

OROMIYA

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With 353,690 square kilometers of land area (32% of the country), Oromiya represents the largest regional state [1]. Its population is estimated at 38,000,000 in mid May 2018 [see table below]; the largest population size of any region (35.1% of the country's total population). The Oromo represent the majority ethnic group in Oromiya (85%), and in the country at large. Nearly 4 million are residents of urban areas with an urbanization rate of 13.8% - slightly below the national average. The percentage proportion of the Oromo has been estimated variously at 35% to 40% of the country's total but the mid-way estimate above seems closer to the real proportion. Administratively, Oromiya is divided into 17 zones, 245 Weredas, and 36 town administrations with 6500 kebele subdivisions (see map below).

	1994 Census*				January 1, 2023
Region	Rural	Urban	Total	Percent	Population Total
Addis Ababa	28,149	2,084,588	2,112,737	4.0	4,885,232
Afar	980,705	79,868	1,060,573	2.0	2,442,617
Amhara	12,568,982	1,265,319	13,834,301	25.8	31,631,879
Beneshangul G.	424,432	36,027	460,459	0.9	1,099,177
Dire Dawa	78,676	173,188	251,864	0.5	610,654
Gambela	154,438	27,424	181,862	0.4	488,522
Hareri			131,139	0.2	244,261
Oromia	16,762,437	1,970,088	18,732,525	34.8	42,623,652
Sidama				3.8	4,647,187
SNNPR	9,672,210	704,818	10,377,028	12.7	15,480,247
Somali	2,761,479	437,035	3,198,514	6.0	7,327,848
Southwest				3.0	3,688,072
Tigray	2,667,789	468,478	3,136,267	5.9	7,205,718***
TOTAL	46,099,297	7,246,833	53,477,269	100.0	122,375,066
*Source: http://www.irpps.cnr.it/etiopia/pdf/MigrationChap2.PDF					
**Source: http://countrymeters.info/en/Ethiopia (For January 1, 2021)					

*** Tigray's population size may have shrunk to approximately 5 million due to war deaths and the loss of Raya and Wolkait (pending constitutional decision). **The regional percentages are calculated on the bases of *Kilil* population distributions during the 1994 national population count (the second population census in Ethiopia). The 2007 census was not used as a benchmark because research by this author shows that the third and last (2007) national census seriously undercounted or intentionally underreported population sizes in the Amhara region and in the capital city Addis Ababa. See the publication: Aynalem Adugna and Helmut Kloos and Terefe Degefa. Evaluation of the 2007 Ethiopian Census Data, with an Emphasis on Coverage in the Amhara Region. Ethiopian Journal of Development Research, Vol. 36, Number 1, 2014

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There is an apparent unanimity among authors, that the Oromo had not been part of present-day Ethiopia's settled landscape prior to the 1550s. In the absence of scientific research and accurate historical accounting of their beginnings, the Oromo have often been described as "migrants" who arrived in Ethiopia proper from its southernmost reaches in mid-16th century, and settled amicably among all groups whose lands they had "appropriated". Other labels used in place of migration include invasion, plunder, onslaught, conquest, etc. The source below also described them as aliens, and characterized their historical role as destructive:

"Oromo, settled in far southern Ethiopia, were an egalitarian pastoral people divided into a number of competing segments or groups but sharing a type of age-set system of social organization called the gada system, which was ideally suited for warfare. Their predilection toward warfare, apparently combined with an expanding population of both people and cattle, led to a long-term predatory expansion at the expense of their neighbors after about 1550. Unlike the highland Christians or on occasion the lowland Muslims, the Oromo were not concerned with establishing an empire or imposing a religious system. In a series of massive but uncoordinated movements during the second half of the sixteenth century, they penetrated much of the southern and northern highlands as well as the lowlands to the east, affecting Christians and Muslims equally..... The effect of the Oromo migrations was to leave the Ethiopian state fragmented and much reduced in size, with an alien population in its midst." [3]

The Oromiya regional State extends from the western end of the country in western Wellega to the eastern parts of eastern Harrarge from 34°E latitude to 43°E latitude. It's north-south extent stretches from 4 $\frac{2}{3}$ °North to 10 $\frac{2}{3}$ °North latitude. Topographically and climatically the region is diverse with sharp contrasts. The mid portion is formed by the Great Rift Valley system that divides the regional State roughly into a western third and eastern two-thirds.

Oromia is a region of great physiographic diversity. Its landscape includes high and rugged mountain ranges, plateaus, panoramic gorges, deeply incised river valleys, and rolling plains as well as hills and mountains rising from less than 500 meters above sea level to 4,607 meters (Mt. Batu - the highest peak of the region). Oromia is endowed with varied relief features which in turn accentuate varied and amiable climatic condition and other rich natural resource bases [3].

"Oromia is a remnant part of the high and extensive Afro-Arabian plateau formed from continued uplift, rifting and subsequent volcanic piles. High relief of over 1500m is dominant. The climatic types prevailing in the region may be grouped into 3 major categories: the dry climate, tropical rainy climate and temperate rainy climate. The dry climate is characterized by poor sparse vegetation with annual mean temperature of [27 degree C to 39 degree C], and mean annual rainfall of less than 450 mm. The hot semi-arid climate mean annual temperature varies between [18 degree C and 27 degree C]. It has a mean annual rainfall of 410-820 mm with noticeable variability from year to year. Highlands of Oromiya experience temperate climate of moderate temperature, (mean temperature of the coolest month is less than [18 degree C]) and ample precipitation (1200-2000mm)"[Awash, Wabe-Shebele, Genale, Gibe, Baro, Dedessa and Guder are major rivers in the region. River Awash, which is the longest river inside Ethiopia is a source of great agroindustrial and hydroelectric power. The crater lakes Green lake (true to its name), Bishoftu, Kuriftu, Bishoftu-Gudo, Hora-Kilole, Horsa Arsed, and the rift-valley lakes Ziway, Abiyata, Shala, and Langan are found in this region. They have immense potential for recreation and fishery development. ...There are around 800 bird species and more than 100 wild animals in the region. Endemic wild animals such as the mountain Nyala, the Semien Red Fox and Menelik Bushbuck inhabit the Bale mountains national park". [3]

The Awash National Park houses most of the East African plain games except Giraffe and Buffalo. "It is home to the Oryx, Kudu, Caracal, Aardavark, Colobus Monkey, Green Monkeys, Baboons, Leopard, Klipspringer, Hippo, Seemering's Gazelle, Grevy's Zebra and Cheetah".[1]

"The Awash National Park is also a natural sanctuary of numerous bird-species, some of which include Limburger, Wattle Crane, Angur Buzzard, Verreaux Eagle and long eared owls. Water Fowls, Shore Birds and the colorful Ruddy Shelled Duck as well as the endemic Blue-winged Goose are common in the marshy areas of the park". [1].

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An online resource developed by the regional government [4] makes a brief mention of: 1) 30 major forest areas distributed within the various agro-ecological zones, 2) the increasing pressure on land resources due to increasing human and animal populations, 3) the gradual depletion of vegetation and soil resources, 4) the increasing demand for agricultural and grazing land as well as for more fuel and construction materials, and 5) the resulting overall environmental damage. Its detailed reports about the region include the following:

Agriculture

“Generally, by virtue of relatively abundant rainfall, suitable soils and other agricultural potentialities, Oromia remains the major crop producing region in the country. Accordingly, Oromia has accounted for 49% of major food crops production 50.8% of cereals, 37% of pulses and 43.56% of oil crops production of total peasant holdings of the country in 1994 E.C. production year (CSA, 1994 E.C).”

On the negative side “.....crop production is characterized by smallholding of just over a hectare and limited use of input such as fertilizers, pesticides, improved seeds and implements. Moreover, heavy dependence on rain fed (limited or no use of irrigation) cultivation practice is another essential feature of smallholding peasant farming in Oromia. Thus, yield per hectare has remained extremely low and growth in production is sluggish with the an average yield of 12.49 quintals per hectare, which is by far below the potential of fifty quintals for wheat and up to eighty quintals for maize with the application of package of inputs.”

“Despite the fact that the extension services on the use of fertilizer has started long ago, the level of utilization of this technology by the farmers is still very low. The average fertilizer use during the reference period was below 35 kg per hectare (assuming a standard of 100 kg/ha.) which is the lowest in the world, while that of improved seed is also very low at an average of 1.7 kg per hectare. Generally, only 45% and 3.7% of the total land under cultivation in the region were covered by fertilizer and improved seeds respectively implying low level of input use, contributing to low productivity among other factors. The situation is further aggravated by insufficient supply of other agricultural technologies such as chemicals and farm implements.”

“Coffee is the major source of foreign exchange for the country accounting for 50–60% of total exports. Oromia accounted for 77.6 percent of coffee plantation as per the 1988–1992 [Ethiopian Calendar] plan evaluation report and delivered annually about 68% of coffee destined for foreign market. Similarly, out of 53 districts known for Coffee production in the country 42 (79%) are found in Oromia showing the tremendous resource base the region is endowed with.”

“....the land covered by coffee plantation in 1987 and 1992 was estimated to be 209 and 260 thousand hectares respectively, while the annual production for the same years was estimated at 901 and 1190 thousand quintals. The average annual growth rate over these years was 4.47% for land and 5.7% for production. Similarly, the average annual delivery of coffee to the central coffee market was about 835.46 thousand quintals with production range between 662 and 942 thousand quintals in the year 1988 and 1990.”

“One of the reasons for low agricultural performance and low income levels in the region is the tendency of traditional focus which is in favor of cereal production in spite of the extremely high agro-ecologic diversities and the resource potentials for production and diversifications into relatively high yielding and high income generating horticultural crops (vegetables and root crops), fruits, flowers, spices and chat. Cereals crop development has been receiving almost the entire attention both in terms of extension interventions and resource allocation in the past years possibly from the stand point of attaining food self-sufficiency and lack of market.”

Like all other regions, Oromiya has its share of the recurrent disasters, mostly natural, but with human activity as a major contributor – droughts, food shortages, disease outbreaks, and flooding.

Health Care:

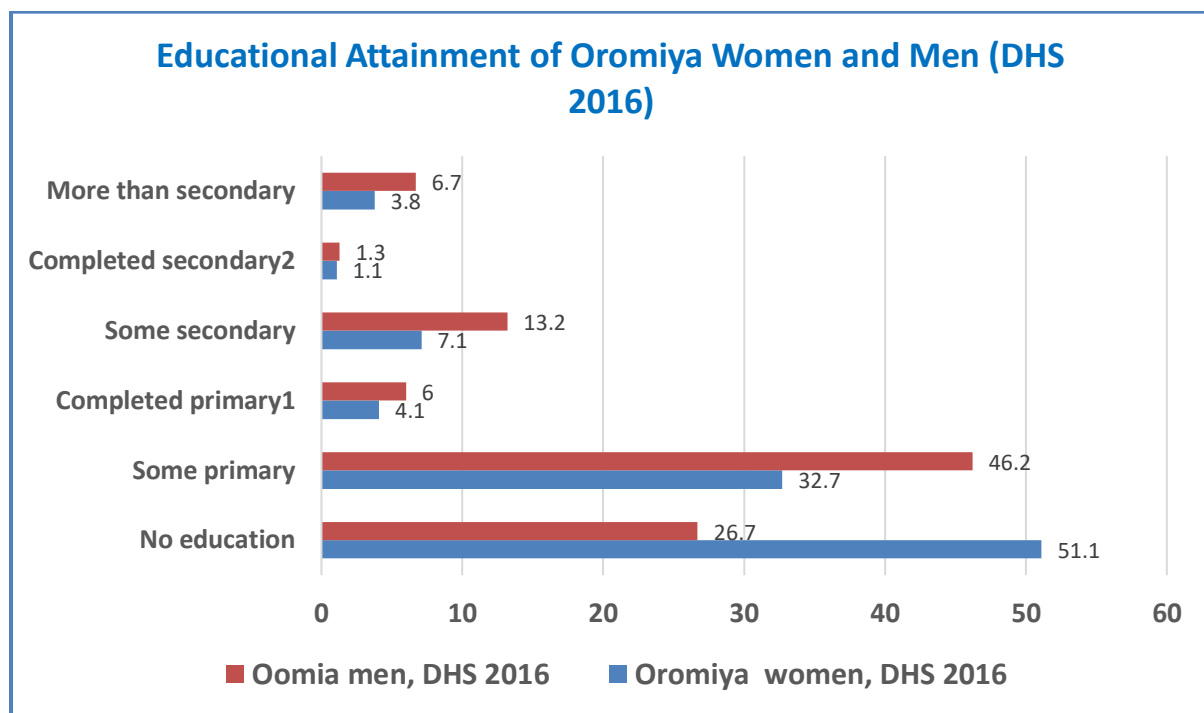
A World Health Organization (WHO) emergency team reported the existence of “29 hospitals, 192 health centers, 895 health stations and 1070 health posts, owned by government, other Gov. and NGOs”. It also estimated the number of health professionals at about 8,000 trained at one of the seven health science colleges and 18 centers providing training for midlevel health professionals. “The potential health service coverage is 70.5% and the health service utilization is 27%” [5] There is an urban-rural difference in water sourcing and method of collection. Most urban dwellers use tap water, while rural communities rely on water from a variety of sources, mainly rivers [5]. Sanitation services are not well developed with insufficient number of latrines in the rural areas due to inadequate knowledge of personal hygiene and environmental sanitation. Recent improvements conceal the fact that 82 percent of Ethiopians did not have a toilet facility at the time of the first Demographic and Health Survey (DHS, 2000) with a small proportion (17 %) accessing a traditional pit toilet. Ventilated pit latrines and flush toilets accounted for less than 1 percent [6].

