

**WOMEN WORKING IN THE INFORMAL SECTOR IN AFRICA:  
MEW METHODS AND NEW DATA**

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Informal sector activities have been traditionally underestimated in the National Accounts of developing countries, and particularly in Africa. A major reason for this has been the lack of data, but this reason is less valid nowadays. Surveys which take better account of the informal sector have been carried out in many countries and their results made available for National Accounts. A second reason, also related to the lack of data, reflects the general assumption that productivity and incomes in the informal sector are low.

Table 1 presents recent estimates for West African countries and the box which follows presents sources and methods for estimating employment and value in National Accounts in the countries listed in Table 1.

**Table 1: Informal sector as a share of non-agricultural employment, and as a share of non-agricultural and total GDP in various African countries\***

| Countries (years)<br>employment | % non-agricultural<br>GDP | % non-agricultural<br>employment | % total<br>GDP | % total |
|---------------------------------|---------------------------|----------------------------------|----------------|---------|
| Benin (1993)                    | 92.8                      | 42.7                             | 41.0           | 27.3    |
| Burkina Faso (1992)             | 77.0                      | 36.2                             | 8.6            | 24.5    |
| Chad (1993)                     | 74.2                      | 44.7                             | 11.5           | 31.0    |
| Mali (1989)                     | 78.6                      | 41.7                             | 13.3           | 23.0    |
| Mauritania (1989)               | 75.3                      | 14.4                             |                | 10.2    |
| Niger (1995)                    |                           | 58.5                             |                | 37.6    |
| Senegal (1991)                  | 76.0                      | 40.9                             |                | 33.0    |
| Tunisia (1995)                  | 48.7                      | 22.9                             | 37.8           | 20.3    |

**Sources :** Personal compilations of the author, based on official labour force and national accounts statistics. Published in the proceedings of the experts' meeting on Household Satellite Accounts. October 1997: Handbook of National Accounting. Household Accounting: Experiences in the Use of Concepts and their Compilation. Vol. 1: Household Sector Accounts. United Nations Statistics Division. New York. 1998.

\* Figures presented in table 1 are derived from personal calculations, based on official and available but not always published figures, and processed in order to make them comparable.

For Benin and Burkina Faso, it was necessary to exclude imputed rents from the official estimates.

Burkina Faso and Niger distinguish the informal sector in the National Accounts aggregates, as does Benin, but only in unpublished tables. Mali publishes figures on the output of informal sector.

Tunisia processes separately the accounts of individual entrepreneurs on the basis of its definition of the informal sector.

In Benin, Mauritania and Niger, the results of recent surveys on informal sector have not yet been fully used to improve the National Accounts estimates, because such an improvement implies new calculations for preceding years and needs to wait for the choice of a new basic year for undertaking the whole calculation and estimation of GDP.

Table 1 shows that the informal sector represents between 20 per cent and 37 per cent of the total GDP, and between 40 per cent and 58 per cent of the non-agricultural GDP. Although most of these countries had undertaken informal sector surveys before proceeding to these estimations, the results of these surveys have not yet been taken into account in the given figures of GDP because such estimates can only be made when a new base year is prepared.

The efforts towards a better account of the size and contribution of the informal sector have consisted of:

- improved measurement of the labour force engaged in the informal sector (by duplicating the questions in view of cross-checking, reformulating the questions in order to be more explicit about the definition of economic activity, enumerating in the questionnaire the various female activities usually under-reported, developing short time-use tables).

- a diversification and improvement of the assumptions made for estimating the value added and the incomes generated by the informal sector, based on more comprehensive, representative and reliable data, collected by specific surveys: in many countries, the "experts' estimates" have been replaced by original data derived from an important number of surveys carried out at national or at least urban level, and providing results more comprehensive and reliable than previously, thanks to the introduction of adapted and indirect questions.

