

Human and Economic Impact of Reproductive Health Supplies Shortage & Stock-outs in Bangladesh: Study Findings

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Background:

Bangladesh with around 150 million populations is one of the largest and most densely populated among the least developed countries. The population of Bangladesh is increasing at the rate of 1.43% (2 million) per year and Contraceptive Prevalence Rate (CPR) has decreased for the first time from 58.1% to 55.8% (BDHS, 2007). To achieve the replacement level fertility, i.e., Total Fertility Rate (TFR) of 2.2, CPR should be increased to 72% coupled with a progressive method mix supported by a robust BCC campaign.

In the Health, Nutrition and Population Sector Program (HNPS), the services like Family Planning, Menstrual Regulation (MR), Emergency Obstetric Care (EOC) and Supply of medicines of DDS kits are included in reproductive health (RH) services. Incidence of shortage/stock out/irregular supply of short-term and some long-term family planning (FP) methods has been noticed occurring at repeated intervals during the last few years. This is a challenge to the national health and population programme having implications on the national economy. Among the supplies, Bangladesh Family Planning Programme procures the contraceptives and other RH commodities with World Bank credit money which is adequately available, but procurement is both time-consuming (18-24 months) and cumbersome. In addition, FWA units making home visit to the married women of reproductive age (MWRAs) are suffering from inadequate manpower.

FPAB is implementing **Project Resource Mobilization and Awareness (PRMA)** in Bangladesh as an important catalyst to increase the financial and political commitment to sustainable RH supplies. The study has been conducted to understand various human impact of shortage/stock-out/irregular supply of contraceptives at the level of household as well as on national economy, and to examine the sufficiency of allocation of funds vis a vis need of government's financial mechanism for it.

Objectives of the Study:

- To assess human impact due to RH commodity shortage/ stock outs/irregular supply;
- To assess impact on national economy because of sufferings in the population due to RH commodity shortage/stock-outs/irregular supply; and
- To ascertain the trends, sufficiency and priority for allocation of fund for reproductive health (RH) and commodity, and to assess the trends in utilization of the funds.

Methodology:

Both quantitative and qualitative research tools have been used. Due to time and fund constraints, the core research has been conducted with the contraceptive users (of oral pill, injectables, and condom) at 30 FWA units who have suffered at least once due to shortage/stock out/irregular supply during one year period preceding the survey (i.e., during March 2008-February 2009). The following data/information collection instruments were administered:

- Individual Interviews with 2756 Users (Quantitative)
- Individual Interview with 205 sufferers (Quantitative)
- Focus Group Discussion with sufferers (Qualitative)
- Group Discussions at District Level (Qualitative)
- Group Discussion at DGFP level (Qualitative)
- Data/Information obtained through Formats (Quantitative)



Findings:

Current System of Procurement: The current procurement activities from the beginning to end have 19 steps. Around 18 to 24 months are required for completion of procurement.

Current System of Supply and Distribution: Supply process is initiated from the Central Warehouse (CWH) of Family Planning Directorate at Dhaka, and then to 21 regional warehouses located at District HQs, to all Upazila Family Planning stores (482 upazilas), and from there to the Service Delivery Points (SDPs) consisting of UHCs, MCWCs, FWCs, Community clinics, Satellite clinics, FWAs, and NGO clinics. The main source of supply of RH-FP commodities is FWAs. They should make home visit to MWRAs once in every 2 months.

