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### Measuring Women's Empowerment: An assessment of the Gender-related Development Index and the Gender Empowerment Measure

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## *Measuring Women's Empowerment: an assessment of the Gender-related Development Index and the Gender Empowerment Measure*

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**Abstract** This paper describes work underway to enrich the present tools to measure women's empowerment — particularly the Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM). The authors are developing an African Gender and Development Index (AGDI) on behalf of the Economic Commission for Africa, which is to be launched in 2004. The paper begins with a discussion of gender and power concepts, and then introduces a Women's Empowerment Matrix as a tool to help link socio-cultural, religious, political, legal, and economic spheres. It then raises some of the difficulties related to the calculation of the GDI and GEM, which the authors are taking into account in the AGDI.

**Key words:** Gender, Monitoring, Measurement, Human Development Index, Gender-related Development Index, Gender Empowerment Measure

### **Introduction**

Ever since gender issues entered into the domain of policy, efforts have been made to monitor the progress of the interventions. In this paper, the major instruments constructed to monitor progress towards gender equality and women's empowerment at a global scale will be reviewed — the two indices the United Nations Development Programme (UNDP) developed in the mid-1990s, the Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM). This review of the GDI and the GEM is the prelude to the ongoing work on constructing the African Gender and Development Index (AGDI) that the two authors are involved in, on behalf of the Economic Commission for Africa. The article starts with a critical discussion of the concepts of gender, power and women's empowerment, as this underlies our assessment of the GDI and the GEM, and our work on the AGDI.

### **Gender and power: contested concepts**

The GDI and the GEM have been constructed to assess the measure of gender inequality at a global scale and to work towards women's empowerment. Yet, as we will argue, the central concepts deployed, gender, power and women's empowerment, have been underconceptualised. In the flow of debate that followed the introduction of the GDI and the GEM in 1995, these concepts have received little attention. In this paper, we will focus on this debate as well as on some other points that have received little attention; that is the use of international databases. Our work is the basis of the AGDI that the Economic Commission of Africa intends to launch in 2004.

In this paper the concepts of gender and women's empowerment are used in a holistic way, incorporating the full range of concerns with which women are confronted — from the physical to the socio-cultural, religious and legal realms, to political and economic issues (Wieringa, 1998). The development of the concept of gender as an analytical tool is one of the greatest gains of women's studies. Seeing the categories of 'women' and 'men' not as biological phenomena (sex), but as cultural constructions (gender), and thus as essentially unstable, has had major theoretical consequences. The concept of gender makes it possible to see both femininities and masculinities as being produced by and reproducing themselves in particular discursive patterns. It also allows the understanding of the wide variety of gender patterns, including the grafting of more than one gender upon one particular sex (Blackwood and Wieringa, 1999). Neither women nor men are homogeneous social categories; they are divided by class, age, race, ethnicity and sexual preference. These intersectionalities are complex and dynamic.

The approach of Scott (1989) is particularly useful. She sees gender as both social and political, embedded in discursive constructions, and suggests that gender operates in four inter-related configurations. First, in culturally available symbols that portray both womanhood and manhood. The prevalence of these symbols and myths is universal, but the symbolic arrangements themselves are culturally specific. Second, as normative concepts that usually operate in binary ways. Third, Scott notes that struggles over these concepts and symbols are political. This is most clearly seen in periods of great social or political upheaval, when gender relations can and sometimes are re-written. Finally, gender is an important part of one's identity.

Gender regimes, as other binary constructs, typically operate in a combination of three critical moments. In the first place a particular phenomenon, for instance bodily differences, is ontologically divided in two parts, in the case of human beings between females and males. Second, the variations within the two poles of this binary division are suppressed and homogenised ('all men are the same'). Finally, a hierarchy is created when one pole gets precedence over the other. In this way, differences that may initially not be all that significant become the basis of deeply embedded and hotly contested power formations. Thus, the similarities between women and men as human beings get downplayed, the differences stressed and then hierarchised — creating an ideological, material, political, economic and

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cultural system in which certain human beings classified as 'men' are seen as more valuable, and deserving of more rights and privileges, than human beings classified as 'women' deserve and get.

As gender is primarily a relation of power, it is important to discuss briefly what concept of power underlies our work on constructing the AGDI. Following Foucault (1972, 1976, 1980a, 1980b), power is not only understood as operating 'from above', but as permeating all discursive formations. In Foucault's work, power is perceived as being deployed at all levels of society, from interpersonal relations to the state level. The intentionality of power structures is not tied to individuals, as the power games acquire their own logic. The force relations operating at different levels are in eternal conflict. Confrontation and opposition are inherent; they are the inevitable effects of the power games.

