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Abstract

This working paper considers the status of care work (especially unpaid work) across the entire African continent. To this end it briefly analyzes the conditions of supply of and demand for these services in different countries, after reviewing some of the demographic and economic characteristics, which necessarily determine these services. Finally, based on the use of available time-use survey data, an economic evaluation is proposed for this type of care, which is provided mostly free within the household and thereby largely determines the development of men, but especially women, in Africa.

Key words

Care, Unpaid Work, time, Gender, Global Economy.

Resumen

El presente documento de trabajo hace un recorrido por la situación en que se encuentra el trabajo de cuidados, especialmente no remunerado, en el conjunto del continente africano. Para ello realiza un breve análisis de las condiciones de demanda y de oferta de estas prestaciones en los distintos países, tras revisar algunas de las características sociodemográficas y económicas, que necesariamente condicionan estos servicios. Finalmente, basándose en la utilización de datos de las encuestas de usos del tiempo disponibles, se realiza una propuesta de valoración económica de estos cuidados que están siendo prestados mayoritariamente de forma gratuita en el seno de los hogares y, por tanto, están condicionando en gran medida el desarrollo de hombres, pero especialmente de mujeres africanas.

Palabras clave

Cuidados, trabajo no remunerado, tiempo, género, economía global.

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1. Introduction

THIS paper forms part of a wider research project on unpaid work in the global economy, carried out in 2009 and 2010 under the direction of María Ángeles Durán and with the support of the BBVA Foundation. The great breadth of the work, which encompasses contributions from seven researchers, calls for multiple publications: a monograph (Durán 2012) and five working papers, including this one and those by Díaz and Llorente (2012), Rogero (2012), García Díez (2012) and Durán and Milosavljevic (2012).

The papers range over different types of unpaid work (childcare, care of elderly people), different research methods (demographic and econometric techniques) and different re-gions (Latin America, Africa); though each monographic contribution can stand alone as an independently produced piece of research, the various perspectives complement one another. All six publications are concerned to identify the differences between work and employment, seek an international perspective, use dependency scales (in particular, the Madrid II scale), introduce time horizons and, as far as possible, estimate the time demand involved in meeting unpaid care needs.

The need to consider unpaid work as one of the pillars sustaining society is a fact established in the economics literature of recent decades. Likewise, it is clear that it is women, in the main, who put the attainment of their life objectives second to the obligations associated with carrying out unpaid tasks in the home and community. The consequences of this are unfortunate, and although institutionally their recognition has advanced in recent years at the international level, most countries in the world still show very significant shortcomings in matters relating to its evaluation and knowledge. This is a problem that is particularly acute in some continents, such as Africa.

Currently, social protection services and policies that serve to alleviate the effects of the unequal distribution of tasks continue to be inadequate, especially in countries in which there are privations of the magnitude of those in Africa, where economic resources are extremely scarce. This removes the possibility that these services can be covered by the paid private sector, thus transferring most of the responsibility for the welfare of dependent people to the home environment. Thus, steps towards a full welfare state, in which the responsibility for care services is shared and funded by a system of taxation, directed towards income redistribution, are still very limited. For this reason, the costs have to be covered individually through the market,

by non-profit organizations or, fundamentally, by the families of those individuals who require these services. This means, however, that on this continent formal and informal networks of support of such size have developed, that they are at the same time one of its principal strengths. For this reason, cooperation and support are key to Africa's present and future.

The great epidemics, like HIV/AIDS, particularly as they affect gender, are a critical element for determining the care needs of the population. In a society in which women have traditionally attended to care work and other tasks that form the basis for maintaining the home (such as fetching water and firewood), at the cost of their participation in paid jobs in the market. The increase in care needs becomes a crucial problem, even more so when women them-selves become care demanders since the unpaid work that has usually been carried out "invisibly" comes to light, with the consequent disruption for a society that is not prepared to con-front levels of demand with their high economic and emotional costs.

Women are fundamental pillars for supporting African families, but they have also achieved important advances in other spheres, as is clear from the achievements such as that of Wangari Mathai, an African woman who was awarded the Nobel Peace Prize for her contributions to sustainable development and democracy. For this reason, it is only right to highlight their role as active agents in the socio-economic sphere.

Establishing social policies directed towards alleviating the adverse effects arising from the unequal distribution of tasks will be a fundamental challenge in the coming years. This involves quantifying, in the most appropriate way possible, the existing needs and the necessary economic resources to enable suitable policies to be implemented.

With this general objective, this article is divided into four sections. The first aims to serve as a frame of reference for placing the analysis in a geographical context, for which rea-son it considers Africa's main demographic, social and economic factors, with particular reference to women, since they are the main providers of unpaid care work. In an effort to systematize the complex group of elements that make up the care network, the second section summarizes those factors of supply and demand that form the basis of this system so that, subsequently, in the third section, a scale of care requirements in Africa is constructed for 2010 and for the medium and long terms (2025 and 2050, respectively). The final section discusses the subject and the actions required throughout the continent.

2. Frame of Reference: Africa's Demographic and Socioeconomic Situation

2.1. Demographic factors

Economic poverty has decreased by a greater proportion in Africa than on other continents but continues to be very high, for which reason most African countries have very low levels of development. To the ongoing problems of high fertility, strong demographic growth and low literacy rates associated with economic shortages, are added the high health cost associated with diseases like HIV/AIDS, malaria and tuberculosis, which are the main causes of mortality across the continent as a whole (Martín 2007). Nevertheless, the Human Development Report 2010 paints a very positive picture for certain regions of Africa. It presents a list of the top ten countries that have developed the most relative to their position in 1970 with respect to the Human Development Index (HDI). Among these it is surprising to find three North African countries, Tunisia, Algeria and Morocco, as examples of success[1] (Rodríguez and Samman 2010). Therefore, although there is a serious internal gap between sub Saharan Africa and North Africa, we can see signs of hope for the future.

