STRUCTURE OF THE CARE SECTOR IN KENYA'S ECONOMY

An analysis based on the Social Account Matrix 2021

Care Economy Africa Project

Working Package 2

NATIONAL TRANSFER ACCOUNTS
Understanding the generational economy
CREG
CONSORTIUM RÉGIONAL POUR LA RECHERCHE EN ECONOMIE GÉNÉRATIONNELLE

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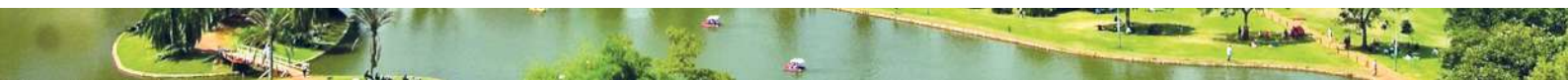

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1. Background and Rationale

The care economy entails a diversified range of productive work with both paid and unpaid work activities for care that is necessary for the physical, psychological and social wellbeing of primarily care dependent groups such as children, the elderly, persons with disability and person who are ill (ICRW and WEE 2023) Growing populations, aging societies, changing families, women's secondary status in labour markets and shortcomings in social policies demand urgent action on the organization of care work from governments, employers, trade unions and individual citizens. Care entails both paid and unpaid work. The paid care workers are those who perform care work for pay within a range of settings such as private households, public or private hospitals, nursing homes, schools, and other care establishments. It also includes domestic workers whose activities involve cooking, cleaning, and performing household chores. The International Labor Organization (ILO) 2016), defines "domestic worker" as "any person engaged in domestic work within an employment relationship".

The unpaid care work, i, includes the unpaid household services to care for household and non-household family members (children and the elderly), activities which are beyond the "production boundary" under the current System of National Accounts.The responsibility of unpaid care work falls disproportionately on women. Global statistics reveal that women perform 76 percent of all unpaid care work, which implies that they do over three times more than men. African states have for a long time demonstrated a failure to recognize care work as productive work resulting in the undervaluing of care work and complete unrecognition of unpaid care. This highlights why the care economy is far from a policy priority in the continent (Salimah Valiani 2022).

The importance of addressing unpaid care work is well articulated in the Sustainable Development Goals (SDG 5 Target 5.4.1), which commits the member states to recognize and value unpaid care and domestic work through provision of public services, infrastructures and social protection policies and the promotion of shared responsibilities within household and family as nationally appropriate. The Kenya Constitution (2010) also explicitly provides that it is the shared responsibility of both parents to care for their children. Other relevant policies and legislations on care in Kenya includes; the National Policy on Older Persons and Aging (2009, revised 2014) that provides for the provision of reasonable care and assistance to older persons by family and the state; the Kenya Palliative Healthcare Policy (2021-2030) that seeks to enhance palliative care services; Persons with Disabilities Act, 2003, which provides for the care of persons with disabilities; The Children Act, 2022, which provides for care of children, among other policies and legislations. In addition, Kenya has ratified various international treaties and instruments that address the issue of gender equality and care work, including: the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), Convention on the Rights of the Child - CRC (1989), Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa (Maputo Protocol), African Union Agenda 2023, the Solemn Declaration on Gender Equality in Africa, among others.

However with all these policy in place, recent statistics from Kenyan time use survey indicate that Kenyan women spend 4 – 5 hours per day on unpaid care work compared to about 1 hour for men, which is about 4 times more time for women than men. If we add up all forms of work (paid and unpaid), Kenyan women work 7 -8 hours whereas men work 6 -7 hours, resulting in a gender gap of 1.16. This implies that women work 1.16 times more than men(KNBS 2023). Further the survey findings show that gender inequalities are evident in the participation rates on non-System of National Accounts (SNA) production activities. Nationally, the participation rates in non-SNA productive activities was 68.7 per cent, out of which women's participation was 93.5 per cent, while men's participation was 42.7 per cent.

The unequal gendered distribution and low status of care work constitutes a key barrier to women's social, political, and economic empowerment in Kenya. Unpaid care work is a key factor in determining whether women enter into and stay in employment and the quality of jobs they perform.

The disproportionate responsibility for care work (especially unpaid work) results in time poverty and significant opportunity costs, particularly among the poorest and most marginalized women and girls. The unequal distribution of unpaid care work also reinforces gender inequalities and dependence, which increases their vulnerability and risk of violence.

In order to help overcome the widening gender disparities in care economy, feminist economics have come with a progressive measurement of non-SNA care economy that guides the direction of policy lever-shift towards measuring the role of men and women in the care economy . Measuring gender role will help build policies that are gender sensitive at reducing women vulnerability in care economy. One such project is CARE ECONOMY AFRICA.

CARE ECONOMY AFRICA project was initiated to improve the quality of care, reduce, reward and redistribute the important unpaid care work of women within households, families and communities in Africa. In its pilot phase, two countries are concerned, on behalf of Africa: Kenya and Senegal. However, the Care Economy Africa Project is part of an inclusive project that replicates the same initiative in other countries including Canada, Italy, Colombia, Mongolia, Sri Lanka. These countries were chosen because of their differences from each other in terms of economic development and social and economic structures, their political orientations, their political and institutional approaches to care and their gender relations, for useful comparisons.

The project includes working groups to

i) Map, measure and compare the care savings of eight (08) countries;
ii) Develop gender-sensitive macroeconomic models that take care into account;
iii) Translate research knowledge into policy tools.

This working paper focuses on the development of gender-sensitive models and more specifically, the construction of a gender-sensitive Social Accounting Matrix (SAM). The paper presents a brief review of the related literature on care and non-care work as well as different stages of construction of SAM for Kenya that integrates the care sector and finally, perform a descriptive analysis of the preliminary results of the matrix.

2. Literature Review

Economic analysis historically neglected the significance of domestic care work and its contribution to social reproduction. The initial endeavours arose from the contributions of Becker (1965) a neoclassical economics who incorporated the concept of telecommuting into the examination of an individual's decision-making process about time allocation. Nevertheless, feminist economists have expressed criticism towards their work, particularly about Becker's analysis of the conventional gender-based division of labour that would arise from individual choices. Feminist economists argue that this theory downplays the significance of various forms of gender discrimination in the labour market, which can either be overt or subtle (Ferber and Nelson, 1993). The assignment of women to domestic work and caregiving is not a voluntary decision, but rather a societal construct that restricts women's capacity to participate in the workforce. Household chores and caregiving performed by household members, which do not have a measurable monetary value, are not considered as work according to country's national accounts the world over.

The interplay of demographic changes, climate adaptation, and technological shifts, along with other global transformations, creates both risks and opportunities. The outcomes of these changes largely depend on how care systems are provided at the local, national, and global levels (World Health Organization, 2024; FEPS, 2024; International Labour Organization, 2024). The persistent inequalities in wealth distribution are placing greater pressure on economies and their citizens. Consequently, the condition of the care economy has emerged as a crucial limitation for nations aiming to achieve resilient economic growth (UN Women, 2023; World Health Organization, 2024; Education International, 2024). The importance of social infrastructure in enhancing social capital, mobility, and economic connectivity is increasingly supported by evidence. Care investments are now being recognized as promising opportunities that are strategically relevant to various aspects such as economic growth, demographic planning, infrastructure development, climate resilience, technology integration, and talent management, among others (FEPS, 2024; World Health Organization, 2024; UN Women, 2023).

In recent past policy makers have increasingly acknowledged the constraints that unpaid care work imposes on both economic advancement and the empowerment of women in low-income countries. Despite being in its initial phases, empirical study in this field is already yielding significant results (Hirway& Antonopoulos, R. 2020). These efforts employ national time-use surveys, field research using a combination of qualitative interviews, and experimental or quasi-experimental methods to evaluate the unpaid care responsibilities of women in various developing countries, including China, India, Kenya, Nepal, Rwanda, Tanzania, and Vietnam (Kabeer, Haider & Mamoon,2018).

Globally, its observed that Care labour, both paid or unpaid, are at the heart of humanitarian concern because societies and economies depend on them. More than three-quarters (¾) of unpaid care time and two-thirds (2/3) of paid care workers are women worldwide. For instance, in South Korea which is patriarchal and has feministic culture assigns primary care for children and the elderly to women in the household, emphasizing gender's economic importance (Kim &Gornick 2021). Unpaid care work by family members, especially women, makes up a large part of Korean society's care, but the population's rapid aging and the fact that more than 50% of women aged 16 and older worked in the year 2016-18 (Hwang, & Park 2021). Women provide basic needs and support to dependents like children, fragile elderly, and disabled persons (ILO 2018). In South Korea, there are many types of paid caregivers, from domestic service workers, nannies, and home care aides in private homes to formal workers in child care centers, nurseries, early childhood learning centers, elder care centers, nursing homes, and assisted living facilities to nurses and teachers (Kim &Gornick 2021)

Care labor can be divided into two primary categories: 1) direct, personal, and relational care activities, such as taking care of a newborn or looking after a sick partner, and 2) indirect care activities, which involve domestic chores like cleaning and cooking. These activities can be either paid or unpaid (Folbre &

Warlick 2020). Unpaid care and domestic work are performed within households and communities without receiving explicit monetary payment. Care providers carry out their duties in several environments, such as residential dwellings, public spaces, and private, non-profit establishments (Molyneux, Thomson, De la Vega, and Rueda 2020). On a global scale, the bulk of caregiving work is carried out by unpaid caregivers, primarily women and girls. The «care economy» refers to the provision of care services, whether they are paid or unpaid, with the goal of enhancing the well-being and functioning of individuals, families, and communities. This includes duties such as domestic chores, childcare, elder care, healthcare, and education. A recent study emphasizes the importance of the care economy in supporting social reproduction and promoting human development (Folbre, 2019; Hirway, 2024).