People are not passive beings, but through exercising agency they have the power to address their conditions of life, either resisting or submitting to oppressive relations. They may both produce new (either more egalitarian or more oppressive) relations of power, and/or reproduce existing power structures (McNay, 2000). The distinction between compliance, support, resistance or submission depends on the level of consciousness people have about their lives, their political awareness of gender concerns, and on the material and symbolic strength of the power relations they are faced with, as well as on the interests that particular actors (both women and men) have or perceive they have in the current system of power relations. In this respect, it is important to mention that silence may constitute a critical dimension of power. That which is not spoken about also cannot be contested. In various countries, for instance, HIV/AIDS is an area in which publicly a culture of silence reigns; this is related to the taboo of speaking on sexuality. It is more accepted to link HIV/AIDS with disease, or to stress the economic connotations, than to talk about the ways the infection gets transmitted sexually and how people, in particular women, can be empowered to negotiate safe and responsible sex.

Power is the motor that creates and sustains, but also changes, hierarchies. The concept of power is complex. For the purpose of our assessment of the GDI and the GEM, and our subsequent work on the AGDI, the focus is on three ways of looking at power and power relations. First, the mode of operation is considered. From this perspective, three aspects of power can be distinguished. In the first place power can be oppressive, as in the case of women's oppression. This form of power can be exercised in a collective manner, as in various state institutions, or at an individual level, such as by a patriarchal male household head. But power can also be challenging, such as the forms of counterpower that women's movements worldwide form. Power can also be a creative force, not only in the sense of arts and culture, but also in the form of the realisation of one's individual potential. The processes of empowerment of both women and men is related to all three dimensions: exposing the oppressive power of the existing gender relations, critically challenging them, and creatively trying to shape different social relations.

Second, the conditions in which power appears is considered; that is, its mode of appearance. Power relations are pervasive. They operate not only on the level of state power, but also in intimate relations. Power relations operate at various levels of human existence. First of all power appears in various speech acts or written texts, ranging from laws, to political speeches, to newspapers, to educational material, to the way parents scold their children, or discussions among peer groups. Second, power relations operate at the level of institutions, such as the family, the law, the police or other armed forces, various religious or spiritual structures, but also in non-governmental organisations (NGOs), schools and human rights institutes. They can, finally, be seen at work at the level of the daily practices, of the individuals living in households, working in the various institutions already mentioned, in the activities carried out by state or non-state actors.

A third way of looking at power is to consider its mode of visibility. Lukes' (1986) theory on the three dimensions of power is relevant here. The first dimension he distinguishes refers to those processes that are manifest in open confrontations: the 'power to' effect changes. This kind of power can be exercised through the use of open force or, conversely, through open rebellion against oppression. This is the level that everybody will notice, the level of police violence, of demonstrations, of orders given by fathers to their daughters, and of the open rebellion by those daughters.

The second dimension relates to those processes by which one group manages to suppress certain conflicts, to prevent them being discussed. They are not even put on the agenda. This is a 'power over', and refers to many conflicts in which women's issues are involved; for instance, in getting childcare or other aspects of women's reproductive tasks recognised as a general social issue, related to women's work rather than to women's 'natural' caring tasks. Usually this kind of power operates within certain biases and assumptions that effectively serve to deny the validity of specific concerns or interests. It is more the absence of equality, rather than direct oppression. An example is the neglect of facilities for childcare, or proper schools, while a country has a strong army with well-paid officers. Women may recognise this injustice, but be powerless to do much about it.

With the third dimension of power, Lukes points to those invisible processes of latent tensions that are present when the 'real interests' of certain groups of people are being denied. These 'real interests' do not have to be recognised as such by the persons concerned, they also occur when certain issues are seen as "natural and unchangeable or because they are valued as divinely ordained and beneficial". Bourdieu (1977) calls this the level of the *doxa*, the 'common sense'. This is the level of the 'natural', that which is generally accepted, that which is never contested, not even experienced as unequal. This level of power operates when women, for instance, accept being beaten by their husbands for particular culturally accepted reasons, or when they devote themselves to their children at the expense of their own health, or when they accept being an unpaid family worker. They may even be proud of their suffering, for it is precisely this that makes them a good mother and an obedient wife, qualities they are

taught are the most important ones in their lives (not independence of mind, or a strong will). It is this level that is the most difficult to reach, because it is ingrained so deeply in the psyches of both women and men, often strongly supported by various institutions, such as legal structures, educational and religious institutions and the media. This is where power masquerades as silence, and as acquiescence, even in glorification of suffering. A major difficulty here is to determine what women's 'real interests' are. For the purpose of this discussion, we chose to focus here on those interests that lie with the full acceptance and implementation of the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW), including its Optional Protocol.

