User's Manual

Electoral Risk Management Tool

February 2016

Contents

1. Installation, User Admin and Help Resources

a. Installation

For the installation of the ERMT, the user would need to get a license. The user may get the license from the IDEA website. After getting the license, the user will be able to download the ERMT installer. Below is the tutorial on how users will be able to install the ERMTool in their system. The ERMT works on a server-client based system. The system requirements for installing ERMT are as follows:

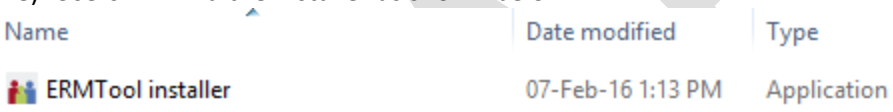
Note: The ERMT can run on a minimal configuration.

System Requirements:

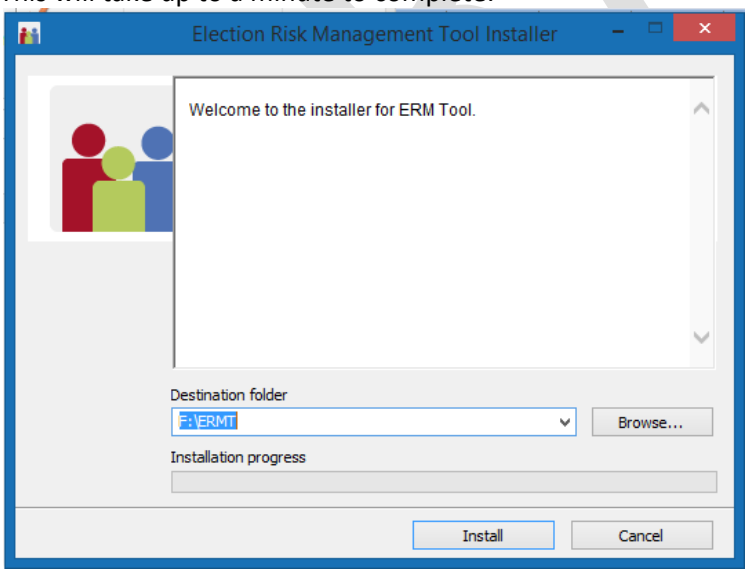
Windows 7 and above (32/64 bit)
.Net Framework 4.5 (automatically installed by the installer)
Microsoft SQL 2012 (automatically installed by the installer)
Hard disk storage – up to 1 GB

Steps: To install ERMTool

1. Locate the ERMT Installer (if you downloaded the tool from the Internet, it will be in your **Downloads** folder. If not, it will be on a flash drive or any other location on the computer's hard drive). Users will find the installer as shown below.



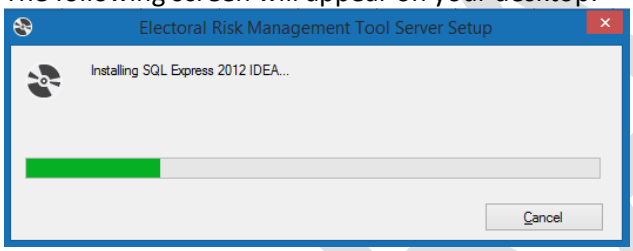
2. After users have located the installer, double click the **ERMTool installer.** Then, press 'Install'.
Note: It will extract all the required files to the same location as the installer.
This will take up to a minute to complete.



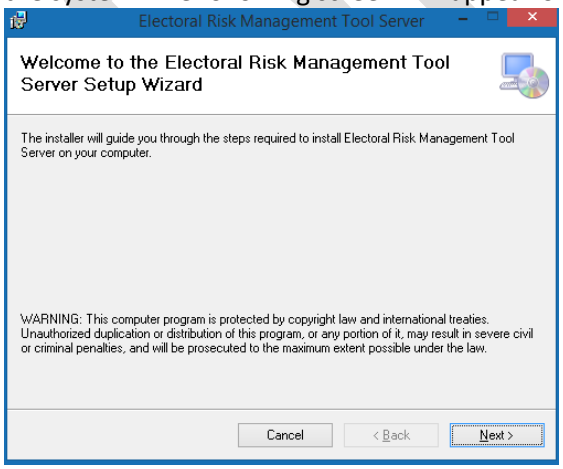
3. After the completion of ERMT installer, the Electoral Risk Management Installer (also known as launcher) will open automatically.
Users can select four different languages to install the tool (English, Spanish, French and Arabic)
To install the ERMT in a desired language click, the flag.

4. As the ERMT is a Server-Client based system, users need to click 'Server' to initiate the ERMT installation.
Note: If user is using the ERMT on a Server-Client based system, there is no need to install server.
After user clicks on 'Server', a new window will pop-up - for user to install SQL Server Express 2012 – Once this occurs, click on 'Accept'.
Note: This installation will take around 10 minutes. Also, if the system asks any further information, please give positive affirmation. (i.e. **either yes or ok**).

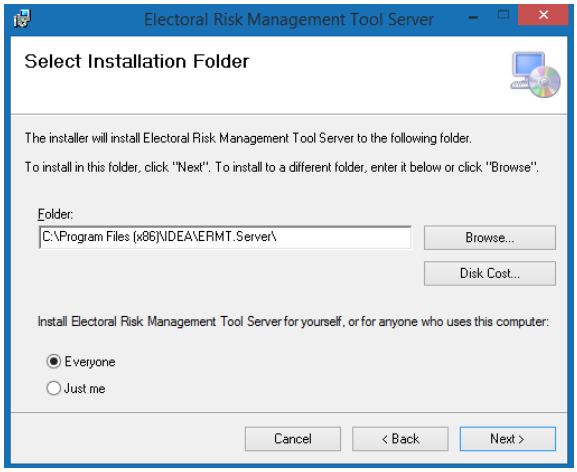
The following screen will appear on your desktop:



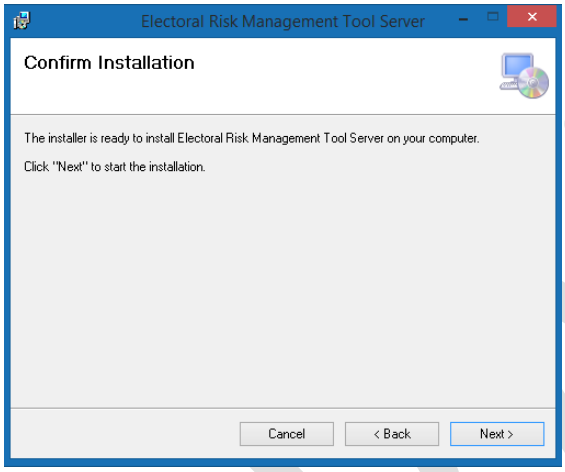
Once the first phase of installation is completed, the ERMT installer will ask to install the server on the system. The following screen will appear on your windows. Press 'Next'.



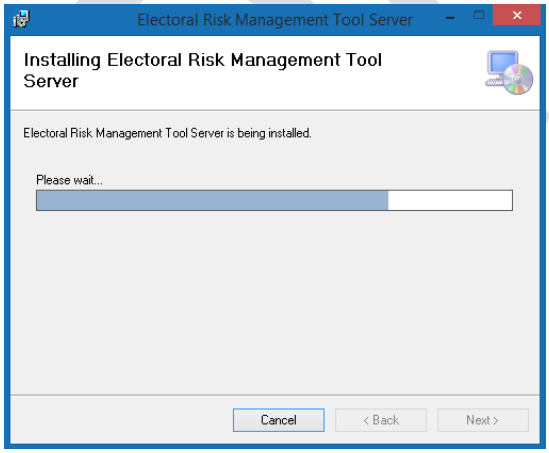
Again Press 'Next' (this window will let you know where the ERMT Server will be installed)



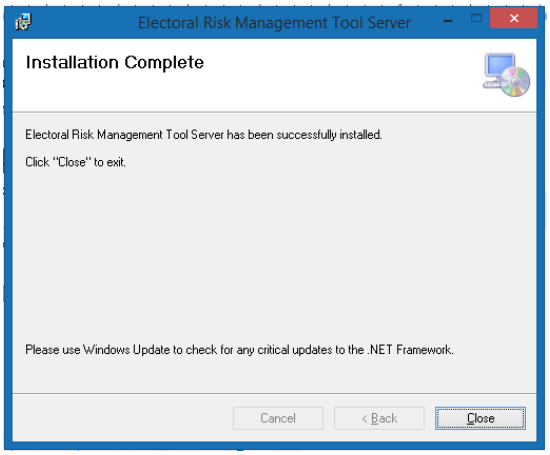
Press 'Next' to continue with the installation.



Now press 'Next' again to confirm your installation of the ERMT Server. The following screen will appear and the user should give a positive affirmation (asked by operating system) for any information shown in the screen.



It will take less than a minutes to install the ERMT Server on your system. Once this is done, the following screen will appear, with a confirmation of the successful completion of the installation.

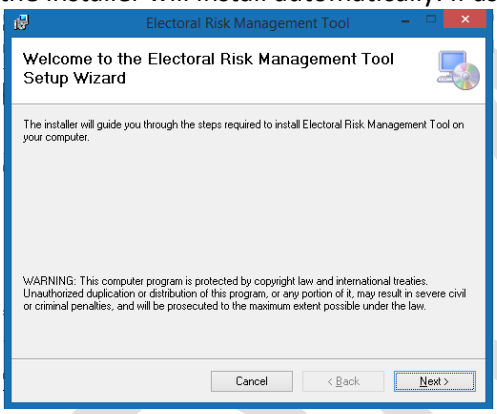


Press ‘Close’ to finish the ERMT Server installation.

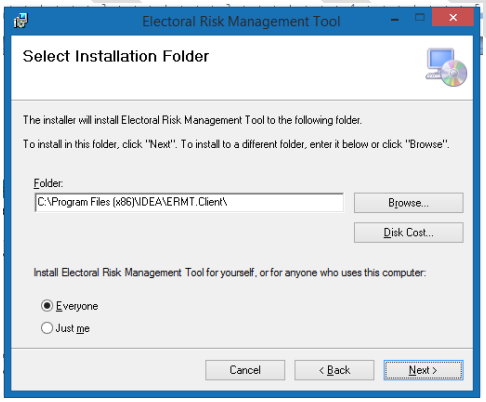
Now it is time to install the client once you finish installing Server.

Press ‘Client’ on the launcher. Press ‘Yes’ or ‘Ok’ (if asked)

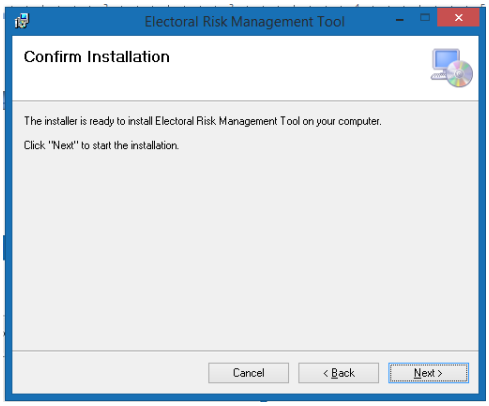
Note: If the user system does not have .Net and other necessary components required by the ERMT, the installer will install automatically. If asked, the user should give positive affirmation.



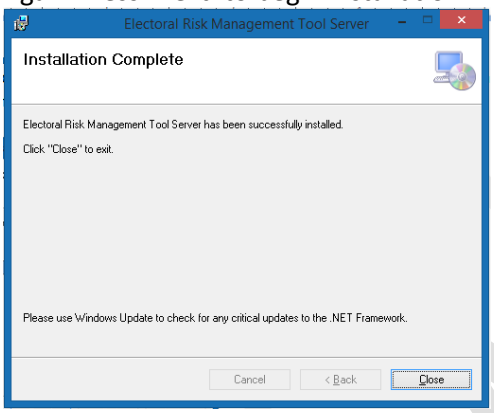
Press ‘Next’ to proceed. Just as in the Server installation, the installer will show where the ERMT Client will be installed.



Press Next to proceed.