Education:

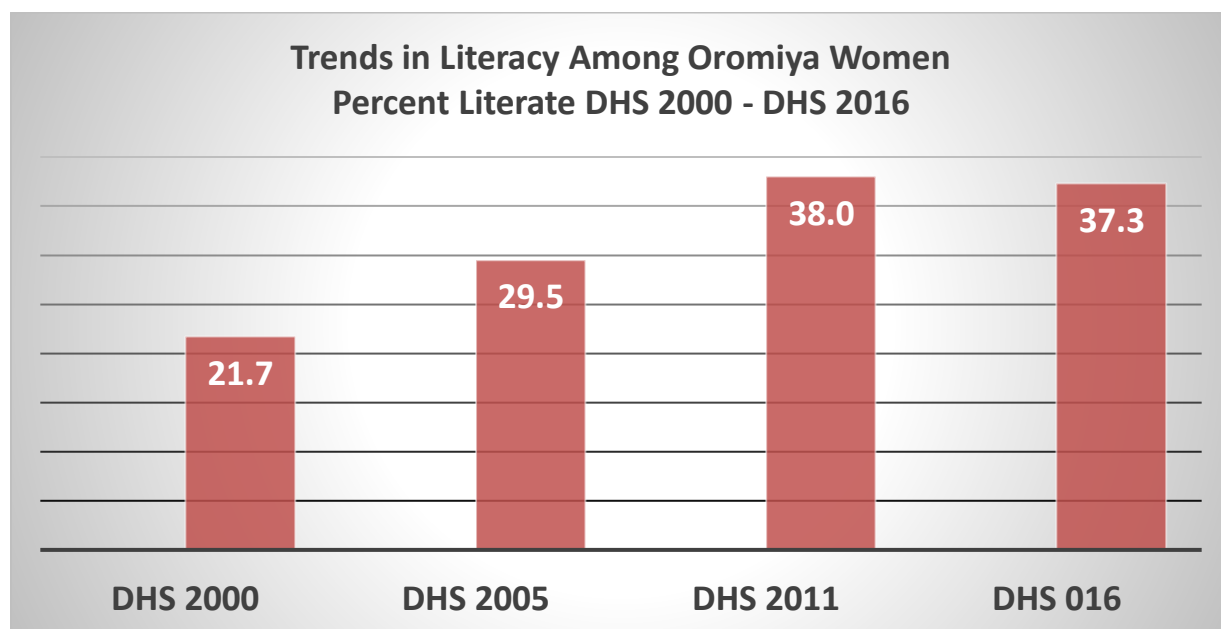
Literacy rates are significantly higher among Oromo males than females (see the graph below). While 36 percent of all residents of Oromiya were literate in the year 2004 the rural rate was 31 percentage points lower than the urban rate of 72.4% [7]. There is also significant difference in male-female rates. The female rate (22.8%) is less than half the males rate of 49.4%. Only 17% of female residents of rural Oromiya (85% of them ethnic Oromos) were literate with all of its implication for way of life, health, child bearing and rearing, maternal and child nutrition, and disease prevention [7]. Whether this has led to a high fertility and morbidity regime would be investigated in the forthcoming paragraphs. On the bright side, nearly two-thirds of urban women were literate at the time of DHS 2005.

Educational Characteristics of Respondents (Demographic and Health Survey, DHS 2016)

The 2016 Demographic and Health Survey showed that half (51.1%) of Oromiya women have no education. This percentage is twice as high as Oromiya men with no education (26.1%). The gender difference in educational attainment is clear from the graph below. Just under a third of females completed some primary schooling while nearly half of the men have. Very few had gone beyond this stage, with only 13.2% of males and 7.1% of females at the secondary level. The graph below shows a sixteen-year trend in Oromiya women’s literacy which shows a leveling off of growth in percentage of literate women after the 2011 Demographic and Health Survey.



Source [7]



Source [8]

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Population Distribution

The table below shows Weredas in Oromiya with the highest and lowest populations in July 2008. Chiro in Mirab Harerge and Seka chekorsa in Illubabor have the highest and second highest populations respectively. Kersa (also in Illubabor) and Dedo, in the same administrative zone have the third and fourth largest populations. Only Chiro had an estimated population over 400,000 in July 2008. With a population numbering less than a tenth of the most populous Weredas, Nono (Mirab Shewa) and Guaradamole (Bale zone) have the lowest populations in Oromiya. Twenty three Weredas had a population of 200,000 or more but 31 Weredas had a population of less than 100,000 in mid 2008.

[Click HERE](#) to access [Ethiopia's Regional demographic](#) and health map and then click Oromiya (follow the instructions)

[Click HERE](#) to access an interactive population density map based on the 2007 census and zoom into the Oromia region (the darker the shade, the larger the population size of Weredas). The discrepancies between the numbers in the map and the tables below reflect the level of population undercounts in the 2007 census*. Use the back arrow on the web browser to return.

Population Size of Weredas in Oromiya (July, 2008)

MIRAB WELLEGA		MISRAK WELLEGA		MIRAB SHEWA	
Wereda	Population	Wereda	Population	Wereda	Population
Begi	202,088	Gutu Wayu	254,543	Ambo	276,697
Mana Sibu	192,666	Jimm a Horo	177,510	Densi	270,285
Sayo	171,234	Guduru	159,689	Kofele	265,437
Gawo Dale	164,541	Gidan Kiremu	153,244	Hitosa	262,687
Nejo	157,666	Delga Leka	147,911	Cheliya	253,499
Nole Kaba	157,477	Mimu	132,140	Bekoji	248,078
Gimbi	157,072	Amuru Jarte	108,429	Munesa	218,783
Dale Lalo	139,656	Sibu Sire	103,479	Ginde Beret	215,176
Jimma Gidami	131,191	Wama Bonaya	103,316	Jeldu	212,881
Boji	121,318	Bela Seyo	101,888	Tiyo	195,704
Arya Guliso	120,674	Jimma Arjo	98,754	Alem Gena	182,492
Hawa Welele	119,632	Nunu Kumsa	66,536	Gedeb	179,489
Jarso	115,438	Sasiga	66,069	Robe	177,654
Yubdo	102,383	Jimma Rare	59,933	Walmara	171,728
Lalo Asabi	87,677	Abo Dongro	56,894	Gololcha	171,385
Anfilo	83,192	Abay Chomen	54,095	Sherka	166,210
Haru	78,733	Ibantu	37,220	Dodotana Sire	165,738

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				Sude	164,860
ILLUBABOR ZONE		JIMMA ZONE		Digeluna Tijo	154,290
				Bako Tiba	141,916
Metu	164,578	Goma	372,021	Adda Berga	137,157
Bedele	147,613	Omonada	367,962	Tena	136,485
Darimu	139,549	Seka Chekorsa	354,046	Nono	135,915
Chora	124,954	Kersa	354,029	Kersana Kondal	134,365
Yayu	124,861	Dedo	324,602	Jeju	130,965
Ale	123,155	Limu Kosa	268,804	Amaya	127,957
Supena Sodo	110,341	Mana	168,496	Ziway Dugda	126,433
Bure	87,172	Sokoru	166,478	Seru	118,250
Dega	67,000	Tiro Afeta	137,304	Chole	117,871
Dedesa	65,992	Setema	123,436	Wonchi	114,146
Nono	27,040	Gera	109,708	Ejerie (Addis Alem)	104,484
		Segma	105,250	Tikur	102,774
BALE ZONE				Aseko	89,373
		MISRAK HARERGE		Dano	86,925
Sinanana Dinsho	210,521			Dawo	84,721
Dodola	191,468	Deder	266,540	Amiga	80,228
Gasrana Gololcha	175,803	Girawa	260,971	Eju	70,552
Ginir	148,886	Bedeno	255,561	Tole	65,524
Adaba	146,092	Meta	253,090		
Kokosa	129,209	Haro Maya	250,179	MIRAB HARERGE	
Mennana H. B.	121,122	Gursum	233,077		
Goro	105,159	Fedis	218,248	Chiro	435,677
Agarfa	100,009	Melka Babo	180,678	Guba Koricha	202,986
Goba	99,851	Mersa	178,513	Habro	187,111
Meda Welabu	90,139	Goro Gutu	154,883	Tulu	175,962
Mensebo	70,929	Jarso	129,986	Kuni	169,892
Berbere	56,368	Kombolcha	122,381	Darelebu	164,182
Legehida	55,299	Babille	77,256	Mesela	162,634
Seweyna	51,940	Gola Odana M.	66,321	Mieso	145,775
Raytu	45,534	Kufa Chele	57,110	Doba	133,386
Guradamole	27,636			Boke	109,258

The table below ranks Wereda's in Oromiya in decreasing order of density (persons per square kilometer). Weredas with the highest densities (over 200 persons per square meter) are shown on the left, and those with lowest densities - below 20 persons per square kilometers are shown on the right. Deder (Misrak Harerge) has the highest density followed by Haro Maya (also in Misrak Harerge). Tulo (Mirab Haregrge) is a close third - the only other Wereda in Oromiya with a population density of over 400 persons per square kilometer. Weredas with the lowest densities (below 20) are listed on the right. Guaradamole (Bale zone) has the lowest density in Oromia. Other Weredas in Oromiya with very low densities (less than 10 persons per square kilometer) include Seweyena, Raytu, Gola Odana Meyumulke, Nono, and Legehida (see the density map below the table).

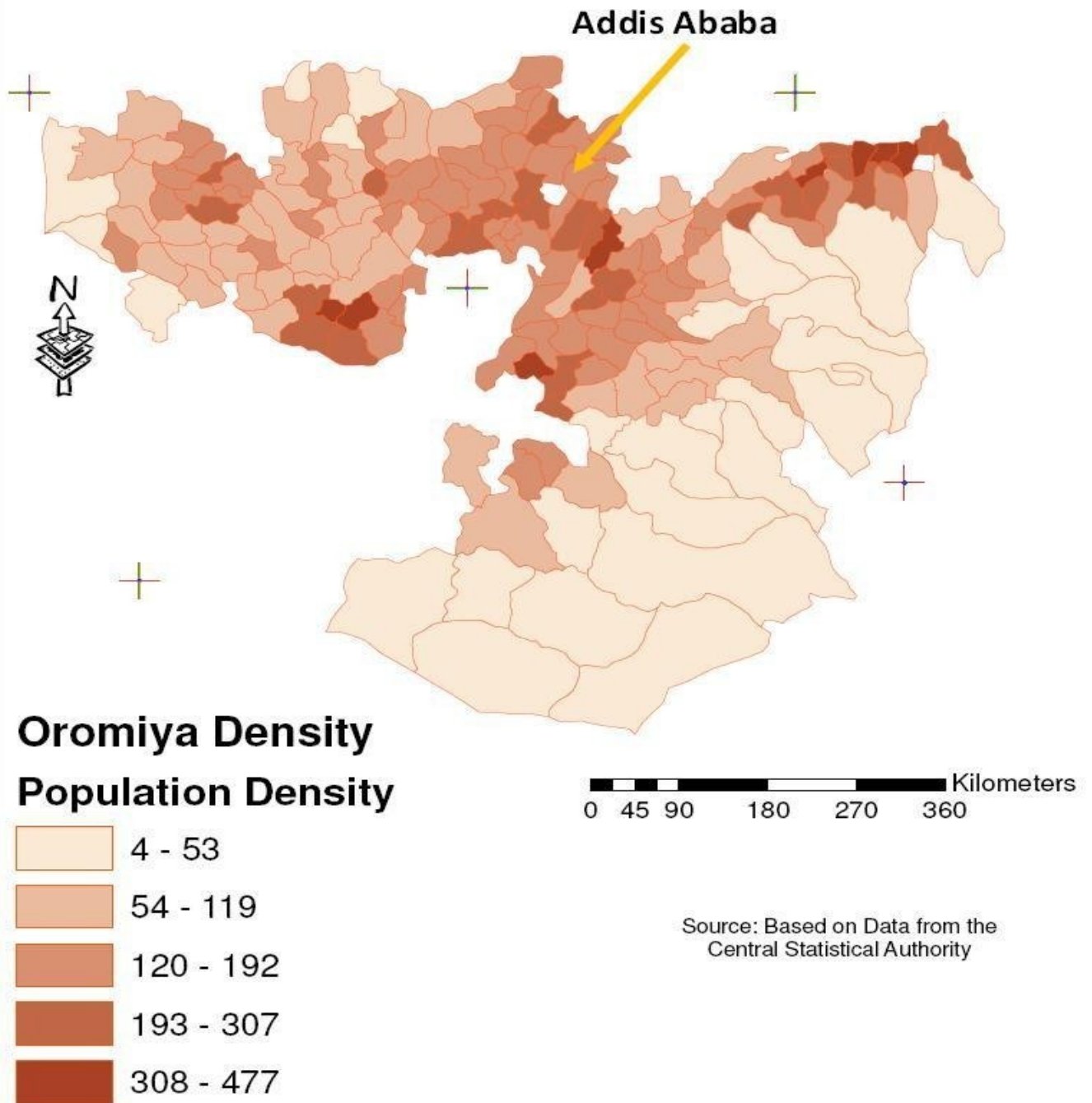
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Population Density in Oromiya (July, 2008)