### **Women's empowerment**

In relation to the concept of women's empowerment, it is important to distinguish two aspects. In the first place, empowerment as a field of operation, its dimensions, its interlinkages, as well as its intersectionalities with other fields of power relations, such as those of race/ethnicity and class. To map out this field, the Women's Empowerment Matrix (WEM) was constructed (Wieringa, 1994). Second, women's empowerment can be seen as a process in which the following elements will be considered: awareness/consciousness, choice/alternatives, resources, voice, agency and participation. This dimension of women's empowerment is linked to enhancing women's ability to make choices over the areas in their lives that matter to them, both the 'strategic life choices' that Kabeer (1999) discusses and to choices related to daily life.

### **The Women's Empowerment Matrix**

The WEM is based on the perspectives on gender and power already outlined. It can be used both to map out the general gender issues at national level and to sketch the contours and demonstrate the interlinkages of gender issues related to specific issues, such as education, women's labour or HIV/AIDS. The WEM invites its users to look beyond a project or programme of immediate concern to the other levels/spheres with which it is linked. It emphasises the interconnections between the various spheres in which women's (dis)empowerment is acted out, and the levels on which this takes place.

The spheres distinguished are: physical, socio-cultural, religious, political, legal and economic (Table 1). The levels range from the personal to the global. The WEM does not indicate possible causal relationships or correlations. It is simply a tool that may help researchers or planners to get an overview of the area in which they are working, and to point to possible linkages with other areas. On the one axis, the various levels of women's subordination are presented; the other axis presents the various spheres in which women's subordination is acted out. The intersections in the field between these two axes indicate some of the multiple interconnections that

TABLE 1. Women's Empowerment Matrix

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	Physical	Sociocultural	Religious	Political	Legal	Economic
Individual						
Household						
Community						
State						
Region						
Global						

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are relevant to the topic being discussed. There are many ways of filling in the matrix, depending on the purpose for which it is used — awareness raising, planning, policy analysis, and so on.

For reasons of space, the WEM will not be discussed at length here. We give just one example to illustrate the interconnections discussed. A too narrow economic conceptualisation of gender may hinder a broader perspective on the various other aspects related to women's economic exploitation. If the economic sphere in the WEM is considered, the interconnections between the various levels, from the global to the personal, can immediately be recognised. Structural adjustment policies, trade liberalisation and other processes related to the present phase of globalisation, for instance, have a direct impact on the employability and wage levels of individuals, via processes of economic re-structuring. These are well-known issues and are often demonstrated. But more aspects spring to mind if the horizontal linkages are also considered. The link with the legal sphere is the first one encountered: labour laws, for instance, and especially their implementation. Further away, in the political sphere, one can think of freedom of organisation and speech. In the socio-cultural and religious spheres, the sexual division of labour, and the effects of religions such as Christianity and Islam are important factors of consideration. The link between the physical and the economic spheres can be illustrated by issues of sexual harassment at work, control over women's mobility and sexuality that may have an impact on their employability.

One of the major purposes of the matrix is to make theoreticians and practitioners in the field of women and development aware of the holistic nature of the specific issues with which they are dealing. This does not mean they will have to address all aspects with which it is related at the same time. Obviously, a matrix like this has clear limitations. Its nature as a matrix of women's empowerment leads to a focus on gender relations, rather than on relations of class or ethnicity (for which a similar matrix might be constructed), thus ignoring differences among women. Also the matrix in itself is only useful for qualitative purposes. It can only indicate areas on which quantitative data might be collected, but it cannot be used, as such, for purposes of quantification. It also does not in itself provide historical depth.

Another complicating factor is that the matrix should ideally be made three-dimensional, following the model outlined earlier to capture the mani-

fest, the latent and the doxa-related levels of power. This should enhance the awareness of the invisible aspects of the power relations under consideration, and to search for that which is commonly accepted, for the 'natural'. Only then may the many disguises of patriarchal power become visible: it is best hidden behind what women themselves agree with.

