

## USER GUIDE

# EQUIST: **EQUI**TABLE **I**MPACT **S**ENSITIVE **T**OOL

User Guide: Analyst

*April 20, 2018*

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## 1 Introduction to EQUIST

National and sub-national governments are routinely required to develop health policies, strategies and plans. These include comprehensive national health plans as well as more focused plans, such as post-disaster recovery plans, community health plans, and reproductive health plans. All too frequently, these plans are not based on a thorough assessment of how the health system is functioning, particularly with regards to producing equitable results for various sub-populations. A country can have several plans at once, each covering separate programs, with no clear framework guiding how they fit together and how they jointly contribute to the overall health system. Furthermore, health plans often resemble “wish lists” with too many objectives and activities to achieve with realistic expectations about human and financial resources. Finally, sub-national governments sometimes struggle to adapt or customize national policies and plans to their particular context, and then to implement them effectively.

These challenges are the main contributors to the “implementation gap,” or the difference between what policymakers plan to do and what target populations actually experience. The implementation gap tends to be particularly severe in disadvantaged and hard-to-reach areas and contribute to health inequities, which have improved slightly in many countries over the past decade, but far too slowly (Victora et al 2012).<sup>i</sup> The implementation gap, coupled with the growing demands for accountability for domestic and foreign resources, have led development partners and civil society to demand greater rigor and transparency in planning processes, and more objective and detailed monitoring and evaluation practices.

In response to these challenges, donors and researchers have produced numerous manuals, guidelines and tools to support improved planning, implementation and monitoring. In the early 2000s, UNICEF and the World Bank developed a tool called “Marginal Budgeting for Bottlenecks,” which was the first tool that allowed users to systematically assess deficiencies in the overall health system, develop strategies to overcome these deficiencies, and then project the costs and impacts of alternative scenarios. The MBB was applied in dozens of countries around the world and led to enhanced prioritization of maternal, new-born and child health and nutrition programs under a holistic “health system strengthening” approach. The MBB, however, faces certain challenges such as its substantial data requirements, complicated interface, and lack of a systematic approach to analyse and address health inequities. The Johns Hopkins Bloomberg School of Public Health simultaneously developed the Lives Saved Tool (LiST)<sup>ii</sup>, which allows users to project the impacts of changes in coverage of health and nutrition interventions on child mortality using rigorous data and validated assumptions; this tool has quickly become one of the more popular and trusted resources for projecting the impacts associated with changed coverage of MNCH interventions.

In 2012, WHO and the UN Inter-Agency Working Group on Costing (IAWG-Costing) developed the OneHealth tool, which attempts to link strategic objectives and targets of disease control and prevention programmes to specific investments in health systems. The tool provides planners with a single framework for scenario analysis, costing, health impact analysis, budgeting and financing of strategies for all major diseases and health system components.

The **EQUitable Impact Sensitive Tool (EQUIST)** was developed in this context, as a strategic planning, modelling and monitoring platform that links other tools: for example marrying the conceptual framework of the MBB with LiST's impact projection function

**The predecessors of EQUIST****Modelling and impact projection tools**

Marginal Budgeting for Bottlenecks-- UNICEF and the World Bank

Lives Saved Tool- Johns Hopkins Bloomberg School of Public Health

<http://www.jhsph.edu/research/centers-and-institutes/institute-for-international-programs/current-projects/lives-saved-tool/>  
One Health Tool- WHO

<http://www.who.int/choice/onehealthtool/en/>  
DevInfo-

<http://www.devinfo.org/libraries.aspx/Home.aspx>

**Toolkits/ Methods**

[UNICEF District Health System Strengthening \(DHSS\) approach](#)

[UNICEF Monitoring Results for Equity System \(MORES\) approach](#)

**Key Studies**

Carrera, Carlos et al. The comparative cost-effectiveness of an equity-focused approach to child survival, health, and nutrition: a modelling approach. The Lancet , Volume 380 , Issue 9850 , 1341 - 1351

Victora et al, "How changes in coverage affect equity in maternal and child health interventions in 35 Countdown countries: an analysis of national surveys. Lancet, Vol 380, September 29, 2012.

Access, Bottlenecks, Costs and Equity study- Institute for Health Metrics and Evaluation (<http://www.healthdata.org/dcpn/abce>)

Acting on the Call- ending preventable child and maternal deaths report 2014 (UNICEF, UNFPA, USAID)

through a substantially easier and more visual user interface. The tool was designed to help governments and the global health community think about issues of equity in maternal, new-born and child health in a more systematic and evidence-based way, and to design health strategies that will lead to stronger, more resilient health systems. Applications of EQUIST at sub- national or national levels can serve as a solid background or follow-up analysis to support OneHealth Applications, which in turn are primarily intended to inform sector- wide national strategic health plans and policies.

EQUIST was conceived and designed by health specialists working at the United Nations Children's Fund (UNICEF). It is built by Community Systems Foundation (DevInfo). The Bill and Melinda Gates Foundation provided funding. EQUIST is linked to the Lives Saved Tool (LiST), developed by the Johns Hopkins Bloomberg School of Public Health, estimate cost using World Bank costing module in the Marginal Budgeting for Bottleneck tool (MBB), and uses data globally available (MICS, DHS).

*What is EQUIST?*

**EQUIST is a medium-term analysis and strategic planning tool to improve child and maternal health as well as nutrition**

**equity in developing and middle-income countries.** It helps decision makers identify which populations are disadvantaged, why they are disadvantaged, and which combination of evidence based high impact interventions and health system strengthening strategies would produce the best results. Through these means EQUIST is a tool meant for maximizing the number of lives saved; decreasing health disparities and improving overall cost effectiveness. EQUIST's unifying factors are based on its linking "progress" to improvements in equity within a country as well as its ability to link specific constraints in health care delivery, and strategies addressing these constraints, to changes in mortality, morbidity, and malnutrition.

**EQUIST can be used for national and sub-national health planning exercises.** In this context, EQUIST will help analysts and planners address issues of equity specifically in the areas of maternal, new-born and child health and nutrition. It will also provide cost effective options to do so. **It is important to understand that EQUIST implicitly recognises that a health system is not uniformly identical within a country; equity in this contexts means that a system delivers similar results in terms of coverage and impact for all populations.** Achieving the goal of equal impact may require different setups, system

organization, and programmatic emphases in different parts of a country or for different target populations (Carrera et al 2012).

For this reason, the tool helps users to conduct an in-depth analysis of the situation of the disadvantaged populations in a country, while the effective coverage achieved by better-off populations are used as benchmarks for coverage of the most disadvantaged. Beyond this visualization of coverage levels among the least disadvantaged, users of EQUIST are directed to focus explicitly on epidemiological issues affecting various disadvantaged populations in their countries individually.

### *Who is EQUIST designed for?*

EQUIST was designed to be used by several different types of public health stakeholders. Before the tool can be used at sub-national levels, a team of national experts need to adjust the tool and conduct a national equity analysis. These national experts, or country customizers, may comprise of **MOH officials, international development partners and key stakeholders from the private sector, NGOs and academic institutions**. The result of their work is a clear vision of equity patterns nation-wide, and provides a preliminary understanding and visualization of the causes of these patterns. The national analysis and customization process needs to be repeated every few years as new data become available.

Once the tool has been customized for a given country, it can be used by an unlimited number of individuals or institutions with invested interest in a country. These users could be **national or sub-national planners, program managers, prospective partners, members of civil society, researchers, or public health and medical students**. They could be interested either in maternal and child health generally in a specific level of the health system (such as hospitals, primary care or community health services), in a particular program (such as reproductive health, HIV/AIDS or immunization), or in a particular region or sub-population (such as the residents of a certain province or wealth quintile).

### *What to expect when using EQUIST*

It is important to note that the EQUIST tool works in a *step-wise* fashion. This means that as data is selected in a module, it will have an impact on the data and analysis in subsequent modules. To be able to properly use EQUIST, users will need to be familiar with the terms and concepts used in the module(s). A glossary of these terms is available in Annex I.

EQUIST must be set up and customized for a country before it can be used (see above). This customization process needs to happen at least once every 3-5 years. The more carefully it is customized, the more precise and valid the results will be. The customization process must be performed by a well-trained and supported team of experts in a given country, and the process should be well documented.

EQUIST comes pre-loaded with globally-accepted data, which the EQUIST technical assistance team regularly updates. EQUIST's principle data sources are the Demographic and Health Surveys (**DHS**), Multiple Indicator Cluster Surveys (**MICS**) and estimates of mortality rates and causes developed by the Child Health Reference Group (**CHERG**)

and the Inter-agency Group for Child Mortality Estimation (**IGME**.) Users will often draw heavily upon district health information systems (**DHIS**).

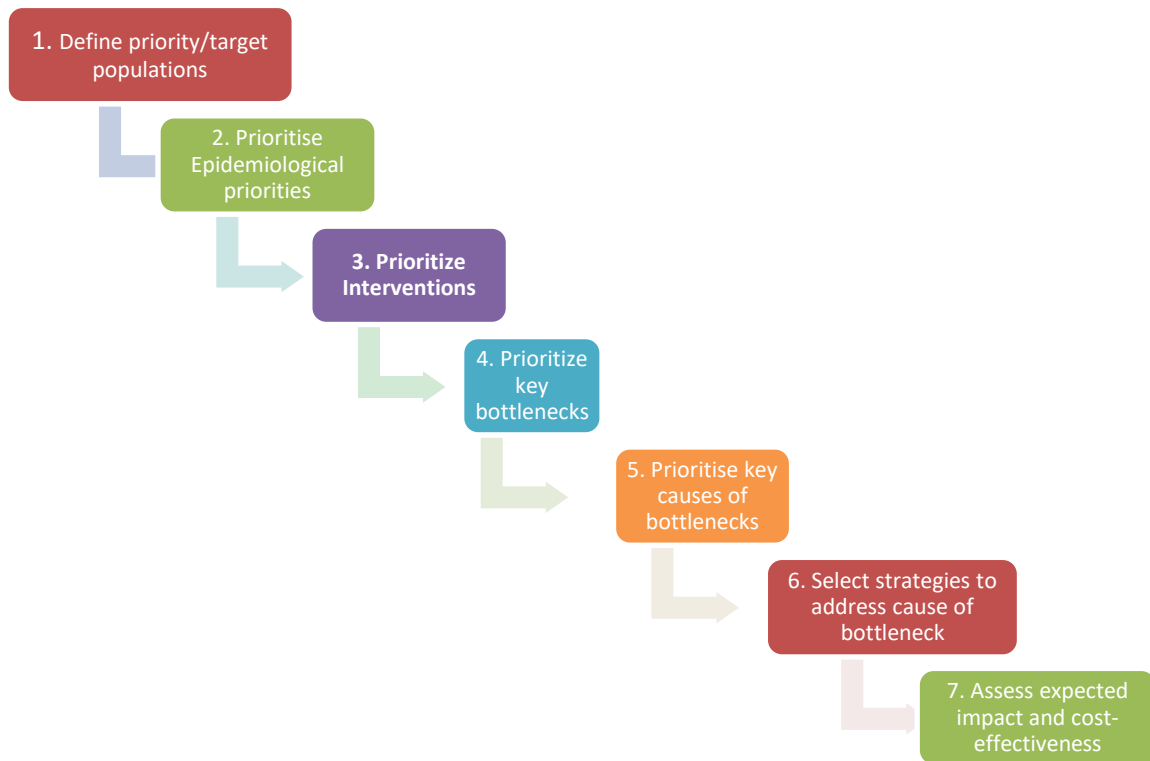
When using EQUIST, one will perform the following steps.

1. **Look at situational analysis of a country**
  - a. Profile: Conduct brief analysis to assess the general extent, nature and implications of inequities in the country. Examine the key drivers of inequity (the underlying factors that explain inequities (wealth quintile, geography, ethnicity and location) and analyse the scale of inequity (is deprivation mostly concentrated in poorest quintiles, in rural areas, or in some regions?)
  - b. Frontier: Conduct an analysis to identify which factors are most likely to drive inequity, and compare the number of child deaths and malnutrition cases that could be averted by wealth quintile, geography, and location.
2. **Build a scenario analysis of a country:** Build multiple scenario(s) within a particular country by choosing a target population, epidemiological priorities, interventions, bottleneck, causes and strategies; and from this a LiST analysis will generate the impact(s) your analyses have on costs and lives saved

What is the theory of change behind EQUIST?

*EQUIST's step-wise approach is based on the following theory of change.*

1. Define priority populations through a careful situation analysis considering the country's demographics, health and nutrition outcomes and the coverage of essential interventions;
2. Prioritise health issues that are prevailing in a country and most specifically among a targeted population, to assess severity, scale and scope of their deprivation;
3. Prioritise interventions that will address the major diseases, health and nutrition issues of the target population;
4. Prioritise bottlenecks of these selected interventions and aggravating inequities between the least and most disadvantaged; set up the realistic and feasible frontiers that could be reached by overcoming these bottlenecks and reducing inequities; what are the reasons which are creating the inequities.
5. Prioritise causes of the bottlenecks resulting in inequity between the least and most disadvantaged
6. Select strategies to address the causes of the bottlenecks and model a scenario to reduce inequity between the various groups
7. Assess expected impacts and cost-effectiveness of the strategies, especially in terms of reducing the inequity between the least and most disadvantaged



## 2 EQUIST Home page and Navigation

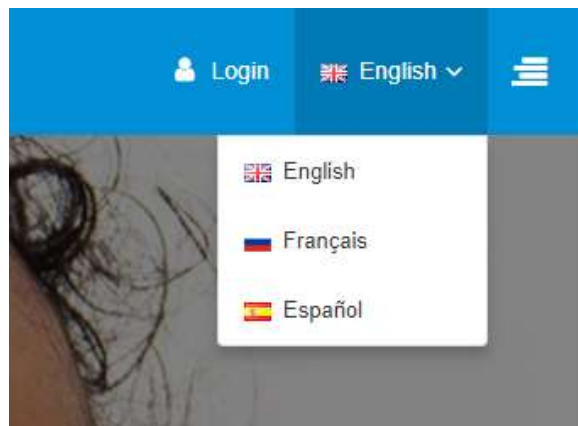
The EQUIST website is available via this link: <http://equist.info/>  
The first screen you will see is the homepage:



Scroll down the page to see a summary of statistics related to EQUIST and background information to learn why the tool was developed.

### 2.1 Switching the language

The EQUIST website is a multi-lingual site and its content can be translated to another language (in this case, French, Spanish and English). The dropdown at the top right of the screen enables the user to toggle between languages and the user will be able to view the content in selected language:





## 2.2 Anonymous User: No Login



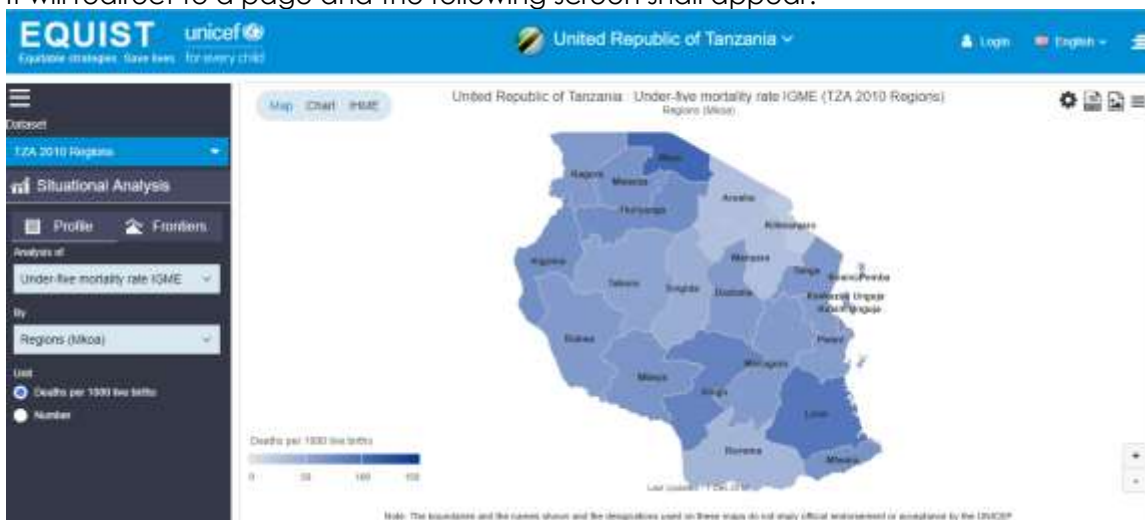
To access the main dashboard, click on the menu icon on the upper right-hand corner.

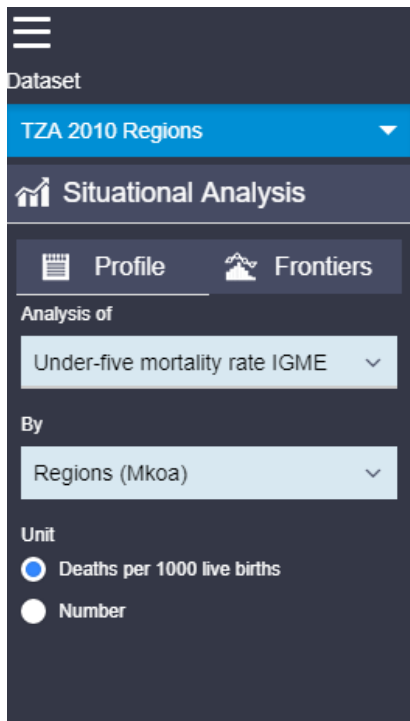
User does not need to get logged in to access dashboard.

Without logging in, one will be able to enter the dashboard to review the situational analysis of all the countries. Click on “Dashboard” in the main menu.



It will redirect to a page and the following screen shall appear:





Dataset

TZA 2010 Regions

Situational Analysis

Profile Frontiers

Analysis of

Under-five mortality rate IGME

By

Regions (Mkoa)

Unit

☒ Deaths per 1000 live births

☐ Number

The user can perform a situational analysis by applying selections from left panel. First selection will be of dataset (for which year you want to conduct the whole situational analysis)

Situational analysis is further subdivided in two “sub-modules” – Profile and Frontiers; it begins with a general analysis of the profile of the country, demography and epidemiology, causes of death and types of malnutrition prevailing in the country, as well as their distribution in various groups (wealth, province/district, and area of residence). The module then focuses on a more streamlined examination of inequities/ excess mortality.

### 3 Logging In

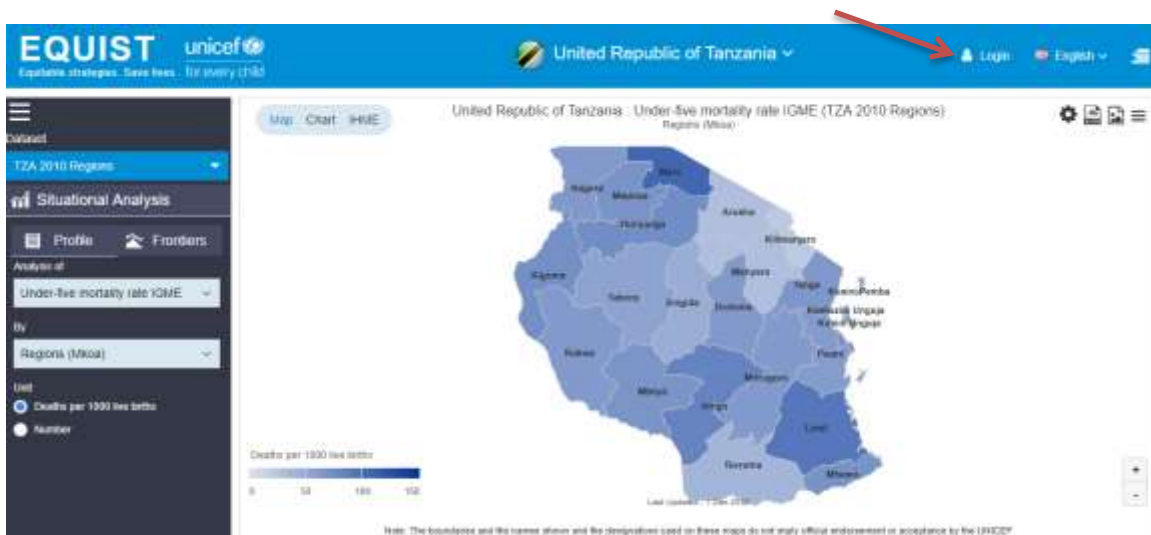
The EQUIST website is available via the following link: <http://equist.info/>. To continue to login the user clicks on above mentioned url, the first screen you will see is the homepage dedicated to EQUIST.