Weredas with high population density		Weredas with low population density	
Wereda	Desnsity (persons/sq. km.)	Wereda	Density (persons/sq. km.)
Deder	488.8	Menana H.B.	18.1
Haro Maya	454.9	Babile	15.1
Turo	413.3	Meda Welabu	10.3
Meta	385.2	Legehida	9.5
Mersa	384.9	Nono	9.4
Kersa	361.8	Gola Odana M.	7.4
Mana	351.8	Rayitu	6.5
Tiyo	306.5	Seweyna	6.4
Goma	302.4	Guradamole	4.3
Goro Gutu	288.5	Seru	50.1
Kombolcha	277.4	Mensebo	42.0
Jarso	257.6	Berebere	41.8
Habro	256.2	Ibantu	40.1
Gursum	254.5	Jimma Gidami	38.4
Wonchi	249.5	Darolebu	37.4
Chiro	243.8	Boke	31.6
Bedeno	242.2	Goro	30.0
Mesela	236.9		
Walmara	233.0		
Lalo Asabi	232.8		
Elu	225.8		
Kofele	223.6		
Bako Tiba	222.7		
Seka Chekorsa	220.2		
Kurfa Chele	219.9		
Hitosa	216.1		
Alem Gena	208.5		
Dedo	206.5		
Kokosa	202.9		

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Oromiya Population Density 2008

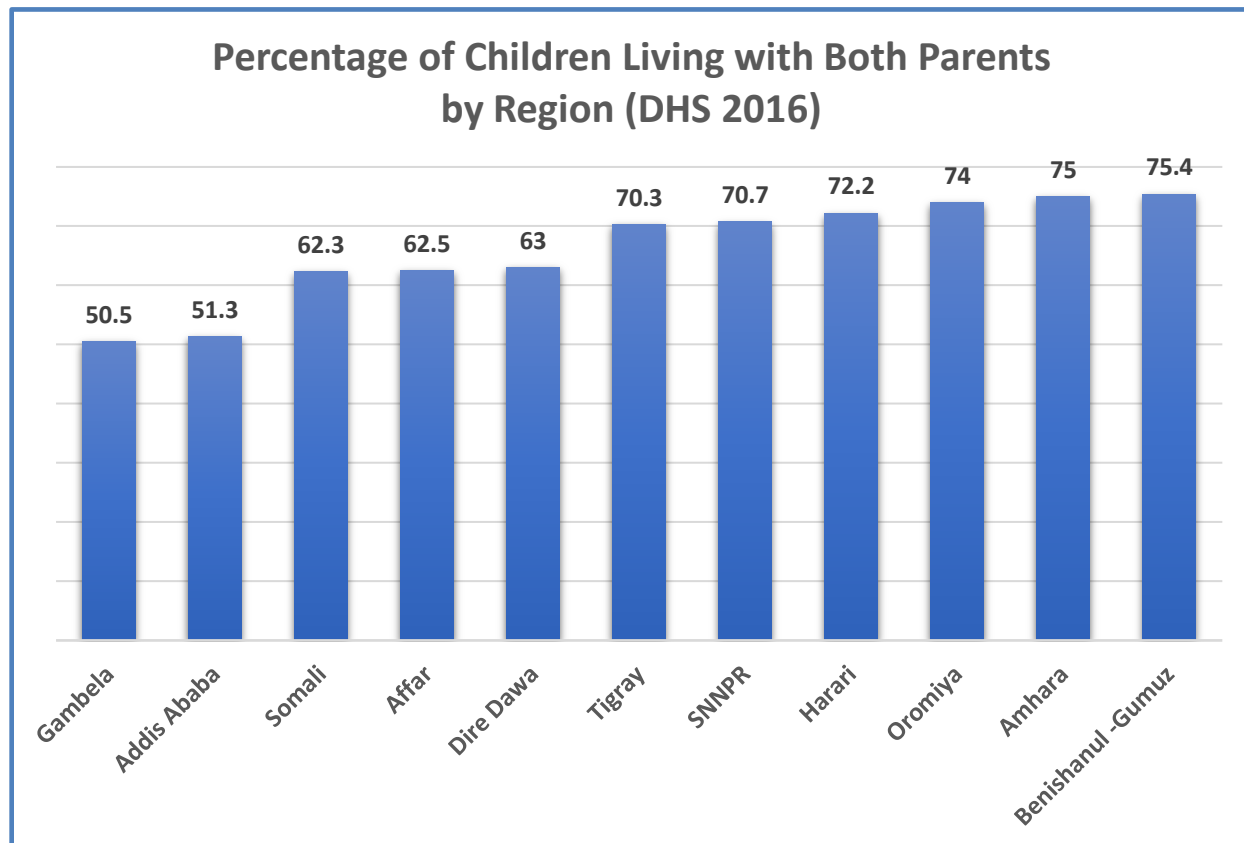


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Socio Economic Characteristics:

Family structure (DHS, 2005)

Oromiya is one of the three regions where three-quarters or nearly three quarters of children live with both parents (a mother and a father). Gambella's and Afar's low percentages are troubling given that they are primarily rural unlike Addis Ababa and Dire Dawa that are primarily urban. This finding becomes all the more interesting when compared with results of the 2005 DHS in which Somali had the highest such percentage and Gambella's proportion of children living with both parents was above 60 percent. The figure below is based on data from the 2016 DHS [7].



Source : [7]

Household "Wealth"

The graph below compares families in various wealth quintiles. The populous neighboring regions of Amhara and SNNPR are chosen to provide a contrast due to their population

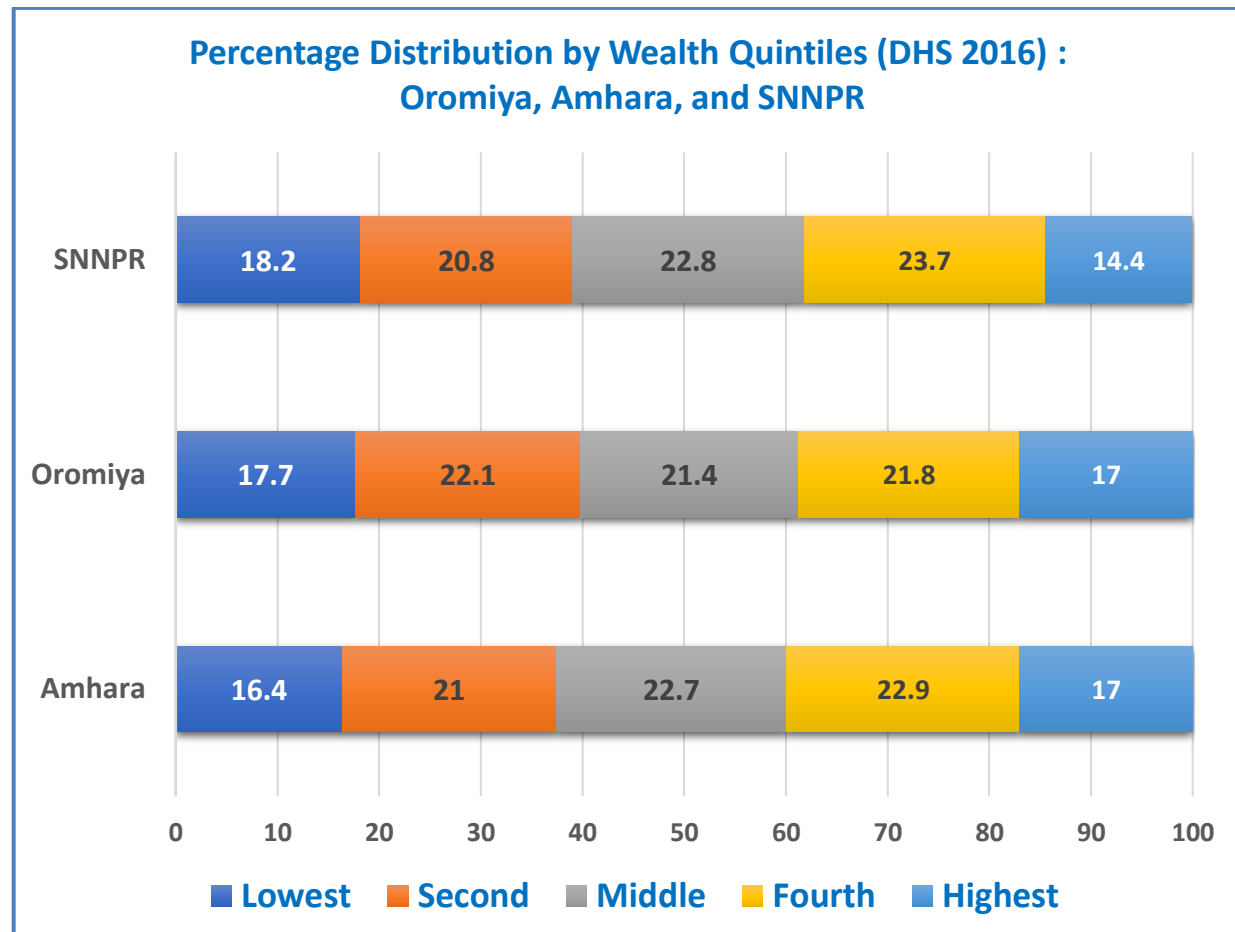
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size and location. The regional distribution by the five wealth quintiles shows minimal regional variation showing a difference which is unlikely to be statistically significant.

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The Wealth Index

Household wealth index is constructed on the basis of “the number and kinds of consumer goods they own, ranging from a television to a bicycle or car, in addition to housing characteristics such as source of drinking water, toilet facilities, and flooring materials”. The principal component analysis is applied to these scores leading to the compilation of national wealth in which household score are assigned to each usual (de jure) household member. Each person in the household population is then ranked by her or his score. Dividing the distribution into five equal categories, each comprising 20% of the population produces the wealth quintiles graphed below.