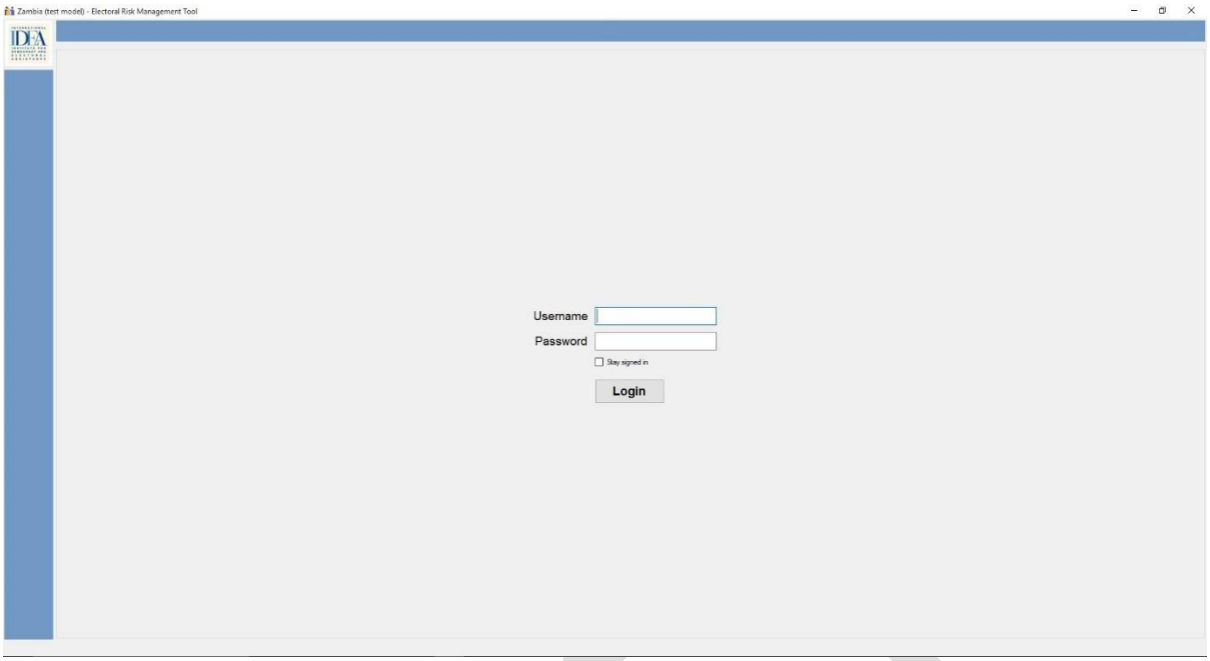
Again Press 'Next' to begin installation.



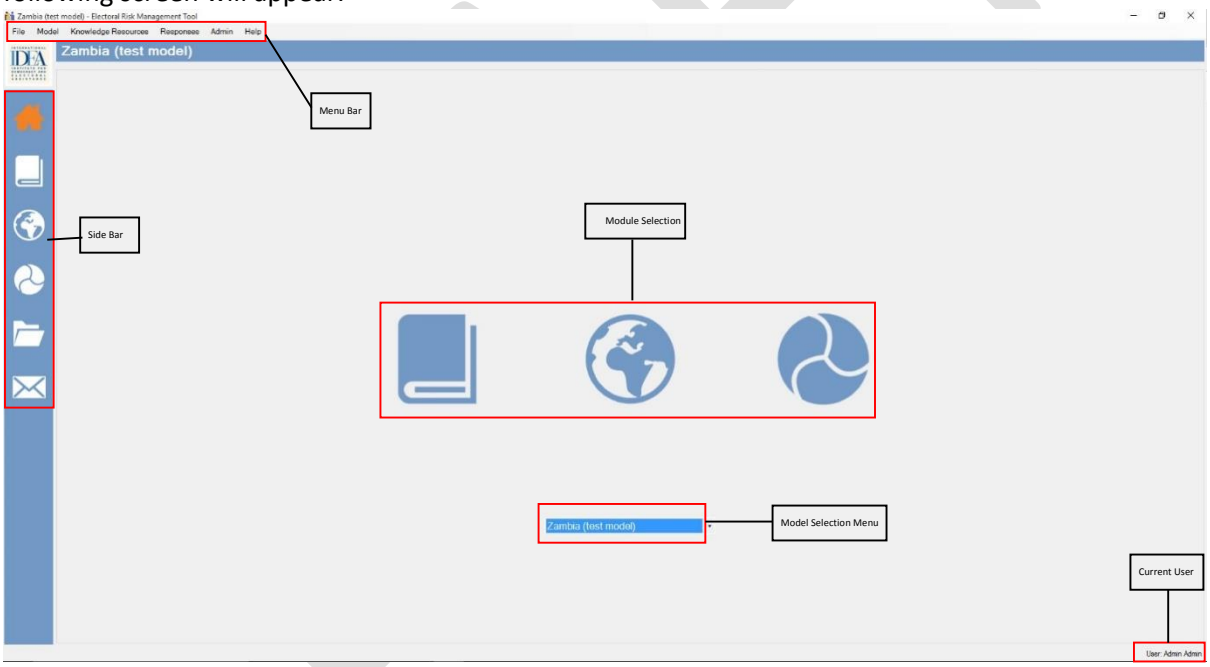
Once done with the installation. Press 'Close'.

Now, you have successfully installed the ERMTool on the system. After the successful installation of the ERMTool, the user will see the **IDEA ERMT** logo on desktop (as shown below). Double click it to open the **Electoral Risk Management Tool**.

The following screen will appear:



Enter the **Username** and **Password. (Default username = admin; password = 123456).** After this the following screen will appear:



Note:

- More details will follow in further sessions.
- The ERMTool installer and GIS maps will be given to the participants.

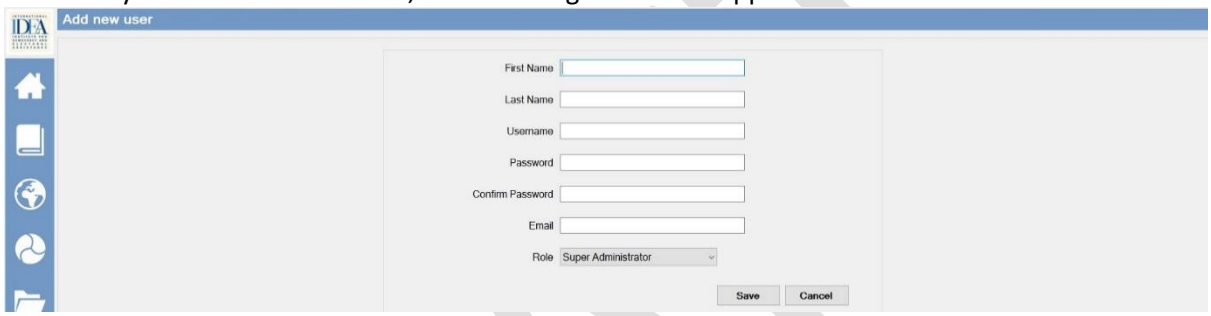
b. User Admin

The user will be able to change account settings, which are designed to increase data security. The user will be able to set privilege settings (reader, data entry, country administrator, super administrator).

Steps:

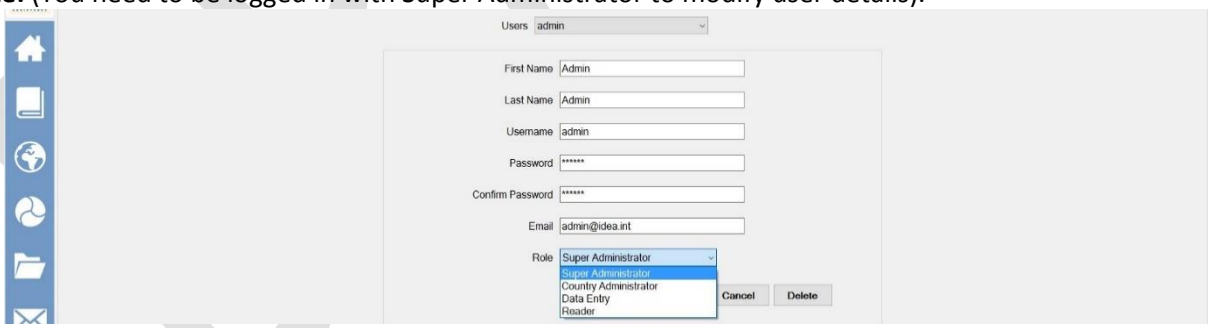
1. To create a new user or modify an existing user (as shown in image below)
   Go to Admin Menu – User Admin – Add new user (to add new user)
   Go to Admin Menu – User Admin – Modify existing user (to update information about the user)

2. Once you click 'Add' new user, the following screen will appear:



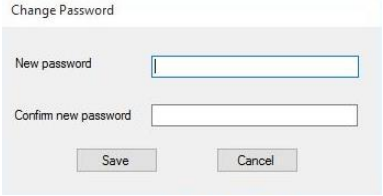
Here you can add the user's First Name, Last Name, desired username and password, email and specific user privileges. After the user has done this, Press **Save**.

3. If you have to modify the user's information, Click on 'Modify Existing' user and the following screen will appear:
   Note: (You need to be logged in with Super Administrator to modify user details).



The user can select the user and change their First Name, Last Name, desired username and password, email and privileges and Press **Save** to modify user settings.

4. To change the current user password:
   Go to Admin – Change Password. The following screen will appear. Add the new password and confirm it. Press **Save** to update new password.

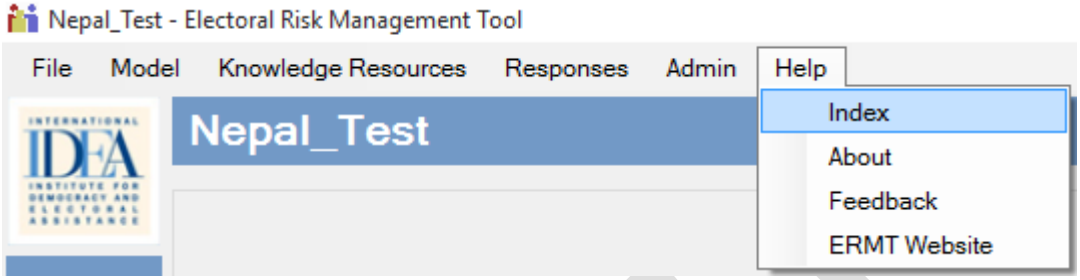


c. Help

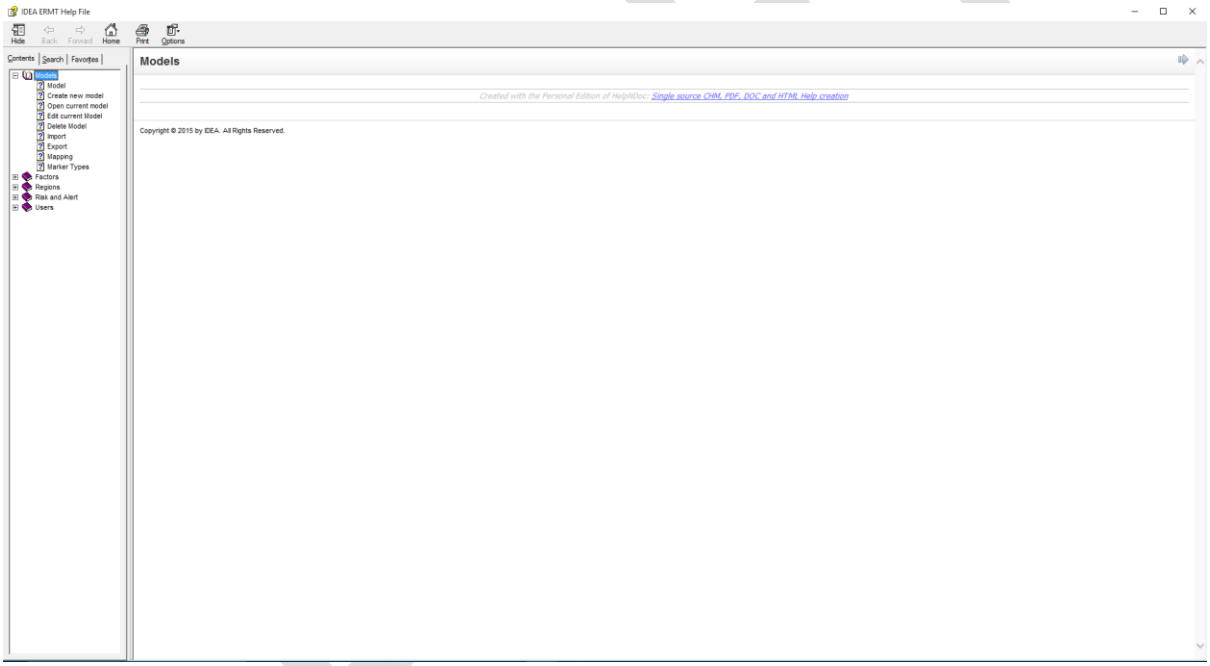
The user will be able to access self-help resources such as the help index. The help index covers all of the main tool features and is divided into 6 main folders, namely: models, factors, regions, risk and alert, copying and pasting, users.