Click on the login button which is highlighted in below image to login:

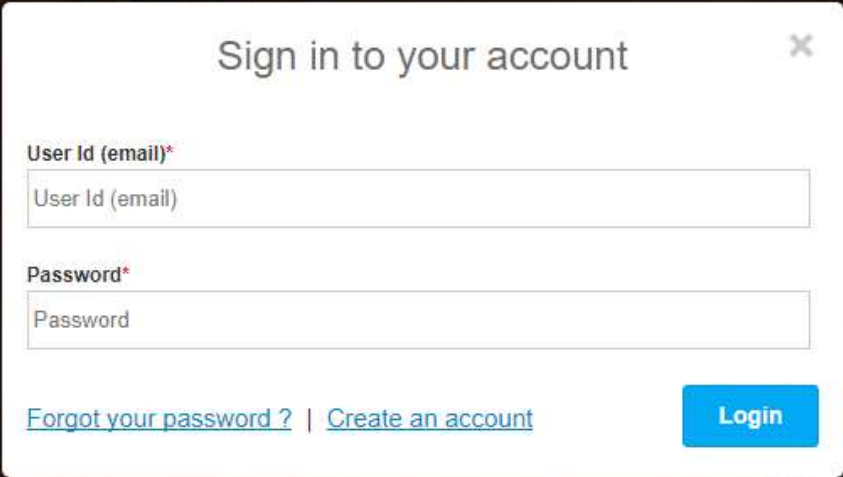


If the user is already in the 'Dashboard' view prior to logging in, then the screen to login would appear as follows with the login button as highlighted in below image:



A pop-up will appear allowing you to enter your username and password information received via email on self-registering or account created by administrator.

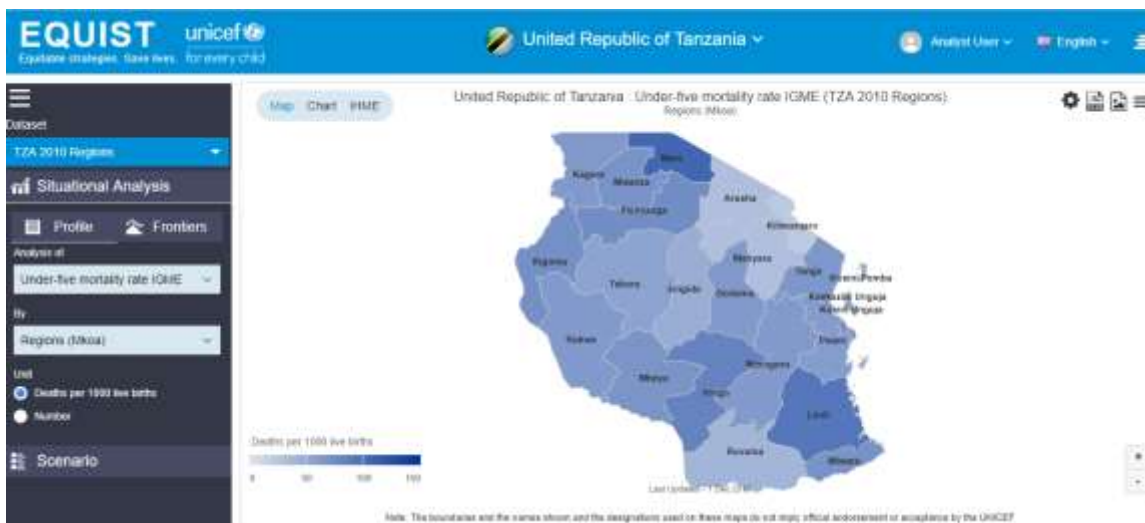
If user is logging in for the first time, click on 'Create an account' link which will redirect to user registration page and lets user to create account with valid user id, password.



A modal form titled "Sign in to your account" with a close button (X) in the top right corner. It contains two input fields: "User Id (email)\*" and "Password\*", both with placeholder text "User Id (email)" and "Password" respectively. Below the fields are two links: "Forgot your password ?" and "Create an account", separated by a vertical bar. A blue "Login" button is located at the bottom right of the form.

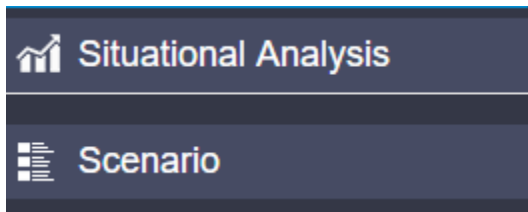
After logging in, you will now have access to the EQUIST dashboard as analyst.

This will be the first screen that will appear:



As a logged-in user, you will go through two modules:

- 1) Situational analysis
- 2) Scenario



## 4 Situational analysis

The situational analysis is the first of two sections in the EQUIST dashboard. As per the country selection and dataset selection the analyst user perform situational analysis.

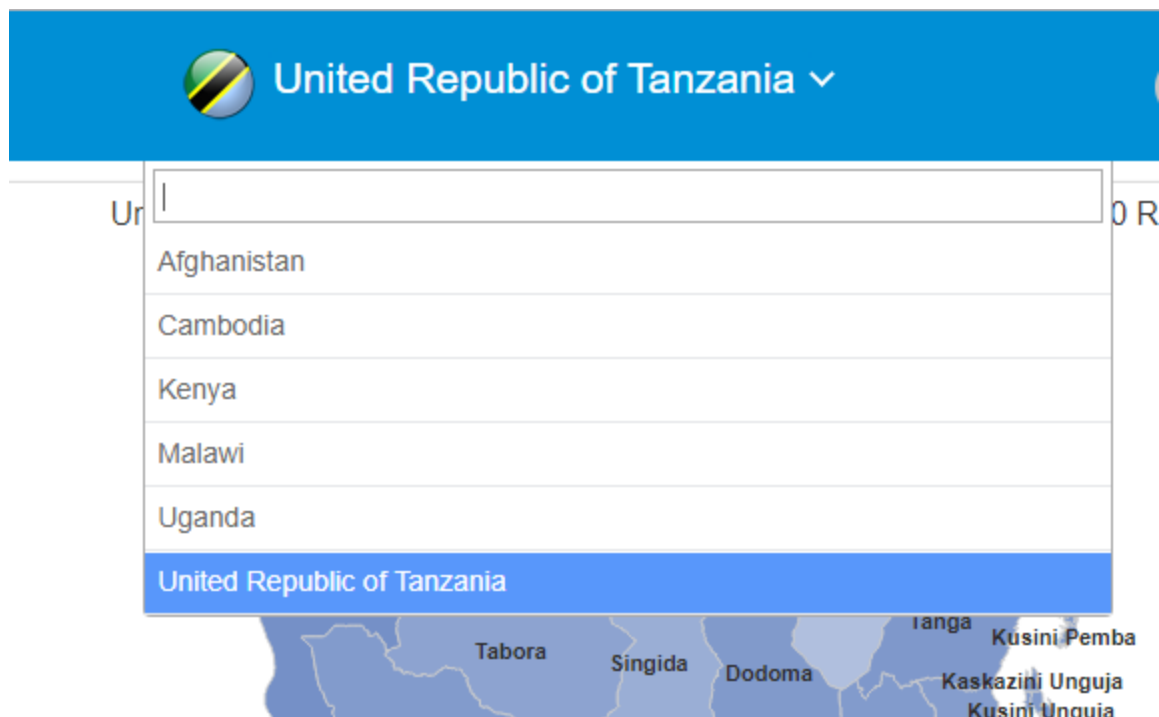
The goal of this module is to provide a general overview of the extent, nature and implications of inequity in the country. It helps users to visualize the health inequities in a given country according to several different variables, including geography, wealth quintile and rural versus urban location. It also helps users to understand the causes of the inequities, in terms of health, nutrition status and diseases; to assess disparities in coverage of evidence based high impact interventions; and to have a sense of the cross-cutting health system bottlenecks that are limiting the effective coverage of the key interventions for deprived populations.

In the situation analysis you will understand:

- a) Who the most disadvantaged or vulnerable women and children are; i.e. how deprivation is affected by various drivers such as wealth, geography, and location.
- b) Which health and nutrition conditions cause excess mortality, morbidity and malnutrition among the most disadvantaged populations in a country ;
- c) Which health and nutrition interventions are linked to this excess mortality, morbidity and malnutrition; and
- d) Which health system issues are contributing to under-coverage of health and nutrition interventions?

This information supports an evidence-based prioritization of vulnerable populations and priority interventions, as well as an initial understanding of the broad health system issues that will need to be addressed in order to reduce health disparities in the country. The situation analysis can be used by itself or as a precursor to an in-depth bottleneck analysis and scenario development exercise contained in the other module - the scenario analysis.

As an analyst user logged in, you have the option to first choose the country for which you'd like to conduct the EQUIST analysis. To do so, click from the dropdown menu of country listings and/or type your country of interest.



The country dropdown list contains countries to choose for analysis.. For the purpose of this user guide, we will use the United Republic of Tanzania as an example.

Further, one can select dataset from the dataset dropdown explained above. There is provision to select multiple datasets as well.

### Health Profile

As discussed, the user will be able to explore two types of profiles - Profile and Frontier - in situation analysis. The selection for these is available in two sections on the left-hand side of the navigation

#### 4.1 Profile

This module is expected to provide an overview of:

- i) **The key driver(s) of inequity** – the underlying factors that are behind inequities for health and nutrition outcomes and for coverage of evidence based and high impact interventions– i.e. Is inequity explained mostly by geographical differences? Is it better explained by differences in wealth? Regions? Area of residence?
- ii) **The extent of deprivation:** If, say, wealth is identified as then main driver of inequity- Is deprivation mostly concentrated mostly in the poorest quintile? Does it affect the 4 poorest quintiles?

The population “profile” is an interactive feature that allows users to produce bar charts, maps. The current version allows users to produce IHME map for under-five mortality or neonatal mortality of different demographic parameters, epidemiological parameters and theme of key packages by various stratifies available in original data sources: it examines under-five mortality, neonatal mortality and malnutrition status of children through different variables.

Profile maps will be the outcome as a result of:

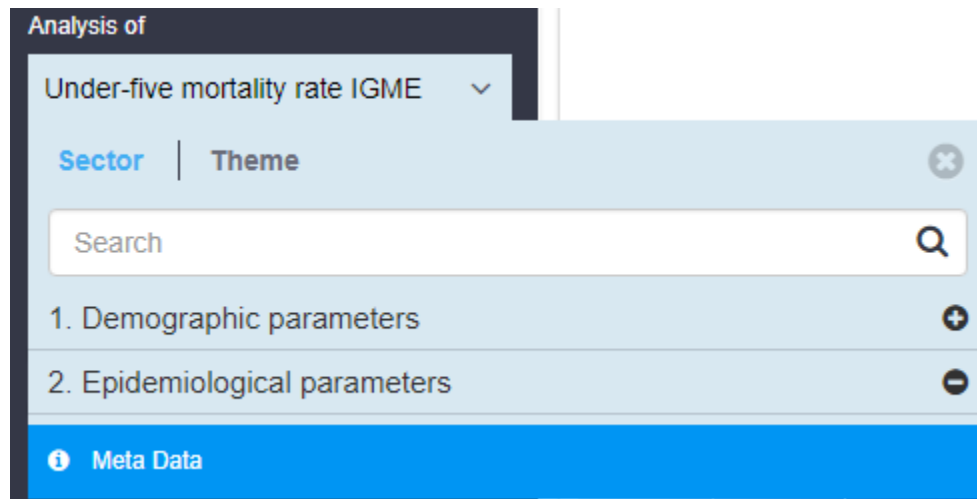
- Selection by 'Analysis of'
- Selection by 'Geography'
- Selection by 'Unit'

On selecting dropdown from **Analysis of**, the user has options to select the indicator further sub-divided into:

1. Sector
2. Theme

**1. Sector** is sub-divided into:

- a) Demographic parameters
- b) Epidemiological parameters



**a) Demographic parameters:** It is further broken down into:

1. Population in million
2. Proportion of women age 15-49 married
3. Percent of women currently pregnant
4. Crude birth rate
5. Proportion of population under 5 years

To view this analysis, you may choose to understand neonatal mortality in the Tanzania in 2010 **by geography**. To do this:

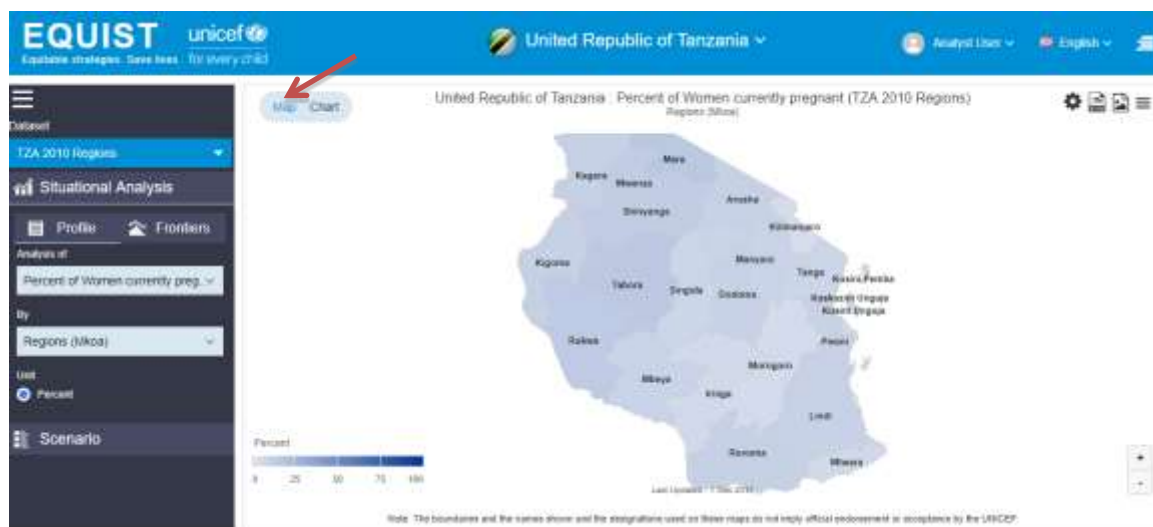
1. Select TZA 2010 Regions as the dataset
2. Select the analysis of Demographic parameters
3. Within this submenu, select the sub-indicator of 'Percentage of women currently pregnant'
4. Select the last aggregate "by" regions(Mkoa)
5. Select a unit

The following output will appear:





You can also view the output as a map by clicking on 'Map':

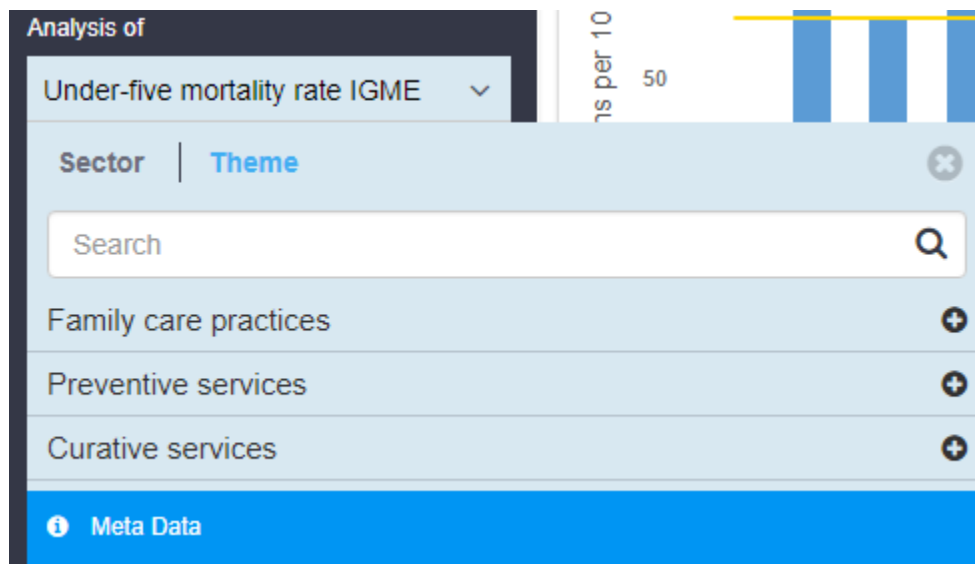


**b) Epidemiological Parameters:** Additionally, you may want to conduct the situation analysis by "epidemiology," which is broken down into Under-five mortality by cause, Neonatal mortality by cause, Maternal mortality by cause etc.

**2. Theme:** Finally, you can do the analysis by 'Theme', which is broken into three further categories:

1. Family care practices: to deliver three promotion packages – water, sanitation, hygiene practices (WASH), sleeping under insecticide treated bed nets, and neonatal and infant feeding practices
2. Preventive services: to deliver three preventive service packages, namely family planning, antenatal care, and immunization

3. Curative services: packages namely delivery by skilled professionals, integrated management of neonatal and childhood illnesses (IMNCI), and emergency obstetric and newborn care (EMONC)



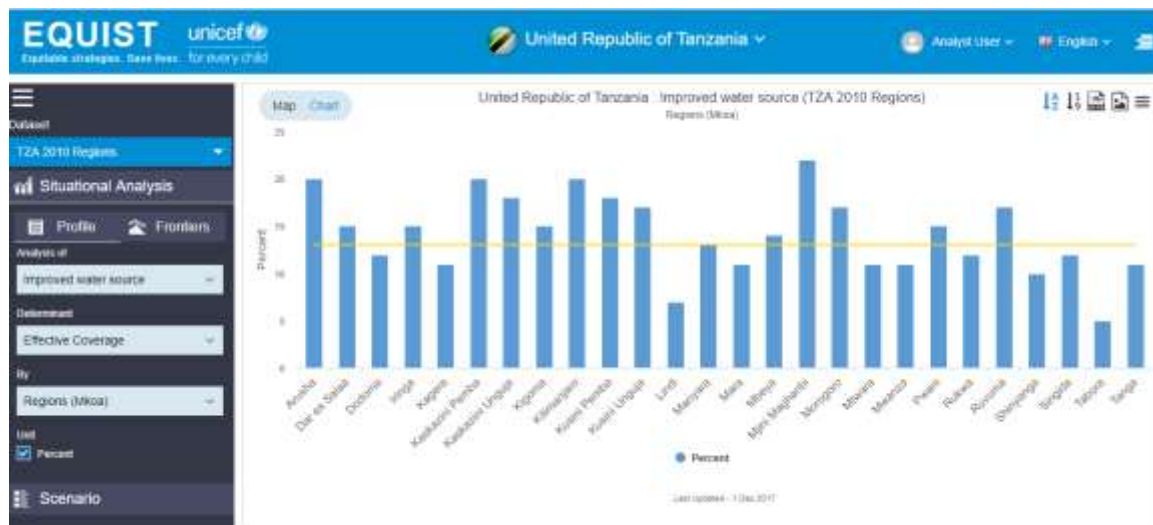
These 3 themes are further broken down into their own indicators:

1. Family care practices
  - a. WASH
  - b. ITNs/Environmental safety
  - c. Neonatal & infant care
2. Preventive services
  - a. Family planning
  - b. Antenatal care
  - c. Immunization plus
3. Curative services
  - a. Integrated Management of Neonatal & childhood illness (IMNCI)
  - b. Delivery by skilled professional
  - c. EMONC

You may want to see the effective WASH coverage of the population in regions in 2010. To do this:

1. Choose the dataset for 2010.
2. Select 'Theme' under 'analysis of'
3. Select 'Family care practices' as a sub-indicator under 'Theme'
4. Select 'WASH' under 'family care practices'
5. Select 'improved water source' under 'Wash'
6. Select Effective coverage determinant.
7. Select 'Regions(Mkoa)' under by:

The graph(s) below will appear with a definition of the indicator displayed in the title:



Continue to manipulate and play with different analyses to develop an understanding of the health & inequities context within selected country. You can make different combinations and analyse the data made after calculation.

