Socio-Economic Impact of Adolescent Pregnancy and Early Motherhood in Suriname

an application of the MILENA methodology

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Acronyms and Abbreviations

AP	: Adolescent Pregnancy
EAP	: Economically Active Population
EIP	: Economically Inactive Population
EM	: Early Motherhood
ENI	: Unintended Pregnancies
GII	: Gender Inequality Index
GBS	: General Bureau of Statistics Suriname
HBS	: Household Budget Survey
HDI	: Human Development Index
ICD	: International Classification of Diseases
ISCED	: International Standard Classification of Education
ILO	: International Labour Organization
LA&C	: Latin America and the Caribbean
MDG	: Millennium Development Goals
MICS	: Multiple Indicator Cluster Survey
MMRA	: Maternal Mortality Rate in Adolescents
MPI	: Multidimensional Poverty Index
OC	: Opportunity Cost
PWA	: Population of Working Age
SAFR	: Specific Adolescent Fertility Rate
SRHR	: Sexual and Reproductive Health and Rights
SRH	: Sexual and Reproductive Health
SSLC	: Suriname Survey of Living Conditions
UCDW	: Unpaid Care and Domestic Work
UNDP	: United Nations Development Programme
UNESCO	: United Nations Educational, Scientific and Cultural Organization
UNFPA	: United Nations Population Fund
UW	: Unpaid Work
VIP	: Voluntary Interruption of Pregnancy
WAH	: Women who had their first child in Adulthood
WCA	: Women who had their first child in Adolescence
WMA	: Women who have been Mothers since Adolescence
YPLL	: Years of Potential Life Lost
YPPLL	: Years of Potential Productive Life Lost

Contents

Summary

Adolescent Pregnancies and Early Motherhood (AP&EM) disrupt a girl's life and have consequences that affect their economic, social, and physical wellbeing. Without a well-organized support system, these young mothers face a relatively higher risk to poverty, since they face major challenges to continue their education, find decent jobs and take proper care of the new-borns. The Motherhood in Childhood study of the UNFPA (2022) reveals that each year, adolescent girls aged 15 to 19 years in low- and middle-income countries have an estimated 21 million pregnancies, of which about half is unintended. Furthermore, about 5.7 million of these pregnancies end in abortion of which the majority is carried out under unsafe circumstances. Along with the higher incidence of pregnancies and motherhood among girls in developing countries, the State of the World Population report (2019) indicated that girls are prone to undesired situations since they have a low negotiating power regarding contraceptive use. Gender based violence is also a major risk for these girls due to their low autonomy and economic dependency.

The joint study carried out in 2017 by Pan American Health Organization (PAHO), United Nations Population Fund (UNFPA) and United Nations Children's Fund (UNICEF) pointed out that Latin America and the Caribbean (LA&C) was the only region in the world with an increase in adolescent pregnancy (AP) over time. Suriname is no exception regarding the consequences of AP&EM. According to the available administrative data, the incidence is that about 22 percent of the new-borns are from young girls in the age group 10-19 year. Furthermore, statistics show that the incidence of AP&EM is relatively higher in the rural and interior area of the country and in the capital Paramaribo. About half of the adolescent pregnancies are from girls between 10 and 17 years of age. Most of these young mothers live in Paramaribo, Wanica and Sipaliwini. The situation in Suriname regarding pregnancies of girls under 15 is far worse. Approximately 3 percent of teenage mothers is under 15 years and on average every week a girl under 13 gives birth to a child.

The findings from this study underline that the prevalence of AP&EM is higher in the rural and interior area and that it is related to the educational attainment level, welfare status of the households these girls live in. These girls also lack knowledge about family planning and contraceptive use. The incidence of AP&EM is higher among females with lower levels of education. Females with an incidence of AP&EM are more likely to be part of a household in the poorest quintiles and earn about one third less than their peers who had delayed pregnancy till adulthood. Interviews with females with an AP&EM history underlined the aforementioned consequences and the deprivation they face in building a decent life due to their early pregnancy.

AP&EM have major unfavourable and long lasting economic, health and social consequences for young females. They face economic challenges since their educational attainment level is affected, which leads to a diminishing earning potential due to lower labour market opportunities. As these girls are indirectly forced to follow a path that is less desirable and have more constraints, their earning value is less. The ultimate purpose of this study is to estimate the impact of AP&EM to generate relevant evidence at sub-regional and national level on the adverse consequences, and furthermore to improve the understanding for investment in prevention to minimize the losses on economic, social and health level and to mitigate the undesired effects of AP&EM.

By applying the MILENA methodology, which provides insights into the full effect of AP&EM in a specific country, the following five dimensions are studied:

- Dimension 1: Consequences of AP&EM on participation in the labour market
- Dimension 2: Consequences of AP&EM on labour income
- Dimension 3: Consequences of AP&EM on the level of educational attainment
- Dimension 4: Impact of AP&EM on the health of the adolescent mother
- Dimension 5: Tax revenue forgone, due to limited labour force participation and decreased income as a result of AP&EM.

The MILENA assessment quantified the consequences of AP&EM at individual level and state level through the calculation of opportunity costs. For Suriname this study is carried out using the SSLC2016/17 database. For this AP&EM study, the specific target group as proposed by the MILENA comprises of women between 20-60 years of age who had their first child during adolescence, that is between the age of 10 and 19 years (WCA). To estimate the opportunity cost/losses, a control group is identified for comparative purposes and comprises also women between 20-60 years, but who had their first child in the first phase of adulthood (WAH), that is between 20-29 years.

- The economic impact of AP&EM in Suriname is evident. The main findings based on the MILENA calculation (for 2017) are as follows:
- Adolescent mothers are 28% more likely to withdraw from the labour market than women with their first child in adulthood. This inactivity carries an estimated loss of annual income of SRD 118,920,906 which is equivalent to USD 16,290,535
- The unemployment rate for adolescent mothers is 19,5%, and for women with a pregnancy in adulthood 12,4%. This higher unemployment implies a loss of revenue estimated at SRD 26,330,072, equivalent to USD 3,606,859 for 2016/17.
- The average annual income for adolescent mothers is SRD 16,270, and SRD 24,706 for women with their first child in adulthood. The estimated opportunity cost of labour income yields to SRD 267,820,806 and is equivalent to USD 36,687,782.
- For the education dimension, the findings are that the average income per educational level for women with an AP&EM exposure are much lower than women with a first child in adulthood. Based on the observed gaps in the education levels and the resulting income difference between the two groups of women, the opportunity cost of education, indicating the loss of income is SRD 165,296,927, equivalent to USD 22,643,415.
- The health dimension concerns maternal mortality and health expenditures. Health consequences due to AP are related to complications during pregnancy and childbirth as well as regular health care routines. The estimated Maternal Mortality Rate in Adolescents (MMRA) in 2017 is 10 and the number of adolescence deaths related to pregnancy is 30. With a life expectancy of 77 years, these 30 deaths with an average age at death due to pregnancy estimated at 17 years of age, represents 1800 years of potential life lost. The years of potential productivity life lost is 1290 and the social loss due to maternal mortality is SRD 20,988,419 (USD 2,875,126). The estimated health care expenses for adolescent pregnancy are SRD 154,651,827, equivalent to USD 21,185,182.
- Due to the limited access in labour participation, employment and lower income resulting from adolescent pregnancy and early motherhood, yields in tax- losses at the state level. Total tax revenues forgone by the State amount to SRD 73,661,948. The annual socioeconomic cost due to the loss of income, employment and economic activity, are SRD 413, 071, 784 (USD 6,585,176), equivalent to 1.6% of the GDP.

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1 Introduction

1.1 Background

Every human being has the right to bodily autonomy. This fundamental right is globally acknowledged and for women it simply underlines that they can freely exercise the ability to choose whether, when and whom to become pregnant with. However, findings from recent studies about the incidence of unintended pregnancies and unsafe abortions, point out that the reality is something else[1]. The Motherhood in Childhood study of the UNFPA (2022) reveals that each year, adolescent girls aged 15 to 19 years in low- and middle-income countries have an estimated 21 million pregnancies, of which about half is unintended. Furthermore, about 5.7 million of these pregnancies end in abortion of which the majority is carried out under unsafe circumstances.

Globally, there are positive signs of declining levels of adolescence pregnancy. Nevertheless, the decline is very slow, especially for the pregnancies at the age of 17 and younger. The level of decline is on average a few percentage points per decade, and by far not in line with the decline of the overall fertility rate among women. Key findings from the 'Motherhood in Childhood study of the UNFPA (2022), using data from over 54 countries, are that nearly one third of all women in low-and middle-income countries begin childbearing in adolescence, that is at the age of 19 and younger. Furthermore, half of the first births of adolescents are to child mothers aged 17 years and younger, and 6 percent is to child mothers aged 14 years and younger. Besides timing, quantity of adolescent childbearing is also an issue. The study reveals that additional childbearing is common for child mothers. A girl with a first birth at the age of 14 and younger has on average 2.2 births before she is 20 years of age. And child mothers of 15-17 years of age have an average of 1.5 births before age 20.

Among girls with a first childbearing at age 14 and younger about 75% have a second birth before age 20, and 40% of these girls with already 2 births progress to a third birth before age 20. The figures show that the incidence of repetition in childbearing is high among adolescent mothers. Once an adolescent girl becomes a mother there is a 20% chance of experiencing another adolescent birth within two years, and the short birth intervals are associated with health risks. The findings on the prevalence of adolescent pregnancy and repeat adolescent childbearing highlights that more need to be done to design, implement and evaluate programs that target AP&EM.

At regional level, the trends are as follows. Northern Africa and West Asia for example have the strongest decline in AP. Latin America and the Caribbean have seen some of the strongest decline in repeat adolescent childbearing, but there is very little change in first births. The joint study carried out in 2017 by Pan American Health Organization (PAHO), United Nations Population Fund (UNFPA) and United Nations Children's Fund (UNICEF) pointed out that Latin America and the Caribbean (LA&C) were the only region in the world with an increase in adolescent pregnancy (AP)over time. In the LA&C region about 2 million births are given annually by girls between 15 and 19 years. Compared to other regions, LA&C have a relatively higher incidence of adolescent pregnancy and early motherhood (AP&EM) The adolescent birth rate for the region was about 67 births per 1000 girls, about 1.5 times higher compared to the global average of 46 births per 1000.

Along with the higher incidence of pregnancies and motherhood among girls in developing countries, the State of the World Population

report (2019) indicated that girls are prone to undesired situations since they have a low negotiating power regarding contraceptive use. Adolescent pregnancies and early motherhood disrupt a girl's life and have consequences that affect their economic, social, and also physical wellbeing. Without a well-organized support system, these young mothers face a relatively higher risk to poverty, since they face major challenges to continue their education, find decent jobs and take proper care of the new-borns. Gender based violence is also a major risk for these girls due to their low autonomy and economic dependency.

Suriname is no exception regarding the consequences of AP&EM. According to the available administrative data, the incidence is that about 22 percent of the new-borns are from young girls in the age group 10-19 year. Furthermore, statistics show that the incidence of AP&EM is relatively higher in the rural and interior area of the country. Data from the Suriname Multiple Indicator Cluster Survey (MICS) 2018 underlines that AP is higher in the rural areas and interior and that it is related to the educational attainment level, welfare status of the households these girls live in, as well as their knowledge about family planning and contraceptive use. The incidence of AP&EM is three times higher among females with no schooling or only primary schooling. Females with an incidence of AP&EM are more likely to be part of a household in the poorest quintiles and earn less assets than their peers who had given birth over the age of 20 years.

In 2020, UNFPA conducted a study among young maroon girls to investigate the incidence of AP and the determinants related to EM in Suriname, by using the Suriname MICS 2018 data. The results pointed out that girls living in the interior, and those who left school early have a higher incidence of AP&EM.

Interviews with females with an AP&EM history underlined the aforementioned consequences and the deprivation they face in building a decent life due to their early pregnancy. Moreover, these girls pointed out that in general at the junior secondary level there is low support for the adolescent mother from the formal education system. In some cases, this tends to be different at senior secondary level. There is minimal government's social-economic support and overall, their family is the only support system that they can count on. As they mentioned, their education was disrupted, and mostly after years they could continue but not as a full-time student. They had to drop out of school and seek a job to support their new family. They face economic challenges since their educational attainment level is affected, which leads to a diminishing earning potential due to lower labour market opportunities. As these girls are indirectly forced to follow a path that is less desirable and have more constraints, their earning value is less. Due to their AP, these girls face more health-related risks such as illegal abortion attempts, insufficient health services or do not have access to health services due to financial constraints. These health risks also result in losses of human capital, capacity, and economic resources. With this study, the UNFPA aims to assess the economic impact of AP&EM in Suriname.

1.2 Purpose and objectives of the assessment

Over the years evidence on the causes and consequences of adolescent childbearing has expanded and improved at global level, and there is more knowledge on the enormous toll that adolescent pregnancy and early childbearing have on girls, their families, and their societies. Adolescent pregnancy and early motherhood are mainly approached as a matter of concern for public health and as one of individual rights and choice. Safeguarding bodily autonomy and wellbeing is especially critical for adolescents since the development of their cognitive capacity is at risk. From a public health perspective, the societal costs of adolescent pregnancies are immense, since most of these women access public assistance and social services more intensely than the peers who gave birth in adulthood. Furthermore, the social economic consequences are prone due to missed opportunities from truncated schooling and employment careers and lower lifetime earnings. The objective of this study is to generate relevant evidence on the social-economic consequences of Adolescent Pregnancy (AP) and Early Motherhood (EM) in Suriname. It will improve knowledge and understanding of the economic, social and health benefits of public investment in the prevention of adolescent pregnancy and in mitigating the undesired effects of early motherhood. This means investing in girls and adolescents to help them move on to a path that allows them to achieve their greatest human potential. This study will help to calculate and make visible the costs of AP and EM among girls and women, but also for society. The results of this study will provide useful information to develop informed policy regarding AP prevention programs as well as programs to support girls that are experiencing or had experienced an AP. The aim is to assess the economic impact of AP&EM in Suriname, by focussing on women aged 20 years and older, who had their first child in adolescence or earlier, that is while they were 10 to 19 years of age.

1.3 Evaluation designs and methodology

The UNFPA has developed the MILENA methodology for assessing the Economic Impact of Adolescent Pregnancy and Early Motherhood in Latin American and Caribbean Countries (Milena 1.0), which provides greater insights into the full effect of adolescent pregnancy on a country. The methodology examines the impacts of Adolescent Pregnancy (AP) and Early Motherhood (EM) on females. For Suriname this method is applied to estimate the economic impact and opportunity cost. The MILENA is based upon the opportunity cost (OC) valuation method, which estimates the economic losses associated with the socio-economic effects of AP&EM (UNFPA, 2019)[1].

For the MILENA, OC is defined as the value of benefits of the forgone alternative, that is the next best alternative that could have been chosen, but was not due to the incidence of AP. The opportunity losses will be quantified as opportunity cost of education, income and labour market participation, but also on OC for the government due to health costs and tax revenue losses.

