



**Support to the Health, Nutrition
and Population Sector Programme
in Bangladesh
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Component A:
Health Financing

**Annex 14
Cost and Financing of SSK Pilot Implementation**

Descriptive Analysis

(Update as per October 2013)

Presented to:

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1 GENERAL REMARKS

Preface

The cost calculations have been made under large uncertainties. This is why we included a large contingency and generous reserve in it. Nevertheless, we think that the two key figures: a KfW commitment of EUR 8 million on the one hand and the target population of roughly 95,000 households allow an inclusion of inpatient and outpatient care. This will be specified later in this paper.

Contribution

The contribution specified covers the costs of health care only, not administration costs. It was calculated based on two elements:

- Detailed costing per case of 50 inpatient diagnoses, done in a working group convoked by HEU in March 2013. This costing included drug costs, co-payment for diagnostics as well as a lump sum for referral, if needed.
- Frequency of these diagnoses in Bangladesh based on MoHFW data from 2010.
- Focus on inpatient care.

The frequency of hospitalization in UHC was 1% of the population. This gives room for further admissions, as international experiences show that a frequency of 3% can be assumed under normal circumstances (ability to pay).

The costing exercise came to the result that for the items mentioned above the annual costs per household are around 120 Taka. If we assume an increase from 1% admission to 3%, we have total costs of 360 Taka per household per year. If we further include some leverage for changed prescription patterns, we can assume 500 Taka costs per year.

Experiences from Pakistan and India show that if we include outpatient care, we have to double the costs. Also a look at the NHA per capita health expenditure shows that outpatient is nearly exactly 50% of total costs. This would mean that we arrive at a number of 1,000 Taka per household per year if we include both, inpatient and outpatient care, and the covered items mentioned above (drug costs, co-payment for diagnostics, and referral transportation).

Administration costs

The administration costs we calculated are about 28% of the total costs (in case we include inpatient and outpatient care). The share is significantly higher if we include inpatient care only. These costs are subject to significant economies of scale once the size of the covered population should be expanded, especially, the IT costs. By then, we will arrive at a share of below 20%, which is pretty much standard for this type of insurance in developing country settings.

If we go into the details of the administration costs, the IT costs are by far the largest part of the costs with about 50% of total administration costs. The second largest share is the expense for contracting the scheme operator with another 20%. The rest of the costs are equipment, salaries and material. In total, the administration costs are around EUR 160,000. The costs have little or no elasticity when it comes to provide inpatient only instead of inpatient and outpatient.

It was assumed that 85% of the total administration costs go to the scheme operator and 15% are for the SSK Cell. This is a usual split between HQ and field arrangements in insurance administration.

IT

The largest part of the IT costs is software. Total costs are about EUR 425,000 out of which EUR 140,000 only is hardware. In addition to that, there are around EUR 100,000 costs for purchasing smart cards. The investment is divided into two phases, the first of which contains about EUR 250,000 to support the launch of activities, and a second phase after 2 years with EUR 175,000, which is planned for functional refinements.

Upgrading of UHCs

Upgrading UHCs consists of equipment and construction and training. We assumed EUR 200,000 costs for equipment and construction per UHC (which includes purchase of a modern ultrasound, an X-ray machine, laboratory equipment, refurbishing and equipment for the operation theatre. The current equipment of the UHCs is old and partly not functional. However, we will have to check, because some equipment was already purchased and stands, still wrapped, in the corridors. For training our assumption is EUR 40,000 per facility, where we assumed 2 consultant months of international trainers per facility.

Contingencies and Reserves

The calculations bear a huge part of contingencies. The project will have reserves for additional households to cover about EUR 1.5 million (if we assume inpatient and outpatient coverage), the costing of the contribution incorporates a reserve, and we have an explicit contingency of EUR 666,000. These reserves are even larger if we cover inpatient only (EUR 3,75 million). Table 1 gives an overview.

Table 1: Calculation of Reserve

	<i>Calculation of Reserve</i>	
	IPD and OPD	IPD only
Contribution	4.009.795,92 €	2.004.897,96 €
Administration	1.776.351,42 €	1.776.351,42 €
Subtotal	5.786.147,34 €	3.781.249,38 €
Contingencies	665.962,10 €	465.472,31 €
Total	6.452.109,44 €	4.246.721,69 €
Total Budget	8.000.000,00 €	8.000.000,00 €
Reserve	1.547.890,56 €	3.753.278,31 €

These contingencies are helpful for several reasons:

1. The development of the costs of the benefit package is uncertain.
2. An expansion of the scheme to paying members would be very much welcome.
3. An expansion of the successful model to further Upazilas after a trial period of 2-3 years would be good.