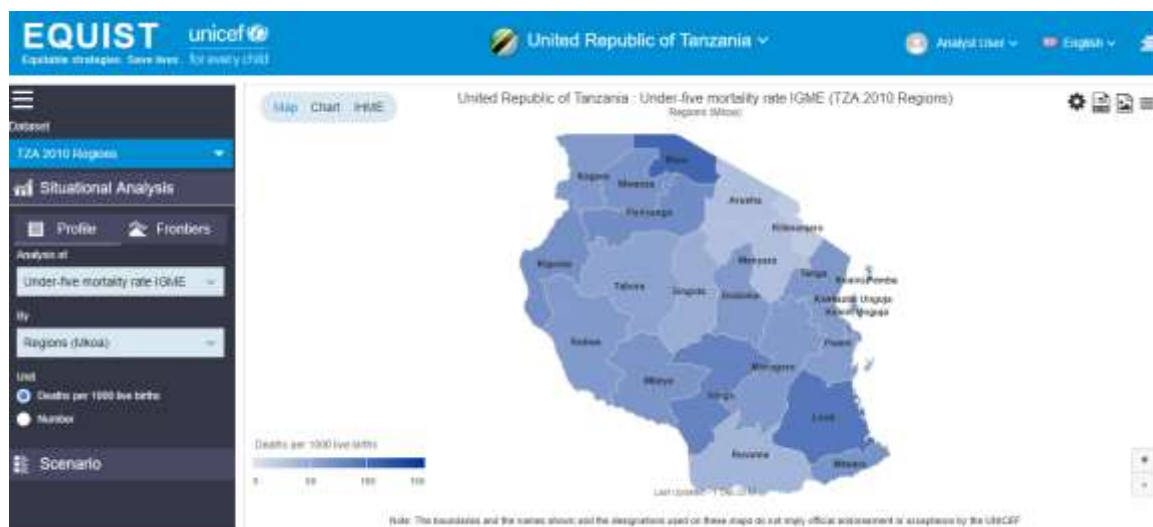
### Default Outputs

After the selections, default analysis for the situation analysis profile can be seen in 3 visualizations:

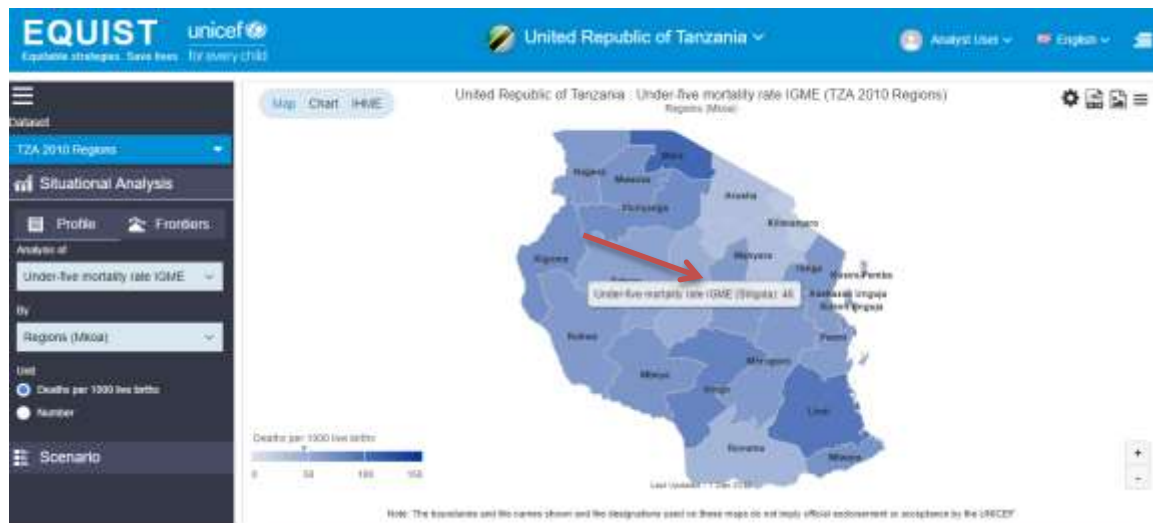
1. Map
2. Chart
3. IHME Map (only applicable for Under-five mortality and Neonatal mortality)

#### 4.1.1 Map

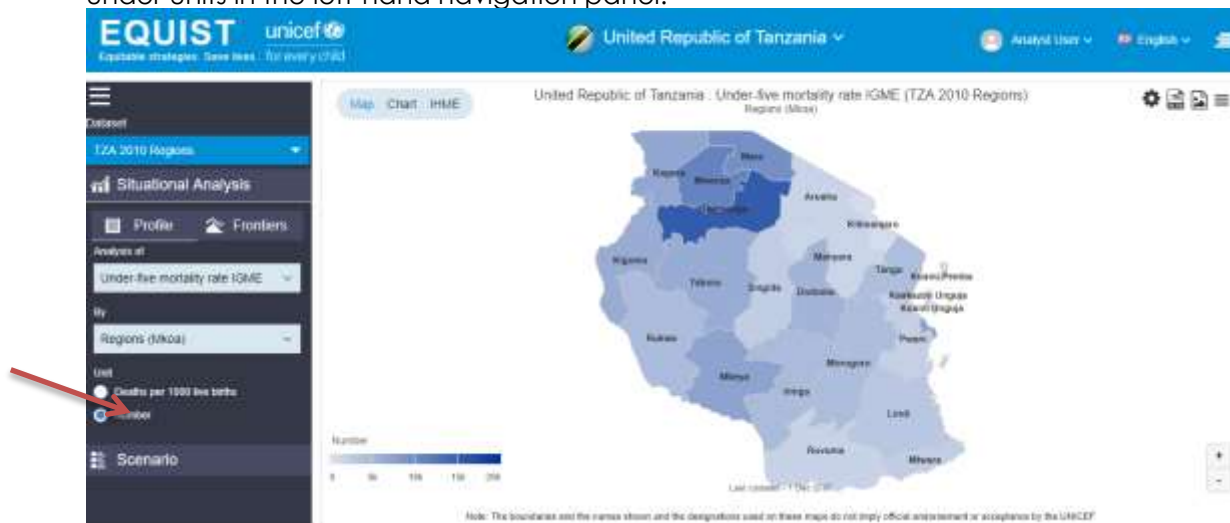
By default, this is the first screen a user can see.



To view the exact numbers of deaths per 1,000 live births in each province, click or hover your mouse on one of the regions of the map:



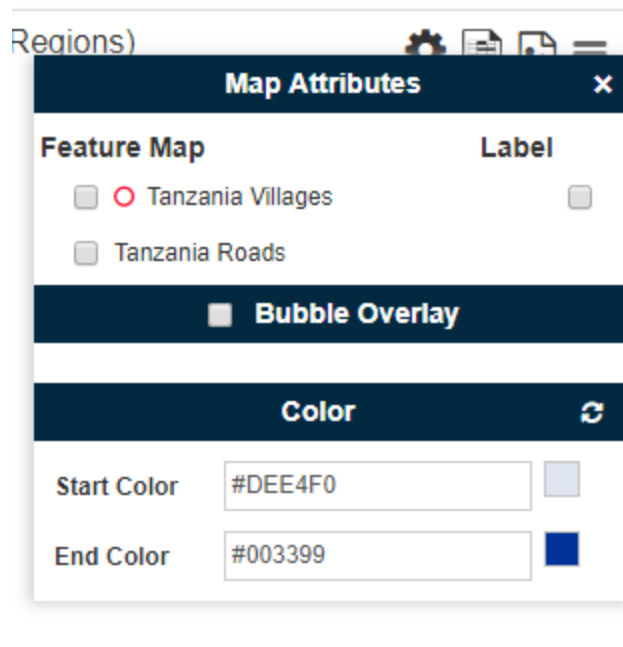
You can also view the absolute number of deaths in the regions by clicking on “number” under units in the left-hand navigation panel:



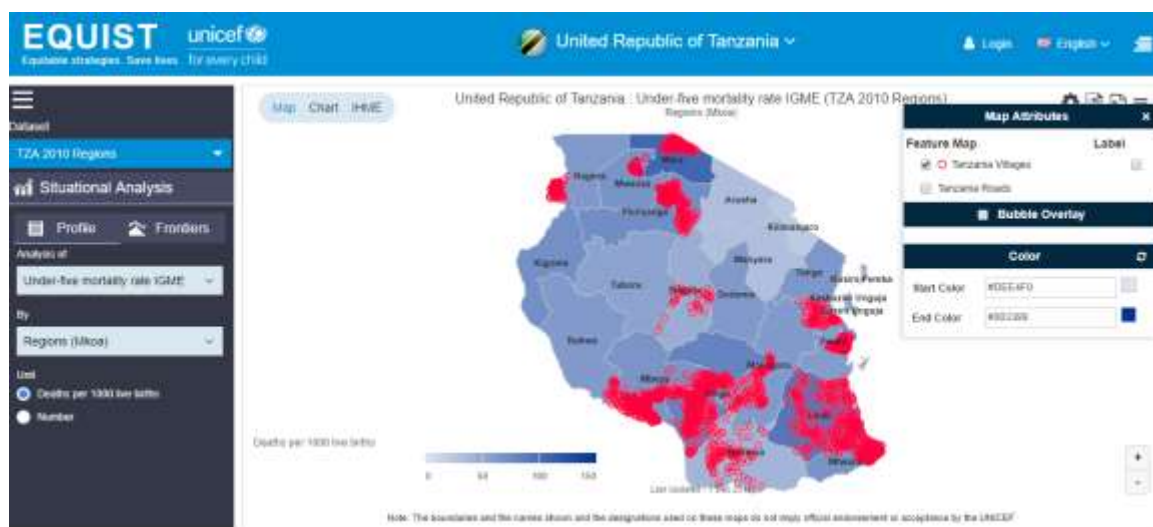
## Map Settings



First option of set **map settings** only will be seen for map. On clicking set map settings following view will open:

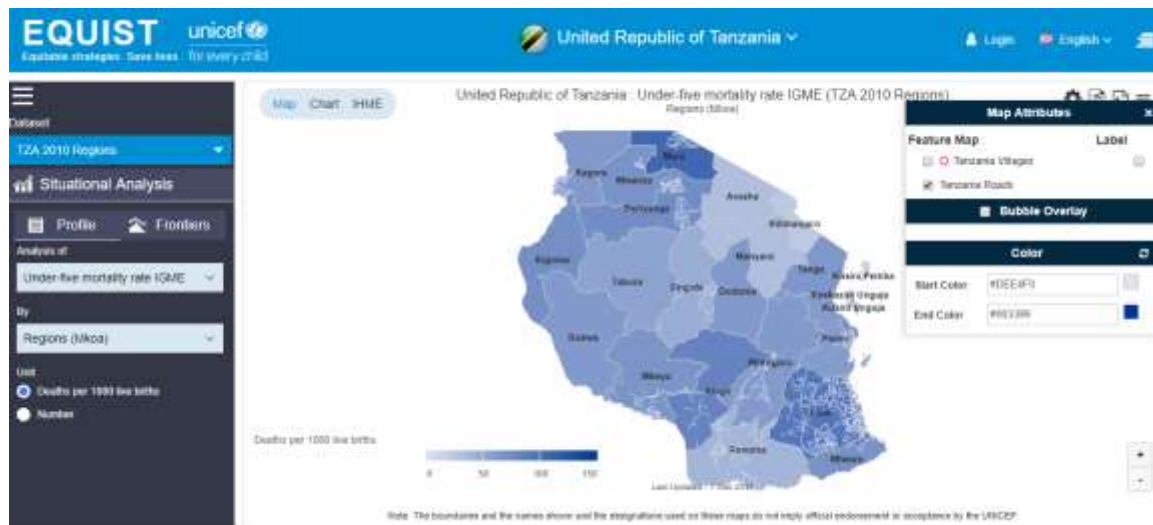


Based on the selected country, list of available **feature map** shall be displayed. On selecting these feature maps they shall be overlaid on the background thematic map.

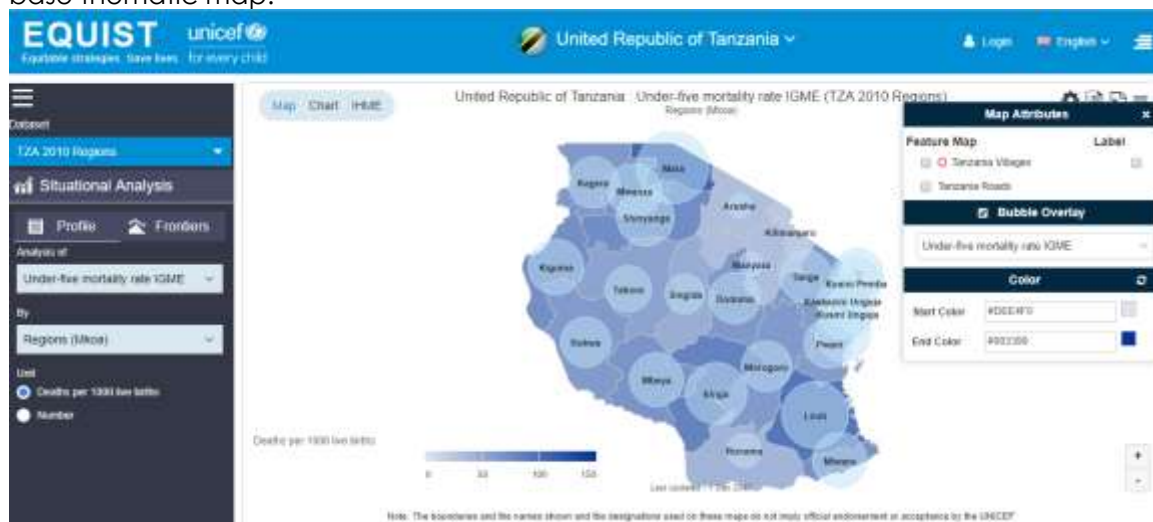


In the above map, the red coloured section shows 'Tanzania villages' and the map below overlays the available 'Tanzania roads'

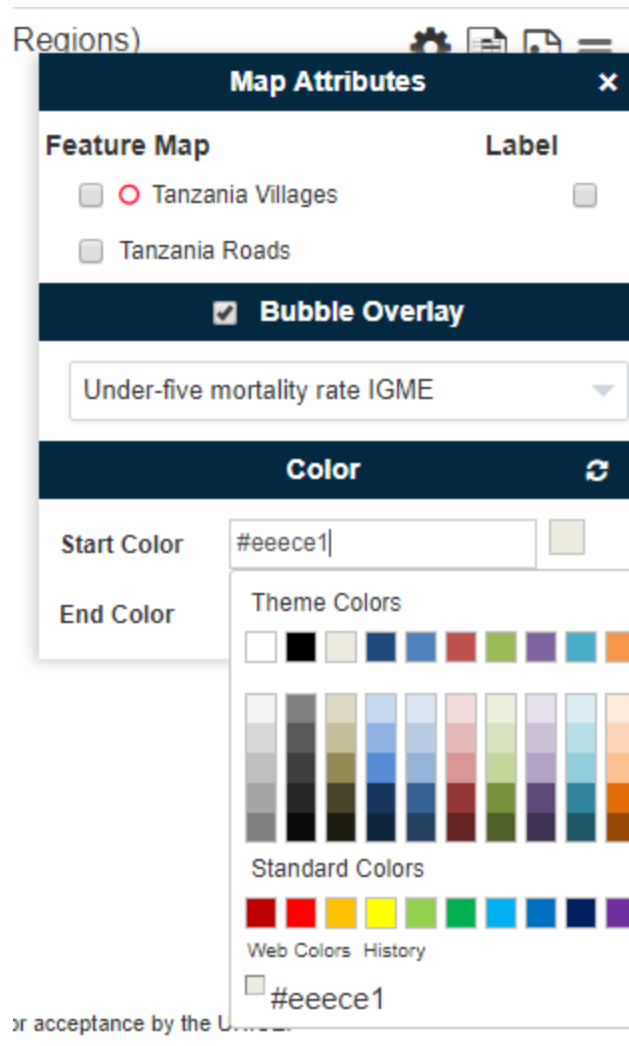
Multiple feature maps can be overlaid at the same time.



**Bubble overlay** feature allows superimposing supplementary indicator as bubbles over base thematic map.



Default color of map theme can be altered through **color** which includes start color and end color of map. A gradient theme of selected start color and end color is applied over thematic map. User specific preference is persisted by the application. Clicking the reset icon resumes the default color.



One of the important elements for the user in the Situational Analysis is the ability to zoom in on maps, and download maps and charts as excel files:

1. To zoom in on the map click the + button:



The map will enlarge:

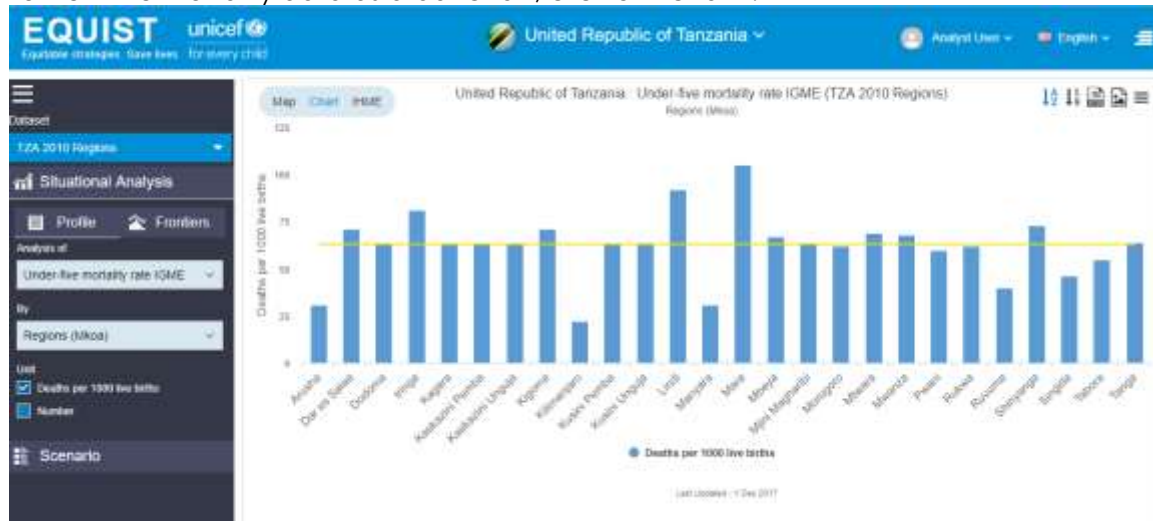




Also you can scroll up and down using your mouse or double click on map. It will zoom in and zoom out the map accordingly.