Below, we see these elements in greater detail in conjunction with others that are also key to the analysis of unpaid work. To systematize the study, the same methodology has been adopted here as in the other contributed papers, dividing the continent into country groups according to the classification of the United Nations. In the case of Africa there are five groupings:

[1] The 2010 Report uses a specific definition of success as the real level of change in the HDI obtained by a country in relation to its starting point, calculated by regressing the change in HDI on the initial level of HDI of that country.

TABLE 1: **African countries by group**

East Africa		Central Africa	North Africa	Southern Africa	West Africa	
Burundi	Mozambique	Angola	Algeria	Bostwana	Benin	Mali
Comoros	Réunion	Cameroon	Egypt	Lesotho	Burkina Faso	Mauritania
Djibouti	Rwanda	Central African Republic	Libya	Namibia	Cape Verde	Niger
Eritrea	Seychelles	Chad	Morocco	South Africa	Côte d'Ivoire	Nigeria
Ethiopia	Somalia	Democratic Republic of the Congo	Sudan	Swaziland	Gambia	St. Helena
Kenya	Uganda	Equatorial Guinea	Tunisia		Ghana	Senegal
Madagascar	Tanzania	Gabon	Western Sahara		Guinea	Sierra Leone
Malawi	Zambia	Republic of the Congo			Guinea-Bissau	Togo
Mayotte	Zimbabwe	São Tomé and Príncipe			Liberia	

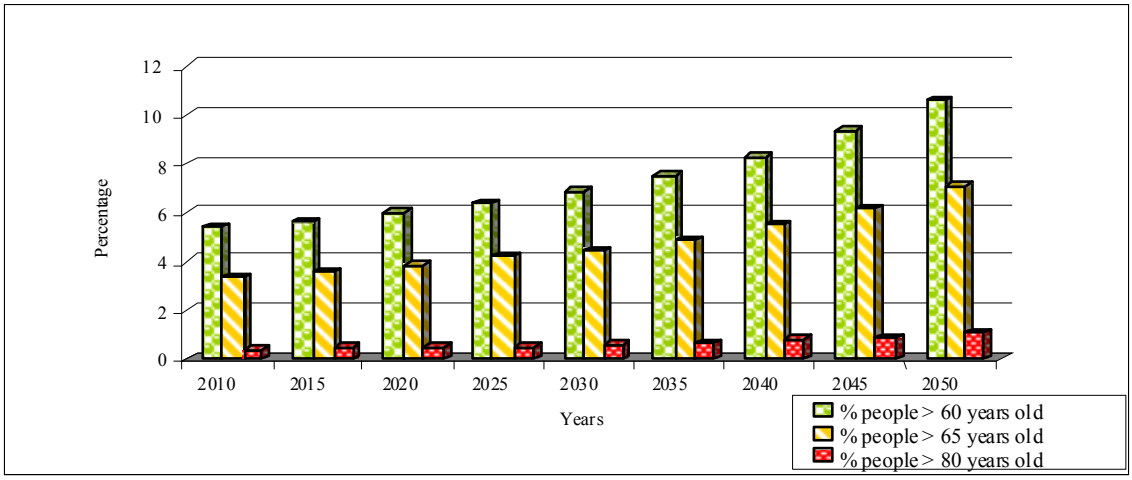
Source: Author, based on United Nations data (2009a).

Demographic trends are fundamental factors for analyzing unpaid work. Birth rates directly affect the participation of women in the labor markets and in carrying out unpaid care work, but there are also other equally important issues, such as the state of health of the dependent and non-dependent populations; aging and the pattern of mortality in the population; migration and, in general, the population structure of the region being analyzed.

Africa's population pyramid is expansive, meaning that there is a very small elderly population, particularly in the oldest age groups. This directly affects the care needs of the population, since on this continent there is negligible demand for care by that age group, while it is essential on others. Nevertheless, the United Nations is optimistic in its projections and forecasts a trend towards greater life expectancy[2]. This positive forecast for the continent reinforces the idea that improvements are required in the systems of providing care for older people that are able to satisfy potential future demand.

[2] In the group of North and Southern African countries the percentages of the population above 60 years of age follow the same pattern as those of Central, East and West Africa, or are even much higher, exceeding 19% and 13%, respectively, in the projections for 2050.

GRAPH 1: Percentage composition of the population aged over 60 years by age group



Source: Author, based on United Nations data (2009a).

Conversely, the care needs in the lower age groups are currently extremely high, not only due to the percentage of children in the population arising from the high birth rates but also because of care needs, which are crucial for survival in these age groups, bearing in mind the high infant mortality rates occurring on the continent. Infant mortality, according to the data of the most recent report published by the United Nations continues to show no reduction in 27 African countries (UNECA 2009), fundamentally because of diseases such as HIV/AIDS, tuberculosis and malaria, and problems of malnutrition, which are made more acute by the decrease in agricultural productivity as a consequence of illnesses in the active population. It is estimated that around 430,000 boys and girls were infected by HIV/AIDS in 2008, and that a total of 2.1 million young people were living with the disease in that year (UNAIDS/WHO 2009).

Furthermore, these diseases have meant that many African countries experienced a drastic reduction in life expectancy in recent decades. For example, in South Africa, life expectancy at birth fell from more than 60 years in the mid-1990s to somewhat less than 40 years in 2010 (Dorrington and Johnson 2002). According to World Health Organization estimates, the incidence of tuberculosis in sub-Saharan Africa is around 350 cases per 100,000 inhabitants. It is calculated that 1.6 million people died of tuberculosis in 2005, Africa being the region registering the greatest number of deaths (WHO 2009). Malaria is even more complex to measure statistically, since very often it is treated exclusively in the home or in private clinics. However, without doubt, the most lethal of the pandemics is that of the HIV/AIDS virus. It is estimated that, in Africa in 2008,

33.4 million people were living with the disease, 2.7 million were infected and 2 million people died. In 16 African countries at least 10% of the population is infected (WHO 2006), and in regions such as Southern Africa (Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe) one in four people aged between 15 and 49 years is living with HIV (UNICEF 2004).