If it is not so difficult as it was a few years ago to isolate the contribution of the informal sector to the GDP in the National Accounts, it is still extremely difficult to isolate the contribution of women to the informal sector and to the GDP as a whole. Efforts need to be pursued in this respect. Women remain the main source of underestimation of the informal sector contribution for at least three reasons:

- they are engaged in those informal activities which are the most difficult to capture and measure: home-based work or outwork, and street vending (often as an extension of a non-measured or non-registered manufacturing activity). In addition, the non-response rate in the surveys is generally higher for women than for men, especially regarding incomes, hence the fear of underestimation in the registered responses,
- they are engaged, more than men, in second or multiple jobs, especially in rural areas, and the non-measurement of this phenomenon is a source of underestimation, all the more so as, in their main activities (as family workers notably), their contribution to the production is also very much underestimated,
- their production activities are not only hidden behind their status of so-called inactive housewives, but also behind the less "valuable" status of family worker in agriculture or the difficult-to-capture status of independent street or road vendor. In these types of work, their contribution to the commercial margins is limited, and their value added in the transformation process is overlooked.

While much remains to be done in these matters in most West African countries, much has already been done in recent years, at least in the measurement of paid and unpaid work within the boundaries of economic activity in the System of National Accounts. At the end of the 80's and the beginning of the 90's for instance, pilot studies on compilation of statistics on women in the informal sector in industry, trade and services were launched in four African countries (Burkina Faso, Congo, Gambia and Zambia) and a handbook on the related methods of compilation was prepared under the supervision of the United Nations Statistical Office, the International Research and Training Institute for the Advancement of Women (INSTRAW) and the Economic Commission for Africa (ECA). These works aimed at quantifying women's contribution to the economy in the informal sector and at encouraging further work in this direction. The results of this program have been presented in The World's Women 1995 (UN, 1995) and table 2 below synthesises the main results:

**Table 2: Estimates of the contribution of women in the informal sector in three African countries in the mid-80's.**

| Countries (years) | Informal sector as a share of |           |                                   |                            | Females in the informal sector as a share of |                    |
|-------------------|-------------------------------|-----------|-----------------------------------|----------------------------|--|--------------------|
|                   | total employment              | total GDP | total non-agricultural employment | total non-agricultural GDP | total GDP                                    | total informal GDP |
| Congo (1984)      | 18.0                          | 17.2      | 38.3                              | 37.9                       | 14.9   | 39.3               |
| Gambia (1983)     | 13.5                          | 23.8      | 51.4                              | 35.8                       |  | 25.1               |
| Zambia (1986)     | 17.3                          | 33.3*     | 51.8                              | 45.4                       |  | 34.3               |

\* excluding subsistence agriculture.

**Source:** ECA. INSTRAW. UNSO (1990).

More recently, the Project Women in Informal Employment: Globalizing and Organizing (WIEGO) initiated by a coalition of the Self-Employed Women's Association (SEWA), the United Nations Development Fund for Women (UNIFEM) and the Harvard Institute for International Development (HIID), decided to take up this question again, with special reference to home-based workers and street vendors, and is preparing estimates on a systematic basis and a wide scale.

This paper will discuss the methods presently used to measure the contribution of women in the informal sector to the GDP. It will give some estimates calculated on the basis of these methods for several African countries and finally emphasize the remaining gaps and shortcomings in order to propose next steps required in order to improve visibility of women's contribution.

### **I. Alternative methods and trial compilations of women's contribution: effort, compensation, production.**

Before presenting these methods, it is useful to begin with a brief reminder of those used in the previous and pioneering work on estimating women's informal sector contribution to GDP. These methods were appropriate to the state of implementation of the concept of informal sector and the stage reached by the statistical apparatus in African countries at that time. Since then, and thanks to the preliminary work and surveys which helped to pave the way for the adoption of the new international definition of the informal sector as a concept of labour force in 1993 and for the revision of the System of National Accounts in the same year (ILO, 1992 and 1993; UN, 1993), major changes intervened in labour force statistics and national accounts.

In the INSTRAW/ECA work, the informal sector was defined as the own-account workers, a simplification which presented two advantages: 1) figures on own-account workers disaggregated by sex and/or by branch of activity or occupations are usually available from population censuses; 2) the value added of these workers is assumed to be equal to earnings or incomes, provided that no wages are paid by these economic units. The fact is that the bulk of women in the informal sector were in this category of the classification of occupational status. However in view of the new international definition of the informal sector adopted in 1993 and the rapid transformations of female economic activities in the context of structural adjustment programmes and globalization, this assumption is no longer valid. The 1993 definition includes, besides the own-account workers, a category of informal employers (the "micro-enterprises") who are not registered, or who do not register their employees, or who employ less than a given number of permanent employees (ILO, 1993). While the number of regular paid employees and employers is far less than the own-account workers, and females are much less numerous in this category, the share of these micro-enterprises represents from 5 per cent to 20 per cent of total informal employment in sub-Saharan Africa, and up to 55 per cent in Tunisia (and 25 per cent in Latin America) (see Charmes, 1998b). The share in the value added of the informal sector is expected to be even more.