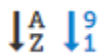
#### 4.1.2 Chart

To view the mortality data as a bar chart, click on “chart”:

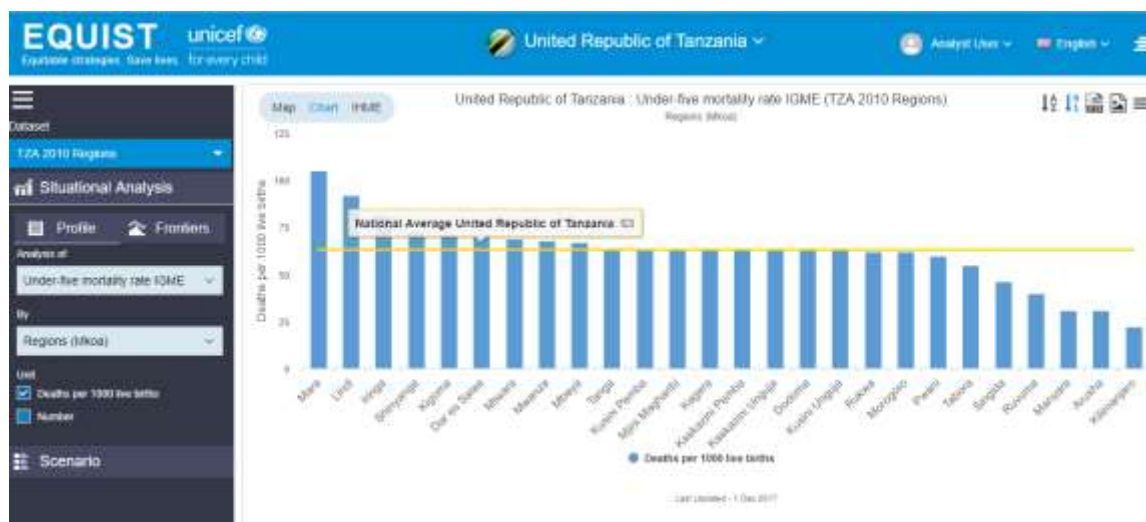


#### Sorting

The following two buttons for sorting are only available for charts. This would help sorting the chart data alphabetically or by data value in ascending or descending order.







### National Average

National average is shown as yellow line for indicators with unit as rate

## Download

This button is common for both map and chart view.

Once you examine U5MR data by province/district whether for maps or charts, you may wish to download the visualization. Clicking on button:

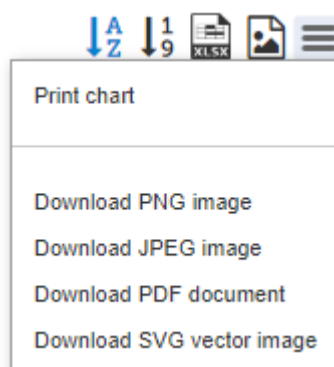


It will download an excel file with the map or chart content and its data.



Download **country profile** chart in excel format. This is exhaustive summary of mortality and nutrition data with powerful visualizations.

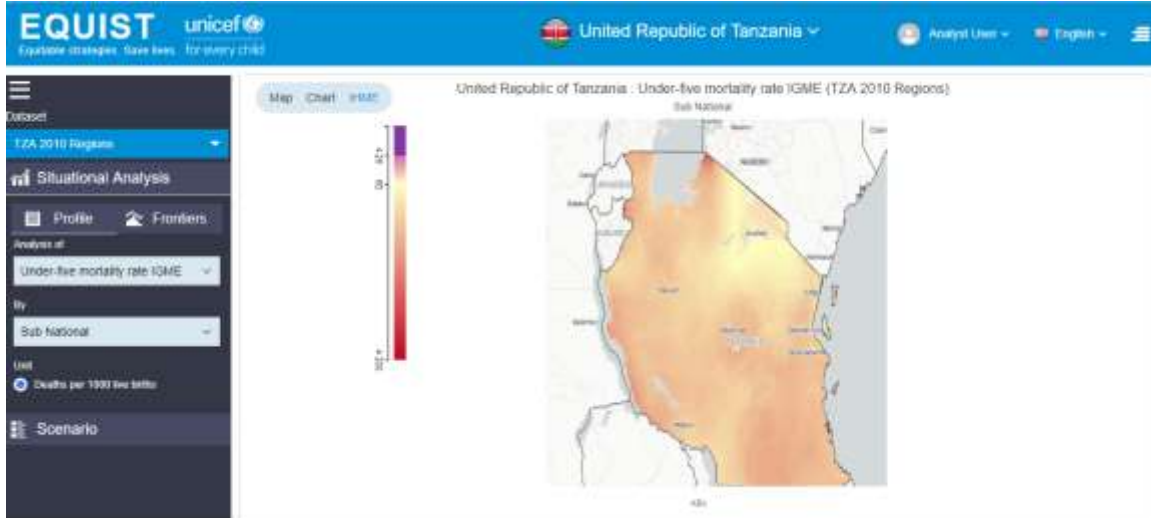
The user can also download the data as a PDF or JPEG image. To do this, click the downward arrow in the upper right hand corner, and select the option you wish to save in the following formats:



### 4.1.3 IHME Maps

The IHME Map can be seen by clicking on the IHME Map option. It is only available for the indicators: Under-five mortality IGME and Neonatal mortality.

Link to the original IHME website is available under the IHME map



## 4.2 Equity Frontier Analysis

The next section of the dashboard is the equity analysis. This module is intended to identify which factors most contribute to addressing inequity and reducing the disparity between the different groups analysed through the Population modules.

The generated charts do not show absolute numbers deaths but rather *amenable deaths*. Amenable deaths refer to deaths in disadvantaged populations caused by the fact that these populations have lower coverage of high impact interventions than the least disadvantaged populations in the same country. Another way of understanding this is **excess deaths among the poor that, in principle, could be averted by bringing the coverage of interventions among the poor to a certain predefined level**. This analysis is a crucial component of EQUIST, which explicitly encourages countries to focus on reducing health disparities prior to, or at least concurrently with, efforts to move towards universal health coverage.

The first step will be to click "Frontiers" on the left-hand side menu:



One needs to follow these steps to view frontier chart.

For generating frontier chart user needs to make following five selections in above screenshot

**Inequity by:** Selection of required indicator under 'Inequity by' will be the first step

**Benchmark:** Either Equity or Operational benchmark can be set.

### Equity frontier

The *equity frontier* that is generated indicates how many lives could have been saved or malnutrition cases averted if the country of selection were to equalize coverage values for the least disadvantaged within the most disadvantaged population.

The way that the excess deaths by quintile is calculated is: [under-five deaths in the poorest 4 wealth quintiles based on existing coverage of high impact interventions]- [under-five deaths in the poorest 4 wealth quintiles if coverage of high impact interventions is raised to the same levels as the wealthiest quintile in the same country].

Dataset  
TZA 2010 Regions

Situational Analysis

Profile Frontiers

Inequity by  
Under five mortality

Benchmark  
Equity

Disaggregation by  
Epi Cause

Deprived group by  
Regions (Mkoa)

Unit  
Number

of

Situational Analysis

Profile Frontiers

Inequity by  
Under five mortality

Benchmark  
Equity  
Equity  
Operational  
Epi Cause

Deprived group by  
Residence

Unit  
Number

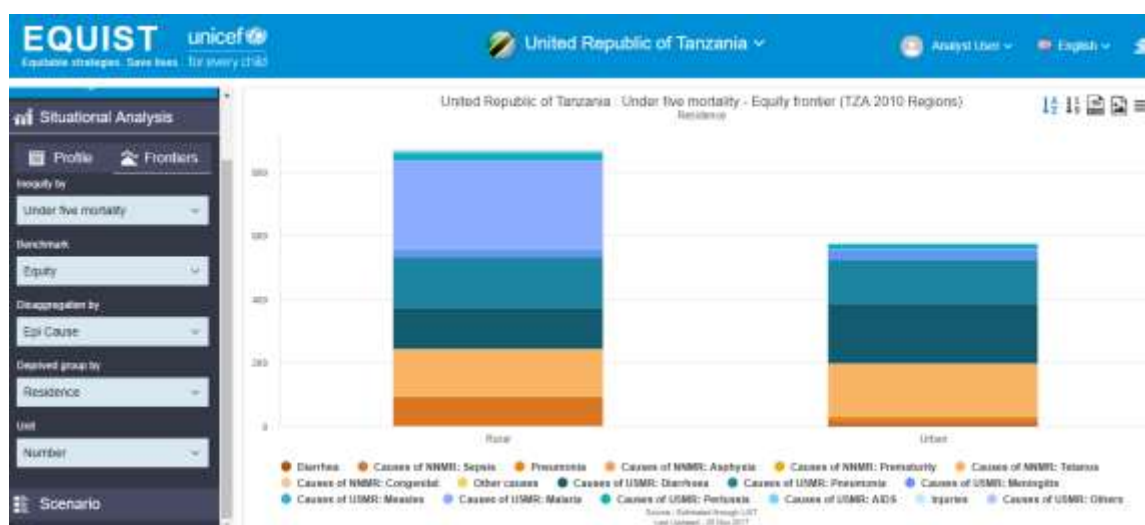
The equity frontier serves as a benchmark to what seems feasible in that particular context.

**Disaggregation by:** Continuing with process, select from 'disaggregation by' dropdown menu. You can view the amenable deaths by: epicause and package.

**Deprived group by:** You can view the amenable deaths by wealth quintile. Please see below for a definition of how each of these exercises would be calculated:

| Excess Deaths by Variable:    | Formula:   |
|-------------------------------|--|
| Sub national                  | [under-five deaths in the geographic regions with the highest under-five mortality]-[under-five deaths in those same regions if under-five mortality was reduced to the same level as in the region with the lowest under-five mortality in the country]   |
| Urban/Rural Area of Residence | [under-five deaths in rural locations]-[under-five deaths in rural populations if under-five mortality was reduced to the same level as in urban populations in the country]   |
| Epicause                      | [deaths in the poorest 4 wealth quintiles due to major illnesses, based on current levels of coverage of high-impact interventions]-[deaths in the poorest 4 wealth quintiles due to major illnesses, if current levels of coverage are increased to be the same as in the richest quintile]               |
| Package                       | [deaths in the poorest 4 wealth quintiles related to the current coverage of high-impact interventions, allocated to those interventions]-[deaths in the poorest 4 wealth quintiles if coverage of interventions was increased to the levels in the wealthiest quintile, allocated to those interventions] |

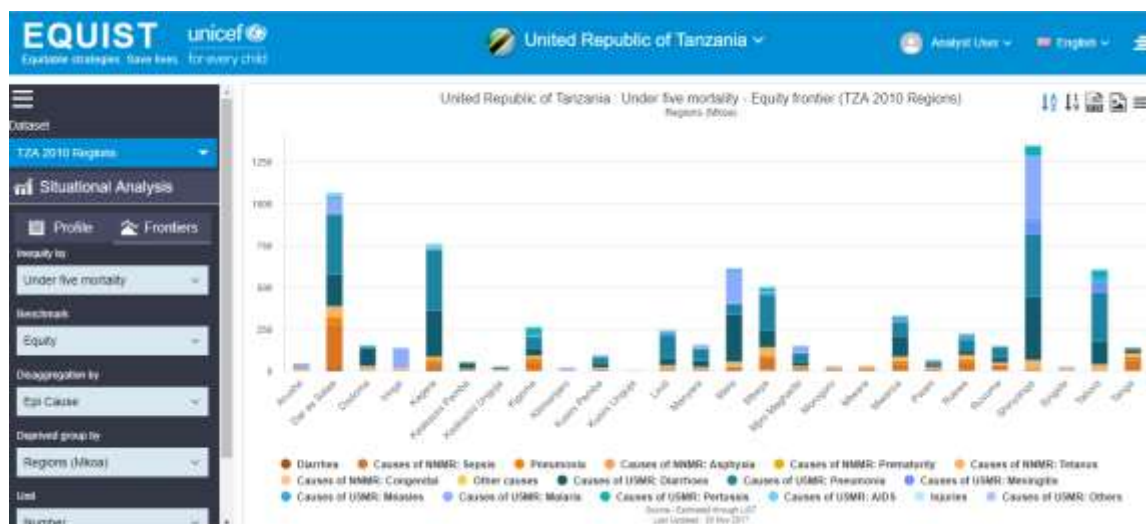
As an example, the amenable deaths for U5MR (i.e. equity frontier) in the Tanzania in 2010 by residence (rural vs. urban) would appear as shown:



This graph shows that approximately 800 deaths could have been averted (excess deaths) if the coverage values for the rural (most disadvantaged) population was

equivalent to that of the urban (least disadvantaged) population. Therefore, burden of deaths being heavier in rural area, strategies would be defined to specifically address the situation in rural area if we want the plan or programme to be effective and generate results at large scale.

EQUIST will then automatically generate equity frontier graphs. The chart will look similar to the one given below, depending upon the country of context:



### Operational coverage frontier

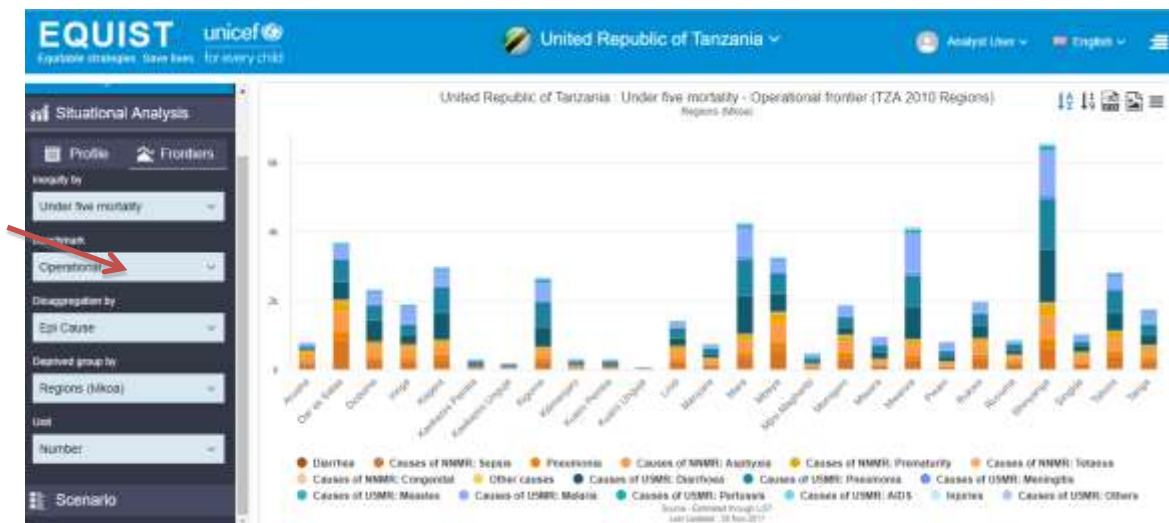
In UNICEF's recent *Narrowing the Gap II* study, a group of over 50 countries were included and one of the key areas of analysis was the measurement of changes in supply, demand and quality of bottlenecks for these 50+ countries over a period of around 5 years. This allowed identification of the best results found among these countries in reducing each of bottlenecks analysed. This provides us with a benchmark of "good practices" that serve us as realistic benchmarks of what is feasibly within a medium-term scenario.

**"Operational coverage frontiers"** for the most disadvantaged quintiles is the change in effective coverage of evidence based high impact interventions (health, nutrition and WASH, HIV etc.) that is considered feasible if their bottlenecks are reduced with the same proportion as observed recently in the most disadvantaged quintiles in best- performing countries. This represents a medium-term benchmark based on "best practices" in reducing bottlenecks.

To conduct the **operational frontier**, select "Operational" from the "Benchmark" menu

Based on the settings for 2010, for Tanzania by regions , the model allows you to visualize operational frontiers and equity frontiers in a stacked bar format disaggregated by

group, disease, intervention and bottleneck. The operational frontier graph will appear as follows:



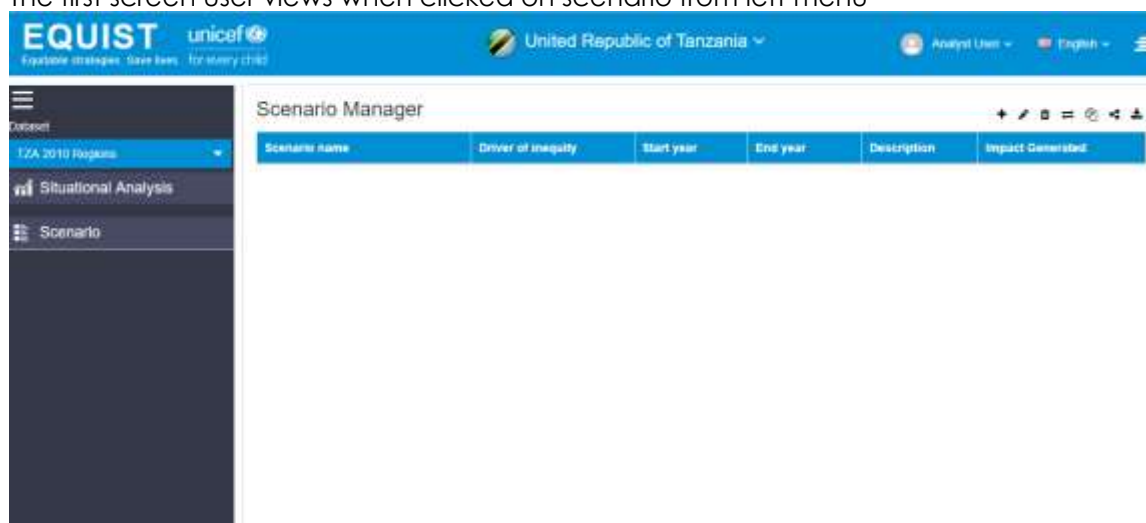
This analysis shows that the greatest number of amenable deaths (6k+) occur in the Shinyanga province of The United Republic of Tanzania. This means that if coverage levels in Shinyanga were equivalent to those of the best performing countries, approximately thousands of deaths would be averted

## 5 Scenario analysis

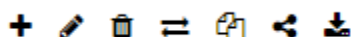
In the scenario analysis, you have the option to assess a model and compare the effectiveness and cost-effectiveness of alternative strategies (or scenarios) in terms of prioritisation of different target populations, selection of different groups of preventive and curative interventions and identification of different strategies to address bottlenecks for effective coverage of these interventions.

Scenario analysis is available only to logged in user. As explained in previous chapter, user needs to do Country selection and Dataset selection from respective dropdowns. A country may have multiple datasets, in most cases the user would prefer to build a scenario on most recent dataset.