Source : [7]

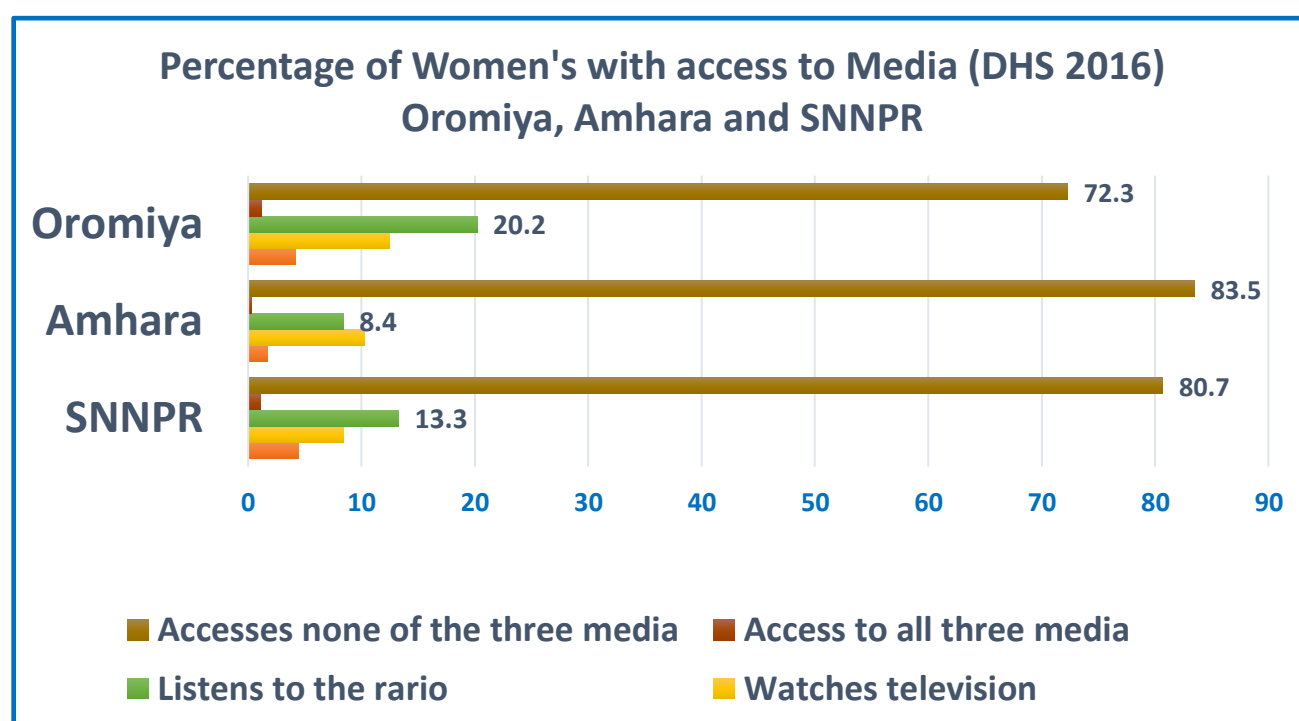
Exposure to Media

The neighboring administrative regions of Amhara and SNNPR provide useful comparative pictures of access to media among women in the three biggest regions of the country. Exposure to media can facilitate social and economic progress by allowing informed choice. A highly informed population is better prepared and capable of adopting innovative approaches to understanding the prevailing economic, social, or demographic environments and adapting to

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those changes. For example, a woman accessing health information from print- or broadcast-media is better able to seek preventive care and treatment regimens that could help protect her and her children from ill health or help them recover quickly after illness.

Based on the DHS 2016 results, Amhara women appear to be the least informed (least exposed to media) of the three comparison regions, and Oromiya women are the best informed (see figure below). Radio usage is twice as high in Oromiya than Amhara and about 50% higher than usage among SNNP women. Not surprisingly, the lowest percentage for all three regions is in the "reads newspaper" category indicating both the lack of access to print-media and the low level of literacy. The low percentage of TV viewing is most likely a reflection of the higher cost of television sets and with signal accessibility restriction to a limited number of urban viewers. The radio, it appears, is the most accessible medium.



Source: [7]

Demographic Characteristics (DHS, 2016)

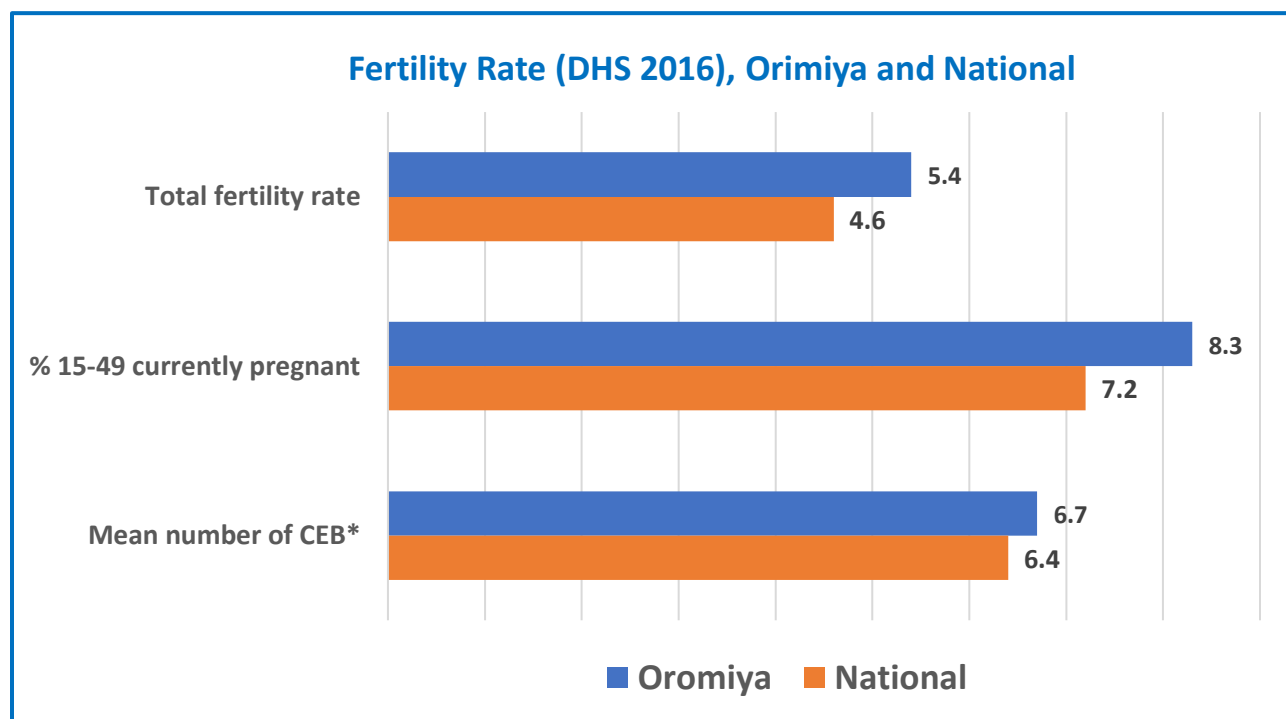
Fertility

According to the 2016 Ethiopian Demographic and Health Survey Oromiya has the third highest total fertility in the country (5.4), after Somali (7.2) and Afar (5.5). The total fertility rate (see graph below) indicate that Oromiya women currently in their reproductive years will have one child more than

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SNNPR and Benishangul-Gumuz women (TFR = 4.4) at the conclusion of their reproductive years if the current age specific fertility rate remains unchanged. Since the total fertility rate - TFR - is calculated on the basis of whether or not women had a birth in the 12 months prior to the 2016 survey the rates are subject to change and are sensitive to errors resulting from memory lapse and intentional concealment of births that have taken place within the stated period.

Comparison of the number of children ever born (CEB) to Oromiya women (6.7) and Amhara women (6.2) by the end of their reproductive years (age 40-49) proves that the Oromiya-Amhara total fertility difference resulted from a much recent decline in fertility in the Amhara region. CEB represents the cumulative fertility experience of women stretching several decades. It shows that, in the past, Oromiya and Amhara women reproduced at rates that were much less dissimilar. It also shows that the dissimilarity in the reproductivity of younger women is at the root of the difference in total fertility (TFR) between the two regions. The difference in percentage of Oromiya women reported to be currently pregnant (8.3) and the national average (7.2) (see graph below) is a predictor of a higher total fertility in Oromiya than nationally for the period immediately following the 2016 survey.



*Children Ever Born

Source: [7]

DETERMINANTS OF FERTILITY IN OROMIYA

1. Birth Interval

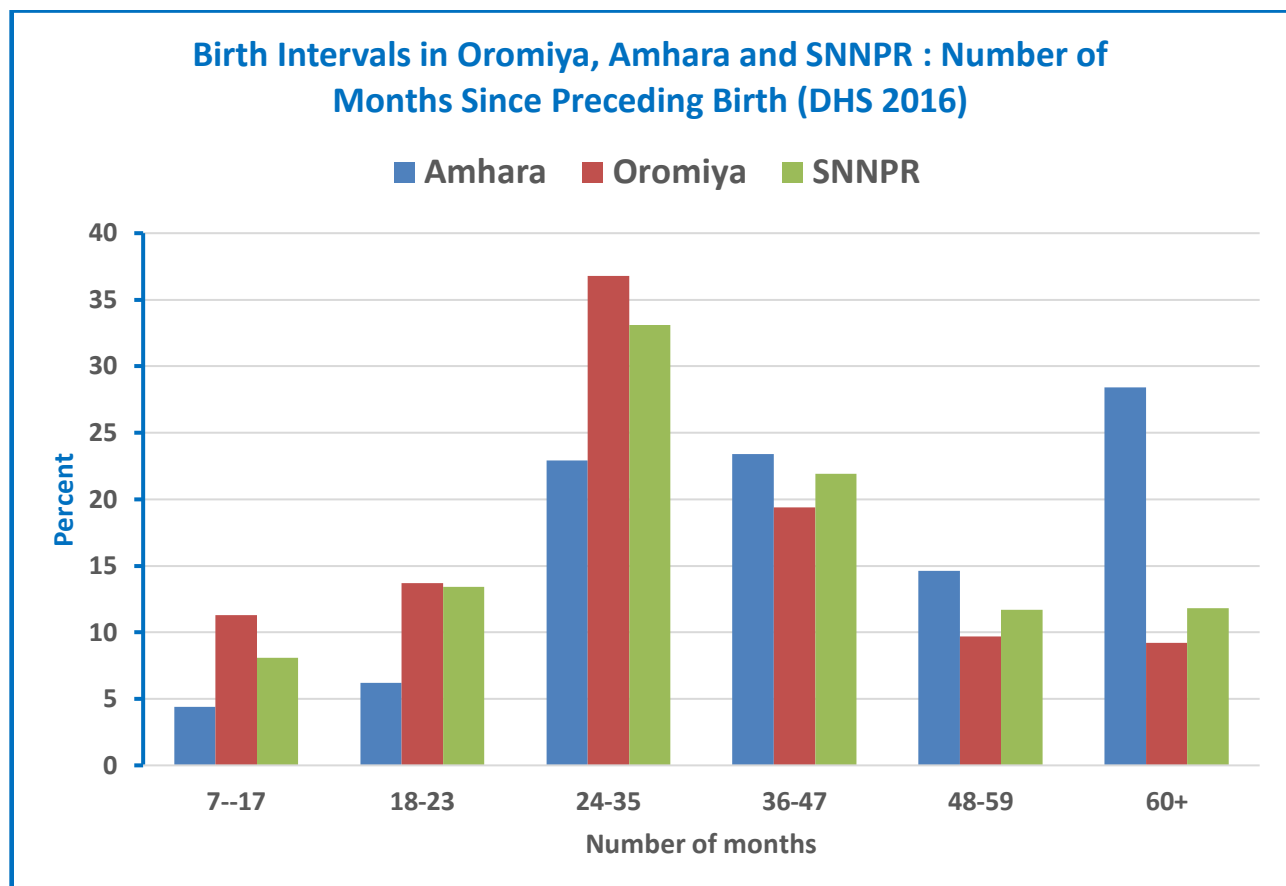
In the absence of contraception and exclusive breastfeeding, exposure through intercourse puts a woman at risk of conceiving a child at short intervals. The shorter the interval of time between births the more children a woman would bear during her reproductive life time. The figure below shows a clear contrast between women in Oromiya and Amhara. The median birth interval among Amhara

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women between the "current birth" and the preceding birth was 37 months at DHS 2005 but rose to 44 by DHS 2016. Among Oromiya women it was 31 months at DHS 2005 and hardly changed by DHS 2016 (32.3 months). Two thirds of Amhara women (66.4%) had waited three years or longer at DHS 2016; up from 55% in 2005.

Conversely, just over a third (37%) of Oromiya women waited that long at DHS 2005 and a similar percentage (38.3%) had waited three years or longer by DHS 2016. The longest interval (60+ months) is farm more common in Amhara (28.4% of women) than in Oromiya (9.2%) or SNNPR (11.8%).

