

# Budgeting and Resource Mapping Tools for GFF Investment Cases

---

## Contents

Budgeting and Resource Mapping Tools for GFF Investment Cases .....	1
1. Context.....	1
2. Objective of Costing and Resource Mapping in GFF Investment Cases.....	2
3. Costing Methodologies in GFF Investment Cases.....	2
3.1. Costing Approaches .....	2
3.2. Lessons Learnt.....	4
3.3. Key Recommendations .....	6
4. Resource Mapping Methodologies in GFF Investment Cases.....	6
4.1. Resource Mapping Approaches .....	6
4.2. Lessons Learnt.....	7
4.3. Key Recommendations .....	12
5. Bibliography .....	13
6. Annexes.....	13

## 1. Context

In healthcare, since the beginning of the 2000s over dozens of costing and budgeting tools have come out, partly to support the Millennium Development Goals (MDG) and the implementation of Universal Health Coverage (UHC). A given costing tool may be more adequate than another depending on the final objective of the user or type of output needed.

A growing number of Global Financing Facility (GFF) countries are working on investment cases of Reproductive, Maternal, New-born, Child and Adolescent Health (RMNCAH). Costing is usually a key step in the development of investment cases. At the onset of the investment case, the national GFF platform identifies a set of RMNCAH priorities/interventions which will address RMNCAH bottlenecks among certain geographical areas or populations. Once identified, the interventions are costed. A final step is to conduct resource mapping exercises in order to assess financial gaps on the given RMNCAH interventions and identify complementary financing (e.g., re-alignment of external funding around priorities) and/or domestic resource mobilization options (e.g., gain efficiency reforms) to close any potential financial gap.

While costing and resource mapping exercises encompass very straightforward methodologies, their implementation requires some guidance to smoothen their process at country level. Two detailed reviews of costing tools are available online (PMNCH, 2016; University of Washington, 2013). The reviews explain the background, intended use, type of data requirements and computing details for each tool. For the purpose of the investment case, three types of costing approaches have been used which are: OneHealth, Marginal Budgeting for Bottlenecks (MBB) and Activity Based Costing and Budgeting. The goal

of this note is to review the costing and resource mapping tools applied in GFF investment cases, draw lessons learnt and advance key recommendations to better equip GFF platforms conducting such exercises in the future.

## 2. Objective of Costing and Resource Mapping in GFF Investment Cases

The objectives of budgeting an investment case is three-fold: 1) Identify the resources required to implement RMNCAH priorities and their related targets; 2) Assess key cost drivers of the investment case; 3) Conduct economic analysis and examine whether prioritized RMNCAH interventions yield the highest return in terms of number of saved lives. In turn, the resource mapping is to determine resources among donors, governmental authorities and other actors (households, the private sector) matching the budgeted priorities and highlight any potential gap remaining in what has been budgeted in the investment case (see table 1 for more detailed objectives of the resource mapping exercise).

*Table 1. Objective of Costing and Resource Mapping Exercises*

Costing Studies	Objectives of the Resource Mapping
<ol style="list-style-type: none"> <li>1. Assess resource requirements of the investment case (measure actual unit costs and overall budget) at various levels: priorities, provinces, activities and inputs</li> <li>2. Assess key cost drivers of the investment case in order to assess the relevance of costing exercises as well as to anticipate financial gaps</li> <li>3. Conduct cost-effectiveness and benefit analysis and re-assess whether the selected high-priorities interventions is justified</li> </ol>	<ol style="list-style-type: none"> <li>1. Assess proportion of the investment case which is underfunded and assess whether investment cases are realists</li> <li>2. Assess where the funding gap stem from and at which level (priority, province, input levels) in order to identify strategies to address it</li> <li>3. Stand as a starting point for the implementation process and determine complementary financing strategies and domestic resource mobilization strategies to fill out the gap on the short, mid and long terms</li> </ol>

Source: Author

## 3. Costing Methodologies in GFF Investment Cases

### 3.1. Costing Approaches

Two third of GFF countries, that finalized investment cases applied OneHealth to cost their RMNCAH priorities. Some countries combined this with activity budgeting (Kenya, Tanzania, Uganda, Cameroon), one GFF country used the Marginal Budgeting for Bottlenecks (MBB) Toolkit approach (Liberia) in combination with Activities Based Costing (Liberia) and one country applied CORE Cost Revenue Analysis Plus (CORE Plus) with an activity based budgeting exercise. These costing methodologies can be designed as follows, based on a review of costing tools conducted by from Washington University (2013) and the GFF secretariat:

- OneHealth:
  - **What:** One Health is a program-based costing tool for medium term strategic health planning (3-10 yrs) at national level which can be adapted at sub-national level. It costs both system wide (i.e., governance, health financing, logistics, human resources, health information, and infrastructure) and health delivery programs.