The first screen user views when clicked on scenario from left menu



Icons on rightmost corner are:

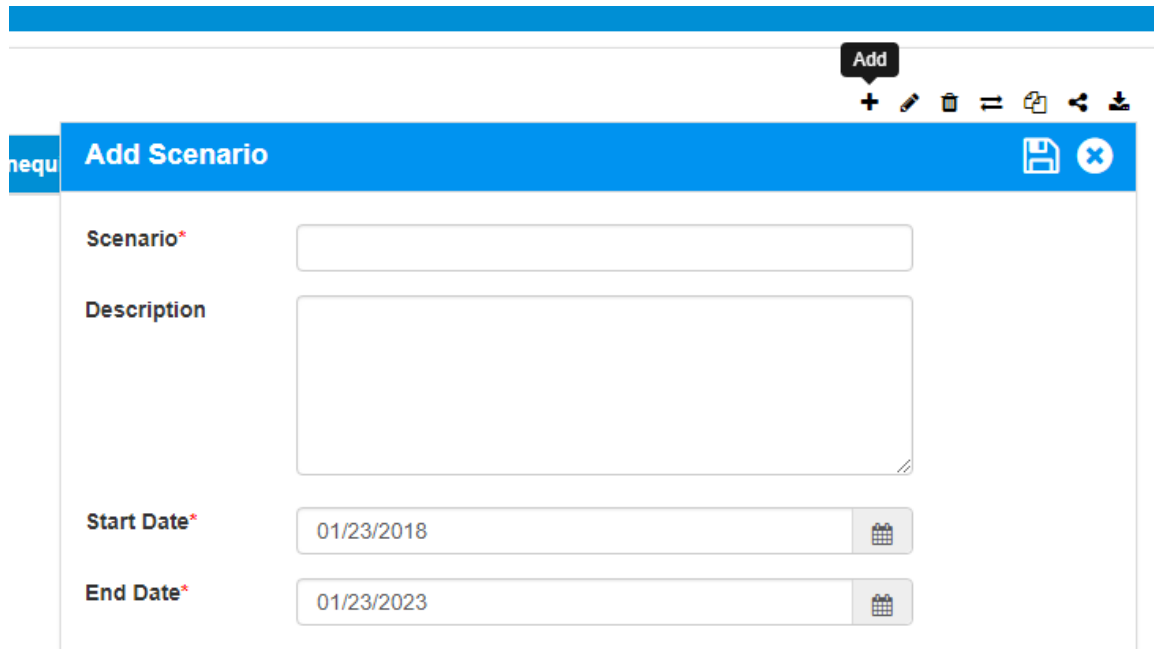


- Add scenario
- Edit scenario
- Delete scenario
- Compare scenario
- Copy scenario
- Share scenario
- Download scenario

This is the function of each option:

**Add Scenario.** For continuing scenario analysis, user needs to create a Scenario. Process of making scenario is as follows:

Clicking on 'add button' will open a pane



The screenshot shows the 'Add Scenario' form in the EQUIST application. The form is titled 'Add Scenario' and includes the following fields:

- Scenario\***: A text input field.
- Description**: A large text area for a brief note on the focus area of the scenario.
- Start Date\***: A date picker showing 01/23/2018.
- End Date\***: A date picker showing 01/23/2023.

At the top right of the form, there are icons for adding, editing, deleting, and saving scenarios. The 'Add' button is highlighted.

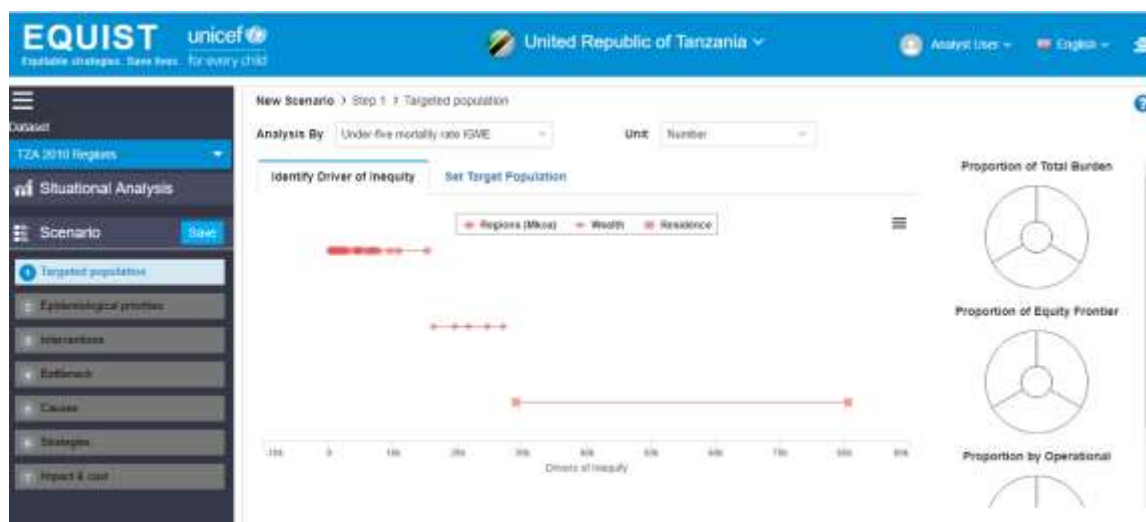
Showing fields Scenario, description, Start date and End date

User can add scenario name and its description accordingly. Description field should be used to give a brief note on the focus area of the scenario. Current date is set as default start date with a gap of 5 years (default end date). One can change the selections as per need. '\*' sign implies the mandatory fields which user need to enter. Filling the data in pane user can now save the data using save button or cancel if wants to discard the changes using these two buttons respectively.



Saving will redirect to the first step of Scenario building





To view the list of scenario click on 'scenario' in left pane this screen will appear. All the scenarios created by logged in user for the selected country and the dataset shall be displayed.

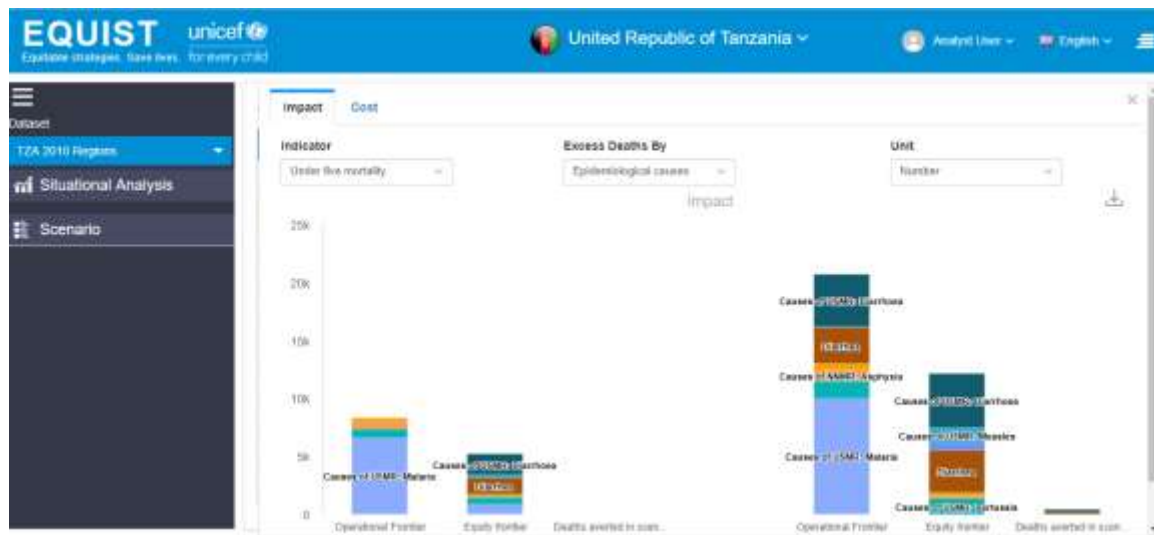
| Scenario name                           | Driver of inequity | Start year | End year   | Description | Impact Generated |
|---|--------------------|------------|------------|-------------|------------------|
| <input type="checkbox"/> New scenario 1 |                    | 2018-01-25 | 2025-01-25 | null        | ✗                |
| <input type="checkbox"/> New scenario 2 |                    | 2018-01-25 | 2023-01-25 | null        | ✗                |
| <input type="checkbox"/> New scenario 3 |                    | 2018-01-25 | 2018-01-24 | null        | ✗                |
| <input type="checkbox"/> New scenario 4 |                    | 2018-01-25 | 2023-01-25 | null        | ✗                |

**Edit Scenario.** User can edit the basic details of scenario by checking the box besides the name of scenario and clicking edit button. Alternatively, one can click on the row which will highlight the selected row and can edit it by clicking on edit button. Same screen as explained in 'add scenario' with details of the scenario selected will appear. User can change its fields like scenario name, start date etc. and then saving its changes.

**Delete Scenario.** Selecting the scenario and clicking on delete button will remove that particular scenario.

**Compare Scenario.** This is applicable in case of multiple scenarios. If user wants to compare two or more than two scenarios, he/she will select those scenarios and click on compare button will open this pane. Remember compare scenario will work in case of those scenarios whose **Impact has been generated**.

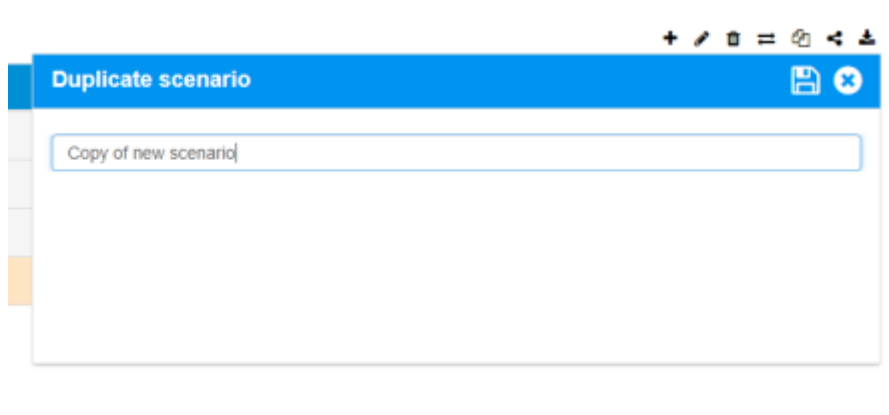
### Comparing impact:



### Comparing cost:



**Copy scenario** allows creating a duplicate instance of existing scenario. The user can alter the selections at various steps without affecting the original scenario. The following screen will appear

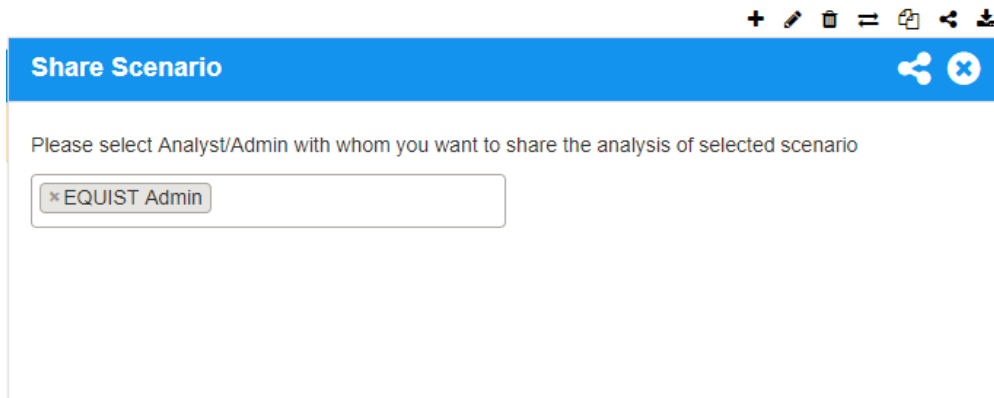


'Copy of' will be set as a prefix to the name as a default for the new scenario. One can edit the name and click on save button. Next screen will now populate the copied scenario with its name. This option is very helpful when a user wants to create multiple scenario for different geographical areas, however keeping same the other selections for interventions, causes and strategies for example. User may also want to persist selection from a previous scenario and make some adjustments in the copy of the original scenario. This allows for better comparison and evaluation of results and avoids extensive selection process every time, while building a new scenario.



**Share scenario.** Provision for sharing scenario with users of Equist is also there. This feature allows users to share a scenario with colleagues or reviewer with in EQUIST. When sharing a scenario, a copy of the scenario starts showing up for the user with whom the scenario was shared. Any changes made in the copy of the scenario, will not affect the original scenario residing with owner of the scenario.

User clicks on the scenario which they want to share and clicks on share button.  
Following screen shall appear



Share Scenario

Please select Analyst/Admin with whom you want to share the analysis of selected scenario

x EQUIST Admin

As it is a searchable field, one can type the name and it will appear. After selecting one or more users click on the share icon. For sharing any concern related to scenario with support team it can be shared with the EQUIST Admin user which helps the support team in analysing the scenario.

**Download scenario.** At any step of the scenario analysis, you can download a summary report of your analysis. Pressing the button will enable an automatic download of an excel file summarizing your data choices and impact charts

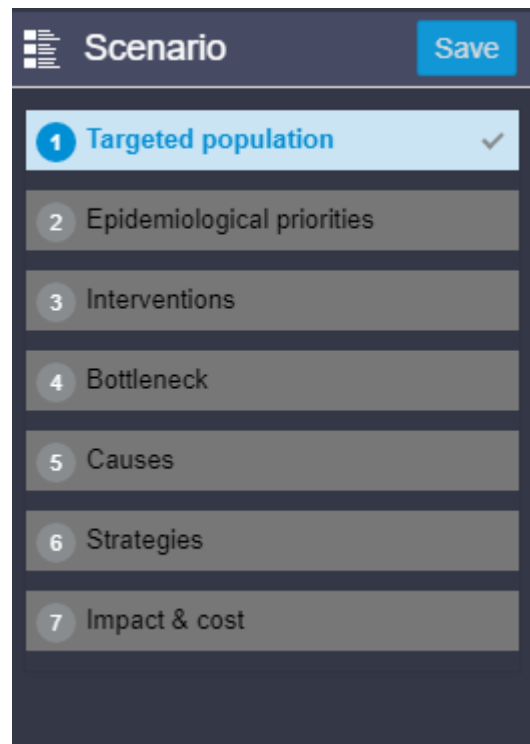
## 5.1 EQUIST's step-wise approach

This section will cover the 7 steps in scenario analysis.


The scenario analysis works in a top-down and stepwise approach. You will identify priority areas in the following order of steps:

1. Targeted population
2. Epidemiological priorities
3. Interventions
4. Bottlenecks
5. Causes
6. strategies
7. Impact & Cost

What you select for the targeted population will impact the next analysis for epidemiological priorities, which will in turn affect the interventions analysis, and so on. That is why other than targeted populations all other options are greyed out. All other steps will get enabled sequentially. It is also important to note that EQUIST will automatically display data for the scenario analysis from data that is pre-populated by your country customization team.



On saving a new scenario, system redirects the user to the first step of scenario building. The breadcrumb on the top depicts the name of the scenario>Sequence of step >

Name of the step.  icon will be on each step. This will open a help guide so that user will know what each step does in brief.

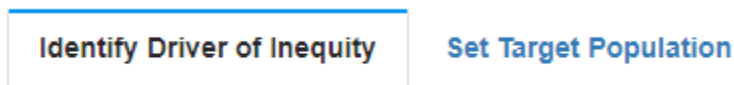


### 5.1.1 Targeted Population

Under this step the user makes selection of target population that the scenario will be focused at. The choice around different type of disaggregation from which the target population can be selected is dependent on the associated dataset. If the dataset associated to the scenario has data by Geography, Wealth Quintiles, Residence or other disaggregation, target population selection can be made from one of these disaggregation types. User needs to first select one of these disaggregation types. These are also called driver of inequity. To determine your driver of inequity, refer back to your equity situation analysis.

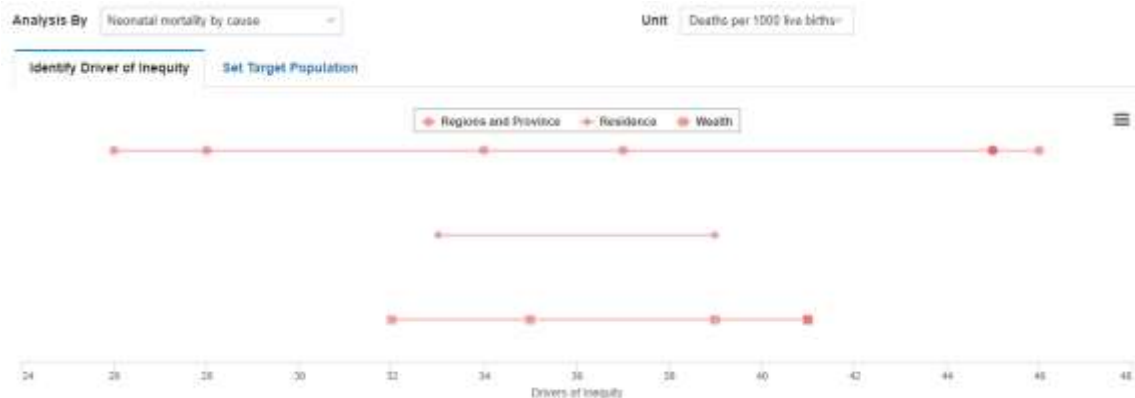
User will be able to see two tabs

- Identify driver of Inequity
- Set target population

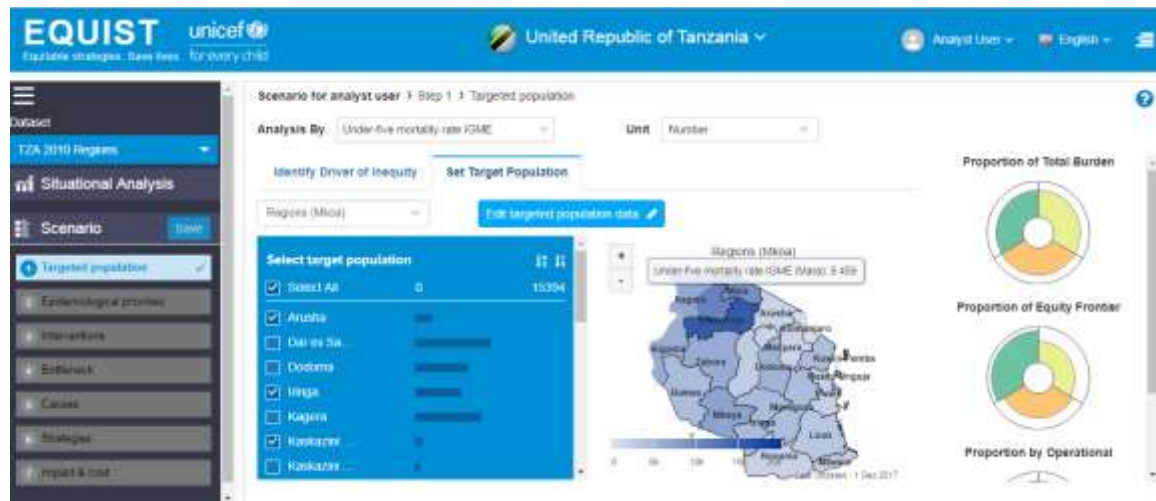


In addition to the analysis performed under the situation analysis, under this tab user can further analyze and assess the driver of inequity using the equi-plot visualization. The Analysis by option allows changing the indicator; the equi-plot will refresh to show the data based on selected indicator.