15



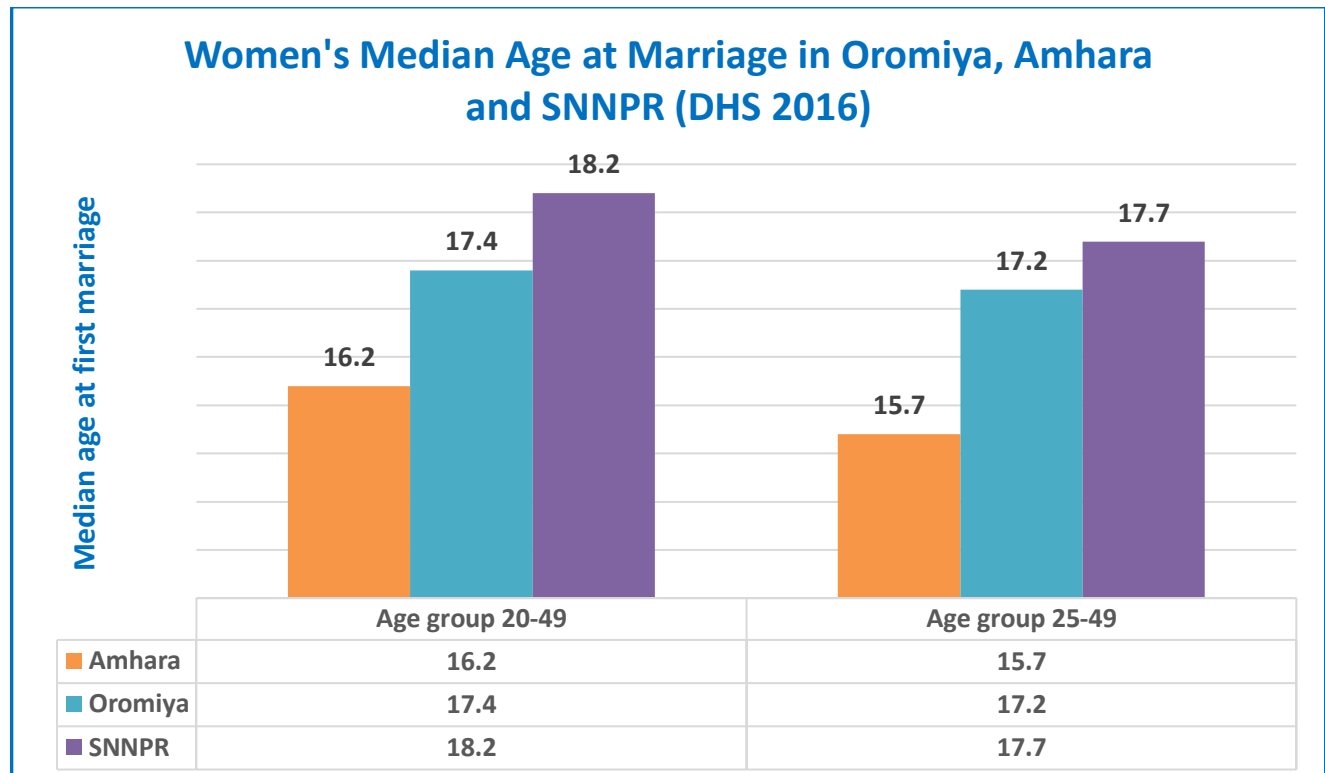
Source [7]

2. Age at marriage

Continued comparison between Oromiya, Amhara and SNNPR women (see graph below) helps explain differences in intervening factors acting as determinants of fertility in these three regions. The second intervening factor (the first factor - birth interval - is discussed above) is age at first marriage. Given cultural restrictions against sex before marriage, age at first marriage remains a major determinant of exposure to pregnancy and child birth in Ethiopia. The graph below places Oromiya midway between Amhara and SNNPR in terms of median age at first marriage both for the 20-49 age cohort and for the 25-49 age cohort. In all three regions, the latter cohort has a slightly higher median age at first marriage

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suggesting that median age at first marriage has started to rise in all three regions and in the country at large. A lower median age at marriage for women in Amhara than Oromiya suggest a higher fertility among Amhara women. However, this is counteracted by the countervailing fertility impacts (among Amhara women) of other influences including longer birth intervals, longer exclusive breastfeeding, higher contraceptive use, instability of marriage, and outmigration of young females both divorcees and singles, to urban areas. The 25-49-year-old cohort in Amhara married about a half a year younger than the 20-49 cohort in in this region and more than a full year younger than their counterparts in Oromiya. This gap is long enough to result in a one-child "fertility advantage" for Amhara women but Amhara women actually have a one-child "fertility disadvantage" due to the intervening factors cited above.



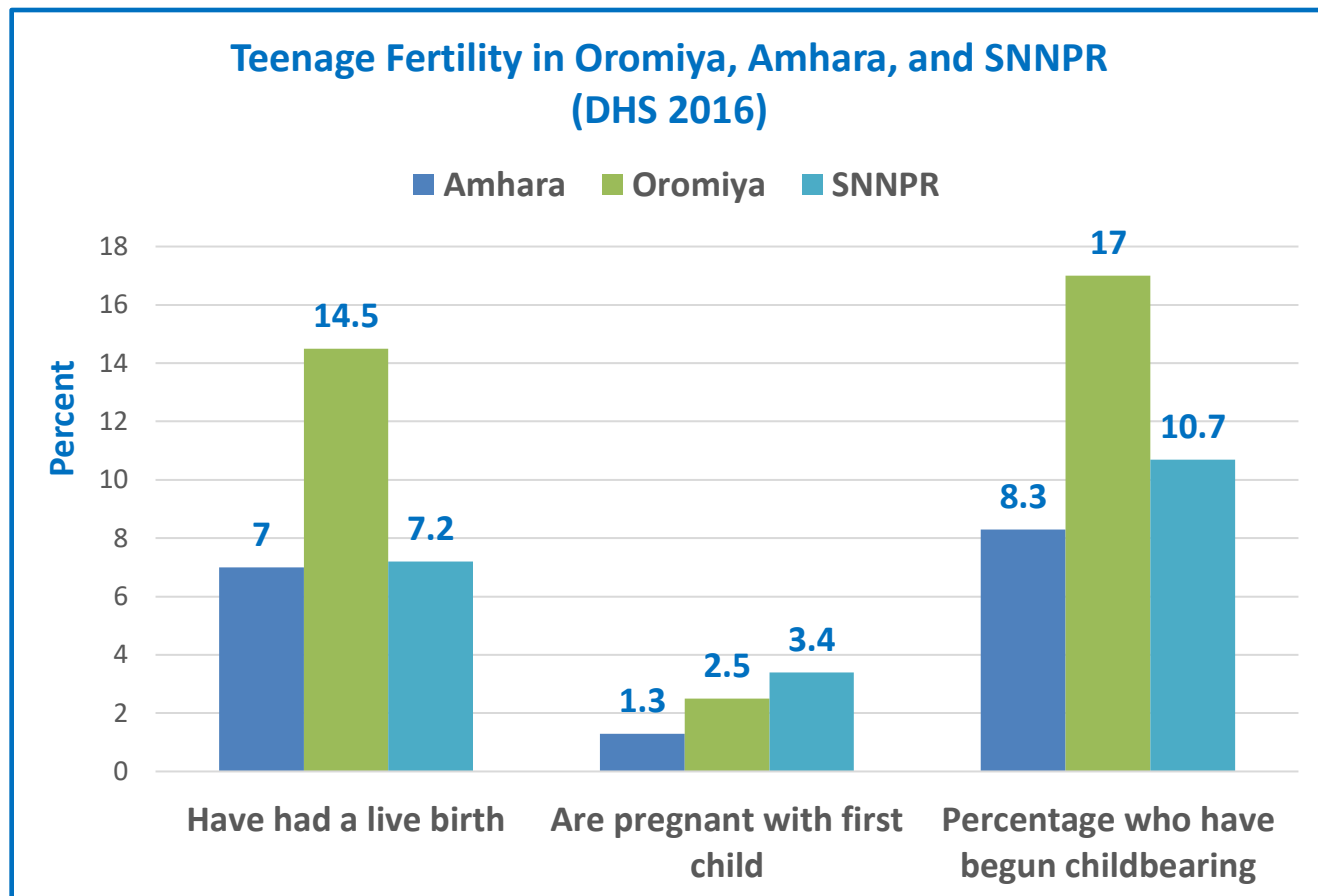
Source: [7]

Teenage Fertility

In developed countries teenage pregnancy before age 18 is considered one of society's ills. This is due to its detrimental effects on young women's health, as well as the impacts on educational and career prospects as young mothers. Contributors to early child birth in Ethiopia include low school attendance rates among girls especially in rural areas where over four-fifths of the women live. Additionally, cultural requirements of virginity at marriage are strong and often provide the impetus for parental choice of early marriage for their daughters. Daughters seldom have a choice in the matter. The attendant outcomes including underage pregnancy child birth among teens are not considered social ills at all.

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Oromiya's percentages of teenage girls in the “had live birth” category is the highest. The low percentage for Amhara is a welcome sign as this region married off its daughters at a much younger age traditionally than in Oromia or SNNPR. The percentage of Amhara teens who had begun child bearing was very high (25%) at the time of the 2000 Demographic and Health Survey [7]. The percentage for Oromiya and SNNPR was 15.8 and 8.1 respectively suggesting that the drastic decline in Amhara did not take place in these two regions.

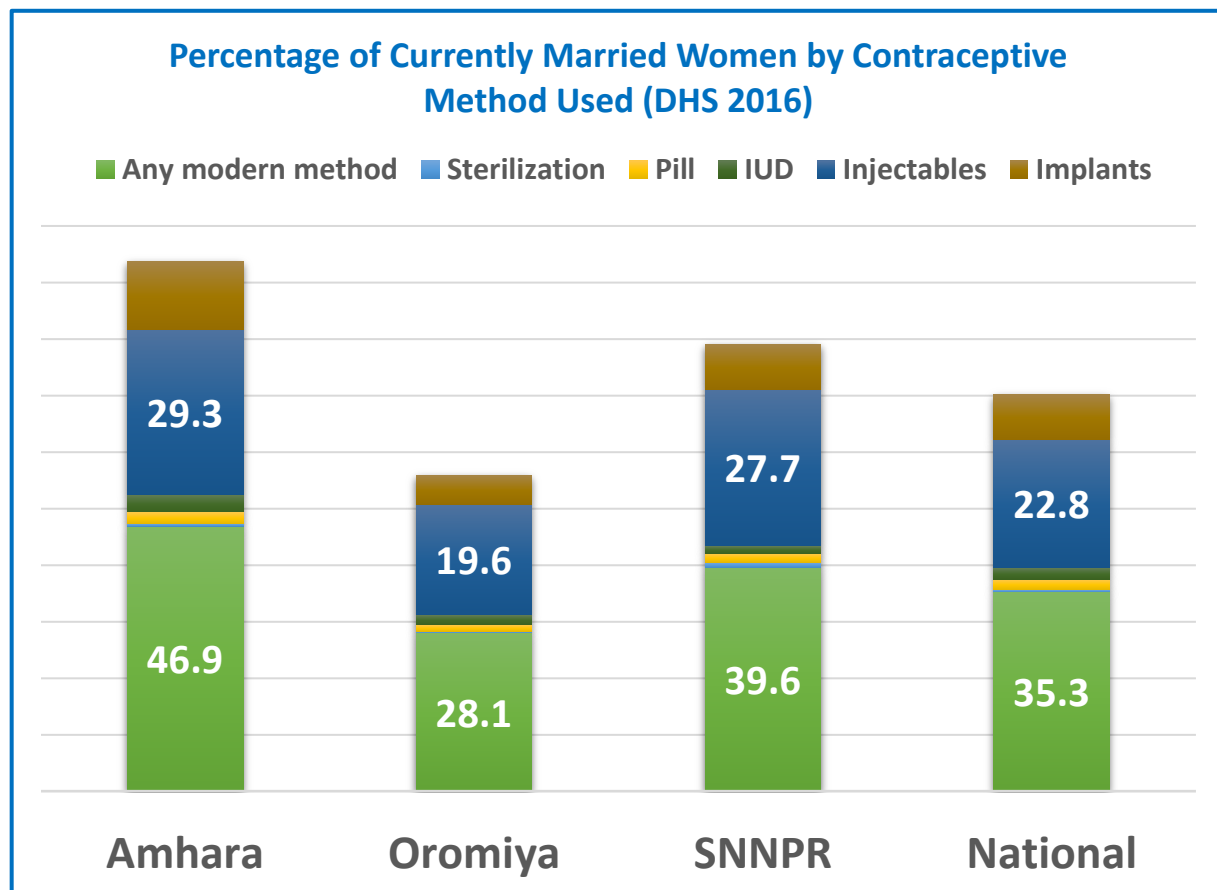


Source: [7]

