# Global Conference on the Unpaid Work and the Economy
**Gender, Poverty and the Millennium Development Goals**

**October 1-3, 2005**
**Bureau for Development Policy, UNDP and The Levy Economics Institute of Bard College, New York**


---

## A New Round of Time-use Studies for Africa: Measuring Unpaid Work for Pro-poor Development Policies


*Alfred A.R. LATIGO and Mohammed NEIJWA*
*United Nations Economic Commission for Africa (ECA), Addis Ababa, Ethiopia*



**Abstract**

African countries do not conduct regular time use studies, which are emerging as a very useful statistical tool for collecting detailed information about how individuals spend their time, on a daily and weekly basis as an input to estimating the value of paid and unpaid work as well as the size of labour force in a country. Only five African countries have by 2005 conducted time-use surveys – most of which have not provided timely and adequately the required gender disaggregated statistics, which are not fully comparable between and within countries and may therefore be difficult to replicate to other countries. There is now a strong sentiment from the international community that the lack of time use surveys in countries from which to measure the value of unpaid work is a significant data gap in statistical systems. Thus, the economic and social development discussions and policy decisions fail to account for all economic activity – they exclude the undeniably enormous value added of household production and care services. To redress these issues, ECA recently introduced in six African countries a new round of annual time-use surveys, which are cost-effective studies of a representative sample size of not more than 5,000 households per country. The surveys aim to provide a modern, scientific and cost-effective way to generate new, timely and more accurate figures of the complete economic system that would greatly enhance pro-poor policy formulation as well as improve modelling and forecasting of African economies towards achieving poverty reduction strategies and MDGs. The paper discusses the concepts and results of selected household surveys and their applications for preparing National Time Accounts (NTA) and National Satellite Accounts of Household Production (NSAHP). National Time Accounts for analysis of "time poverty" are presented along with NSAHP as the main framework for integrating gender perspectives and household production in national accounts, budgets and policies; and for constructing gender-aware micro-simulation and macroeconomic models. The paper then discusses the importance of unpaid work in development policy within the context of six critical policy areas: (i) policy for the reform of statistical systems: (ii) policies for promoting gender equality; (iii) policies for the enhancement of women's employment and income; (iv) policies for the enhancement of women's well-being and quality of life; (v) policies to reduce gender bias in macroeconomic policies; and (vi) policies to monitor impacts of policies on household production and poverty.

## 1.0 Introduction

Unpaid work is "non-market" work" or Household Production and Services" as defined in the 1993 United Nations System of National Accounts (SNA)[1]. The 1993 revision of SNA opened a door for the integration of household production and services in the national accounts framework. It introduced the concept of satellite accounts, which allow for the use of complementary or alternative concepts when needed to bring additional dimensions to the conceptual framework of national accounts (SNA 21.4b).

Household production, which results from the combination of unpaid labour, goods, services and capital include: (i) unpaid services for own final use (domestic and care-giving services); (ii) informal sector production of goods and services for own final use by unincorporated enterprises owned by households (subsistence production and other kinds of informal enterprises); (iii) unpaid volunteer/informal domestic and care-giving services to other households; and (iv) production of housing services for own final consumption (imputed rents of owner-occupied housing). It includes activity groups 7-10 in the United Nations Trial Activity Classification System.

Men and women perform unpaid work or household work but women appear to do more of it. Thus, unpaid work in the household sector or economy reflects a societal bias – a gender bias. It is now widely recognised that household production and services for which women provide most of the labour are significant. A UN report on measures of unrecorded economic activities in 14 countries (Goldschmidt-Clermont and Pagnossin-Aligisakis 1995) shows that unpaid work in households is of the same magnitude as paid work in the market. Estimates of the value of household work as a proportion of GDP has varied between 35-55%. Thus, the production of services for own consumption by households is a continuing large and growing part of the total economic system. It is most usefully considered as a separate economy, which is on an equal footing with the market economy. Ironmonger (Latigo A and Ironmonger, D, 2004) described the total economy as "a two-legged animal, with a market leg and a household leg - both are necessary for the economy to stand up, to walk and to run". Thus, there are two categories of production: market and non-market production falling within the boundary of the SNA and captured in GDP, while the household production measured by Gross Household Product (GHP)[2] - two economies exist side by side with a constant exchange between them.

Despite its importance, unpaid work is until now not systematically reflected in the main economic statistics used in research and policy making in African countries - **the national accounts and the official statistics of work**. The official national income data, for example, cover only about 60 percent of all valuable production and 50 percent of all work done in a society. They conspicuously omit household production.

## 2.0 Why measure unpaid household work?

The main reason for measuring unpaid work fits neatly in the common saying that "*if you cannot measure it, you cannot manage it*". If we cannot monitor or measure the two

[1] National System of Accounts (SNA) is an integrated framework based on a set of precise and consistent concepts and rules that pursue certain objectives

[2] Gross Household Product (GHP) is the total economic value added by households in household production (Eisner, 1989; Ironmonger, 1996)

economies, we cannot manage them to enhance their contribution to growth and poverty reduction. The fact that most of the household activities have not been counted in national accounts, perpetuates not only the myth that non-market work has not been contributing as much as the market economy to the total economy, but it also perpetuates gender inequality.

Emerging macroeconomic analyses for example on Africa by the Economic Commission for Africa (ECA), the African Development Bank and the World Bank consistently show that gender inequality acts as a constraint to growth and poverty reduction. In particular, the study - *Can Africa Claim the 21st Century*? (2000) - reveals that Africa has unexploited hidden growth reserves residing in potential partnerships between governments and households, particularly the women in these households. The study concludes that gender inequality is both an economic and a social issue, and that greater gender equality could be a potent force for accelerated poverty reduction in Africa. According to the International Food Policy Research Institute (IFPRI), in Sub-Saharan Africa, women comprise 60 per cent of the informal sector (including informal trade), provide about 70 per cent of the total agricultural labour, and produce about 90 per cent of the food. Yet, of the 300 million poor people in Africa nearly 70 per cent are women and they lack equal access to: time; improvements and maintenance of their human capital assets; use of direct productive assets; and decision-making. The traditional allocation of gender roles is a major cause of gender inequality in access to these resources.

With households as the biggest sector in the African economy, they are the prime place to examine the substantial contributions made by women and the limitations they face. Time-use surveys, sometimes referred to as "Time Use Studies", "Time Budget Surveys" and "Time Allocation Studies" are emerging as a very useful statistical tool for collecting detailed information about how individuals spend their time, on a daily and weekly basis and across seasons over a year as an input to estimating the value of paid and unpaid work as well as the size of labour force in a country. They show that women in particular use significant amounts of time in producing goods and services in households. And they provide a valid tool for capturing previously hidden activities of household production. Statistics of time-use are measures of the use of human capital (human resources) not captured in any other type of social survey. Because "work" ideally is use of human capital to produce valuable outputs, economic studies of work should cover all market and non-market work, not just paid or market work. And because time-use surveys are used to investigate how women, men and children allocate time among different tasks and the time they have for rest and leisure, the information collected has vast possibilities for understanding human activities for policy making in different fields.

The basic building blocks for time-use data are: *activity* and *time*. What women and men do over the course of a day can be described systematically using *a classification of activities* such as the UN Draft International Classification of Activities for Time-Use Statistics (ICATUS). In this classification a list of 91 activities are grouped into 15 major groups. The classification is comprehensive enough to cover all human activities that could possibly occur in a 24-hour day from the time we wake up to the time we go to sleep.