- **Output:** OneHealth yields costs and budget breakdown per year, per programme, incremental costs, and also changes in inputs required to meet certain outcome targets.
- **Methodology:** Costs are calculated combining an “intervention approach” and a “health systems approach”. The intervention component includes variable costs associated with service delivery, e.g., drugs and commodities. The health systems component is modelled based on health system needs (using population and geographic norms).
- **MBB:**
  - **What:** The MBB is an excel-based tool focusing on maternal and child health (MCH) services and aims at understanding the costs of scaling up existing MCH services and estimate the impact of a scale up on health outcomes. The tool aims to identify bottlenecks and model impact of reducing them to increase coverage of interventions. It helps users design, plan and budget health programs.
  - **Output:** Marginal/Incremental cost per input, per bottleneck and service delivery mode. Estimates the expected increase in coverage and health outcomes obtained (decrease in mortality, etc.). Calculates the estimated additional (marginal) costs required to scale up existing MCH services.
  - **Methodology:** The user first needs to document the existing budget inputs (using defined categories built in the tool) and health outcomes in the “bottleneck module”. Then, users define priority outcomes and coverage level for those health outcomes. The MBB defines the activities to undertake in order to reach health and coverage targets using built in information on corresponding interventions and their resource requirements and effectiveness. It also identifies strategic changes in the delivery of services and models the consequences of those changes in terms of costs. This step generates new data on costs (including incremental costs), new resource requirement and forms a new budget.
- **Activity-based costing (ABC) and Activity Budgeting:**
  - **What:** Activity budgeting is the simplest budgeting methodology used to predict the costs associated with a particular activity. These costs include labour, materials, and other related expenses. Activities are typically broken down by input costs. Other more sophisticated budgeting methodologies include Activity Based Costing (ABC) which is a method of assigning costs to products or services based on the resources that they consume. ABC is an alternative to traditional accounting in which a business's overheads (indirect costs such as lighting, heating and marketing) are allocated in proportion to an activity's direct costs (The Economist, June 29<sup>th</sup>, 2009)
  - **Output:** Cost per activity, sub-activity, intervention and cost driver.
  - **Methodology:** Both methodologies require the identification of activities. Then, each activity is classified according to the cost hierarchy (i.e. into unit-level, product level and facility level). In the ABC costing methodology, a cost driver is identified for each activity and the calculation of total units of the cost driver relevant to each activity and finally the activity rate is calculated i.e. the cost of each activity per unit of its relevant cost driver (Accounting Explained, 2013)<sup>1</sup>. In practice, investment cases of DRC and Liberia developed a logframe and a detailed workplan which guided the budgeting process. Liberia used an ABC costing methodology and DRC a simple activity budgeting methodology. What Liberia named cost drivers (e.g., HR, policy, grants) is called input in the DRC IC budget.

---

<sup>1</sup> <http://accountingexplained.com/managerial/cost-systems/activity-based-costing>

- **CORE Plus:**
  - **What:** an excel based tool which focuses on the cost of a comprehensive package of health services;
  - **Output:** cost per service, cost per capita, total cost of the package broken down by input, programmatic areas and levels (hospital, PHC and community).
  - **Methodology:** Uses a bottom-up methodology/ingredient costing approach. A normative cost for each intervention in the package is estimated by determining the normative resource requirements (in terms of technical staff for the provision of service, drugs, medical supplies, laboratory tests) and then applying the unit costs of each resource to obtain a unit cost per intervention. In addition, recurrent costs are split across each service proportionally to the time spent by staff. To estimate future use of interventions, the tool uses the target population with the incidence and prevalence rates for each disease.

### 3.2. Lessons Learnt

See tables 2 and 3 in Annex comparing costing methodology, their pros and cons as well as costing outputs in GFF investment cases.

- **One Health:**
  - **OneHealth is very compelling in linking cost of RMNCAH interventions and health outcomes.** In all GFF countries in which OneHealth was used, it showed the reduction of health outcomes with the given budgeted interventions as well as the number of incremental maternal, new-born and child saved lives (see Annexe, Table 4).
  - **OneHealth can help estimate economic return of Maternal and Child Health (MCH) interventions:** Scaling up coverage through the RMNCAH investment framework would confer benefits in terms of child and maternal lives saved. In Kenya, the estimates of additional deaths averted (lives saved) given by OneHealth were used to carry out cost benefit analysis of the investment framework. It was estimated that maternal and child health interventions from the investment case yielded a benefit cost ratio of 3.65<sup>2</sup>. This means that for every shilling invested in maternal and child health, a return of three shillings and 65 cents is obtained.
  - **Interventions can be costed by province (Cameroon), by priority, activity and cost category (Cameroon, Kenya and Tanzania).** For example, in Tanzania, OneHealth provides a clear budget by key result areas, activities and sub-activities for both delivery and health systems strengthening components (See Figure 1). Both Kenya and Cameroon provide an overall breakdown of cost by input, albeit much less detailed than Tanzania.

---

<sup>2</sup> In the cost benefit analysis, several assumptions were used. These were life expectancy of 60 years, productive age starting at 20 years of age, total productivity life of 40 years, discount rate of 3 percent for lives saved, discount rate of 5 percent for investment cost, and Kenya's GDP per capita of 2014 at US\$ 1,338, p.67 of the IC.