Steps:

To access help Go to 'Help' – Index and search for the required help file.



A new window will open:



2. Knowledge Resources

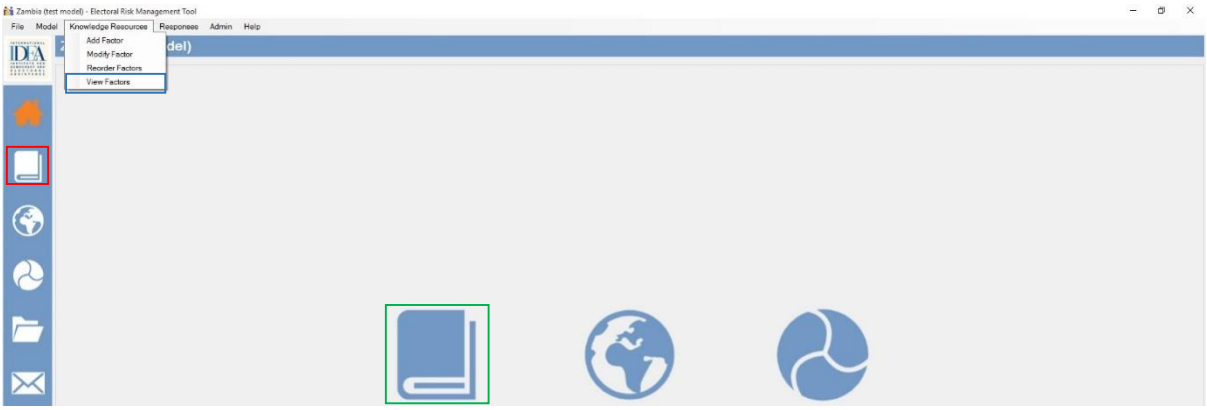
a. Introduction:

Risk factors are any attribute, characteristic or exposure that might affect elections. There are two types of factors in the ERMTool. **Internal factors** are exclusive to the electoral context. **External factors** include structural factors (e.g. unemployment, corruption, poverty, etc.) that relate to the context in which elections take place. External factors originate and exist outside of electoral context, but intensify during elections. Knowledge Resource Library (KRL) is a digital library consisting of 26 internal and 10 external factors. KRL also allows users to learn about different electoral risk factors, emphasizing the difference between internal and external factors. Factors included in the KRL are considered when analytical models - country-and elections-specific - are created. All factors in the digital library mirror those that can be found in the internal and external guides. All 36 factors include: The **introduction section** provides a general definition and explanation of the context in which a given factor can trigger or contribute to triggering election-related violence. The **empirical cases and interrelated factors section** illustrates particular countries and electoral contexts in which a particular factor was identified as a trigger or a factor, that contributed to triggering election-related violence. Interrelated factors point to the context in which violence took place. The **observable indicators section** points to the observable properties of the different factors. The **data collection and analysis section** suggests data sources, collection techniques and analysis methods. The software will include pre-packed but editable survey **questionnaires** (in MSWord format) which will further assist the user(s) with the data collection. Factors presented in the Knowledge Resources module are compiled from different research papers, election reports and other relevant publications. KRL can consist of two kinds of factors i.e. Color coded (marks different features of risk level with different colors) and cumulative factors (numerical representation of the factor) **Note: Cumulative Factors will be further discussed in topic 6A in detail**. By default, there are only color-coded factors that are included from guides on internal factors and guides on external factors.

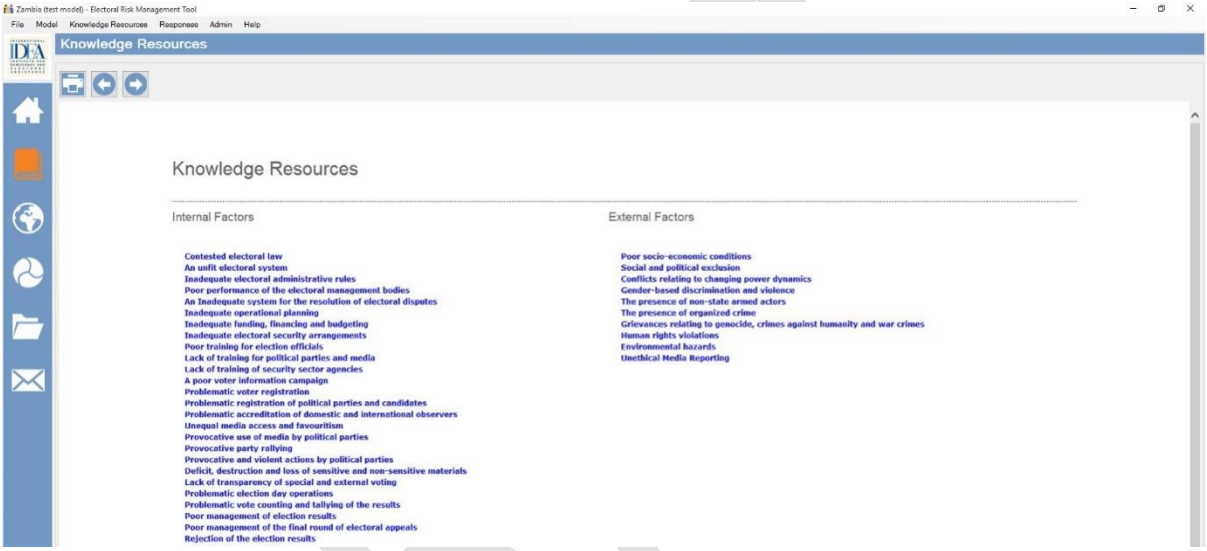
Steps:

The user can access KRL from: (highlighted by box below)

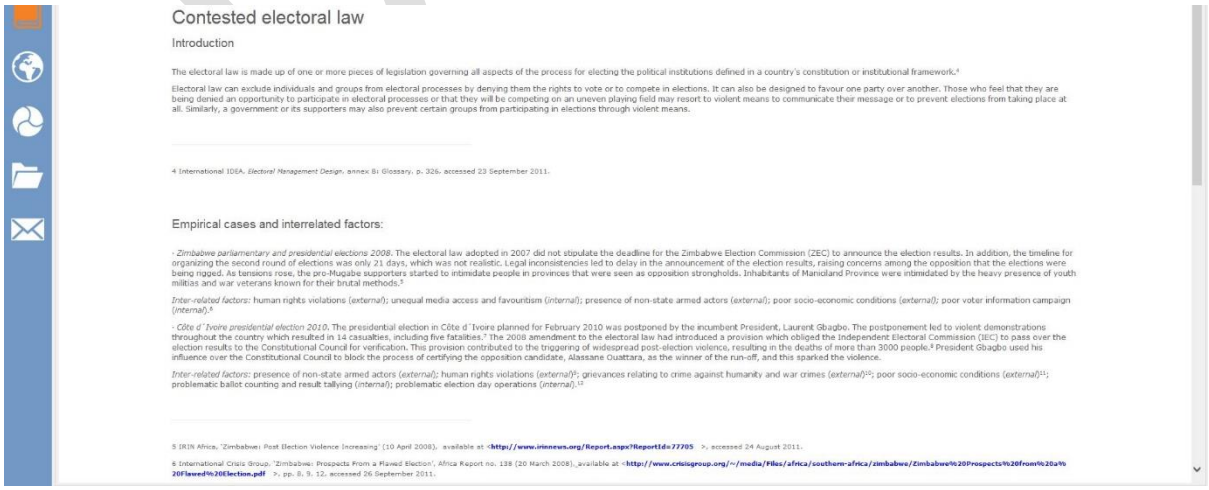
a. The Menu Bar: Knowledge Resources – View Factors
b. The Side Bar
c. The Module Selection Bar

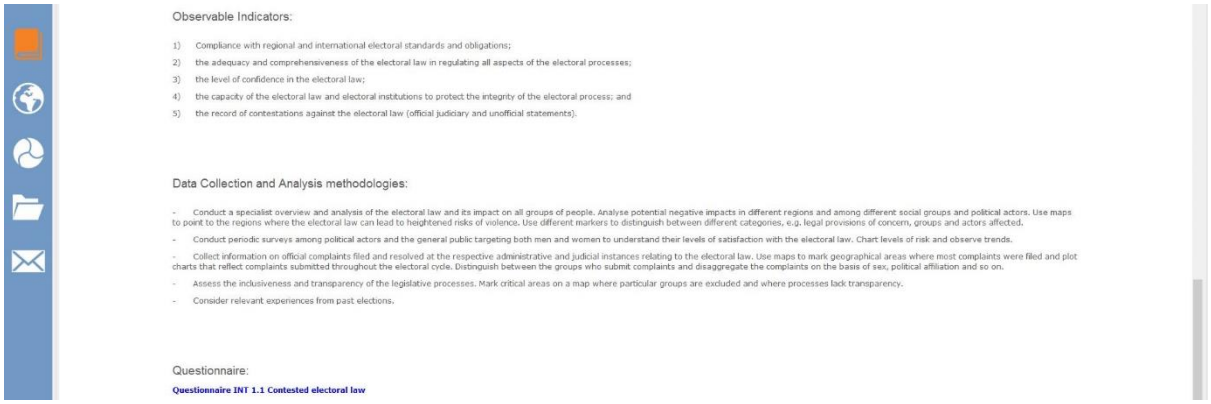


1. After clicking KRL, the user will see 26 internal factors and 10 external factors. The user can also see the KRL icon highlighted in the side bar.



2. If the user clicks on a factor (Example: “Contested Electoral Law”), the user will be able to see the introduction, empirical cases and interrelated factors, observable indicators, data collection and analysis methodologies and questionnaires.