TABLE 2: **Projected frequencies of births by country group (thousands of people)**

Years	East Africa	Central Africa	North Africa	Southern Africa	West Africa
2010-2014	13,000	5,531	5,089	1,272	12,073
2015-2019	13,551	5,804	5,015	1,229	12,284
2020-2024	13,906	5,944	4,858	1,190	12,429
2025-2029	14,166	5,980	4,721	1,158	12,643
2030-2034	14,379	5,959	4,650	1,129	12,904
2035-2039	14,521	5,914	4,605	1,096	13,055
2040-2044	14,510	5,835	4,537	1,056	13,010
2045-2050	14,334	5,705	4,411	1,023	12,829

Source: United Nations (2009a).

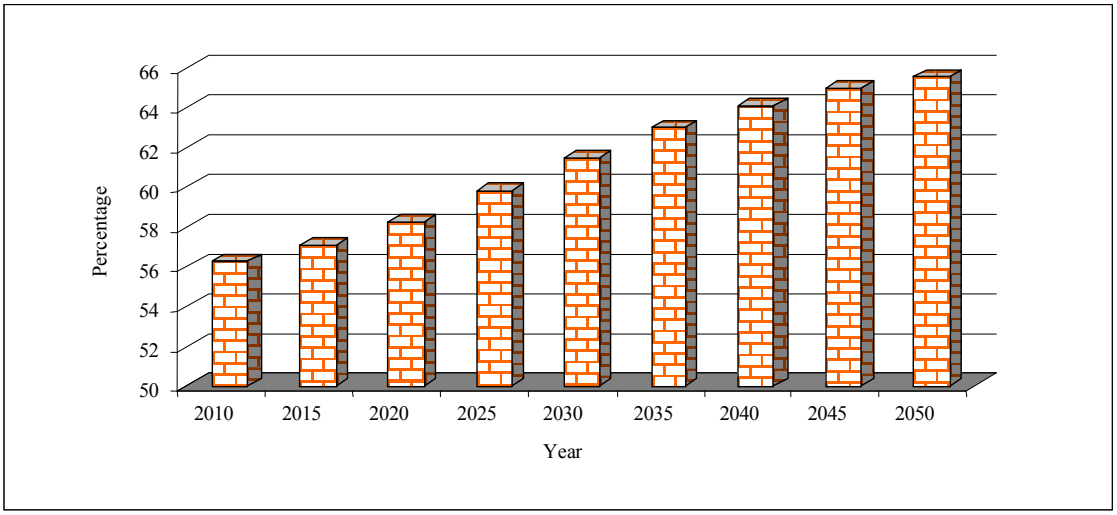
With this population structure, characterized by very high birth rates (especially in West and East African countries) and large numbers of children and young people, combined with positive estimates of greater life expectancy, it is predicted that over the next 40 years in Africa there will be a substantial increase not only in the population aged over 60 years, but also in the working-age population, which will therefore make it necessary to develop policies for promoting employment, especially in the case of the most disadvantaged groups.

TABLE 3: **Projected life expectancy at birth by country group**

Years	East Africa	Central Africa	North Africa	Southern Africa	West Africa
2010-2014	55.9	49.8	69.3	53.0	52.7
2015-2019	58.1	51.4	70.5	54.6	54.6
2020-2024	59.8	53.1	71.7	56.0	56.6
2025-2029	61.5	55.0	72.7	57.5	58.5
2030-2034	63.1	57.0	73.7	58.6	60.4
2035-2039	64.6	58.9	74.6	59.6	62.2
2040-2044	66.1	60.8	75.5	60.9	63.9
2045-2050	67.5	62.7	76.3	62.4	65.6

Source: United Nations (2009a).

GRAPH 2: Projected composition of the African population aged between 15 and 64 years



Source: Author, based on United Nations data (2009a).

In this way, the intermediate age groups become the caregivers *par excellence*[3] but, at the same time, are also care demanders. This situation is more acute than on other continents because these pandemics affect women in greater numbers and at younger ages than they do men (UNAIDS 2004; UNIFEM 2005). For this reason, it is noted that, on the one hand, women are being expelled from the market, especially in agriculture, so that they can take care of the sick and the dying (Budlender 2001; Heyzer 2004; UNAIDS 2004; UNIFEM 2005), while on the other, the women themselves, who are particularly vulnerable to the disease because of social and cultural factors, are the principal victims and consequently potential care demanders (Akintola 2004; Save The Children 2006; Urdang 2006).

[3] Although they are not the only ones: it is also recognized that there are children who act as care providers. These are considered later on in this article

TABLE 4: **Total dependency ratio by country group**[4]

Years	East Africa	Central Africa	North Africa	Southern Africa	West Africa
2010	88	91	56	55	84
2015	85	86	55	55	81
2020	80	80	53	55	76
2025	74	75	51	54	70
2030	68	69	49	52	64
2035	63	63	48	51	60
2040	58	58	48	49	57
2045	55	55	50	48	55
2050	53	52	52	48	53

Source: United Nations (2009a).

All the above factors lead us to predict a compensation between the population in extreme and intermediate ages, which will allow an evening out of the dependency ratios of African countries (especially those of Central, East and West Africa, which have very high ratios, fundamentally due to dependents aged 0-14 years, whereas the situation for those over 65 years of age is the opposite) and of other continents, which are lower in general terms, given the high percentage older people in their populations.