The hamburger icon on the right side allows user to download chart in various formats



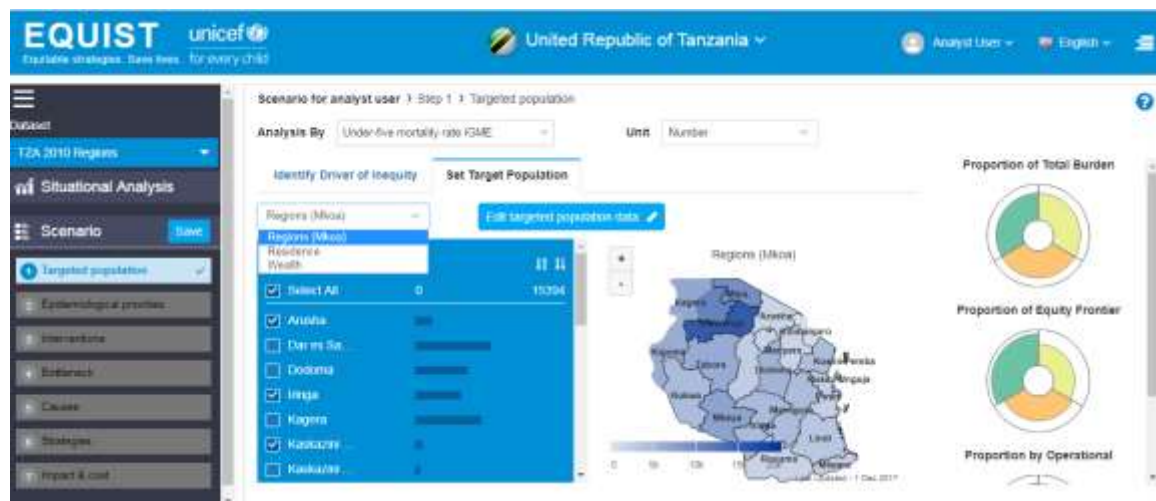
In the second tab, the user can select the driver of inequity in the dropdown and then select the deprived population with the help of indicator charts and map available. The following screen will appear:



You may want to select the regions with the worst health indicators. To decide this, use the map on the right and toggle with the “analysis by” function above the map to select various indicators by demographic parameters, epidemiological parameters, and theme

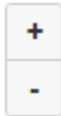
As you do this, the map will change to indicate the areas with the lowest and highest values for that particular indicator. If you choose “Under-five mortality rate IGME, the map will show these percentages accordingly:

In this step, you can prioritize the target population by the disaggregation types that are available in the associated dataset. For most of the pre-uploaded datasets, data is available by Regions, Wealth and Residence.



Further, you may want to select the regions for the target population with the highest rates of Under-five mortality IGME. You can do this by either selecting the regions on the map directly or selecting/deselecting the region names under “select target population”. One has the option to sort areas and the respective data values. As the areas are selected, the boundaries of map (here for United Republic of Tanzania) will start getting highlighted. The zoom icon will help in zooming in and zooming out.



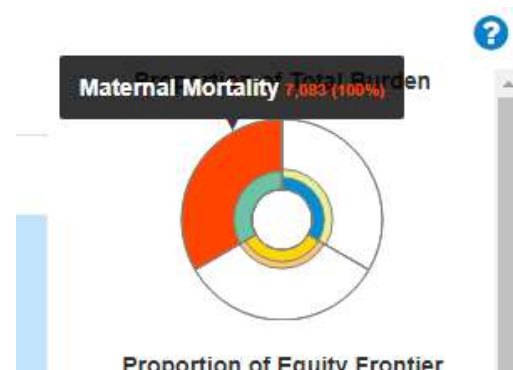


EQUIST allows you to analyze simultaneously the absolute burden of disease.

The donuts on the right side show

- Proportion of total burden
- Proportion of equity frontier
- Proportion of operational frontier

All the above three donut charts show the share of targeted population as compared to the total values for the country.



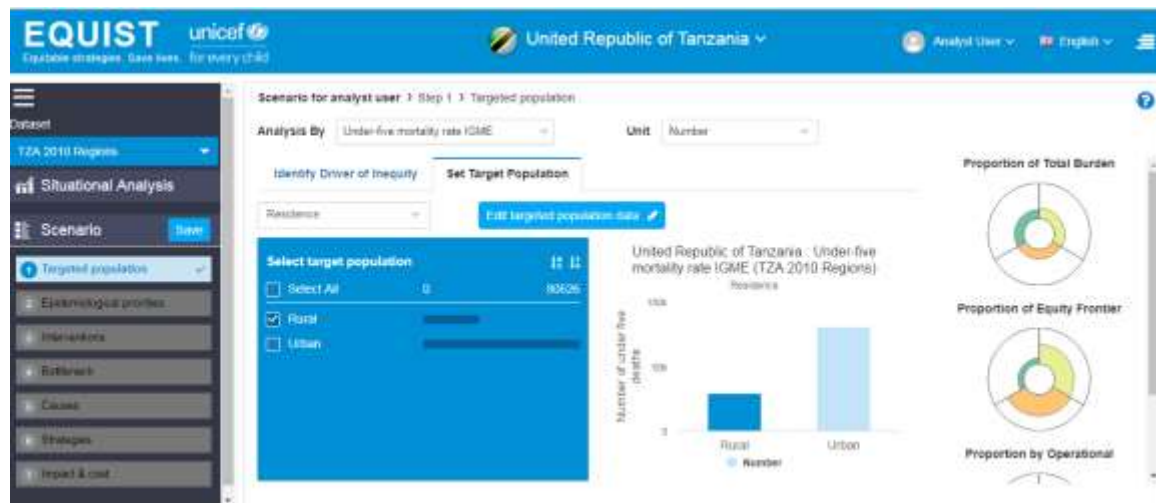
Once the target population selection has been saved, user can further refine some key data points using the “Edit targeted population data” button. On clicking the button following grid will appear, that shows the weighted average values for each indicator, this value is calculated by system based on selection of target population. may be optionally used to identify a specific target group within the identified disadvantaged population: (e.g. a district within a province or region). After you click this, the following screen will appear:

| Parameter   | Unit                 | Default value | Default source  | Current value | Current source            |
|---|----------------------|---------------|---|---------------|---------------------------|
| Population in million   | Million              | 21.568721453  | MICS-2010   | 21.5687214    | MICS-2010                 |
| Average household size  | Number               | 6.2           | Missing Data Rule Applied: Consider National Data As Default/MICS-2010  | 6.2           | Missing Data Rule Applied |
| Proportion of women age 15-49 married   | Percent              | 69.4          | Missing Data Rule Applied: Consider National Data As Default/MICS-2010  | 69.4          | Missing Data Rule Applied |
| Percent of Women currently pregnant   | Rate                 |               |   |               |                           |
| Crude birth rate  | Per 1,000 population | 37.9          | Missing Data Rule Applied: Consider National Data As Default/World Bank-2010  | 37.9          | Missing Data Rule Applied |
| Proportion of Population under 5 years  | Percent              | 17.92         | Missing Data Rule Applied: Consider National Data As Default/World Bank (2010); United Nations Population Division 2010 | 17.92         | Missing Data Rule Applied |
| Proportion out of total population that is female - 15-19 years of total Population     | Percent              | 10.58         | Missing Data Rule Applied: Consider National Data As Default/World Bank (2010); United Nations Population Division 2010 | 10.58         | Missing Data Rule Applied |
| Proportion out of total population that is female - 15-49 years of the total population | Percent              | 44.15         | Missing Data Rule Applied: Consider National Data As Default/World Bank (2010); United Nations Population Division 2010 | 44.15         | Missing Data Rule Applied |

Default values are shown for the selected disadvantaged group and the revised value for targeted population may be updated under current values.

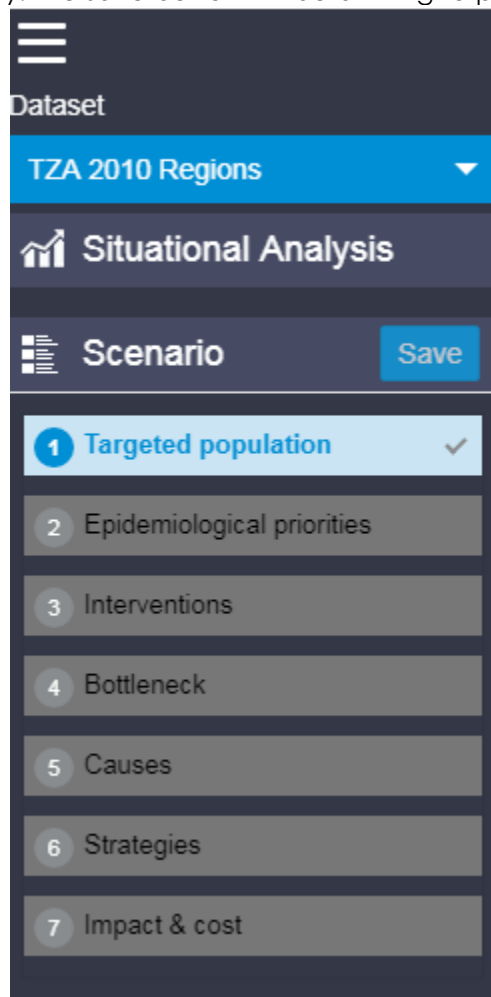
Make sure to click save after you are complete with the target population selection.





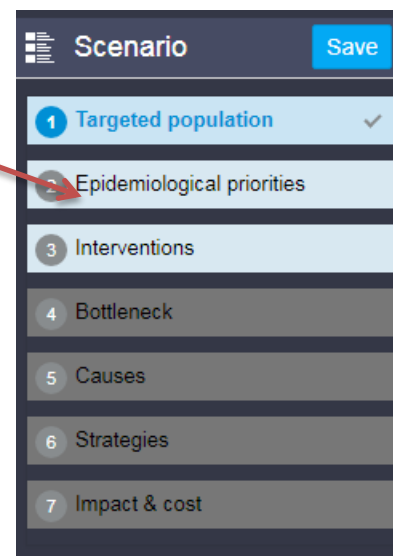
Make sure to click 'save' after you are complete with the target population selection. This will then open Step 2 and step 3 i.e Epidemiological priorities and interventions

respectively. The save button will be blinking to provide alert:



### 5.1.2 Epidemiological priorities

This step you will be able to perform after you finished step 1 and saved it. Once you come to this step in this step, you will identify the epidemiological priorities for your scenario, taking into consideration your overall objective as well as the specific country's context. You need to identify what your ultimate objective and/or area of interest is. Is it overall child mortality and nutrition? Are you interested specifically on neonatal mortality or maternal health? Is your area of focus limited to the immunization programme. Are you only interested in malaria? You may want to use what you learned in the situation analysis to identify the key epidemiological priorities for your country context.



For example, if diarrhoea and pneumonia are contributing to a large portion of under-five deaths, you may want to focus your scenario analyses on these causes.

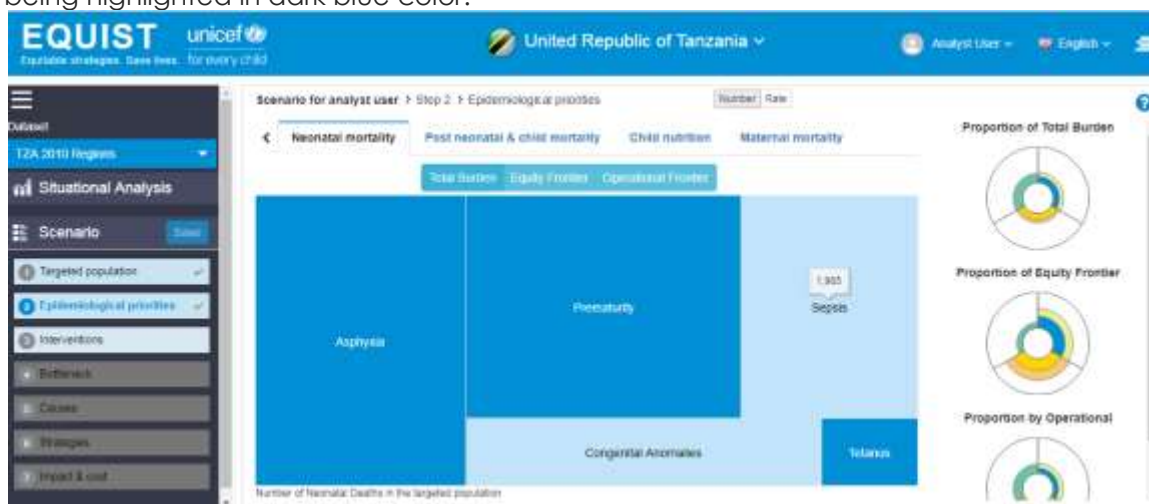
First select “epidemiological priorities” from the navigation menu on the left

The following screen will show in the scenario analysis window:



Causes of mortality are broken down into categories as listed at the top: neonatal causes, post neonatal & child mortality causes, child nutrition, and maternal mortality.

These are further divided into Total burden, equity frontier and operational frontier. Except for child nutrition, number or rate can be selected as units. Associated with each tabs are 'Epicauses'. For example here is attached screensh of Prematurity, Sepsis. Once we select these epicauses, the donuts will start changing. The selected epicauses are being highlighted in dark blue color.



Once you have identified your major causes of mortality across all causes, click on 'save'.

### 5.1.3 Interventions

Next, you will need to identify the priority interventions for the selected epicauses in step 2. EQUIST includes over 60 interventions. The interventions are grouped into nine "packages" further grouped into three service delivery modes: family care practices, preventive services, and curative services.

User can select interventions from this step which will further affect our analysis in upcoming steps.

The default analysis will show you effective coverage level at the family care practice. The screen shall look like



Three categories:

- Service Delivery Modes (SDM)
- Package
- Intervention

The interventions come under specified packages and fall under three main SDM's. By default selected indicator is 'Under-five mortality'. Further, one can select interventions accordingly. As we select interventions, they will start appearing in dark blue colour and all the steps following it will not be enabled. The donuts will start populating for the Equity frontier and Operational.

Note : Remember these all steps are interdependent on each other.



Once you have identified your major interventions across each service delivery mode, select 'save' to save the analysis.

#### 5.1.4 Bottleneck

In this section you will identify the priority bottlenecks to implementing the intervention(s) you have selected above:

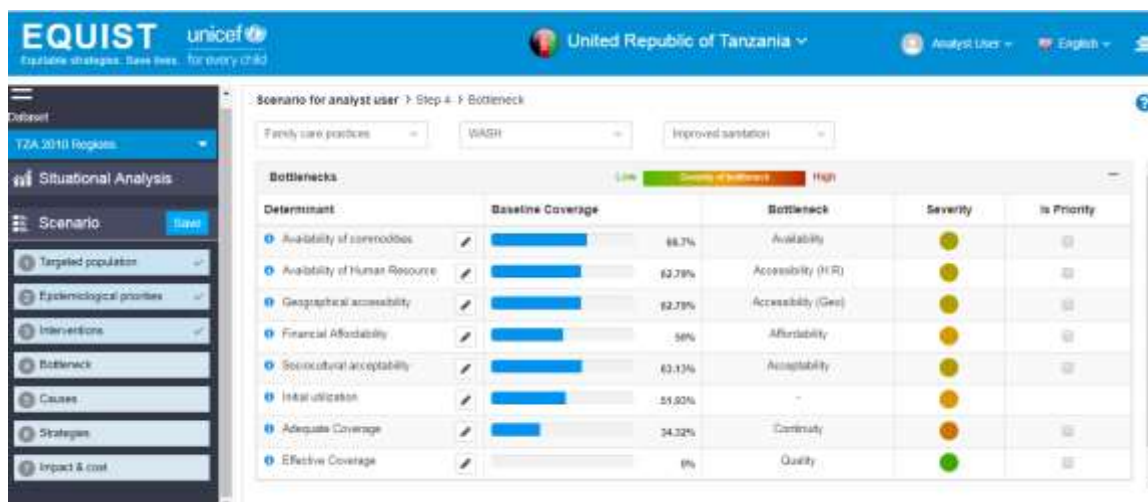
To properly conduct this analysis, you will want to understand the eight coverage determinants<sup>1</sup>, which include:

- i) Availability of commodities,
- ii) Availability of human resources,
- iii) Geographical accessibility,
- iv) Financial affordability,
- v) Sociocultural acceptability,
- vi) Initial utilization,
- vii) Adequate coverage, and,
- viii) Effective coverage

The bottleneck analysis framework in EQUIST assumes that eight conditions (coverage determinants) must be met to provide effective coverage of any health intervention. There must be supplies in place at accessible, adequately staffed and equipped facilities. The target population must be aware of the health service or desirable behaviour and be willing and able to seek care when indicated. Finally, the service must be provided (or health behaviour performed) with adequate quality to have its intended impact on health. This framework has been employed by UNICEF, the World Bank and others for many years and was originally adapted from Tanahashi et al 1978. In EQUIST, bottlenecks are divided into eight coverage determinants, which can be better understood as supply or demand determinants, as categorized in the table below. These determinants are highly inter-related, and the relationships between these are further described below:

<sup>1</sup> Definitions of each of these determinants is available in Annex I

The following screen would appear:



In this step all the analysis for bottleneck will be based on above three dropdowns

- SDM
- Packages
- Interventions respectively.

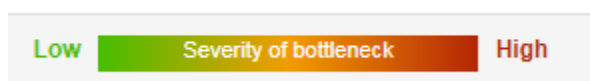
The interventions will change according to selection made in packages. Similarly packages will change according to its upper SDM's selected. All the bottleneck assessment will be now done based on dropdown selections. The interventions which we see in this step are those selected in previous step.



One will see five sections namely

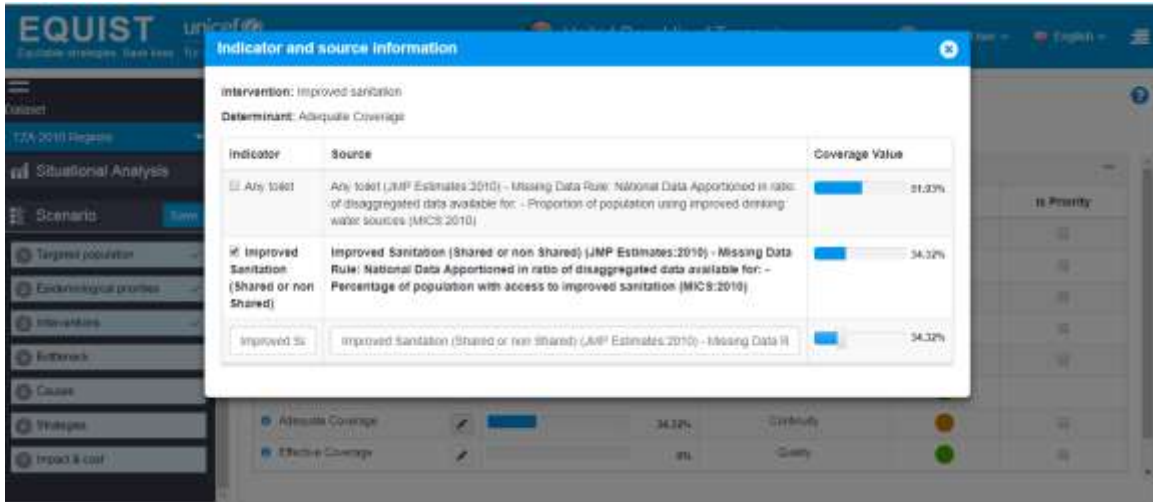
- Determinants,
- Baseline coverage,
- Bottleneck,
- Severity and
- Is priority.


Remember one thing if we are making analysis for SDM, last three determinants will not be visible while for package and intervention all the eight determinants will be visible.