The following list of daily activities has been used in Benin and was extended to 77 activities and adapted to Madagascar by adding some traditional common activities:

1. Sleeping/sex
2. Resting, doing nothing
3. Toilet, dressing
4. Having meal (breakfast, lunch, dinner)
5. Having meal outside home
6. Washing up
7. Cleaning the house
8. Ironing
9. Washing clothes
10. Other up keeping
11. House or utensils repairing
12. Drying subsistence products
13. Fetching water
14. Preparing meals for the household
15. Collecting firewood
16. Running errands at the market
17. Commuting
18.Undertaking administrative procedures
19. Taking care of children
20. Taking care of adults, invalids, elderly
21. Main economic activity (specify…)
22. Secondary economic activity (specify…)
23. Tertiary economic activity (specify…)
24. Seeking work
25. Agriculture
26. Breeding cattle
27. Breeding chicken
28. Vegetable gardening
29. Forestry
30. Hunting
31. Fishing
32. Gathering
33. Spinning
34. Weaving
35. Matting
36. Basket-making
37. Crushing
38. Going to mill
39.Processing food agricultural products
40. Other processing for self-consumption (specify…)
41. Studying at school
42. Studying at home
43. Reading, writing at home
44. Treating illness
45. Receiving parents, friends, neighbours
46. Other errands or shopping
47. Talking, chattering
48. Paying visit to parents, friends, neighbours
49. Celebrating (specify…)
50. Participating in ceremonies: weddings, funerals, Baptism, etc. (specify…)
51. Preparing food for ceremonies
52. Other processing activities for ceremonies
53. Attending meetings with various associations (political parties, unions, NGO, local associations,) (specify…)
54. Going to church, mosque, vodun
55. Alphabetisation
56. Watching TV
57. Watching movie
58. Playing
59. Dancing
60. Having a drink
61. Playing sport
62. Other (specify…

## 3.0 Developments in Time Use Studies

The omissions of unpaid work in national accounts have been much criticized by the women's and environmental movements. Consequently, the UN Statistical Commission, in the 1993 revision of the SNA, recommended that national statistical offices prepare accounts for economic activities outside the presently defined production boundary. "Satellite" accounts separate from, but consistent with, the main SNA accounts of the market economy can be prepared to show the use of natural resources or the extent of economic production by households. Demands for the full recognition of household economic production culminated in the Platform for Action adopted in 1995 at the Fourth World Conference on Women in Beijing.

These concerns emphasize the fact that at no point of time a society will move towards a wholly market economy. Hence there is need to evolve a framework to continuously monitor the two economies, through two measures: GDP and GHP. GHP can only be derived if regular National Household Satellite Accounts of Household Production (NSAHP)[3] are compiled by creating household input-output tables[4]. And such accounts can only be created

[3] National Satellite Accounts of Household Production (NSAHP) are sets of accounts derived mostly from National Time Accounts developed as an expanded version of the central national accounts to provide an overall picture of the productive activities of households and to give an estimate of the value of household production undertaken mostly by women.

[4] Input –output accounts of the household economy provide estimates of the total values of the inputs of labour, capital, energy and materials into the several sectors of household production. Household input-output tables extend the Leontief input-output framework of the national production accounts to show the complex interdependence between household and market activities in a more realistic way. It emerged from the April 1993 International Conference on the Measurement

if we have complete data on how men and women spend their time. Time use studies are thus important in this context. Until now in developing countries, these accounts are not prepared to accurately even capture GDP as per the SNA, or the size of work force and labour force. In African countries, NSAHP from time use studies therefore can be an important tool for improving the quality of statistics particularly on activities, which are still omitted in the conventional labour force and national income statistics.

Historically, time-use data have been collected through household surveys since the 1930s. The earlier surveys were limited to very small samples in villages and focused on allocation of time to work – especially agricultural work – rather than the time budget of the entire day. As such, the small sample size and the small population surveyed were not representative enough.

It is only recently that nation-wide time-use surveys (TUS) have become more common, especially following the recommendations of the UN Statistical Commission that national statistics offices prepare accounts to get better measures of unpaid work and help to implement the 1993 SNA. Thus, since 1995, time-use surveys were tested in at least 24 developing countries worldwide including: Benin and Morocco in 1998, Nigeria, India, Nepal and the Philippines in 1999, South Africa in 2000 and Madagascar in 2001. At least one official time-use survey has been conducted in Australia, Canada, Japan and New Zealand and in almost all European countries (Ironmonger, 1996:38). Although geographically, economically and culturally diverse, these countries have realised that national TUS are important statistical tools for the measurement and valuation of market and non-market work.

As for Africa, only 5 countries have by 2005 conducted time-use surveys – most of which have not provided timely and adequately the required gender disaggregated statistics, which are not fully comparable between and within countries and may therefore be difficult to replicate to other countries (Table 1). For example, Nigeria's TUS was based on a small sample size of only 100 households, while Morocco focused only on women time budget.

Generally, the procedures for conducting the past different surveys, including that for the recent time-use studies in Africa, are not standardized so as to allow inter-country and intra-country comparisons. The need for standardized data is particularly crucial given that regional integration efforts and emerging development policies and strategies such as the poverty reduction strategies, the MDGs and the New Partnership for Africa's Development (NEPAD) are shaping Africa's development path. A common approach to tools and methodologies in the development paradigm is also essential.

As African governments build frameworks in which time-use data are used for macroeconomic analysis, there is an opportunity to standardize the data for African countries and to improve the currently different approaches and base lines. Even if one country collects data through the diary and another through the interview method, agreed procedures and classifications can be used to minimize inconsistencies and to construct comparable data sets across countries and through time. Towards this end, in 2004 ECA introduced in six countries a new round of harmonized continuous time-use surveys.

---

and Valuation of Unpaid Work organized by Statistics Canada in Ottawa that the household input-output tables discussed in this paper are NSAHP, which the latest revision of the SNA recommends national statistical offices should develop.

## 4. What are Continuous Household Surveys (CHS)?

Continuous household surveys (CHS) are quarterly, six monthly or annual national studies on time use and other household data of a representative sample size of not more than 5,000 households per country. In most developed countries, CHS are conducted monthly. The surveys would be used to generate gender-disaggregated data to understand the short-term dynamics between the household economy and the market economy over the fluctuations of the business cycle, and for constructing gender-aware macroeconomic models. The surveys provide a modern, scientific and cost-effective way to obtain timely statistics. The institution of regular (initially quarterly and now monthly) household sample surveys has been the major development of the past 30 years in Australia enabling the production of gender-disaggregated statistics on a wide range of issues (ECA 2004).

Being a representative sample of a few thousand households, CHS are only a fraction of the cost of a national census but are sufficiently accurate, often more accurate, than other survey forms covering millions of households[5]. Thus, the data could be available within three months (that is, June statistics available by the end of September and December statistics by the end of March, etc.).

A programme of action to establish CHS throughout all African countries is the essential starting point for the creation of modern, vigorous and up-to-date national statistical systems throughout Africa. The programme started in 2005 with an initial set of six countries of continuous, annual surveys of time-use and other household data. As a result, the first estimates of National Time Accounts (NTA)[6] National Satellite Accounts of Household Production (NSAHP) and Gross Household Product (GHP) for the year 2005 have started for these initial programme countries.