### **Women's empowerment as a process**

While the WEM calls attention to the interconnections between the various spheres and levels in which women's power is acted out, attention to these issues does not automatically lead to the process of empowering women. Women's empowerment is not a linear process. Increased visibility of gender inequalities, the disruption of 'common sense', may not automatically lead to women's empowerment. There is a whole range of behaviours from complicity to resistance. The motivation to change existing gender relations, even when they are perceived to be unequal, depends on many factors, related to women's subjectivities, their personal histories and the perceived costs and risks of transformation. In line with the complexities of the concepts of gender and power sketched earlier, all aspects of the process of empowerment have different dynamical moments. Women's empowerment as a process incorporates the following steps, which need not necessarily be taken in the order presented.

The first aspect of the process of women's empowerment that will be considered here is the issue of awareness, and consciousness. Awareness usually comes first at the manifest level of power relations, where women's subordination is most clearly visible and felt. Yet it is dependent on many factors whether this awareness of oppression can be translated into agency. These factors range from education to the existence of alternatives, and from political conditions to subjective factors such as inner strength and self-esteem. Yet as the history of feminism shows, and as the WEM illustrates, if women's agency is limited to concerns related to the manifest, visible level, and other levels are ignored, there is also a limit to what women's agency can lead. A good example is the struggle for women's political rights. Without equal rights women cannot participate fully in the economic, social and political spaces. Yet when women's subordination is left untouched on other levels, such as the subjective or the religious spheres, women will not allow themselves to make full use of their rights.

A second moment in the process of women's empowerment is the existence of alternatives. Women may be aware of the conditions of their oppression, but if they see no viable alternatives, if there are no choices available, they can only turn their anger inwards, into frustration and bitterness, or into (religious) acceptance of suffering. Women's capability to make meaningful decisions over critical areas of their lives depends to a large extent on the existence of alternatives to arrangements about which they are unhappy. These alternatives may exist at an individual level, in the form of exemplary women, or at a collective level, in the form of a successful form of mobilisation/action.



Related to this third dimension of empowerment is Kabeer's (1999) discussion on the linkages between resources, agency and achievements in relation to women's empowerment. She draws, among others, on Sen's (1985) work on capabilities; that is, the potential that people have for living the lives they want. This implies that women must be able to make choices and thus must have the resources to distinguish between various sets of alternatives. Kabeer focuses on what she defines as 'strategic life choices', related to marriage and children, residence, and choice of livelihood and friends. However, when women do make 'choices' in these areas, these may not always decrease their marginalisation or subordination, due to particular cultural constraints, in which women have come to accept particular forms of disempowerment as 'natural'. Also it can be very empowering for women to make choices in other, more daily, areas of life. It depends on the particular gender regime whether women's choices they make in everyday life are empowering or whether they are expected within a particular sexual division of labour in which women are only 'allowed' to make choices in those areas and not in others.

For a process of women's empowerment to be successful, women must have access to resources. It is here that policy, both of governments and of the private sector, can provide effective interventions. Resources can be of different kinds. Apart from the obvious economic and social variables, such as access to income and health, or various forms of training (management, accounting, leadership skills, gender training), physical resources, such as access to office space and legal instruments, including the potential to make use of them, are critical resources.

An important step in the process of women's empowerment is when women have a voice to discuss their grievances, when they enter the public and the political arena. Women may raise their voices in family councils, in village councils or in the national parliament. They may coin slogans, or publish newsletters. Or they may just start discussing their problems in the safe, closed circles of women's groups. This may concern individual women with strong leadership capacities, and/or the access to the necessary resources. Or women may raise their voices collectively.

A next step in the process of women's empowerment may be when women acquire agency, when they start acting on their own behalf. Agency may imply meaningful and purposeful intervention, the construction of something new. This 'new' thing may be at the personal level, when women fight to get an education, to start an enterprise, or to resist a marriage they do not want. Or it may be at the collective level, when women set up their own group, or collective, or carry out some research. Again, institutional help may be important, as well as access to various kinds of resources. But agency may not only lead to such positive outcomes. In situations where women accept the doxa level of gender regimes that construct men as inherently superior, women's agency may be turned against particular other interests of their own, or to other women who are in hierarchies of a different order (age, class, ethnicity) inferior to them. They may, for instance, accept limitations on their mobility or social contacts in order to be perceived

as 'good women', and force others (daughters) to do so likewise. Or, as mothers in law, they may suppress their daughters in law. Agency then starts with critical reflection and may involve resistance, but also bargaining, manipulation or deception, if overt resistance is perceived to be too dangerous.