EQUIST automatically derives the baseline values of coverage determinants from the indicators validated through the national customization processes. You can use quantitative or qualitative information available to adjust this assessment to your specific context. EQUIST will automatically calculate the severity of bottlenecks based on the indicators used to measure the level of compliance with each condition for utilization. You may want to adjust the disadvantaged coverage levels as an exercise to see how the severity of a particular bottleneck is impacted, accordingly.



Thus the circles showing various colours indicate the severity of that particular bottleneck. Here  symbolizes the least severity while as  shows highest severity. One can also prioritize these by clicking priority. The button besides determinant allows user to view or associate indicators which each determinant as shown



As we can see, either single or multiple indicators could be associated. Here 2 indicators are associated with Adequate coverage for Improved sanitation (intervention) with their respective sources and coverage value. By default selection, one is 'Primary indicator' and the textbox below will populate with that indicator name and its source and coverage value. User can accordingly , change the selections, source names, indicator names and coverage values for that updated and verified data. It will reflect background list, so will affect the Severity. using  icon

| Severity  | Is Priority              |
|---|--------------------------|
|  | <input type="checkbox"/> |
|  | <input type="checkbox"/> |

As you increase or decrease the bottleneck reduction values in the bottleneck analysis, the coverage values of the target population will adjust accordingly above. The coverage determinants follow a hierarchical relationship, through which the improvements in effective coverage result as a function of the cumulative reduction of the different bottlenecks. Complete this exercise by ensuring you have honed in on each of the bottlenecks labelled as severe (or moderately severe) within each service delivery mode and subsequent intervention, and subsequently identified and customized their causes and strategies.



After you make your bottleneck analysis adjustments, you will want to save your information. The 'save' button will prompt you to save this.

Once you have adjusted the baseline values of coverage determinants and the sources accordingly, you need to select the priority bottlenecks to be addressed – based on the relative severity of each bottlenecks as shown in the 'traffic light' monitor. You may want to focus your subsequent causal & strategy analysis on those bottlenecks labelled as 'severe' – or those with red boxes. You will want to then identify the causes to these bottlenecks with which to address them in next step.

One can collapse this section to move further to next section 'Enabling environment' The "proposed" bottleneck reduction value is calculated taking into account these factors. The enabling environment situation of the country – as defined through 4 indicators reflect:

- Social Norms
- Policy and legislation
- Budget and expenditure
- Management and coordination

Scenario for analyst user > Step 4 > Bottleneck

Family care practices WASH Improved sanitation

Bottlenecks

Enabling environment

**EQUIST** **unicef** **United Republic of Tanzania** Analyst User English

Scenario for analyst user > Step 4 > Bottleneck

Family care practices WASH Improved sanitation

Bottlenecks

Enabling environment

| Enabling environment      | Baseline Coverage | Severity | Priority |
|---------------------------|-------------------|----------|----------|
| Social Norms              | 78%               | Yellow   | Medium   |
| Legislation / Policy      | 100%              | Green    | Low      |
| Budget / Expenditure      | 23%               | Orange   | High     |
| Management / Coordination | 38%               | Orange   | High     |

### 5.1.5 Causes

In this step, the causes of bottlenecks mentioned in previous step are further analyzed. The following screen shall appear:





see the causes can be collapsed and the following screen shall appear:



These are same bottlenecks which were defined in last step. The colour legend shows severity of those bottlenecks. As the severity in previous step will decrease here it will start reflecting these bottlenecks.

✓ Sign indicates that it is prioritized as per the bottleneck, severity. Under these bottlenecks are causes. User can select these causes. For example, here we select Insufficient procurement, Inadequate storage and can update other causes like here Availability Other cause if that cause is not defined in system.

Description of various causes to the identified bottleneck. As we see selected ones are highlighted.

Once you have selected one or more causes, EQUIST will propose a generic strategy to address the particular cause, which will be evaluated in the next step. In this case, you can customize this, by selecting only those cause(s) that you feel are most relevant to the country of context and by deselecting that are not. You can also update the causes which are editable and may not be listed.

An important feature of the bottleneck assessment is the ability to manipulate the bottleneck reduction value, to see how the coverage of the target population is affected.

Next section here is the **Enabling environment** for these causes.

Here causes, whether direct or indirect, a collaborative comment for these causes can be executed.

After selections your screen will appear as follows:

Scenario for analyst user > Step 5 > Causes

Family care practicesWASHImproved sanitation

Causes


Enabling environment

Social Norms

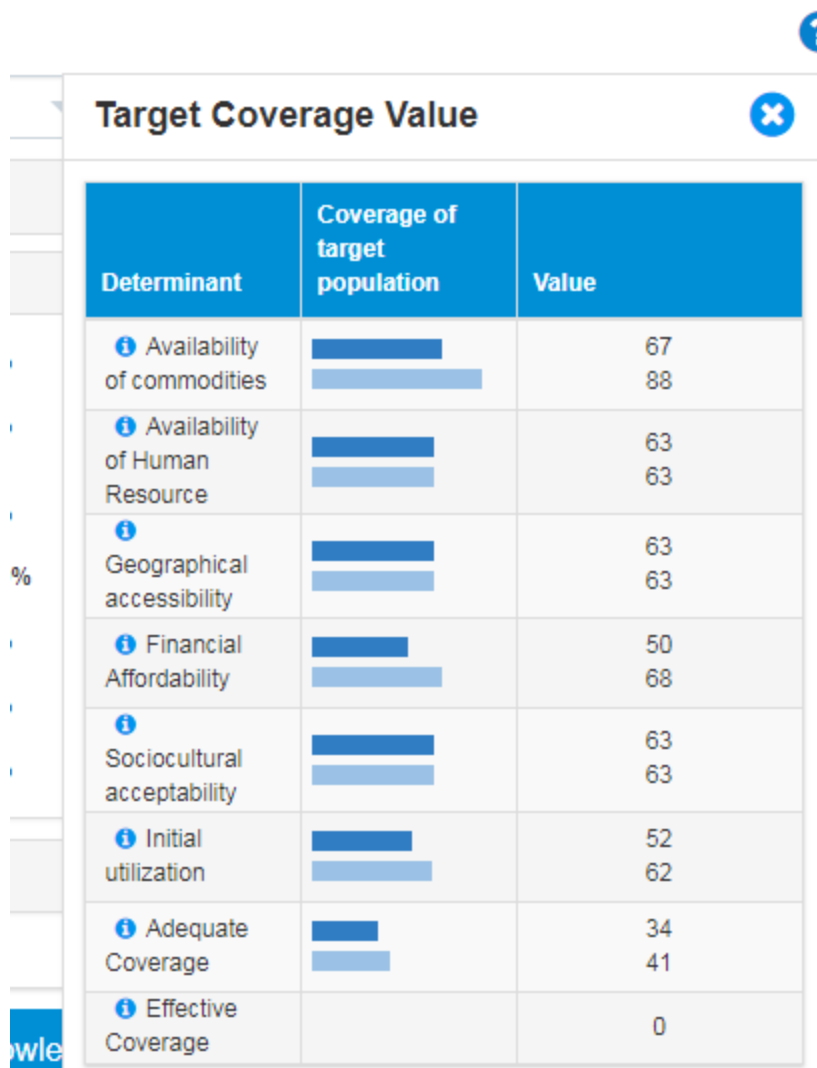
| Causes  | Immediate Cause |        | Comments/further details |
|---|-----------------|--------|--------------------------|
| Limited decision power of pregnant women and mothers  | Indirect        | Direct | <div></div>              |
| Misconceptions about origin of disease and effectiveness of interventions                       | Indirect        | Direct |                          |
| Entrenched preference for traditional methods/practitioners                                     | Indirect        | Direct |                          |
| Mistrust of modern technologies/institutions exacerbated by socio-political/religious conflicts | Indirect        | Direct |                          |

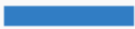
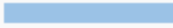

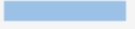

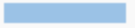
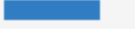


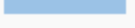

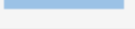

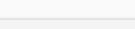
Legislation / Policy

You can accordingly select causes which have direct impact on those bottlenecks and are severe in nature.



The Hamburger icon Will show a collaborative coverage target population with their values in step 5 and step 6.

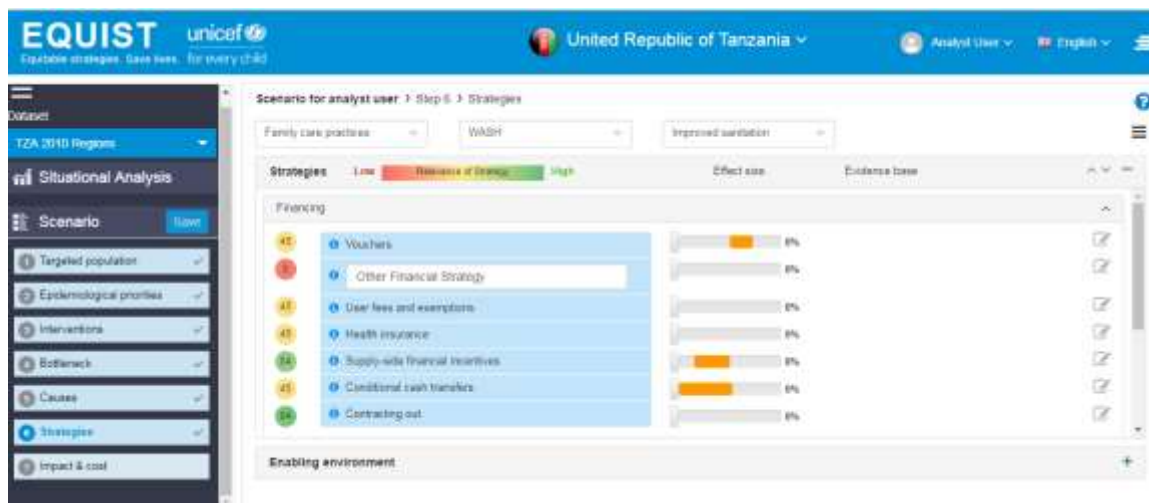


| Determinant                    | Coverage of target population   | Value |
|--------------------------------|---|-------|
| Availability of commodities    |    | 67    |
|                                |    | 88    |
| Availability of Human Resource |    | 63    |
|                                |    | 63    |
| Geographical accessibility     |    | 63    |
|                                |    | 63    |
| Financial Affordability        |    | 50    |
|                                |    | 68    |
| Sociocultural acceptability    |    | 63    |
|                                |    | 63    |
| Initial utilization            |  | 52    |
|                                |  | 62    |
| Adequate Coverage              |  | 34    |
|                                |  | 41    |
| Effective Coverage             |   | 0     |

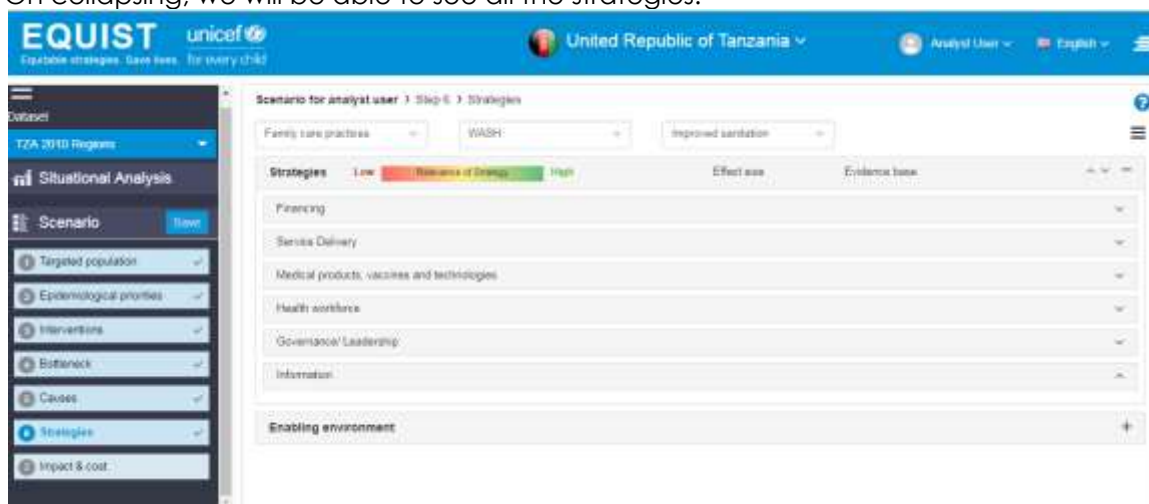
Once you are done click on save button and move further.

### 5.1.6 Strategies

The next step is of strategies. All the strategies are listed here.

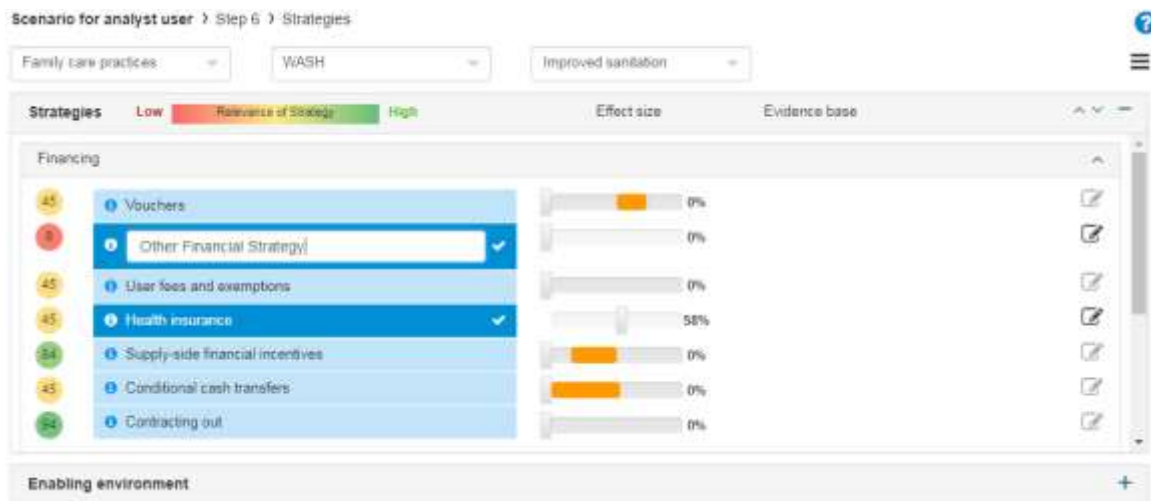


On collapsing, we will be able to see all the strategies.



These are predefined strategies. For evaluation strategies of the previously selected bottlenecks, their causes will be selected here.

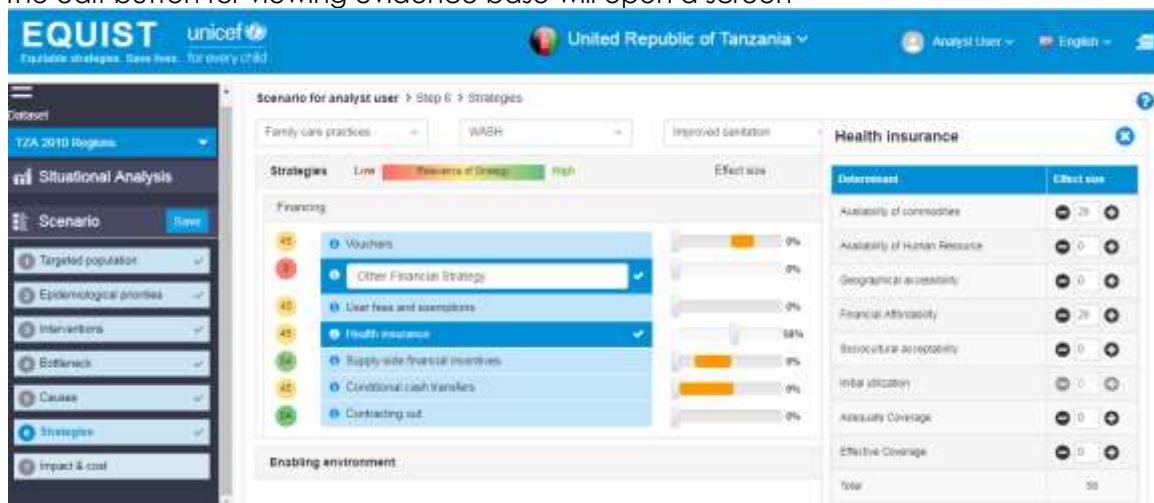
There is a scope to add other strategy which is not defined in the system. For example, by clicking on 'Other Financial strategy' the strategy will be selected and can be updated as well.



Effect size for selected strategies can be set using this slider



The edit button for viewing evidence base will open a screen



It will give a breakup of the effect size for each determinant accordingly. One can update the values which will reflect the values in background list.

Next section in strategies is identifying Enabling environment for the strategies. Similar to what was explained in the previous step 'causes'.

User will describe challenges identified in those steps for the causes mentioned and enabling environment strategies by filling up the text area. Once user is done with strategy analysis he will click on save button.

### 5.1.7 Impact & cost

The last step in scenario analysis is to estimate the LiSt impact. In this exercise, EQUIST takes the change in effective coverage of each intervention resulting from the scenario you have built, and runs it through LiSt to estimate the lives that could have been averted.

First, click on Impact & cost from the left menu.

Now click on Estimate impact button.

Please allow a few minutes for the LiST execution process. The following screen below will appear:

The screen will take a few minutes to conduct the following steps:

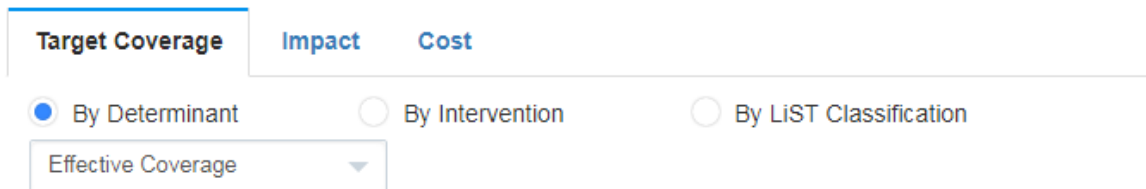
1. LiST input file is generated
2. LiST run executed
3. LiST output processed
4. LiST chart generated

Based on LiST results, EQUIST will generate charts showing the deaths which could have been averted based upon the scenario analysis conducted above. As you see three tabs

- Target coverage
- Impact
- Cost

Will sum up the analysis we did.

**Target coverage:** This tab will consist of three radio button. Target coverage by Determinants, Interventions or By list classification.