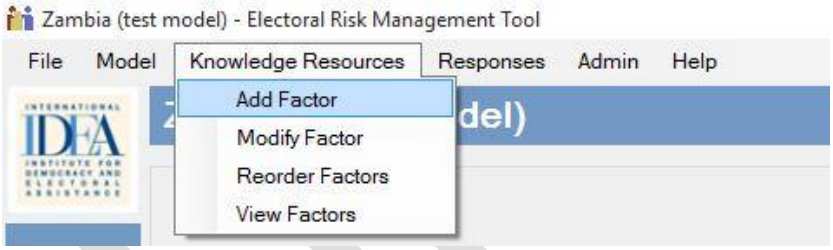
Demonstrate the KRL by showing one internal and one external factor in detail (for example unfit electoral systems, gender based discrimination and violence).

b. Add & Modify Factors:

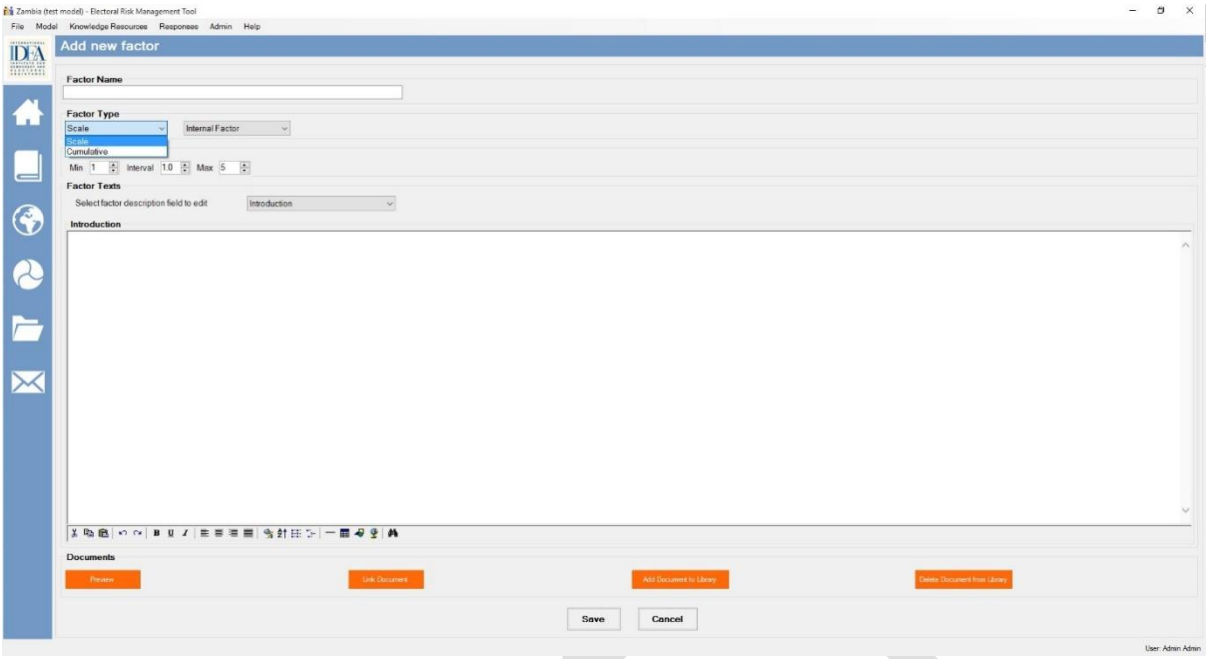
Adding to the flexibility of the customization of the tool, the user will be able to add new factors (color coded factor), modify factors, remove factors and re-order factors. The factor added in the tool will be shown on KRL and Create new model. This feature adds to the tool's flexibility, as analytical models can include country-and elections-specific factors, not originally included in the KRL. All factors in the ERM Tool can be modified or deleted, thus adding to the flexibility of the Tool.

Steps:

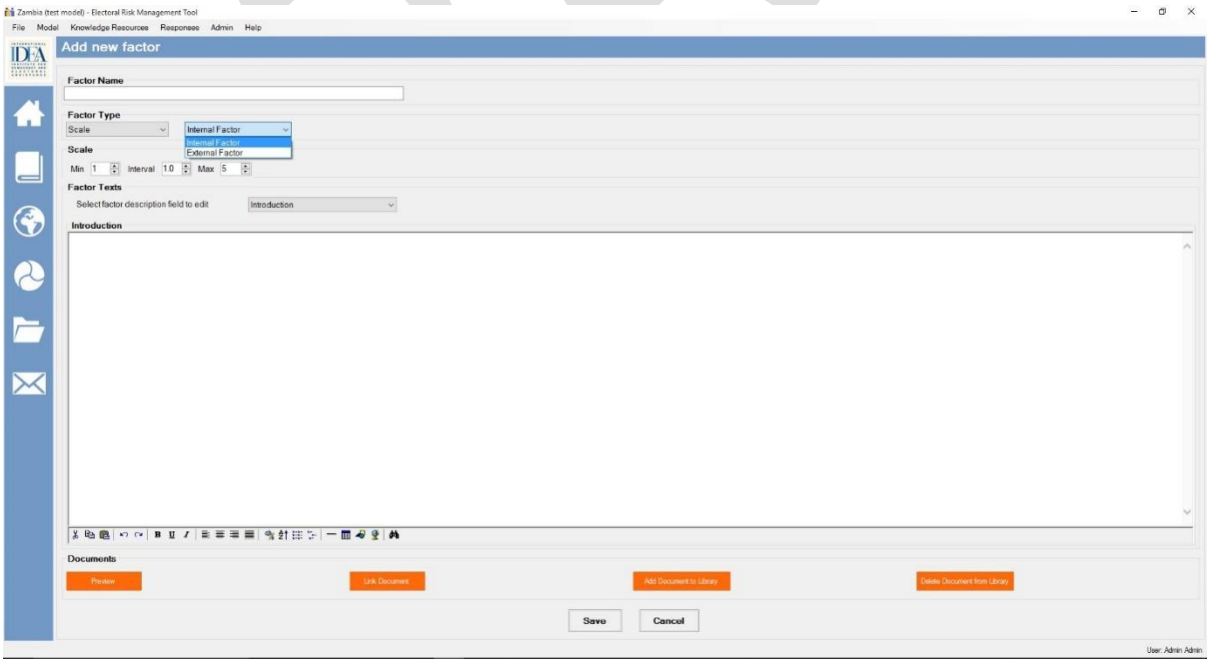
- **Add New Factors**
  1. To create a new factor, go to Knowledge Resource - Add Factor (as shown below)



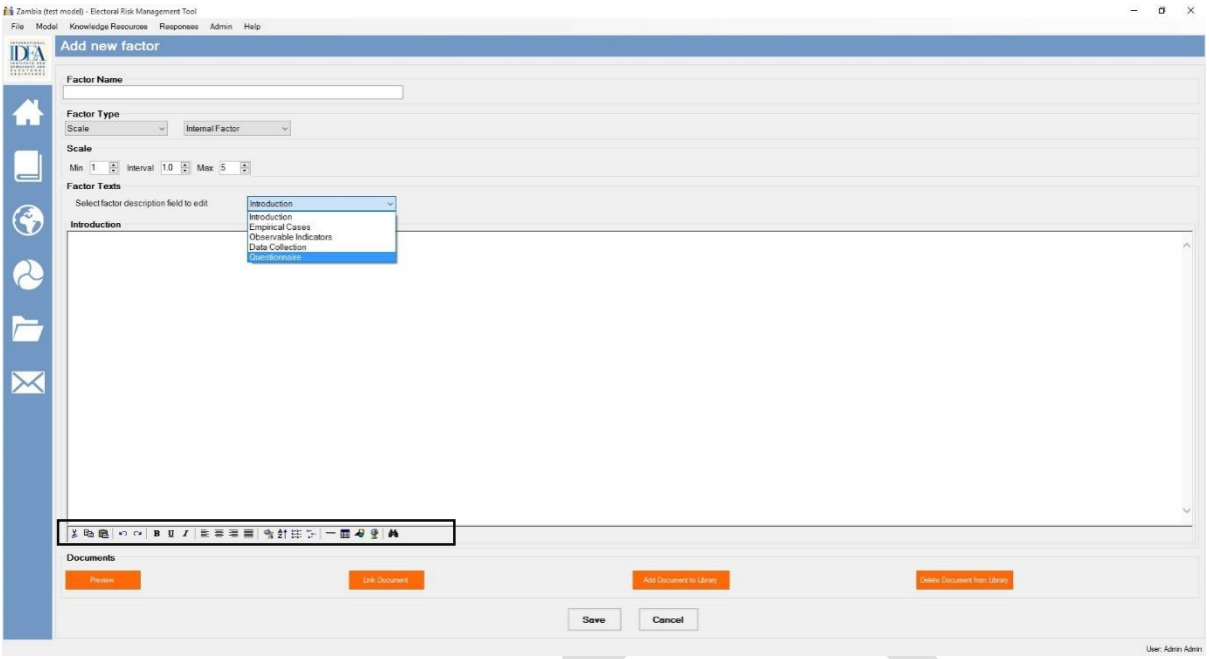
  2. Clicking 'Add factor' will open a new window (as shown below).



3. Add Factor Name, Factor Type (Scale for color coded factor), Internal/External.
4. Select a value for Minimum, Maximum and Interval.
   Minimum value represents the lowest risk level for that factor.
   Maximum value represents the highest risk level for that factor.
   Interval represents the numerical scales in which intervals have the same interpretation throughout.



5. After the user may add a factor name, factor type, scale. From the dropdown menu under Factor texts, select 'Introduction' and add a brief description about the factor. If the user has some empirical cases on that particular factor, this can be added. If the user has observable indicators, data collection methodology and questionnaires, this too can be added. **(Note: The user can use text editors to enhance the text highlighted below).**



6. After adding all the inputs, the user can preview the factor by clicking **Preview.**

7. To save the factor, press **Save**.

Note:

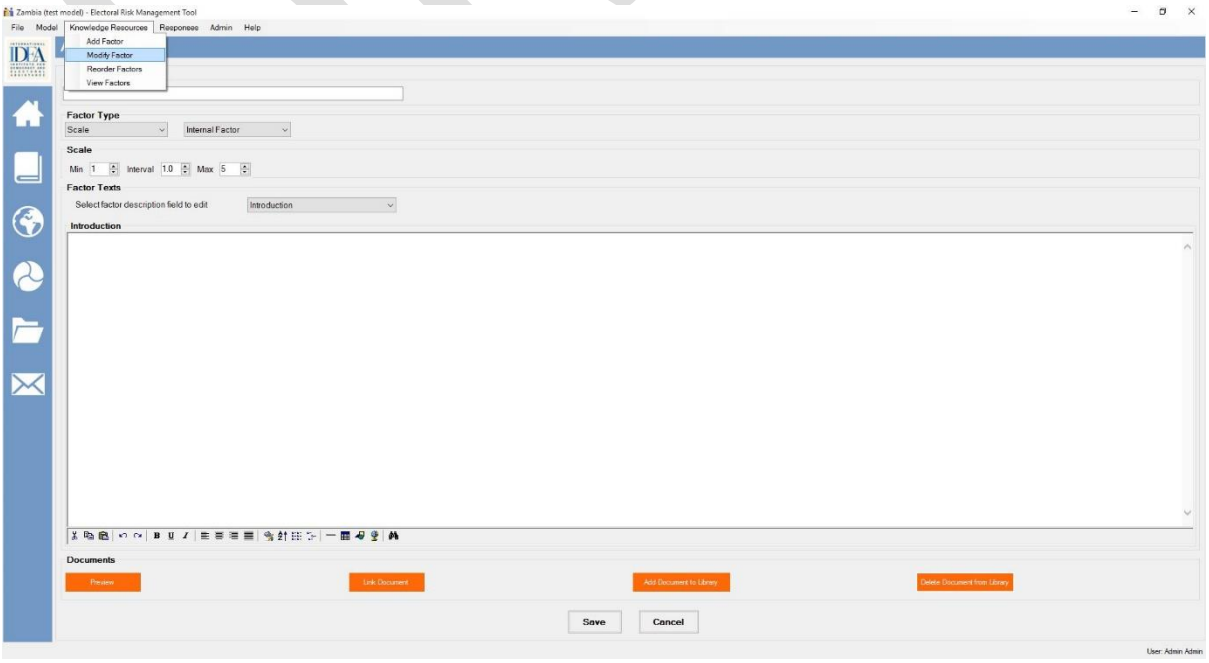
Add document to Library enables the user to attach documents to the tool;

Link Document creates a hyperlink to the document(s);