This methodology takes the following five dimensions into account:

- Dimension 1: Consequences of AP&EM on the participation in the labour market
- Dimension 2: Consequences of AP&EM on labour income
- Dimension 3: Consequences of AP&EM on the level of educational attainment
- Dimension 4: Impact of AP&EM on the health of the adolescent mother
- Dimension 5: Tax revenue forgone, due to limited labour force participation and decreased income as a result of AP&EM.

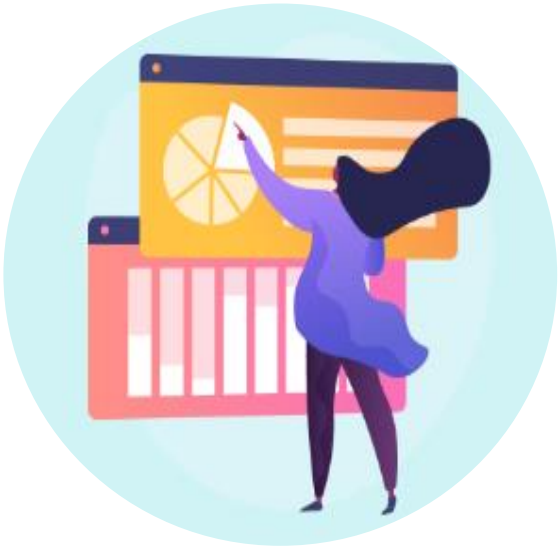
For the study in Suriname, the updated MILENA methodology is applied. Secondary data with a national sample coverage have been used, which allow for the estimate of the economic impact assessment. According to the MILENA methodology the target population are women between 20 and 60 years who had their first child in adolescence, i.e. between 10 and 19 years; and women between 20 and 60 years, who had their first child in adulthood, namely between 20 and 29 years of age are used as the control group.

[1] UNFPA (2019). Methodology for Assessing the Economic Impact of Adolescent Pregnancy and Early Motherhood in Latin America and Caribbean Countries (MILENA 1.0). United Nations Population Fund - Latin American and the Caribbean Regional Office. Panama. 2019

1.4 Data sources and calculation techniques

The assessment of economic impact of AP&EM in Suriname has been carried out by using the Suriname Survey of Living Conditions (here and further SSLC 2016/17) as the main database. The Suriname Survey of Living Conditions was carried out by the IDB in close collaboration with the government of Suriname. The SSLC 2016/17 consists of a sample of 6913 observations nationwide, with 3418 male (49%) and 3495 (51%) females in the age range of 0-99 years. The SSLC was carried out to estimate the living conditions at national level and the data are publicly available. The SSLC has the availability of key data needed to perform the MILENA calculations such as income, job status, educational level, living area, mothers' age at their first birth, number of births, age, health services availability and much more. In chapter 4 we will collaborate further on the SSLC.

Survey of 2018 and recent administrative data from the National Registry Office are used to present an overview of the living conditions of women in Suriname in general, and more specific for those with an incidence of AP&EM. The Census data consist of information on labour market position, education, as well as motherhood and fertility, while the administrative data provide information on population distribution, birth rates and mortality. The Suriname MICS 2018 database has valuable information regarding the incidence of AP&EM and allows for some analysis to derive patterns of groups that are more prone to AP&EM. The MICS data were collected in 2017 and have necessary data on motherhood, AP and EM. Since it has no data on income and labour market position, it was not suitable for the MILENA assessment. The Suriname MICS 2018 is the database with the most up to date information to report on the situation of women with an AP&EM incidence.



2

Country profile and Situation analysis of women in Suriname

2.1 Country profile - Suriname

2.1.1. Population demographics

The Republic of Suriname is a developing country which covers a land area of 163,820 km^2 and is located on the North-east coast of South America. In 2020, Suriname had an estimated mid-year population of 602,500 people with a very low population density of 3.7 habitants per km^2. The country is divided in 10 districts which are divided into 62 resorts in total. The population is unequally distributed over the total land area. About 66% of the population lives in the urban area, which consists of the districts Paramaribo (with the capital Paramaribo) and Wanica. Twenty (20) percent in the rural area and 14 percent in the interior (see table 1).

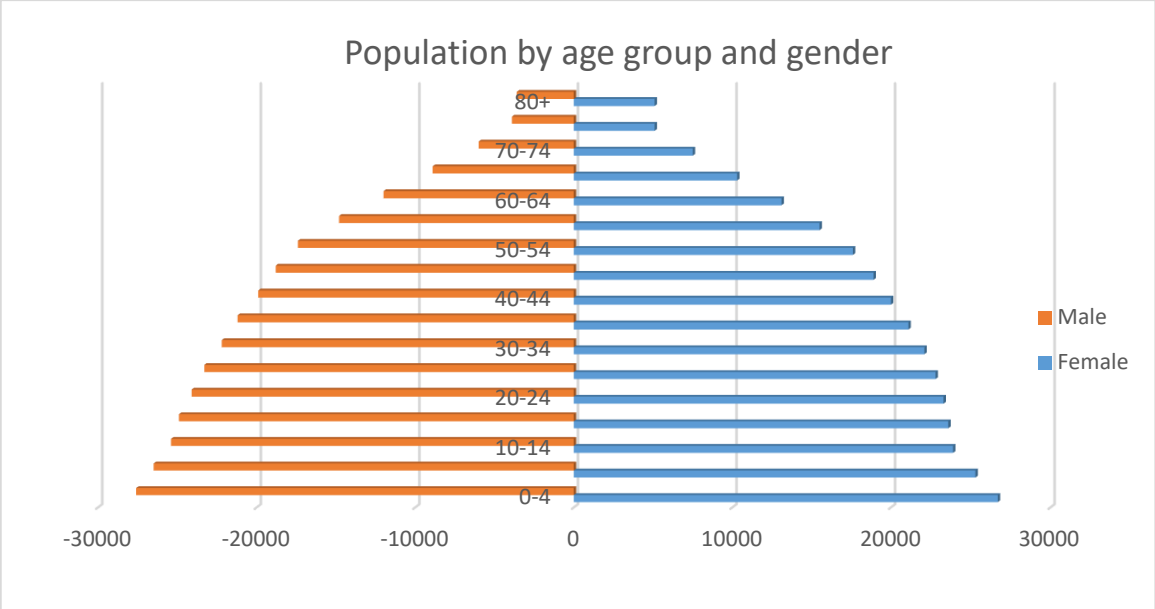
Table 1. Population, surface and population density per district

District	Population	Surface (in sq.km)	Density
Paramaribo	240,924	182	1323.8
Wanica	118,222	443	266.9
Nickerie	34,233	5,353	6.4
Coronie	3,391	3,902	0.9
Saramacca	17,480	3,636	4.8
Commewijne	31,420	2,353	13.4
Marowijne	18,294	4,627	4.0
Para	24,700	5,393	4.6
Brokopondo	15,909	7,364	2.2
Sipaliwini	37,065	130,567	0.3
Total	**541,638**	**163,820**	**3.3**

Source: General Bureau of Statistics, Census 2012

Suriname has a relatively young population, equally distributed by gender over all age categories. About 25 percent of the total population is younger than 15 years. Figure 1 presents the population by different age categories and by gender for 2020. The percentage of persons of 60 years and older is 12 percent.

Figure 1. mid-year population by age group and gender, 2020



Source: General Bureau of Statistics (Population statistics)

Suriname has a high ethnic and cultural diversity (see table 2). There are eight main ethnic groups namely, Hindustani, Maroon, Creole, Javanese, Mix, Indigenous, as well as a small group of Chinese and Caucasians. The largest ethnic group are East Indians (27%), followed by the Maroons (22%) and Creoles (16%).

Table 2: Total population by district, age and ethnicity

District	Total	%	Age	Total	%	Ethnicity	Total	%
Paramaribo	240,924	44.48	12-24	239,148	44.15	Hindustani	148,443	27.41
Wanica	118,222	21.83	25-40	128,356	23.70	Maroon	117,567	21.71
Commewijne	31,420	5.80	41-54	96,544	17.82	Creole	88,856	16.41
Nickerie	34,233	6.32	55 and older	77,590	14.33	Javanese	73,975	13.66
Marowijne	18,294	3.38			**100%**	Mixed	72,340	13.36
Sipaliwini	37,065	6.84				Amer-Indian	20,344	3.76
Brokopondo	15,909	2.94				Chinese	7,885	1.456
Para	24,700	4.56				Other	12,228	2.26
Coronie	3391	0.63						**100%**
Saramacca	17,480	3.23						
Total		**100%**						

Source: General Bureau of Statistics, Census (2012)

The industrial sectors in Suriname are distinguished in accordance with ISIC rev.4[2]. Most employed men are in the government (9%), trade (8%), and construction (6.1%) sectors. The employed women are mainly working in government (6.7%), trade (5.0%), and education (4.8%) sectors (GBS, 2014)[3]. Approximately 53.8% of the total population is employed and 6.2% unemployed (ABS, 2019)[4].

According to data from the SSLC (which was carried out between October 2016 and September 2017), the average monthly gross income is SRD2212. This income is equivalent to USD303, using the exchange rate for 2016/17: 7.3 SRD/USD. Here and further, this exchange rate will be used and the corresponding USD value will be reported between brackets. The average monthly net income is SRD1787 (USD245). Mining, professional scientific and technical activities and production and distribution of electricity and gas are found to have the highest average monthly incomes, namely SRD4938 (USD676), SRD3316 (USD454) and SRD2752 (USD377) respectively. Furthermore, employees in the public sector have the highest monthly income of SRD1889 (USD259), compared to employees in the private sector and self-employed entrepreneurs. Figure 2 shows the Monthly Gross Income derived from SSLC 2016-2017 data, divided into six income groups. The largest income group is between SRD1000 (USD137) and SRD2000 (USD274) and the smallest group are the incomes of SRD6000 (USD822) and more.

figure 2. Monthly Gross Income per income group

Source: IDB, Suriname Survey of Living Conditions 2016/17

[2] https://unstats.un.org/unsd/classifications/Econ/isic; International Standard Industrial Classification of All Economic Activities Revision 4

[3] GBS Suriname Census 2012, VOL II, 2014

[4] GBS, Households in Suriname (Paramaribo and Wanica) 2015-2018, 2019

2.1.2. Labour Market

Based on its geographic position, the Surinamese labour market can be viewed as “three linked labour markets". The most significant employer in the coastal region is the public sector. The informal sector, in addition to the public sector, is also important to the Surinamese coastal labour market system. The labour market in the coastal area comprises about 75 percent of the economically active population. Wage labour dominates the market and labour laws are generally adhered with. Employers' groups and trade unions both play a part in the tripartite and bipartite labour market institutions (Suriname, 2019). The second labour market is a domestic one that has been steadily growing over the past 20 years in the rural area. Due to the State's sparse presence in this labour market, it varies from the first (Government of the Republic of Suriname, 2017). The last labour market is located in the rural interior, where the indigenous and maroon population still rely on subsistence farming, fishing, and other primary sector jobs. There isn't much of a market orientation in this area, and there isn't much need for formal employment (Government of the Republic of Suriname, 2017).

According to the International Labour Organization (ILO) and the World Bank, Suriname’s employment-to-population ratio was 48.7% in 2021 (World Bank, 2022). This ratio is mainly based on data of those who are working in official jobs. The ratio does not adequately account for the informal employees or self-sufficient/self-employed individuals, because their data are not reported in an ideal manner. Data from the household budget survey (2019) indicate that 70.1% of people work more than 40 hours a week (GBS, Huishoudens in Suriname (Paramaribo en Wanica) 2015-2018, 2019).

The working-age population (labor force) in Suriname is defined as those who are between the ages of 15 and 64 years. The working population made up 64.5% of the total population as per the most recent Census (2012). The age range of 25 to 49 has the highest proportion of economically active people, according to age distribution (see table 3). It is also the group on the labour market that is the most economically active (employees). The unemployment rate is the highest for the age group 15-19 years, namely 33.93 (24.76% for male and 56.97 % for female). At national level the unemployment rate is about 10%, of which about one third consist of males and tow third of females.

The working population makes up more than two-thirds (70.3%) of the population of Paramaribo and Wanica, 20.6% of the rural districts, and only 9.1% of the interior (ILO, 2018). Table 4 explains the activity status by gender in the rural districts Paramaribo and Wanica. About 68% of the male population in this area is employed, while 43% of the females are employed in the rural districts. The figures show that 73% of the male population is economically active, while for the female population this percentage is only 50% (see table 4).

Table 3: number of employed, unemployed persons and unemployment rate by age group and sex, 2012

Age group	Employed			Unemployed			Employed And Unemployed			Unemployment Rate		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
15-19	3486	793	4279	1147	1050	2197	4633	1843	6476	24.76	56.97	33.93
20-24	12667	5253	17920	1820	2936	4756	14487	8189	22676	12.56	35.85	20.97
25-29	17396	10171	27567	1348	2699	4047	18744	12870	31614	7.19	20.97	12.80
30-34	16333	10243	26576	921	1984	2905	17254	12227	29481	5.34	16.23	9.85
35-39	15562	9580	25142	814	1462	2276	16376	11042	27418	4.97	13.24	8.30
40-44	15951	10132	26083	821	1145	1966	16772	11277	28049	4.90	10.15	7.01
45-49	15128	9590	24718	713	884	1597	15841	10474	26315	4.50	8.44	6.07
50-54	12353	7766	20119	513	531	1044	12866	8297	21163	3.99	6.40	4.93
55-59	7750	4975	12725	343	246	589	8093	5221	13314	4.24	4.71	4.42
60-64	2119	981	3100	86	49	135	2205	1030	3235	3.90	4.76	4.17
Total	**118745**	**69484**	**188229**	**8526**	**12986**	**21512**	**127271**	**82470**	**209741**	**6.70**	**15.75**	**10.26**

Source: General Bureau of Statistics, Census (2012)

Table 4: the population in the districts Paramaribo and Wanica (non-institutional and share of special groups, 15-64 years) by activity status, 2012

Activity status	ParWan			ParWan			ParWan		
	Sex		**Total**	**Sex**		**Total**	**Sex**		**Total**
	male	**female**		**male**	**female**		**male**	**female**	
Economic Active persons									
Employed	79,707	52,670	132,377	68%	43%	56%	60%	40%	132,378
Unemployed	5,243	8,425	13,668	5%	7%	6%	38%	62%	13,668
Non-economic Active persons									
Discouraged worker	851	1,051	1,902	1%	1%	1%	45%	55%	1,902
Pensioner/elderly	4,134	5,181	9,315	4%	4%	4%	44%	56%	9,315
Student	14,163	18,246	32,409	12%	15%	14%	44%	56%	32,409
Homemaker	585	23,031	23,616	1%	19%	10%	2%	98%	23,616
Disabled	2,743	2,205	4,948	2%	2%	2%	55%	45%	4,948
Other	4,531	6,239	10,770	4%	5%	5%	42%	58%	10,770
Unknown	4,432	5,023	9,455	4%	4%	4%	47%	53%	9,455
Total	**116,389**	**122,071**	**238,460**	**100%**	**100%**	**100%**	**49%**	**51%**	**238,461**

Source: General Bureau of Statistics, Census (2012)

A study of the educational level of the labour force, based on data from the Census of 2012, found that the majority of workers have only completed their primary or junior secondary education level (Suriname M. O., 2018). In Suriname, the service sector employs about 68% of all workers, followed by the industrial sector at 25% and the agricultural sector at 7%. The average percentage of working women is 36.9%, compared to 63.1% for the average percentage of working men.