Another level in the process of women's empowerment is when women are accepted as full and equal partners at all levels where decisions are made about their lives. Looking at the WEM, this effectively means that there are very few corners in social and political life that do not affect women's existence.

### **Global instruments: the GDI and the GEM**

The two major global instruments to indicate the gender gap in socio-economic and political development are the GDI and the GEM. In preparation for the Fourth World Conference on Women, which was held in September 1995 in Beijing, the Human Development Report Office (HDRO) of the UNDP devoted its annual report to women's empowerment. Equality, sustainability and empowerment are the three keywords the UNDP uses to analyse development efforts. In its analysis, the UNDP demonstrates that human development, if not engendered, is endangered, a conclusion that turned into a powerful slogan. Second, the UNDP stresses that women's emancipation, far from being dependent on national income levels, as is often assumed, actually is a political process.

Since 1990 the Human Development Report (HDR) has contained the Human Development Index (HDI), built on the work of Sen (1985) and others (Streeten *et al.*, 1981). The HDR is based on a concept of human development that takes enhancing human well-being, not the growth in national income, as its end goal. To achieve well-being, people's choices must be enlarged, by the formation of human capabilities (improved health, knowledge and skills). People must have the (economic) opportunities to make use of these capabilities and they must be empowered to have a voice in the major decisions that shape their lives. The HDI measures the average achievement of a country in what it calls 'basic human capabilities'. It indicates whether people lead a long and healthy life (longevity), are educated and knowledgeable, and enjoy a decent standard of living. Thus defined, development was no longer measured in economic terms only, by the usual indicator of growth and wealth, the Gross Domestic Product (GDP) per capita. The introduction of the HDI has had an enormous impact on development thinking. From the mid-1990s onwards, various developing and transition countries published their own development reports, in which this thinking was carried further. After 1995, many reports included gender concerns.

The GDI concentrates on the same variables as the HDI but takes note of inequality in achievement between women and men, related to the overall achievement in a society. The GDI, in focusing on the same indicators as the HDI — life expectancy, educational attainment and adjusted real income —

adjusts the HDI for gender inequality. In 1995, the HDRO also presented a second index, the GEM, which focuses on three variables that reflect women's participation in society — political decision-making, access to professional opportunities, and earning power. The GEM looks at women's representation in parliaments, women's share of positions classified as managerial and professional, women's participation in the labour force and their share of national income. In short, it attempts to capture women's political, economic and social participation.

In the ensuing debates, several points of critique were raised to the HDR in general. We will mention three issues in particular. In the first place, the dependence of the HDI on the GDP. This issue will be discussed at more length when we analyse the GDI. In the second place, the reliance on international datasets.

The world HDR privileges the international database against the national data because the follow-up of national processing was considered an impossible task at world level, due to the deadlines of the world report. Another reason given was the impossibility of gathering the basic data on which indicators were calculated. In other words only secondary data were gathered, which were checked and/or harmonised. Another reason why the UNDP report prefers to use international datasets, such as those of the International Labour Office (ILO), to national data is the view that the international databases that are prepared and updated by international institutions are fully harmonised and, consequently, more reliably comparable. This is highly debatable. Nobody will contest that the most detailed and recent data are available at national level, because their gathering and entry into an international database takes time and requires full examination and possibly adaptation. However, it is not necessary that such examination and modification is implemented at international level; it can be conducted at national level as well. And possibly better, for it is at national level that the choice between two or several different estimates for an indicator can be made with the most careful arguments and procedures. For instance, many countries calculate the adult literacy rate using the population of 10 years old and over as a denominator instead of those 15 years old and over. For comparative purposes this can be easily corrected using the national datasets, but it is more difficult to implement at the international level. The international database has not always completed this process of harmonisation either.

Another example that indicates that it is generally easier to make the necessary corrections in the country itself, rather than at international level, is the gross enrolment ratio that is used in both the HDI and the GDI. The Ministries of Education in developing countries generally use their own perspectives on school age population rather than the official figures based on the most recent population census. They consequently overestimate the enrolment ratio, and these data are often used in the international database. As for GDP estimates, several figures can co-exist in a country until a consensus is reached between national accountants, the government and the international financial institutions. Until this consensus is reached, there is no reason to consider that the financial institutions tell the truth against the other parties.