2 REMARKS ON THE SPREADSHEET

2.1 Costing Table

This spreadsheet included two tables: The costing of a pilot focusing on inpatient care only, and a pilot including inpatient and outpatient benefits. Each table has four sections: contribution, administration costs, UHC upgrading costs, and contingencies. It also shows how many additional households could be covered with the EUR 8 million provided by KfW.



Table 2: Costing Table

	Cost Estimate Inpatient and Outpatient Care							
	Expenditures			KfW		GoB		
	BDT	€	%	BDT	€	BDT	€	
Contribution for the poor, net of administration costs	400.979.592 BDT	4.009.796 €	60,3%	400.979.592 BDT	4.009.796 €	0 BDT	- €	
Administration								
SSK Cell administration	6.923.537 BDT	69.235 €	1,0%	3.854.063 BDT	38.541 €	3.069.474 BDT	30.695 €	
Contract with scheme operator (insurance) 1)	42.651.547 BDT	426.515 €	6,4%	42.651.547 BDT	426.515 €	0 BDT	- €	
Research 2)	20.000.000 BDT	200.000 €	3,0%	20.000.000 BDT	200.000 €	0 BDT	- €	
IT in SSK and hospitals (including smart cards)	52.244.900 BDT	522.449 €	7,9%	52.244.900 BDT	522.449 €	0 BDT	- €	
International Audit	10.000.000 BDT	100.000 €	1,5%	10.000.000 BDT	100.000 €	0 BDT	- €	
Subtotal	532.799.576 BDT	5.327.996 €	80,1%	529.730.102 BDT	5.297.301 €	3.069.474 BDT	30.695 €	
Other								
Rehabilitation UHC	72.000.000 BDT	720.000 €	10,8%			72.000.000 BDT	720.000,00 €	
Contingencies	60.479.958 BDT	604.800 €	9,1%	60.479.958 BDT	604.800 €	0 BDT	- €	
Total	665.279.534 BDT	6.652.795 €	100,0%	590.210.060 BDT	5.902.101 €	75.069.474 BDT	750.695 €	
Reserve for additional target population					2.097.899 €			
Further target population (households)					52.447			



Cost Estimate Inpatient Care only

	Expenditures			KfW		GoB	
	BDT	€	%	BDT	€	BDT	€
1 Contribution for the poor, net of administration costs	200.489.796 BDT	2.004.898 €	30,1%	200.489.796 BDT	2.004.898 €	0 BDT	- €
2 Administration							
2.1 SSK Board administration	6.923.537 BDT	69.235 €	1,0%	3.854.063 BDT	38.541 €	3.069.474 BDT	30.695 €
2.2 Contract with scheme operator (insurance) 1)	42.651.547 BDT	426.515 €	6,4%	42.651.547 BDT	426.515 €	0 BDT	- €
2.3 Research 2)	20.000.000 BDT	200.000 €	3,0%	20.000.000 BDT	200.000 €	0 BDT	- €
2.4 IT in SSK and hospitals (including smart cards)	52.244.900 BDT	522.449 €	7,9%	52.244.900 BDT	522.449 €	0 BDT	- €
2.5 International Audit	10.000.000 BDT	100.000 €	2,2%	10.000.000 BDT	100.000 €	0 BDT	- €
3 Subtotal	332.309.780 BDT	3.323.098 €	50,0%	329.240.306 BDT	3.292.403 €	3.069.474 BDT	30.695 €
4 Other							
4.1. Rehabilitation UHC	72.000.000 BDT	720.000 €	10,8%			72.000.000 BDT	720.000,00 €
4.2. Contingencies	40.430.978 BDT	404.310 €	9,1%	0 BDT	404.310 €	0 BDT	- €
Total	444.740.758 BDT	4.447.408 €	66,9%	329.240.306 BDT	3.696.713 €	75.069.474 BDT	750.695 €
5 Reserve for additional target population					4.303.287 €		
5.1 Further target population (households)					107.582		

Explanations

total population in 3 pilot Upazilas 1.075.490
 BPL population in 3 Pilot Upazilas 430.196
 total households in 3 Pilot Upazilas 238.935
 BPL households in 3 Pilot Upazilas 95.574
 exchange rate: 1€ = x BDT 100

1) Includes part of IT costs and smart cards
 2) Includes Baseline, midterm review and endterm evaluation

2.2 Contributions

The contributions were calculated as shown in the general remarks, for inpatient and outpatient separately. An inflation rate of 20% was assumed in line with the general inflation in Bangladesh, and international experience with medical inflation. The factor for costing is calculated in relation to the coverage achieved in each year. It is necessary to assign shares of the overhead to each of the project years.