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Contraceptive use

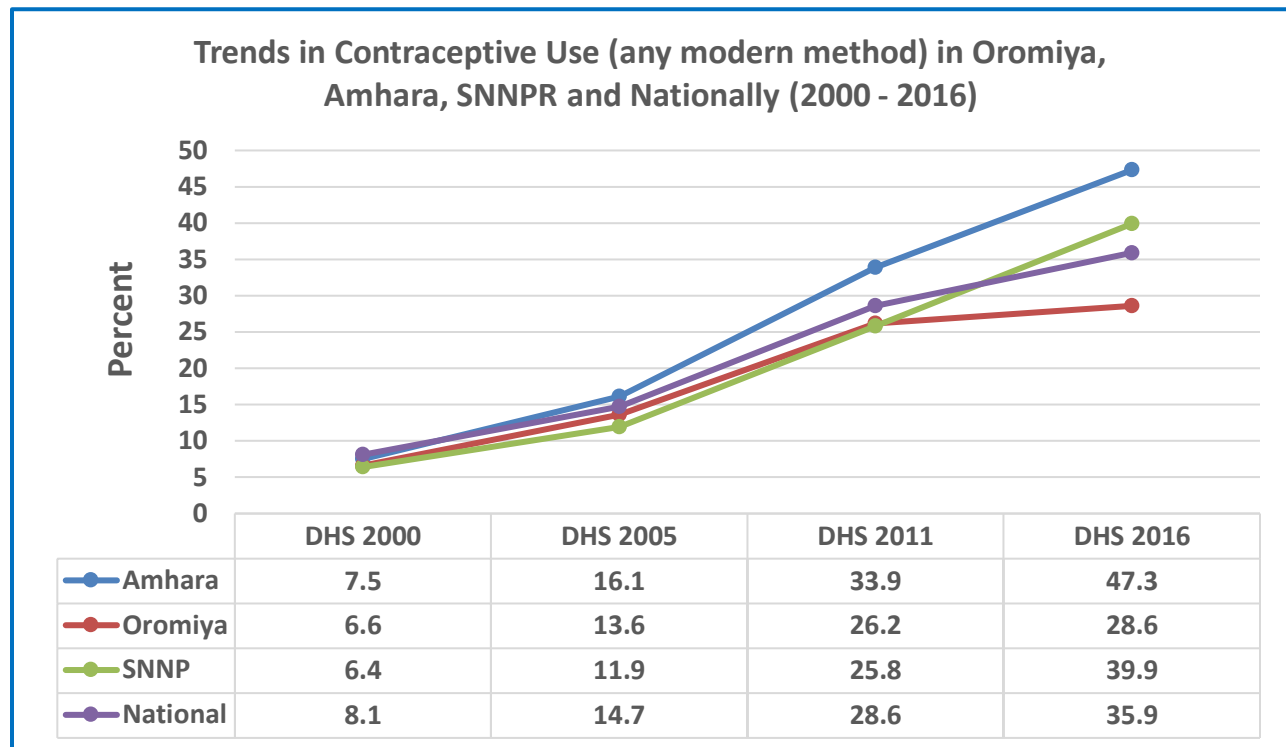
Use of modern contraceptive by currently married Ethiopian women has increased steadily between DHS 2000 and DHS 2016, jumping from 6% of married women using modern contraceptive method during the 2000 Demographic and Health Survey to 35% in the 2016 survey [7]. The 2016 rate of contraceptive use in Oromiya (28.1%) is up from the DHS 2005 (13.6%) by 15 percentage points, but is lower than the 2016v national average of 35.3%. The percentages of women who use injectables (see graph below) makes the highest contribution to the percentage of married women using any modern method. The graph shows modern contraceptive use among married women in Oromiya to be lower than in Amhara and SNNPR indicating the likelihood of higher fertility levels in Oromiya in the years to come.



Source: [7]

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The figure below shows trends in the past 16 years nationally and in the three regions. The increase in Amhara is nothing short of spectacular as it represents and six-fold rise in just 16 years.

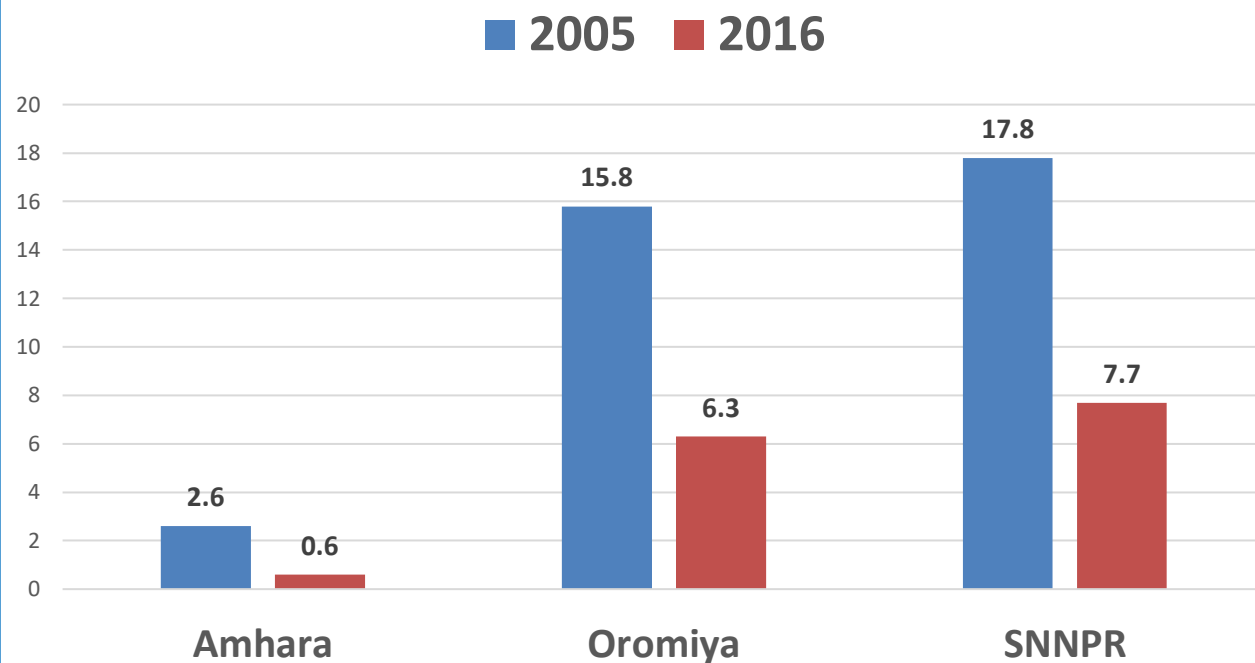


. Source: [8]

Number of co-wives

A traditional custom allowing co-wives raises the number of children born to a man (male fertility rate), but can lower the number of children born to a woman (female fertility rate). Polygyny is, therefore, a very useful subject to study. Fortunately, the Demographic and Health Survey included questions that generated data used to make the below graph. In 2005, Gambella had the highest polygyny rate with over a quarter of wives (27.3%) sharing their husbands with at least one other wife [9]. The percentage has come down significantly in Gambella (8.2) and other regions by DHS 2016 marking a significant shift in favor of monogamy. In Oromiya it, decreased from 15.8% to 6.3% and in SNNPR from 17.8 to 7.7 (see graph below). Polygyny rates have remained low in Amhara throughout Ethiopia's Demographic and Health Survey years.

Percentage of married Women Whose Husbands had At least One Other Wife (DHS 2005 and DHS 2016)



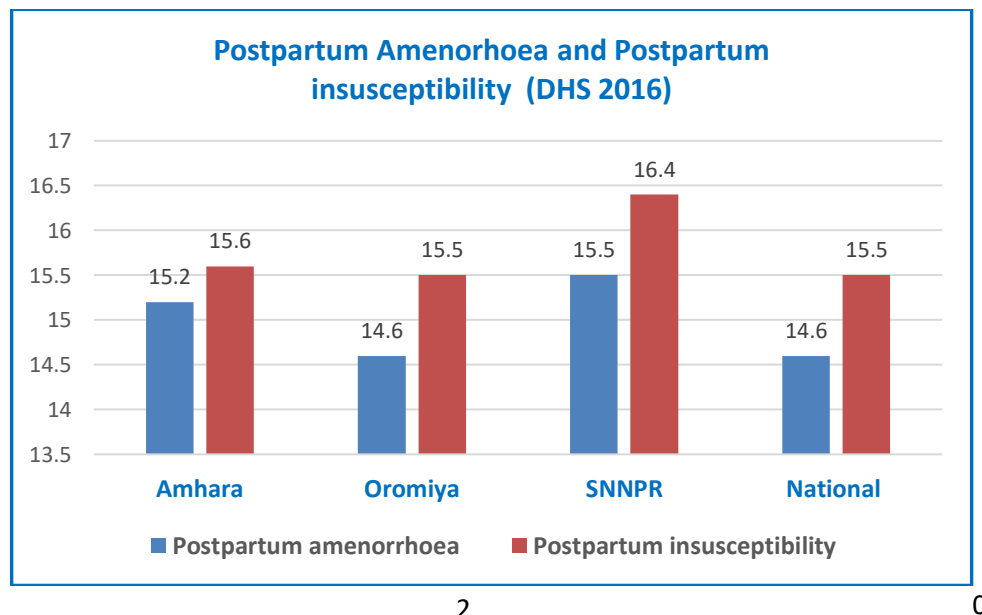
Source [7,9]

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Postpartum insusceptibility

Postpartum amenorrhoea refers to the interim period between the birth of a child and the resumption of menstruation. A related concept - postpartum abstinence is defined as the interim period between the birth of a child and the resumption of sexual intercourse. Demographers also focus on a related concept of postpartum insusceptibility which relates to the period during which a woman is considered not at risk of becoming pregnant because she is postpartum amenorrhoeic and/or not engaging in sexual intercourse [8]. The three Ethiopian Demographic and health Surveys have gathered data on women's (age 15-49) median duration of postpartum amenorrhoea which represents "the number of months after childbirth by which time half of women have begun menstruating. Trends: The median duration of postpartum amenorrhoea is on a steady decline since 2000, dropping from 19.0 months to 14.6 months while the median duration of postpartum abstinence remains unchanged over the same period (2.4 months in 2000/2005, and 2.3 months in 2011/2016) [8]. Overall, the median duration of insusceptibility has gone down from 19.6 months in 2000 to 15.5 months in 2016 [8].

Expectedly, the duration of amenorrhoea is shorter among urban women than rural women, and lower among women age 15-29, women with secondary and higher education, women in the highest wealth quintile and women residing in Addis Ababa [9]. The median duration of postpartum amenorrhoea among women in Oromiya was 14.5 months in 2005 [9] remained more or less unchanged in 2016 (see graph below) more or less tying the national average. Of the three regions compared, SNNPR has the longest postpartum insusceptibility (16.4 months). The difference between the red and blue bars is accounted for by months of abstinence from sexual activity which is roughly about one month in Oromiya SNNPR, and nationally.

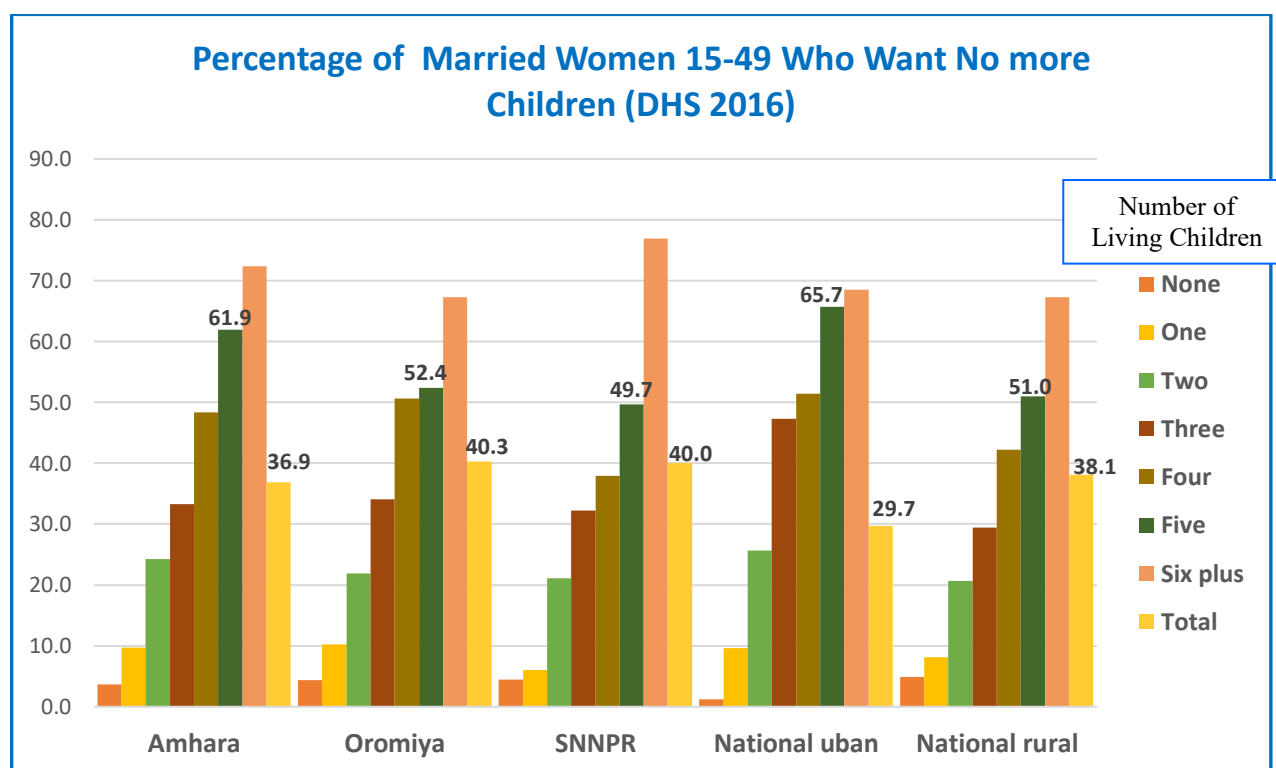


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Desire for more children

Women were more likely than men to want no more children, no matter how many children they already have in all four demographic and health surveys. In the 2016 survey, 37% of women and 27% of men expressed a desire to limit childbearing [8].