A final demographic aspect that needs to be considered is that of population movements. Employment has traditionally been an important factor influencing the international movement of people. In recent years, African women have become part of the migratory currents that are linked to their role in the market (UN 2005). Although during the colonial migrations women migrated mainly to join the men of the family who had emigrated previously, now they move as independent individuals or even as agents to create social links in the destination countries. Furthermore, there is a qualitatively very important movement that is the migration of highly trained and experienced people (a "brain drain"). This type of migration, traditionally confined to men, is also occurring in women, who either move with their children so that they can gain a better education in the destination countries, or emigrate alone, their partners being responsible for the care of their children in the country of origin

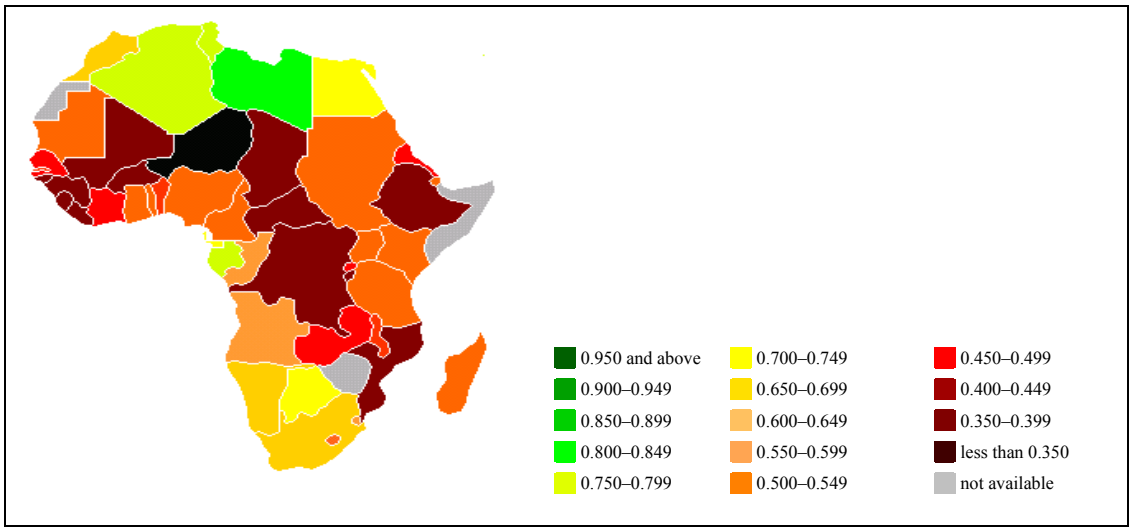
[4] The dependency ratio is defined as the ratio of the population aged between 0 and 14 years and over 65 years and the population between 15 and 65 years.

(Jabardo 2005)[5]. Thus, the volume of emigrants from south of the Sahara is around 2.1% of its population, the main emigrant countries being Mali, Burkina Faso, Ghana, Eritrea, Nigeria, Mozambique, Zimbabwe, South Africa, Sudan and the Democratic Republic of the Congo. The displacements are mainly produced intra-regionally (63.2%) and in countries of the OECD (25.2%) (Dilip and Zhimei 2008).

2.2. Social factors

Most African countries have an HDI[6] below the second quartile, which means that we are considering countries with a medium or low level of human development. Once again, with some exceptions, the conditions of the countries of Southern Africa are especially critical.

FIGURE 1: **Human Development Index in Africa, 2009**



Source: Author, based on the 2009 UNDP Report.

[5] The phenomenon of migration warrants a much more profound analysis. This paper only considers international migration, although internal movements also have very important implications (migration for reasons of security, rural-urban migration, etc.).

[6] Defined annually by the United Nations Development Programme (UNDP).

This structural situation manifests itself in these countries as quite limited state provision of education, health, social welfare and care services With a financial and economic crisis like that occurring at the international level, these aspects become more acute, such that the already limited services are suffering substantial cuts.

The original concept underlying the neoliberal policies that have been implemented in matters of health and education in recent years was to encourage a greater provision of these services by the market. However, the market does not respond easily to the needs of people with scarce economic resources. International aid helps to compensate for these cuts in some cases, but this type of solution considerably increases the vulnerability of the supply of service (UNIFEM 2005).

The inequalities of access to education have been a traditional source of exclusion for women in Africa, reducing their opportunities of gaining better jobs and loans, and of participating in public life. Although most African countries are close to achieving gender equality in primary education by 2015, currently there continue to be significant differences between the sexes in secondary and tertiary education, which largely determines the subsequent participation of women in the paid work markets and therefore means that they become relegated to unpaid activities in the home (UNECA 2009).

On the other hand, as previously mentioned, African women are vulnerable to a wide range of diseases and have a high percentage of maternity-related deaths, due in large measure to the high adolescent pregnancy rate, which is around 11.7%, according to WHO data (WHO 2006). The rates have dropped, but they are around an average of 200 per 100,000 births (UNECA 2009). This means that the principal suppliers of unpaid work are, at the same time, potential demanders of care, and, in this case, they are attended by voluntary organizations instead of by the male members of the household (UNIFEM 2005).

2.3. Economic factors

From the perspective that concerns us here, just as in the rest of the world, we can add to the previous elements a factor that is essential from the economic point of view: the incorporation of women into the paid work market, due in part to the inability of households to survive on the incomes of a single worker. This is a key factor because of its repercussions not only on the economic maintenance of families, but also on the distribution-redistribution of unpaid jobs.

The first of the questions represents a clear improvement in the situation of society as a whole. Nevertheless, the characteristics of African women's participation in the workplace is similar to that on other continents: high levels of horizontal and vertical segregation, significant wage discrimination with respect to men, a drop in participation in the work force by women of marriageable and child-bearing-age, labor laws that are insufficient to encourage participation, etc.

This is compounded by a further aspect, which is also in line with the international situation and with the incorporation of women into the market; namely that men, in the main, are not found to take responsibility for unpaid care work, thereby producing significant social imbalances (Nussbaum 1995).

3. Unpaid Work: Aspects of Supply and Demand

3.1. Measuring unpaid work

Measuring unpaid work is a task that requires many and varied aspects to be considered. Time-use surveys have become the most useful tool for visualizing this. Although surveys of this type do not exist in all African countries, significant advances have been made with respect to this in recent years. Time-use surveys have been carried out in a number of countries: Benin (1998), Bostwana (1981), Chad (2005), Ghana (1998), Kenya (1998), Madagascar (2001), Mali (1995), Morocco (1998), Mauritius (2003), Nigeria (2000), Senegal (1986), South Africa (2000), Tanzania (2005), Tunisia (2005), Uganda (1993), Zimbabwe (1991). Nevertheless, the International Association for Time Use Research (IATUR) confirms that not all of these are available, for which reason data from only some of the countries in which surveys have been carried out are used in this chapter.