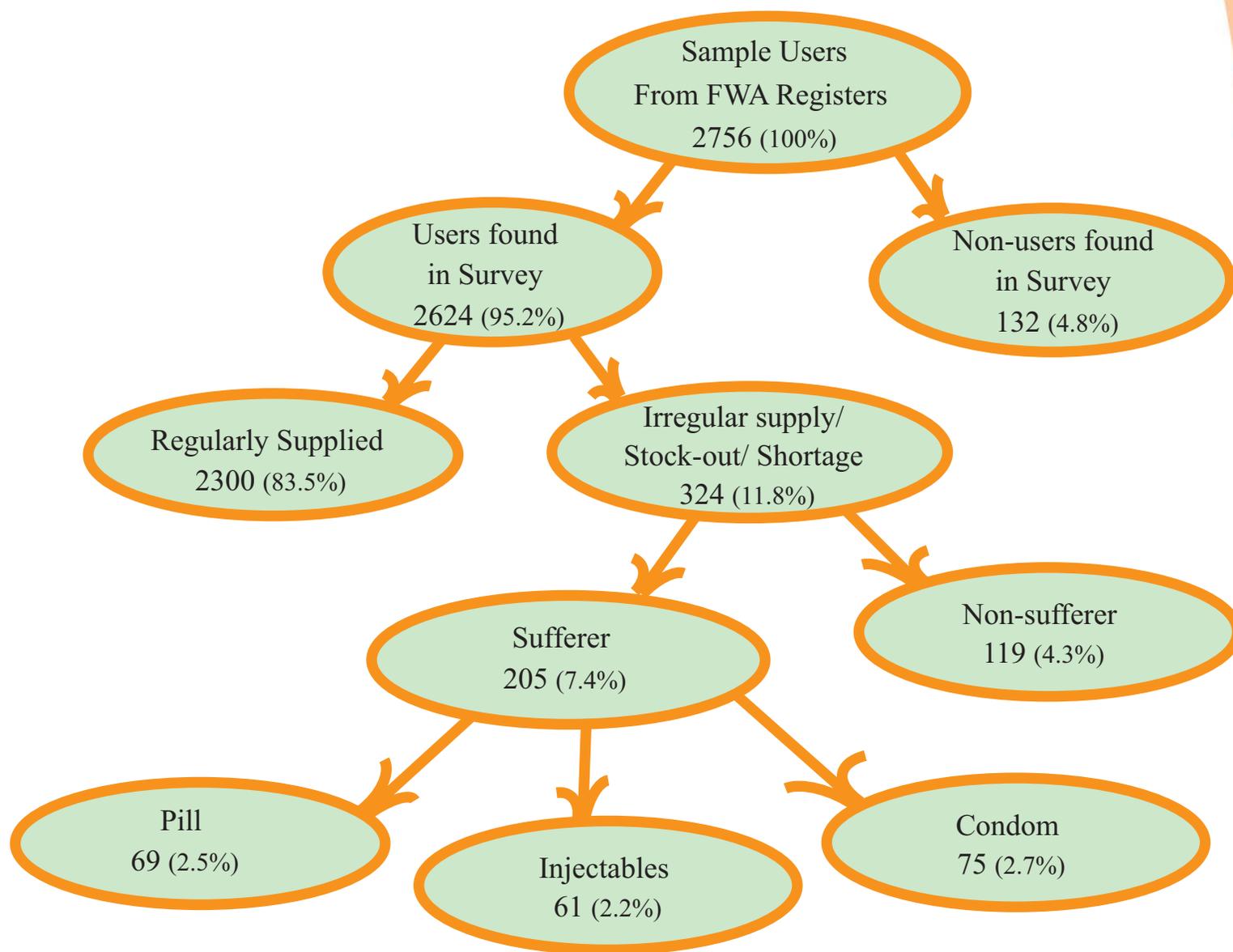
Current System of Monitoring: The national monitoring system is based on Form 7 and Form 7B submitted to MIS by Warehouses and Upazila Family Planning offices respectively. The Monthly Logistics Report as monitoring tool provided useful information on monthly distribution and stock balance of all major contraceptives and DDS kits of warehouses/upazila stores. There is no forecasting mechanism to project commodity requirements for a growing population with diversified needs (of method-mix). The monitoring at the field level is relatively weak.

Status of Stock-out Situation: According to the "Family Planning Monthly Logistics Report of DGFP (November 2007 to October 2008)" stock-out of RH commodities was experienced by a large number of upazilas (24.16% to 44.58%). Field Managers, in their interviews, admitted with hesitation that stock-out situation prevailed during the last one year in one RH-FP method or the other.

Causes of Stock-out: The causes of stock-out as reported by the Field Managers and other concerned officials of the FP Department include irregular supply, bottlenecks in procurement process, dualism, and lack of forecasting mechanism to assess/project needs.

Discrepancy in Number of Users (Official Data vs. Field Reality): The question of discrepancy in official data, and finding out of real number of users and sufferers aroused when the data collected through a specific format from 437 FWAs didn't match with that of the data collected through Pre-test and a small-scale field survey. As a result, the study strategy was changed and data were collected through 2,756 household interviews with the users of 3 major FP methods (pill, injectables, and condom) in 30 FWA units (found in survey) to find out the users suffering from non-supply and/or irregular supply ("sufferers"). In study, the statistical discrepancy found between users in FWA register and the actual users of FWA unit was 4.8%. Out of the 95.2% real users, 83.5% got regular supply and 11.8% didn't get regular supply (which according to FWA reporting was 0.6%). Of this 11.8% getting irregular supply, 7.4% (205 persons) were "sufferers" and 4.3% were "non-sufferers" (managed the method or brand). Irregular field visit and lack of updating of the FWA register book are the main causes of this discrepancy. At the second stage, ***Individual level sufferer interviews*** were conducted with 205 sufferers suffering from various problems due to shortage/stock outs/irregular supply of oral pill, or injectables, or condom during last one year. The 7.4% sufferers (205 persons) include 2.5% sufferers of oral pill, 2.2% sufferers of injectables, and 2.7% sufferers of condom (Figure 1).