2.1.3. Education

The education system of Suriname is divided into three different levels, namely primary education (including pre-primary education), secondary (for juniors and seniors) and tertiary education (higher and scientific education) (GBS, Suriname Census 2012 Volume II, 2014). Table 5 shows the distribution of the population according to the highest level of education completed. About 38% has completed regular Primary education (GLO), followed by Lower Secondary education (VOJ), where 35.08% of the total population completed this level of education.

Table 5: population by Highest Education Level

Highest Education level	Total	%
None	29,708	7.02
Kindergarten (KO)	22,863	5.40
Primary (GLO)	157,401	37.19
Lower Secondary (VOJ)	148,483	35.08
Upper Secondary (VOS: IMEAO/ NATIN/ AMTO)	25,450	0.60
Upper Secondary (VOS: Kweekschool)	14,252	3.37
Upper Secondary (VOS: VWO/HAVO)	19,663	4.65
Tertiary- HBO	15,548	3.67
Te–tiary – University	12,797	3.02

Source: General Bureau of Statistics, Census (2012)

Data from the Suriname Multiple Indicator Cluster Survey (MICS) 2018 show that 96.6% of primary school-aged children in Suriname (6 years) attend primary school (Ministry of Social Affairs and Public Housing, 2019). The rest of the group (0.5%) still attends kindergarten (KO) or belongs to the dropout category (2.9%). Approximately 62.4% of children of lower secondary school age (12-15 years) attend lower secondary education, while only 31% attend upper secondary education. In the urban area, 34.8% of children visit upper secondary education, while this is only 27.4% and 6.1% in the rural coastal area and inland respectively (Ministry of Social Affairs and Public Housing, 2019).

2.1.4. Health

The Surinamese healthcare system is coordinated by the Ministry of Health. The public health initiatives are overseen by the Bureau of Public Health (abbreviated BOG in Dutch). There are five large hospitals; four are in the capital Paramaribo and one is in district Nickerie, near the western border. Smaller hospitals can be found in district Marowijne on the east coast and in district Wanica, the second largest district close to Paramaribo. The only mental health facility is located in Paramaribo. The primary health care facilities are: (1) Regional Health Services – RGD (51 primary health clinics in the coastal area); (2) 200 or more private primary care clinics in the coastal region and (3) the interior's Primary Health Care (54 primary health clinics). Fertility indicates the actual production of live births. To determine the development of fertility, two measures are used, namely the Crude Birth Rate (CBR)

and General Fertility Rate (GFR). The Crude Birth Rate can be defined as the number of live births per 1000 mid-year population.

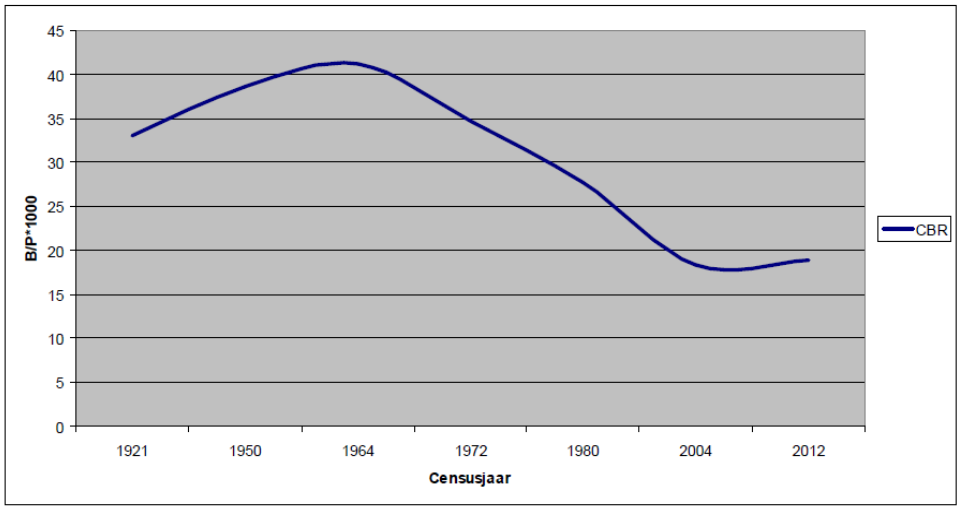
The trend in crude birth rate from 1921 – 2012 (figure 3), shows that the crude birth rate first gradually increases till 1964 and then falls sharply till 2010. From 2010 onwards there is a slight increase. The explanation for this may be the improvement of the food supply, medical facilities, decrease in infant and child mortality, access to contraceptives, better education (especially of women) and modernization in general. Given the birth rates at district level (see table 6), the CBR in the period 2004-2012 shows an increase in the districts of Paramaribo, Coronie and Para and decreases in Marowijne, Brokopondo and Sipaliwini. The internal migration can explain a good part of these patterns.

Table 6: population, births, Crude Birth Rate (CBR) and percentage change per district in 2004 and 2012

District	Population		Births		CBR		Change in %
	2004	**2012**	**2004**	**2012**	**2004**	**2012**	
Paramaribo	242,946	240,924	4,074	4,574	16.8	19.0	13.2
Wanica	85,986	118,222	1,702	2,324	19.8	19.7	-0.7
Nickerie	36,639	34,233	481	435	13.1	12.7	-3.2
Coronie	2,887	3,391	34	45	11.8	13.3	12.7
Saramacca	15,980	17,480	249	255	15.6	14.6	-6.4
Commewijne	24,649	31,420	280	447	11.4	14.2	25.2
Marowijne	16,642	18,294	559	324	33.6	17.7	-47.3
Para	18,749	24,700	430	631	22.9	25.5	11.4
Brokopondo	14,215	15,909	418	437	29.4	27.5	-6.6
Sipaliwini	34,136	37,065	835	744	24.5	20.1	-17.9
Total	492,829	541,638	9,062	10,216	18.4	18.9	2.6

Source: General Bureau of Statistics

figure 3. Development of the Crude Birth Rate, census years 1921-2012



Source: Mozaïek van het Surinaamse volk, J. Menke et.al (2016)

The crude birth rates are approximately 17 for the years 2017 through 2020 (see table 7). According to this, there are about 17 live births per 1,000 persons. When comparing the annual crude birth rates for 2020 (16.51), 2019 (16.93), 2018 (16.59), and 2017(16.78), there is hardly any difference. In 2019, a woman's first child was born at an average age of 27.55 years.

In 2019, the total fertility rate was 2.23. This indicates an average of two children being born for every woman in their reproductive age, that is between the ages of 15 and 49 years. Around 1,000 women in the childbearing age range from 15 to 49 years gave birth to 76 children in 2019, taking into account the general fertility rate of 75.87.

In Suriname, the crude mortality rate for 2020 was 6.52. This indicates that about 7 persons died per every 1,000 person of the estimated Mid-Year population. In 2017, the crude death rate was 6.02. In Suriname, the mean and median ages at death in 2019 were 64.17 year and 70.21 year for women and 59.43 year and 63.21 year for males. Between 2017 and 2019, the average life expectancy at birth for men and women was respectively 70.88 and 75.63 years.

Table 7: Crude Birth and Death Rate per 1000, 2015-2020

Crude Birth Rate						
Year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Births	10,148	9,910	9,785	9,809	10,127	10,053
Midyear population	567,300	575,700	583,200	591,100	598,000	608,900
Crude Birth Rate per 1000	17.89	17.21	16.78	16.59	16.93	16.51
Crude Death Rate						
Year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Deaths	3,663	3,591	3,508	3,763	3,955	3,971
Midyear population	567,300	575,700	583,200	590,100	598,000	608,900
Crude Death Rate per 1000	6.46	6.24	6.02	6.38	6.61	6.52

Source: General Bureau of Statistics

2.2 Demographics of adolescent women

In this paragraph, the profile of adolescent women in Suriname will be analysed. According to data from the General Bureau of Statistics in Suriname, the Mid Year Population of females between 15 and 19 years was 23,700 (7.8%) in 2019 and 23,800 in 2020 (7.9%). This indicates that there is a slight increase in the adolescent population from 2019 to 2020.

According to Census 2012 data 8.3% (n=22,448) of the total female population (and 4.1% of the total population) are women between 15 and 19 years old (see table 8). Compared to the previous Census data, namely from 1980 and 2004, there is a little decrease of this adolescent age group.

Table 8a: Adolescent female population of 2012 by age

	Adolescent Female Population (15-19yrs)		
Age	***Abs. female***	***% Female population***	***% Total population***
15	5,047	22.6	0.93
16	4,495	20.1	0.83
17	4,126	18.5	0.76
18	4,260	19.1	0.79
19	4,408	19.7	0.81
Total	***22,336***	***100***	

Source: General Bureau of Statistics

Table 8b: Adolescent female population by year

Age group 15-19 yr/year	*Abs. female*	*% Female population*	*% Total population*
1980	23,499	13.1	4.3
2004	23,215	9.5	4.3
2012	22,336	8.3	4.1

Source: General Bureau of Statistics

The female population between 15 and 19 years mainly resides in the urban area: Paramaribo (1.8%), followed by Wanica (0.96%) (see table 9). The distribution by ethnicity shows that Hindustanis are the largest group among the female adolescent population (27%%) and the second largest group are the Maroons (26%) (see table 10). The distribution by ethnicity of adolescent females is in line with the distribution of ethnicity of the total population (see GBS, 2014).

Table 9: Adolescent female population by district

	Adolescent Female Population (15-19yrs)		
District	**Abs. female**	**% Female population**	**% Total population**
Urban			
Paramaribo	9754	43.7	1.80
Wanica	5216	23.4	0.96
Rural			
Nickerie	1,509	6.8	0.28
Coronie	115	0.5	0.02
Saramacca	755	3.4	0.14
Commewijne	1,236	5.5	0.23
Para	1,124	5.0	0.21
Interior			
Marowijne	865	3.9	0.16
Brokopondo	624	2.8	0.12
Sipaliwini	1,138	5.1	0.21
Total	**22,336**	**100**	

Source: General Bureau of Statistics

Table 10: Adolescent female population by ethnicity

	Adolescent Female Population (15-19yrs)		
Ethnicity	**Abs. female**	**% Female population**	**% Total population**
Amer-Indian	831	3.7	0.15
Creole	3,102	13.9	0.57
Afro-Surinamese	114	0.5	0.02
Maroon	5,705	25.6	1.05
Hindustani	5,985	26.9	1.10
Chinese	172	0.8	0.03
Javanese	2,538	11.4	0.47
Caucasian	11	0.05	0.002
Mixed	3,606	16.2	0.67
Other	198	0.9	0.04
Total	**22262**	**100**	

Source: General Bureau of Statistics

Table 11: Adolescent female population by marital status

	Adolescent Female Population (15-19yrs) by marital status over 2020		
Marital status	**Abs. female**	**% Female married population**	**% Total married population**
15-19 yrs	481	0.8	0.4
20-24 yrs	2,953	4.9	2.5
25-29 yrs	5,895	9.8	5.0

Source: General Bureau of Statistics

Most of the adolescent females (56.5% of the female population between 15 and 64 years) have completed the lower secondary education level, followed by the primary level as highest education level (see table 12).

Table 12: Adolescent female population by education level

	Adolescent Female Population (15-19yrs)		
Education	**Abs. female**	**% Female population**	**% Population 15-64 yrs.**
None	36	5.0	0.05
Kindergarten	4	0.6	0.01
Primary	169	23.3	0.24
Lower Secondary (VOJ, IMEAO, NATIN, AMTO, Kweekschool)	409	56.5	0.59
Upper Secondary (VWO/HAVO)	92	12.7	0.13
HBO/University	14	1.9	0.02
Total	**724**	**100**	

Source: General Bureau of Statistics

Regarding the employment status, it should be noted that most of the adolescent female population between 15 and 19 years is not economically active (91.1% of the female population).

Table 13: Adolescent female population by employment status

	Adolescent Female Population (15-19yrs)		
Employment status	**Abs. female**	**% Female population**	**% Total population**
Economic active			
Employed	793	3.8	0.15
Looking for a work	1050	5.1	0.19
Economic inactive	18874	91.1	3.48
Total	**20717**	**100**	

Source: General Bureau of Statistics

2.3 Fertility

Taking the births among teenage mothers into account, statistics show that for 2017, about 42% of the total number of births under the age of 20 years, was from girls under 18 years. In 2019 this figure was 43 %. Most of these mothers lived in Paramaribo, Wanica and Sipaliwini. Approximately 14% of all live births are delivered by teenage mothers. From the hospital data we can observe that in the 5 major hospitals and at the Regional Health Services (RGD), there were 9,328 births in 2019. The average birth weight was 3.046 grams.

The age specific ratio, that is the number of live births for a specific age group in relation to the number of girls/women in that specific age groups, points out that there is a slight decrease among the adolescent age group. The number of live births for the age group 15-19 years was around 6.3 per 100 females between 2004-2015, and has dropped to 5.7 per 100 in 2016 (see table 14). The age specific ratio for the age group of 14 years and younger, shows a range between 0.17-0.29 over the period 2004 to 2019, which indicates an incidence of about 2 births per 1000 girls at the age of 14 and younger. The incidence around 2004-2010 is around 3 births per 1000 and for 2010 till 2019 it is 2 per 1000.

Table 14: Age specific ratio from the number of live births by age group of the mother in the age group 10-29 years, 2004-2019

Year	Age Group				Total
	<15	15-19	20-24	25-29	
2004	0.27	6.31	11.76	11.97	7.35
2005	0.29	6.12	11.63	10.66	6.94
2006	0.27	6.15	11.49	11.37	7.44
2007	0.27	6.55	13.08	12.19	7.75
2008	0.20	6.51	13.12	13.16	7.96
2009	0.26	6.30	12.50	12.21	7.55
2010	0.24	6.09	12.46	13.03	7.52
2011	0.18	5.80	11.51	12.53	7.23
2012	0.26	6.04	11.86	13.01	7.61
2013	0.19	5.85	11.72	12.28	7.35
2014	0.28	5.95	11.63	13.10	7.59
2015	0.17	6.11	11.48	12.13	7.34
2016	0.18	5.80	10.81	11.36	6.96
2017	0.19	5.77	10.30	11.13	4.39
2018	0.23	5.39	10.56	11.31	4.50
2019	0.21	5.73	10.92	11.19	4.47

Source: General Bureau of Statistics

Age Specific Ratio of Live Births = (Number of live births by age group/Number of women by age group) x100

Compared to other countries in the LA&C-region, Suriname has a modest to high incidence of adolescent pregnancy, but still above the global average. In Suriname, about 14% of all live births are from girls between the ages of 15 and 19 years. The general fertility rate for girls aged 15-19 years was 60.7 in 2013 and slightly dropped to 57 in 2019.