Figure 1. Example of Costing Output with OneHealth in Tanzania

6.3 ADOLESCENT REPRODUCTIVE HEALTH								
SN	KEY RESULT AREA	ACTIVITIES	TIME FRAME					TOTAL RESOURCES NEEDED IN US DOLLARS
			2016	2017	2018	2019	2020	
			RESOURCES NEEDED IN US DOLLARS					
6.3.1	KRA 1: Adolescent and Youth Friendly Sexual and Reproductive Health (AYFSRH) including HIV service coverage and FP increased by 2020	Activity 1: Conduct rapid assessment of health programmes with integrated adolescent and youth friendly services based on the national standards.	1,274,171	0	0	0	0	1,274,171
		Activity 2: Survey on barriers to accessing and using adolescent and youth friendly health services	1,277,943	0	0	0	0	1,277,943
		Activity 3: Develop, adapt, and print tools for integrated supportive supervision of adolescent and youth friendly service provision at service delivery points.	56,738	0	0	0	0	56,738
		Activity 4: Develop, adapt, and operationalize a system for outreach, effective referral and networking for adolescent and youth SRH and HIV services.	44,782	4149	12069	12251	7314	80,565

6.9 HEALTH FINANCING FOR RMNCAH								
SN	KEY RESULT AREA	ACTIVITIES	TIME FRAME					TOTAL RESOURCES NEEDED IN US DOLLARS
			2016	2017	2018	2019	2020	
			RESOURCES NEEDED IN US DOLLARS					
6.9.1	KRA 2: Resource tracking on RMNCAH plans and implementation on annual basis implemented from 2016–2020	Activity 2.1: Conduct resource tracking annually national level	20,766	20,766	20,766	20,766	20,766	103,829
		Activity 2.1.2: Conduct resource tracking annually western zone	1,131	1,131	1,131	1,131	1,131	5,657
		Activity 2.1.3: Conduct resource tracking annually Northern zone	1,131	1,131	1,131	1,131	1,131	5,657
		Activity 2.1.4: Conduct resource tracking annually Central zone	1,131	1,131	1,131	1,131	1,131	5,657
		Activity 2.1.5: Conduct resource tracking annually Southern highlands zone	1,131	1,131	1,131	1,131	1,131	5,657

Source: Tanzania Investment Case, 2016

- In a few countries using OneHealth, there were additional budgeting exercises conducted for health system strengthening (HSS) and CRVS (Cameroon, Uganda). It is not clear whether all types of HSS interventions can be input into OneHealth and serve the modelling purposes: can OneHealth input a public finance management or a specific HMIS or CRVS reform and if yes, can OneHealth predict by how much such reforms contribute to improve health outcomes?
- OneHealth requires substantial data requirement and cannot be conducted by Ministries of Health alone. Poor capacity in budgeting and health financing at the level of the MoH is a challenge for budgeting exercise overall. Some of the tools available for costing are very difficult to use: they require a certain level of expertise in epidemiology, financial management and a good command of excel or specific software. Detailed user manuals are available for free. However, all tools require some levels of training, ranging from 5 days (MBB) to 10 days (OneHealth) days. In DRC, the MOH received a 2 weeks training on OneHealth but wasn't able to finalize the costing and had to opt for an activity budget ultimately. In Cameroon, the consultant had 3 weeks to support the MOH in developing the costing of their IC with OneHealth but it was considered insufficient. The time to conduct costing exercises should not be underestimated.
- Likewise, not all GFF countries were able to systematically provide a breakdown of costs by province (Kenya and Uganda) using OneHealth which raises again the question of whether this tool may require substantial data needs to yield such output.
- ABC costing/Activity based budgeting:
  - Clear breakdown of cost for each priority/investment areas and provide detailed budget by activity, input/cost-driver and at province/county level in Liberia and DRC.
  - Can easily be conducted and updated by Ministries of Health.
  - However, such methodologies cannot model impact of RMNCAH interventions costed on health outcomes.
  - Nevertheless, budgeted programmatic areas can be input in LiST (Lives Saved Tools) to measure their impact on health outcomes but require support from a consultant to do so, unless MOHs are conversant with LiST. In the case of DRC, a previous costing study provided the cost of a package of RMNCAH interventions which was input in LiST in order to predict its impact on health outcomes from 2017 to 2021. The assumption was that the RMNCAH package would be scaled up to a coverage of 39% by 2021 (current coverage

being at 27%). Liberia also applied LiST to assess number of incremental maternal, new-born and child saved lives after having conducted an ABC costing of the IC.

- **MBB:**
  - **Was essentially used as an approach for target settings and national costing** in Liberia. The tool has been used several times in Liberia, hence was the preferred approach to cost the IC at national level.

### 3.3. Key Recommendations

**Main option:** Use OneHealth with the support of a STC or a local university and plan for 30 working days.

1. Make sure that all input tables necessary to fill-out OneHealth are clear and shared with the MSP as well as with the GFF secretariat. This will allow both MSP and the GFF Platform to understand the various costing and impact assumptions.
2. Make sure that health systems interventions are input in OneHealth and if not, mention it in the IC and have a separate excel sheet to cost them (ABC costing or other budgeting methodology)
3. Ensure that costing output is available by province in ICs with a geographic focus
4. Size the opportunity in using existing OneHealth costing outputs of RMNCAH strategies
5. If the MOH has used a different costing approach in the past, e.g., MBB, CORE Plus, leverage existing expertise to apply it to the IC.

**Other Option:** budgeting is another option if resources and time are a constrain and that previous costing exercises of RMNCAH packages exist. Then, health delivery interventions should be input in LiST to measure their impact on health outcomes and monitor the effect of the RMNCAH IC over time.