Another point of critique that has been made relates to the construction of the indices; that is, its composite nature. Both the GDI and GEM are based on simple arithmetic averages of the score of the three indicators used. However, if there is a wide variance (spread) of the indicators, the indicator with the largest variance weighs heavily in the overall index. This is the income variable, which, as we will discuss later, is already subject to much criticism (see also Bardhan and Klasen, 1999; Dijkstra, 2002). We shall discuss the individual indices in more detail.

### **GDI, scope and limitations**

The GDI and the GEM are valuable policy instruments, particularly because they allow a global comparison. Yet, as does the HDI, they demonstrate various limitations, beside those already mentioned. There are four other major points of critique on the GDI. Two problems are related to issues of validity; that is, the dependence on the GDP and the limited conceptualisation of gender in relation to the WEM. A third issue concerns the reliability of the individual indicators used. Finally, the GDI uses complex statistical calculations.

We will start with the latter issue. The GDI is not a measure of exclusive gender inequality, the absolute level of well-being is taken into account as well. Therefore, as Bardhan and Klasen (1999) write, the GDI is a special case of the HDI, adjusted for group disparity (in this case, gender disparity), to 'penalise' countries for these inter-group differences. It is assumed that countries have a certain level of 'inequality aversion'. This inequality aversion factor,  $\varepsilon$  is set at 2, so that  $1 - \varepsilon = -1$  (i.e. the harmonic mean). This implies that the harmonic mean is taken from the male and female achievements. The harmonic mean is then weighted with the female and male shares in population to get an 'equally distributed index'. The computation of its three components is based on the measure of the 'equally distributed equivalent achievement indicators' (Anand and Sen, 1995):

$$X_{cde} = (s_w X_w^{1-\varepsilon} + s_m X_m^{1-\varepsilon})^{1/1-\varepsilon}$$

where  $s_w$  and  $s_m$  are the respective shares of women and men in the concerned population,  $X_w$  and  $X_m$  the achievement indicators for women and men, and  $\varepsilon$  is a parameter expressing the aversion to inequality (for the GDI, this parameter has been chosen as moderate and is equal to 2).

Thus, by taking the harmonic means of two scores, the GDI is no measure of gender inequality. It is mixed with average achievements; namely, absolute levels of income, education and health. Bardhan and Klasen (1999) provide a critique of  $\varepsilon$ , which will not be repeated here. An intriguing issue is that the GDI as computed in this way punishes for gender inequality irrespective of whether female score (e.g. in education in certain countries) may be higher than male scores, as only the gap between the sexes is seen to matter (Dijkstra and Hanmer, 2000).

The complexity of this measure of calculation, coupled with the fact

that its computation is based on international datasets, effectively means that the control of the data is out of reach of many NGOs in developing countries.

The second point we stress is the dependence of the gender indices of the UNDP on the GDP. They thus measure general welfare rather than gender (in)equality in itself. Dijkstra and Hanmer (2000) computed a scatter plot of GDI against the natural log of real GDP (per capita) for 137 developing countries. Their findings demonstrate that the GDI and the GDP are closely correlated. This means that the level of gender equity is substantially 'explained' by the income level of a country. A major reason for this close fit is that the HDI itself is strongly positively correlated to GDP per capita (Dijkstra and Hanmer, 2000; citing Pyatt, 1992). Due to the close relationship between the GDI and the HDI, the GDI will also show that strong correlation. However, this is not surprising provided that the GDP is one of the three variables on which the HDI and the GDI are based.

Bardhan and Klasen (1999), using a different methodology, concur with the findings of Dijkstra and Hanmer, and point to another — much more striking — limitation, the over-importance of the income data in relation to the other variables of the GDI. They stress that the gap in education and mortality is rendered virtually meaningless by this dependence on the income variable. For most countries, the earned-income gap accounts for more than 90% of the gender penalty.

This result is much more embarrassing because it should be borne in mind that this income gap itself is an artificial construct, which bears little relevance to the actual situation in many developing countries: the income indicator used by the UNDP is based on the male-female difference in formal non-agricultural wages only. Moreover, the use of a 75% figure for female income as a share of male income, as the HDRs use for the majority of developing countries, is totally artificial: the figure is derived by taking as an average (non-weighted) the gender wage gap in 55 countries, one-half of which are developed countries (UNDP, 1995, p. 40). However, it cannot be used to measure the contribution of women to the GDP in countries where the agricultural sector and the informal sector represent more than three-quarters of the labour force.