The total contribution costs are charged to the Development partner, not to GoB. However, it should be taken into account that the Government of Bangladesh after the end of the project is expected to take over the respective payments. This is why also a step-by-step involvement of the Government of Bangladesh in the contribution payment could be considered.

Table 3: Contribution Calculation

Estimate of Contributions needed over 4 Years

Inpatient and Outpatient							
	Contribution	Households	Total Taka	Total Euro	Factor for Costing	DP	GOB
Year 1	1.000,00	20.000,00	20.000.000,00	204.081,63 €	0,21	204.081,63 €	
Year 2	1.200,00	60.000,00	72.000.000,00	734.693,88 €	0,63	734.693,88 €	
Year 3	1.440,00	95.000,00	136.800.000,00	1.395.918,37 €	1,00	1.395.918,37 €	
Year 4	1.728,00	95.000,00	164.160.000,00	1.675.102,04 €	1,00	1.675.102,04 €	
Total			392.960.000,00	4.009.795,92 €	2,84	4.009.795,92 €	- €

Inpatient only							
	Contribution	Households	Total Taka	Total Euro	Factor for Costing	DP	GOB
Year 1	500,00	20.000,00	10.000.000,00	102.040,82 €	0,21	102.040,82 €	
Year 2	600,00	60.000,00	36.000.000,00	367.346,94 €	0,63	367.346,94 €	
Year 3	720,00	95.000,00	68.400.000,00	697.959,18 €	1,00	697.959,18 €	
Year 4	864,00	95.000,00	82.080.000,00	837.551,02 €	1,00	837.551,02 €	
Total			196.480.000,00	2.004.897,96 €	2,84	2.004.897,96 €	- €

2.3 Investment Costs

Table 4: Investment

	Cost/item	No.	Estimate of Investment Costs			IT Total	Smart Cards	Admin Other
			Total	DP	GOB			
Hardware IT	140.000,00 €	1,00	140.000,00 €	140.000,00 €		140.000,00 €		
Vehicle	30.000,00 €	4,00	120.000,00 €	120.000,00 €			120.000,00 €	
Smart Cards	1,00 €	95.574	95.574,00 €	95.574,00 €		95.574,00 €		
Motorcycle	1.000,00 €	5,00	5.000,00 €	5.000,00 €			5.000,00 €	
Copyer	1.000,00 €	4,00	4.000,00 €	4.000,00 €			4.000,00 €	
Telephone/Fax	150,00 €	20,00	3.000,00 €	3.000,00 €			3.000,00 €	
Software	286.875,00 €	1,00	286.875,00 €	286.875,00 €		286.875,00 €		
Total			654.449,00 €	654.449,00 €	- €	426.875,00 €	95.574,00 €	132.000,00 €

The investment costs include IT hardware and software, vehicles and office equipment. The vehicles were calculated according to the needs of visiting pilot sites. The IT costs are linked to the specific table on IT.

2.4 Operation Costs

The operation costs are calculated for the entire administrative setup, including SSK Cell and Scheme Operator (SO) as well. In the second table, the total costs are separated 20%:80%. This means that it is assumed that SO costs 80% of the total and SSK Cell 20%. This is in line with international experiences. The staff numbers (30) as well as the Square Meters are also based on international experiences and relationships insured to staff or staff to surface (8,500 insured per staff, roughly 15 square metres per staff). The estimates for gasoline, electricity and material are international experiences.

Table 5: Operations

Estimate Operational Costs over 4 Years

	Item	Explanation	Costs/Item	Number	Number Years	Total Costs (TK)	Total Costs €
Staff	Salary year	average	900.000,00	30,00	2,84	76.736.842,11	767.368,42
Rent	Sqare Meter	rent per SM year	4.000,00	400,00	2,84	4.547.368,42	45.473,68
Electricity, maintenance	costs per SM	10% per SM rent	400,00	400,00	2,84	454.736,84	4.547,37
Gasoline	Liters	Liters per year	98,00	2.000,00	2,84	557.052,63	5.570,53
Material	costs per office		20.000,00	4,00	2,84	227.368,42	2.273,68
Telephone	costs per office		5.000,00	4,00	2,84	56.842,11	568,42
Subtotal						82.580.210,53	825.802,11
Investment Costs (without IT)							132.000,00 €
Total Operational							957.802,11 €

Breakdown Costs

	Staff		Admin+Investment		Other		Total DP	Total GOB	Total
	Total €	%	Total €	%	Total €	%			
SSK Cell	153.473,68	20%	38.086,74	20%			38.086,74	153.473,68	191.560,42
Contract Insurance	613.894,74	80%	152.346,95	80%			766.241,68		766.241,68
Research					200.000,00	40%	200.000,00	-	200.000,00
International Audit					100.000,00	60%	100.000,00	-	100.000,00
Total	767.368,42	100%	190.433,68	100%	300.000,00 €	100%	1.104.328,42	153.473,68	1.257.802,11

2.5 Capacity building UHC

The capacity building costs for UHC are composed of equipment and training. Training costs include international experts and assume a need of 2 person months per UHC. The equipment costs are based on world market price estimates for ultrasound, x-ray, operation theatre equipment, and laboratory equipment, taking into account that some of the existing equipment is still usable. Total budget assumed per UHC is 240.000 €.