Thus, for example, Table 5 shows the time spent by women and men on unpaid activities in Benin, South Africa, Madagascar and Morocco in different years[7]. These surveys make clear that women bear the brunt of unpaid work, and that the total burden of women's tasks is

[7] The choice of these countries is determined by the availability of data. From the countries that provide information an attempt has been made to choose those that might reflect the average situation of the group of countries that they represent. No data are available for analysis from any country representing Central Africa.

much greater than that of men. Both these circumstances are a common factor in all countries of the continent.

TABLE 5: Time spent on unpaid and paid work by gender

	Unpaid		Paid	
	Women	**Men**	**Women**	**Men**
Benin (1998)[2]	3 h 15 m	1 h 2 m	4 h 30 m	4 h 22 m
South Africa (2000)	3 h 35 m	1 h 25 m	1 h 55 m	3 h 10 m
Madagascar (2001)[2]	3 h 37 m	47 m	3 h 27 m	5 h 25 m
Morocco (1998)[2]	5 h 2 m	n/a[1]	1 h 55 m	n/a[1]

Notes:
[1] The survey for Morocco refers only to women's use of time.
[2] Data from Benin, Madagascar and Morocco are the averages of rural and urban results.
Sources: Charmes (2005, 5) and Direction de la Statistique, ENBTF 1997/98.

The evaluation of unpaid work activities on the continent requires a uniformity among the sources. The activities expressly considered in this chapter from most African surveys are: preparation of meals, cleaning, washing clothes, shopping, childcare, repairs and maintenance, caring for garden and domestic animals, transport time, voluntary work and others (UNECA 2003). However, the data needed for this research are very scarce for most countries, which obliges us to use a range of statistical sources (which do not always define the concepts in the same way and cover different periods) that make certain approximations, generalizing data to other countries for which no accurate information is available. Furthermore, some qualitatively and quantitatively important aspects are deliberately not used because the data are incomplete.

The following unpaid tasks may be highlighted for their importance:

TABLE 6. Time spent on unpaid work activities by person doing the activity

	Main unpaid activities in South Africa (2000)	
	Women	**Men**
Housework	3 h 19 m	1 h 47 m
Care of people	1 h 50 m	1 h 3 m
Community services	1 h 38 m	2 h 25 m

Source: Budlender (2007, 37).

The set of housework-related tasks differs from one country to the next. In particular, in most of the poorest African countries, activities like collecting water and firewood, which are completely covered in more developed countries, gain importance. These are activities that take considerable time, principally for women and also for children, although there is no statistical evidence for the latter (Wodon and Blackden 2006).

TABLE 7: **Average weekly hours per person spent on the activity**

	Collection of water		Collection of firewood	
	Women	Men	Women	Men
Benin (1998)	4.4	1.2	0.6	0.0
South Africa (2000)	1.2	0.6	n/a	n/a
Madagascar (2001)	2.6	1.2	0.9	1.7

Note: The values are averages of rural and urban areas.
Source: Author, based on data of Latigo (2005, 18).

The second big group, that of care activities, is qualitatively the most important. The demand for care presents peculiarities with respect to age, sex and the state of health of household members. With respect to supply, there are various sources for the provision of these services. Both of these are analyzed below in greater detail.

3.2. Care demand

The first group demanding care is made up of children, who, because of their age, need an adult to provide services with the aim of ensuring their full development and welfare. Age very importantly determines the relationships within the home and the care work required. Likewise, this demand may be more or less intense as a function of the level of health of the child. The smallest children require more intense care than adolescents, for example, and households containing sick children equally need greater involvement by the people providing care.

Furthermore, we find people of adult age who may come to need care for various reasons and of different types. We call this second group 'adult dependent persons', although as a function of the diversity and intensity of the tasks for which they require help, their definition as a group is difficult because they are very heterogeneous. The group includes sick and disabled people, and those who have some type of difficulty in carrying out a wide range of tasks associated with daily life because of their age (Fernández Cordón and Tobío 2007).

These circumstances largely condition the type of care services that satisfy the needs of these people, since important economic and resource limitations oblige families to assume responsibility for most of them.

3.3. Care supply

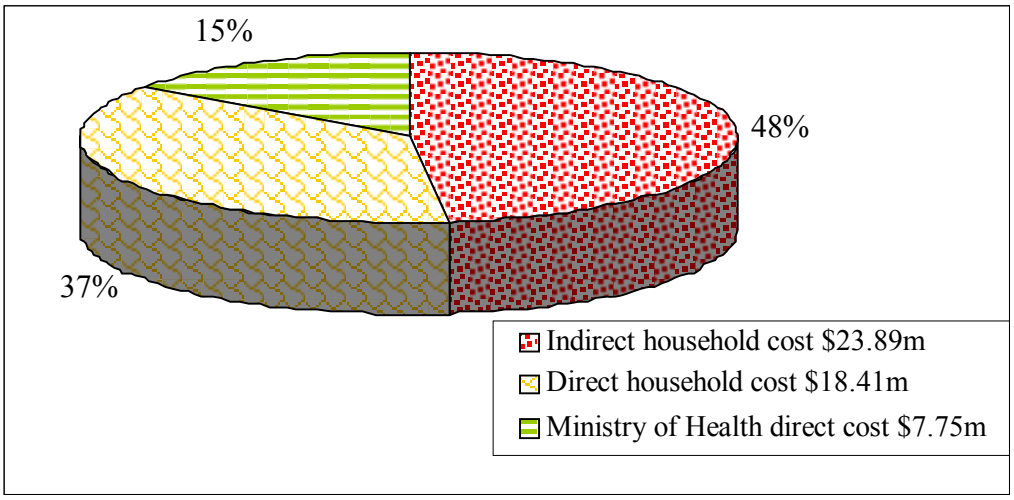
The demand can be satisfied by sectors with very distinct characteristics: public bodies, the market, households and not-for-profit entities. Therefore, amongst the activities to which we have referred, there is not only an unpaid sector, but also a paid sector that must be taken into account. The production of these services by one or other provider has very important implications in the economic sphere, but also from an emotional perspective.