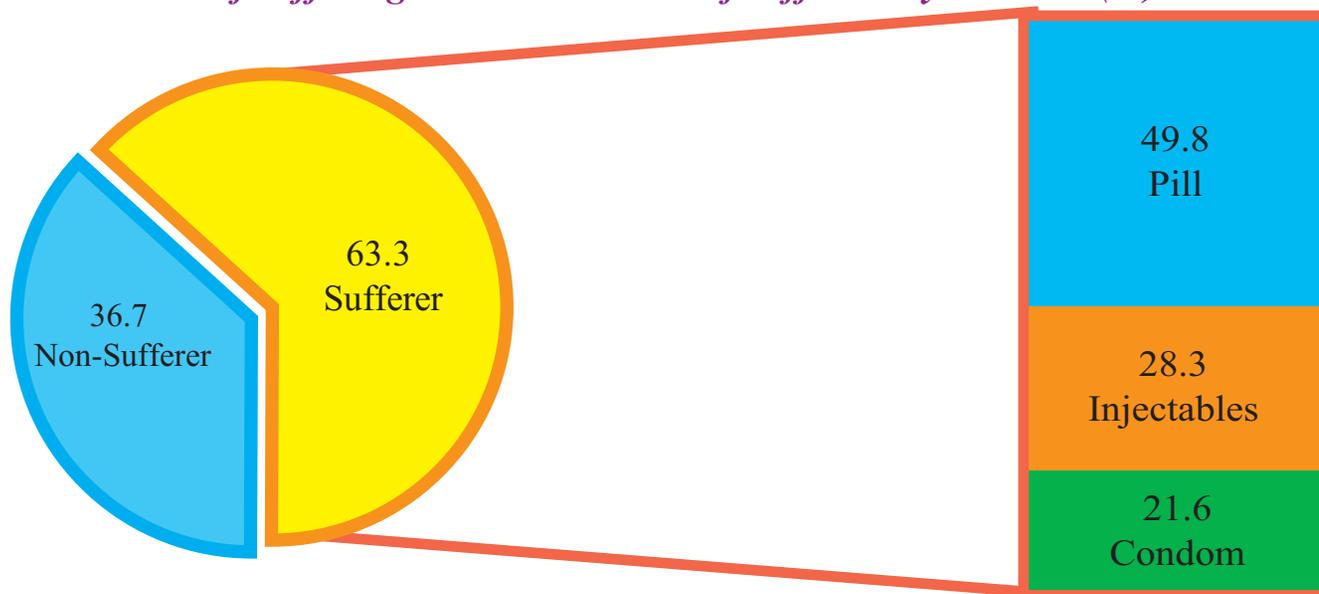
Figure 1: User-Sufferer Tree (oral pill, injectables, condom)



Demographic and Socio-economic Characteristics of Sufferers: The average age of the sample users is 32 years. The average household size of 'suffering household' is 4.5. About 76% are literate and 24% illiterate. Illiteracy is higher pronounced among female members (56.5%) than that among male members (43.5%). About 77% of households can meet their educational expenses, and 52% can meet medical expenses. The average yearly income per household is Taka 66,826, which is less than Taka 50,000 for 50.2% of the suffering households.

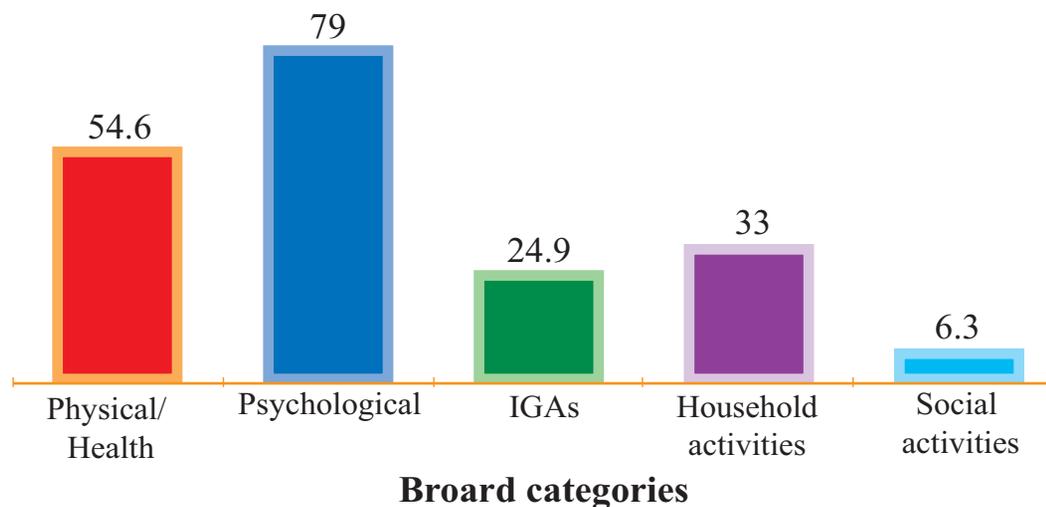
Sufferers of contraceptive stock/shortage by methods: Overall 11.8% of the users (324 cases out of 2,756 interviewed) faced irregular supply. Out of these 324 cases, 63% (205) suffered from different ailments like physical, psychological, social and had a loss in their income. Among the sufferers, majority (49.8%) suffered due to stock out/shortage/irregular supply of pill, followed by injectables (28.3%) and condom (21.9%) (Figure 2).

Figure 2: Status of sufferings and distribution of sufferers by methods (%)