Unpaid caregiving boosts the economy and benefits individuals, families, and society (Stiglitz et al., 2007). In addition to cooking and cleaning, people care for the sick, elderly, and children. Unpaid care work is often disregarded in policy agendas because it is thought to be too difficult to measure and less relevant to policy than market work. Ignoring unpaid care labour leads to incorrect assumptions about time's value and people's well-being. These findings limit policy effectiveness in several socioeconomic dimensions, including workplace gender inequities and empowerment as observed by ILO (2018)

The unpaid household service work is defined as unpaid work performed within the household sector which could be contracted out to a market service provider under regular conditions also referred to as 'third party criterion' (Reid 1994). Further, Reid (1934) in her book on "Economics of Household Production". introduced a way of valuing unpaid domestic work. This was complimented by UNECE (2017) by developing the Guide on Valuing Unpaid Household Service Work and recommended methodology for the measurement of unpaid labour input. With the development of time use surveys several empirical studies have examined women's economic contribution to the economy and household welfare. For instance, Donehower (2018) introduced the gendered economy approach thus complementing National Transfer Accounts (NTA) to account for women's unseen work. Using National Time Transfer Accounts (NTTA) methods, Donehower (2018) shows how sex and age affect the production, consumption, and transfer of unpaid domestic work time across life. Results from 60 National Transfers Accounts (NTTA) nations demonstrated gender differences in employment specialisation. Women do more unpaid housework than males while the paid labour market exhibits the opposite tendency.

Regarding the burden of unpaid work on women, literature show that women and children in households without access to essential services like healthcare, sanitation, safe water, and electricity bear a significant burden of unpaid work (Chakraborty 2005; Connelly and Kimmel 2014; Terbish and Floro 2016). For instance, the insufficient infrastructure for delivering safe water and sanitation services in Mongolia has a negative impact on the health and well-being of both genders and all age groups. Additionally, it also affects the amount of time that men and women spend on unpaid work. The analysis of the 2011 Mongolia TUS data reveals that individuals living in homes that depend on public wells and rivers for water spend a considerably greater amount of time collecting water (Terbish and Floro, 2016; Rajeh, 2019). According to Rajeh (2019), women and men in Mongolian families spend an average of one hour every day, with 41.3% of houses being occupied by women and 37.14% by males. The amount of time women spends on water-related duties, such as cooking and cleaning, also increases.

Other than access to essential services that affect unpaid care, research also show that the amount of unpaid care work done by women is influenced by their income level and the social and care policies in place (Cech & Simard 2021). The establishment of a welfare state in Nordic nations has resulted in the government providing care services to the public (Gálvez-Muñoz, Rodríguez-Modroño, and Domínguez-Serrano 2011). In nations with limited governmental investment in care provision, such as Italy and Spain, a significant portion of care labour within middle- and high-income homes is outsourced to the market and predominantly carried out by low-paid immigrant carers. Conversely, women in lower-income households depend only on their own work and the assistance offered by family members and neighbours.

On whether there is variation of time spent in undertaking unpaid work by gender, Muriithi et al.

(2017) examined age and gender before valuing hourly wages in Kenya. The work of men and women in houses, fields, and family businesses are used to value unpaid effort. The authors employ Donehower (2014)'s criterion of delegation or third party for home activities. The results indicated that, in general unpaid work gender profiles vary with age. Women perform 51% of unpaid domestic work. Up until 30 years, more men than women undertake unpaid housework. Over the age of 30, women work more in unpaid hours than men. The income profile imputed to household chores shows that boys earn more than girls between 5 and 13 years. Between 39 and 78, males earn more from household activities than women. The main finding of this study is that women earn more from unpaid household work than men aged 13–38. But this was an imputation which was not a reflection of earning but expected earning if that unpaid work was paid using country's minimum wages criteria.

The studies by Donehower 2018, Muriithi et al. 2017, and Terbish and Floro 2016 focused more on valuing unpaid work or assessing the burden of unpaid work on women. However, recent studies have shown interest of including both paid and unpaid work in Social Accounting Matrix (SAM). A Social Accounting Matrix (SAM) is a database that provides detailed information on payment flows and linkages between various parts of an economy, including households, producers, the government, and the external world. As a result, SAMs are useful inputs in economic research, especially as part of the databases of Computable General Equilibrium (CGE) models that account for linkages throughout the economy. (Lofgren, Kim, Fontana & Cicowiez, (2020). The SAM has six institutions: firms, factors, households, government, capital account, and the rest if the world. The main feature of SAM is that it's a is square matrix with equal rows and columns. The rows represent institution income and while columns represent institution payments. The total income of each row must equal the total payments of each column to depict the cyclical flow of income. This accounting identity represents institutions' budget constraints. Polo, Roland-Holst, and Sancho (1990) claim that Walras's Law is fulfilled when $\boldsymbol{n} - 1$ institutions are in budget equilibrium, since total income equals total spending.

Therefore, the existing body of research on paid and unpaid care serves as a basis for the current work, which aims to calculate the Social Accounting Matrix (SAM) that includes both paid and unpaid care elements in the specific context of Kenya. Paid care refers to caregiving services that are remunerated, while unpaid care comprises caregiving labour performed without financial reward. This paper seeks to examine the complex dynamics of providing care in Kenya and how it affects the overall economic framework. The paper aims at conducting a thorough examination of the care economy and its interaction with other sectors of the economy by including both paid and unpaid care in the SAM. In Chapter 4 of this study, we will examine the results obtained from the estimating method and provide insights into the importance of paid and unpaid care in the wider socio-economic context of Kenya.

The significance of calculating the Social Accounting Matrix (SAM) with both paid and unpaid care components resides in its capacity to comprehensively measure the complete range of care activities within an economy and their interdependencies with other sectors. Hirway's (2020) highlights the significant consequences of excluding unpaid care from economic assessments. Neglecting to account for this type of work can result in a substantial underestimating of the actual worth of care work and its benefits to social reproduction and human development. By incorporating both paid and unpaid care activities into the Social Accounting Matrix (SAM), policymakers and researchers can obtain a more precise comprehension of the care economy's contribution to maintaining social welfare and fostering economic development.

The goal of this exercise is to disaggregate Kenya SAM by use of paid care economy and unpaid care work in section A and B respectively.

Section A: Disaggregation of Kenya SAM by use of Paid Care Economy

3. Methodology For Disaggregating Social Accounting Matrix (Sam) for Kenya Using Paid Care Economy

In order to measure the size of the Kenya care sector, we used an analysis based on the disaggregation of the social accounting matrix (SAM) of Kenya the year 2021. SAM. A national SAM is an economy-wide data framework that captures the detailed economic structure of a country. A SAM is a square matrix in which each account is represented by a row and a column. Each cell reflects a payment from the column account to the row account, i.e., incomes appear along rows and expenditures along columns. Double-entry accounting requires that, for each account, total revenue (row total) equals total expenditure (column total). Table 1 shows an aggregate SAM, with verbal explanations in place of numbers. This makes it possible to quantify the production of all the economic agents of a nation and to trace all the flows of exchange between them. The disaggregation that we perform makes it possible to highlight and quantify the production and consumption of care to others and transfers of care to others. In this exercise, 'Care' refers to the act of caring for others. They were developed from the 1970s for the specific needs of development policy, in particular to deal with problems related to employment and income distribution. Before presenting the disaggregation method used to quantify the care sector in the Kenyan's SAM we start by presenting what is a standard (or initial) SAM that has been disaggregated.

3.1 Presentation of the Kenya standard SAM

The Matrices of Social Accounting make it possible to summarize in a single table all the transactions carried out between the different economic agents and constitute a synthesis of the TES and the TEE.

The major interest of the SAM is to represent in a synthetic way all the interrelations between the distribution of income and the structure of production. For this, the SAM rely on a detailed description of the production accounts by branches, a factor account and the accounts of the institutional sectors. This representation can give rise to detailed classifications of the factors of production and the accounts of the institutional sectors making it possible to go beyond a simple description of the formation of disposable income from the primary distribution and the policy state redistribution.

