

Family Planning Commodities Requirement in Achieving Replacement-Level Fertility in Ethiopia

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Abstract

Ensuring the availability of modern contraceptive methods both by type and quantity is crucial in the provision of quality primary health care and designing appropriate intervention strategies toward reducing maternal and child mortality. This endeavor therefore, is designed to make family planning commodities requirement projection based on various assumptions with the target of achieving replacement level fertility by 2020 and also estimate costs of family planning commodities. Baseline data were obtained from 2007 census reports, 2011 EDHS and model data for Ethiopian context. The SPECTRUM by using FamPlan model was used to project these outcomes, with analysis restricted to the time period 2011?2020. Spectrum and MS Excel were used to analyze and producing report for this study. The projection result of the study showed that the 2011 CPR of 29

Index terms— family planning, commodities, replacement-level fertility, ethiopia.

1 Introduction

Ensuring the availability of modern contraceptive methods both by type and quantity is crucial in the provision of quality primary health care and designing appropriate intervention strategies toward reducing maternal and child mortality (Beta consulting and development firm and UNFPA, 2010).

The opportunity of deciding freely the number, spacing and timing of children is a basic human right with proven positive health effects, particularly for women and children, demographic and overall socioeconomic benefits. Meeting unmet need for contraception prevents estimated 30% of maternal deaths, 20% child mortality and 36 million years of healthy life lost each year globally (Kennedy et al., 2013). Moreover, reducing unmet need for contraception prevents other adverse consequences. It is evident that access to family planning commodities contributes to universal education, women's empowerment, HIV prevention, poverty reduction and environmental sustainability; thus, it is one of the most cost-effective health and development interventions. To date, there has been little evidence exists regarding family planning commodities requirement including their potential cost ??Stover et al., 2010).

Effective and efficient reproductive health programs depend on a reliable supply of essential commodities. However, lack of evidence has contributed to inadequate prioritization and funding for family planning methods and slow progress towards universal access to reproductive health interventions (Kennedy et al., 2013), particularly family planning services. Evidence-based understanding of family planning commodities requirement assists in planning services prioritization and funding.

In Ethiopia, a 50% funding gap was pointed as a predicament against the government's ambition of ensuring commodity security (London summit, 2012). Hence, projections for family planning requirements can help set realistic goals, plan for the service expansion required to meet program objectives and evaluate alternative methods of achieving goals ??Stover et al., 2010). This endeavor therefore, is designed to make family planning commodities projection based on various assumptions with the target of achieving replacement-level fertility by 2020.

9 E) GROSS COST

44 2 II.

45 3 Materials and Methods

46 Ideally, quantification for projection is an activity that includes constant monitoring of inventory levels, product
47 consumption rates and other information including programmatic and environmental factors that may affect future
48 demand. If the logistics management information system (LMIS) is designed well and kept up-to-date, the
49 staff responsible for quantification and procurement will have with them all the consumption and stock level
50 information they need. While consumption data is considered as the gold standard for contraceptive projection,
51 such data are not always accurate, reliable or readily available ((NIPORT, 2010).

52 Baseline data were obtained from 2007 census reports, 2011 Ethiopian Demographic and Health Survey,
53 previous projection using the FamPlan model (Zelalem B and Gizachew A, 2014) and model data for Ethiopia
54 context.

55 Primary outcomes of the projection included contraceptive prevalence rate, number of users and acceptors per
56 methods, commodity requirement and associated costs. The SPECTRUM was used to project these outcomes,
57 with analysis restricted to the time period 2011-2020. Spectrum and MS Excel were used to analyze and producing
58 report for this study.

59 4 III.