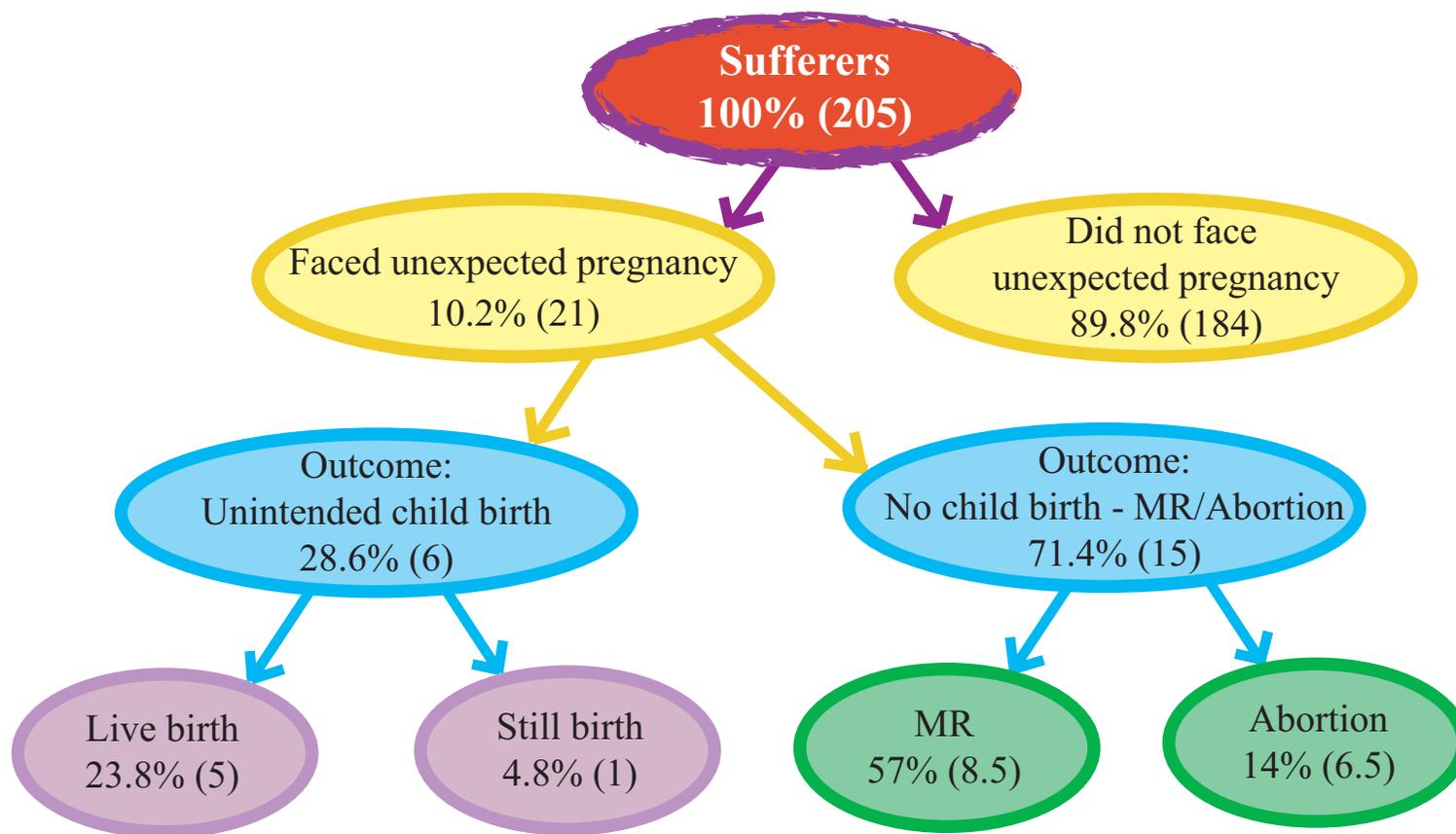
Ailments and set-backs of Sufferers: Of the users who were facing the irregular supply, about 63% suffered from different dimensions of ailments and set-backs in physical, psychological, social, income generating, and household related activities. Out of these 205 sufferers, about 55% suffered physically. Among the physical sufferings, headache has been reported as the prime cause of physical sufferings (18.9%), followed by general weakness (15.3%). Each physical sufferer suffered from more than one ailment. About 79% suffered psychologically. 'Anxiety and fear of being pregnant' had been found to be one of the two major causes of psychological sufferings. About 25% faced problems regarding income generating activities (IGAs), 33% from household related activities, and 6% from activities related to social activities (Figure 3). In IGAs, the most frequent loss happened from the absence from the non-agricultural sector. Each sufferer suffered from more than one problem regarding IGAs. About 31% of the total sufferers incurred medical costs due to their physical or health related problems/sufferings. Medicine was found as the major cost item and transportation costs the second. More than one alternative sources of having FP methods were mentioned by each sufferer.

Figure 3: Distribution of sufferers by broad type of sufferings (%)



Pregnancy and related problems: Among the total sample contraceptive users 0.8% (21 out of 2,756) or, in other words, 10.2% of the 205 sufferers suffered from unexpected pregnancy. Among the 21 sufferers of unexpected pregnancy 28.6% gave birth to child, of which four-fifths were live birth. Among the rest 71% who didn't give child birth, 14% resorted to abortion and 57% undergone MR (Figure 4).

Figure 4: Unexpected pregnancy and related outcomes of the sufferers (%)



Method change due to shortage/stock-out/irregular supply: Among the sufferers of shortage, stock-out and irregular supply 39% has changed the method. This is 25% in pill users, 53% in injectables users, and 53% in condom users (Table 1).