The SAM is a static table that traces all the flows of exchange between the different economic agents. It is based on the principle of balancing jobs and resources. The SAM is a generalization of input-output matrices that trace the inter-section of exchanges in an economy.

The SAM is the database of computable general equilibrium models. As noted earlier it is in the form of a square matrix, which traces the flows of trade between economic agents. It is based on the principle of balancing jobs (in columns) and resources (in rows) at the level of each account, but also at the level of all accounts. It can take two forms: the aggregated form and the disaggregated form. In this report, we will focus on the aggregated form of the SAM.

The SAM of a small open economy has five types of accounts:

- the activity account (primary, secondary, tertiary)
- the product account (primary, secondary, tertiary)
- the factor accounts (labour, capital)
- the accounts of the institutions (households, enterprises, Government and rest of the world)
- the savings account – investment

There are mainly nine accounts in rows and columns which includes; the activities account, the products account, two factor accounts (Labor and Capital), four institutional accounts (Households, Enterprises, Government, Rest of the World) and the Savings - Investment account. Table 1 shows the structure of the SAM that shows the relationship between the different accounts that builds SAM. Appendix 1 shows the summary of data sources for the 2021 Kenya SAM

Table 1: Structure and content of an SAM

	Activities	Commod-ities	Factors	Enterprises	Households	Government	Taxes	Investment	Rest of the World	Total
Activities		Marketed outputs			Private non-marketed consumption					Activity income
Commod-ities	Intermediate demand	Transaction costs			Private marketed consumption	Government consumption		Gross capital formation	Exports	Total demand
Factors	Value-added								Foreign transfers to factors	Factor income
Enterprises			Factor income to enterprises			Government transfers to enterprises			Foreign transfers to enterprises	Enterprise income
Households			Factor income to households	Enterprise transfers to households		Government transfers to households			Foreign transfers to households	Household income
Taxes	Taxes on producers	Taxes on products	Factor taxes	Corporate taxes	Household taxes					Tax income
Government				Enterprise transfers to government	Household transfers to government		Tax revenues paid to government		Foreign transfers to government	Government income
Savings				Enterprise savings	Household savings	Government savings			Foreign savings	Savings
Rest of the World		Imports	Factor payments abroad	Enterprise payments abroad	Household payments abroad	Government payments abroad				Foreign exchange outflow
Total	Activity expenditures	Total supply	Factor expenditures	Enterprise expenditures	Household expenditures	Government expenditures	Tax payments	Investment	Foreign exchange inflow	

3.2 SAM Disaggregation Method

The disaggregation of the Social Accounting Matrix (SAM) is dependent on the precise delineation of the concept of care for others, while eliminating certain components of the SAM framework. The criteria for disaggregating a Social Accounting Matrix (SAM) depend on the established objectives. The objective of this work is to analyse and separate the matrix in order to highlight the care sector. Consequently, a Care component was established inside the ACTIVITIES, PRODUCTS, LABOUR and HOUSEHOLD rows (and columns). To clarify, the following criteria for disaggregation were employed:

- Activities were divided into two categories: **Care** activities and **non-Care** activities.

- Products were categorised into two groups: **Care** Products and **non-Care** Products.
- Factor the variable were divided into WORK Care and WORK non-Care.
- Household Agents were subdivided into high dependent households(care) and low dependent household(non-care).

The goal of these subdivision is to establish a SAM for quantifying the care sector and to facilitate impact simulations that may be conducted later using the SAM or a Multi-Objective Evolutionary Algorithm (MOEA) called a Multi-Objective Evolutionary Genetic Algorithm (MEGC). The process of disaggregating the SAM is broken down into the following steps:

- introducing the modalities of each variable to be disaggregated by creating new rows and columns while maintaining the variable as the total of the different modalities.
- Creating control variables between total and different modalities, including:
    - a row and a column of verification at the ACTIVITIES level.
    - a row and a column of verification at the PRODUCTS level.
    - a check row and column at the WORK factor level.
    - a row and a check column at the household agent level.
- Restoring SAM balance check lines after grouping.
- Filling in the sub-matrices of bursting of the information of the disintegrated micro-SAM.
- Integrating sub-matrix information into the disaggregated SAM from formulas.
- Ensuring balance in the control variables introduced.
- Making the necessary trade-offs for the total balancing of all disaggregated SAM.

3.2.1 Disaggregation of the ACTIVITIES account

The ACTIVITIES account is split into CARE ACTIVITIES and non-Care ACTIVITIES. The CARE ACTIVITIES group includes the activities of the Education, Health, Social Work and the branch of activity of households employing domestic staff. On the other hand, other activities which do not fall within the above-mentioned branches were considered Non-Care ACTIVITIES.

The disaggregation of the OUTPUTS sub-matrix by type of activity is based on the general structure of intermediate consumption expenditure by activity provided by the SAM. For the sub-matrices of the LABOUR factor and the CAPITAL factor, the breakdown is based respectively on the structure of the compensation of employees obtained from the Kenya Integrated Household Budget Survey KIHBS) 2016 which had a labor module .

The Government sub-matrix is disaggregated by type of activity using the structure of net taxes on production subsidies according to type of activity. This information is provided by the household survey.

The following section presents a summary of the method of disaggregation of the ACTIVITIES account using accounts information used and data source for each account.

Table 2: The different sub-matrices of the ACTVITES account

ACTIVITIES account sub-matrices	Information used	Data sources
ACTIVITIES & PRODUCTS	General structure of intermediate consumption expenditure by type of activity (Care or non-Care)	Continuous household survey
ACTIVITIES & WORK	Compensation of employees by type of activity	Continuous household survey
ACTIVITIES & CAPITAL	The structure of the return on capital by type of activity is applied to this sub-matrix. Under assumption, 1/3 of the profits is allocated to return on capital.	Continuous household survey
ACTIVITIES & GOVERNMENT	Structure of production tax by type of activity	Continuous household survey

Source: KNBS 2021

3.2.2 Disaggregation of the PRODUCTS account

The PRODUCTS account is disaggregated in a manner that is analogous to the disaggregation of the ACTIVITIES account. At first, the PRODUCTS are categorised based on their characteristics: CARE PRODUCTS and non-Care PRODUCTS. Next, the sub-matrices formed by the overlap of rows (or columns) with the PRODUCTS account are broken down using data from national surveys that have both labour participation and expenditure data.

Care products encompass services pertaining to education, health, social activity, and domestic tasks. It should be noted that domestic services may or may not be paid. However, in the context of this work, only domestic services that are paid are taken into account. We are disaggregating the account of the PRODUCTS in order to include only the domestic services that are paid for in addition to the non-domestic goods and services, as stated in the first SAM. Therefore, as the original SAM does not consider unpaid domestic services, the disaggregation has excluded these services.

The ACTIVITIES sub-matrix documents the sales or production that occur within the country. The data regarding domestic production at the tertiary level is utilised to ascertain the composition of domestic production according on the specific PRODUCT category.

The Government sub-matrix is disaggregated according to the framework of net taxes on goods and services. The data was acquired from the Kenya Continuous Household Survey 2021

Additionally, the import structure by kind of product was used to analyse and divide the sub-matrix for the rest of the world.

Table 3: The different sub-matrices of the ACTVITES account

Sub-matrices of the PRODUCTS account	Information used	Data sources
PRODUCTS & ACTIVITIES	Structure of turnover on the local market (domestic sales) by type of product (Care or non-Care)	Continuous household survey
PRODUCTS & GOVERNMENT	Income tax structure by type of goods and services	Continuous household survey
PRODUCTS & REST OF THE WORLD	Structure of imports by type of product	Continuous household survey

Source: KNBS 2021

3.2.3 Disaggregation of the Labour factor account

The focus of paid caring work is mostly on domestic workers and individuals in caregiving professions, which include health, education, and social work. Educators, physicians, healthcare professionals, childcare providers, and other individuals providing personal assistance. Support personnel in the health, education, and social work domains, including secretaries, accountants, clerks, and others, play a crucial role in the compassionate workforce. While support staff professions may not be considered direct caring professions, they play a crucial role in providing care and are therefore considered an essential part of the caring workforce, as stated by the ILO (2019).

In the context of our study, it is crucial to mention that we will include the paid form of Care work in the disaggregation of the account of labour. This decision is based on the same reasons that were previously expressed for the account of products. Indeed, the initial Social Accounting Matrix (SAM) does not include a measurement of the labour involved in unpaid care work, which is also not accounted for in the System of National Accounts.

Therefore, while analysing the Labour account, we categorise the factor «CARE WORK» as encompassing individuals who are engaged in professions related to caregiving, such as teaching, healthcare, social work, and paid domestic work, as well as those employed in any field related to caregiving. The «CARE WORK» element, often known as the Care workforce, encompasses the following categories of workers:

- Professional Care Personnel in Care Industries.
- Care personnel employed in other industries.
- Domestic workers (employed by households).
- Support staff (not practicing Care) in the Care business lines.