Data on value added are collected through enterprise surveys, which often exclude this type of economic units or, in the case of informal sector surveys, include a very small number of them (with the exception of countries where enterprise samples were selected on the basis of establishment censuses -Tunisia, 1981; Guinea, 1988 - or quasi-exhaustive rosters - Morocco, 1988; Tunisia, 1997).

As to data on earnings or income, when they are not based on the accounts of the economic units and on calculations of value added, they are subject to important under-estimates, especially for women. In case of lack of data (which remains the most frequent situation), output, value added or income - from which are eventually derived the other components of individual entrepreneurs' accounts - are based on experts' estimates. These may be based on very tiny and not statistically representative observations (a very few units), or on data collected on more representative samples, in neighbouring countries, or on figures for the modern sector. Data for the modern sector are divided by a factor 2 or more and extended to the whole universe by using population or active population figures, or any other available information (for instance the number of sewing machines imported and/or manufactured during the past 10 years, as a proxy for the number of tailors) (see Charmes, 1989).

This methodology automatically infers that incomes in the informal sector and a fortiori female earnings derived from available or rebuilt (but not disaggregated by gender) data, are much lower than in the formal sector, even when compared with wages (rather than incomes) in the formal sector. This methodology consists in applying a ratio of 3/4 in agriculture, 1/2 in manufacturing and 1/1 in trade and services (an assumption which is used for example in the 1995 Human Development Report).

Progress achieved in informal sector measurement during the past years (especially in the years preceding and following the 1993 revisions, see Charmes 1996 and 1998) allows improved measurement of women's contribution to the GDP.

In a few African countries, national level household surveys have been undertaken in recent years to measure the labour force involved in the informal sector and the level of output, value added and incomes of its units: Mali (1989 and 1996), Niger (1995), Tanzania (1994) and Chad (1996). In these countries and in others, labour force and employment statistics have been improved through: i) adapted or mixed labour force or budget-consumption surveys, i.e a sample household survey, followed in a second stage by a sample survey on the establishments of own-account workers and employers identified in the households at the first stage; ii) the comparative analysis of sources of data on labour force and registered employment (especially when establishment censuses or enumeration have been made available: Tunisia, Benin). Even when these estimates come from a single household survey, the comparative analysis is useful to check results with the figures of registered employment.

Based on these recent improvements, data from five countries will be analysed:

- Benin, where a population census and an establishment census (at urban level) followed by a sample survey on sedentary and mobile activities, have been carried out for the same year (1992): detailed estimates of the traditional and informal sectors were calculated in National Accounts since 1985 in a traditional way (i.e. on experts' estimates and ad hoc surveys). Data available for 1992-93 will be used in the near future to elaborate the new basic year of National Accounts. It will then be possible to compare the current estimates of GDP with a revised estimate based on more recent and comprehensive data.

- Mali, which was one of the first African countries to carry out a national mixed household-establishment survey on the informal sector in 1989 and again in 1996: the results of the 1989 survey in terms of labour force and output have been integrated in the National Accounts.

- Chad is an interesting case, in that data collected on informal sector have been analysed with data on consumption collected by the same 1996 mixed household-establishment survey on consumption and informal sector. In this country, where a comparative analysis of labour force and employment statistics was made in 1993, the 1996 survey has been undertaken with the special aim of elaborating a new basis for the National Accounts.

- Burkina Faso, where the 1985 comparative analyses of labour force and employment statistics were repeated in 1994-95 and where estimates of the contribution of the traditional and informal sectors are calculated since Independence in 1960. It is one of the countries where the use of indirect estimates of the labour force engaged in the informal sector was carried the furthest since multiple jobs (mainly female) are taken into account in the calculation of GDP.

- Tunisia, which can be considered as an industrialising country, with a huge segment of micro-enterprises (that is with salaried employees) compared with the segment of family enterprises (or own-account workers), a relatively important (at least for an Arab country, although still low) share of females in the labour force and policies addressing the status of women. Comparative estimates of the labour force in the informal sector are available for 1975, 1980, 1989 and 1996 and national surveys on informal sector establishments based on establishment census in 1981 and the establishment roster in 1997. It was one of the first countries to use on a systematic basis the results of a national survey on micro-enterprises for the measurement of GDP.