Parity refers to the number of children a woman already has. The neighboring regions of Amhara and SNNPR are added to compare family size preferences based on the number of living children women already have, i.e. their parity. Expectedly, for both Amhara and Oromiya the desire not to have additional children is stronger with increasing number of children women already have (their parity). At every parity, greater percentages of Amhara women than Oromiya women wished to end childbearing altogether. For example, 61.9 percent of Amhara women with five living children (see the dark green bars and labels in graph below) wanted no additional children. The proportion of such respondents in Oromiya is nearly ten percentage points lower (52.4%). In 2005, 15.2 percent of Amhara women and 5.3 percent of Amhara women. wished to remain childless; i.e. they had no zero parity and wanted no more children [9]. Smaller percentages gave such a response during the 2016 DHS both in Amhara and Oromiya. The below graph shows that nationally, the percentage of women who want no additional children is much higher in urban areas than in rural areas at all levels of parity.



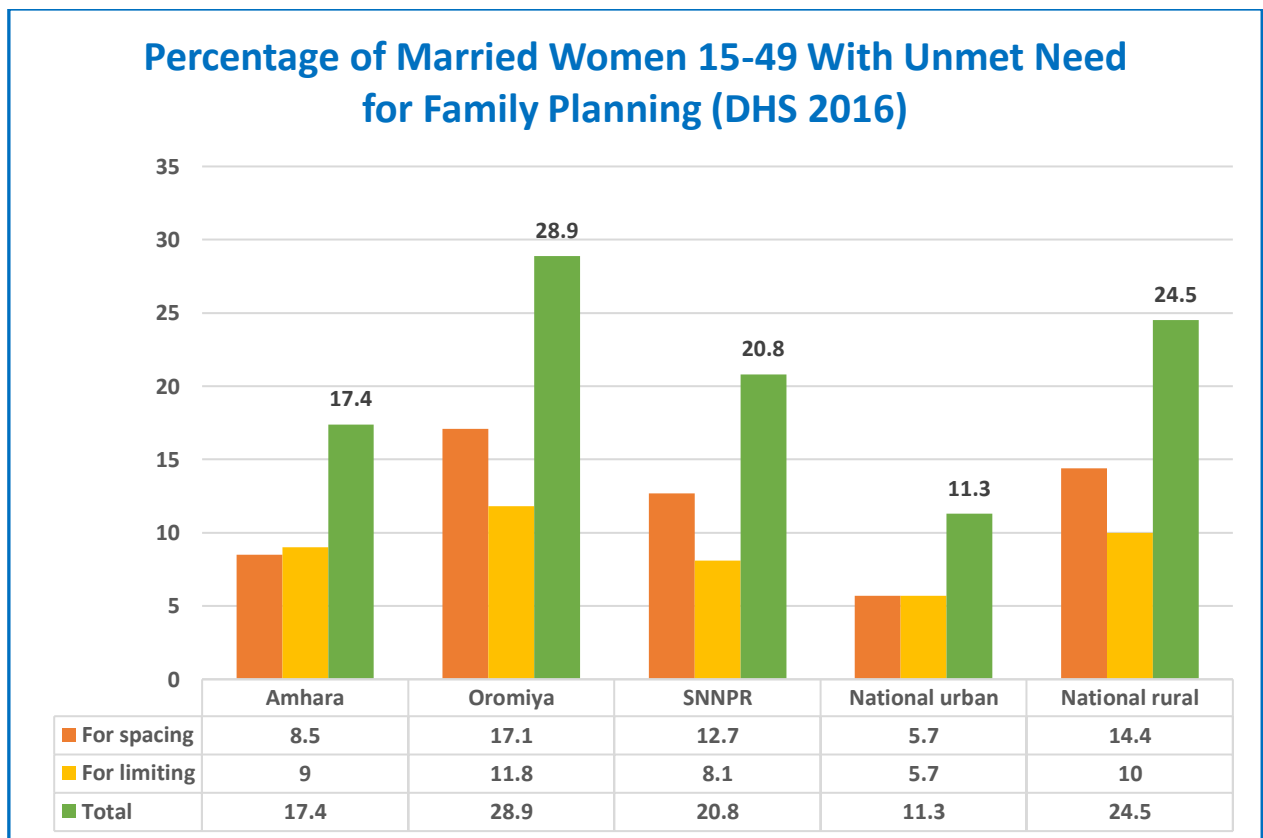
Source: [8]

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Unmet need for Family Planning

Unmet need for family planning among married women aged 15-49 has declined over time from 37% in 2000 to 22% in 2016 [8]. With 41.4 of respondents reporting unmet needs for contraceptive use, Oromiya had the highest unmet need for family planning in 2005 [9]. The percentage has come down significantly since (See graph below) but Oromiya still has the highest unmet need of the three most populous regions (28.9%) [8]. Seventeen percent of Oromiya women wanted to have full control over the spacing of births (birth intervals) at DHS 2016, and nearly 12% would like to have access to family planning to stop having children all together but do not have sufficient access. SNNP is a close second, and Amhara is third reflecting the higher percentage of Amhara women with existing access and fully met needs for family planning. Nationally, a quarter of rural women and 11.3% of urban women in their reproductive ages have an unmet need for spacing births or to stop child-bearing altogether. Given that Oromiya has one of the highest TFRs, it is not surprising that it has the highest unmet need for family planning.



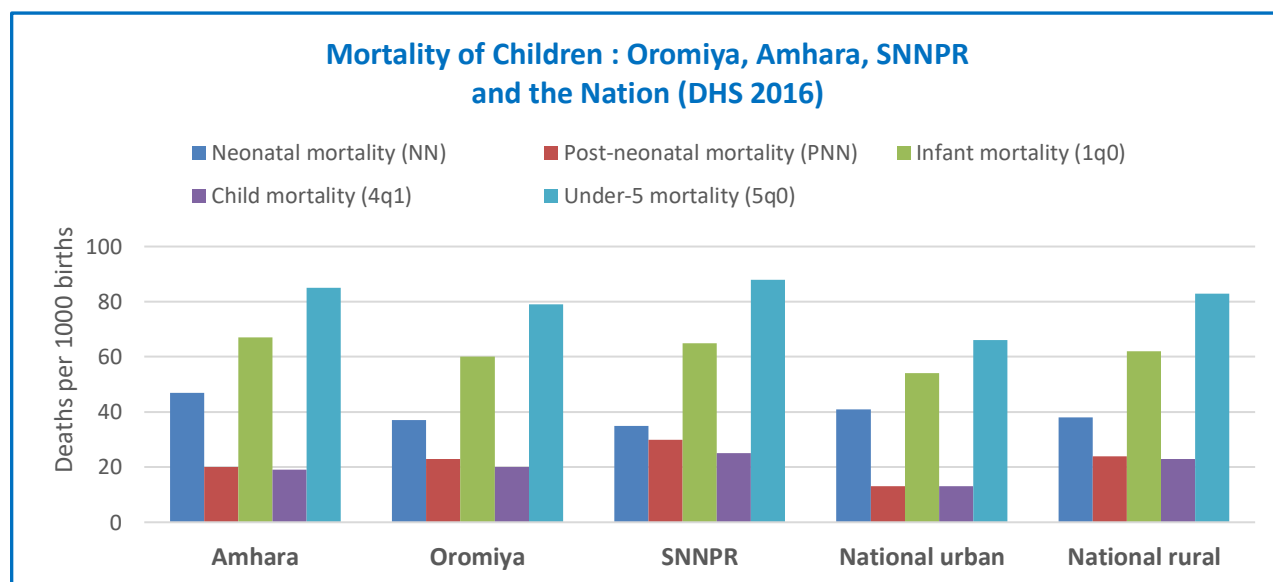
Source: [8]

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Mortality Among Children and Infants

For the 5-year period preceding Ethiopia's 2016 Demographic and Health Survey *DHS 2016), the under-5 mortality rate was 67 deaths per 1,000 live births, and the infant mortality rate was 48 deaths per 1,000 live births which represents a substantial decline since DHS 2000. However, the change in neonatal mortality (mortality in the first four weeks of life) is not as significant as the change in post-neonatal and child mortality. The data showed large variations in childhood mortality. For example, under-five mortality ranges from a low of 39 deaths per 1,000 live births in Addis Ababa to a high of 125 deaths per 1,000 live births in Affar. Risks associated with fertility behavior have significant contributions in that 77% of currently married women have the potential for a high-risk birth with 62% experiencing high mortality risks that are avoidable; 38% have a single high-risk category and 24% have multiple high-risk category [8]. "Only 24% of births are not in any high-risk category" [8].

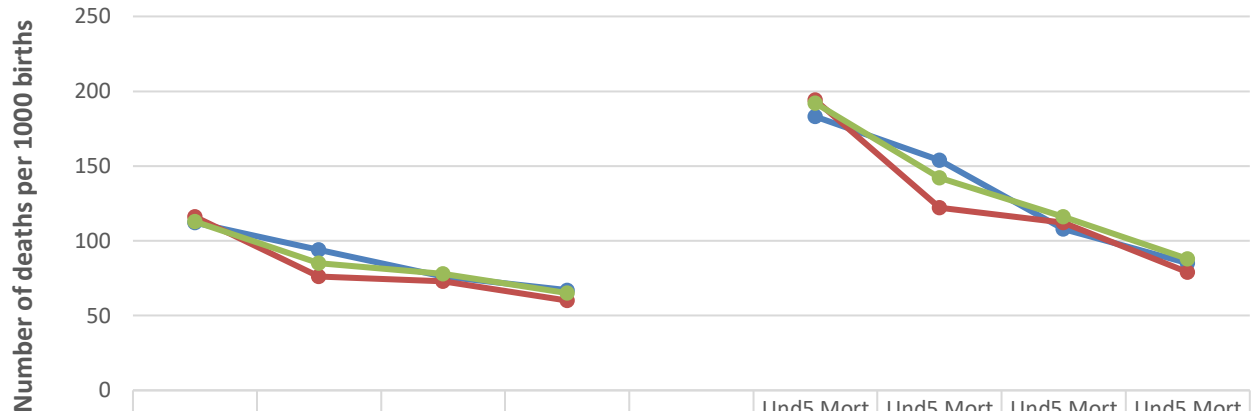
The graph below compares childhood mortality in the three most populous regions and the nation. Amhara has a higher mortality in Amhara than the national average. Oromiya's rates are slightly lower than Amhara's and SNNPR's for infant mortality and under-five mortality (refer to the mortality chapter for definition of terms such as neonatal and postneonatal). For every 1000 babies born in Amhara, 47 die within 30 days from birth (10 more than in Oromiya), and 20 die between the second and twelfth month (3 fewer deaths than in Oromiya), 85 die before reaching their fifth birthday – six additional deaths per 1000 than in Oromiya. This equates to an infant mortality 94 per thousand in Amhara (18 more than in Oromiya). On the plus side, the under-five mortality rate in Amhara declined from 154 per thousand in 2005 [9] to 85 per thousand in 2016 [8]. In Oromiya, it declined from 122 per thousand in 2005 [9] to 79 per thousand in 2016 (see the line graph below).