To disaggregate the HOUSEHOLD sub-matrix (intersection of the HOUSEHOLD account and the LABOUR account), we used data from the Employment section of the Kenya Continuous Household Survey 2021 and determined the structure of the compensation of employees according to the nature of the work performed (Care or Non-Care work). This structure was applied to the value presented by the initial SAM(SAM Zero).

As for the Rest of The World sub-matrix, there is no information on the remuneration of Care workers imported into Kenya. Thus, to proceed to its disintegration, we based ourselves on the hypothesis that imports of CARE WORK and not Care obeys the structure of the remuneration of the work of Care and not Care at the local level.

Table 4: The different sub-matrices of the LABOUR account

LABOUR account sub-matrices	Information used	Data sources
WORK & HOUSEHOLD	Compensation of employees by type of work	Kenya Continuous Household Survey 2021
WORK & REST OF THE WORLD	Assumption: Compensation structure of employees by type of work	Kenya Continuous Household Survey 2021

Source: KNBS 2021

3.2.4 Disaggregation of the HOUSEHOLD account

The HOUSEHOLD account has been divided into two categories, namely «HOUSEHOLD Care» (herein referred to high dependent household) and «HOUSEHOLD non-Care,»(herein Referred to as Low dependent Household) based on the number of members in the household who may require assistance. Children and the elderly are generally considered to be individuals who rely on others for support and assistance. Individuals require support, affection, and care more than anything else in their daily existence. Household Care refers to households when the combined percentage of young persons under 15 and individuals aged 65 and over is 68% or higher. These households have a significant level of dependency and may require additional care services compared to others. Conversely, we classify households as non-Care if they have a low level of dependency, meaning that the percentage of individuals in the age groups 0-14 and 65 and over is below 68%.

The disaggregation of the HOUSEHOLD-HOUSEHOLD sub-matrix is done by applying the inter-household and intrahousehold transfer structure provided by the KHBIS 2016. The sub-matrices of the other institutional sectors (Accumulation of capital, institutions, ENTREPRISES, Rest of the world) are also disaggregated via the general structure of transfers paid to these institutional sectors, by category of households. These structures are obtained from the Kenya Continuous Household Survey 2021

Table 5: The different sub-matrices of the HOUSEHOLD account

Sub-matrices of the HOUSEHOLD account	Information used	Data sources
Household and household	Structure of inter-household transfers by household category	Continuous household survey
Household & Accumulation of capital Household & firms HOUSEHOLD & enterprises HOUSEHOLDS & REST OF THE WORLD	General structure of transfers to institutional sectors, by household category	Continuous household survey

Source: KNBS 2021

3.3 Some Key limitation and adjustment made on Kenya SAM 2021

a. The cell on the intersection of Household income and Household expenditure was empty. This meant that there was no transfers that were between the households. But looking at the one of the survey data that was used to construct Kenya SAM 2021, that is KHIBIS 2016, there was both inter and intra transfers. Hence we adjusted this by use the 2016 structure and used the projection of GDP to arrive at the macro control of transfers for this cell.

b. The interaction between household and activities had figures while in the standard SAM this cell is supposed to be open or no figure. We therefore redistributed the figures in care and non-care products or goods

c. Care activities were Zero. This assumes that no human resource is needed in care economy imputation method using the macro control was to adjust this cell.

4. Preliminary Analysis of Results

This section of the report is devoted to the analysis of the SAM. The first section shows the standard SAM as disaggregated by the structure of the economy. This is what we refer to SAM zero. The second presents the inclusion of care economy in the standard SAM. This is what we refer to as SAM One (see appendix2). SAM One Analysis consists of highlights of the structural characteristics of the Kenyan economy in relation to the care sector. Since the SAM shows the flows of production, income, consumption and transfers of all the agents of the economy, its analysis highlights the interrelationships between these different agents.

4.1 Standard SAM Analysis

The table below presents the results of the standard SAM of Kenya the year 2021. The matrix shows that GDP at factor costs is estimated at Ksh. 11,022 billion. Household consumption is 5 times that of the Government, and represents 75% of GDP at factor costs. Households earn Ksh. 3535.2 billion in labour income, or 32% of GDP at factor cost. This level of remuneration obtained by households from the capital as a factor of production is much lower that obtained from the labor as a factor of production. Indeed, the acquisition of household equity in the capital market is at Ksh.2094.2 billion, which is around 197% of GDP compared to 32% for labor.

Looking at consumption or expenditure trends on capital and labor, it shows that Kenyan Economy spend more on capital than on labor that is **7499.6 vs 3535.2 billion of Kenyan shillings**. This implies that the Kenyan Economy is more capital intensive in terms of production holding factor prices constants. LABOUR. At **7499.6** billion, the remuneration of the CAPITAL factor about 2 times that of the LABOUR factor. Domestic demand for goods and services is also high, reaching a level of **20,792.5** billion of Kenyan Shillings. In 2021.

Table 6. Kenya's standard SAM for the year 2021

EXPENDITURES											
INCOME		1. ACTIVITIES	2. GOODS	3. FACTORS		4. INSTITUTIONS			5. CAPITAL ACCUMULATION	6. ROW	7. TOTAL
				Labor	Capital	HH	Firms	Gov			
1. ACTIVITIES			20792.5						2396.7	1359.3	**20792.5**
2. GOODS		9770.6				9262.799		1464.9			**24254.3**
3. FACTORS	LABOR	3535.2								12.9	**3535.2**
	CAPITAL	7486.6								352.0	**7499.6**
4. INSTITUTIONS	HH			3535.2	2094.18	145.2	4758.1	97.3		209.1	**10982.0**
	FIRMS				5211.0			376.7		5.4	**5796.8**
	GOV		997.2			544.7	426.3	1704.8		728.7	**3678.5**
5. CAPITAL ACCUMULATION						1028.3	612.3	27.3			**2396.7**
6. ROW			2464.6	194.4		0.9		7.5			**2667.5**
7. TOTAL	**20792.5**	**24254.3**	**3535.2**	**7499.6**	**10982.0**	**5796.8**		**3678.5**	**2396.7**	**2667.5**	

4.2 Disaggregated SAM with care

4.2.1 Characteristics of disaggregated SAM with care economy

Branches of production (activities or sectors): the traditional branches of the national accounts have been grouped into two sectors or ACTIVITIES: the Care branch of activity and the non-Care branch of activity. This decomposition meets the objective sought in this work, that of quantifying the weight of the sectors of care for others in the economy of Kenya. We disaggregate the standard SAM as follows:

- **PRODUCTS:** two products corresponding to the same classification as the ACTIVITIES are identified: Care goods and services and non-Care goods and services.

- **THE FACTORS:** the factors of production have two components: the LABOUR factor and the CAPITAL factor. The labor factor has been broken down into two categories: "Care Work" and "non-Care Work". This distinction of the LABOUR factor allows us to understand the contribution of these two types of labor in the production function as well as the analysis of factor intensity in the production of goods and services of Care and non-Care.

- **AGENTS:** the SAM determines the traditional categories of agents: firms, households, Non-profit Institutions, Government and the rest of the world (ROW). For the purpose of the analysis, we distinguish in this work two types of Households: Households Care and Households non-Care. This distinction is important because it will enable the behavior of both households in terms of production and consumption to be analyzed.

- **ENTERPRISES:** there is no distinction here between public enterprises and private enterprises. Thus, all firms, whether public or private, are aggregated into a single agent.

4.3 Disaggregated SAM Analysis

4.3.1 Production relations

Table 7 shows the production structure of the Kenya Economy inclusive of paid Care Economy. The distribution of production of the economy reveals that 7.6% is attributable to the care economy while 92.4% is from the non-Care sector.

The analysis in terms of intermediate consumption reveals important differences between the sectors of activity. For their production, the branches use one of CARE PRODUCTS. The Care sector spends 1.1% on intermediate consumption of CARE PRODUCTS against 98.1% of non-Care PRODUCTS. This contrast by a small margin non-care of intermediate consumption of 1.4%.

In terms of sectoral value added per unit produced, the analysis shows that the non-Care sectors are very intensive in value added compared to the Care sectors as shown in the figure

Table 7: Distribution Of Output By Care Sector

	Care activity	Non-care activities
Distribution of commodities	7.6%	92.4
Breakdown of intermediate consumption of goods and services care	1.1%	1.4%
Distribution of net value added	37.2%	46.2%

In terms of production technology, the Care economy are labor intensive with an income generation of 52% (Table below). Any negative shock could have a significant impact on labor income. By contrast, non-Care branches use more capital-intensive technology as shown by 37.7% capital usage compared to 14.7% for labor usage.