However, NSAHP and GHP depend on the collection of reliable data on the use of time. Unless surveys of time-use are conducted regularly, it will not be possible to extend the SNA on an annual basis to cover the productive activities of women (and men) in households. In many countries estimates of GNP and GDP are produced quarterly. This means that to produce estimates of GHP with a comparable frequency with GNP and GDP, time-use data will need to be collected on a quarterly basis.

Cooperation between the African statistical offices should enable economies of scale to be achieved in coding, editing, tabulation, publication and preparation of unit record files for research. Establishment of a central operations centre and processing facility is planned to facilitate the successful conduct of the first continent-wide time-use survey in Africa. As the new household-survey-based modern statistical system spreads across Africa, countries would re-adjust budgets to provide adequate resources to their national statistical organizations to conduct six monthly and then quarterly surveys. As part of this programme the African countries should produce two new statistical systems – NTA and NSAHP in addition to the existing National Accounts.

---

5 To give some order of magnitude, a national sample survey of 5,000 households might cost approximately $US 50,000-100,000. Such a survey could provide accurate data about an entire population of 5 million households of a country much faster than other forms of large-scale household surveys (Ironmonger, 1994). This would obviously vary from country to country for a range of reasons.

6 National Time Accounts (NTA), which are a set of estimates of our total income and expenditure of time, similar to the estimates of national income and expenditure, which account for our market transactions in monetary units.

## 5. Specific Applications of Continuous Household Surveys

### *5.1 National Time Accounts (NTA)*

A system of national time accounts would provide a basis for international comparisons and for greatly improved modelling of our economic and social systems. Two new sets of data follow from the regular estimate of sets of national time accounts: (i) Regular household Input-Output tables, which are the National Satellite Accounts of Household Production (NSAHP); and (ii) Regular estimates of GHP derived from NSAHP, equivalent of GDP in National Accounts.

The principal benefit from the provision of regular national time accounts would be a more complete perspective and understanding of the role of households in the total economy, not only in regard to household productive activities, but also in relation to leisure activities and the interactions between the household and the market. The enhanced understanding of the dynamics of the economic and social systems in every country should provide a better basis for making policy decisions over a wide range of business and public affairs.

However, the development of NTA should be an interactive process between the model builders, the policy makers and official statistics offices, as it was in the development of the national income accounts and the uses of these accounts in model building and policy-making. Apart from the insights derived from international comparisons, comparisons over time of changes in the NTA aggregates will serve three main purposes (Ironmonger, 1993).

First, they provide a more complete understanding of households than is available from accounts, which focus solely on the use of money. The detailed activity classifications of the use of time available from the national time accounts will reveal changes in household work and leisure associated with the major changes in household technology, household demography, market incomes and market prices.

Second, national time accounts provide a better understanding of the total economy, which comprises not only market production from the formal sectors but also non-market production from the informal or household sector (Table 2). As we know, non-market production by households is a very large aggregate and uses at least as much labour as market production. Unpaid work is a t least as large as paid work. The work input for the total economy is thus twice as large as what is currently measured as work. The hypothesis applied in this proposed programme is that through the business cycle, total work time is more stable than either the paid or the unpaid component.

Finally, national time accounts, since they cover all of work and leisure, give a better basis for economic and social policy decisions than incomplete measurements, which concentrate solely on paid work in the market economy.

### *5.2 Case Studies of Time-use Surveys*

Tables 3 and 4 hereafter present comparative results of time-use surveys in five countries: Benin, Madagascar and Morocco, South Africa and France. Morocco provides only a limited comparison because time-use was collected only for women, not for men.

Data are not fully comparable: Benin and Madagascar have published separate results for urban and rural areas (however, it would be possible to calculate national figures by

weighting rural and urban populations); moreover the population aged six to 15 is included for those two countries. Morocco did not collect data for men. Time budgets are calculated for the whole population surveyed, including those not engaged in market work. Table 4 synthesises the results and presents the ratios of women's time to men's time.

Results show that in urban areas, market (SNA) production uses only 16 to 55 percent of the time devoted to work by women, and from 80 to 84 percent of men's time at work. Except in Benin (where the hours are almost equal), women's involvement into SNA production activities is around 60 percent of men's. But women work from 2 to 5 times more than men in domestic activities. And when looking at work as a whole (total economic production), women work more than men in all areas compared; from 11 per cent more in France to 46 percent more in Urban Benin.

Such results have led to revisions in the participation rates of women and their share in the labour market: in Benin, the share of women in the total labour market is increased from 42.6 percent in the 1992 population census up to 53.3 percent, a share similar to their share in total population; women's participation rates also become similar to men's in urban areas. In Morocco, it is for rural areas that women's labour market participation rates become similar to men's, while they are largely increased in urban areas.

Fetching water takes 1 hour in the 24-hour day of rural women in Benin and 30 minutes in Madagascar (against respectively 15 and 10 minutes for men) and fetching firewood takes 25 minutes of men's day in Madagascar, and of women's day in Benin. This is of course far from being negligible at a year scale: it is equivalent to 9 full days of work for each rural woman aged 6 years or more.

### *5.3 National Satellite Accounts of Household Production (NSAHP)*

The limitations due to the definition of the production boundary[7] of the SNA do not preclude making estimates of the values of household production. The SNA 1993 has recommended compilation of satellite accounts with the SNA as the central framework for concepts and various types of analysis that are additional to or differ from those in the central framework. A satellite account provides a framework linked to the central accounts, and it enables focused attention on an aspect of economic or social life (for example, household production, tourism, environment and natural resources) in the context of the national accounts. Satellite accounts for the latter two have been developed for international use, while for household production is yet to be developed, especially for Africa, which needs special attention owing to its unique constraints and needs.

The NSAHP or Input-Output tables of household production, which are derived from NTA and income and expenditure accounts belong to the family of satellite accounts that are described by the 1993 UN System of Accounts (SNA) as accounting statements that are separate from, but conceptually consistent, with the core national accounts. Input-Output accounts of the household economy provide estimates of the total values of the inputs of

[7] Regarding productive activities, the 1993 SNA introduced two fundamental boundaries: the *general production boundary* and the *SNA production boundary*. The *general production boundary* includes any human controlled activity resulting in outputs capable of being exchanged. And the SNA production boundary describes the range of productive economic activities that should be included in GDP estimates and is thus the relevant boundary for this purpose.

labour, capital, energy and materials into the several sectors of household production. Household input-output tables extend the Leontief input-output framework of the national production accounts to show the complex interdependence between household and market activities in a more realistic way.

Construction and analysis of the outcome of NSAHP - Input-Output tables of household production using gender disaggregated data, as well as the integration of NSAHP into standard Input-Output tables or social accounting matrix (SAM) is the actual process of mainstreaming gender in national accounts, budgets and policies.

The NSAHP for the first time in Africa attempted to bring together market economy and household economy in a common framework to measure the contribution of household production to the national economy.

The aim of the NSAHP is to provide an overall picture of the productive activities undertaken by households and to give an estimate of the value of household production. A small part of this production is covered by SNA, but most of it including NMW is not, hence the need for this guidebook.