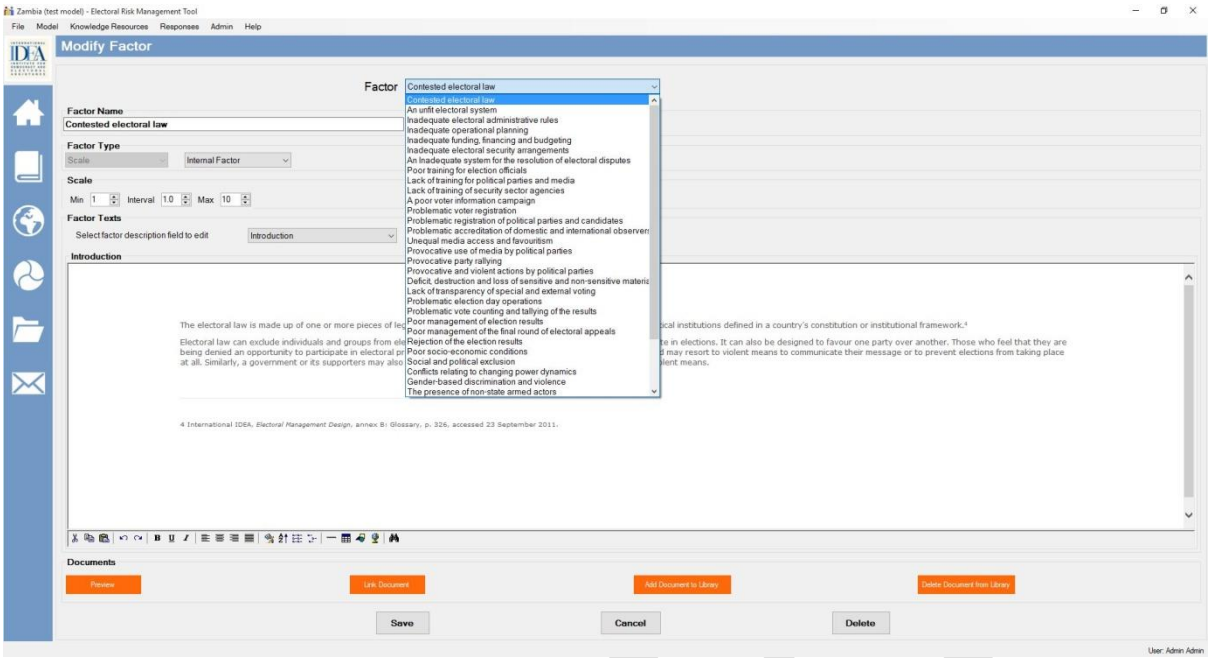
Delete documents from Library remove particular documents from the tool.

- **Modify (Edit/Remove) Factor**

To modify a factor – Go to Knowledge resources – Modify Factor (as shown below)



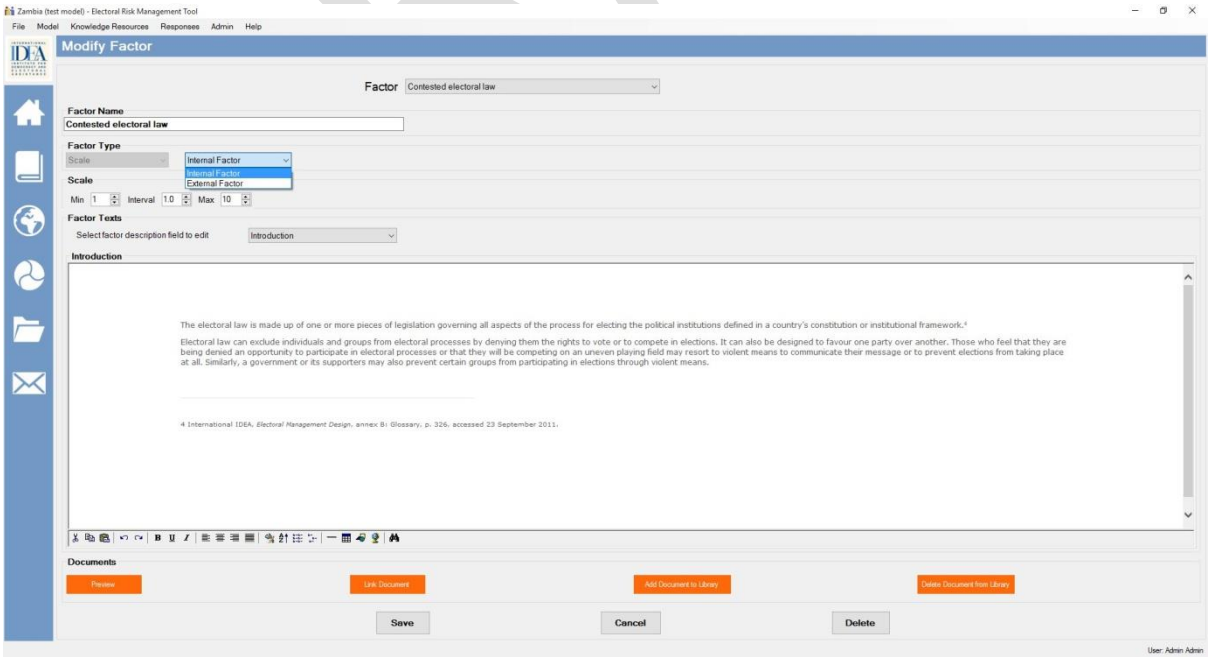
Select the factor to modify from the factor list:

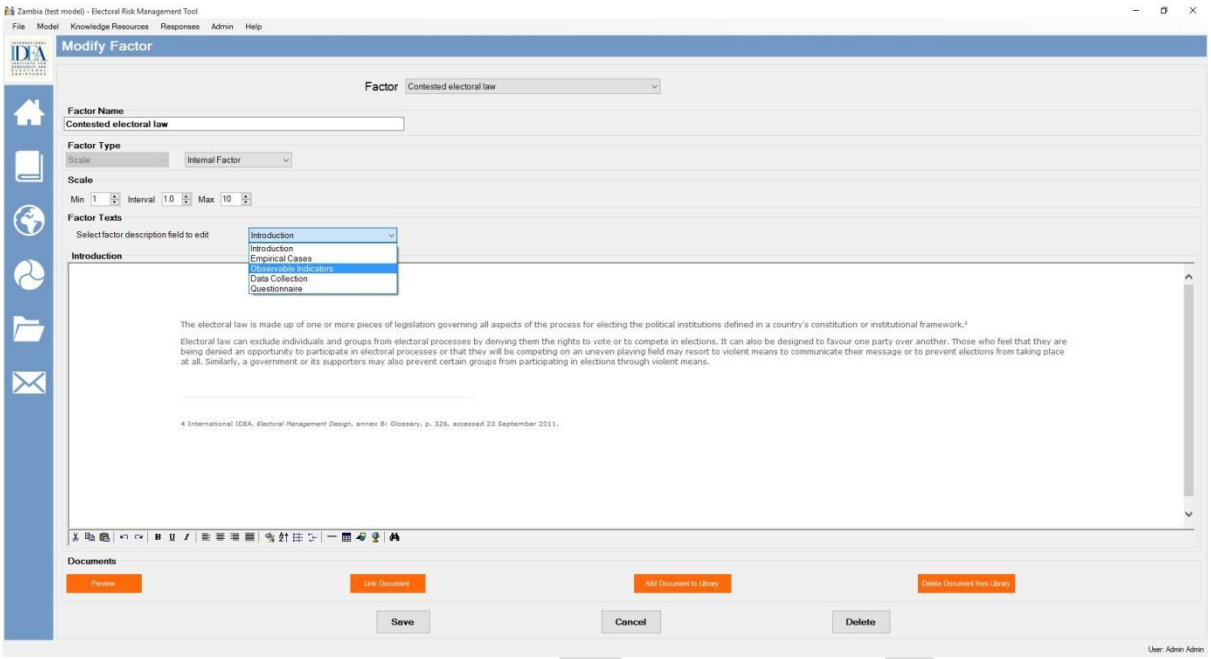


Once the factor is selected to modify, the user can change the following things:

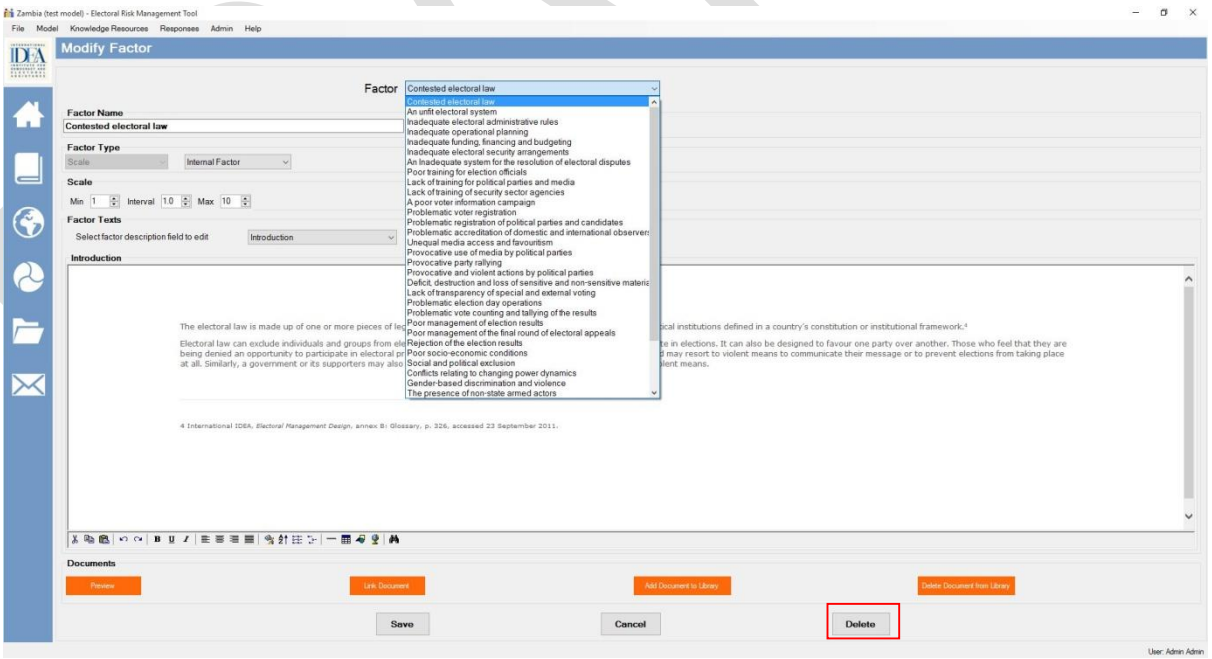
- Factor Name,
- Factor Type (Internal/External Factor),
- Scale,
- Factor text (Introduction, Empirical Cases, Observable Indicators, Data Collection and Questionnaires).

After modifying the factor, press **Save** to save the changes.





- **Delete Factor**
  To delete a factor
  Go to Knowledge Resource - Modify Factor
  Select the factor that you want to delete from the drop down menu
  Press **Delete** and confirm it.