Of all women who gave birth in the period 2013-2015, approximately 13.5% were adolescent mothers between 15-19 years old (see table 15). The general fertility rate (GFR = number of live births per 1,000 females) for girls aged 15-19 years was 60.7 in 2013 and 61.7 in 2015. On the other hand, the total fertility rate (TFR = represents the average number of children a group of women would have by the end of their reproductive years, if they had children according to a set of age-specific fertility rates pertaining to a particular year) was around 2.3 between 2013 and 2015. The figures show that the TFR is slightly decreasing, while the birth rate among adolescents is just increasing. In general, the GFR is 78 (in 2015) for females in their reproductive age, while a closer look at specific age groups shows that the GFR for adolescent girls is higher than for women in the age group 35-39 and 39-44 and about half of the level of women in adulthood.

The gross reproduction rate (GRR = the average number of daughters a woman would have if she survived all of her childbearing years, which is roughly to the age of 45, subject to the age-specific fertility rate and sex ratio at birth throughout that period) was around 1.16.

Table 15: Age specific, general, total fertility rates and gross reproductive rate, 2013-2015

Age Group	2013	2014	2015
15 – 19	60.71	59.51	61.1
20 – 24	117.61	116.35	114.96
25 – 29	123.26	131.01	121.17
30 – 34	96.26	102.26	97.11
35 – 39	50.07	51.00	50.91
40 – 44	16.71	14.70	14.12
GFR	79.32	81.73	78.91
TFR	2.32	2.37	2.33
GRR	1.14	1.19	1.17

Source: General Bureau of Statistics

3

Incidence of adolescent pregnancy and early motherhood in Suriname

This chapter examines trends in adolescent childbearing for Suriname. Adolescent pregnancies concern pregnancies among girls younger than 18 years of age and adolescents between 15 and 19 years. Although it is a global problem occurring in high-, middle- and low-income countries, statistics show that there is an adverse correlation between the development level of the country and the incidence of adolescent pregnancies. About half of the pregnancies among adolescent girls in low-and middle-income countries are unintended, and commonly driven by poverty, lack of knowledge, low education and cultural barriers and restrictions. In many places girls become pregnant because they have limited educational and employment prospects. Often, in such societies, motherhood is valued, and marriage or union and childbearing are seen as the best of the limited options available for economic security. Adolescents who may want to avoid pregnancies may not be able to do so due to knowledge gaps and misconceptions on where to obtain contraceptive methods and how to use them. For Suriname the situation is not different. According to data from the Civil Registry Bureau of Suriname, the number of live births among girls between 15 and 19 years was around 1400 in the period 2015 – 2018 at national level (see table 16 and 16a). In 2018, 1334 out of 9809 live births were registered at the National Registry Office, which shows that about 14% of all live births are delivered by girls under 20 years. Considering only the group of adolescent mothers (10-19 years), then 3% is under 15 years, and 47% is between 15 and 17 years old during their pregnancy. About half of all adolescent pregnancies are from girls in the age of 18 and 19. In 2018, 54 births were delivered by girls between 10 and 14 years of age.

Table 16: Number of live births by age group of mother, 2014-2018

	2014		2015		2016		2017		2018		average 2014-2018
Age group of mother	**Freq (N)**	**%**	**Freq (N)**	**%**	**Freq (N)**	**%**	**Freq (N)**	**%**	**Freq (N)**	**%**	
10-14	66	**0.63**	41	**0.40**	42	**0.42**	45	**0.46**	54	**0.55**	**0.49**
15-19	1390	**13.36**	1435	**14.14**	1408	**14.21**	1368	**13.98**	1283	**13.08**	**13.75**
20-24	2643	25.40	2630	25.92	2486	25.09	2390	24.43	2451	24.99	25.16
25-29	2866	27.54	2680	26.41	2533	25.56	2516	25.71	2568	26.18	26.28
30-34	2134	20.51	2052	20.22	2059	20.78	2064	21.09	2055	20.95	20.71
35-39	1006	9.67	1019	10.04	1088	10.98	1113	11.37	1064	10.85	10.58
40-44	276	2.65	268	2.64	276	2.79	266	2.72	318	3.24	2.81
> 44	13	0.12	23	0.23	18	0.18	23	0.24	16	0.16	0.19
Unknown	13	0.12	0	0.00	0	0.00	0	0.00	0	0.00	0.02
Total	**10407**	100%	**10148**	100%	**9910**	100%	**9785**	100%	**9809**	100%	100%

Source: Civil Registry Office data 2020, modified by authors

Table 16a: Number of live births by age and disctrict of mother, 2018

Age of mother at birth	District of mother (%)											National (N)
	Urban		Rural					Interior				
	Paramaribo	Wanica	Nickerie	Coronie	Saramacca	Para	Commewijne	Marowijne	Brokopondo	Sipaliwini	Foreign nationals	
12	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.67	0.00	**3**
13	25.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	12.50	50.00	0.00	**16**
14	28.57	11.43	5.71	0.00	2.86	5.71	5.71	2.86	14.29	20.00	2.86	**35**
15	27.10	10.28	4.67	0.00	2.80	9.35	7.48	2.80	11.21	19.63	4.67	**107**
16	37.58	17.20	8.28	1.27	2.55	7.64	4.46	1.27	8.28	10.19	1.27	**157**
17	30.24	16.94	5.65	0.81	2.82	8.47	5.65	3.63	8.06	15.32	2.42	**248**
18	35.24	22.64	2.87	0.57	3.44	6.30	3.72	2.87	8.02	11.75	2.58	**349**
19	36.49	19.43	5.92	0.71	2.61	7.35	5.92	4.03	6.16	9.95	1.42	**422**
20	37.67	20.32	4.93	0.39	3.16	8.48	5.33	2.56	3.35	11.64	2.17	**507**
21	40.53	23.01	4.68	1.02	2.65	4.89	4.89	2.24	3.67	9.37	3.05	**491**
22	40.26	25.71	4.73	0.00	1.89	4.91	5.67	2.84	4.73	7.56	1.70	**529**
23	38.69	25.79	5.71	0.00	2.33	5.07	4.44	2.54	3.81	8.67	2.96	**473**
24	41.69	26.16	5.76	0.67	2.00	7.10	3.10	1.77	3.55	5.54	2.66	**451**
25-45	42.40	25.17	3.84	0.40	2.14	6.15	4.94	2.59	3.39	6.68	2.29	**6016**
> 45	40.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	0.00	**5**
Total (%)	**40.60**	**23.99**	**4.35**	**0.44**	**2.30**	**6.29**	**4.91**	**2.62**	**4.13**	**8.04**	**2.32**	**100%**
Total (N)	**3982**	**2353**	**427**	**43**	**226**	**617**	**482**	**257**	**405**	**789**	**228**	**9809**

Source: Civil Registry Office data 2020, modified by authors

According to the 2018 statistics of the Civil Registry Office (Table 16a), of the highest number of adolescent pregnancies and the youngest mothers are registered in the interior districts Marowijne, Brokopondo and Sipaliwini and in Paramaribo. The Ministry of Health (2013) reported that adolescent pregnancy is disproportionately higher among the most disadvantaged women: those who are poor, who live in rural areas, and who belong to Indigenous and Maroon groups. In the district Brokopondo, the village Moengo, and the urban part of Latour where you have a predominantly Maroon population, respectively 40%, 31%, and 30% of surveyed teenage girls (15-19 years) had been pregnant at least once. These pregnancies were most often unplanned. An estimated four percent of all adolescent mothers belongs to the age group 14 years and younger.

The UNPFA 2020 study in Suriname about the social determinants of adolescent pregnancy pointed out that adolescent pregnancy poses risks to health and socio-economic dimensions of their lives.

It impacts negatively on the total wellbeing of the young girls in Suriname and put her life at risk from complications associated with pregnancy and delivery as well as from resorting to unsafe abortions. In addition to the negative impact on the health of the adolescent female, her education is also curtailed as she is often forced to drop out of school. According to UNICEF and the Government of Suriname (2010), the majority (60%) of adolescent mothers is out of school. Other impacts include perpetuating the cycle of poverty, conduct disorders, alcohol and drug abuse, anxiety, stress, and low self-esteem which can all result from the psychological effects of adolescent pregnancy. In Suriname low contraceptive use, among adolescents who are married or in union, is evident and contributes to the level of early childbearing. The data show that an alarming 76.1% of females 12 to 14 years and 76.6% of females 15 to 19 years used no method of contraception. This low contraceptive use is most extreme among those in the rural interior, since 92% of them indicated no method of contraception.

My pregnancy was unexpected. I didn't think I would get pregnant. I was surprised and was still going to school. My plans were compromised.

J, 19 years

The 2020 study of the UNFPA, also considered focus groups sessions with young females between 17-25 years of age to collaborate on the incidence and circumstances of their AP&EM.

With regard to knowledge, the viewpoints were that the knowledge differs among the young men and women, e.g. some have sufficient knowledge but still take risks, or others do not grasp the information fully, making them vulnerable when starting sexual relation.

The respondents believed that information about contraception and the risks of having unprotected sexual relations is provided especially at school (junior secondary) and not at home, even on an irregular base. As they reported, the information does not affect or influence every young person in the same way and the main point is that most youngsters do not think about the occurrence of a pregnancy, but just about having fun.

I did have information about anticonception, but I did not adhere to it. I didn't think about it. When you are young you do what you want and you don't listen.

O, 19 years

Unprotected sexual relations still seem to be a persistent factor and risks are still being taken. The sense of awareness of the fact that pregnancies can occur when there are unprotected sexual relations seems to be overseen and the tendency is that 'it will not happen if we do it one time unprotected', is predominant. Information about contraception and risks of unprotected sexual relations are received differently by young people.

Some are well informed about the consequences while others are not fully able to grasp the immediate consequences. The combination of care for their child and working, places enough burden on them as a result of which attending school and continuing their study is not possible. Occasionally, some seek vocational training options to be able to get some specific skills.

I didn't have a babysitter. Then I stayed at home myself. I couldn't go to school then. I had to go to work.

S, 24 years

Managing the situation socially and economically depends on the support system of the young women. This is very important for young women to sustain in their daily life. The majority of support is received through the immediate family e.g. their own mother or grandmother who may have restricted means themselves.

My sister has a hard time and had no support from her child's father, so she has to do a lot herself and was unable to complete her school.

In some cases, the young woman starts living in union with her boyfriend. There are however also cases where the young woman has no immediate support, resulting in abandonment of children or placing the children in childcare institutions. This is a factor that contributes to the intergenerational transfer of poverty. Since the mother is herself socially and economically dependent and cannot provide for her children, this challenges the survival and development for her children also.

Profile of adolescent mothers using MICS 2018 data

In 2018 the Multiple Indicator Cluster Survey (MICS) was carried out in Suriname. The MICS survey collects data about the living standards and health situation of women and children, and therefore also from their households. The MICS 2018 data are the most recent data available at national level, with information about the situation of women, especially young adolescents.

In this section this survey information is used as one of the main sources to discuss and present the situation of Adolescent Pregnancy (AP) and Early Motherhood (EM). This section presents the profile of women aged 15-49 years of age with an incidence of AP&EM, that is that these women had their first birth at the age of 15-19 years of age. For a better understanding and comparison purposes, the profile and incidence of childbearing among women who had their first child at the age of 20 and older, is also reported.

For women between 15 and 49 years who had their first birth at the age of 19 years or younger, the figures of Table 17 illustrate that the highest incidence by ethnicity (of the household head) is found among Maroon (33.9%), followed by Hindustani (19.6%) and Creole (13.5%). About 60% of the women with an AP&EM incidence belong to the poorest quintiles of the population (in this case 40% of the population with the lowest wealth status, belonging to the first and second quintile). For women who delayed their childbearing till adulthood, less than 40% belongs to the poorest quintiles. Regarding educational level, the highest educational level achieved by 80% of these groups is Primary and/or Secondary Junior. 30% Percent has only completed primary education. Only 3 percent of women with an AP&EM background completed High School or University, while this is 15% for their peers who delayed childbearing till adulthood. About 67.9% of women with an AP&EM background have a health insurance coverage, while this is 10 percent points higher for their peers with no AP&EM situation. About 82.8% of women with a AP&EM are currently married or living in union.

Table 17: Demographics of women with vs. without a first birth at 19 years or younger

Ethnicity of household head	All women, aged 15-49 years		
	First birth at 19 years or younger:		
	No	Yes	Total (%)
Indigenous	4.4	8.7	5.6
Maroon	20.5	**33.9**	24.1
Creole	17.8	13.5	16.7
Hindustani	28	**19.6**	25.7
Javanese	14.6	11.1	13.7
Mixed	12	11.9	12.0
Other	2.7	1.31	2.3
Total (N)	5090	1909	6999
Wealth status	First birth at 19 years or younger:		
	No	Yes	Total (%)
Poorest	16.3	**34.8**	21.4
Second	20.9	**26.2**	22.3
Middle	21.2	18.4	20.4
Fourth	22.1	13.5	19.7
Richest	19.6	7.1	16.2
Total (N)	5090	1909	6999

Table 17 cont'd: Demographics of women with vs. without a first birth at 19 years or younger	All women, aged 15-49 years		
Highest level of school attended	First birth at 19 years or younger		
	No	Yes	Total (%)
ECE/ Pre-primary	0.1	0.2	0.13
Primary	10.8	**30.9**	16.1
Lower secondary	43.2	**52.9**	45.8
Upper secondary	30.2	12.6	25.5
Highschool & university	15.43	3.1	12.2
DK/No response	0.3	0.3	0.3
Total (N)	4963	1788	6751
Health insurance coverage	First birth at 19 years or younger		
	No	Yes	Total (%)
Yes, health insurance coverage	77.6	**67.9**	75
No health insurance coverage	22.4	32.1	25

Total (N)	5089	1909	6998
Marital/union status of women	**First birth at 19 years or younger**		
	No	**Yes**	**Total (%)**
Currently married/in union	69.6	**82.8**	73.2
Formerly married /in union	10.5	**12.4**	11.0
Never married /in union	19.9	4.8	15.7
Total (N)	4990	1376	6884

Source: Suriname MICS data, 2018

The adolescent birth rate (ABR) and total fertility rate (TFR) for women aged 15-19 years was the highest in the rural interior area (ABR=159; TFR=5.2)), with the education level of pre-primary or none (ABR=388; TFR=5.6) and a wealth index category poorest (ABR=124; TFR=4.5) (table 18).