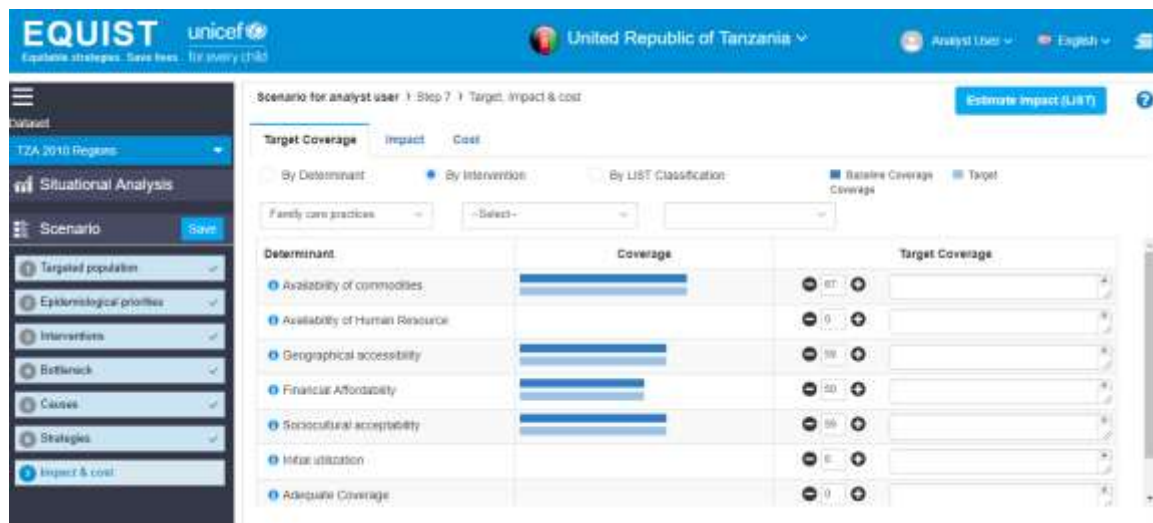
Target Coverage   Impact   Cost

☒ By Determinant   ☐ By Intervention   ☐ By LiST Classification

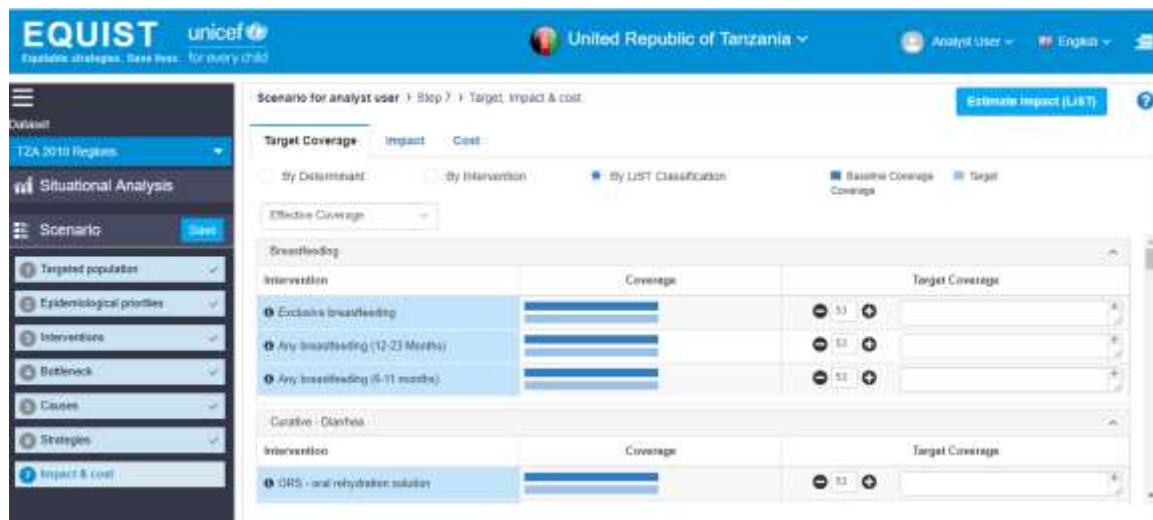
Effective Coverage ▼

- **By determinants:** Total target coverage for each determinant will be calculated after successful list run. Showing Baseline coverage and Target coverage. One can enter the target coverage in the textbox.
- **By intervention:** Shows baseline and target coverage values of determinants for the selected SDM or Package or Intervention





- **By List classification:**



**Impact:** Charts will be generated based on analysis from step 1 to step 6.

You can also analyze the impact & cost via indicator:

- 1) Under-five mortality
- 2) Neonatal mortality
- 3) Stunting (12-23 Mo)
- 4) Maternal mortality

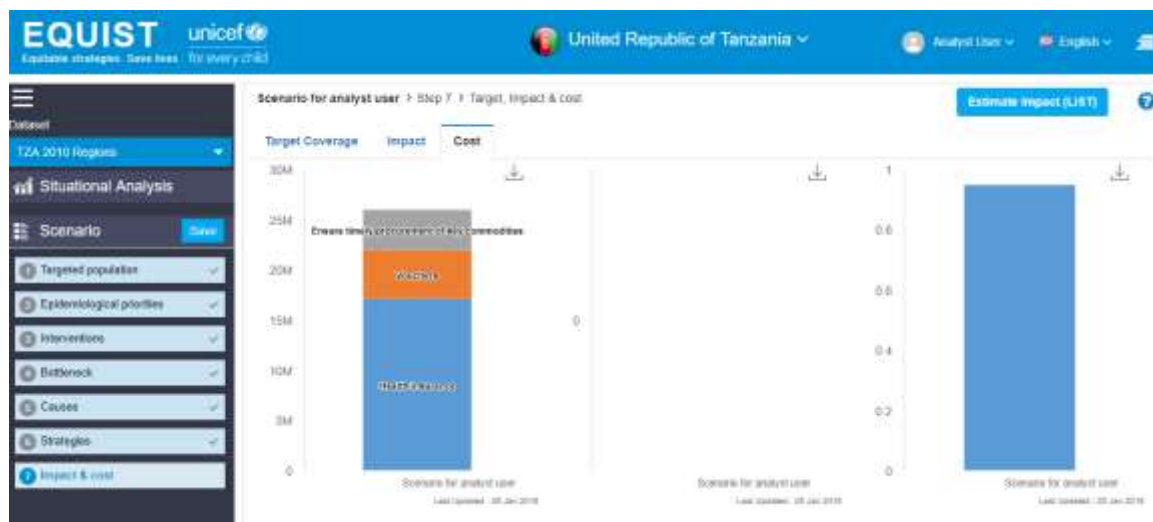
The default analysis will show you the following chart:



In the visualization the expected impact of your specific scenario will be compared against:

- The operational frontier for the population groups selected: amenable deaths if the deprived population coverage value(s) was equal to the best performing countries
- The equity frontier: amenable deaths if the deprived population coverage value(s) was equal to the non-deprived population coverage value(s)
- This will be compared to the deaths averted in scenario: the deaths averted based upon the scenario you have built for your target population

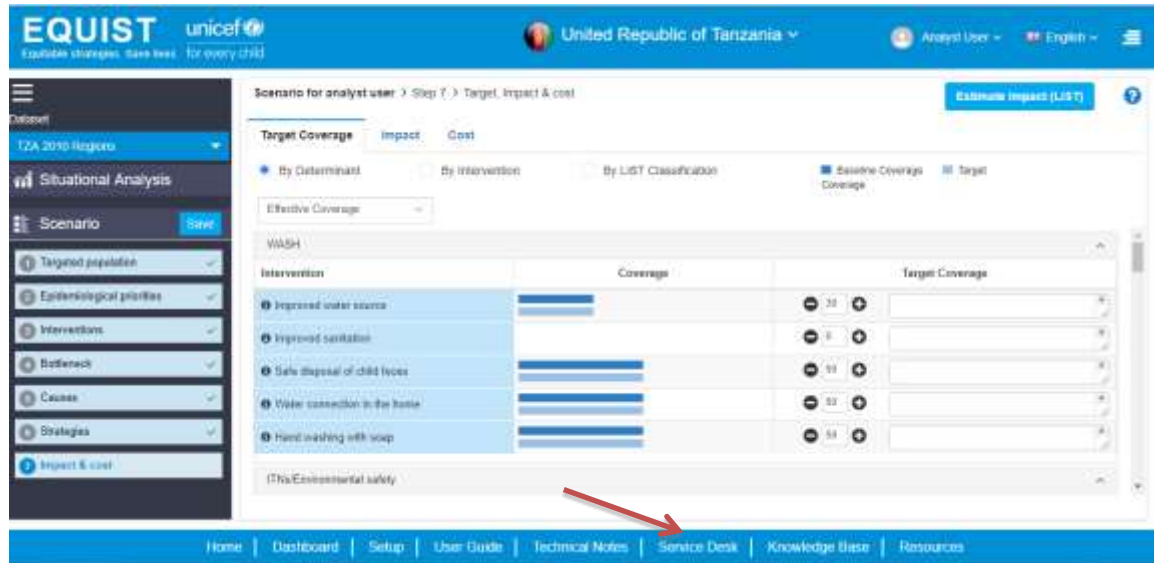
**Cost:** Third tab will show charts estimating the cost generations for the analysis we did.



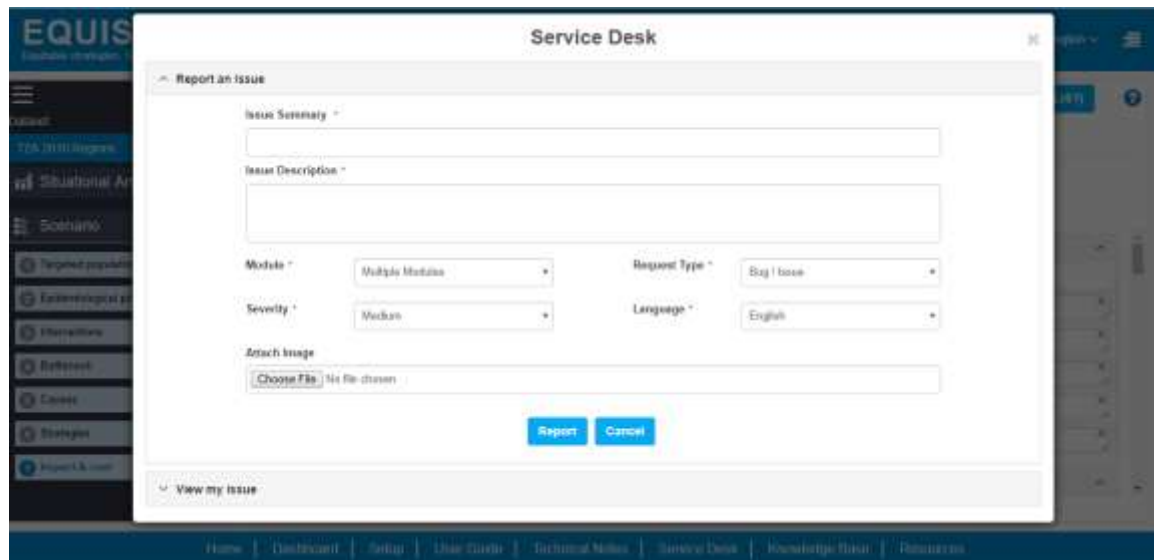
## 6 Service Desk Requests

A service desk has been configured in Jira for EQUIST logged in users. The purpose of the service desk is to log technical bugs and ask questions related to the tool.

To access the service desk, click on “service desk” at the bottom of the EQUIST page:



The following screen will appear:



Please enter in as much information as you can in each field to create a ticket. For example, you will want to enter:

- 1) The module for which your bug is related to
- 2) The issue type
- 3) The severity

Also you can view all your issues which you raised earlier.

Please note, you can also send technical requests or questions to [equist@dataforall.org](mailto:equist@dataforall.org).

## Annex I: Key Terms & Definitions

**Adequate coverage:** continuous use of a service or practice of a behavior

**Amenable (or avertable) deaths:** deaths in disadvantaged populations due to the fact that these populations have lower coverage of high impact interventions than the least disadvantaged populations in the same country.

**Availability of commodities:** Essential commodities and inputs required to deliver a service or adopt a practice.

**Availability of human resources:** Physical access to adequately staffed health services (either at static facilities or mobile services)

**Bottleneck:** A constraint or barrier affecting a coverage determinant, which in turn constrains the delivery or uptake of health interventions.

**Bottleneck analysis:** a systematic approach to assess which bottlenecks are constraining the coverage of health interventions, and to identify their causes and select operational strategies to address these bottlenecks. Often this analysis is aided by comparing the coverage determinants for health interventions.

**Bottleneck severity:** relative importance of any given bottleneck as a constraining factor of effective coverage. In EQUIST, the severity of a bottleneck is measured as the relative (%) drop between two consecutive coverage determinants.

**Continuity bottleneck:** dropout, loss to follow-up, under utilization

**Coverage determinants:** A set of interdependent conditions necessary to achieve effective coverage of an intervention in a target population. Coverage determinants are used to conduct a bottleneck analysis. Determinants relate to supply, demand and quality of care.

**Curative services:** One of the service delivery modes – interventions that are only provided when a patient is sick and requires the patient to actively seek care, delivered at primary and/or referral health facilities.

**Disadvantaged population:** The identified population with the least coverage of interventions and access to resources, below a given threshold:

**Early childhood DALY (ECDALY):** Years of survival from birth through a child's fifth birthday without being disabled by diseases or malnutrition.

**Enabling environment:** the broader environment that influences the supply of and demand for health services, including health policy and finance, management, and social norms. These factors generally cannot be quantified. In EQUIST, the presence of negative enabling environment conditions is assumed to limit the effectiveness of solutions to bottlenecks.

**Equity frontier:** the most disadvantaged quintiles consisting of the potential future change in their effective coverage and early childhood disability adjusted life years (ECDALYs), if they achieve the baseline effective coverage of the richest quintiles.

**Excess deaths:** The deaths occurring in disadvantaged populations that are due to the lower effective coverage of interventions compared to the least disadvantaged population in the country. In other words, the number of lives that could be saved by bringing the levels of intervention coverage in the disadvantaged populations to the same levels as the least disadvantaged in a given country. It is considered “excess” as these deaths could in principle be prevented by raising levels of coverage to levels that have been achieved already by some populations in the country. Another way of thinking about this is the price, in lives, of health inequities in a country.

**Family care practices:** One of the service delivery modes – interventions delivered at the level of the household or community, by individuals themselves or through community health workers and health extension workers

**Financial affordability:** target population cannot afford the intervention.

**Geographic access:** A problem of infrastructure, personnel, or both

**Intervention:** A health service or healthy behavior with a proven positive impact on health. In EQUIST, interventions are selected based on proven cost-effectiveness for maternal, newborn, child and adolescent health in developing and middle-income countries specifically.

**Intervention package:** Groupings of health interventions according to the type of service, target population and disease or condition they address. There are 9 intervention packages associated with EQUIST: neonatal & infant care, immunization plus, environmental safety, antenatal care, IMNCI, delivery by a skilled professional, water/sanitation/hygiene (WASH), EMONC, and family planning.

**Least disadvantaged population:** The population with the most access to / highest coverage of the intervention.

**Operational frontier:** for the most disadvantaged quintiles consisting of the potential future changes in their effective coverage and early childhood disability adjusted life years (ECDALYs), if their bottlenecks are reduced with the same proportion, as observed in the best-performing countries

**Premature mortality:** children should live to at least their fifth birthday.

**Preventive services:** One of the service delivery modes – preventive interventions that are delivered on a set schedule through primary care facilities and/or outreach services.

**Scenario:** in EQUIST, a hypothetical set of policy decisions (prioritization of populations, interventions and strategies) to improve the health system, which is modeled and compared with other scenarios to inform evidence-based decisions and the development of real-world health strategies.

**Service delivery mode:** One of three levels of the health system: 1) Family care practices- interventions delivered at the level of the household or community, by individuals themselves or through community health workers and health extension workers. 2)

Preventive services— preventive interventions that are delivered on a set schedule through primary care facilities and/ or outreach services. 3) Curative services- interventions that are only provided when a patient is sick and require the patient to actively seek care; delivered at primary and/or referral health facilities.

**Sociocultural acceptability:** the intervention is not desirable, or the target population is not aware of it

**Strategy:** a way of resolving one or more of the underlying causes of a bottleneck. For example: a strategy to address a bottleneck in the availability of commodities is to purchase buffer stocks of key medicines.

## **Annex II: List of Intervention Packages & Interventions within each Service Delivery Mode**

### **FAMILY CARE PRACTICES**

#### **WASH (intervention package) & associated interventions:**

- Hand washing with soap
- Improved sanitation - Utilization of latrines or toilets
- Hygienic disposal of children's stools
- Use of water from improved sources
- Water connection in the home

#### **Environmental safety (intervention package) & associated interventions:**

- ITN/IRS – ownership of Long Lasting Insecticide Treated Bednets (ITN) or household protected by indoor residual spraying (IRS)
- Accident prevention for children

#### **Neonatal & infant feeding & care (intervention package) & associated interventions:**

- Exclusive breastfeeding (0-5 months)
- Any breastfeeding (12-23 months)
- Any breastfeeding (6-11 months)
- Complementary feeding--supplementation and education
- Thermal care
- Clean postnatal care practices (cord care)

### **PREVENTIVE SERVICES**

#### **Immunization plus (intervention package) & associated interventions:**

- HPV (human papillomavirus) immunization
- BCG immunization (bacillus Calmette-Guerin)
- DPT3 (diphtheria-tetanus-pertussis) immunization
- Hepatitis B immunization
- Hib (haemophilus influenzae type B) immunization
- Measles immunization
- Polio immunization
- Pentavalent vaccination (diphtheria, tetanus, pertussis, hepatitis B and Haemophilus influenzae type b (Hib) immunization).
- Pneumococcal immunization
- Rotavirus immunization
- Vitamin A - supplementation
- Zinc supplementation

#### **Antenatal care (intervention package) & associated interventions:**

- Hypertensive disease case management
- Diabetes case management
- FGR – (Fetal growth restriction) detection and management
- Iron folate supplementation
- Calcium supplementation
- IPTp - Pregnant women protected via (intermittent preventive treatment with antimalarial medicines during pregnancy)
- PMTCT - Prevention of mother to child transmission of HIV (including breastfeeding choices)
- Balanced energy supplementation
- Malaria case management
- MgSO<sub>4</sub> – (magnesium sulfate) management of pre-eclampsia



- Multiple micronutrient supplementation
- Syphilis detection and treatment
- TT – (Tetanus toxoid) vaccination

**Family planning (intervention package) & associated interventions:**

- Contraceptive use
- Folic acid supplementation/fortification

**CURATIVE SERVICES**

**Integrated Management of Neonatal & Childhood Illness (IMNCI) (intervention package) & associated interventions**

- Treatment of moderate acute malnutrition
- Therapeutic feeding - for severe wasting
- Malaria treatment – Artemisinin-based compounds for malaria
- Antibiotics - for treatment of dysentery
- Oral antibiotics for neonates
- ORS - oral rehydration solution
- Vitamin A - for treatment of measles
- Zinc for diarrhoea management
- Oral antibiotics for Neonatal Infection
- Cotrimoxazole
- Antiretroviral therapy for HIV+ children

**Delivery by a skilled professional (intervention package) & associated interventions:**

- Skilled birth attendant
- Institutional delivery
- Essential care
- Assisted deliveries at home
- Labor and delivery management
- Clean birth practices
- Immediate assessment and stimulation
- AMTSL – (active management of the third stage of labor)
- KMC – (kangaroo mother care)
- Chlorhexidine

**Emergency obstetric and newborn care (EMONC) (intervention package) & associated interventions:**

- Labor and delivery with access to CEMONC facilities
- Neonatal resuscitation
- Labour and delivery with access to BEMONC facilities
- Safe abortion services
- Post abortion care management
- Ectopic pregnancy case management
- Antenatal corticosteroids for pre-term labor
- Antibiotics for pPRoM (preterm premature rupture of membranes)
- MgSO<sub>4</sub> – (magnesium sulfate) management of eclampsia
- Induction of labor for pregnancies lasting 41+ weeks
- Maternal sepsis case management
- Case management of premature babies
- Full supportive care for premature babies
- Case management of severe neonatal infection
- Full supportive care for sepsis/pneumonia

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<sup>i</sup> Victora et al, “How changes in coverage affect equity in maternal and child health interventions in 35 Countdown countries: an analysis of national surveys. *Lancet*, Vol 380, September 29, 2012.

<sup>ii</sup> Lives Saved Tool (LiST): <http://www.jhsph.edu/research/centers-and-institutes/institute-for-international-programs/current-projects/lives-saved-tool/>