Table 8: Factor intensity analysis

	Care activity	Non-care activities
Labour intensity	52.1%	14.7%
Capital intensity	9.6%	37.7%

Source: CREG, 2023

4.3.2 Remuneration of factors of production

Table 9 shows the labor force remuneration coming from both care activities and non-care activities from the structure of the economy as mapped from the disaggregated SAM. It indicates that 52% of the care activities remuneration going to labor force with 9.6% to capital. Of the 52%, on the other hand 6.5% goes to labor force that that is care related while 45.6% goes to non-care related labor force. Labor force remuneration gets 14.7% of the non-care labor income most of the non-care income going to capital as a factor income. This implies that most of the non-care factor rewards is concentrated in the capital market in Kenya. It makes a lot of sense to argue that care activities get more income in the factor market since we expect that care is as an activity has human touch implying, we expect more human(labor) participation in care economy than capital.

Table 9: Remuneration of labor input by care industry

Labor force remuneration	Care activity	Non-care activities
Total labor force remuneration	52.1%	14.7%
Care-labor	6.5%	1.9%
Non-care labor	45.6%	37.7%

4.3.3 Structure of expenditure of households and other households- Transfers

The household account is disaggregated in two that is: Household care (herein referred to as High dependency) and Household non-care (herein referred to as Low dependent care). To a large extent this account is consistent with the objective of this work which is to demonstrate the distribution of paid and unpaid care work in the Kenyan economic structure. This part of discussion is centered on the paid care with another section in this work to be devoted to the unpaid work. The finding is targeted at paving way for evidence based social policies.

The table 10 shows the share of wages in total household income and their behavior in terms of consumption of Care and non-Care goods and services. The Care salary represents 5.8% of the total income of Care households. On the other hand, 2.8% of the total income of Care households comes from non-Care incomes. On the other low dependency house hold spend 0.02% of their transfers to high dependency households while low dependency households spend 1.2% of their transfers to high dependency households. Notably, high dependency household send 0.1% of their transfers to low dependency households which is slightly less than what low dependency households spend on low dependency households.

Table 10: Structure of household expenditure

	Income-care	Income-non-care	High dependency-care	Low dependency-non-care
High Dependency HH	5.8%	2.8%	0.02%	1.2%
Low dependency HH	94.2%	97.2%	0.1%	0.2%
Commodities -care	-	-	10.4%	7.4%
Commodities -non-care	-	-	60%	77.4%

Household care (high dependency HH) spends 10.4% of their income Care goods and services. This percentage is 60% on non-Care commodities households. Low dependency households spend 7.4% of their income on care commodities while they spend 77.6% on non-care goods and services.

The analysis confirms the position of the government consumption spend 13.4% of its total expenditure on care goods and services while spending 26.5% on non-care goods and services. In terms of revenue, government generate 9.7% of its income from high dependency household while getting a low level of 4.7% from low dependency household.

Table 11: Structure of government revenue and expenditure in relation to Care.

	Revenue source		Product-expenditure	
	High dependency	Low dependency	Exp-Products-care	Exp-Product -Non-care
Government	9.7%	4.7%	13.4%	26.5%

Section B:

5. Disaggregation of Kenya SAM by in-cooperating Unpaid Care work

Unpaid care (meaning not considered by the SNA) is non-existent in the SAM because it is outside the scope of SNA production. The method of integrating unpaid care into a SAM consists of three steps.

(i) Identification of unpaid care work from the time use data.
(ii) Quantifying (or valuing) unpaid care through imputation method
(iii) Incorporating the imputed values into the SAM.

5.1.1 Identification of unpaid care work from the time use data.

The first is to identify unpaid care work that individuals above the age of 15 years engage in within a period of 24 hours. This data is obtained from a time use survey. A Time Use Survey is a household survey that arithmetically assesses how individuals allocate their time to different activities over a given period (usually 24 hours or a week). It collects data on how people use their time. The activities recorded in the Time Use surveys generally come from the ICATUS and represent the whole range of activities that a person can devote time to during a day. Thus, from a Time Use survey, can generate activities on unpaid care work and estimate the average time spent by an individual on different unpaid activities, and therefore unpaid care activities.

5.1.2 Quantifying (or valuing) unpaid care through imputation method

Given that unpaid caregivers do not earn income from their labour activities, there is need to impute the monetary value of their labour effort. This remuneration is recognised on the basis of a third-party criteria. A third-party criterion is a situation where the unpaid work can be performed by another person for pay. Hence it is on this basis that the imputation of the unpaid care work is done. There are three independent approaches that are proposed in the literature(cite). They include (see the box for more details);

I. *Opportunity cost approach:* - It consists in valuing the time devoted to domestic labour at the opportunity cost, the hourly wage rate of the person concerned in the labour market according to his qualification.

II. *Generalized cost approach:* - It aims to value production by the hourly wage rate of a domestic performing all the domestic tasks that households do themselves. The method can be defined as what the household would have to pay if it wanted to have another person do the labour.

III. *Specialized substitute approach:* Domestic production is valued by choosing as substitutes the hourly wage rates of a group of skilled labourers (cooks, gardeners, plumber, mechanic, driver, etc.) performing household tasks in the home that correspond to their qualification in the labour market

For this study we have adopted *Specialized substitute approach*. The choice of this method is guided by the intuitiveness that these unpaid activities are already performed at market for pay. Again, the values generated will be consistent with the SNA values which are also generated using market values. This then ensures that our SAM is also consistent in terms of how monetary data were generated for both paid and unpaid activities.

In order to achieve this imputation, two set of data set are required.

I. **Labour surveys** which includes sectors of activity, socio-professional categories, hours of labour, income from labour, etc. These surveys are also used to determine the rate of wage per unit of time for any labour market activity.

II. **Time Use survey** which provide average time spent by an individual in both paid and unpaid work. Our interest is to generate time spent on unpaid care work.

The combination of a Time Use Survey and a Labour Survey will help to quantify in monetary terms what unpaid care labour would cost or provide. The following section point to the detailed imputation technique.

Imputation technique:

To quantify the monetary value of unpaid care labour, the first level of calculation consists in determining, from a Time Use survey, the average time spent by an individual in unpaid care activity. Let t be the number of hours laboured spent in an unpaid care activity j one day, and let N_j be the total number of individuals who performed this activity j.

At the second level, we use the Labour survey to identify, for each unpaid care activity in the Time Use database, one or more paid jobs in the Labour survey that correspond to it. For each of these jobs identified in the labour market, we calculate the average hourly wage rate r_j^m that we impute as remuneration for the equivalent unpaid activity of the Time Use database. In other words, we allocate the remuneration observed in the labour market to unpaid care activity j. This imputation is based on the principle that, if the unpaid care service j was traded on the labour market, then it would cost r_j^m monetary unit per hour.

The quantification of the annual monetary value of the unpaid care activity j is given by the following formula:

$$v_j = t_j \times N_j \times r_j^m \times 365$$

The aggregate value of all unpaid care activities is obtained as follows:

$$V = \sum_j v_j .$$

This aggregate value represents the total income from unpaid care labour if paid. This valuation of unpaid care is based on the specialized substitute method described in the following box.

Box: Approaches to valuing unpaid care labour

The valuation of unpaid care labour consists in quantifying in monetary terms the production related to this labour. And to do this, we most often use the methodology of the cost of «time inputs». This methodology involves applying an hourly wage rate to the hourly volume spent on unpaid care activities performed by household members. The choice of the wage rate to be used has been the subject of several methodological developments of which three approaches can be retained mainly.

1. Opportunity Cost Approach

It consists in valuing the time devoted to domestic labour at the opportunity cost, the hourly wage rate of the person concerned in the labour market according to his qualification. It assumes

that the person suffers a "shortfall" due to hours spend doing unpaid labour. However, this approach is strongly criticized because it attributes different production values to the same product. For example, the production of the same meal made at home will be valued at a higher price for a person with a higher wage on the labour market than for another person with a lower wage. The approach also complicates the valuation of the tasks performed by retirees who, by definition, have a zero-opportunity cost.

2. Generalized Substitute Approach

It aims to value production by the hourly wage rate of a domestic labourer performing all the domestic tasks that households do themselves. The method can be defined as what the household would have to pay if it wanted to have another person do the labour. The main disadvantage of this approach is that it does not lend itself to the evaluation of all types of unpaid activities. Is it reasonable, for example, to evaluate volunteer activities based on the salary of a domestic labourer? It does not seem to make much sense to evaluate all activities not remunerated by this method alone. It seems more logical to use the generalized substitute method only for labour that falls within the scope of activity of such a substitute. As reported by Schmid et al.[1], this approach lends itself above all to the valorisation of house labour.

3. Specialized Substitute Approach

Domestic production is valued by choosing as substitutes the hourly wage rates of a group of skilled labourers (cooks, gardeners, plumber, mechanic, driver, etc.) performing household tasks in the home that correspond to their qualification in the labour market. It is therefore different from the generalized substitute approach on the fact that each domestic task is valued by the market wage rate of a specialist in the field. For example, the activity of "cooking" will be assessed on the basis of a cook's salary, "educating children" on the basis of a babysitter's salary, and manual labour on the basis of the salary of various professionals (painter, electrician, etc.).