**Going beyond costing and estimating impact of investment:** by nature, an investment case assumes the notion of economic return. One wants to know how much economic return one gets by investing in a particular type of intervention. Given that OneHealth provides both costing of health interventions and their impact on health outcomes, very marginal effort is required to conduct a cost-benefit analysis and that would confer some ideas of the return of the prioritized intervention or scenarios chosen.

→Action to be taken:

1. Clarify with WHO and UNICEF if all types of HSS interventions can be costed with OneHealth such as CRVS, public financial management reforms etc...and modelled in OneHealth in such a way that one links HSS with reduction in health outcome.
2. Have a discussion at global level with WHO and UNICEF to share a pool of experienced STC in OneHealth.

## 4. Resource Mapping Methodologies in GFF Investment Cases

### 4.1. Resource Mapping Approaches

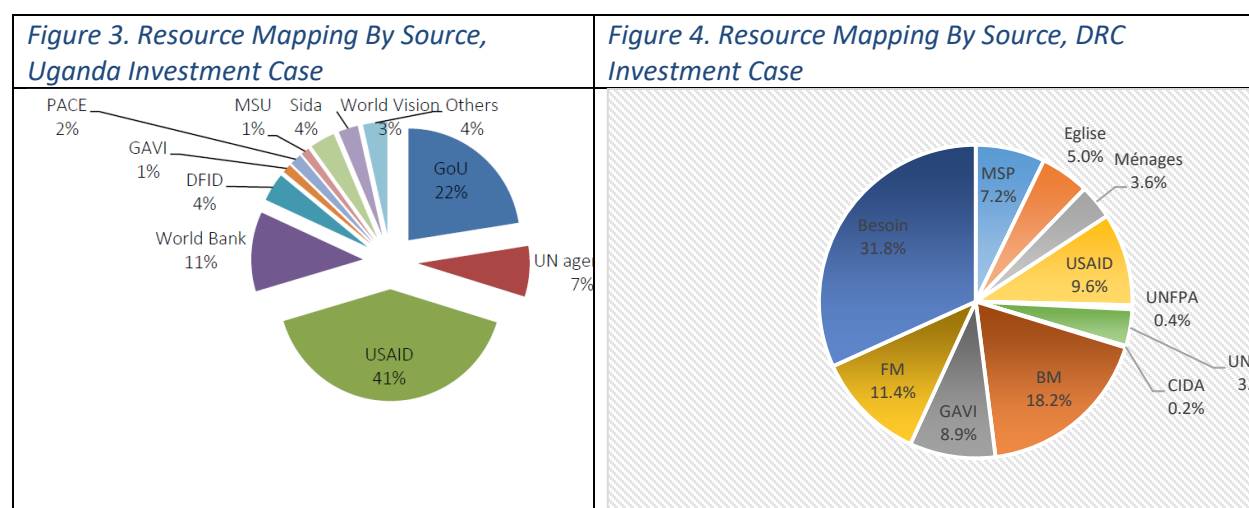
There are several ways to track resources, such as national health accounts (NHA), public expenditure reviews (PER) and resources tracking mechanisms.





All investment cases encompass a resource mapping exercise except Tanzania. Some countries took advantage of a broader ongoing health sector resource mapping and applied it to the IC (Cameroon). Here after are lessons learnt from resource mapping exercises conducted in GFF countries:

- **Most GFF countries have managed to provide a resource mapping by sources at high level, however, such information may not be sufficient to initiate discussions on complementary financing and implement the IC.** Resource mapping have helped map resources by source, e.g., government and donor mainly, and assess the overall gap in RMNCAH (Figure 3, Uganda). Other investment cases have tried to capture households' and private sector's contributions (Figure 4. DRC, but also Kenya). While these resources mapping provide an overall picture on the gap, they do not point out where the gap is, whether it is at the level of a particular priority, or province or input. Without such detailed information, it is difficult to lead a discussion on complementary funding with donors and discuss DRM options with the government in order to close the gap (if any). Indeed, the additional funding or realignment of funding would need to be earmarked to a specific purpose, i.e., covering drugs cost of the RMNCAH package in x region etc....



Source: Uganda Investment Case, 2016; DRC Investment Case, 2017

- **There should be some efforts to include households' contribution (Kenya and DRC) as well as the private sector's although such analysis may rely on estimate and be approximate.** The private sector can play a key role in complementary funding of the IC. In several countries, the private sector covers salary of medical staff in NGO or for-profit health facilities. In some cases, the Church may subsidize RMNCAH services (drugs and lab tests) and if not taken into account in resource mapping exercises, the gap (comparison against the budget) will be biased or underestimated. The role of households may stand trivial as the objective of any investment case and health financing strategy (HFS) is to improve financial access to health services, hence, decreasing payments of households at the point of service. However, this is a fact: many GFF countries do charge user fees at health facility and out-of-pocket payment are high. Despite reforms advocated in the IC on financial protection, high level of out-of-pocket payments will not be reversed overnight, but gradually. Hence, a pragmatic approach would be to factor household payment in the resource mapping of the IC and recognize that their contribution (to fund the IC) will decline overtime as a result of financial protection reforms suggested in both investment case and HFS (e.g., health insurance for the informal economy, subsidizing certain RMNCAH services for the poor, equity funds etc....)