Source: [8]

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Sixteen-year Trends in Infant Mortality Rate (IMR) and Under-five Mortality Rate (DHS 2000 - DHS 2016)



Source: Based on [8]

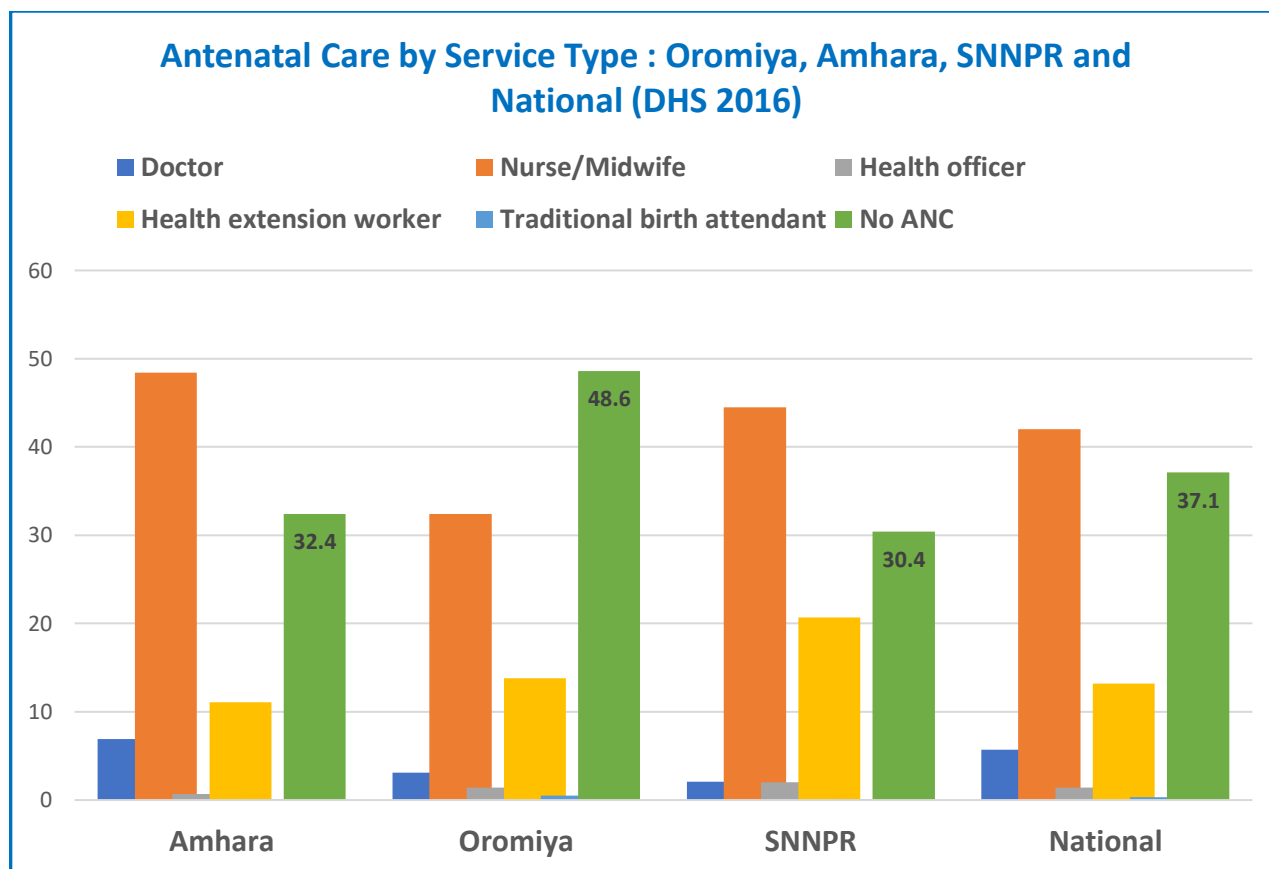
MATERNAL HEALTH

Antenatal care

Antenatal care refers to the care women should receive to ensure a successful outcome at the end of a pregnancy term. However, a substantial percentage of women in developing countries including Ethiopia fail to receive it (see the graph below) before the birth of a child and after. Care before delivery ideally consists of [10]:

- Pre-conception counseling
- Assessment of risk factors (including maternal health)
- Ongoing assessment of fetal well-being
- Ongoing assessment of complications
- Education about normal discomforts of pregnancy, emotional aspects (including post-natal depression), local antenatal classes, reducing risk of SIDS, parenting issues
- (including child-proofing the house and coping with crying infants)
- Discussion of birthing care options

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Source: [8]

24

The proportion of Ethiopian women age 15-49 who received antenatal care (ANC) from a skilled provider increased from 27% in 2000 to 34% in 2011, and 62% in 2016. Results of DHS 2016 show that 32% of women had at least four ANC visits during their last pregnancy. When it comes to specific components of care, pregnant women are more likely to have their blood pressure measured (75%) and blood sample taken (73%), than to have their urine sample taken or to have received nutritional counselling (66% for both). In addition, only 49% had their last birth protected against neonatal tetanus [8]..

Only 3.7% of Oromiya women delivered at a professional health care facility. Nearly half delivered at home (with all the attendant risks and potential complications) and 32.4% were assisted only by traditional birth attendants

Ethiopian is known to be among countries with very high maternal mortality rates. Even though specific data are lacking, it would not be a stretch to assume that it would be high in Oromiya as well.

Maternal Mortality

The WHO defines pregnancy-related deaths as “the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death” [8]. The pregnancy related mortality ratio in Ethiopia was 412 maternal deaths per 100,000 live births for the 7 years before the survey. This represents a substantial decline from the estimate of 871 for the 7 years before the 2000 DHS or the estimate of 676 for the 7 years before the 2011 DHS, and is statistically significant [8]. The lifetime risk of pregnancy-related death (death related to pregnancy or childbirth) is 21 in 1,000 women in Ethiopia [8]. Just over 10 percent of Oromiya women who visited the antenatal clinics received iron tablets. 5.3% took intestinal parasitic drugs, 26.1% were informed of signs of pregnancy complications, 75.1% were weighed, 62% had blood pressure measurements taken, 26% gave urine samples, and 26.3% gave blood samples [9].

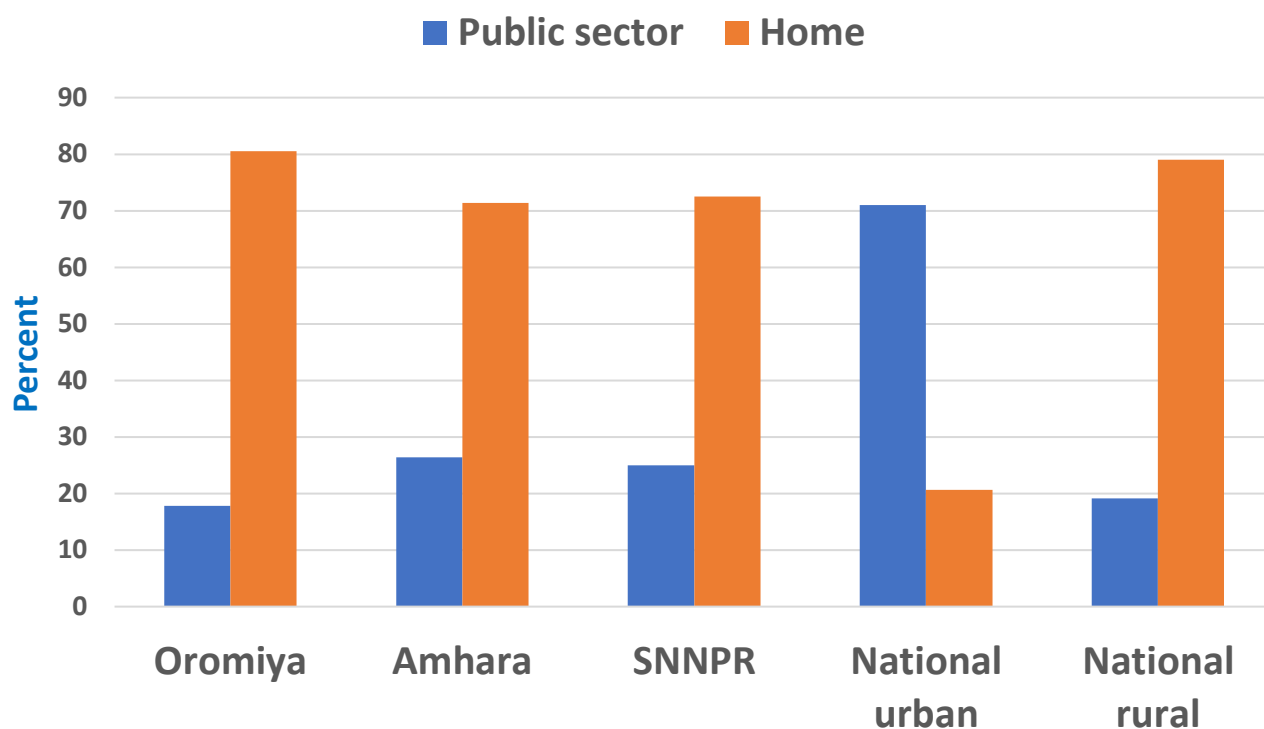
Place of delivery:

Place of delivery data from DHS 2016 shows that institutional deliveries have increased from a mere 5% in 2000 to 10% in 2011, and 26% in 2016 while home deliveries decreased from 95% in 2000 to 90% in 2011, and 73% in 2016 in the same period. Antenatal care is often followed by postnatal care which unfortunately is rare in Ethiopia. Only 17% percent of women and 13% of newborns received a postnatal check within the first 2 days of birth [8]. The proportion of women age 15-49 reporting having at least one specified problem in accessing health care decreased from 96% in 2005, to 94% in 2011, and 70% in 2016

Just under 18 percent of births in Oromiya are delivered in a professional setting [8] representing a significant improvement from 2005 when only 3.7% of Oromiya women delivered at a professional health care facility [9]. About four-fifths of deliveries in Oromiya took place at home (with all of the attendant risks and potential complications). Ethiopian is known to be among countries with high maternal mortality ratio. Even though specific data on Oromiya are lacking, it would not be a stretch to assume that the finding would apply to this region as well.

The graph below shows percentage distribution of live births in the five years preceding 2016 Demographic and Health Survey (DHS) by place of delivery.

Percent of Births by Place of Birth : Oromiya, Amhara, SNNPR and National (DHS 2016)



Source: [8]

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Child health

Information on birth weight was obtained for only 14% of births in the DHS 2016 survey [8] which showed that 13% of babies weighed less than 2.5 kg at birth. Nearly two-fifths of children age 12- 23 months (39%) received all basic vaccinations at some time, and 22% were vaccinated by the appropriate age. The percentage of children age 12-23 months who were fully vaccinated increased by 15%, from 24% in 2011 to 39% in 2016. Approximately seven percent of children under the age of 5 had symptoms of Acute respiratory infection (ARI) in the 2 weeks before the 2016 survey and 30% of these children sought treatment. About 14% of children under age 5 were reportedly had fever in the 2 weeks before the 2016 survey [8]. Treatment from a health facility or provider was sought only for about a third of children with fever. Diarrhea affected 12% of children under the age of 5 had in the 2 weeks prior to the 2016 survey. More than 40% of children under age 5 (44%) who had diarrhea sought treatment. Of the children under five with diarrhea, nearly half (46%) received some form of Oral Rehydration Therapy (ORT) while 39% received ORT or increased liquids.

The 2016 DH study in Oromiya also covered treatment practices and the existence of face-to-face contact with health services among children. The three most important childhood illnesses were acute respiratory infection, fever, and diarrhea. Information was also sought on the prevalence and treatment of acute respiratory infections (ARI) and its treatment with antibiotics as well as the prevalence of fever and its treatment with antimalarial drugs and antibiotics [8]. The survey included questions on the treatment of diarrheal diseases which ideally involved oral rehydration therapy (including increased fluids).] "Data was also collected regarding a child's weight at birth because "a child's birth weight or size at birth is an important indicator of the child's vulnerability to the risk of childhood illnesses and the chances of survival." [7] Three quarters of Oromiya women described their new-born baby as having average or above average weight. Just over 14% of Oromiya children under five were described as suffering from acute respiratory infections - ARI in the two weeks preceding the 2005 survey, 19% had fever, and 17.7% had diarrhea.

Prevention in the form of vaccines has revolutionized child survival chances in the developed world but only 20.2 of Oromiya children under-five years of age had received all of the required vaccinations at the time of the 2005 DHS. Over a quarter of the children received no vaccination at all. The national averages of children who received all of the required vaccines and those who received none were 20.4 and 20 percent respectively.

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