The specialized substitute method offers the possibility of disaggregating the value of unpaid labour by sectors of activity. It allows comparisons to be made with the national accounts, which uses the same valuation bases. It also makes it possible to harmonize the duration of disaggregated domestic labour with the nomenclature of economic activities which serves as the basis for national accounts. Because of these various advantages, the specialized substitute method is generally considered the most attractive from a macroeconomic point of view.[2]

5.1.3 Incorporating the imputed values of unpaid care work into the SAM

Once the values are generated, they are imposed in the SAM using the dimension of SAM which includes activities, factors of production and goods sectors. This incorporation is discussed in details in the next section.

5.2 Adding Unpaid Care To Sam

In general, the SAM depicts the economic circuit and highlights economic flows such as production, consumption, renumeration, savings, and so on. Unpaid care labour for non-SNA production is not available in the SAM. In this paper we added New rows and columns to the SAM to accommodate this type of care.

[1] Schmid, Sousa-Poza, Widmer, (2002). «Monetary evaluation of unpaid work». OFS, Neuchâtel

[2] Becker, A. (1995), «Statistische Methoden zur globalen Erfassung und Bewertung der Haushaltsproduktion. Eine Evaluierung input- und outputorientierter Ansätze», Marburg

Since unpaid care is exclusively domestic services, it is included in a SAM under the accounts for ACTIVITIES, PRODUCTS, LABOUR, and HOUSEHOLD. Consequently, new rows and columns labelled «UNPAID» are added to these accounts. The existing data in these accounts is labelled «PAID,» as it falls within the scope of SNA production. Figures 1 and 2 illustrate how this process is applied to the columns and to both the columns and rows of the SAM, respectively.

Figure 1: Example of column transformation to add unpaid care

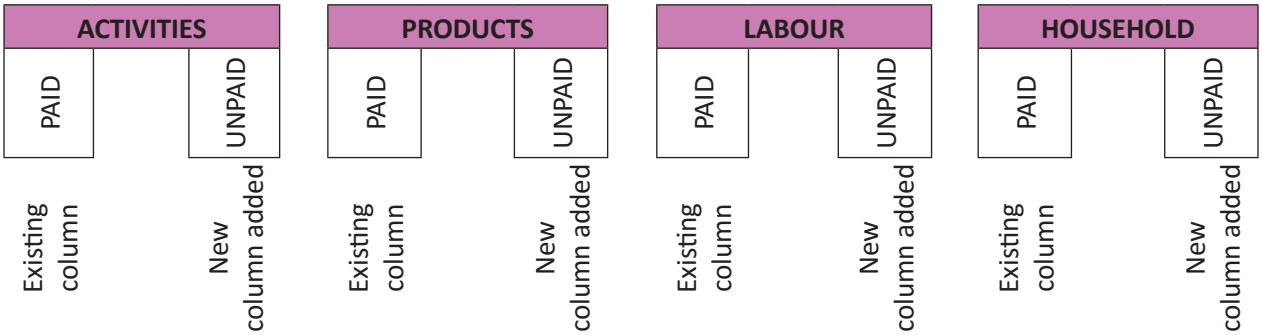


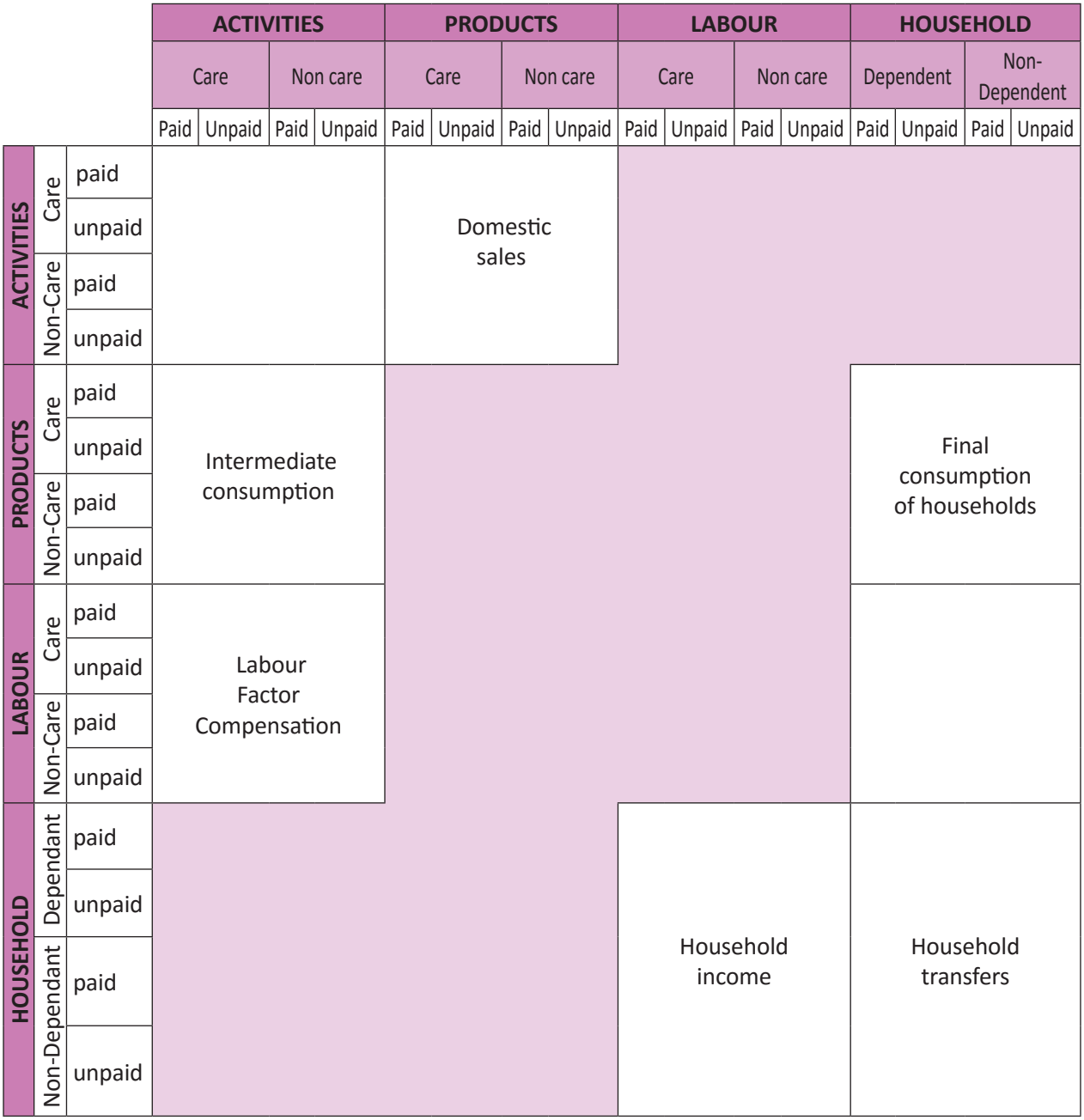
Figure 2: Example of transforming of rows and columns to add unpaid care

		ACTIVITIES		PRODUCTS		LABOUR		HOUSEHOLD	
		paid	unpaid	paid	unpaid	paid	unpaid	paid	unpaid
ACTIVITIES	paid			Domestic sales					
	unpaid								
PRODUCTS	paid	Intermediate consumption						Final consumption of households	
	unpaid								
LABOUR	paid	Labour Factor Compensation							
	unpaid								
HOUSEHOLD	paid					Household income		Transfers between households	
	unpaid								

Upstream processing of these accounts distinguishes their «Care» or «Non-Care» character for ACTIVITIES, PRODUCTS, and LABOUR, as well as the «Dependent household» or «Non-dependent household» for the HOUSEHOLD account.

The elements of the accounts of ACTIVITIES, PRODUCTS and LABOUR that fall within the health, education, social labour and domestic services sector are qualified as «Care» because they belong to the field of paid care. All other sectors are Non care. As regards the HOUSEHOLD account, it is broken down into Dependent households and Non-dependent households according to the ratio $\frac{nb\ of\ children + nb\ of\ elderly}{household\ size}$ is greater than or equal to 60%, or not (for more details, see Chapter on …). The pooling of this structure with unpaid care labour allows to achieve the SAM presented in the figure below.

Figure 3: SAM Mapping Including Unpaid Care



6. ANALYSIS AND INCORPORATION OF UNPAID CARE WORK IN THE KENYAN SAM

As shown section one, SAM consist of an accounting framework for data on a country's entire economy, records all the flows of funds from one paid actor to another. This definition shows one of the limitations of the standard SAM. Its limitation is that it does not take into accounts activities in the economy that are not paid or what is called unpaid work. This is aggravated by the fact that System of National Accounts (SNA) or national income does not report such activities. This section attempts to rectify to some extent this omission by including unpaid care work in the Kenyan SAM hence attesting the importance of unpaid care work in the general economy.