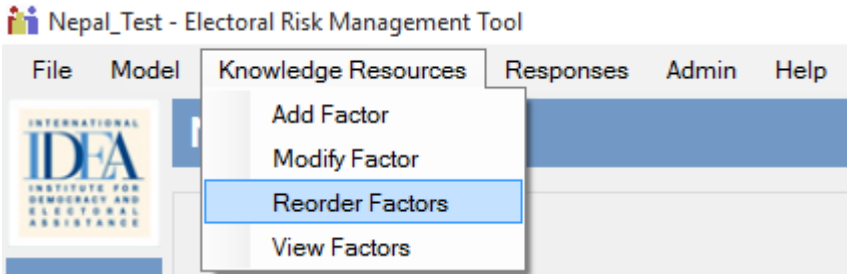


Reorder Factor:

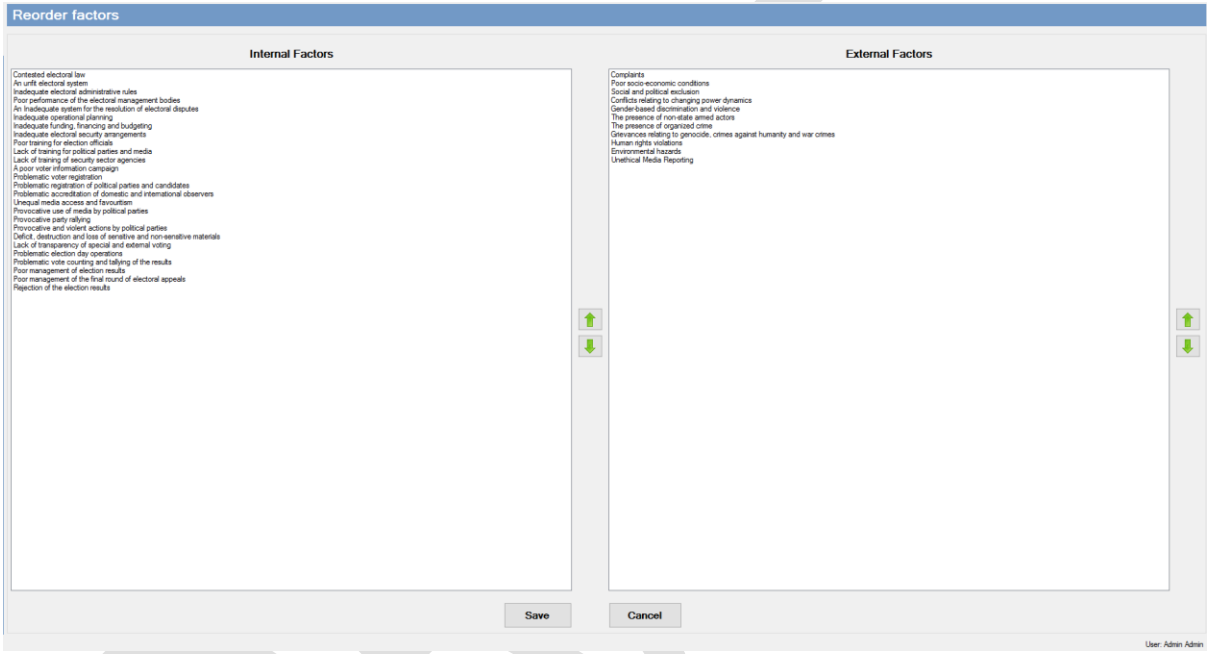
The user can also rearrange the factors as needed.

Steps:

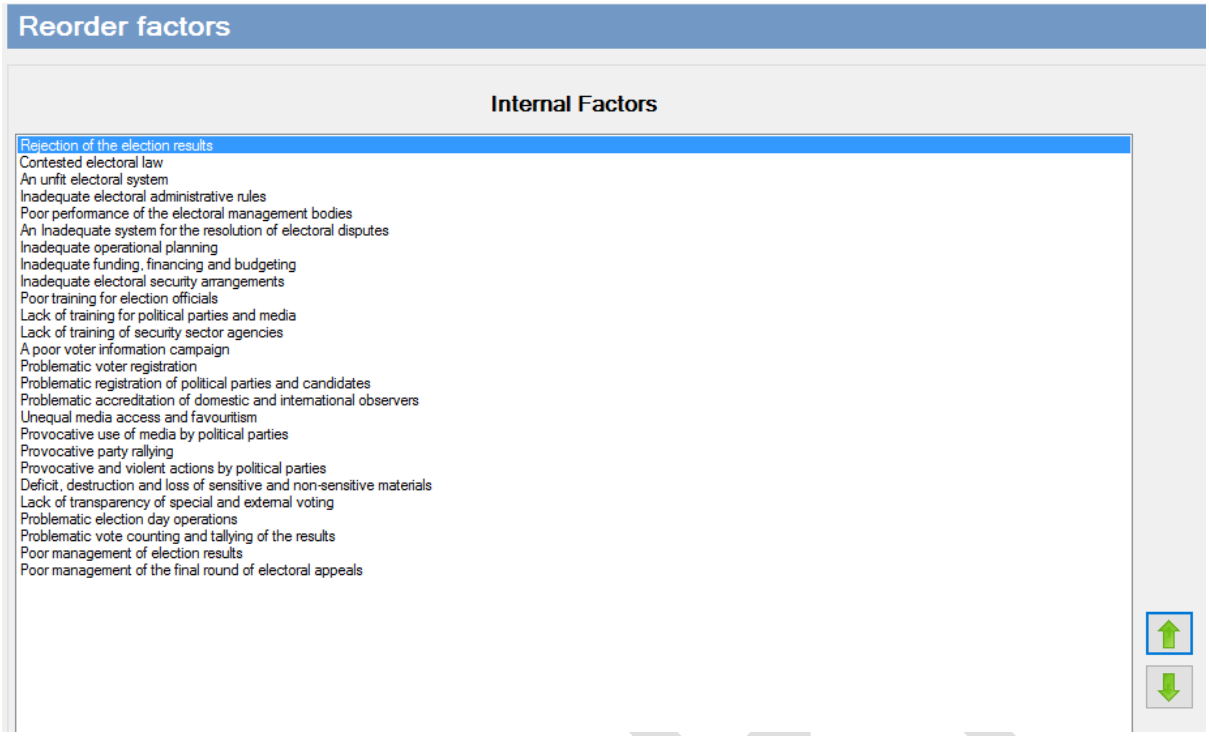
To reorder factors, go to Knowledge Resources menu – Reorder Factors



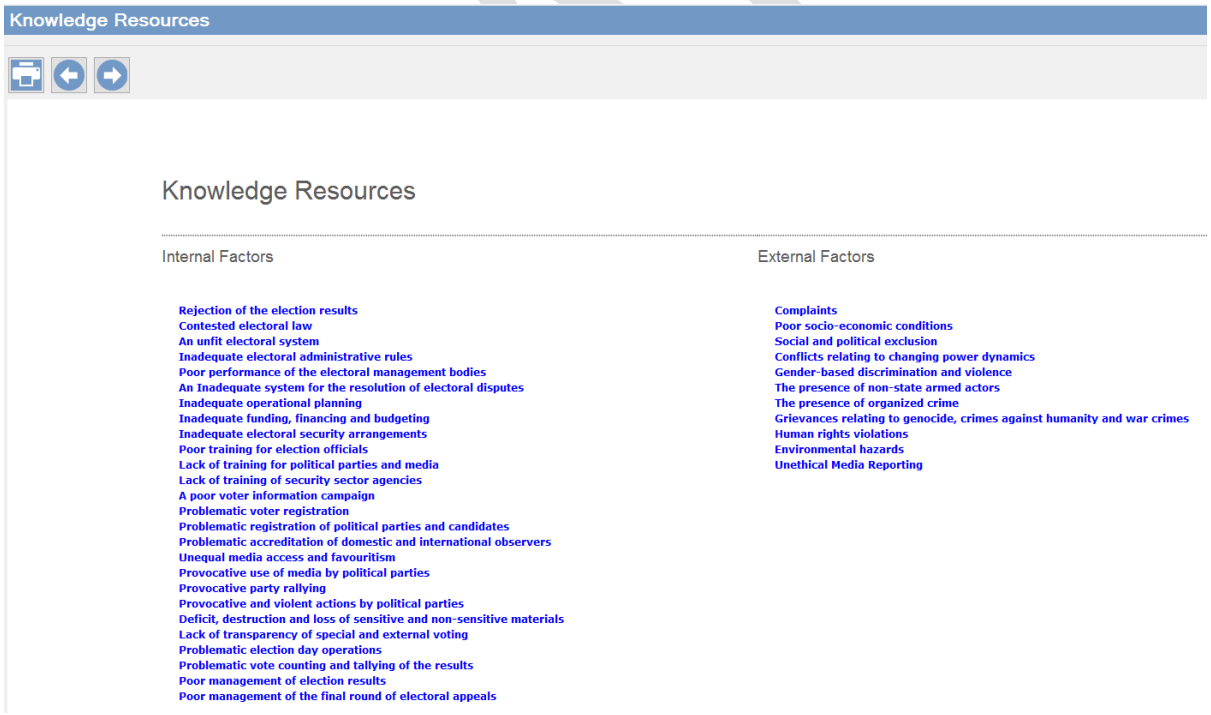
A new window will open. On the left side of the window, user/s can see internal factors and on the right side external factors.



Select the factor to change the order. Press the UP arrow or DOWN arrow, based on the internal or external factors. As an example, **Rejection of the election results** have been selected from internal factors.



Now, press **Save** to save the changes. Go back to KRL and the user will be able to see the factor on the top of the window as changed.



3. Analytical Instrument Module

a. Introduction

The Analytical Instruments Module allows users to upload and analyze data by drawing risk maps and charting risk trends. Furthermore, users can generate and maintain a risk and action register that details risk alerts issued and actions taken. The ERM Tool allows the user to export, import or delete analytical models. Maps can be saved within the model and exported as high-resolution pictures or KML files, which are Google Earth-compatible.

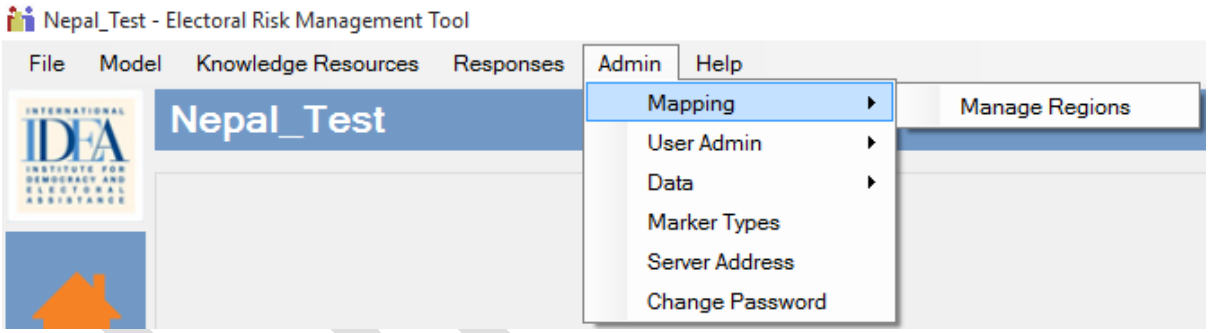
The Analytical Instruments Module allows users to: create country and election-specific analytical models; upload data in order to generate risk maps and trend charts; and create a register of risks and actions.

b. Map import

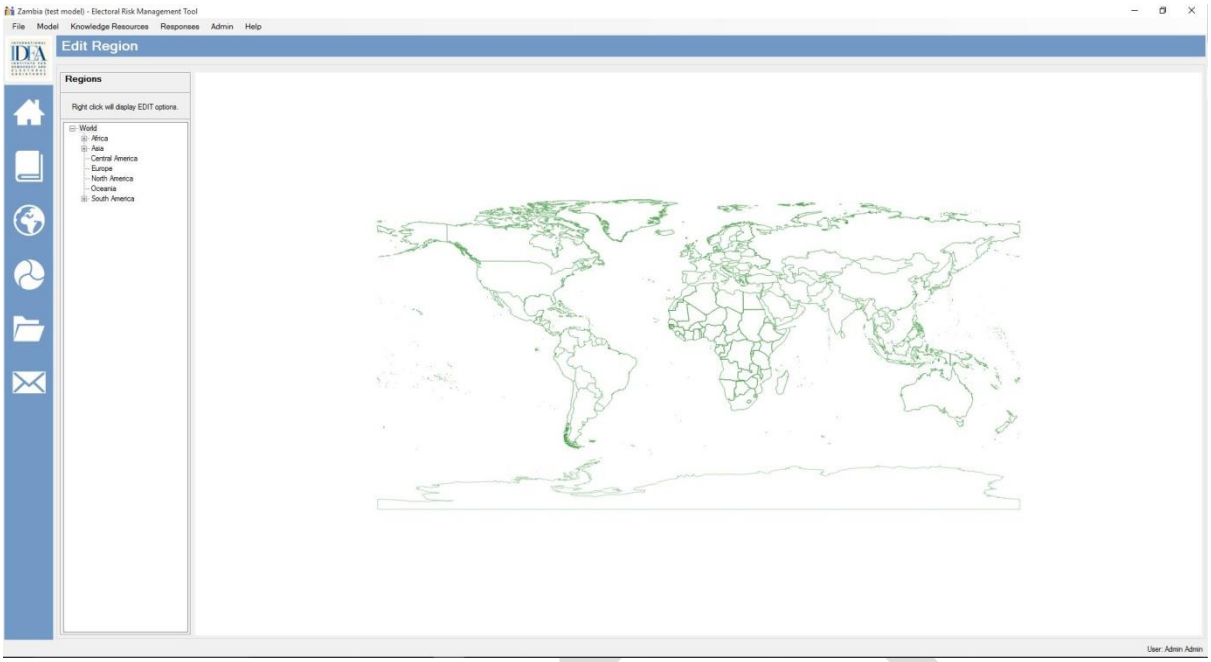
The ERMTool typically does not include maps for countries or administrative divisions, provinces, counties and municipalities. Therefore users would need to add these maps manually, immediately after installing the application. The shape maps are typically available with: the Election Management Body boundaries department (cartographer) that makes use of GIS application; on the Internet or; with reputable companies producing digital maps. The loading time is reduced when the number of child regions is limited.