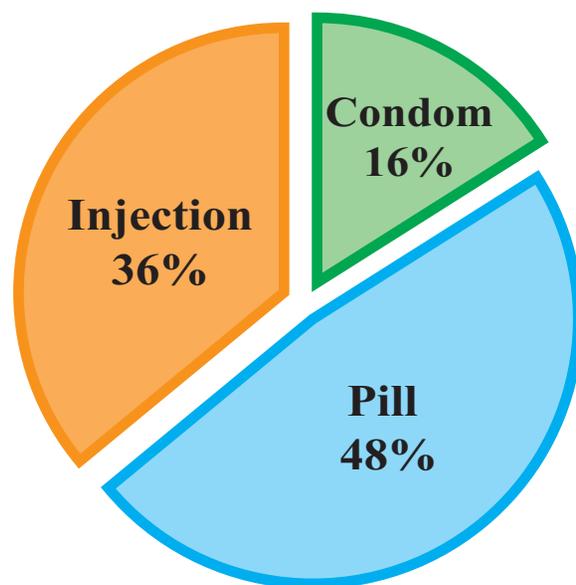
Table 1: Percentage distribution of sufferers by method change/switch

Methods	Sufferers	Methods changed	Method changed as % of sufferers
Pill	102	25	24.5
Injection	58	31	53.4
Condom	45	24	53.3
Total	205	80	39.0

Income Loss to Sufferers: About 64% of the total sufferers lost some portion of their net income. The average net annual income loss per sufferer amounted to *Taka* 911. Among the income losers, 70% lost less than *Taka* 1,000. The highest loss incurred was found for the stock-out of oral pill (48.4%), followed by injectables (36%) and condom (15.6%) respectively (Figure 5).

In terms of method wise income loss, it was found that income loss of injectables sufferers per suffering was the highest (*Taka* 1,050 per sufferer), pill the second (*Taka* 874 per sufferer), and condom the lowest (*Taka* 774 per sufferer).

Figure 5: Percentage distribution of income loss by methods



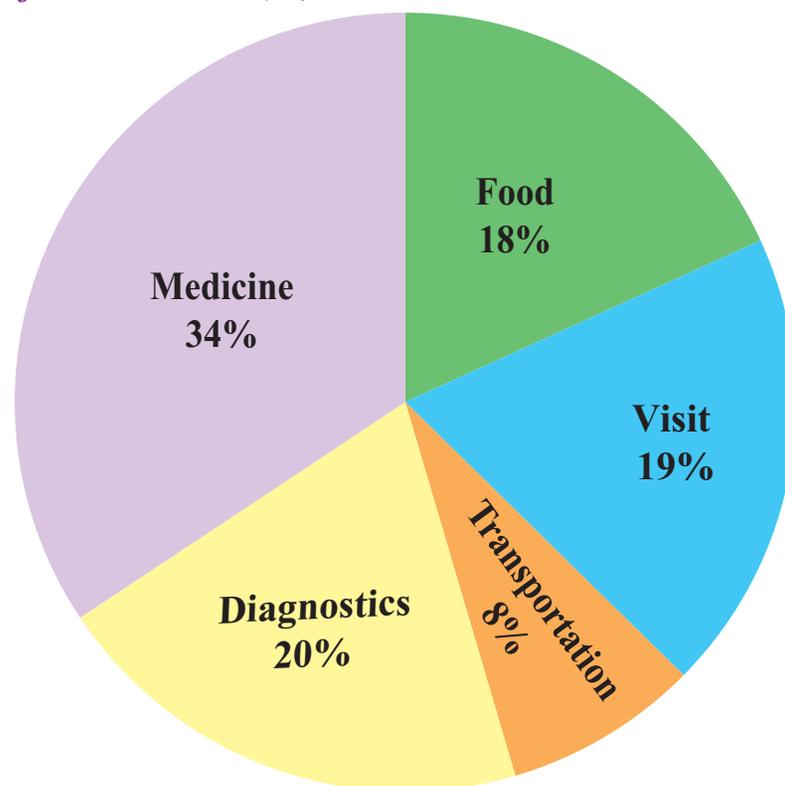
Impact of Shortage/Stock-out/Irregular supply on National Economy

The estimated annual total number of users suffering from stock out/shortage/ irregular supply of three major family planning commodities (oral pill, injectables, and condom) is 1.54 million in Bangladesh. Nationally, estimates show that the total loss of time of the sufferers (during last year) would be about 4,275 million hours. The money value of this hour lost would be *Taka* 60,932 million (US\$ 870 million).

Estimation Formula: National Counts = (Events within sample * Multiplier)/
Sample FWA units * Total FWA units in Bangladesh
Average hourly wage rate = Tk. 14.25