Analysis of the UNPAID/CARE matrix (Kenya GDP 2022= Ksh13,499, billion (Kenya Economics survey 2024)

The production of care and non-care goods, which corresponds to the valuation of the labour factor for unpaid activities, amounts to 6,989.2 billion K.sh which is about 51% of the GDP. The monetary value of labour for unpaid care activities alone is estimated at 5,387.4 billion, which is around 63% of total labour remuneration and 39.9% of Kenyan GDP.

Notably, high dependent households spend K.sh 570.9 billion on care goods, or 4.2% of GDP, and 3,12.9 billion K.sh on non-care goods and services. Low-dependent households on the other hands spend 5,644.8 billion of K.sh (42% of GDP) on care goods and services and 8,121.5 billion on non-care goods. In other words, 80.9% of care goods and 96.2% of non-care goods are consumed by low-dependent.

The total amount of intra-household care transfers is estimated at 4,134. billion K.sh, corresponding to 30% of GDP. It is important to specify that the transfers of care considered here are made within the household. Thus, the proportion of transfers within high dependent households amounts to 390 billion (2.8% of GDP) compared with 3743.6 billion (27.7% GDP) low dependent household. The difference between production (6,989.2 billion) and transfers (4,134 billion) is explained by the fact that self-consumption is not taken into account.

Table12: UNPAID CARE matrix For Kenya

INCOME			ACTIVITIES				PRODUCTS		LABOUR		HOUSEHOLD				TOTAL
			Care		Non care		Care		Care		High		Low		
			Paid	Unpaid	Paid	Unpaid	Paid	Unpaid	Paid	Unpaid	Paid	Unpaid	Paid	Unpaid	
ACTIVITIES	Care	paid													
		unpaid						5387.4							**5387.4**
	Non-Care	paid													
PRODUCTS	Care	paid													
		unpaid										516.9		4870.5	**5387.4**
	Non-Care	paid													
LABOUR	Care	paid													
		unpaid		5387.4											**5387.4**
	Non-Care	paid													
CAPITAL															
HOUSEHOLD	High dependency	paid													
		unpaid								516.9		389.7			**906.6**
	Low dependency	paid													
		unpaid								4870.5				3599	**8469.7**
TOTAL				**5387.4**				**5387.4**		**5387.4**		**906.6**		**8469.7**	

Source: CREG, 2024.

The «production activities» sector

The analysis of this sector of activities in relation to the labour factor can be carried out from various angles. However, for the purposes of this study, the analysis will be carried out in three stages. Firstly, we will analyse the share of unpaid but valued labour in total labour remuneration; secondly, we will analyse the sub-matrix linking activities directly to the production factor «labour»; and finally, we will analyse the weight of valued unpaid labour in the country's production.

- ***PAID» and «UNPAID» labour on the total remuneration of labour***

The table2 shows the share of paid and unpaid labour in the remuneration as a factor of production of goods and services. According to table 2 total remuneration of both paid and unpaid care work is estimated at 8922.6billion K.sh. It also shows that unpaid care work comprises of about 60% compared to paid labour of 40% of total labour income. This analysis therefore shows that unpaid care work income dominates total labour income in Kenya.

Table 13: Weight of paid and unpaid labour in total labour remuneration

	Labour account	
	Value (in billions of Ksh)	**Percentage**
Paid labour	3535.2	60%
Unpaid labour	5387.4	60%
Total remuneration of the labour factor	**8922.6**	**100%**

Source: CREG, 2024.

- ***PAID» and «UNPAID» labour in the sub-matrix crossing the activity sector with the labour factor***

An analysis of the table below shows that:

- For the remuneration of labour carried out in CARE activities, which amounts to **5844 billion K.sh**, unpaid labour which has been the subject of a valuation in this excercise reaches an amount of **5387.4 billion K.sh**, or 92% of the remuneration of labour in care activities. Paid care, with **83.3billion Ksh**. represents only 1% of care work remuneration.

Table 14: Sub-matrix of the activity sector cross-tabulated by labour factor

			Activities		
			Paid care	**Unpaid care**	**Paid non- care**
Labor	**Care**	paid	83.3		373.4
		unpaid		5387.4	
	Non-Care	paid	582.2		2496.3

Source: CREG, 2024.

- Out of a total remuneration of labour for all CARE and Non CARE activities of **3535.2billion Ksh**, it is observed that unpaid labour for all activities, which is **5,387.4billion** represents 150% of this total remuneration of both paid care and paid non-care activities. ***Ultimately, the analysis leads to the conclusion that unpaid labour, particularly unpaid labour in care activities, takes up a vital and predominant place in the labour provided by the activity sectors in Kenya.***

- ***"PAID" and "UNPAID" labour on the production of CARE and Non-Care activities***

The table 4 shows the contributions of paid labour and unpaid labour to total production in Kenya, taking into account the nature of the production activity (CARE or Non-CARE). The analysis shows that:

- Unpaid care labour is valued **5387.4 billion Ksh**, comapared with paid care of **83.3 billion Ksh**. Given that total value of labour production is at **6052.9 billion of K.sh**. non-paid care labour represents 89% of labour
- Concerning the production of non-CARE activities, which amounted to **22652.5billion Ksh**, unpaid labour of **5387.4Ksh**, 23% of the output of Non-CARE activities, compared with 0.04% for paid labour, valued at **83.3billion Ksh**. The output of these Non-CARE activities is mainly dominated by non-care activities, which is remunerated to the tune of **18650.6 billion Ksh**.

Table 15: Weight of paid and unpaid labour in the production of CARE and Non-CARE activities

	"CARE" activity		Non-CARE activity	
	Value (in billions K.sh)	Percentage	Value (in billions of K.sH)	Percentage
Paid care/ labour	83.3	0.8%	582.2	5%
Unpaid care/ labour	5387.4	28%		
Production paid	489.3		9281.3	
Total production (paid and non-care)	**9770.6**			

Source: CREG 2024

Overall, the main finding is that the production of care activities in Kenya is mainly and largely the result of unpaid labour, which accounts for almost 55% of the production activities, compared with 0.08% for paid labour. This implies that care activities in Kenya are majorly carried out without no pay.

- ***Weight of "PAID" and "UNPAID" labour on total activity production***

Paid labour together with unpaid care labour constitute 28% of total production of goods which is defined under paid care and non-care production activities. However, it should be pointed out that unpaid care labour, although representing only 18% of this production, is higher than paid labour, which represents 10% of same production as shown in table 5.

Table 16: Weight of paid and unpaid labour in total production of activities

	Ksh billions	%
Paid labour	2869.6	10
Unpaid care labour	5387.4	18
Paid and unpaid labour	8257	28
Total production	**29641.7**	

Source: own calculations.

The Goods and Services Sector

The Kenyan SAM's «goods and services» sector, which is connected to the production activities' account, allows one to emphasize domestic sales from an expense perspective. Hence, in order to demonstrate the overall weight of domestic sales of unpaid activities on total domestic sales of activities, as well as the share of domestic sales of unpaid activities on domestic sales taking into account the nature of the goods (CARE or Non-CARE), the sub-matrix linking goods and services to the account of production activities was analysed.

Domestic sales of «PAID» and «UNPAID» activities in the sub-matrix crossing the goods and services sector on the account of productive activities.

The analysis of this table below provides various results:

This table classifies activities and products into care and non-care cateries. The data in the care sector indicates that the value of unpaid care is **5387.4 billion Ksh** while the value of paid care work is **737.9 billion Ksh**. This highlights the importance of unpaid care in the economy of Kenya. About 97% of domestic sales of non-CARE goods are made up of paid activities, which account for **18650.6 billion Ksh**, or almost all the **19190,7 billion Ksh** domestic sales of non-CARE activities.

		Product-Care	Product Non care
Act-care	Paid	737.9	540.1
Act-care	Unpaid	5387.4	
Activity non-care	Paid	863.8	18650.6
Total		**6989.1**	**19190.7**
Grand total		**26179.8**	

Source: Own calculations

In summary, domestic sales of unpaid activities in goods of all sorts account for only 21% of overall domestic sales, with a total value of **5387.4 billion Ksh**. This demonstrates that paid activities account for the majority of Kenya's domestic sales of goods and services.

Structure vs. Expenditure Analysis

- ***Household labour income***

The financial compensation received after performing labour services is known as household labour income. This monetary payment was considered valuable as part of the labour while the labour service in question was unpaid.