In countries where national household surveys are available, the disaggregation of data by sex is usually available or, if not, can be easily processed. Sex disaggregation is more difficult in informal sector employment when a comparative analysis of sources is necessary, because establishment or enterprise surveys - and especially surveys of registered enterprises - do not often provide data distributed by sex. There are various reasons explaining this situation. The main one is that questionnaires were designed for administrative aims, a long time ago, at a time when gender issues were not considered as important as they are to-day, and the number of women employed in large enterprises was very low, or, by contrast, because they occupied the bulk of the jobs in some industries such as textiles. Another important reason is that the non response rate is high for the questionnaires which cross-classify variables in one single table. Most establishment surveys on the modern sector in Africa attempt to collect information on the number of people employed and their salaries by qualification level, nationality and sex, which make the table quite hard to complete for large enterprises. Whatever the reasons, when analysing modern sector employment, it is often necessary to make assumptions on the distribution by sex.

This detailed disaggregation is also necessary to provide reliable estimates of the informal sector contribution to the GDP, and particularly in view of estimating the value of women's contribution in informal sector to National Accounts.

Although it is widely assumed that incomes generated by women are lower than those generated by men, the further the differential procedure goes into the details of the classification of industries, the discrepancies between males and females lessen. This shows that sex differences in income result mainly from their differential distribution in the various branches of activity. For instance, levels of income in metal working or wood processing (typical male activities) are higher than levels of income in textiles (a typical female activity): in a same or homogeneous industry, the differentials in income levels will be smaller, especially if the results are distributed (as in Benin) according to the type of establishment: sedentary, semi-sedentary, mobile. At the end of these procedures and at this level of disaggregation, the remaining differentials or gaps between the incomes of male and female entrepreneurs are essentially a problem of under-reporting and they can and should be neglected or even corrected (this question is completely different concerning wages).

In tables 3 and 4, the value added by the informal sector in the various branches or sectors of activity comes from the National Accounts (and not from the surveys) and it is directly related to the labour force engaged in the informal sector, disaggregated by sex. To introduce the dimension of gender, sources such as population censuses or labour force surveys provide data by sex. In this case, the sex-ratio available for one of its components (for instance civil service), or for the employees in the population census is applied to the modern sector. The in-depth analysis by detailed branch of activity provides a better basis for estimates of value added for women. Details of the procedure are given in the annex.

In a further stage of this study, informal entrepreneurs' incomes (corresponding to the figures of value added in the National Accounts) will be analysed with the average wage and the legal minimum wage in order to test the validity of the final assumptions made by national accountants.

Table 3 presents the main results of the analysis of the size and contribution of women in the informal sector for 5 selected African countries. The procedures used in preparing these estimations are in the attached annex. Table 4 presents the main indicators detailed by sectors of activity.

**Table 3: Size and contribution of women in the informal sector in 5 African countries.**

| per cent of women in       | Benin | Mali | Chad | Burkina Faso | Tunisia |
|----------------------------|-------|------|------|--------------|---------|
| informal sector employment | 59.7  | 71.9 | 53.4 | 41.9         | 18.1    |
| informal sector GDP        | 51.1  | 68.2 | 62.3 | 61.4         | 15.7    |
| total non-agricultural GDP | 21.8  | 26.1 | 27.8 | 28.6         | 3.6     |
| total GDP                  | 14.0  | 14.8 | 13.9 | 19.3         | 3.2     |

**Sources:** Personal compilations of the author on the basis of official labour force statistics and national accounts.

As expected, trade has the highest observed rates of employment in and contribution of the informal sector to GDP ranging from 87.6 per cent to 99.2 per cent for employment, and from 45.7 per cent to 69.8 per cent for contribution. The contribution of informal sector to employment and GDP in industries is also high, especially in Benin and in Burkina Faso, while the contribution in services is much lower because of the importance of non-market services (such as administration).