The main purpose of the NSAHP is to obtain separate estimates of GHP. These estimates can then be used to trace the joint evolution and interaction of the two economies – the monetary Market Economy and the non-monetary Household Economy. If we wish to add the two economic magnitudes together to get a total measure of Gross Economic Product (GEP), we have to make a large reduction to the GNP/GDP estimates on account of imputed value of owner occupied housing which rightly falls in the non-monetary estimate, GHP. In Australia this adjustment is about 10 per cent of GDP to give another entity named Gross Market Product (GMP) (Ironmonger 1998).

Some researchers in this field have referred to the sum of SNA and non-SNA production as "extended production" (Goldschmidt-Clermont 1995). GEP is the name for this extended value. GEP = GHP + GMP.

NSAHP present data in such a way that they can be aggregated across the various categories of household production activities, and that they are compatible with national accounts data in order to describe and analyse the extended economy. Thus satellite accounts aim to achieve the following specific objectives:

- To provide estimates of how households allocate time between paid work, unpaid work and leisure;
- To provide for policy formulation a global view of gender-disaggregated statistics on productive activities by households and give an economic value of these activities most of which are undertaken by women; and
- To estimate role/contribution of households to the total economy;
- To improve data on work force/labour force in the economy and to improve data on GDP in this context;
- To investigate gender equity, particularly in the context of sharing SNA and Non-SNA work by men and women;
- To evolve social and economic policies and monitor these with the help of the time use data.
- To use the satellite accounts as a data base for building gender-aware models to monitor and evaluate impacts of policies on poverty reduction and MDGs.

### *5.4 Types of Satellite Accounts of Household Production*

SNA gives a wider range of freedom in producing satellite accounts than what is possible in the core national accounts (Eurostat, 2003). The household production can be measured and analysed in different ways and consequently, different satellite accounts may be developed: (i) using physical units such as time used for productive activities, or (ii) number and type of goods and services produced; or (iii) by imputing monetary values to services produced. There are also options of extending the satellite accounts: only the value of household labour can be estimated, or the production and income generation accounts can be compiled. It is possible to go further and produce a full sequence of accounts where household production is integrated with the market production. An option may be chosen according to the purposes of the satellite account.

The NSAHP for South Africa is the first one of its kind in Africa (Table 5). However, the NSAHP, which was prepared from South Africa's TUS, 2000 is just the basic Table in a "concise" format. Duncan Ironmonger presented similar formats of tables for Australia and Finland to the IARIW 24th General Conference in Lillehammer, Norway, August 1996. There are more detailed tables behind these concise tables where the detailed money expenditures from the Household Expenditure Surveys are distributed across the activity categories. To accompany the statistical results, an explanation of the methodology and the purpose of the Household Production Account needs to be written. There could also be comparisons made between the countries. In addition, given access to the unit record (microdata) files for both the Time Use Survey and the Household Expenditure Survey, it is possible to prepare further tables for different categories of households such as rural and urban, with children and without children, or high income and low income. It is expected that in 2006 when the six African countries will all have undertaken their time use studies, different types of NSAHP will begin to emerge.

### *5.5 Gender-aware Micro-simulation and Macroeconomic Models*

Continuous household surveys provide GDD for regular preparation of NSAHP, which in turn could be used by policy analysts for integration into standard Social Accounting Matrix (SAM) to make this framework not only gender-responsive but to incorporate half of the total economy (household economy), which traditionally have been omitted in macroeconomic analysis. The 1993 SNA defines a SAM as "the presentation of SNA accounts in a matrix which elaborates the linkages between Supply and Use tables and institutional sector accounts". It is a consistent quantitative macroeconomic data framework of an economy in a specified period of time, usually one year. Therefore, the first step in developing a gender-aware micro-simulation and macroeconomic models based on Computable General Equilibrium (CGE) model is to build a SAM that integrates traditional market activities, non-market production and consumption exclusive to households, and leisure time activities of its members.

ECA in 2004 and 2005 developed the two types of models to evaluate impacts of policies on poverty reduction and this work is being extended to monitor implementation of MDGs.

The standard SAM presents a single labour account that is usually disaggregated by skill, region and/or other non-explicitly gender criteria (Table 6). Most standard CGE models make the implicit assumption that male and female workers are perfect substitutes in market production, although many studies mention segmentation in the labour market between men

and women, and different levels of market work flexibility according to the domestic tasks they perform.

By integrating GDD in a standard SAM, the labour accounts (which might include more than one category of workers) are disaggregated into male and female labour accounts. Workers receive income from services provide to industries in the form of wages (rows 1a and 1b) (Table 7). Male and female wages then constitute labour income for households (columns 1a and 1b). Furthermore, by integrating NSAHP into the gender-aware SAM, we are incorporating non-market activities (household production and leisure activities) in the standard structure of the SAM as suggested by the 1933 SNA. This process does not interfere with market activities.

## 6.0 Why is Unpaid Work Important to Development Policy?

There is now a strong sentiment from the international community that the lack of time use surveys in countries from which to measure the value of unpaid work is a significant data gap in statistical systems (Harmesh, D.S. et al, 2005). Thus, the economic and social development discussions and policy decisions fail to account for all economic activity – they exclude the undeniably enormous value added of household production and care services.

The absence of regular and systematic time use studies is not only a major bottleneck both at national and regional levels in the process of gender-responsive or time-inclusive designing of policies, but also in monitoring and evaluating impacts of policies on poverty reduction. In particular, the development *and monitoring* of the progress of social and economic policies requires a thorough knowledge of: (i) how social and economic systems operate; (ii) the past, current and future evolution of systems under present and proposed policies; and (iii) the impacts of policies on households and people (women, men and children) and the economy (Ironmonger, 1998).

In developed countries with the advancement of social and economic theory and especially the development of social and economic statistics, a broad understanding of the ways in which social and economic systems operate in different environments has been accumulated. In some of these countries the impacts of policies on households and people are calculated before implementation. However in African countries, reliable tested, knowledge of these three requirements has been and is extremely difficult to obtain. This is due to paucity of gender-disaggregated data (GDD) on household production as well as little recognition of the household economy as an important part of total economy.

However, policy makers are increasingly becoming aware that analysis of time use data has important implications for policy options and responses in six key broad areas: (i) policy for the reform of statistical systems: (ii) policies for promoting gender equality; (iii) policies for the enhancement of women's employment and income; (iv) policies for the enhancement of women's well-being and quality of life; (v) policies to reduce gender bias in macroeconomic policies; and (vi) policies to monitor impacts of policies on household production and poverty (ESCAP, 2000).

*(i) Policy for the reform of statistical systems*

As a first priority, all development stakeholders in Africa need to change their thinking about what constitutes "work" and what encompasses "economic activity". Official recognition of unpaid work and making visible women's contribution to the national economy implies the institutionalization of reforms in the national statistical system to ensure the measurement and

valuation of unpaid work. African countries need to put together the expertise and resources in their official statistical organizations to obtain regular, up-to-date information on what is occuring in African households.

As a policy, governments should introduce time use studies as part of their normal official data collection efforts such as the census operations or price statistics. Reworking the official statistical systems is needed to arrive at an alternate measure of domestic product which can be logically compared across nations, regardless of the extent of market orientation". Among such reforms are the (i) the standardization of concepts and definitions; (ii) the adoption of the revised UN trial activity classification; (iii) the adoption of satellite accounts and (iv) continuous or periodic conduct of time use surveys and (v) adoption of a standard methodology for valuation. Labor force surveys and time use surveys would probably have to be harmonized to ensure data complementarity and meaningfulness of interpretation.