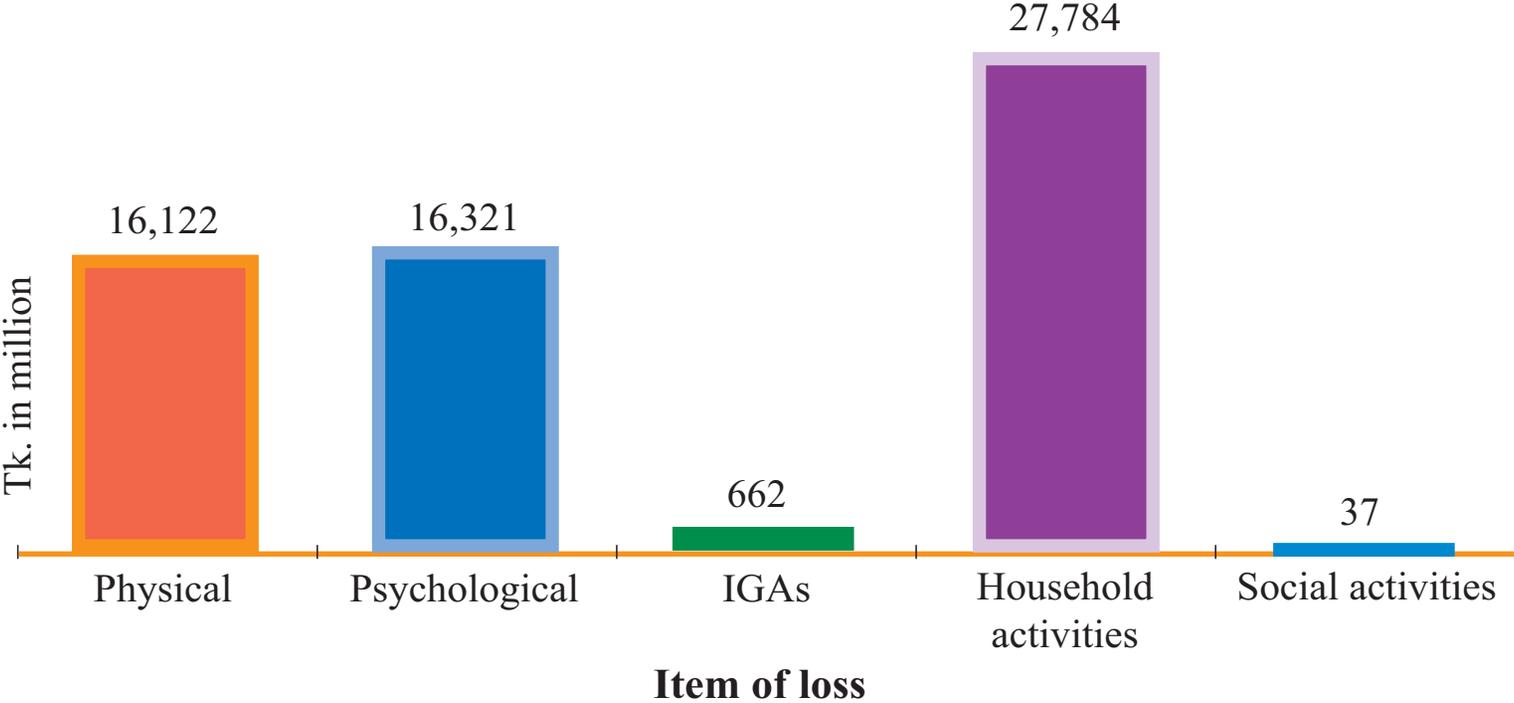
Average loss of net income per suffering household due to shortage/stock out/ irregular supply of 3 FP methods amounted to *Taka* 911 with *Taka* 42,766 per FWA unit. For national count with a multiplier of 23,500 (FWA units) this came to *Taka* 1,005 million (US\$ 14.36 million) for the sample period. This was direct loss of income due to shortage/stock out/ irregular supply. 'Medical cost', at the national level, incurred due to shortage/stock out/ irregular supply amounted to *Taka* 629 million (US\$ 9 million). Medical costs include visit, transportation, medicine, diagnostics, and food. The highest medical cost incurred was for 'medicine' (34%), followed by 'diagnostics' (20.5%). Distribution of medical cost is shown in Figure 6.

Figure 6: Distribution of medical cost (%)