Table 18: Adolescent birth rate and total feritlity rate

	Adolescent birth rate (Age-specific fertility rate for women age 15-19 years)	**Total fertility rate (women age 15-49 years)**
Total	**64**	**2.8**
Area		
Urban	52	2.5
Rural Coastal	79	3.1
Rural Interior	159	5.2
Education		
ECE, Pre-primary or None	388	5.6
Primary	216	4.4
Lower Secondary	78	3.0
Upper Secondary	29	2.5
Higher	4	1.9
Wealth index quintile		
Poorest	124	4.5
Second	102	3.2
Middle	53	2.5
Fourth	29	2.2
Richest	13	1.6

Source: Suriname MICS data, 2018

Table 19 shows that the urban area has the highest number of women age 15-19 years (n=1001). Nevertheless, the results indicate that the rural interior area has the highest percentages of woman between 15-19 years who had a live birth (26.9%), or were pregnant with their first child (5.7%) or had a live birth before age 15 (4.8%).

Table 19: Early childbearing (young women)

Percentage of women age 15-19 years who have had a live birth, are pregnant with the first child, have had a live birth or are pregnant with first child, and who have had a live birth before age 15, and percentage of women age 20-24 years who have had a live birth before age 18, Suriname MICS, 2018

	Percentage of women age 15-19 years who:						
	Have had a live birth	Are pregnant with first child	Have had a live birth or are pregnant with first child	Have had a live birth before age 15	Number of women age 15-19 years	Percentage of women age 20-24 years who have had a live birth before age 18[1]	Number of women age 20-24 years
Total	**10.2**	**2.0**	**12.2**	**1.0**	**1353**	**13.2**	**1012**
Area							
Urban	8.0	1.3	9.3	0.5	1001	10.5	761
Rural Coastal	11.2	3.0	14.2	1.3	233	16.4	183
Rural Interior	26.9	5.7	32.6	4.8	118	34.8	68

Source: Suriname MICS data, 2018

The use of contraception of married women or woman in union was also analyzed for women between the age of 15-19 years. Approximately a third (39.2%) of the women between 15-49 years use any method of contraception (table 20). For the age group 15-19 years, this percentage is 23.4% for married women and 33.5% for unmarried women (table 21). This means that the percentages of women who don't use contraception is 76.6% for married women and 66.5% for unmarried women. The figures illustrate that the use of NO contraception among adolescents who are married or living in union is much higher (76%) than their older peers (approx. 60%). The use of modern contraception methods among married women 20-49 years of age, is twice as high as the use among married adolescent females. The use of any contraception method under adolescent females who are unmarried is about 10 percent point lower than their married peers. Currently 1 out of 4 girls in the age 15-19 years of age who are unmarried, uses a contraception method. For unmarried women in the age group 20-49 years, 1 of 2 women uses a contraception method.

Table 20: Use of contraception (currently nmarried/not in union)

	Percentage of women currently married or in union who are using (or whose partner is using):				
	No method	Any modern method	Any traditional method	Any method	Number of women currently married or in union
Total	**60.8**	**38.7**	**0.4**	**39.2**	4789
Age					
15-19	**76.6**	23.4	0.1	23.4	469
15-17	**80.3**	19.7	0.0	19.7	224
18-19	**73.1**	26.7	0.2	26.9	245
20-24	64.5	35.2	0.2	35.5	654
25-29	59.3	40.3	0.1	40.7	742
30-34	52.7	46.3	1.0	47.3	809
35-39	58.1	41.5	0.5	41.9	756
40-44	57.9	41.8	0.4	42.1	663
45-49	63.6	35.7	0.7	36.4	696

Source: Suriname MICS data, 2018

Table 21: Use of contraception (currently unmarried/not in union)

	Percentage of sexually active women currently unmarried or not in union who are using (or whose partner is using):			
	Any modern method	Any traditional method	Any method	Number of sexually active women currently unmarried or not in union
Total	**33.5**	**0.0**	**33.5**	**300**
Age				
15-19	19.6	0.0	19.6	46
15-17	17.9	0.0	17.9	27
18-19	22.0	0.0	22.0	19
20-24	25.9	0.0	25.9	57
25-29	39.0	0.0	39.0	54
30-34	58.8	0.0	58.8	50
35-39	35.1	0.0	35.1	44
40-44	34.0	0.0	34.0	30
45-49	1.5	0.0	1.5	18

Source: Suriname MICS data 2018, modified by authors

Regarding the antenatal care provider, for all age groups it can be noted that the medical doctor is the most common provider (70.5%). The percentage of women without antenatal care is 13.3%. It is observed that besides these two groups, women younger than 20 years mainly had a nurse (9.1%) as provider, while the women of higher age groups (20-34 years and 35-49 years) had a midwife (7.1% and 8.0% respectively) as antenatal care provider (table 22).

Table 22: Provider of antenatal care by age group

	Age group (at most recent live birth)			
Indicators	Less than 20	20-34	35-49	**Total**
Provider of antenatal care				
Medical doctor	66.7	70.8	73.2	70.5
Nurse	9.1	4.7	6.0	5.6
Midwife	8.5	7.1	8.0	7.5
Traditional birth attendant	0.9	1.5	0.7	1.3
Community health worker	1.9	0.7	0.6	0.9
Other/missing	1.6	0.9	0.8	1.0
No antenatal care	11.4	14.4	10.8	13.3
Total	100.0	100.0	100.0	100.0
Percentage of women who were attended at least once by skilled health personnel	85.2	84.1	87.8	84.8
Number of women with a live birth in the last 2 years	167	701	159	1026

Source: Suriname MICS data, 2018

The majority of women between 15 and 49 years visits their antenatal care provider more than 4 times (67.5%) during the pregnancy. Of the women younger than 20 years, those with an AP&EM incidence, 65.6% visit their provider more than 4 times. Less than half of the women younger than 20 years start their visits at the 4th month of their pregnancy, while a quarter does not pay a visit until their last trimester (27.5%) (see table 23). Approximately 86.5% of women younger than 20 years had their blood pressure measured and urine and blood sample taken during the pregnancy of their most recent live birth (table 24).

Table 23: Number of antenatal care visits and timing of first visit

	Age group (at most recent live birth), %			
Indicators	Less than 20	20-34	35-49	**Total**
Number of antenatal care visits				
No visits	11.4	14.4	10.8	13.3
1-3 visits to any provider	4.5	3.5	3.7	3.7
4 or more visits to any provider	65.6	66.4	74.1	67.5
Of which 8 or more visits to any provider	*44.1*	*45.8*	*57.9*	*47.4*
Missing/DK	18.6	15.7	11.4	15.5
Time of visits				
No antenatal care visits	11.4	14.4	10.8	13.3
Less than 4 months	46.4	57.9	59.2	56.2
4-5 months	27.5	16.7	23.9	19.6
6-7 months	13.3	7.3	3.7	7.7
8+ months	0.5	1.6	1.3	1.4
Missing/DK	0.9	2.1	1.1	1.8
Total	**100.0**	**100.0**	**100.0**	**100.0**
Number of women with a live birth in the last two years	167	701	159	1026
Median months pregnant at first ANC visit	3	3	3	3
Number of women with a live birth in the last two years who had at least one ANC visit	147	585	140	872

Source: Suriname MICS data, 2018

Table 24: Content of antenatal care

	Age group (at most recent live birth), %			
Indicators	Less than 20	20-34	35-49	**Total**
Blood pressure measured	88.6	85.0	89.2	86.2
Urine sample taken	86.6	83.0	88.6	84.5
Blood sample taken	88.6	83.9	89.0	85.5
Blood pressure measured, urine and blood sample taken	86.5	82.4	88.6	84.0
Number of women with a live birth in the last 2 years	167	701	159	1026

Source: Suriname MICS data, 2018

Of the women younger than 20 years, 95.9% delivered in a health facility, of whom 68.2% in a public facility and 27.7% in a private facility (table 25).

Table 25: Place of delivery

	Age group (at most recent live birth), %			
Indicators	Less than 20	20-34	35-49	**Total**
Public facility	68.2	63.6	58.4	63.5
Private facility	27.7	28.3	35.8	29.4
Home	0.3	2.1	2.0	1.8
Other	3.4	5.6	3.8	4.9
Missing/DK	0.3	0.5	0.0	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**
Delivered in health facility	95.9	91.9	94.2	92.9
Number of women with a live birth in the last 2 years	167	701	159	1026

Source: Suriname MICS data, 2018

During the delivery about half of the women (51.3%) younger than 20 years were assisted by a medical doctor, followed by a midwife (27.4%) and a nurse (19.5%) (see table 26). Almost all women who delivered by a C-section (98.8%) were assisted by a skilled attendant during their delivery. The type of assistance during delivery and C-section for adolescent girls and those in adulthood and older do not differ much. Women in the age-group of 35-49 have a slightly higher frequency for medical doctor as skilled attendant, and a 3 times higher fixed C-section delivery (15%) compared to their adolescent peers (5%).

Table 26: Assistance during delivery and C-section

	Age group (at most recent live birth), %			
Indicators	Less than 20	20-34	35-49	**Total**
Delivery				
Skilled attendant				
Medical doctor	51.3	42.1	57.4	45.9
Nurse	19.5	24.0	16.2	22.1
Midwife	27.4	31.1	24.3	29.4
Community health worker	0.6	1.1	0.5	0.9
Other				
Traditional birth attendant	0.0	0.0	0.2	0.0
Relative/Friend	0.2	1.2	0.0	0.9
Other/Missing	0.6	0.2	0.9	0.4
No attendant	0.4	0.3	0.5	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**
Delivery assisted by any skilled attendant	98.8	98.3	98.4	98.4
Percent delivered by C-section				
Decided before onset of labour pains	5.2	10.6	15.1	10.4
Decided after onset of labour pains	4.4	6.6	3.1	5.7
Total	9.7	17.2	18.1	16.1
Number of women who had a live birth in the last two years	167	701	159	1026

4

Socio-Economic impact analysis of AP&EM using MILENA

4.1 Overview of the MILENA methodology

For the impact analysis of AP&EM, the UNFPA uses the Methodology for assessing the Economic Impact of Adolescent Pregnancy and Early Motherhood in Latin America and Caribbean Countries, in short referred to as: MILENA. This methodology was developed by Ivan Rodrigues Bernate in collaboration with Federico Tobar. The MILENA method is based upon the opportunity cost (OC) valuation method, which estimated the economic losses associated with the socio-economic effects of AP&EM (UNFPA, 2019[5]). For a more detailed explanation of the MILENA method, we refer to the UNFPA 2019-publication: Methodology for Assessing the Economic Impact Of Adolescent Pregnancy and EarlyMotherhood in Latin American And Caribbean Countries (MILENA 1.0). In the following section a short overview of MILENA is presented.

AP&EM has consequences for the young mother/pregnant adolescent on multiple dimensions and aspects such as health, education and therefore on human development capacity, economic and social progress. Besides the sole consequences for the adolescent mother, also their children, partner and family members are at risks of bearing unfavourable consequences. Taking this a step further, the risk of backwardness in social-economic achievements and potential loss of economic active labour and living years, also result in losses at macro-economic level. Meaning that, due to the lack of effective support during and after the incidence of AP, the individual - in this case the adolescent mother -, and even the partner or family associated with this person are less likely to reach the level that he/she would have reached if there was not such an AP-situation. The method emphasizes that the consequences are not only at the individual level of the person that has experienced an incidence of AP, but it also affects at meso- and macro-level. It is therefore necessary to identify and estimate the possible opportunity losses associated with AP&EM, to shed light on the full effects and economic impact of AP&EM at the level of society and State.

The ultimate purpose of the study is to estimate the impact of AP&EM to generate relevant evidence at sub-regional and national level on the adverse consequences, and furthermore to improve the understanding for investment in prevention to minimize the losses on economic, social and health level and to mitigate the undesired effects of AP&EM. Prevention policies and strategies as well as tailor made support in case of an AP&EM situation may allow girls to develop their capabilities to the fullest and live a decent life on their own terms, not compromised due to their dependency and unfavorable situations. Studies carried out in the region depict that girls with a AP&EM background are prone to violence, sexual abuse and discrimination, due to their dependency on others (UNFPA,2021).

This MILENA methodology provides insights into the full effect of AP&EM in a specific country and takes the following five dimensions into account:

- Dimension 1: Consequences of AP&EM on the participation in the labour market
- Dimension 2: Consequences of AP&EM on labour income
- Dimension 3: Consequences of AP&EM on the level of educational attainment
- Dimension 4: Impact of AP&EM on the health of the adolescent mother
- Dimension 5: Tax revenue forgone, due to limited labour force participation and decreased income as a result of AP&EM

[5] UNFPA (2019): Methodology for Assessing the Economic Impact of Adolescent Pregnancy and EarlyMotherhood in Latin American And Caribbean Countries (MILENA 1.0). United Nations Population Fund - Latin American and the Caribbean Regional Office. Panama. 2019

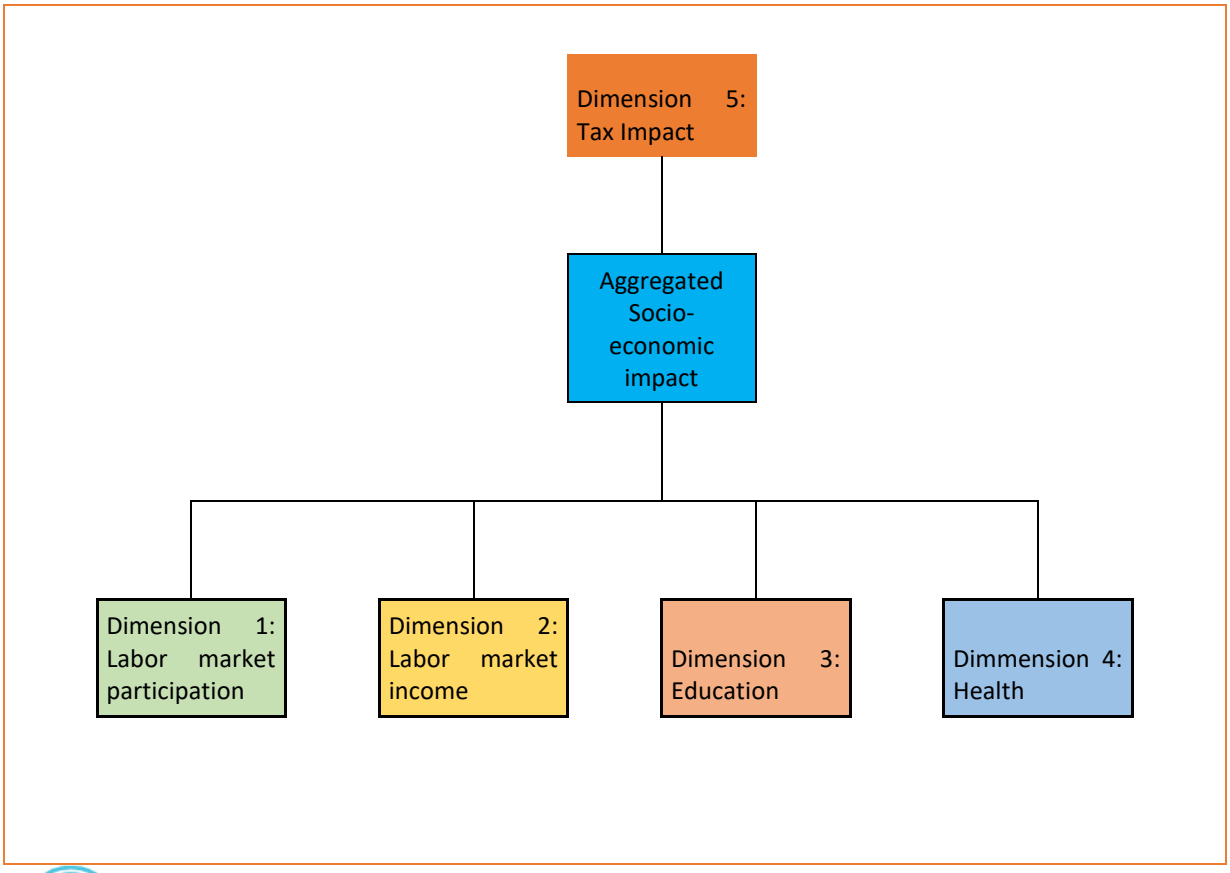


Figure 4. Overview Methodology for Assessing the Economic Impact of Adolescent Pregnancy and Early Motherhood in Latin American and Caribbean Countries Milena, UNFPA 2019

The socio-economic impact of AP&EM is estimated by the valuation of the losses and missed opportunities that one and her (his) family face due to the existence of the AP&EM situation. For example, if the girl was not pregnant before age 20, which level of education would she have reached and in what time. One of the main consequences of AP is that these young girls drop out of school during and after pregnancy and take more time to start up and continue their schooling after giving birth. Compared to the girls who delayed their pregnancy at least to the first decade of adulthood, it is possible to at least estimate the assumed educational level that the girl with an AP could have reached, if we consider the path followed by the girl that delayed childbearing to adulthood as the most commonly expected and natural way.