*(ii) Policies for promoting gender equality*

In the global movement for women's equality, there is a general feeling that women have been left out in the societal allocation of benefits from development and this is believed to arise from the tacit "consensus" that women's contribution to development has been marginal. However, time use data has shown that women's unpaid work has been consistently higher than that of men and that women and girls lack equal access to time, health, education, finance and other resources.

In African countries, rural women especially, are subject to heavy time burdens due to their need to balance the demands of their productive, social, reproduction, and community management roles (ECA, 2004). Time burden could affect the level of output of all sectors and perpetuate poverty, hence the wide manifestation of *time poverty*[8] in Africa. Thus, people can be poor in terms of *money* as well as *time*.

Reducing time poverty has implications for gender equity. Since women are responsible for most of household production and services, they enter the labour market already overburdened with work. Unfortunately this inequality in time use is not reflected in current conventional statistics, such that women's disproportionate time burden is neither recognized nor is it considered adequately in socio-economic policy making. Time use statistics can correct this deficiency through better fiscal and labour market policies.

Measuring women's contribution to total work in the economy in terms of the time spent to understand women's contribution to the total marketed work helps (i) in improving labor force/workforce data under the conventional definition as well as under the 1993 SNA based definition of work and workers (ii) shed light on diversification of economic activities of men and women and paid and unpaid work time of men and women; and (iii) help governments monitor progress they have made in reducing gender inequality.

*(iii) Policies for the Enhancement of Women's Employment and Income*

Addressing time poverty has also implications for employment policy – creation of employment being one important approach to reducing poverty for both men and women given that time use data provide useful guidance on the spare time (leisure time) and availability of people for work. Employment and training programmes can fruitfully use this

[8] Time poverty"—a situation in which a household's standard of living is subpar because not enough time is available for subsistence levels of home production or 'individuals don't have the time to do the things they want'.

information. And secondly, the data show that women enter the labour market with a huge burden of domestic work, greatly affecting the quality and quantity of labour supply. This issue can be addressed by introducing policies that provide time and labour saving technologies such as food processing machinery, fuel, water, transportation etc.

Time use data has shown the disproportionate involvement of women in unpaid work, and in underpaid work in the informal sector as well as in low skills, lowly paid wage jobs. Reproductive work deprives women of opportunities to build their human capital but this is often not factored into policy making. For instance, childbearing and – rearing, and, caring for the sick and the elderly constraints or obstructs women's employment or participation in paid work. These workers become ineligible for workplace-based training. Reversing this trend over the long term necessitates policy measures that would upgrade the labor market options of women. This means the need for skills upgrading of women and facilitating access to information, markets, credit sources, technology and other productive inputs needed in self-employment and own account work. Long-term measures should be taken to move women out of the unpaid work as far as possible without jeopardizing the household welfare.

*(iv) Policies for the Enhancement of Women's Well-being and Quality of Life*

Time use such as the length of paid and unpaid work and the intensity of work, convey important information on the quality of life that existing measurements of living standards overlook. People can be poor in terms of time as well as money and definitions of poverty need to take this into account. What this implies is that policy reform must look into the work burden that women bear as well as the health risks that are borne by high intensity work. Official recognition by governments of the value of unpaid work could enhance women's economic security in several ways. For example, reducing women's and girls' time-poverty through well-designed, gender-sensitive infrastructure investments and public policies that support women's care responsibilities is critical.

Time use studies can further provide an important input in policy advocacy and formulation (through NTA and NSAHP) in many other fields such as child labour and child welfare; female headed-households; education; health and literacy etc; care and vulnerable population like the elderly, HIV/AIDS patients, disabled and others; social welfare policies etc. – all these are important elements in poverty reduction strategies.

*(v) Policies to Reduce the Gender Bias in Macro-economic Policies*

As a result of government cutbacks in education, health and social services as part of economic restructuring and adjustment, unpaid work of care providers, specially of female household members, could intensify. But this may have the long-term effect of reducing the capacity of individuals to work in the market and thus to pay taxes, and by increasing demand for remaining social services. In some cases, serious long-term costs may be incurred in terms of the negative impact on the quality of human resource of both care providers and children deprived of education and health care.

Responses to gender bias in macroeconomic policies could include support measures such as gender responsive budgeting (GRB). GRB initiatives can help close these gaps, ensuring that public money is raised and spent more equitably and effectively. As a key feature of good governance, they can help promote greater accountability for public resources to the people of a country, especially to women, who are generally more marginalized than men in decision-making about public money. And that GRBs can make contribution to public expenditure reforms.

*(vi) Policy to Monitor Impacts of Policies and Programs on Unpaid Work*

Any assessment of economic policy reform requires a more comprehensive evaluation not only of output or levels of (money) incomes, but also of resulting changes in the work burden and intensity of work.

Over the past decade African states have committed themselves to meet targets in various international and national conventions including the MDGs. And, many African countries have implemented policy reforms aimed at achieving these goals. However, there has been a growing recognition that macroeconomic policy can worsen or improve the living standards of women and contribute to narrowing or widening gender gaps in incomes, health, education, nutrition, etc. Emerging studies in and outside Africa also show that the causes of poverty are dissimilar for men and women and that they are affected differently by poverty reduction policies and measures. These distinct circumstances of men and women are often not fully recognized in poverty analysis and in the design of poverty reduction strategies.

Governments and institutions need to develop mechanisms that will monitor the impact of policies and programs on unpaid work. Impact assessment of policies would make visible often hidden dimensions of economic policy impacts, and would provide and accurate assessment of resource use and allocation. Towards this end, ECA developed gender-aware micro-simulation and macroeconomic models based on gender-disaggregated data from TUS to assist African governments evaluate impacts of their policies.

The evaluation of fiscal policy using the models demonstrated numerically that women's contribution in non-market production in South Africa is almost double that of men and that women have 30-50% less time for personal care and the leisure than men at the household level. And that elimination of import tariffs in South Africa would reduce real wages for women by more than double that of the male counter parts, and would reduce labour market participation by women while increasing that for men.

Evaluation of impacts of policies such as initiated by ECA could inform governments to put in place gender-sensitive policies. For example, to reduce time burden or "time poverty" on women, governments could design complementary policies through measures that save time or improve productivity of time use such as women's access to education, land, finance, information and technology. The government could also put in place compensatory taxation that benefits poor household women to offset income losses due to increase in taxation and reduction in wage rate for women. This will lead to equitable income distribution among women and men thus, contributing to poverty reduction and improvement in welfare.

## Conclusion

The new round of time use studies is expected to develop capacity in African countries to provide a unique value-added to current poverty reduction strategies including MDGs using gender-aware national system of accounts (SNA) and national budgets as entry points. The programme will generate new and more accurate figures of the complete economic system, together with household survey data that would greatly enhance pro-poor policy formulation as well improve modelling and forecasting of African economies towards achieving poverty reduction strategies and MDGs.