Table 17: Household labour income

	Labour				
		Care		Non-care	
		Paid	Unpaid	Paid	Unpaid
High dependency	Paid	26.3		85.4	
	Unpaid		516.9		
Low dependency	Paid	430.3		2993.13	
	Unpaid		4870.5		

Source: Own Calculations

High independent households in Kenya have an income of **26.3 billion Ksh** from «care labor» and **85.4 billion Ksh** from «labor without care,» totaling **111.7 billion Ksh** from paid labor according to the national accounts. On the other hand, the income of «unpaid care labour» from high independent household is 5**16.9 billion Ksh**, which is 5 times more than the value of the paid care and non-care. This implies that value of unpaid care work in high independent household is higher than the paid labour. Regarding low-income household, the 430.3 billion Ksh income is from paid care and **2993 billion Ksh** from paid non care work. However, the value of unpaid work in the same households is **4870.5 billion Ksh** which is 1.4 higher than the paid care and non-care. This implies that value of unpaid care work is higher than the low independent households. In total, the monetary value of "unpaid labour outside the System of National Accounts (SNA) is **5387.4 billion Ksh**.

- ***Household consumption of goods and services care and non-care***

Household consumption here is defined as all goods and services, the care sector (care) or outside the care sector (non-care).

Table 18: Household consumption of goods and services care and non-care

		High Dependant Households		Low Dependant Household	
		Paid	Unpaid	Paid	Unpaid
Goods-Care	Paid	54.0		774.2	
Goods-Care	Unpaid		516.9		4870.5
Goods non-care	Paid	312.9		8121.6	

Source: Own Calculations

In 2021, the total expenditure of households on goods and services is **883.8 billion Ksh**, with care services accounting for 65% of this amount. The expenditure of unpaid care amounts to **516.9 billion** in monetary value, which represents 58% of care activities that are not accounted for in the System of National Accounts (SNA). The overall value of care and non-care items for low-dependency households is 1**3,766.3 billion Ksh**. Out of this, 35% represents unpaid work, while 65% represents paid work and non-paid activities. Therefore, the value of unpaid care work in a household with high dependents is greater than that in a household with few dependents. The data suggest that the combined value of unpaid care work in the two categories of family work is **5386.9 billion Ksh**. This implies **5386.9 Billion Ksh** is not accounted for in the System of National Accounts (SNA).

- ***Transfers of goods and services between households***

Table 19: Transfers of goods and services between households

		High Dependence Households		Low Dependency Households	
		Paid	Unpaid	Paid	Unpaid
H Dependency	Paid	0.1		128	
	Unpaid		389.7		
Low Dependency	Paid	1		16	
	Unpaid				3599

Source: Own Calculations

Transfers refer to the value of time transferred for care and non-care work to other households. The time transferred is valued on monetary basis using the average wage of each activity as recommended in the ICUTUS. For the 2021, Kenyan data, transfers of paid and unpaid care and non-care work for high dependant household activities is worth **517.8 billion Ksh** with unpaid care contributing 75% of the total value of transfers and the paid care constituting 25 %. This implies that 75% of the value of time transferred across high dependent household is not captured in the SNA leaving a huge value of time transferred across the households.

For non-dependent households, a total value of **3616 billion Ksh** is transferred across households of which 99% is from unpaid care while 1% is from paid care. The non-dependents households for their part, make transfers of a total amount estimated at 3599 billion Ksh across households of which 99% are not taken into account in the SNA.

In total, the value of paid transfers and unpaid in high and low dependant household is **4133.8 billion Ksh** of which the unpaid in 27.48 times higher than the paid. In percentage form, the unpaid constitute 96.4% while the paid constitute 3.6 %. This indicates a substantial value of time transfers across households that is largely unrecognized in SNA for Kenya.

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APPENDIX

APPENDIX 1: Summary of Data used to construct Kenya SAM

Data needs	Data year	Country data sources	Reference
Macroeconomic structure			
National accounts	2021	Economic Survey	KNBS (2023)
IOT/SUT	2016	2016 SUT	KNBS (2022a)
Government finance	2021	Government Finance Statistics online database	IMF (2022a)
Balance of payments	2021	Balance of Payments BPM6 Compilation	IMF (2022b)
Exchange rate	2021	World Development Indicators	World Bank (2022)
Disaggregating activities			
Aggregate sectors	2021	Economic Survey	KNBS (2023)
Crops and livestock subsectors	2021	FAOSTAT online database	FAO (2022)
Mining	2021	Economic survey	Table 8.9 KNBS (2023)
Manufacturing	2021	Statistical Abstract	Table 10.3 KNBS (2022b)
Disaggregating commodities			
Private consumption	2015/16	2015/16 Kenya Integrated Household Budget Survey	KNBS (2018)
Own consumption share	2015/16	2015/16 Kenya Integrated Household Budget Survey	KNBS (2018)
Public consumption	2016	2016 SUT	KNBS (2022a)
Gross fixed capital formation	2016	2016 SUT	KNBS (2022a)
Goods trade	2019	COMTRADE online database	UNSD (2022)
Services trade	2021	Balance of Payments BPM6 Compilation	IMF (2022b)
Indirect tax rates	2016	2016 SUT	KNBS (2022a)
Transaction cost margins	2016	2016 SUT	KNBS (2022a)
Disaggregating labor	2015/16	2015/16 Kenya Integrated Household Budget Survey	KNBS (2018)
Disaggregating households	2015/16	2015/16 Kenya Integrated Household Budget Survey	KNBS (2018)

Source: 2021 Kenya SAM

APPENDIX 2: Social Accounting Matrix for Kenya With the Structure of Paid Care Included

			EXPENDITURES													
INCOME			1. Activities		2. Products		3. Factors			4. Institutions				5. Capital Accumulation	6. ROW	7. Total
							Labor		Capital	HH		FIRMS	GOV			
			Care	NonCare	Care	Non Care	Care	Non Care		High dependency	Low dependency					
1. Activities	Care				46.1%	2.4%										0.5
	NonCare				53.9%	82.3%										1.4
2. Products	Care		1.1%	1.4%						10.4%	7.4%		13.4%	0.0%	0.0%	0.3
	NonCare		37.2%	46.2%						60.0%	77.6%		26.5%	100.0%	51.0%	4.0
3. Factors	Labor	Care	6.5%	1.9%												0.1
		Non Care	45.6%	12.8%												0.6
	Capital		9.6%	37.7%											0.5%	0.5
4. Institution	HH	High dependency					5.8%	2.8%	2.1%	0.02%	1.2%	1.1%	0.5%		1.5%	0.2
		Low dependency					94.2%	97.2%	25.8%	0.1%	0.2%	81.0%	2.2%		11.7%	3.1
	FIRMS								69.5%				10.2%		7.8%	0.9
	GOV				0.0%	4.4%				9.7%	4.7%	7.4%	46.3%		0.2%	0.7
5. Capital Accumulation										19.7%	8.8%	10.6%	0.7%		27.3%	0.7
6. ROW					0.0%	10.9%			2.6%	0.02%	0.01%		0.2%			0.1
7. Total			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

APPENDIX 3: Social Accounting Matrix for Kenya With the Structure of un Paid Care Work Included

EXPENDITURES																					
INCOME			1. Activities			2. Products			3.1 Labor			3.2 Capital	4.1 HH				4.2 Firms	4.3 Gov	5. Capital Accumulation	6. ROW	7. Total
			Care		Non Care	Care		Non Care	Care		Non Care		High dependency		Low dependency						
			paid	unpaid	paid	paid	unpaid	paid	paid	unpaid	paid		paid	unpaid	paid	unpaid					
1. Activities	Care	paid				737.9		540.1													1278.0
		unpaid					5387.4														5387.4
	NonCare	paid				863.8		18650.6													19514.4
2. Products	Care	paid	14.1		268.1								54.0		774.2			491.3	0	0	1601.8
		unpaid												516.9		4870.5					5387.4
	NonCare	paid	475.2		9013.3								312.9		8121.56222			973.7	2396.7	1359	22652.5
3.1 Labor	Care	paid	83.3		373.4																456.7
		unpaid		5387.4																	5387.4
	Non Care	paid	582.2		2496.3																3078.5
3.2 Capital			123.2		7363.5															12.9	7499.6
4.1 HH	High dependency	paid							26.3		85.4	160.2	0.1		128		63.9	16.9		40.6	521.6
		unpaid								516.9				389.7							906.6
	Low dependency	paid							430.3		2993.13	1933.9564	1		16		4694.2	80.3		311.4	10460.4
		unpaid								4870.5						3599					8469.7
4.2. Firms												5210.9799						376.7		209.1	5796.8
4.3. Gov								997					50.8		493.9		426.3	1704.8		5.4	3678.5
5. Capital Accumulation													102.8		925.6		612.3	27.3		728.7	2396.8
6. ROW								2464.6				194.4	0.1		0.8			7.5			2667.5
7. Total			1278.0	5387.4	19514.4	1601.8	5387.4	22652.5	456.7	5387.4	3078.5	7499.6	521.6	906.6	10460.4	8469.7	5796.8	3678.5	2396.7	2667.5