Table 6: Capacity Building UHC

	Equipment and Construction	Capacity Building UHC		DP	GOB
		Training	Total		
Year 1	50.000,00 €	20.000,00 €	70.000,00 €		70.000,00 €
Year 2	150.000,00 €	30.000,00 €	180.000,00 €		180.000,00 €
Year 3	250.000,00 €	50.000,00 €	300.000,00 €		300.000,00 €
Year 4	150.000,00 €	20.000,00 €	170.000,00 €		170.000,00 €
Total	600.000,00 €	120.000,00 €	720.000,00 €	- €	720.000,00 €
Per UHC	200.000,00 €	40.000,00 €	240.000,00 €		

2.6 IT Costs

The IT costs are based on a detailed costing of items and staff capacity needed. 2 phases of building up the IT system are foreseen: the first one for start-up of operation, the second one for a refinement of the system. The detailed cost assumptions are covered and discussed in a separate document that is also the basis for the ToR for the procurement ("IT Study - Notes on Procurement Budget ToR").

Table 7: IT Costs

Modules / Phases	Software	Hardware	Total	Cost share
Total Phase 1	191.405 €	60.000 €	251.405 €	58,9%
Total Phase 2	95.470 €	80.000 €	175.470 €	41,1%
	286.875	140.000	426.875	
Total	€	€	€	100,0%

2.7 Disbursement Plan

The disbursement plan has been calculated for inpatient and outpatient. It is based on the estimated coverage (can be seen in the contribution table). It also shows the disbursement by payer.

Table 8: Disbursement Plan

Disbursement Plan Inpatient and Outpatient									
	Premium	%	Investment	Operations	CB UHC	Total	Total DP	Total GOB	Quarterly KfW
Year 1	204.081,63 €	5%	26.590,44 €	64.016,80 €	70.000,00 €	364.688,88 €	286.877,71 €	77.811,16 €	71.719,43 €
Year 2	734.693,88 €	18%	95.725,59 €	230.460,48 €	180.000,00 €	1.240.879,95 €	1.032.759,77 €	208.120,18 €	258.189,94 €
Year 3	1.395.918,37 €	35%	181.878,62 €	437.874,92 €	300.000,00 €	2.315.671,91 €	1.962.243,57 €	353.428,34 €	490.560,89 €
Year 4	1.675.102,04 €	42%	218.254,35 €	525.449,90 €	170.000,00 €	2.588.806,29 €	2.354.692,28 €	234.114,01 €	588.673,07 €
Total	4.009.795,92 €	100%	522.449,00 €	1.257.802,11 €	720.000,00 €	6.510.047,02 €	5.636.573,34 €	873.473,68 €	352.285,83 €

Disbursement Plan Inpatient only									
	Premium	%	Investment	Operations	CB UHC	Total	Total DP	Total GOB	Quarterly KfW
Year 1	102.040,82 €	5%	26.590,44 €	64.016,80 €	70.000,00 €	262.648,06 €	184.836,90 €	77.811,16 €	46.209,22 €
Year 2	367.346,94 €	18%	95.725,59 €	230.460,48 €	180.000,00 €	873.533,01 €	665.412,83 €	208.120,18 €	166.353,21 €
Year 3	697.959,18 €	35%	181.878,62 €	437.874,92 €	300.000,00 €	1.617.712,72 €	1.264.284,39 €	353.428,34 €	316.071,10 €
Year 4	837.551,02 €	42%	218.254,35 €	525.449,90 €	170.000,00 €	1.751.255,27 €	1.517.141,26 €	234.114,01 €	379.285,32 €
Total	2.004.897,96 €	100%	522.449,00 €	1.257.802,11 €	720.000,00 €	4.505.149,06 €	3.631.675,38 €	873.473,68 €	226.979,71 €



3 CONCLUSION

In total, the approach is very prudent given the unknown potential for cost expansion and the need for further improvement. We think that the cost items are calculated based on all information available to us. In this context, it has to be mentioned that the data situation is more than difficult. For most of the items there were no exact parameters that would allow an exact costing. Nevertheless, we think that the approach we have is credible.