From the economic point of view, the services supplied by the market (principally in the private sector but on occasion also in the public sector) involve a monetary consideration that largely determines the coverage possibilities of many households, especially those with fewer economic resources, or those that are located in places with a lower supply (for example, households situated in small towns far from large cities where hospital care, doctors, access to specialized centers, etc., are not available). Furthermore, the emotional connotations of different service providers are not the same, and even vary from agent to agent within the same sector. In other words, the appraisal of the services that they receive by persons who need care varies as a function of a range of factors, such as whether this aid is provided by a family member, a private company or a public institution. Subtle differences can also be noted among the people receiving the service. For example, it is not the same for help to be received by a child or an elderly person, by a man or a woman, etc. The assessments they make will very probably differ. The same happens with respect to the time the help is received, and the type of help required (people with disabilities, less labor-intense help, etc.), amongst other things. It is fundamental to understand the relationships between the different areas associated with this type of activity.

In Africa, more intensely than for other, more developed continents, the majority of dependent people manage to survive in their environment as a result of what is known as informal care, taken to be care for dependent people provided by family members, friends and other people who receive no economic remuneration for the help they offer (normally NGOs). Therefore, the principal groups of service providers of this type are households and volunteers. By

way of example, we may examine the distribution and coverage of the costs of one of the most common diseases in an African country.

GRAPH 3: Cost of malaria in Ghana by sectors, 2002



Source: WHO (2006, 123).

So, the most common profile of a person supplying unpaid work is that of a woman aged between 15 and 64 years, with few economic resources, several children, a low level of education and, often, health problems, who, at the same time, has a job and receives little or no formal or informal aid. Moreover, combined with this, in countries with lower levels of development, there is an especially worrying profile: that of boys and girls who, because of the susceptibility of the other family members to illness, are forced to support their households not only by way of unpaid tasks (caring for sick family members, collecting water and firewood, etc.), but also in the economic sphere in the case of the death or serious illness of parents. In some countries, such as Sudan, the percentage of children in this situation reaches 13% (UNICEF 2009). By way of example only, we may mention that across the whole of Africa there are 14 million orphans exclusively as a result of HIV/AIDS (UNAIDS/WHO 2009).

On their part, not-for-profit organizations, although they have some problems because of a dearth of international coordination, with a need for improvements in the delivery mechanisms and deadlines (WHO 2006), account for 16% of average total African health expenditures. The cost for these volunteers is not only economic but also emotional, since they live in very precarious conditions, occasionally requiring the same sort of health care as those they care for, which places them under high levels of stress (UNAIDS 2000; Akintola 2004).

There is a two-fold limitation on access to market services. On one hand there is an economic restriction, especially in poor countries like most of those in Africa, but there is also the problem of scarce access to particular services, especially in certain geographic areas (Meil 2000; Cayo 2006).

In this way, the private sector (households, not-for-profit organizations and the market) provides services that account for more than 49% of total health expenditures; in some countries, like the Democratic Republic of the Congo, it exceeds 80% (WHO 2006).

Finally, the aid supplied by public bodies is much lower than what is needed. African countries spent on average 5% of their GDP on health in 2003, 51% of which was government expenditure. External sources provide an average of 26%, but ranging widely from less than 1% in countries like Algeria to more than 75% in others like Rwanda (WHO 2006).

4. Quantification of Satisfied Care Needs: An African Scale

IT is frequently observed in the specialized literature that the analysis of demand for care is tackled from a general perspective, addressing the overall needs presented by the population. However, this article refers only to the demand for care that is satisfied. In other words, it tries to quantify the economic cost of care that is already being provided within households. Therefore, estimates are minimum estimates in the sense that only part of the costs associated with meeting the total demand are considered.

4.1. Introduction of the criterion of satisfied demand

Quantifying care needs, as demonstrated throughout this article, is a highly complicated task. Following the *Oxford scale* the so-called *Madrid scale* was created (Durán 2003, 2005, 2012). This is used to calculate the impact of care needs in a particular population and to measure the total care demand of the overall population of a particular territory, enabling a quantitative approximation by considering the care deficit in a specific society (Batthyány 2004). This section makes use of this scale to try to place a value on the care needs of the

population of Africa as a whole[8], first from the notion of demand satisfied by all sources, then focusing on demand satisfied by households alone.

The population profile of Africa means that both the content of the scale and the results obtained on applying the scale differ radically from those produced for countries on other continents, since on the one hand the demand structures are very different, and on the other, this demand is also satisfied in a different manner.

TABLE 8: **Population by age and country groups**

Age group	East Africa	Central Africa	North Africa	Southern Africa	West Africa
			2010		
0 to 14 years	143,069	57,535	66,974	18,026	130,260
15 to 64 years	174,149	67,661	136,063	37,318	166,504
65+ years	9,968	3,712	9,884	2,625	9,292
			2025		
0 to 14 years	183,071	72,552	71,548	17,623	159,115
15 to 64 years	269,501	104,671	173,811	40,726	248,924
65+ years	16,196	5,668	17,763	4,324	14,694
			2050		
0 to 14 years	205,980	79,091	66,187	15,510	179,466
15 to 64 years	465,405	179,808	211,081	45,564	408,836
65+ years	40,045	14,069	43,810	6,316	37,299

Source: United Nations (2009a).