Turning now to the female contribution, tables 3 and 4 reveal that, as a whole, women do not systematically represent the majority of the labour force engaged in the informal sector (their share ranges from 53.4 per cent in Chad to 71.9 per cent in Mali, but drops to 41.9 per cent in Burkina Faso and to 18.1 per cent in Tunisia), but (with the exception of Tunisia, which is representative of a different set of countries) they always represent the major part of informal sector GDP (from 51.1 per cent in Benin to 68.2 per cent in Mali). It is interesting to wonder why and how the contribution of women is higher than their share in informal sector employment in a country like Burkina Faso: would it mean that in this country female incomes are higher than male? This particular case illustrates and highlights one of the main causes of underestimation of women's contribution in most developing countries: their involvement in secondary activities - or more properly said - in

several activities. This phenomenon has been taken into account in the National Accounts of Burkina Faso and has had an important impact on the level of the contribution of women to the total GDP (19.3 per cent is the highest figure for the whole set of countries).

**Table 4: Size and contribution of informal sector and of women in the informal sector in 5 African countries.**

**BENIN 1992**

|                         | Informal sector as a share of |           | Females in the informal sector as a share of |           |
|-------------------------|-------------------------------|-----------|--|-----------|
|                         | total employment              | total GDP | total informal employment                    | total GDP |
| Industries              | 97.0                          | 61.9      | 42.8   | 26.5      |
| Trade                   | 99.1                          | 69.8      | 92.2   | 64.3      |
| Services                | 70.7                          | 9.5       | 20.5   | 1.8       |
| Total non-agricultural* | 92.8                          | 42.7      | 59.7   | 21.8      |
| Total                   | 41.0                          | 27.3      |  | 14.0      |

\*including construction and transport.

**MALI 1989**

|                        |      |      |      |      |
|------------------------|------|------|------|------|
| Industries             | 91.7 | 35.5 | 73.2 | 26.0 |
| Trade                  | 98.1 | 56.7 | 81.3 | 46.1 |
| Services               | 66.1 | 25.5 | 48.5 | 16.9 |
| Total non-agricultural | 78.6 | 41.7 | 71.9 | 26.1 |
| Total                  | 13.3 | 23.0 |      | 14.8 |

**CHAD 1993**

|            |      |      |      |      |
|------------|------|------|------|------|
| Industries | 72.6 | 33.4 | 24.5 | 16.3 |
| Trade      | 99.2 | 66.7 | 61.8 | 41.2 |
| Services   | 49.7 | 34.0 | 47.1 | 16.0 |

|                        |      |      |      |      |
|------------------------|------|------|------|------|
| Total non-agricultural | 74.2 | 44.7 | 53.4 | 27.8 |
| Total                  | 11.5 | 31.0 |      | 13.9 |

#### BURKINA FASO 1992

|                        |      |       |      |      |
|------------------------|------|-------|------|------|
| Industries             | 86.0 | 71.3  | 88.5 | 63.1 |
| Trade                  | 94.7 | 45.7  | 65.9 | 30.1 |
| Services               | 56.5 | 57.5* | 10.7 | 6.2  |
| Total non-agricultural | 77.0 | 36.2  | 41.9 | 28.6 |
| Total                  | 8.6  | 24.5  |      | 19.3 |

\*excluding non market services.

#### TUNISIA 1994-96

|                        |      |      |      |     |
|------------------------|------|------|------|-----|
| Industries             | 58.0 | 21.4 | 23.4 | 5.0 |
| Trade                  | 87.6 | 55.6 | 7.9  | 4.4 |
| Services               | 31.1 | 13.7 | 17.3 | 2.4 |
| Total non-agricultural | 48.7 | 22.9 | 18.1 | 3.6 |
| Total                  | 37.8 | 20.3 |      | 3.2 |

**Sources:** Personal compilations of the author on the basis of official labour force statistics and national accounts.

## II. Remaining gaps and shortcomings in the measurement of women's real contribution to GDP.

Among the major shortcomings in the measurement of informal sector in general, and women's contribution in particular, is the incomplete account of the involvement of active men and women in secondary activities, multiple jobs or, more broadly, in pluri-activity. This phenomenon probably has a major impact on the size and contribution of women's participation in developing countries. Evidence of this is shown in data from Burkina Faso (table 5)