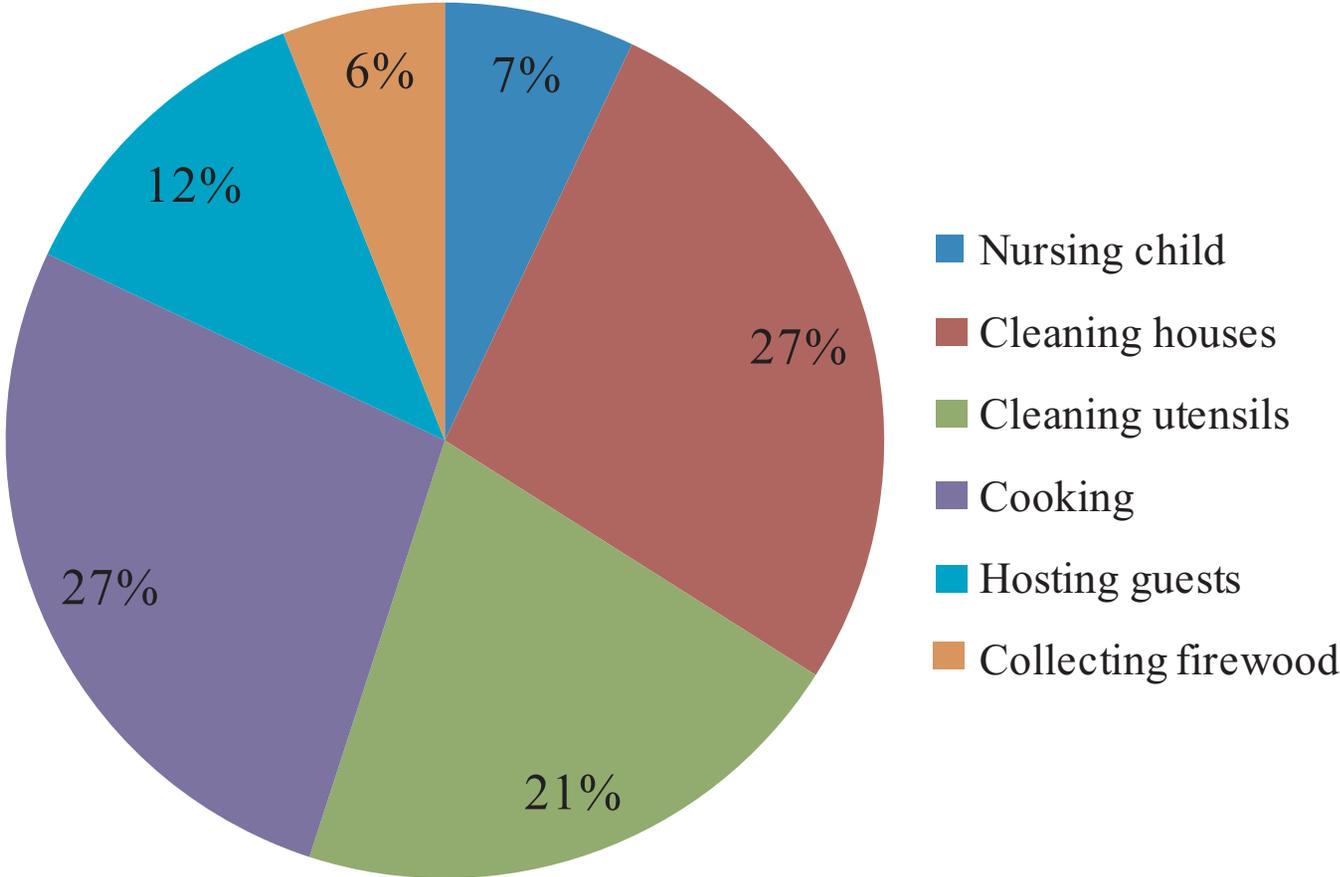
Money value of loss of time from 'physical or health related problems' amounted to *Taka* 16,123 million (US\$ 230.32 million). Cost of time of those suffered 'psychologically' amounted to *Taka* 16,326 million (US\$ 233 million). Money value of loss of time of the sufferers from disruption of 'income generating activities (IGAs)' amounted to *Taka* 662 million (US\$ 9.45 million). Cost of loss of time due to 'disruption of household related activities' amounted to *Taka* 27,784 million (US\$ 397 million). And, cost of loss of time due to 'disruption of social activities' amounted to *Taka* 37 million (US\$ 0.52 million). For share of total loss (in million *taka*) by broad categories of sufferings Figure 7.

Figure 7: Share of total loss by broad categories of sufferings



Again, loss from households activities occur in 6 elements. The pattern of distribution of the loss from household activities is shown in Figure 8.

Figure 8: Pattern of distribution of the loss from household activities (in %)



Adequacy of Financial Support and Priority of Health, Nutrition and Population Sector

Programme (HNPSP): It is well-established that the government has brought the Ministry of Health and Family Welfare under Medium Term Budgetary Framework (MTBF) from 2006-07 to carry on a major thrust on Health-Nutrition-Population Sector. However, on close examination of R-ADP allocations and expenditures for last 3 years from FY 2005-06 to FY 2007-08 for the national FP Programme a quite different scenario had been captured. Allocation of fund was erratic with rise and fall - from *Taka* 9767.10 million in FY 2005-06 to *Taka* 12153.94 million in FY 2006-07 (an increase of 24.44%) to *Taka* 9,633.62 million in FY 2007-08 (a decline of 21.26%). Again, allocations/expenditures for contraceptive procurement under non-development budget were 'Zero'. The pattern of financing for DDS kits, allocations under development budget (for last 3 years) fluctuated beyond a reasonable degree - from "0.0" (in FY 2005-06) to *Taka* 968.90 million (in FY 2006-07), and *Taka* 134.21 million (FY 2007-08). Allocation for DDS kits under non-development budget was 'nil' in FY 2007-08. The scenario in its totality gives an impression of infinite uncertainty in procurement planning. The result was shortage/stock-outs/irregular or delayed supply from time to time (Tables 2 and 3).

Table 2: Trends in allocation and expenditure for national FP programme*(in million taka)*

Financial years (FY)	Total Allocation for FP Programme			Total Expenditure FP Programme and % of allocation		
	Development	Non-development	Total	Development	Non-development	Total Expenditure (% of allocation)
2005-06	4510.10	5257.0	9767.1	2971.55	4635.55	7607.10 (77.88%)
2006-07	5648.73	6505.21	12153.94	4763.65	5733.02	10496.67 (86.36%)
2007-08	3300.89	6332.73	9633.62	2716.46	5524.94	8241.40 (85.55%)
3 years	13459.72	18095.03	31554.67	10451.66	15893.51	26345.17 (83.49%)

Table 3: Trends in allocation and expenditure on contraceptives in national FP programme*(in million taka)*