The type of demand to which the scale refers is the *satisfied demand,* not the total demand, since on this continent there are very broad groups that match different profiles (of age, state of health, ethnicity, etc.) whose demand for care is not being addressed either by public bodies (because important limitations still exist in public policies for the care of dependent persons, by the private supply in the marketplace (because these people lack the economic resources to pay for care), by households and by volunteers (since they are limited when it comes to addressing such a high demand for care). Addressing the real demand instead of the satisfied demand, the differences with respect to other countries would be even more marked, since these follow an inverse Gaussian distribution, thereby indicating that the extreme age groups require

[8] The territorial diversity seen on the continent makes it very interesting to examine this matter in more depth at the level of individual countries, or at least, of large aggregations. Therefore, we propose to address this matter from a less generalized perspective in future articles.

more care than all the others. In the case of African countries the distribution appears to be strongly influenced by sex and disease incidence in young adults.

To construct the scale for Africa a scale ranging between one and five has been established, where a value of one corresponds to individuals who are able to provide all their care needs themselves (understood from a collective point of view, in other words, people from the same age group meet the global demand needs and a value of five refers to those individuals who need permanent care that cannot be satisfied by the group. As discussed above, the main drawback for the intended analysis is the lack of homogeneous data that enable international comparison. With the aim of providing the maximum possible homogeneity for this article, the scale has been constructed taking into account only three large age groups, which greatly limits the analysis, since very different situations may pertain within each group.

TABLE 9: **Scale for Africa. 2010**

	A	B	C	D	E	F	G	H	I	J	K
	Total satisfied demand	**Demand satisfied by households**	**DSH scale**	**Weighted DSH scale**	**DSH Time (daily)**	**DSH Time (annual)**	**Population (thousands)**	**Real daily DSH time (thousands)**	**Real annual DSH time (thousands)**	**Percentage DSH distribution**	**Total cost to mean salary (€ thousands)**
0-14 years	2	85%	1.70	2.4	12.0	4,380.0	415,864	4,990,368	1,821,484,320	82.14%	765,023,414.40
15-64 years	1	70%	0.70	1.0	1.5	547.5	581,695	872,543	318,478,013	14.36%	133,760,765.25
65+ years	3	95%	2.85	4.1	6.0	2,190.0	35,481	212,886	77,703,390	3.50%	32,635,423.80
									2,217,665.723		931,419,603.45

Note: DSH: Demand satisfied by households.
Source: Author.

Taking the aforementioned into account, the scale of demand for care that is satisfied in Africa is shown in column A of Table 9 In these countries, the needs met are very limited. On one hand, the under 15 age group is unable to take care of its own requirements and experiences an especially dramatic situation, given that the lack of coverage, which is principally due to scarcity of economic resources, has extreme consequences, as is shown by the continent's high infant mortality rates. This is also the case in the group of people older than 64 years of age, although to a lesser extent, due to their personal self-sufficiency.

Column B of Table 9 reflects the proportion of the satisfied demand for care that is met exclusively by households. Africa has the most evident correspondence with the system of unshared care, for which reason it is estimated that more than 70% of aid is provided within the family (Rogero-García 2012). Column C is the product of columns A and B, and column D is the previous scale, weighted by the reference group (15 64 years). Thus, we can see that the elderly receive greater attention within the home, fundamentally because there is less aid available from the state, the market or the not for-profit sector to cover the needs of this age group.

As a first step, the economic quantification of unpaid work requires the time spent to be quantified. Given that information is not available concerning the time dedicated either to the care of children or of adults, broken down by age, and that we have no data about the time given over to the care of the sick for all African countries, it is necessary to estimate these values. To do this, some of the time-use surveys are used from the countries for which they are available. Thus, the average daily time dedicated to the care of the 15-64-year-old group is considered to be 1 hour and 30 minutes[9], enabling an estimate to be made for the times of the other age groups, as illustrated in columns E and F of Table 9 Transforming this scale by weighting it by each age group of the existing population yields the total time that households dedicate to satisfying care needs.

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[9] This statistic must be considered with caution, bearing in mind that it is an underestimate, since most surveys that have been used to obtain it were done in the countries with the highest levels of development in Africa. This leads to the consideration that in the other countries, where there is less contribution from the paid market and greater vulnerability to diseases, the time would be greater. Likewise, the statistic is the mean of both sexes, and so does not clearly reflect women's contribution, which, being of longer duration, is also greater in this sector. Finally, and despite the fact that this article does not rigorously address it due to the scarcity of data, mention must be made of simultaneous activities, i.e., those that are not reflected in the survey because they are done at the same time. Most of these would be care activities.

Thus, the youngest group consumes a great deal of resources, accounting for an average of 12 hours of care work carried out daily by households. By contrast, the elderly group consume approximately half that amount of time.

In total, African homes dedicate more than six thousand million hours a day satisfying the needs of their family members. It is assumed that during that time, care providers cannot devote themselves either to productive activities outside the home or to personal recreational activities. Furthermore, it must be borne in mind that the services are provided unequally by men and women, i.e., that some people are sacrificing an even greater part of their time, producing two negative consequences. On one hand, the lower level of participation in productive work will have a direct bearing on the possibilities for the continent's economic development, since it produces inefficiencies in the allocation of resources in the economic structure. On the other hand, it produces important personal limitations on the acquisition and improvement of individual capacities that constitute the central axis of human development (Sen 1985).

The attempt to place a monetary value on the services these people are providing despite receiving no economic compensation is, like those discussed above, a complicated matter, since to the difficulties associated with the statistical and economic limitations we can add the lack of homogeneity throughout the continent. Nevertheless, this evaluation becomes a crucial fact insofar as the services are being provided altruistically by families and not-for-profit institutions. This demonstrates that these services are clearly inadequate, for which reason the need to develop policy in this respect is pressing.

In trying to address this matter the input method has been employed to assign a value to the care tasks, using the technique of opportunity costing[10]. The estimate of the mean hourly wage that might be earned by a person rendering their services in the marketplace has been calculated by the following procedure:

1) Available data on the minimum wage at current prices for 2008 for countries in the International Labour Organization are collected (ILO 2009).

[10] This consists of assigning a hypothetical wage to the person who undertakes the care work in the home equivalent to what they would earn if they were to sell their labour in the paid market (García Díez 2003, 48; Budlender 2004, 43).