**Table 5: The effects of multiple jobs on the size and structure of the informal sector: Burkina Faso 1985.**

|  | MAIN ACTIVITIES * |          | MULTIPLE JOBS ** |          | TOTAL NUMBER OF JOBS |          |
|--|-------------------|----------|------------------|----------|----------------------|----------|
|  | number            | per cent | number           | per cent | number               | per cent |
|  |                   |          |                  |          |                      |          |

|  |         |       |         |         |     |       |
|--|---------|-------|---------|---------|-----|-------|
| <b>URBAN</b>                                     | 120 000 | 54.5  | 13 000  | 2,0     | 133 | 15,0  |
| <b>RURAL</b>                                     | 100 000 | 45,5  | 652 000 | 98,0000 | 752 | 85.0  |
|  |         | 100,0 |         | 100,0   | 000 | 100,0 |
| <b>MEN</b>                                       | 130 000 | 59.1  | 145 000 | 21,8    |     | 31,1  |
| <b>WOMEN</b>                                     | 90 000  | 40,9  | 520 000 | 78,2    | 275 | 68.9  |
|  |         | 100,0 |         | 100,0   | 000 | 100,0 |
| <b>PRODUCTION</b>                                | 55 000  | 25,0  | 405 000 | 60,9    | 610 | 52,3  |
| <b>TERTIARY</b>                                  | 165 000 | 75,0  | 260 000 | 39,1000 |     | 47,7  |
|  |         | 100,0 |         | 100,0   |     | 100,0 |
|  |         |       |         |         | 460 |       |
|  |         |       |         |         | 000 |       |
|  |         |       |         |         | 425 |       |
|  |         |       |         |         | 000 |       |
| <b>TOTAL INFORMAL SECTOR</b>                     | 220 000 |       | 665 000 |         | 885 |       |
|  |         |       |         |         | 000 |       |
| <b>PER CENT OF TOTAL LABOUR FORCE</b>            |         | 5,5   |         |         |     | 17.7  |
| <b>PER CENT OF NON-AGRICULTURAL LABOUR FORCE</b> |         | 70,0  |         |         |     | 90.8  |

**Source:** Personal calculations from the 1985 Population Census, see: Charmes J. (1990) and (1996).

**Notes:** \* main jobs held by persons occupied in informal sector.

\*\* number of secondary or additional jobs in informal sector held by persons occupied in both formal, informal and agricultural sectors.

The informal sector which was mainly urban, male and tertiary, when measured through the main activities, becomes mainly rural, female and manufacturing, when second jobs are taken into account. Female jobs in the informal sector are nearly multiplied by a factor of 7, while the total number of informal sector jobs by a factor of 4. The impact of these results on National Accounts has been particularly important in industries such as food processing (traditional female breweries) or textiles.

However, the follow-up of multiple jobs through the successive household surveys (cf. table 6 below) reveals that, across the years and in the context of structural adjustment, the phenomenon tended to become more urban and more men were involved in second jobs.

**Table 6: Trends in secondary activity rates in Burkina Faso.**

|  | 1985 population census | 1991 demographic survey | 1994-95 priority survey |
|--|------------------------|-------------------------|-------------------------|
|--|------------------------|-------------------------|-------------------------|

|       | Men  | Women | Total | Men  | Women | total | Men  | Women | Total |
|-------|------|-------|-------|------|-------|-------|------|-------|-------|
| Urban | 7.9  | 7.0   | 7.6   | 15.4 | 12.1  | 14.3  |      |       | 18.3  |
| Rural | 27.2 | 25.2  | 26.5  | 27.7 | 24.3  | 26.0  |      |       | 31.6  |
| Total | 26.4 | 24.1  | 25.1  | 26.4 | 23.4  | 24.9  | 34.5 | 25.8  | 30.2  |

**Source:** Charmes J. (1996b).

In the case of Burkina Faso, men's second jobs are agricultural while women's are non-agricultural. Women's represent more than 78 per cent of the total non-agricultural second jobs, although in the 1985 and 1991 data the participation of men and women in secondary jobs was roughly similar. The situation seems to be different in Mali (table 7). The total number of jobs in the informal sector is indeed 4 times higher than the number of main jobs registered as informal in the labour force. This increase in the figures of employment does not come from the registration of second jobs (at least not mainly). Its source is rather found in the re-introduction of persons who spontaneously declared themselves as inactive or unemployed at a first stage of the survey and to whom specific and adapted questions were asked which identified them as occupied according to the criteria of the international definition. Here again, women represented more than 91 per cent of this population.