60 5 Results and Discussion

61 The total fertility rate for Ethiopian women was 4.8 in 2011 (EDHS, 2011). The total TFR is projected to
62 attain replacement-level fertility, i.e., two children per women in 2020 (Figure 1). The turn down of fertility
63 is accompanied by an increase in the use of family planning methods which is manifested by the contraceptive
64 prevalence rate (CPR). While other factors like increase at the age of marriage, postpartum insusceptibility and
65 sterility can affect fertility, it is unlikely that further reductions in fertility can be achieved unless there are also
66 supplementary progress in Contraceptive use. Accordingly, the 2011 CPR of 29% will therefore need to increase
67 to 71% to attain the replacement-level fertility in 2020. Figure 2 shows the projection of CPR that would be
68 necessary to achieve a TFR of 2 by 2020.

69 6 b) Users of family planning commodities

70 The number of women of reproductive age who seek services will affect future service delivery requirements
71 for family planning commodities. In order to reduce fertility rate, users of contraceptives should also increase
72 accordingly. Based on this projection, about 11.5 million women of reproductive age group are expected to use
73 family planning methods in 2020 (Figure 3).

74 7 c) Acceptors of family planning

75 Expanding access to long-acting and permanent methods (LAPCMs) is a key to increasing women's contraceptive
76 choice and addressing the high unmet need, and will contribute towards achievement of the FP2020 goals (Ngo
77 TD, et al., 2013).

78 Therefore, the number of reproductive age women accepting long-acting and permanent family planning
79 methods is estimated by this projection; accordingly, about 3 million more women accept family planning methods
80 in 2020 (Figure 4).

81 8 d) Family planning methods requirement

82 To meet the growing needs of essential family planning service programs, contraceptives input is a must.
83 This section presents the results of estimated future commodity requirements on the basis of the method-
84 mix assumptions. Commodity requirements per user for condoms, pills, injectables, IUDs, implants, female
85 sterilization are based on EDHS (2011) consumption per couple year of protection (CYP) assumptions.

86 Table ?? shows percentage distribution of users by method maintaining the base scenario of percentage
87 distribution. The projection depicts the shift of methods from short-acting to long-acting family planning
88 commodities (Table ??).

89 9 e) Gross cost

90 Projection of the costs of family planning requires estimates of the costs of providing services to users including
91 commodities costs. The model used for these projections employs a "cost per user" parameter from GAP analysis.

92 Accordingly, to reach the current objective of achieving replacement level fertility by 2020, the financial
93 requirement for contraceptive commodities for Ethiopia is also estimated to increase from the current requirement.
94 Consequently, there will be an increasing demand for contraceptives and an increasing requirement for government
95 and donor funds for contraceptive procurement needs an additional ETB 42.7 billion from 2011 (Figure 5).

96 **10 IV. Conclusions and Recommendations**

97 More family planning commodities are required to increase the current contraceptive prevalence rate of 29%
98 (EDHS, 2011) to 71% in turn to achieving a replacement level-fertility by 2020. Hence, all stakeholders should
99 do towards increasing access of family planning commodities in terms of both method mix and quality.

100 **11 V.**

101 **12 Projection parameters**



1 Figure 1: Figure 1 :

Table1: Distribution of family planning methods requirement by type, 2011-2020.

Year	Distribution of methods by type					
	Condoms	Pills	Injectables	Implants	IUD	Female sterilization
2011	13.79	36.2	47.2	1.5	0.6	0.06
2012	14.2	35.7	47.4	1.8	0.79	0.06
2013	13.05	35.15	46.98	2.1	1.0	0.05
2014	15.25	34.52	46.47	2.45	1.24	0.048
2015	15.90	33.78	45.88	2.86	1.50	0.044
2016	16.67	32.93	45.20	3.33	1.81	0.041
2017	17.58	31.91	44.39	3.89	2.17	0.038
2018	18.68	30.68	43.41	4.56	2.60	0.036
2019	20.0	29.09	42.10	5.63	3.11	0.033
2020	21.46	26.83	40.07	7.60	3.98	0.034

Figure 2:

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110 *Almost all references mentioned under 'References' and 'Methods' sections above including census (2007)*
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