## Table 1: Design Components of Recent Time-Use Surveys of Selected countries

| Country | Survey | Type of Survey | Survey Instrument | Mode of Data Collection | Number of Households | Number of Respondents |
|---|---|---|---|---|---|---|
| *Benin* | 1998 Time Use Survey | Module of survey on labour, income & social indicators | Simplified diary, 62 activities: 15-minute intervals | Face-to-face recall interview, 1 diary day | 4,025 | 12,604 |
| *Madagascar* | 2001 Time Use Survey | Module of the permanent living standards household survey | Simplified diary, 77 activities: 15-minute intervals | Face-to-face recall interview, 1 diary day | 2,663 | 7,743 |
| *Morocco* | 1997/98 National Survey on Women's Time Budget | Independent | Full diary: open interval | Face-to-face recall interview, 1 diary day | - | 2,776 |
| *Nigeria* | 2000 Pilot Time Use Survey | Module of General Household Survey (GHS) | Simplified time diary, open interval | Self-reporting, total hours spent on activities in last 7 days and interviews | 100 | 243 |
| *South Africa* | Time-Use Survey 2000 | Independent | Full diary: 30 minute intervals | Face-to-face recall interview, 1 diary day | 8,564 | 14,553 |

**Source: Modified from A Guidebook for Mainstreaming Gender Perspectives and Household Production in National accounts, Budgets and Policies in Africa (ECA, 2004)**

## Table 2: Draft Structure of National Time Accounts
**National Time Account (Country) (Year) Millions of hours per week**

| ACTIVITY | Household Population | | | | Others | | Total Population | | |
|---|---|---|---|---|---|---|---|---|---|
| | Children | | Adults | | All Ages | | All Ages | | |
| | Girls | Boys | Women | Men | Women | Men | Females | Males | Persons |
| MARKET WORK | | | | | | | | | |
| Agriculture | | | | | | | | | |
| Mining | | | | | | | | | |
| Manufacturing | | | | | | | | | |
| Construction | | | | | | | | | |
| Wholesale & Retail | | | | | | | | | |
| Finance & Business | | | | | | | | | |
| Community Services | | | | | | | | | |
| Entertainment etc | | | | | | | | | |
| Other Industries | | | | | | | | | |
| Work travel | | | | | | | | | |
| TOTAL MARKET WORK | | | | | | | | | |
| HOUSEHOLD WORK | | | | | | | | | |
| Meal Preparation | | | | | | | | | |
| Cleaning & Laundry | | | | | | | | | |
| Shopping | | | | | | | | | |
| Child Care | | | | | | | | | |
| Repairs & Maintenance | | | | | | | | | |
| Gardening & Pet Care | | | | | | | | | |
| Other Household Chores | | | | | | | | | |
| Voluntary Community | | | | | | | | | |
| Household Travel | | | | | | | | | |
| TOTAL HOUSEHOLD WORK | | | | | | | | | |
| EDUCATION | | | | | | | | | |
| Pre School | | | | | | | | | |
| Primary | | | | | | | | | |
| Secondary | | | | | | | | | |
| Tertiary | | | | | | | | | |
| Continuing | | | | | | | | | |
| Education travel | | | | | | | | | |
| TOTAL EDUCATION TIME | | | | | | | | | |
| TOTAL WORK AND EDUCATION | | | | | | | | | |
| LEISURE | | | | | | | | | |
| Eating & Drinking | | | | | | | | | |
| Entertainment, Friends | | | | | | | | | |
| Active Leisure | | | | | | | | | |
| TV, Radio, Stereo | | | | | | | | | |
| Reading | | | | | | | | | |
| Other Passive | | | | | | | | | |
| Leisure Travel | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TOTAL LEISURE TIME | | | | | | | | | |
| SLEEP & PERSONAL CARE | | | | | | | | | |
| Sleep | | | | | | | | | |
| Personal Care | | | | | | | | | |
| Personal care travel | | | | | | | | | |
| TOTAL SLEEP & PERSONAL CARE | | | | | | | | | |
| TOTAL FREE TIME | | | | | | | | | |
| TOTAL HOURS | | | | | | | | | |

Source: ECA Guidebook on Mainstreaming Gender Perspectives and Household Production in National Accounts, Budgets and Policies in Africa (2003).

**Table 3: Comparisons of time budgets in four African countries and in France.**
**(Average hours per person per week)**

| Activities | Women | Men | Both sexes | Women | Men | Both sexes | Women |
|---|---|---|---|---|---|---|---|
| **URBAN** | **Benin 1998** | | | **Madagascar 2001** | | | **Morocco** |
| **SNA Production** | 27.4 | 27.4 | 27.4 | 20.4 | 33.8 | 26.8 | 6.4 |
| Of which non market: | 4.1 | 1.8 | 2.9 | 5.8 | 6.4 | 5.8 | |
| - water fetching | 1.8 | 0.6 | 1.2 | 1.8 | 1.2 | 1.8 | |
| - wood fetching | 0.6 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | |
| **Non-SNA Household Production** | 22.8 | 7.0 | 15.2 | 26.3 | 6.4 | 16.9 | 33.8 |
| **Total Work** | **50.2** | **34.4** | **42.6** | **46.7** | **40.3** | **43.8** | **40.3** |
| Learning | 7.6 | 12.8 | 10.5 | 11.1 | 13.4 | 12.3 | 3.5 |
| Social Activities | 9.9 | 13.4 | 12.3 | 4.1 | 4.7 | 4.1 | 12.8 |
| Leisure | 6.4 | 11.7 | 8.8 | 15.8 | 18.7 | 16.9 | 20.4 |
| Commuting | 3.5 | 5.8 | 5.3 | 4.7 | 7.0 | 5.8 | 4.1 |
| Sleeping, eating, resting | 89.8 | 89.8 | 89.8 | 92.2 | 91.6 | 91.6 | 89.3 |
| **TOTAL TIME** | **167.4** | **168.0** | **169.2** | **174.4** | **175.6** | **174.4** | **170.3** |
| **RURAL** | **Benin 1998** | | | **Madagascar 2001** | | | **Morocco** |
| **SNA Production** | 35.6 | 33.3 | 34.4 | 28.0 | 42.0 | 35.0 | 20.4 |
| Of which non market: | 18.1 | 13.4 | 15.8 | 14.6 | 16.9 | 15.8 | |
| - water fetching | 7.0 | 1.8 | 5.3 | 3.5 | 1.2 | 2.3 | 3.5 |
| - wood fetching | 2.9 | 0.6 | 1.8 | 1.2 | 2.9 | 1.8 | 1.2 |
| **Non-SNA Household Production** | 22.8 | 7.6 | 15.2 | 24.5 | 4.7 | 14.6 | 36.8 |
| **Total Work** | **58.3** | **40.8** | **49.6** | **52.5** | **46.7** | **49.6** | **57.2** |
| Learning | 3.5 | 8.2 | 5.8 | 7.0 | 6.4 | 6.4 | |
| Social Activities | 10.5 | 15.2 | 12.8 | 4.1 | 5.3 | 4.7 | 12.8 |
| Leisure | 4.1 | 8.8 | 6.4 | 8.8 | 11.7 | 10.5 | 9.9 |
| Commuting | 5.3 | 7.0 | 5.8 | 3.5 | 6.4 | 4.7 | 4.7 |
| Sleeping, eating, resting | 86.9 | 89.3 | 87.5 | 95.7 | 95.7 | 95.7 | 86.3 |
| **TOTAL TIME** | **168.6** | **169.2** | **168.0** | **171.5** | **172.1** | **171.5** | **170.9** |

| NATIONAL | South Africa 2000 | | | France 1999 | | |
|---|---|---|---|---|---|---|
| **SNA Production** | 13.4 | 22.2 | 17.5 | 13.2 | 22.6 | 17.7 |
| Of which non market: | | | | | | |
| - water fetching | 1.2 | 0.6 | 0.6 | | | |
| - wood fetching | | | | | | |
| **Non-SNA Household Production** | 25.1 | 9.9 | 18.1 | 30.7 | 16.8 | 24.0 |
| **Total Work** | **38.5** | **32.1** | **35.6** | **43.5** | **39.4** | **41.8** |
| Learning | 11.1 | 12.8 | 11.7 | 3.3 | 3.6 | 3.4 |
| Social Activities | 15.2 | 16.3 | 15.8 | 6.5 | 6.7 | 6.5 |
| Leisure | 14.6 | 18.1 | 16.3 | 23.0 | 27.4 | 25.1 |
| Commuting | 7.0 | 9.9 | 8.8 | 5.8 | 7.0 | 6.4 |
| Sleeping, eating, resting | 85.8 | 84.6 | 85.2 | 85.3 | 83.5 | 84.5 |
| **TOTAL TIME** | **172.1** | **173.8** | **173.3** | **167.4** | **167.7** | **167.7** |

