use at last high-risk sex 6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS 6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
Target 6.B: Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it	6.5 Proportion of population with advanced HIV infection with access to antiretroviral drugs
Target 6.C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	6.6 Incidence and death rates associated with malaria 6.7 Proportion of children under 5 sleeping under insecticide-treated bednets 6.8 Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs 6.9 Incidence, prevalence and death rates associated with tuberculosis 6.10 Proportion of tuberculosis cases detected and cured under directly observed treatment short course

Goal 7: Ensure environmental sustainability	
Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	7.1 Proportion of land area covered by forest 7.2 CO_2 emissions, total, per capita and per $1 GDP (PPP) 7.3 Consumption of ozone-depleting substances 7.4 Proportion of fish stocks within safe biological limits 7.5 Proportion of total water resources used 7.6 Proportion of terrestrial and marine areas protected 7.7 Proportion of species threatened with extinction
Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	7.8 Proportion of population using an improved drinking water source 7.9 Proportion of population using an improved sanitation facility
Target 7.D: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	7.10 Proportion of urban population living in slums[ii]
Goal 8: Develop a global partnership for development	
Target 8.A: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system Includes a commitment to good governance, development and poverty reduction – both nationally and internationally Target 8.B: Address the special needs of the least developed countries Includes: tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction Target 8.C: Address the special needs of landlocked developing countries and small island developing States (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly) Target 8.D: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	*Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing States.* Official development assistance (ODA) 8.1 Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income 8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation) 8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied 8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes 8.5 ODA received in small island developing States as a proportion of their gross national incomes Market access 8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty 8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 8.8 Agricultural support estimate for OECD countries as a percentage of their gross domestic product 8.9 Proportion of ODA provided to help build trade capacity Debt sustainability 8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 8.11 Debt relief committed under HIPC and MDRI Initiatives 8.12 Debt service as a percentage of exports of goods and services
Target 8.E: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	8.13 Proportion of population with access to affordable essential drugs on a sustainable basis
Target 8.F: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	8.14 Telephone lines per 100 population 8.15 Cellular subscribers per 100 population 8.16 Internet users per 100 population

The Millennium Development Goals and targets come from the Millennium Declaration, signed by 189 countries, including 147 heads of State and Government, in September 2000 (http://www.un.org/millennium/declaration/ares552e.htm) and from further agreement by member states at the 2005 World Summit (Resolution adopted by the General Assembly - A/RES/60/1, http://www.un.org/Docs/journal/asp/ws.asp?m=A/RES/60/1). The goals and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries "to create an environment – at the national and global levels alike – which is conducive to development and the elimination of poverty".

---

[i] For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.
[ii] The actual proportion of people living in slums is measured by a proxy, represented by the urban population living in households with at least one of the four characteristics: (a) lack of access to improved water supply; (b) lack of access to improved sanitation; (c) overcrowding (3 or more persons per room); and (d) dwellings made of non-durable material.