Financial years (FY)	Allocation for contraceptives			Expenditure for contraceptives & % of allocation		
	Development	Non-development	Total	Development	Non-development	Total (% of allocation)
2005-06	951.54	0.0	951.54	281.53	0.0	281.53 (29.59%)
2006-07	3406.45	0.0	3406.45	2964.37	0.0	2964.37 (87.02%)
2007-08	1470.20	0.0	1470.20	1360.20	0.0	1360.20 (92.52%)
3 years	5828.19	0.0	5828.19	4606.10	0.0	4606.10 (79.03%)

The government of Bangladesh spends not more than US \$ 5 per capita annually for HNPS services which is meager to the ever growing needs of an expanding population. Although, the issue of how much money is needed for what purpose is debatable, the central point focused was absorption capacity and efficiency of spending the available resources. Pouring in more resources may not be much difficult for Health-Population sector-wide programme, but the real difficulty lies with management efficiency to get the investment hit at the bottom, where it is needed most, to ensure services to the rural poor.

Key Learning:

The key learnings of this study to ascertain the human and economic impact of stock-out/shortage/irregular supply of the three family planning commodities (oral pill, injectables, and condom), and its impact on national economy during last one year are as follows:

- The total number of users who have suffered from stock out shortage irregular supply of oral pill, injectables and condom in the last year would be 160,585 persons in Bangladesh.
- During the last year (preceding the survey), 7.4% of the users of oral pill, injectables, and condom faced shortage/stock-out/irregular supply. Nationally, the estimates show that the total loss of time of the sufferers during that period for these problems would be about 4,275 million hours, money value of which amounted to *Taka* 60,932 million (US\$ 870 million).

- Number of 'unexpected pregnancy' due to shortage/stock out/ irregular supply of these 3 methods have been calculated at 159,800, of which 90,240 went for MR and 22,560 went for abortion. The rest 47,000 were 'additional child birth' due to 'unexpected pregnancy', which had contributed to the incremental population during last year.
- There are 19 steps in the Procurement process which take 18 to 24 months and there is lack of proper forecasting mechanism for projection of procurement needs 2 years ahead.
- There is acute shortage of field staff for motivation and service-delivery, and they lack in spirit, motivation and skill-based training.

The programme requires multiple inputs and safeguards from different authorities to reach a sustainable level.

Recommendations

Sufferer's Opinion

- Authorities should supply RH-FP commodities in sufficient quantity on regular basis.
- FWAs and other field staff should not charge money for providing injectables, oral pill, and condom.
- Home delivery and/or Depot holder system (nearest to clients' house) should be established to make RH commodities readily available in times of need.
- Supervision of field staff by responsible supervisors should be geared up.

Service Provider's and Manager's Opinion

- Simplification of procedure for procurement in minimum time is extremely important to avert stock-out situation.
- An appropriate forecasting mechanism of actual needs of RH-FP commodities must be evolved and set-up.
- The logistics system as a part of the entire gamut of organization-management services system should be developed for Health-Nutrition-Population planning and implementation.



Summary of Recommendations

- **Streamline** procurement system and make the procedure simpler - reduce steps of bureaucratic bottlenecks, cumbersome and time-consuming formalities.
- **Effect** need-based, bottom-up procurement plan.
- Like the other issues, '**Population problem**' should be focused as a major national issue.
- **Encourage, promote/patronize for local production** of quality FP-RH commodities, particularly contraceptives such as pill, condom, injectables etc. in public and private sectors to procure it locally.
- **Empower District FP Authorities** to make local procurement of available RH commodities to meet shortages in the supply line/stocks urgently.
- **Allocate fund from Revenue Budget** of the government for procurement/production of RH commodities to reduce donor-dependence with the objective of achieving self reliance and sustainability.
- **Establish a sound monitoring system**, a forecasting mechanism of procurement and supply.
- **Ensure training and re-training** of field functionaries to build up their work skill (motivation, service-delivery, record-keeping, reporting, monitoring etc.) and meet the discrepancy of the govt. report and the field reality.
- **Permanent contraceptive methods** should be encouraged.

- **Undertake basic studies** to develop suitable contraceptives suitable for use by the ever growing population of Bangladesh.
- **Undertake separate study** on 'Reasons of irregular supply of FP items at the service delivery points'.
- **Expand and equip storage** facilities to have a capacity for at least 24 months stocks in stores at different levels (regional/local).
- **Increase manpower at the field level** to regularize home visit and to ensure proper service delivery near the door steps of clientele. **Alternatives/options to increase manpower** in the field should also be seriously examined, pilot tested and adopted, if found economically-socially suitable/viable.
- **Utilize the services of NGOs in service delivery and monitoring** where there is shortage in manpower to strengthen home visit and service delivery.
- **Strengthen FP programme by professional people** (population-FP) of the Department (cadre) to get the best out of present day bureaucracy, democratic culture and specialization.

In view of the findings of the study and recommendations by Programme Managers, Service Providers and Clients, the study team suggest to institute a full-fledged Project Resource Mobilization and Awareness (PRMA) Unit for effective monitoring of procurement and supply activities of RH-FP commodities. PRMA may also be given the responsibility of advocacy at various levels. The study team also suggests a time-bound implementation plan for implementation of all feasible recommendations for the greater interest of the nation.



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