**Sources:** INSAE/PNUD (1998), Enquête emploi du temps au Bénin, Méthodologie et résultats, Cotonou, 32p. + 156 p.
Direction de la Statistique (1999), Enquête Nationale sur le Budget Temps des Femmes 1997-98, rapport de synthèse, vol. 2, Rabat, 198p. INSTAT- DSM/PNUD-MAG/97/007: EPM 2001- Module Emploi du Temps, Antananarivo.
Statistics South Africa (2001), How South African Women and Men spend their time, A survey of time use, Pretoria, 118p.

**Table 4: Time devoted to Non-SNA household production, SNA production and total work by gender in various countries.**

| Country and Year | **Non-SNA Household Production** | **SNA Production** | **Total Economic Production** (non SNA+SNA) | **Market per cent of Total** % |
|---|---|---|---|---|
| | **Women - Hours per week** | | | |
| Rural Benin 1998 | 22.7 | 35.6 | 58.3 | 61.0 |
| Rural Madagascar 2001 | 24.5 | 28.0 | 52.5 | 53.3 |
| Rural Morocco 1998 | 36.7 | 20.4 | 57.2 | 35.7 |
| Urban Benin 1998 | 22.7 | 27.4 | 50.2 | 54.7 |
| Urban Madagascar 2001 | 26.2 | 20.4 | 46.7 | 43.8 |
| Urban Morocco 1998 | 33.8 | 6.4 | 40.3 | 15.9 |
| National South Africa 2000 | 25.1 | 13.4 | 38.5 | 34.8 |
| National France 1999 | 30.7 | 13.2 | 43.9 | 30.1 |
| | **Men - Hours per week** | | | |
| Rural Benin 1998 | 7.6 | 33.3 | 40.8 | 81.4 |
| Rural Madagascar 2001 | 4.7 | 42.0 | 46.7 | 90.0 |
| Urban Benin 1998 | 7.0 | 27.4 | 34.4 | 79.7 |
| Urban Madagascar 2001 | 6.4 | 33.8 | 40.3 | 84.1 |
| National South Africa 2000 | 9.9 | 22.2 | 32.1 | 69.1 |
| National France 1999 | 16.8 | 22.6 | 39.4 | 57.4 |
| | **Ratio of women's to men's time (per cent)** | | | |
| Rural Benin 1998 | 300.0 | 107.0 | 142.9 | |
| Rural Madagascar 2001 | 525.0 | 66.7 | 112.5 | |
| Urban Benin 1998 | 325.0 | 100.0 | 145.8 | |
| Urban Madagascar 2001 | 409.1 | 60.3 | 115.9 | |
| National South Africa 2000 | 252.9 | 60.5 | 120.0 | |
| National France 1999 | 182.6 | 58.2 | 111.2 | |

TABLE 6: STRUCTURE OF A STANDARD SOCIAL ACCOUNTING MATRIX

| | Labour (C1) | Capital (C2) | Household (C3) | Firms (C4) | Government (C5) | Import Tariffs (C5.a) | Export Taxes (C5.b) | Direct taxes (C5.c) | Indirect Taxes (C5.d) | Industries (C6) | Commodities (C7) | Accumulation (C8) | ROW (C9.a) | Export (C9.b) | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Labour (C1) | | | | | | | | | | Payment to Labour | | | | | |
| Capital (C2) | | | | | | | | | | Payment to Capital | | | | | |
| Households (C3) | Labour Income | Capital Income | Inter-household Transfers | Interests and Dividends to household | Government Transfers to Household | | | | | | | | Remittances From ROW | | |
| Firms (C4) | | Capital Income | Household Transfers to firms | | Government Transfers to Firms | | | | | | | | Foreign Income to Firms | | |
| Government (C5) | | Capital Income | Household Transfers to government | Interests and Dividends payment to Government | | Receipts from Tariffs | Receipts from export taxes | Receipts from Direct taxes | Receipts from Indirect taxes | | | | Foreign Grants | | |
| Import Tariffs (C5.a) | | | | | | | | | | | Import Tariffs | | | | |
| Export Taxes (C5.b) | | | | | | | | | | | | | | Export taxes | |
| Direct taxes (C5.c) | | | Income tax | Firms taxes | | | | | | | | | | | |
| Indirect Taxes (C5.d) | | | | | | | | | | Production tax | Domestic Sales tax | | | | |
| Industries (C6) | | | Own - Consumption | | | | | | | | Domestic Sales | | | Exports | |
| Commodities (C7) | | | Household market Consumption | | | | | | | Intermediate Inputs | | Investment expenditures | | | |
| Accumulation (C8) | | | Household Saving | Firms saving | Government saving | | | | | | | | Current Account Balance | | |
| Rest of the World (ROW) (C9.a) | | Capital Income | Transfers payment to ROW | Interests and Dividends payment to ROW | Government payment to ROW | | | | | | Imports | | | | |
| Export (C9.b) | | | | | | | | | | | | | Exports | | |
| TOTAL | | | | | | | | | | | | | | | |