- **Two investment cases provide a resource mapping by input-cost or priority which is a good starting point for the implementation process and starting the discussion on complementary financing with the Government and other donors.** Cameroon provides a detailed resource mapping by cost-centre against the budget which indicates which cost centre should be of further consideration. For example, Table 2 points out that the highest gap of the IC will be around medicines and results based financing. DRC is another example which show gaps by priorities. Among the 12 priorities of the investment case, 3 are underfunded, which are: the package of RMNCAH services, nutrition interventions (to address severe acute malnutrition and fortification interventions) and results-based financing (DRC Investment Case, 2017).

*Table 2. Resource Mapping by Cost-Category in Cameroon*

Catégories des Coûts	ANNEE				TOTAL RES_DISPO	TOTAL BUDGET SCENARIO 1	GAP
	2017	2018	2019	2020			
Plaidoyer et communication	\$1 370 437,2	\$1 019 521,5	\$1 371 418,0	\$1 371 923,1	\$5 133 299,8	\$68 847 949,1	\$63 714 649,3
Systèmes d'information sanitaire	\$1 467 980,2	\$950 229,5	\$1 467 980,2	\$1 467 980,2	\$5 354 170,2	\$12 137 781,8	\$6 783 611,6
Produits et technologies de la santé	\$53 077 217,4	\$41 014 697,5	\$53 077 217,4	\$53 077 217,4	\$200 246 349,9	\$5 309 262,4	-\$194 937 087,5
Ressources humaines	\$15 878 656,0	\$13 191 562,9	\$15 878 656,0	\$15 878 656,0	\$60 827 530,9	\$25 636 599,6	-\$35 190 931,3
Infrastructure et équipement	\$9 525 382,0	\$7 649 824,2	\$9 525 382,0	\$9 525 382,0	\$36 225 970,2	\$14 586 545,5	-\$21 639 424,7
Politique, Leadership et gouvernance	\$2 341 512,5	\$2 081 851,3	\$2 341 512,5	\$2 341 512,5	\$9 106 388,6	\$181 818,2	-\$8 924 570,5
Médicaments et gestion logistique	\$6 461 388,5	\$0,0	\$6 461 388,5	\$6 461 388,5	\$19 384 165,6	\$113 883 241,9	\$94 499 076,3
Gestion et coordination du programme	\$10 937 006,2	\$8 744 857,3	\$11 805 161,3	\$12 622 896,5	\$44 109 921,3	\$8 503 740,0	-\$35 606 181,3
Recherche, suivi et évaluation	\$4 465 264,0	\$451 774,0	\$4 268 619,9	\$4 268 619,9	\$13 454 277,8	\$12 909 563,8	-\$544 714,1
Financement Basé sur les résultats (Achat prestation des services)	\$4 789 627,8	\$19 872 252,5	\$20 450 353,0	\$25 619 288,2	\$70 731 521,5	\$150 307 424,0	\$79 575 902,5
Prestations de services	\$3 532 449,4	\$2 998 933,3	\$4 623 383,5	\$5 290 583,0	\$16 445 349,3	\$461 818,2	-\$15 983 531,1
TBD	\$474 434,4	\$0,0	\$474 434,4	\$474 434,4	\$1 423 303,3	\$0,0	-\$1 423 303,3
Systèmes d'information sanitaire régions non prioritaires	\$295 220,2	\$7 418,2	\$295 220,2	\$295 220,2	\$893 078,7	\$25 461 927,3	\$24 568 848,5
Médicaments et gestion logistique régions non prioritaires	\$29 762,3	\$0,0	\$29 762,3	\$29 762,3	\$89 287,0	\$69 063 335,2	\$68 974 048,3
Financement Basé sur les résultats (Achat prestation des services)_Régions non prioritaires	\$4 789 627,8	\$12 044 713,1	\$14 230 549,6	\$19 399 484,8	\$50 464 375,3	\$134 571 233,7	\$84 106 858,4
Total général	\$119 435 966,0	\$110 027 635,4	\$146 301 038,9	\$158 124 349,1	\$533 888 989,3	\$641 862 240,5	\$107 973 251,2

Source: Cameroon Investment Case, 2016

- **Three investment cases provide resource mapping by region/province (Cameroon, DRC, Liberia) and only one shows clear gap by region.** DRC, Liberia and Cameroon IC provide a resource mapping by province/region/county such that it is possible to know the amount available in each of the geography entity by donor. However, only the DRC IC compares the resource available against the budget by province in order to assess the gap by province. DRC

also provides a breakdown of the resource mapping and budget by province and priority allowing to understand both the gap by province and priority. The more details a resource mapping encompasses, the easier it will be to address issues relating to closing the gap or reconsidering priorities. For instance, if the key driver of the investment case is for a certain priority in a certain province, then, the GFF Platform should discuss possibilities of re-aligning some government and donors funding to this particular province and priority or other alternative, i.e., specific domestic resource mobilization.