**Table 7: Informal sector components of labour force in Mali. 1989.**

|       | Main jobs (declared on 1st round)<br>(1) |          | Inactive and unemployed who are occupied (identified on 2nd round)<br>(2) |          | Second jobs<br>(3) |          | Total informal sector employment<br>(1)+(2)+(3) |          |
|-------|--|----------|---|----------|--------------------|----------|---|----------|
|       | Number                                   | per cent | Number  | per cent | Number             | per cent | Number  | per cent |
| Urban | 218 500                                  | 57.0     | 102 000   | 28.2     | 21 400             | 63.5     | 342 000   | 43.9     |
| Rural | 164 500                                  | 43.0     | 260 400   | 71.8     | 12 400             | 36.5     | 437 200   | 56.1     |
| Total | 383 000                                  | 100.0    | 362 400   | 100.0    | 33 800             | 100.0    | 779 200   | 100.0    |
| Men   | 176 800                                  | 46.2     | 32 500  | 9.0      | 13 700             | 40.5     | 223 000   | 28.6     |
| Women | 206 200                                  | 53.8     | 329 900   | 91.0     | 20 100             | 59.5     | 556 200   | 71.4     |
| Total | 383 000                                  | 100.0    | 362 400   | 100.0    | 33 800             | 100.0    | 779 200   | 100.0    |

**Source:** DNSI, 1989 National Survey on Household Economic Activities.

Burkina Faso and Mali represent two different cases and experiences and each has led national accountants to re-evaluate GDP to the same order of size. The share of informal sector in the non-agricultural labour force rose from 77.0 per cent to 90.8 per cent in Burkina Faso, and from 78.6 per cent to 88.2 per cent in Mali. Total employment rose from 5.5 per cent to 17.7 per cent in Burkina Faso, and from 13.3 per cent to 22.4 per cent in Mali and the share of women employed in the informal sector from 41.9 per cent to 68.9 per cent in Burkina Faso, and from 53.8 per cent to 71.4 per cent in Mali. These two examples also show that there is not one single method to apply for a better measurement of the share of women in the labour force. Depending on the past experiences of statisticians, the social, economic and cultural conditions and the available statistical data, the whole range of possibilities of under-estimation need to be scrutinised, without deciding a priori what is the main source of these under-estimations.

The measurement of multiple jobs implies the need for additional efforts in calculating output, value added and incomes generated by these activities which are called secondary, not necessarily because they are less profitable, but rather because they are not spontaneously declared and are reported in a second stage. These secondary activities should be considered as important as the main ones and should be covered in the same type of adapted questionnaires. Since these activities are mostly female, an important source of under-estimation must still be rectified.

The measurement of multiple jobs brings to the fore activities concealed behind the usual activity of women in rural areas (agricultural family workers) and in urban areas (street vendors). In this respect, the procedures to enumerate multiple jobs also reveal the manufacturing activities of women, which have to be taken into account, in addition to their trade activities or their housework.

Another cause of under-estimation still lies behind the status of home-based worker or outworker. In the current state of thinking, these workers should be classified in the modern sector if they are engaged in sub-contracting relations with firms in this sector. Therefore, the risk of under-estimation is important since many of these workers will not be declared by the firms or their middlemen, while they will be excluded from the scope of informal sector surveys that nevertheless would succeed in enumerating them in the field. This is why, for the time being, efforts must be concentrated on these two categories of the informal sector or of its margins (street vendors and home-based workers) which are not properly captured nor correctly measured by existing statistical apparatus in most countries. This is a major aim of the WIEGO project.

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## ANNEX

### Steps to calculate employment and value added in the informal sector in general, and for women in particular

#### A. Employment.

The procedures to estimate women's share of informal sector employment are as follows:

1) Use the results of a mixed survey on informal sector. A mixed survey is a two-stage survey and is recommended to capture the various aspects and segments of the informal sector. At the first stage, a representative sample of households is selected: all own-account workers and employers in the informal sector are enumerated in the selected households. At the second stage, all the economic units of these informal operators are surveyed with an establishment questionnaire and preferably on the worksite. One of the shortcomings of such surveys is that, given the sample size, it is not possible to know the distribution of the labour force by detailed branch of activity.

2) In most cases, it will be necessary to proceed to a **comparative analysis of sources on labour force and employment**. The comparative analysis of sources consists of comparing data on labour force in the population census or labour force survey or any other household survey, with the data of registered employment from administrative records or rosters, or from the establishment surveys of the modern sector.