Source: Authors

TABLE 7: STRUCTURE OF A GENDER-AWARE SOCIAL ACCOUNTING MATRIX

| | Male Labour (C1) | Female Labour (C1) | Capital (C2) | Household (C3) | Firms (C4) | Government (C5) | Import Tariffs (C5.a) | Export Taxes (C5.b) | Direct taxes (C5.c) | Indirect Taxes (C5.d) | Industries (C6) | Commodities (C7) | Accumulation (C8) | ROW (C9.a) | Export (C9.b) | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Male Labour (C1.a) | | | | | | | | | | | Payment to Male Labour | | | | | |
| Female Labour (C1.b) | | | | | | | | | | | Payment to Female Labour | | | | | |
| Capital (C2) | | | | | | | | | | | Payment to Capital | | | | | |
| Households (C3) | Male Labour Income | Female Labour Income | Capital Income | Inter-household Transfers | Interests and Dividends to household | Government Transfers to Household | | | | | | | | Remittances From ROW | | |
| Firms (C4) | | | Capital Income | Household Transfers to firms | | Government Transfers to Firms | | | | | | | | Foreign Income to Firms | | |
| Government (C5) | | | Capital Income | Household Transfers to government | Interests and Dividends payment to Government | | Receipts from Tariffs | Receipts from export taxes | Receipts from Direct taxes | Receipts from Indirect taxes | | | | Foreign Grants | | |
| Import Tariffs (C5.a) | | | | | | | | | | | | Import Tariffs | | | | |
| Export Taxes (C5.b) | | | | | | | | | | | | | | | Export taxes | |
| Direct taxes (C5.c) | | | | Income tax | Firms taxes | | | | | | | | | | | |
| Indirect Taxes (C5.d) | | | | | | | | | | | Production tax | Domestic Sale tax | | | | |
| Industries (C6) | | | | Own - Consumption | | | | | | | | Domestic Sale | | | Exports | |
| Commodities (C7) | | | | Household market Consumption | | | | | | | Intermediate Input | | Investment expenditures | | | |
| Accumulation (C8) | | | | Household Saving | Firms saving | Government saving | | | | | | | | Current Account Balance | | |
| Rest of the World (ROW) (C9.a) | | | Capital Income | Transfers payment to ROW | Interests and Dividends payment to ROW | Government payment to ROW | | | | | | Imports | | | | |
| Export (C9.b) | | | | | | | | | | | | | | Exports | | |
| TOTAL | | | | | | | | | | | | | | | | |

Source: Authors

TABLE 8: THE SOUTH AFRICAN GENDER-AWARE SOCIAL ACCOUNTING MATRIX FOR 1998 (R million)

| | | | | STANDARD SOCIAL ACCOUNTING MATRIX (SAM) ACCOUNTS | | | | | | | | | | | | | | EXTENDED ACCOUNTS OR SATELLITE ACCOUNTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | SYSTEM OF NATIONAL ACCOUNTS (SNA) OR MARKET PRODUCTION | | | | | | | | | | | | | | NON-SNA OR NON-MARKET PRODUCTION | | | NON-PRODUCTIVE ACTIVITIES | | | |
| | | | | FACTORS | | | INSTITUTIONS | | | | TAXES | | | INDUSTRIES | COMMODITIES | | EXPORT | INVESTMENT | HOME WORK | | HOME ACTIVITY | LEISURE | | | |
| | | | | 1.1 | 1.2 | 1.3 | 2.1 | 2.2 | 2.3 | 2.4 | 2.3a | 2.3b | 2.3c | 3 | 4 | 5 | 6 | 7 | 8.1 | 8.2 | 9 | 10.1 | 10.2 | 11.1 | 11.2 | TOTAL |
| STANDARD SOCIAL ACCOUNTING MATRIX ACCOUNTS | SYSTEM OF NATIONAL ACCOUNTS (SNA) OR MARKET ACTIVITIES | FACTORS | 1.1 | Male Labour | | | | | | | | | | 326614 | | | | | | | | | | | 326614 |
| | | | 1.2 | Female Labour | | | | | | | | | | 124811 | | | | | | | | | | | 124811 |
| | | | 1.3 | Capital | | | | | | | | | | 223024 | | | | | | | | | | | 223024 |
| | | INSTITUTIONS | 2.1 | Households | 326614 | 124811 | | 18400 | 63262 | 30812 | 190 | | | | | | | | 114698 | 217194 | | 995655 | 741323 | 660682 | 399124 | 3692765 |
| | | | 2.2 | Firms | | | 207127 | | | 43786 | 6686 | | | | | | | | | | | | | | | 257599 |
| | | | 2.3 | Government | | | 15896 | 1035 | 10133 | | 148 | 105306 | 58408 | 6642 | | | | | | | | | | | | 197568 |
| | | | 2.4 | Rest of the World | | | | 1906 | 20965 | 5577 | | | | | | 169100 | 3218 | | | | | | | | | 200766 |
| | | TAXES | 2.3a | Taxes on income and wealth | | | | 72047 | 33259 | | | | | | | | | | | | | | | | | 105306 |
| | | | 2.3b | T axes on products | | | | | | | | | | | | 58408 | | | | | | | | | | 58408 |
| | | | 2.3c | Import duties | | | | | | | | | | | | 6642 | | | | | | | | | | 6642 |
| | | INDUSTRIES | 3 | Industries | | | | | | | | | | | | 1294335 | | 180875 | | | | | | | | 1475210 |
| | | COMMODITIES | 4 | Commodities | | | | 463329 | | 140530 | | | | | 800761 | 8257 | | 123865 | | | | | | | | 1536742 |
| | | | 5 | Non-competitive import goods | | | | 3218 | | | | | | | | | | | | | | | | | | 3218 |
| | | EXPORT | 6 | Export Commodities | | | | | | | 180875 | | | | | | | | | | | | | | | |
| | | SAVING | 7 | Accumulation | | | | 4155 | 129980 | -23137 | 12867 | | | | | | | | | | | | | | | 123865 |
| EXTENDED ACCOUNTS OR SATELLITE ACCOUNTS | NON-SNA OR NON-MARKET PRODUCTION | HOME WORK | 8.1 | Male household work | | | | | | | | | | | | | | | | | 114698 | | | | | 114698 |
| | | | 8.2 | Female household work | | | | | | | | | | | | | | | | | 217194 | | | | | 217194 |
| | | HOME ACTIVITY | 9 | Household Activities | | | | 331892 | | | | | | | | | | | | | | | | | | 331892 |
| | NON-PRODUCTIVE ACTIVITIES | LEISURE TIME | 10.1 | Male Personal care | | | | 995655 | | | | | | | | | | | | | | | | | | 995655 |
| | | | 10.2 | Female Personal care | | | | 741323 | | | | | | | | | | | | | | | | | | 741323 |
| | | | 11.1 | Male learning and other leisure | | | | 660682 | | | | | | | | | | | | | | | | | | 660682 |
| | | | 11.2 | Female learning and other leisure | | | | 399124 | | | | | | | | | | | | | | | | | | 399124 |
| | | TOTAL | | | 326614 | 124811 | 223024 | 3692766 | 257599 | 197568 | 200766 | 105306 | 58408 | 6642 | 1475210 | 1536742 | 3218 | 123865 | 114698 | 217194 | 331892 | 995655 | 741323 | 660682 | 399124 | |

Source: Extended Gender-aware SAM with domestic production and personal activities, work and leisure time are decomposed between men and women; Revised by Fofana I, Cockburn J. and Decaluwe B., Universite Laval, May 2004, Using Statistics South Africa SAM for 1998, the survey of time use Report in 2000 and The South African Labour Market Report in 2002.

## References

Commission of the European Communities – Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, and World Bank *System of National Accounts 1993*, ISBN 92-1-161352-3, Brussels/Luxemburg, New York, Paris, Washington

ESCAP (2000) Analyzing Policy implications of Time Use Data: a Framework Paper

Eurostat (2003) Household Production and Consumption: Proposal for a Methodology of Household Satellite Accounts

Goldschmidt-Clermont L and Pagnossin-Aligisakis E 1995 *Measures of unrecorded economic activities in fourteen countries* Human Development Report Office Occasional papers 20, United Nations Development Programme, New York

Hamermesh, D.S. and Pfann, G.A (2005) The economics of Time Use. Elsevier

Ironmonger Duncan (1996) Counting outputs, capital inputs and caring labor: estimating gross household product *Feminist Economics* 2(3): 37-64

Latigo A and Ironmonger (2004) *The Missing Link in Growth and Sustainable Development: Closing the Gender Gap*, Issues Paper, Economic Commission for Africa