*Table 3. Resource Mapping By Province in DRC*

	Budget 2017-2021	Financé, \$	Financé, \$	Non financé, %
National	59,628,159	15,670,000	-43,958,159	0%
Tanganyika	81,526,503	87,833,562	6,307,059	7%
Haut-Lomami	164,732,762	207,455,750	42,722,988	21%
Sankuru	48,650,017	67,836,612	19,186,596	28%
Maniema	121,293,252	161,674,865	40,381,613	25%
Lomami	123,424,641	228,177,695	104,753,055	46%
Tshuapa	77,277,834	95,189,457	17,911,622	19%
Kongo Central	141,184,192	346,492,504	205,308,312	59%
Sud-Kivu	315,047,383	401,159,279	86,111,896	21%
Kasai	49,668,307	172,579,973	122,911,666	71%
Kasai Central	118,830,615	205,884,880	87,054,265	42%
Lualaba	148,543,037	157,666,370	9,123,334	6%
Mongala	79,781,502	93,393,429	13,611,927	15%
Sud-Ubangi	129,840,222	191,576,265	61,736,043	32%
Kwango	141,799,996	202,190,121	60,390,125	30%
Total (Sans)	1,801,228,420	2,634,780,761	833,552,341	32%

Source: DRC Investment Case, 2017

- **Some resource mapping exercises highlight that some priorities or provinces may be over funded (DRC, Cameroon).** This could be that the budget was under-estimated or that budget information provided by donors was not precise enough and led to an inappropriate matching with the given IC priority. To avoid the latter, discussion with donors are crucial, but sometime, donors themselves do not have a good grasp of their budget. In the case of DRC, Global Fund highlighted that they were doing some work in M&E and HMIS and that a portion of their budget should match to that specific priority of the DRC IC. Yet, there was no clear budget line on HMIS in Global Fund's budget. Global Fund recommended to allocate a portion of their budget line "transport cost" to M&E and HMIS as it was likely that such missions pertained to monitoring key malaria, TB and HIV/AIDS indicators. While this is a rational assumption (30%), it may have been that the portion allocated to that priority of the IC was inflated. A similar question was raised with GAVI funding. As a result, the M&E and HMIS priority appears over-funded in the DRC IC.
- **Except Kenya, no other investment case conducted any efficiency analysis.** Efficiency analysis are relevant to fill out the gap of the investment case. In Kenya, the efficiency analysis led to a

decline from about KSH 59 billion (US\$ 617 million) with no efficiency gains to about KSH 32 billion (US\$ 339 million) with efficiency gains. This reduction was considered significant given the limited fiscal space in Kenya.

- **Most resource mapping exercises are usually based on annualized data and donors and government resources can increase or decrease depending on the political stability, macro-economic and fiscal space of the country.** In most cases, donors are not able to ensure commitment for the next 5 years and sometimes even if they can, those commitments do not match with the timeframe of the investment cases. Additionally, those commitments can even be harder to predict in politically unstable environment. In most investment cases (DRC, Uganda, Liberia), donors agreed to annualize their contribution. Some donors adopted more conservative budget estimates in that they reduced their budget by 10% in some cases (DRC) for the last years of the IC. In some investment cases, national contribution was estimated to increase (Kenya) while such predictions would be too hazardous to make in LIC.
- **There is not a clear methodology on how resource mapping was conducted in investment cases, hence, making their assessment difficult.** A description of the methodology used, even very short, would help understand the pros and cons of various approaches taken to resource mapping and learn from it. Liberia pointing out sharing an excel sheet to partners but that this approach did not yield any results. Cameroon's investment case benefited from a national RMNCAH resource mapping, which served as a reference for the Cameroon's investment case. In DRC, the MOH asked donors to provide financial information without results. Later, a form was shared, separate meetings with donors set and it took 4 months to complete the resource mapping.
- **Resource mapping will be time-consuming whatever the methodology is. Political commitment is key to ensure.** Sharing financial documents is sensitive for any stakeholder in the health sector or any other sector in a low income like in a high income country: financiers and implementation agencies require authorization to share financial reports. However, if the GFF Platform can establish a strong consensus around the usefulness of this exercise (improving efficiency and planning for RMNCAH), under the leadership of the Ministry of Health and with one or 2 champions among donors, it is likely that such exercise will be achieved. Sierra Leone, albeit at a very initial stage is a good example whereby key financiers are leading this exercise, at an early stage of the investment case. In DRC, the main financiers (WB, GF, USAID) were also on board and showed the examples to others.
- **Resource mapping may be easier, should the final output of the resource mapping be clear and the methodology flexible for donors.** In the case of DRC, the resources mapping, despite having flaws, took 4 months. The GFF platform presented the final table/matrix it was looking for with the resource mapping, i.e., committed budget of donors by priority, sub-priority and by province. Donors were asked to fill-out this output table (regardless of the methodology used and various intermediate steps taken). Some donors sent their budget requesting the GFF platform to do the matching and to double-check with them afterwards (the WB, GAVI and Global Fund). Asking donors to fill-out a lengthy excel sheet may be discouraging if there is no clear visualization of the final expected output. Starting with this may be more stimulating and incentivizing.