This is why for the study of the AP&EM, the women who delay childbearing to the first phase of adulthood are considered as the control group, that is the group that reflects on average the expected achievements for girls in general. The level reached and achievements of both groups are compared with each other and based upon the identified gap in education level, labour market position/participation and compensation in terms of income are calculated and labelled as losses and opportunity costs. The same argument goes for the consequences of health. Since early childbearing is associated with higher health risks and the risks for complications and unexpected health expenditures are evident, these costs are also estimated. If women do not fully participate in the labour market due to AP&EM, this could result in an understated level of GDP as well as missed tax revenues for the government, due to the non- and under participation on the labour market.

For the MILENA, opportunity cost (OC) is defined as the value of benefits of the forgone alternative, that is the next best alternative that could have been chosen but was not, due to the incidence of AP. The opportunity losses will be quantified as OC of education, income, and labour market participation, but also on OC for the government due to health costs and tax revenue losses.

Following the consequences of AP&EM as analyzed in the literature, the UNFPA distinguishes two segments that complement each other by construction of the MILENA:

1. The socio-economic dimensions such as educational attainment, labour market participation and labor income and
2. The public health dimension.

With the first segment, the socio-economic losses are estimated due to reduction on income, unemployment or education and career backwardness among women who had their first child during adolescence (WCA) and became a mother during adolescence (WMA). Due to the reduction on income and limited labour market opportunity, there are also losses of tax revenue at State level. The health consequences depict the impact of pregnancy care that was not foreseen as well as two fatal outcomes: maternal mortality in adolescents and years of potential life lost. Maternal mortality in the case of AP is mainly related to unsafe abortions and complications associated with pregnancy.

Segment 1 Socio-economic dimensions: Education, Labour market participation and Labour income

The impact of AP&EM according to the MILENA methodology is based upon among others on the influential works of Gary Becker (1987), who proposed motherhood as an opportunity cost and discussed motherhood in relation to formation of human capital and labour market. Based on these insights we can argue that motherhood in adolescence limits the ability to invest in human capital formation and to join the labour market, due to the care and attention that the child requires during the dependent stage (UNFPA, 2019). Anderson, Binder, & Kroese (2003) and Waldfogel (1997) contributed to the propositions presented by Becker with the concept of motherhood penalty. Furthermore Chaaban & Cunningham (2011) define the income gap for early motherhood and calculated the opportunity costs of unemployment and the income reduction due to AP&EM.

Motherhood penalty and income gap analysis for women with an AP&EM experience are important since they combine the effects of EM with early school leavers and subsequently the impact on future income. Women with an AP&EM background are often willing to continue schooling or enter the labour market, however there are less opportunities and possibilities to combine their motherhood and care responsibilities with the expectations of schools and employers. These studies also shed light on the unfavorable circumstances existing at national level due to weak legal systems and institutions, low employment perspectives and gender income gaps. The measurement on economic and social effects that is proposed by MILENA relies on the aforementioned practices and furthermore on the studies of El Salvador (UNFPA, 2017), Nicaragua (Altamirano *et al.*, 2016) and the research of Chaaban & Cunningham (2011).

Segment 2 Health consequences

The objective of the impact analysis on the health dimension is to estimate the effect of AP&EM on adolescence. The MILENA methodology measures the economic evaluation of health care by its frequency and expenditures and also public health outcomes with high social relevance (UNFPA, 2019). Public health outcomes with social relevance refer in this case to maternal mortality among adolescents and the subsequent years of potential life lost (YPLL). Years of potential productive life lost (YPPLL) yields in the social or productive loss due to maternal mortality in adolescents (SLMMA). So, the second segment consists of care and attention to adolescent pregnancies,maternal mortality among adolescents and the corresponding years of potential life lost.

4.2 Data and study population

The assessment of economic impact of AP&EM in Suriname by applying the MILENA has been carried out using the Suriname Survey of Living Conditions (here and further SSLC 2016/17) as the main database. Among other available surveys at national level, the SSLC 2016/17 provides the necessary information on income. As presented in the first section of this report, income data is the core element to estimate the opportunity costs related to the incidence of AP&EM. Other available surveys as the Suriname MICS 2018 and the Census 2012 have no data on income. The SSLC 2016/17 was executed by the Inter-American Development Bank (IDB) in close collaboration with the government of Suriname, the State-owned Energy Company (EBS) and the Central Bank of Suriname.

About 2000 households were visited. The survey was carried out in the period October 2016 - September 2017 and collected data on (among other topics): education, health, living expenses, employment, income, housing and living conditions. The survey also gathered information on household expenditures. The SSLC target population included all persons living in households.

Given the survey's analytical objectives and the data available, the Surinamese population was split in three geographic estimation domains:

1. Great Paramaribo: 13 EBS Connection Areas that cover district Paramaribo and its peripheries. It includes Paramaribo's population plus part of the population in contiguous districts (Wanica, Saramacca and Commewijne), which generally commute to Paramaribo on a daily basis. This domain has by far the largest population and the highest density. It may be broken down in two subdomains: Paramaribo and Paramaribo outskirts.

2. Rest of the Coastal Region: the remaining 14 EBS Connection Areas in the coast, i.e. the coast excluding Great Paramaribo.

3. Interior: the territory not covered by the EBS electrical network and supplied by the Ministry of Natural Resources. Its population gathers in 137 small villages located in most part of district Sipaliwini, the southern half of district Brokopondo and small portions of other districts. Although it covers a much larger territory than the other two domains, it is the smallest domain in terms of population.

The SSLC was carried out to estimate the living conditions at national level and the data were made publicly available. The SSLC has the availability of key data needed to perform the MILENA calculations, such as income, job status, educational level, living area, mother's age at their first birth, number of births, age, health services availability and much more. Labour market, health and educational attainment data are available and also linked to the position of male and female.

The females and girls were asked if they ever had children, either dead or alive, and what the year of birth of their firstborn was. Combined with their own reported age, it was possible to derive which women in the survey experienced AP&EM and which not. This information was further linked to their current income and labour market position as well as income status. The survey also has a couple of relevant questions regarding the health status of the respondents as well as their educational attainment level, income situation and other relevant background variables.

The SSLC 2016/17 has the necessary information needed for calculation of each of the 5 dimensions of the MILENA method. For this research, the sample has been expanded to the population size as measured by the Census 2012. The calculations and figures presented in this chapter 4 are based on the weighed sample. The SSLC database is the only database currently publicly available with the necessary data on labour market participation and labour income, and in turn linked to adolescent pregnancy information of women. This allows for the impact assessment and analysis of AP&EM. The

incidence of AP&EM and the socio-economic impact of AP&EM using SSLC 2016/17 is presented in the chapters 4 and 5.

The SSSLC 2016/17 also contains questions related to age of childbearing of women, reproductive health information, and information on mortality, living conditions, education and labor market participation. All these survey questions provide the necessary information to estimate the impact of AP&EM on the dimensions identified by MILENA (see figure 4). In this section, the discussion of the SSLC database will be focused upon the MILENA method.

Study population

For this AP&EM study, the specific target group as proposed by the MILENA comprises women between 20-60 years of age who had their first child during adolescence, that is between the age of 10 and 19 years. To estimate the opportunity cost/losses, a control group is identified for comparison purposes and comprises also women between 20-60 years, but who had their first child in the first phase of adulthood (WAH), that is between 20-29 years. *For the calculations, the weighed population will be used of the sample.* The total unweighted population of the SSLC consist of a sample of 6913 observations nationwide, with 3418 male (49,44%) and 3495 (50,56%) females in the age range of 0-99 years. The weighed population consist of 172,560 females, of whom 22% is between 20-60 years with an AP history, 38% with a pregnancy in adulthood and 40% with either no live births or older than 60 years or younger than 10 years. The weighed total of the population in the study is 102,680 females of which 37% are women with an incidence adolescent pregnancy and 63% women with an incidence of adulthood pregnancy (see figure 5 for an overview).

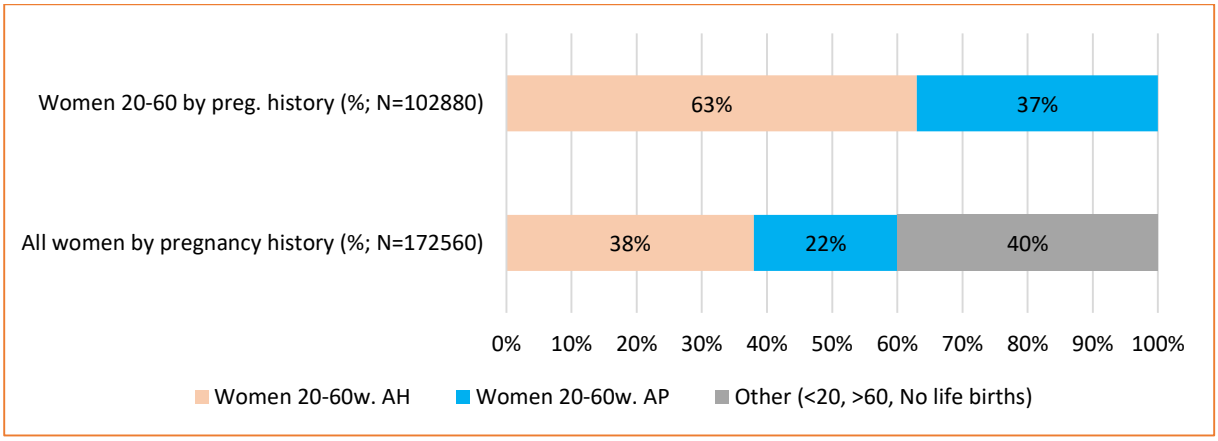


Figure 5. Weighed study population by AP&EM background

Notes: Women 20-60w.AH: Women aged 20-60 years, who had their first birth in adulthood (AH)
Women 20-60w.AP: Women aged 20-60 years, who had their first birth in adolescence (AP)
Other (<20, >60, No life births): All women with no life births, all women under 10 year and older than 60.

The MILENA measures the impact of AP&EM by studying the consequences on women's education, labour market participation, income, health at individual level and macro-economic level and allows for estimation of the tax forgone due to lower labour market opportunity, income reduction and increase health expenditures associated with increased costs due to AP-pregnancy care and health risks. By comparing the women with an AP with those who delayed childbearing till their adulthood, for each dimension gaps are identified, calculated and quantified in monetary terms to estimate the

opportunity costs. In the following section for each dimension, following figure 5, the findings are presented. For each group, that is the AP&EM women and the women with an adulthood pregnancy, the results are described. The profiles of both groups with their respective characteristics are presented in Figure 6 by their respective marital status. About half of the women with an AP&EM in the study population is unmarried or living together, while this is about 10 percent points lower for their peers who started childbearing in adulthood.

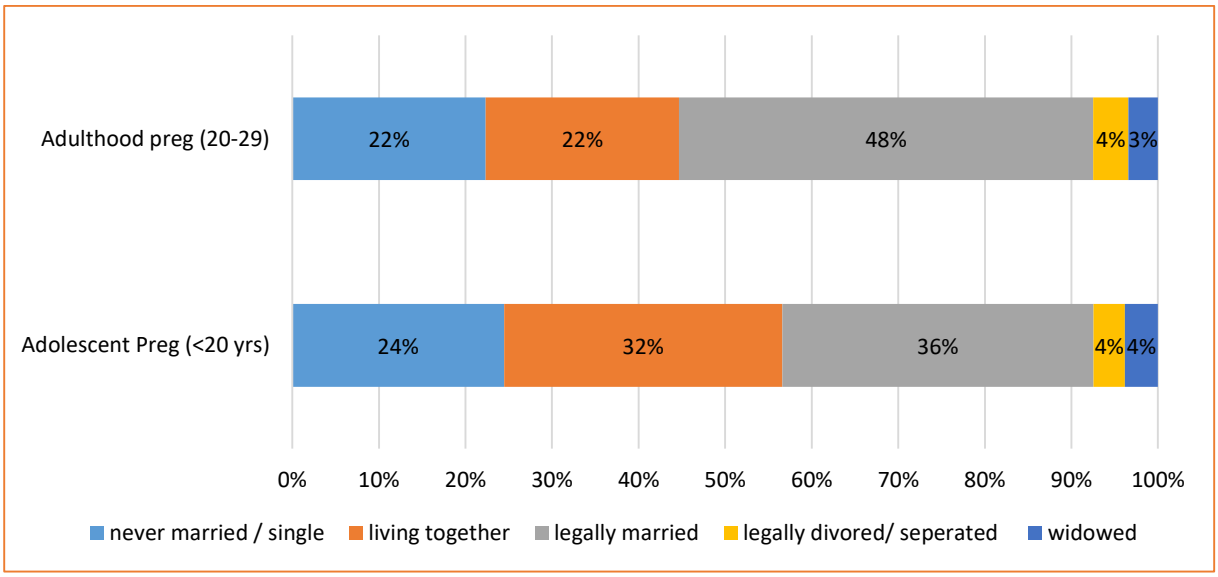


Figure 6. Study population by AP&EM background over martial status

4.3 Impact analysis and findings by socio-economic dimension

4.3.1 Dimension 1: Labour Market participation

The labour market is classified by the economic active and inactive population. Based upon the labour force a first distinction is made upon the economic activity of each woman. The labour force is in general defined as the population between 15-65 years of age. Since our study comprises women between 20-60 years of age, the economically active population are the women who are employed or are willing to work but are currently unemployed. The economically inactive population concerns those who are no part of the economically active group and consists of home makers, retired persons, students, discouraged workers and persons with a disability.