As a matter of fact, the use of national data makes it possible to improve the use of the GDP indicator in several directions.

- Within the framework of the System of National Accounts (1993) and its narrow definition of 'work': the female to male non-agricultural wage gap can be used for developed countries but its use for developing countries means that not only rural wages, but also income derived from activities in the informal sector and from subsistence and reproductive activities are ignored. As it is likely that the male-female gap in these last sectors will be higher than in the more formal and controlled urban wage labour sector, a serious bias may be introduced here. Major improvements can be achieved when the GDP is calculated at national level. Not only is wage employment generally not the usual status in employment for the majority in developing countries, but even wage employment in the formal sector only covers a

part of total wage employment. The implementation of more and more informal sector surveys in developing countries and the more systematic measurement of informal employment (International Labour Office, 2002) through labour input matrices in national accounts make it possible to use more appropriate indicators for imputing female contribution to, or female share of, the GDP. A method for disaggregating the GDP by gender has been tested by Charmes (1998, 1999a, 1999b, 2001). This method is based on the procedures used to compile the GDP in national accounts, both with the production approach and with the income approach.

- Extending the definition of 'work' to domestic activities, the care economy and volunteer work also provides new dimensions in the measurement of the gender gap. Because women spend more time than men in these activities, which are not accounted for in the GDP and therefore do not contribute to the visibility of their actual role in the economy, the upward bias is at their detriment. Many time-use surveys are available in developed countries, and their recent implementation in developing countries provides ground for the construction of satellite accounts of household production, emphasising the invisible gender gap in the extended GDP.

More realistic gender gaps (and the GDI and the GEM) can then be derived from such exercises undertaken at national level, using national data, whereas they cannot be implemented with international databases. The engendering of national accounts and of macro-economic tools is a new program of the African Center for Gender and Development of the UN Economic Commission for Africa.

These points of critique are not new. Ever since Waring (1988) published her feminist critique on economics, feminist economists have been criticising many of the male biases operating in this field (see also Elson, 1995).

This problem may be compounded by inequalities in intra-household income distribution. Women's earning capacity does not automatically correlate with their spending capacity. In many countries, women spend a large amount of their income on their children, while men have more disposable income for themselves. Another bias in the opposite direction is the likely underestimation of the female share in employment, as women work relatively more in the informal sector or as 'unpaid family workers' in household enterprises. This may mean an underestimation of the female share in earned income. If in most countries the female-to-male wage gap is not in favour of women, the often higher female participation rate in informal, subsistence and reproductive activities could compensate for the gap in formal wages, so that this indicator, far from stressing gender inequalities in wages and income, would rather show the invisibility and underestimation of the actual contribution of women to the GDP and national income.

The second indicator of the GDI, health, is measured as life expectancy at birth. However, life expectancy is a stock variable and is not sensitive to short-term changes. Dijkstra and Hanmer (2000) therefore advocate that infant and child mortality rates, which are flow variables, be used. These data are better able to capture gender differences in health conditions.

Bardhan and Klasen (1999) point to the underestimation of the 'missing women' in the GDI and the GEM; the HDRs indicate that, globally, some 100 million women are 'missing' through such methods as female infanticide or sex-selective abortion practices.

In relation to the third variable, education, the way in which the UNDP computed this figure — a combination of the relative adult female literacy rate and the combined primary, secondary and tertiary gross school enrolment ratio — should also be questioned. The 'gross' (non-adjusted) ratio is used, so that countries with many over-aged school attendants are at an advantage in comparison with other countries where these categories are not taken into account. However, it is important to not only consider the number of years of schooling, but also to look at the quality of that education. The quality of state-provided education, for instance, may decline under conditions of structural adjustment, while private schools may be able to provide higher levels of education. In those cases, boys tend to be sent to the more expensive private schools.

Since 1995, the GDI has remained almost unchanged. The only adaptation that has been made is in response to the critique voiced by Bardhan and Klasen (1999) on the way the income indicator was computed. They suggested that average female and male incomes be discounted before the gap in earned income is computed. Formerly, the UNDP multiplied the harmonic mean of proportional income shares by average income. As of the 1999 report, the HDRO computes the harmonic means of the adjusted male and female average per-capita incomes. Dijkstra (2002) criticises this adaptation because it reduces the penalty for inequality at higher average levels of income, while these penalties were equal under the old computation.