Steps:

Go to Admin Menu - Mapping - Manage Regions



The following screen will appear:

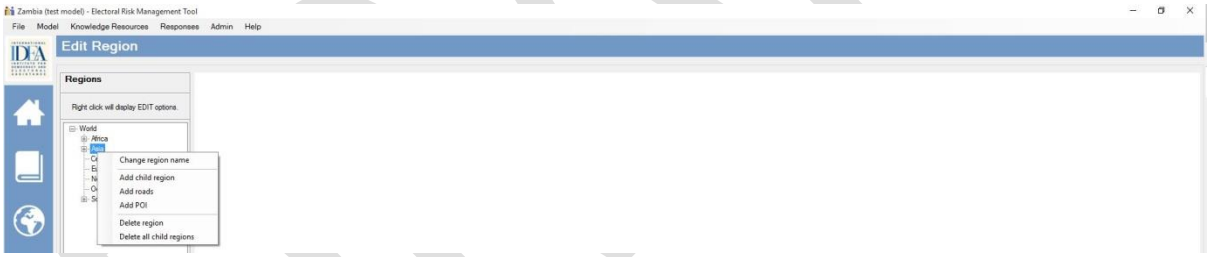


To add the maps of country to lower division.

To add regions:

Upon right clicking, the following menu will appear:

Note: Right click Menu functionality can be used in every level i.e. from country to lower level.



Change regions name: Allows the user to rename the name of region (the user can also use their script as the part of customization)

Add child region: Add new regions to the tool (using .shp file)

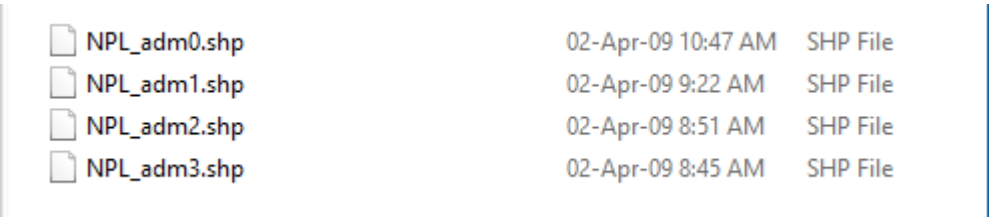
Add roads: If the user has a road shp file, the user can attach it to the tool.

Add Point of Interest (POI): If the user has a POI shp file, the user can attach it to the tool. (For example: if you have a POI shp file for polling location you can view it on tool).

Delete Region: Delete a specific region

Delete all child Regions: Delete all the child regions under the parent regions.

For this exercise we will use Nepal as example.



Note:

Adm0 – country level shape file (boundary level of Nepal)

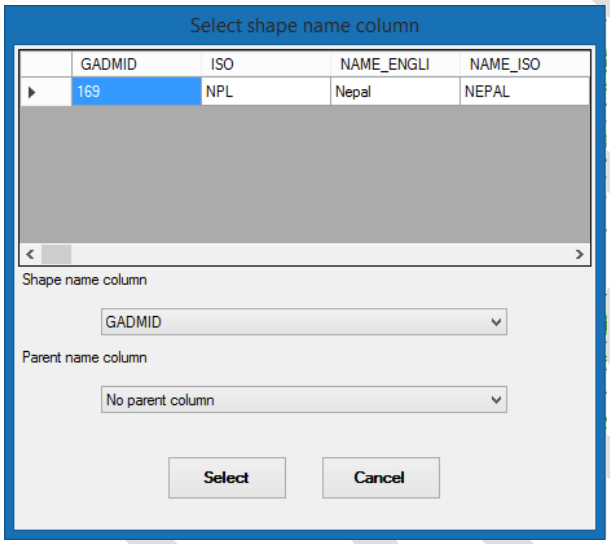
Adm1 – First administrative level (5 Development region)

Adm2 – Second administrative level (14 Zones)

Adm3 – Third administrative level (75 Districts)

Steps:

Right click on Asia - Add Child Region- Locate the file in your computer. Select the country level shape file.



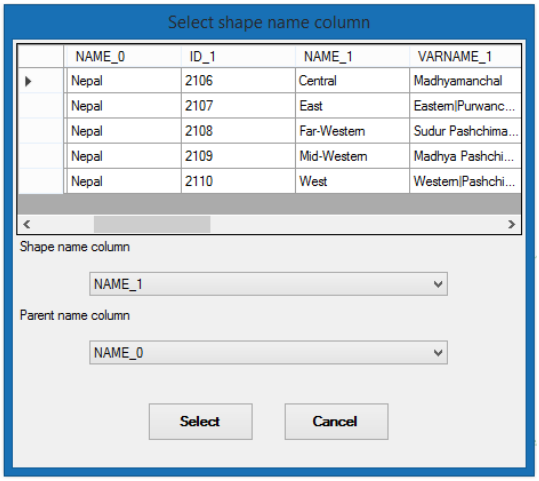
In this case, select the shape name column from dropdown menu as “Name_Engli”. *For this, the user does not need to select **Parent Name Column.**

Then press ‘Select’. The user will see Nepal under Asia.

Note: Shape name column may change depending upon the user shape file attributes.

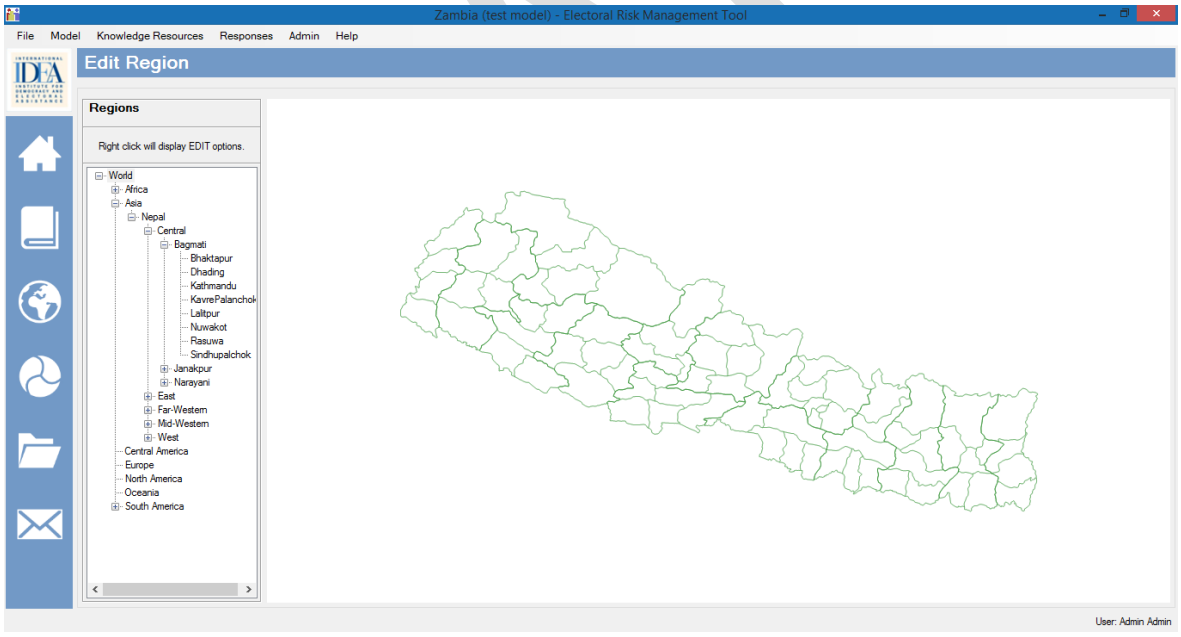
a. Once the user has **Nepal** (Country Name) on the map, right click on Nepal (Country Name) and then select ‘Add Child region’ – Locate the file and press Ok. Under Shape Name column –

select Name1 and under Parent Column Name select Name0. Press ‘Select’. The user will be able to see the next level of the administrative level under country name.



Note: Name1 will be the first administrative level and Name0 will be country name.

b. For the second administrative level, select name_2 under Shape Name column and name_1 under Parent name Column and Press ‘Select’.
c. For the third administrative level select name_3 under Shape Name column and name_2 under Parent name Column and Press Select.



In the above screenshot, you will see four levels of the administrative level from country to third administrative level.

Note: If you have more than 3 administrative levels, continue the procedure until you have imported all the shape files.

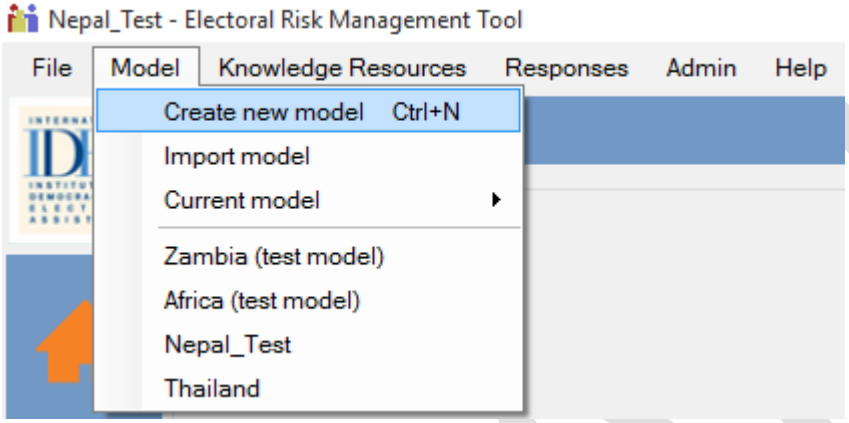
Note: For administrative area shp maps please contact your national authorities (such as the geographical institutes, cartographer’s office and/or EMB boundary delimitation office) otherwise open source spatial data is available on serval website such as: div-gis.org and gadm.org.

c. Creating Analytical Model

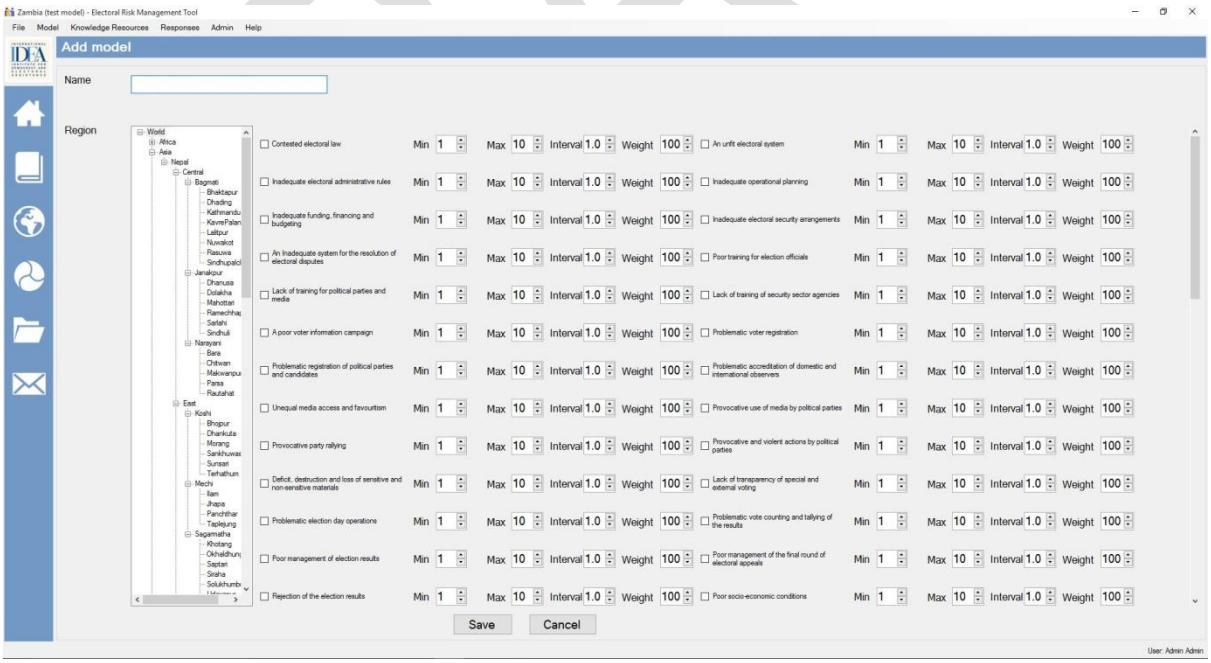
An analytical model is created by selecting factors which are relevant in a given country and electoral context. A model can include several factors. Users can also change the scale range, interval and weight in Create New Model. Users can at any time, add a new factor to the model or remove it. But changing scale, interval or weight of a pre-selected factor in Edit Current Model will result in losing all data added in Table by Factor or Table by Region. The lists are mirrors of factors included in the KRL, including newly added factors from **Add New Factor,** as explained earlier. Users can also edit the model as required.