Based on the SSLC 2016/17, the inactivity rate for women who had their first child in adolescence, tif^{ma}, is 58 % compared to the inactivity rate of 42% for women who delayed childbearing till adulthood (tif^{*}). As figure 7 illustrates, there is a gap of 16% between both groups, which results in a difference of 28%, which points out that AP&EM women are 28% more likely to not enter/stay in the labour market compared to women who had their first child in adulthood. **The gap in activity between women exposed to AP and women who had their first child in adulthood shows the estimated percentage of women who could be available for the labour market if there were investments in prevention of AP or in avoiding the adverse socioeconomic consequences of EM.**

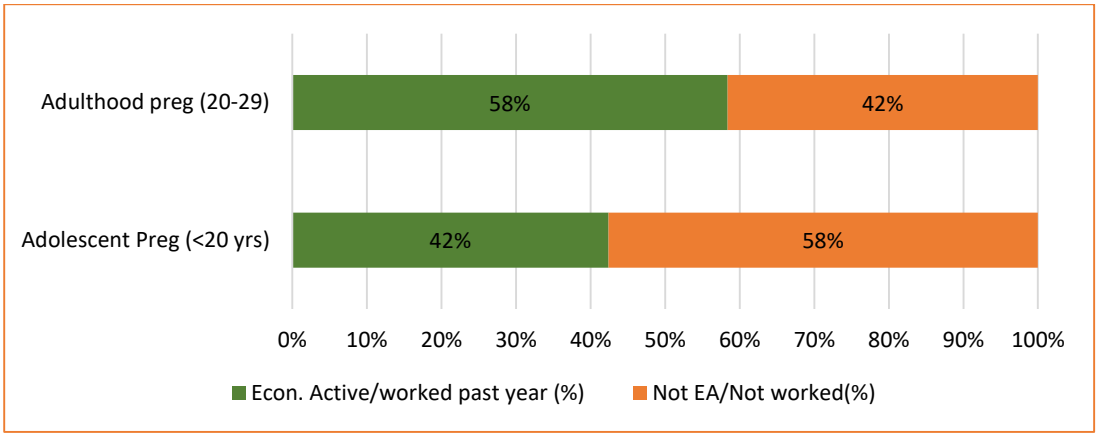


Figure 7. Economic activity of women 20-60 years by AP&EM background

This inactivity due to AP&EM yields in an estimated opportunity cost of SRD 118,920,906 which is equivalent to USD 16,290,535 (Xe:7.3SRD/USD, here and further) for 2016/17. *The opportunity cost of being ready for the labour market, due to AP&EM, shows the estimated loss of income resulting from women's non-availability for work, due to AP and, mainly, domestic work associated with EM.*

According to the MILENA (UNFPA, 2019), the employment gap between WCA and WAH shows the potential number of women who could be employed if there were investments in AP prevention or in avoiding adverse socio-economic consequences of EM. The opportunity costs of paid employment due to AP&EM shows the estimated loss of income due to the employment gap of WCA.

The opportunity cost due to unemployment is SRD 26,330,072, equivalent to USD 3,606,859 for 2016/17, since the employment gap between the two groups is 7%. The specific unemployment rate of women with an AP-background is 19,5% and for women who started childbearing in adulthood, the unemployment rate is 12,4%. The average annual income for women is SRD 23,412. In table 27, the variables used for these calculations are presented, following the MILENA calculation techniques.

Table 27: Variables used following Milena calculation techniques

Variable		Value
tif^{ma}	Specific inactivity rate of women who had their first child in adolescence (WCA)	0.5760
tif^{*}	Specific inactivity rate of women who had their first child in adulthood	0.4160
tof	Specific occupational rate for women	0.8425
PET^{ma}	Number of women who had their first child in adolescence (WCA) and are of working age	37,680
tdf^{ma}	Specific unemployment rate of women who had their first child in adolescence (WCA)	0.195
tdf^{*}	Specific unemployment rate of women who had their first child in adulthood	0.1239
PEA^{ma}	Economically active population of women who had their first child in adolescence (WCA)	15,840
Sf	Average annual labour income for women	$ 23,412
	In what currency is the income expressed?	

Dimension	Indicator		Value		Reading and interpretation
D1 Labor Participation	βa	Labor gap between WCA and women who had their first child in adulthood		16%	Gap in percentage points
	COD	Opportunity cost of the economic activity due to AP and EM	-	$ 118,920,906	Opportunity cost in SRD
	βe	Employment gap between WCA and women who had their first child in adulthood		7%	Gap in percentage points
	COE	Opportunity cost of employment due to AP and EM	-	$ 26,330,072	Opportunity cost in SRD

Figure 8 illustrates the over-and underrepresentation by economic activity of both studied groups. The figures show that taking into account subgroup proportions (AH_AP, with 37% WCA and 63% WAH), there are relatively more WCA not working and inactive, as for the economic active group, the majority belongs to women with a first child in adulthood.

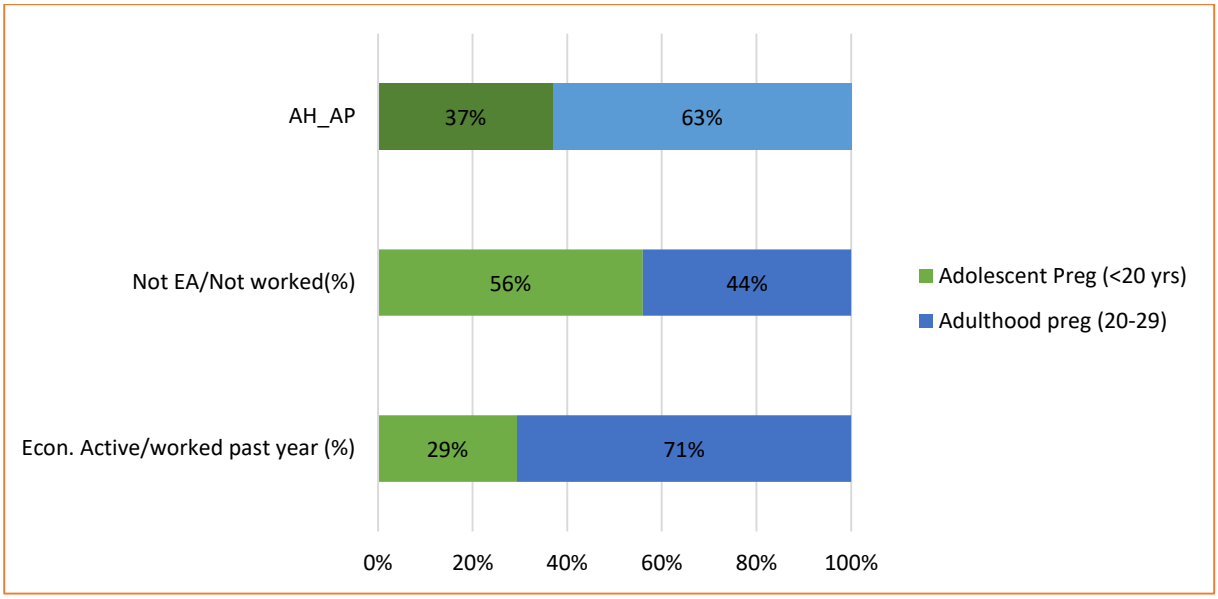


Figure 8. Over/under representation over economic activity by AP&EM background

4.3.2 Dimension 2: Labour Income

The impact of AP&EM on labour income is estimated by paid employment. The average annual income for adolescent mothers is SRD 16,270, and SRD 24,706 for women with their first child in adulthood. The estimated opportunity cost of labour income yields to SRD 267,820,806 for 2017 and is equivalent to USD 36,687,782. *The opportunity costs of labour income represent the loss of income due to the labour income gap of WCA.*

Variable				Value	
Sf^{ma}	Average annual labor income of women who had their first child in adolescence (WCA)			$ 16,270	
Sf^{*}	Average annual income of women who had their first chid in adulthood			$ 24,706	
tof	Specific employment rate of women			84.25%	
PET^{ma}	Number of women who had their first child in adolescence (WCA) and are of working age			37680	
D2 Labor income	βI^{ma}	Wage gap between WCA and women who had their first child at an adult age		34%	Percetage gap (%)
	COS	Opportunity cost of labor income due to AP and EM	-	$ 267,820,806	Opportunity cost in SRD
Aggregate impact	$COTotal$	Total annual opportunity cost TotalOC	-	$ 413,071,784	The annual socioeconomic costs of AP and EM for the country, due to the loss of income, employment and economic activity, are *TotalOC.*
	$COTotalPIB$ $(OCTotalGDP)$	Total annual opportunity cost as a percentage of GDP	-	0.016	These economic costs represent percent of GDP.

The total socio-economic costs of AP&EM for the country, due to the loss of income, employment, and economic activity SRD 413,071,784 or equivalent to USD 56,585,175 for 2016/17, that is equivalent to 1.6% of GDP.

4.3.3 Dimension 3: Education

The impact of AP&EM is based on the hypothesis that women with an AP&EM background are constrained in their availability and capacity to invest in their human capital development. Due to duties related to the care because of motherhood and their unpaid domestic work, WCA are missing out compared to their WAH peers. The MILENA methodology calculates educational gaps at the different educational levels. For Suriname, the educational level is categorized in 5 levels, from level k=1: no schooling to k= 5 tertiary level. Figure 9 shows the distribution of educational attainment for WCA and WAH separately. For example, of the women who delayed childbearing till adulthood, 15% has primary schooling, 43% lower secondary education, 28% upper secondary and 13% tertiary. The distribution for WCA is 40% primary, 47% lower secondary and 9% upper secondary and only 3% has a tertiary educational level. Comparison between the WCA with the WAH, shows that about 85% of all WCA has lower secondary as the highest educational level, while this is about 55% for the WAH women.

The MILENA methodology has identified education gaps at the different levels of education achieved in order to give visibility to the effects of AP&EM of women who have been mothers since adolescence. For example, and in the case of Suriname, schooling gaps refer to the gaps between WCA and WAH at primary level. The schooling gap is (minus) 25%, which points out that in the group of primary school achievers as highest educational attainment, the majority belongs to WCA women. The second gap is called the professionalization gap, and in the case of Suriname it refers to the gap between WCA and WAH who achieved upper secondary education. This gap is 19%. The following gap is the one between tertiary level reached and is about 10%.

According to the MILENA methodology (UNFPA, 2019), the opportunity cost of education is estimated with these identified educational gaps and represents the estimated loss of income due to the educational gaps of women who have been mothers since adolescence, and therefore represents the potential benefit of investing in AP prevention and of avoiding adverse effects of EM on the level of education achieved, that is, investing in early dropout rates of WCA.

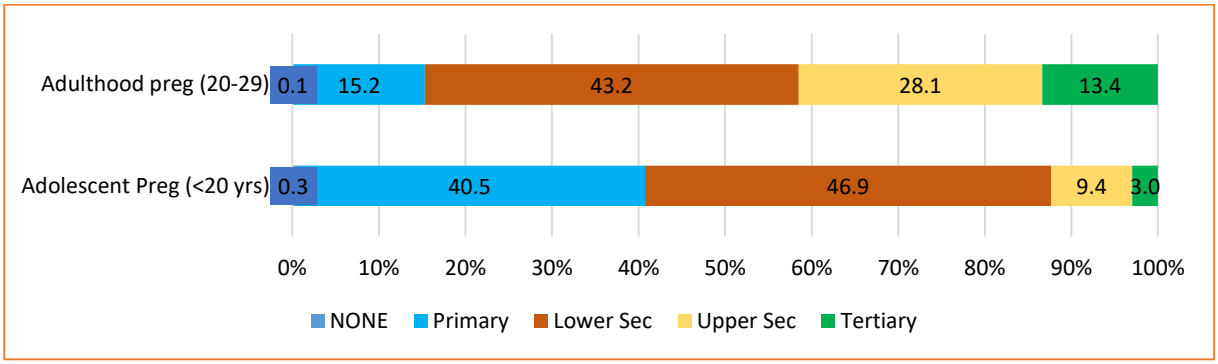


Figure 9. Educational level of all women 20-60 years by pregnancy background

Table 28 presents the average monthly income by educational level of each group: WCA and WAH, as well as the average monthly income for all women by educational level. The monthly income is at the collected information of 2016/17. The figures presented show that the average monthly income of WAH is SRD 2059, while this is SRD 1355 for the WCA.

Table 28: Mean monthly income of women 20-60 years by AP&EM background and edcucational level

Educational level	Mean Monthly income for WCA	Mean Monthly income for WAH	Mean monthly income for all women
No schooling		2100	1225
Primary schooling	930	847	880
Lower secondary level	1272	1309	1340
Upper Secondary level	1800	2377	2195
Tertiary level	3733	3417	3525
All education levels (mean monthly income)	*1355*	*2059*	*1833*
All education levels (mean year income)	*16270*	*24706*	*21996*
N	*12160*	*28480*	40640

Variable		Level of education k				
		$k=1$	$k=2$	$k=3$	$k=4$	$k=5$
M_k	Number of women who had their first child in adulthood with a level of education k	80	8720	24800	16160	7680
MA_k	Number of women who had their first child in adolescence (WCA) with a level of education k	80	13120	15200	3040	960
Sf_k	Average annual labour income for women with a level of education k	$ 14,700	$ 10,555	$ 16,087	$ 26,350	$ 42,308

D3 Education	$\beta^{edu}{}_2$	Schooling gap between WCA and women who had their first child at an adult age		-25%	Gap in percentage points
	$\beta^{edu}{}_4$	Professionalization gap (university education) among WCA and women who had their first child at an adult age		19%	Gap in percentage points
	$\beta^{edu}{}_5$	Postgraduate education gap between WCA and women who had their first child at an adult age		10%	Gap in percentage points
	$COEdu$	Opportunity cost of education due to AP and EM	-	$ 165,296,927	Opportunity cost in SRD

Using both the information of the identified educational gaps at level K=2, K=4 and K=5 and the average annual labour income for women at each level of education, **the estimated opportunity cost of education due to AP and EM is SRD 165,296,927, equivalent to USD 22,643,415.**

Figure 10 presents the comparison of monthly income of WCA and WAH by type of employment. Women with an AP&EM have a relatively lower income for each employment sector compared to their WAH peers, however this income gap is very low for the self-employed group. The self-employed group

has on average also the lowest income. Compared to the public sector, the average monthly income of the private sector is lower.