### **GEM, scope and limitations**

While the GDI simply is the HDI disaggregated for gender, the GEM is more ambitious as it aims to measure women's empowerment at a global scale. The GEM is built on three indicators. Two indicators measure the female share in political power (seats in parliament); managerial positions in the administrative and professional sectors. The third indicator refers to income. As with the GDI, the HDR does not measure simple relative shares that would measure inequality, but the population-weighted harmonic means. As Dijkstra (2002) remarks, as is the GDI, the GEM is not a direct measure of gender equality either, as the harmonic mean of female and male shares is higher than the female share.

The income variable is computed in a similar fashion as with the GDI. The only difference being that unadjusted per-capita income is used, as the UNDP views income here as a source of power and does not take its contribution to basic development into account. Dijkstra (2002) computed that the income component of the GEM is even more influenced by absolute levels of income than with the GDI.

Another reliability problem is political power as measured by women's

share of parliamentary seats. Parliaments are not always the locus of power in a country, and the use of a quota system, as in the former socialist countries, can hide underlying power mechanisms (Wieringa, 1997). Women's power base did not decrease dramatically, for instance, when after the fall of the Berlin Wall women's share in parliamentary seats dropped sharply in various former socialist countries. Rather, the number of seats women previously occupied masked the extent of women's subordination.

Apart from the reliability of particularly the income indicator, the major problem of the GEM lies in its validity as a measure of empowerment. The crucial question is on what understanding of power is the GEM built? How is empowerment conceptualised? If the GEM is mapped out on the WEM, the gaps become immediately clear. The GEM, which deals with the same concept as the empowerment matrix, only covers a part of the whole map. It is obvious that the two instruments are devised for different uses; the matrix does not allow for the quantification of the interconnections it demonstrates, and thus cannot be used for the global scale at which the GEM operates.

Yet a comparison is interesting, as it reveals two important issues. In the first place the GEM is not concerned with issues related to the body and sexuality, nor to religious, cultural or legal issues. Left out are issues of ethics, women's rights and care. The lack of consideration for the human rights dimension is striking, as other United Nations bodies, such as UNIFEM, do pay attention to this issue (UNIFEM, 1998). The GEM is not concerned with the violation of women's rights and does not measure, for instance, whether the United Nations CEDAW is ratified or adhered to. This is covered in the WEM boxes under the headings of 'legal' combined with 'international' and 'national'. We also referred to the importance of CEDAW in assessing the extent of invisible power. The 1995 HDR does list the countries that had ratified the CEDAW at the time, but the GEM itself does not include it (UNDP, 1995, p. 43).

The limited extent in which the GEM (and the GDI) manage to capture the relevance of gender ideology, and the workings of the gendered nature of power revealed in the empowerment matrix, is provided by the example of Barbados. This Caribbean island has the highest ratings of all developing countries (on the GDI, it is in place 11; its GEM ranking is 12); it is even performing better than the UK, Switzerland, Japan and France. Yet, as Barriteau (undated) concludes, these ratings "have not altered gender ideologies that view women as subordinate to men and that have become overtly misogynist" (p. 20). Women's advances in education and work are seen by men as the reasons for the poor performance of boys in schools and other problems men face, giving rise to a wave of misogyny. Also, as elsewhere, women are the majority of the poor, and women's unemployment rates are higher than men's.

## **Conclusion**

The GDI and the GEM are valuable instruments in the field of gender policy. However, it is possible to considerably increase the validity and reliability of



these indices. We suggest major improvements can be made in the following aspects. The GDI and the GEM do not measure gender inequality as such. Therefore, another measure is needed that does not rely on the GDP per capita and only indicates the gender gap. This measure should also cover many more aspects of gender relations than the ones on which the GDI and the GEM focus. The reliability of the indicators used can be enhanced by refining their definitions, and by using the national data available. If necessary, these data can be harmonised at national level. At the same time, there are many critical issues related to women's empowerment that escape quantification in the conventional sense. This includes issues such as the implementation of the CEDAW and other international documents, such as those drawn up after the major world conferences held in the mid-1990s, the social summit of 1994, the world conference on population in the same year and the world women's conference, held in Beijing in 1995. These issues can be dealt with in a way that is much more sensitive to the various elements related to women's empowerment discussed earlier. At the same time, care should be taken to make this instrument useful for NGOs and national machineries that are entrusted with drafting and implementing gender policies. In designing the AGDI, we have taken the presented concerns into account. The launching of the AGDI in 2004 will indicate how far we have been able to integrate some of those issues.

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