2) The wages in the currency of the various countries are converted into their equivalent values in euros, using the exchange rate published by the European Central Bank in November (ECB 2009).
3) The arithmetic means of the minimum wages are calculated for the countries with similar levels of development according to the HDI of those countries for which information is available. To simplify this, they are grouped as high (0.75 to 1), medium (0.5 to 0.749) or low (<0.5).
4) The average minimum wage calculated in point 3) is assigned to those countries for which information is not available, once again according to their HDI.
5) The overall arithmetic mean is calculated.

Thus, in 2008 the minimum monthly wage for African countries was around €66.84. Assuming a 40-hour working week, the hourly wage was €0.42. Once again, a very conservative scenario is presented, for several reasons. First, the minimum wages for each country have been considered. On occasion these are highly insufficient, which biases the averages downwards. Second, the time spent doing unpaid work is clearly undervalued in African time-use surveys. Finally, the wages for 2008 were considered. All these factors significantly reduce the total amount, which is the product of the number of hours spent annually on care by the households for each age group multiplied by the mean hourly minimum wage (column K).

4.2. Future forecasts

The final section of this article is given over to considering how this situation might change by 2025 and 2050. To this end, population projections done by the United Nations have been used, considering only a medium-term scenario.

There are many possibilities for establishing future scenarios. Although it is not the central objective of this article, various modifications that enable the future situation to be reflected more reliably have been considered. Broadly speaking, an optimistic scenario has been considered in which the satisfied demand increases in parallel with the forecasts of increased life expectancy, which are possibly associated with improved family support policies, and primarily aid in matters of health care, especially by 2050. In the same way, and once more with no intention of being exhaustive, the times have been modified in anticipation of an improve-

ment in the public statistics that more realistically reflect the time spent on care under both scenarios.

The result is the expectation that the time spent on care could be more homogeneously distributed among the various age groups, increasing time spent on care of the elderly as a result of longer life expectancy. In turn, the total time increases because of the larger population and new technical and economic resources that will become available to satisfy their needs. The estimated monetary costs, therefore, will not mean a dramatic increase since, additionally, a change is predicted towards a model of care in which more agents participate and hence care is more balanced.

TABLE 10: **Scale for Africa. Forecasts for 2025 and 2050**

2025	A	B	C	D	E	F	G	H	I	J	K
	Total satisfied demand	Demand satisfied by households	DSH scale	Weighted DSH scale	DSH Time (daily)	DSH Time (annual)	Population (thousands)	Real daily DSH time (thousands)	Real annual DSH time (thousands)	Percentage DSH distribution	Total cost to mean salary (€ thousands)
0-14 years	3	70%	2.10	3.8	9	3,285.0	503,909	4,535,181	1,655,341,065	69.73%	695,243,247.30
15-64 years	1	55%	0.55	1.0	2	730.0	837,633	1,675,266	611,472,090	25.76%	256,818,277.80
65+ years	3	70%	2.10	3.8	5	1,825.0	58,645	293,225	107,027,125	4.51%	44,951,392.50
									2,373,840,280		9,970,012,917.60

2050	A	B	C	D	E	F	G	H	I	J	K
	Total satisfied demand	Demand satisfied by households	DSH scale	Weighted DSH scale	DSH Time (daily)	DSH Time (annual)	Population (thousands)	Real daily DSH time (thousands)	Real annual DSH time (thousands)	Percentage DSH distribution	Total cost to mean salary (€ thousands)
0-14 years	4	60%	2.40	4.8	9	3,285.0	546,234	4,916,106	1,794,378,690	60.67%	753,639,049.80
15-64 years	1	50%	0.50	1.0	2	730.0	1,310,694	2,621,388	956,806,620	32.35%	401,858,780.40
65+ years	3	65%	1.95	3.9	4	1,825.0	141,539	566,156	206,646,940	6.99%	86,791,714.80
									2,957,832,250		1,242,289,545.00

Note: DSH: Demand satisfied by households.
Source: Author.

5. Conclusions

THE exclusion of unpaid work activities from the system of national accounts means the elimination of factors essential for human development, but also for the development of the social fabric as a whole. In Africa, which is already confronted by a complex situation from a socio-economic point of view, this problem becomes even more acute. The population undertaking these tasks, fundamentally comprised of women, cannot continue to carry them out indefinitely. Maintaining this situation might mean in the long term the perpetuation of the deterioration in health, nutrition and education, which, in their turn, would have adverse consequences for the level of gross domestic product (Elson 2002).

Therefore, the need to analyze unpaid activities in greater depth is clear. It is essential to view this type of work in conjunction with the development of transversal and sectoral policies that influence specific aspects like health and education and enable the interaction between the two. As set out in the Millennium Goals, this is one of the fundamental challenges for achieving a better future for the continent.

The current situation for Africa is complex. The special demographic characteristics (high birth rates, greater life expectancy, patterns of mortality of the population due to infectious diseases, state of health of the dependent and non-dependent populations, migration) and socio-economic characteristics (participation in the labor market by women and men, doing unpaid care work, limitations of access to health, education and social welfare, financial and economic crisis) mean that the need to develop efficient care systems for people is increasing relative to other countries.

For this reason, the profile of the demanders and providers of care need to be closely studied. Therefore, it is essential to demand the production of complete statistics that include time-use data to allow detailed analysis of the care tasks performed by families, differentiating between women and men, and other data on public expenditure on social affairs and the provision of services by private companies, in each country. With the data currently available, it is only possible to make a rather biased estimate, albeit one that is useful for demonstrating the inequalities that exist and the heavy burden of work in African households.

Nevertheless, the significant economic investment needed to partially free families from their existing routines is obvious. This will have a bearing not only on improved living conditions of people receiving care and of caregivers, but also on the improved productivity of

the country, since it will be possible to include a large proportion of the working-age population in the productive system.

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NOTA SOBRE EL AUTOR - *ABOUT THE AUTHOR*

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