#### 4.3. Key Recommendations

##### Main Short Term Options:

1. **Discuss at an early stage with the GFF platform and at global level** the relevance and necessity of conducting a resources mapping of IC to start gathering preliminary data. Key financiers such as GAVI and GF will be able to provide a detailed budget breakdown of their program for each country and very often, GAVI and GF are key financiers of IC.
2. **No need to develop sophisticated excel spreadsheets to conduct the resource mapping of an investment case.** Once priorities, geographical areas and the work plan are known, it is recommended to develop a clear output table showing donors and the Government the expected results of a resource mapping: a matrix showing committed resources by priority and province with a column named “gap”. It is important to provide flexibility to donors to reach that final output. Should donor only share their budget and not the given form, another option is to match their budget with the given form/priorities and validate the approach with them at a later stage (e.g., the allocation factors used to distribute the budget among priorities and provinces).
3. **Pair an international consultant with a local consultant to follow up on the information needed at country level to conduct the resource mapping.** The TTL will play a key role in facilitating the dialogue between the consultant and the donors, but will not have the time to follow up. A local consultant, ideally, the person supporting the country-GFF Focal point could lead on the resource mapping, with support from an international consultant or GFF secretariat.
4. **Team-up or use existing local/international resources conducting a resource mapping exercise of RMNCAH strategies**

##### Box 1. Examples of IT companies

###### Catalpa Project

[https://catalpa.io/project\\_feature\\_mohinga/](https://catalpa.io/project_feature_mohinga/)

The project Catalpa developed an aid management database and is now tracking over \$3.51 billion in aid commitments comprising over 1488 individual development partner related activities and aid flows are mapped by location, sector, program and commitment status. International development partners submit their aid data through a web-interface. Myanmar AIMS is the first to fuse international collected IATI data with locally collected aid data into a single integrated database. This initial success has now generated significant interest in expanding this foundation to further assist, development partners and other stakeholder groups.

**On the long term: Assess the possibility of using local, regional or international IT companies to conduct resource mapping, with the objective of institutionalizing an aid management database.**

Lately, some IT firms have started working on presenting financial data in a more user-friendly way for government and donors, incentivizing them to be more transparent and share financial information. A few IT companies have worked on developing aid management databases, such as in Myanmar (Box 1). While such initiative may have been costly because initiated by an international company, there could be cheaper options available at regional level. Another option could be to reach multinational IT companies which would have lower administrative costs to develop such tools, such as Sales Force (<https://www.salesforce.com/>) which are conducted financial mapping for USAID or DevResults (<http://www.devresults.com/>) (See Box 1).

**Beyond resource mapping and aligned with complementary financing:** conduct efficiency analysis to assess how to fill out the gap with efficiency analysis.

→ Actions to be taken:

1. Contact international or regional IT company involved in previous resource mapping exercises to understand the time and cost of such activities at country level and whether GFF could potentially support such effort
2. Support institutionalization of resource mapping/tracking exercise as part of the development or implementation of the HFS.

## 5. Bibliography

The Partnership for Maternal, Newborn and Child Health. Costing Tools. Downloaded on Jan 27, 2017 from: [http://www.who.int/pmnch/knowledge/topics/costing\\_tools/en/index6.html](http://www.who.int/pmnch/knowledge/topics/costing_tools/en/index6.html)

University of Washington, Costing Tool Comparisons. Review of costing tools. 2013.

The Economist. Activity Based Costing. 2009. Downloaded on Jan 27 from: <http://www.economist.com/node/13933812>

GFF Investment Cases

RMNCAH Technical Orientation Global Strategy and Global Financing Facility. Understanding your resource envelop. Geneva, June 19, 2016. Power Point Presentation.

## 6. Annexes

*Table 4. Comparison of costing tools used in GFF countries*

Costing Methodology	Impact measurement	Weaknesses	Strengths
---------------------	--------------------	------------	-----------

<b>DRC</b>	-Priority 1 (RMNCAH Package) had initially be costed using CORE Plus which yield a cost per service and capita -Activity Based Costing (ABC) was used to budget the other 11 priorities of the IC. -Budget broken down by priority and province	Priority 1, package of health services was input into LIST <sup>3</sup> to assess the number of incremental maternal and child saved lives and effect on MMR and U5MR	-Not all priorities were modelled and their impact assessed no RMNCAH results.	-Budget easy to conduct, grasp and update for MOH -broken down by priorities and provinces -clear breakdown of cost for each priority
<b>Uganda</b>	-Used OneHealth to cost a RMNCAH package at community and PHC level and ABC to cost program management, governance and HIS.	-assess number of incremental maternal, new-born and child saved lives -assess effect of RMNCAH package on reduction in MMR and U5MR	-not clear whether approaches to implement the RMNCAH package was costed (scaling up voucher, strengthening district management, RBF) -No cost information broken down by province	-Linkage between costing and impact very straightforward -Base line coverage and scale up interventions
<b>Cameroon</b>	-combination of OneHealth for SRMNEA services and ABC costing for other priorities (CRVS) -broken down by SRMNEA domains and cost category	-assess effect of RMNCAH package on reduction in MMR and U5MR	-no linkage between SRMNEA domains and cost categories -OneHealth requires the recruitment of a STC to allow MOH to update the costing.	-Linkage between costing and impact very straightforward -broken down by intervention areas and provinces
<b>Kenya</b>	-OneHealth, using an activity-based approach to cost RMNCAH services Three data inputs are used: i) population in need of the different RMNCAH services; ii) coverage targets; and iii) unit costs.	-assess number of incremental maternal, new-born and child saved lives -assess effect of RMNCAH package on reduction in MMR and U5MR -cost-benefit analysis (for every shilling invested, a return of three shillings and 65 cents is obtained)	-no breakdown of cost at country level -not clear whether health systems components (health financing, CRVS) were costed as part of OneHealth	-very clear breakdown by priorities and cost category
<b>Tanzania</b>	OneHealth: estimates the costs by health program including health system components	-assess number of incremental maternal, new-born and child saved lives -assess effect of RMNCAH package on reduction in MMR and U5MR	-very clear estimation of cost health program/key priorities by activity	-not broken down by province
<b>Liberia</b>	Used MBB for target setting and national wide costing. ABC for costing for Phase one	-Used LIST to assess number of incremental maternal, new-born and child saved lives	-clear costing output by intervention, activity, cost driver (training, meeting	-Took days to agree on the ingredients for the ABC.