- the table cross-classifying the labour force or the occupied population by branch of economic activity (or at least occupation), status of employment and sex is increasingly available in population censuses and labour force surveys: from this table, according to the definition of the informal sector, agriculture, and eventually professionals and domestic workers will need to be excluded or distinguished.

- own-account workers (excluding those in agriculture and professionals) are included in the informal sector;

- family workers and apprentices are included in the informal sector; however, it is a simplification with reference to the international definition, because the modern sector may include a small number of these workers;

- employers and especially the employees working in the modern sector need to be excluded from those working in the informal sector. Many population censuses and surveys do not collect the necessary information for this procedure (for example, size of the enterprise, legal status, type of accounts, type of registration which the employees

may not know). It is then necessary to use the most accurate - and available or usable - sources of registered employment, such as annual surveys of modern enterprises, statistics of social security funds, registers of establishments and enterprises, to be completed by statistics of civil servants and any other component of the formal sector that may be missed in the other sources.

The difficulty in this step is - to separate the data by sex in the sources which usually do not distinguish employees by sex.

The estimation procedure will consist of: i) calculating the sex-ratio of the components of the modern sector for which it will be possible (civil service, public sector, etc.); ii) calculating the sex-ratio for the total population of permanent employees in the population census or the labour force survey; iii) using the preceding ratio to formulate one or several assumptions for the sex disaggregation of the modern sector as a whole.

At the end of the process, the share of employees in the informal sector is inferred from the simple subtraction of formal sector employees from the total population of employees: informal employment by detailed branch of activity, employment status and sex is then available, possibly disaggregated for urban and rural areas.

## **B. National Accounts.**

The procedures to estimate women's share of informal sector contribution to GDP are as follows:

i) for countries where estimates of informal sector contribution are calculated, disaggregate these estimates by branch of activity according to the distribution of males and females in informal employment by branch;

ii) for countries where informal sector surveys at national level, or at least urban level, give the levels of production, value added, and incomes for males and females in the informal sector, disaggregate the estimates by sex by applying the ratio derived by branch from the survey. Value added comprises labour compensation and the entrepreneur's gross income. It is obtained by deducting from the output (or the receipts) the intermediary consumption of raw materials, and other goods and services used in the production process.

iii) for countries where no calculation of the share of informal sector in the GDP is made,

- compare the estimates of national accounts by branch with the results of modern enterprises surveys and calculate the balance which represents both the underground economy (tax evasion of formal enterprises) and the informal sector,

- make an assumption on value added per head or per economic unit in the informal sector compared with the formal sector and calculate the contribution of informal sector by reference to employment in this sector (derived from the comparative analysis of sources),

- make an assumption on the ratio of females to males' earnings to calculate an estimate of women's contribution (the 1995 Human Development Report proposes for instance a ratio of 75 per cent which represents the gap between females and males' wages in most countries where data are available).

iv) In all cases, the level of contribution of informal sector in general, and of women in particular, depends on the state of labour force and informal sector statistics and surveys, especially for earnings. Several possibilities exist for re-evaluating the under-estimates to which these components of the economic activity are subject:

- use data on multiple jobs and apply to second jobs total or a fraction of the value added in the main activity,

- use the results of time-use surveys to increase the number of economically active women up to the boundaries of economic activity as defined by the 1993 revision of the System of National Accounts.

In disaggregating the contribution of the informal sector in the National Accounts by sex, account must be taken of the general equilibrium between resources and uses of the various products that constitute the GDP. Production and household consumption and other uses of production (investment, exports,...) will need to be cross checked at the macro level. Arbitration and choice between different available sources for the various variables are required. The recent informal sector surveys are a new source of data. They have induced national accountants to revise their previous assumptions on the productivity and incomes of informal sector activities: in particular, they have been less reluctant to choose the production figures of the informal sector against the consumption figures.

Finally, data on informal sector incorporated in National Accounts are a mix of results from informal sector surveys and arbitration resulting from the cross-checking with household consumption and other uses of the production. When national informal sector surveys were available and used (Mali, Tunisia, Chad), the value added per head did not distinguish by sex, and so the productivity of women is assumed to be equal to men's for a given activity: the underestimation of women's contribution depends only on the quality of labour force statistics and on the quality of the results of informal sector surveys. When experts' estimates are used (Benin, Burkina Faso), the underestimation of women's contribution may also depend on the assumptions made by experts for the productivity of certain activities which are mainly females' (such as traditional breweries in Burkina Faso, for instance).