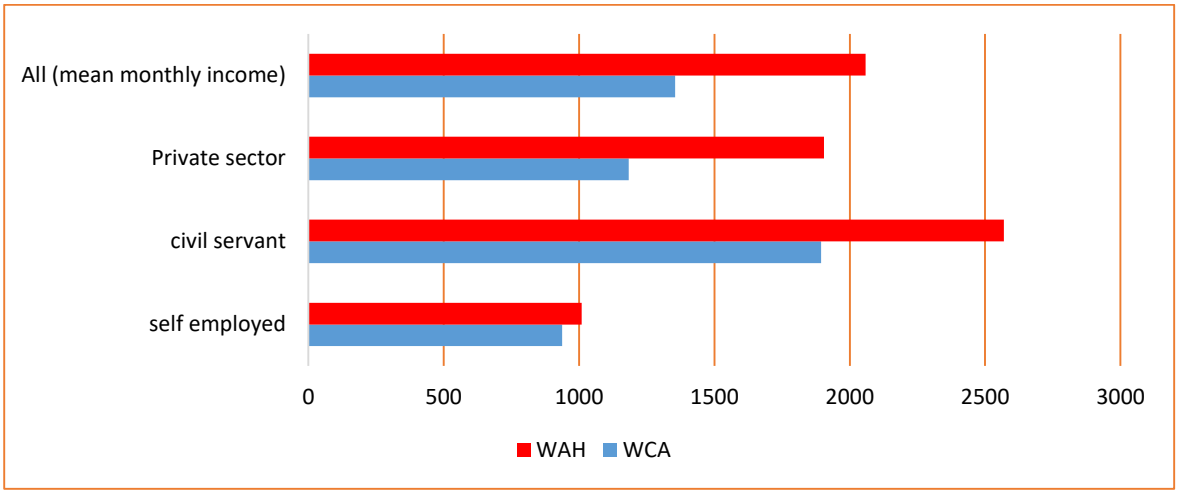


Figure 10. Mean monthly income by type of employment and AP&EM background

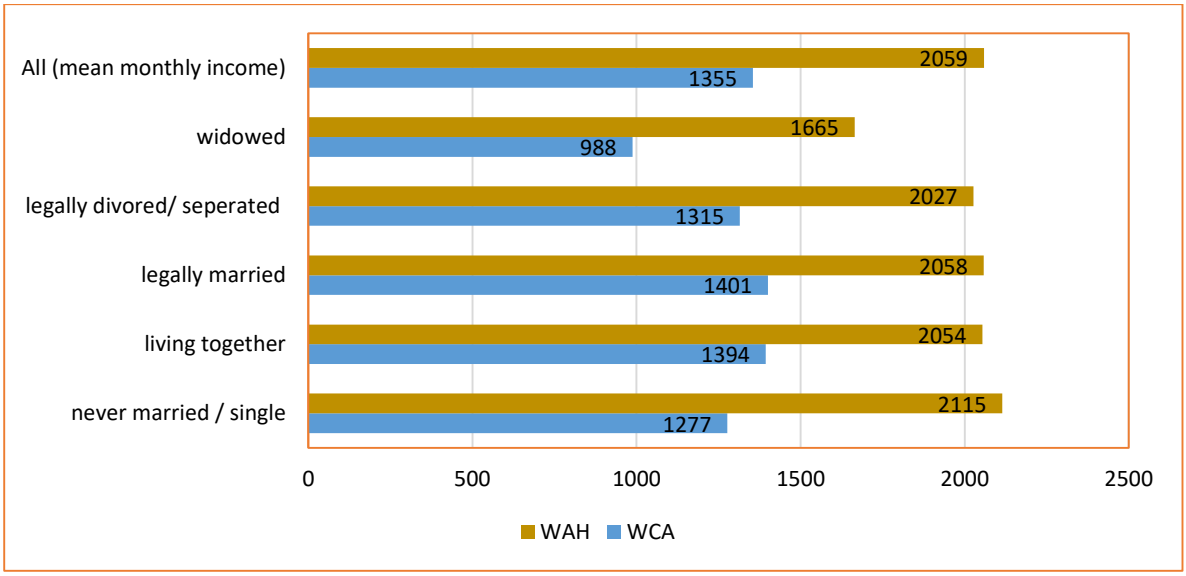


Figure 11. Mean monthly income by martial status and AP&EM background

Figure 11 shows that marital status, besides from widowers, does not differ in the average monthly income. However, the average income, regardless of their marital status, for WAH is almost twice the level of women with a first child in adolescence. On the other hand, the average income of all women exposed to AP&EM is around SRD 1200-1300 on a monthly basis, irrespective of their marital status. For WAH this is about SRD 2000-2200, also almost equal between the different marital statuses.

4.3.4 Dimension 4: Health

Health consequences due to AP are related to complications during pregnancy and childbirth as well as regular health care routines. Recent studies show that more than half of the abortions of adolescent girls are caried out unsafely and are contributing to maternal mortality, morbidity and remaining health problems. Adolescent mothers face higher risks of obstetric complications and higher risks to pre-term delivery and low birth weight. For the health dimension as mentioned earlier, not only the expenditures due to health care are considered, but also losses related to maternal mortality, measured by years of potential life lost and years of potential productive life lost.

Table 29: Health related variables and expenditures

Variable		Value
$MMRA$	Maternal mortality rate in adolescents (number of maternal deaths per 100,000 live births)	*10*
N	Number of adolescent deaths due to causes related to pregnancy	*30*
LE	Life expectancy (LE)	77.00
Ef	Average age of death of adolescent women due to causes related to pregnancy	*17.00*
EIL	Age of labor market entry (ALE)	15
RA	Retirement age (RA)	60
Sf^{ma}	Average annual labor income of women who had their first child in adolescence (WCA)	$ 16,270
N	Number of adolescent deliveries attended (or Live births of adolescent mothers)	1260

Adolecent pregnancy

Category of health expenditure	Average unit cost	% of deliveries attended	Expenditure
Antenatal care	139	70	$ 12,291,873
Delivery	730	95	$ 87,381,000
Obstetric complications	1,659	20	$ 41,809,091
Routine newborn care	139	75	$ 13,169,864
		Total expenditure:	$ 154,651,827

Table 30: Overview of the expenditures related to adolescent pregnancy

D4 Health	***MMRA***	Maternal mortality rate in adolescents MMRA		10
	YPLL	Years of potential life lost		1800
	YPPLL	Years of potential productive life lost		1290
	SLMMA	Social loss or productive loss due to maternal mortality in adolescents	-	$ 20,988,419
	HE	Health care expenses for adolescent pregnancy	-	$ 154,651,827

The estimated MMRA in 2017 is 10 and the number of adolescence deaths related to pregnancy is 30. With a life expectancy of 77 years, these 30 deaths with an average age at death due to pregnancy estimated at 17 years of age, represents 1800 years of potential life lost.

The years of potential productivity life lost is 1290 and the social loss due to maternal mortality is SRD 20,988,419 (USD 2,875,126). The estimated health care expenses for adolescent pregnancy is SRD 154,651,827, equivalent to USD 21,185,182. Table 30 presents an overview of the expenditures related to adolescent pregnancy.

4.3.5 Dimension 5: Total Economic Opportunity Cost and Fiscal impact

Dimension 5 assesses the total economic costs and the fiscal impact due to the backwardness of women exposed to AP&EM . The fiscal impact is derived by taking account of the 'limited access and backwardness' in labour market participation and lower labour income. **The tax revenues forgone due to limited access to the labour market, unemployment and lower incomes results in an amount of SRD 29,050,195 (USD 3,979,479). The tax revenues forgone due to lower income and consumption (VAT) results in an amount of SRD44,611,753. Not investing in AP prevention and in mitigation the adverse consequences of EM, generates a fiscal impact on the State of SRD 73,661,948.21.**

Furthermore, the aggregated impact of labour market participation and labour income due to AP&EM results in a total opportunity cost of SRD 413, 071, 784 (USD 56,585,176) and is equal to 1,6% of the GDP (2017).

The tables below present an overview of the variables to estimate the tax revenue forgone and the aggregated opportunity loss.

Variable		Valor
vat	Percentage of value added tax (consumption tax) (vat)	12.00%
C_{vat}	Estimated percentage of income spent on taxable consumption with VAT (Cvat)	90.00%
IT	Percentage of income tax (IT)	20.00%
F	Base income (floor) taxable with income tax (F)	$ 48,000
PIB	Gross domestic product (GDP) of the year of calculation	$ 26,221,600,000

Table 31: Aggregated opportunity loss

D5 Fiscal impact	***IVA*** *(VAT)*		-	$ 44,611,753
	ISR *(IT)*		-	$ 29,050,195.54
	COSpi	AUXILIARY VARIABLE FOR IT		$ -
	IFNPI	Tax revenues forgone (VAT + IT)	-	$ 73,661,948.21
Aggregate impact	***COTotal***	Total annual opportunity cost TotalOC	-	$ 413,071,784
	COTotalPIB *(OCTotalGDP)*	Total annual opportunity cost as a percentage of GDP	-	0.016

5

Concluding Remarks and Recommended actions

The economic impact of Adolescent Pregnancy and Early Motherhood (AP&EM) in Suriname is evident and far reaching. AP&EM have major unfavourable and long lasting economic, health and social consequences for young females. The MILENA assessment quantifies the consequences of AP&EM at individual and state level through the calculation of opportunity costs. Regarding labour market participation, the MILENA assessment shows that motherhood in adolescence limits the ability to invest in human capital formation and to join the labour market, due to the care and attention that the child requires during the dependent stage. Based on the inactivity gap, we found that 1 out of 3 AP&EM women are more likely to not enter/stay in the labour market compared to women who had their first child in adulthood. This inactivity due to AP&EM yields in an estimated opportunity cost of SRD 118,920,906 which is equivalent to USD 16,290,535. The opportunity cost of being ready for the labour market, due to AP&EM, shows aforementioned estimated loss of income resulting from women's non-availability for work. Besides the opportunity loss at individual level, AP&EM also have consequences at State level. Due to limited access of labour market, unemployment and lower incomes, tax revenues are missed at State level. The aggregated impact results in a total opportunity cost of SRD 413, 071, 784 (USD 6,585,176) and is equal to 1,6% of the GDP (2017). Health consequences due to AP are related to complications during pregnancy and childbirth as well as regular health care routines. The social loss due to maternal mortality is SRD 20,988,419 (USD 2,875,126) and the estimated health care expenses for adolescent pregnancy is SRD 154,651,827, equivalent to USD 21,185,182.

There is not much change in the incidence of AP&EM in Suriname in the past 5 years, annually about 1400 girls in the age of 10-19 years gave birth to a child. The incidence of AP&EM is Suriname is 1.5 times higher than the global average. According to the available administrative data, the incidence is that about 22 percent of new-borns are from young girls in the age group 10-19 year. The incidence remained the same, at national level between 2013-2020: 1 out of 5 women in their reproductive years have experienced an incidence of AP&EM. About half of the adolescent pregnancies are from girls between 10 and 17 years of age. Most of these child mothers live in Paramaribo, Wanica and Sipaliwini. The situation in Suriname regarding pregnancies from girls under 15 is far worse. Approximately 3% of teenage mothers is under 15 years and on average every week a girl under 15 gives birth to a child. There are large disparities at district level, where statistics point out that the rural interior area has the highest percentages of women between 15-19 years with a live birth The incidence for the urban area is relatively lower, but still a matter for concern. Data from the Suriname Multiple Indicator Cluster Survey (MICS) 2018 underline that AP is higher in the rural and interior area and that it is related to the educational attainment level and welfare status of the households these girls live in. These girls also lack knowledge about family planning and contraceptive use.

The incidence of AP&EM is three times higher among females with no schooling or only with primary schooling. Females with an incidence of AP&EM are more likely to be part of a household in the poorest quintiles and earn less assets than their peers who had given birth over the age of 20 years. The results pointed out that girls living in the interior, and those who left school early have a higher incidence of AP&EM. Interviews with females with an AP&EM history underline the aforementioned consequences and the deprivation they face in building a decent life, due to their early pregnancy.

Adolescent pregnancy poses risks as it impacts negatively on the total wellbeing of the female. This study reveals that about 60% of these women belong to the lowest 40% of the population ranked by wealth status. About 80% does not complete upper secondary or higher education. Less than 3 % of women exposed to AP&EM has completed University or High school. The use of contraception among adolescent girls is low. As reported, 1 out of 5 girls use contraception. Adolescent girls are lesslikely to pay visits for antenatal care and about half of these girls start their visits at the 4th month of their pregnancy, while 1 out of 4 do not pay a visit until their last trimester.

Recommended actions

As the findings of this study point out that adolescent pregnancy in Suriname has different causes and in the past 5 years has remained at the same level, policy makers, if not already doing so, need to take these multiple social determinants into account when preparing targeting programs. . In the case of Suriname, attention should certainly be paid to the fact that culture and lifestyle contribute to adolescent pregnancy. Since there are more cases of adolescent pregnancy in the interior, it is advisable to use a targeted approach for these areas as well. For example, work can be done on further sexual education and making contraceptives available and accessible.

At the level of legislation adjustments and improvements are necessary. First to keep adolescents at school and second, to bring systems in place that adolescent mothers can complete and attend their schooling during and after pregnancy. Also, it is of utmost importance that adequate sexual and reproductive health education is provided, in order to stimulate the use of modern contraception at first intercourse. Besides their choice for contraception, education also contributes to the ability to make informed choices about when and whether or not to have sex.

Good health is essential for young people to visit school which increases their academic performance and labor market position. Recent studies show that more than half of the abortions of adolescent girls are carried out unsafely and are contributing to maternal mortality, morbidity and permanent health problems. Adolescent mothers face higher risks of obstetric complications and higher risks to pre-term delivery and low birth weight.

The effect of legalization, for example abortion legalization also plays an important role in adolescent pregnancy. A combination of policies and programs can certainly reduce adolescent pregnancy. Some suggestions for the government are to invest in programs that can reach many of the youth through media campaigns or programs such as an evidence-based teen pregnancy prevention program. They can also implement strategies to encourage schools and organizations to use effective tools, resources and training materials to reduce sexual risk behaviors among adolescents.

Therefore, the government should invest in optimal health care and also in the availability for the youth to talk to health professionals, who can provide the necessary information to young girls regarding sexuality and reproductive health. Besides the health workers, parents also play an important role in providing sexual related education. Regular conversations with their teenage daughters and sons about relationships and sexual decisions can help prevent adolescent pregnancy.

In summary, we can state that reduction of AP & EM is best dealt with through multidisciplinary approaches. In the process to reduce adolescent pregnancy the government plays a crucial role in terms of implementing adequate policies and programs. In addition, it is important to involve in this process not only health care providers, but also parents and furthermore to invest in optimal health care, education systems and last but not least legislation adjustments and improvements.

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