Source: GFF Investment Cases

*Table 5. Costing Outputs of GFF Investment Cases*

Costing output	Geographic Focus	Priorities/Programs/Shift
----------------	------------------	---------------------------

<sup>3</sup> Measures impact of interventions in maternal/neonatal and reproductive and child health (11 causes of maternal death; 19 causes of neonatal/child death;> 70 interventions)

<b>DRC</b>	\$2,634,780,761 over 5 years, \$526,956,152/year and \$13.07 per person per year. Costing by province and priority available.	14 provinces with the highest RMNCAH needs and national level	1.RMCAH package, 2. Adolescent health, 3. Nutrition, 4. WASH, 5. RBF, 6. Community Approach, 7. Supply chain, 8. HR, 9. HF, 10. Governance, 11. HMIS/M&E, 12. CRVS
<b>Uganda</b>	3 scenarios: \$ 1,597.7 million, scenario 1: 1,875 million over the period of the plan; 2,410 million	Focus on 40 high-priorities districts	1.Emphasising evidence-based high-impact solutions; 2. Increasing access for high-burden populations by promoting a set of service delivery mechanisms that operate synergistically; 3. Geographical focusing; 4. Addressing the broader multisectoral context; 5. Ensuring mutual accountability for RMNCAH outcomes
<b>Cameroon</b>	Total Cost: \$641 862 240 (scenario 1) \$777 221 583 (scenario 2); \$807 764 574 (scenario 3)	3 northern regions and eastern region	
<b>Kenya</b>	Cost per capita: \$10.87 per person in 2015/16 to \$13.75 in 2019/20 Total cost for 5 years not mentioned in KS275billion, 2,895 M (KSH 0.95=\$1) and 1,505 for the 20 counties.	20 priorities counties	1. Adolescent and youth, 2.child health, 3.FP, 4.immunization, 5.maternal and new-born health, 6. nutrition, 7. CRVS and 8. innovation and research
<b>Tanzania</b>	Cost per priority and activity given. Total cost 1,330,947,290	National	1.Maternal health, 2. New-born and child health, 3. adolescent reproductive health, 4. Family Planning, 5. Reproductive health cancer, 6. gender in reproductive health, 7. leadership and governance, 8. Human Resource for Health, 9. HF for RMNCAH, 10. Administration and personnel, 11. RCH Regions and Zones and 12. M&E
<b>Liberia</b>	\$492.9 million broken down by recurrent expenditures (115.5) and 377.4 capital expenditures	6 priority counties and national level	1.Quality EmONC and adolescent/adolescent responsive RMNCAH services;2. Emergency preparedness, surveillance, and response; 3. Sustainable community engagement; 4. Enabling environment: leadership, governance, and management

Source: GFF Investment Cases

*Table 6. Resource Mapping Tools in GFF Countries*

Methodology	Output	Weaknesses	Strengths
-------------	--------	------------	-----------



<b>DRC</b>	Requested donors to fill out a matrix requesting budget by province and priorities of the IC.  It took 4 months. Feedback received from main donors	Resources mapping by source, priority, sub-priority and by province. An overall gap of 32%	-Doesn't systematically get down to the input level -Because budgets of donors are too aggregated and with unclear description, some budget lines may have been matched wrongly to priorities and some priorities are over-funded	-Provide big picture (by source) but also good level of details at provincial and priority level -Household and private sectors captured partially
<b>Liberia</b>	Requested donors to fill out a form but didn't hear feedback.	Resource mapping by source and county. A total gap of roughly \$240M or 66% given total cost of IC is \$710M.	-Distributed Form to donors is broad and does not match priorities of the IC	-Is now conducting a resource mapping at the level of county, priority and input levels in the scope of complementary funding.
<b>Uganda</b>	Not stated in the IC	Resource mapping by source and program. An overall gap of 21% or \$280M	-Not possible for donors to provide commitment for 5 years, hence, commitment for 3 years were used to calculate the annual average from which the five year financial commitments were calculated -Households and private sector not captured	-Captured many donors -Resource mapping provided by donor and extensive number of donors
<b>Kenya</b>	Not stated in the IC	Resource mapping by source only Funding gap of \$617M	-no details on donors -high level resource mapping, doesn't get down to cost-category, priority or county.	-Provide the big picture -Efficiency analysis, 21% total gain in efficiency assumed, which could save \$276M over 5 years.
<b>Cameroon</b>	No methodology but resource mapping at regional level was done proportionally to population	Resource mapping by source, cost category, priority and region. Gap of \$107,973,251 or 20%	-some cost-categories are over funded like in DRC.	-Very good details of resource mapping by region, priority and cost-category, albeit the gap is not always stated.

Source: GFF Investment Cases