Steps:

To create new model - Go to Model Menu - Create New Model (Ctrl + N)



By clicking 'Create New Model', the following screen will appear:

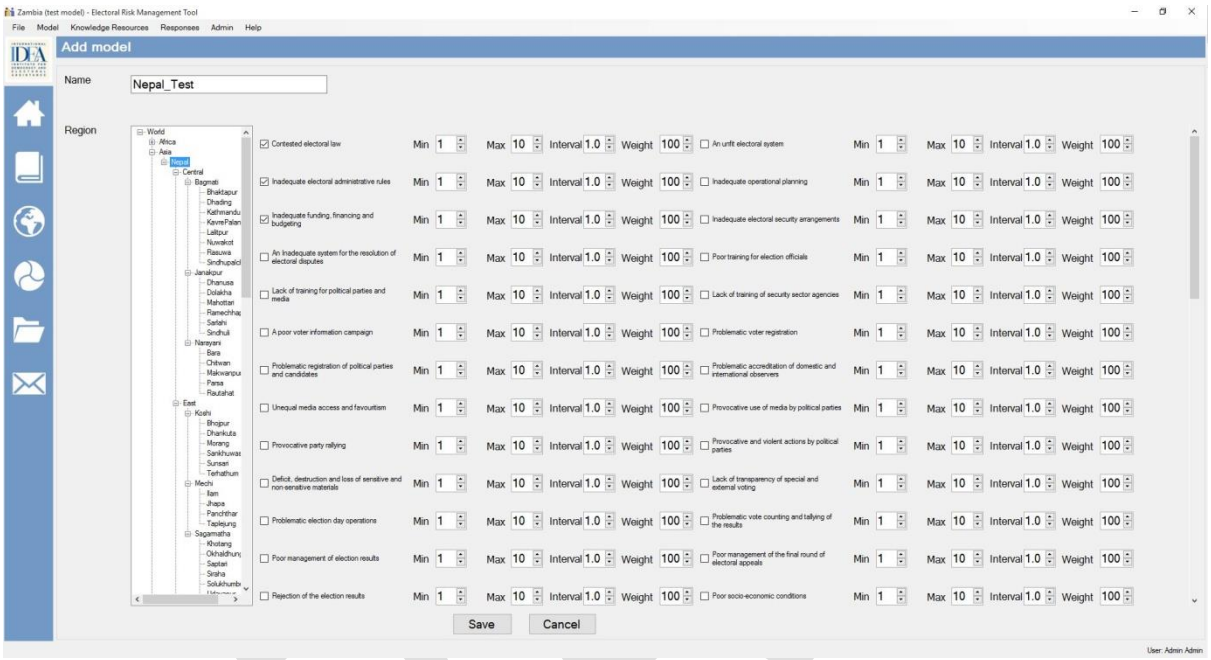


On the left side of the screen the user will see regions and on the right side the user will see factors (scroll down to see the factors the user has created).

Add the title of the model (for this example Nepal Test). Check the box to select your factors including scale, weight and selection of the region (the user can select a particular part of a region or can select whole regions i.e. Nepal).

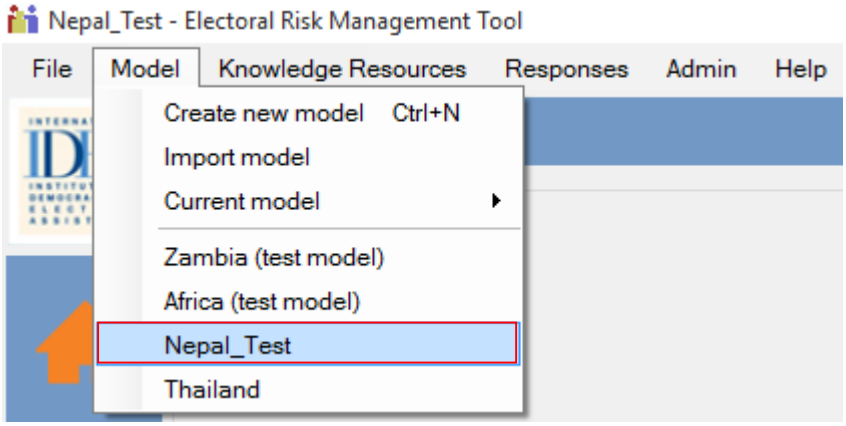
Note: The user can create a single factor model or multiple factors model depending on requirement.

Press 'Save' to save model.

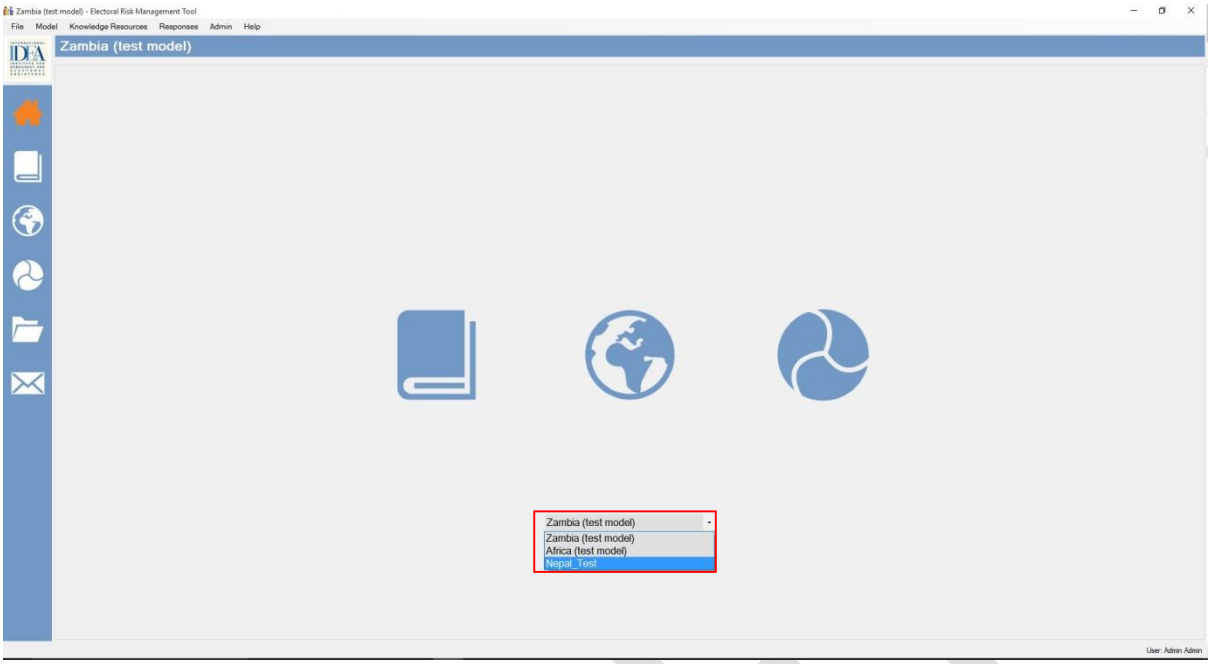


Once the user saves the model, they can select the model from:

1. Model Menu

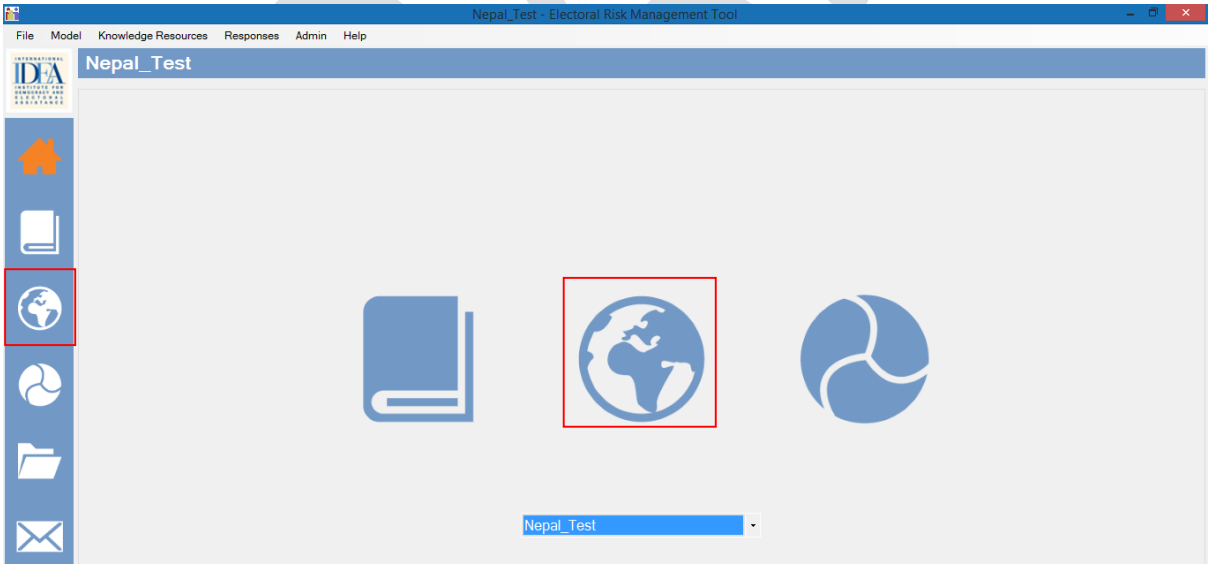


2. Model Dropdown Menu



Once the user has selected the model the model name will be visible in the Title Bar and Home Screen.

The user can access the model for analysis. The user can also access the particular model from the Home Screen or Side Bar as shown below.

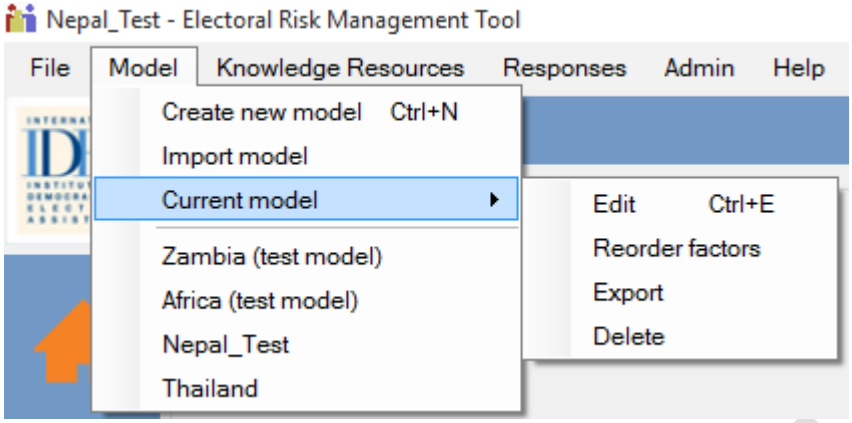


Editing Model:

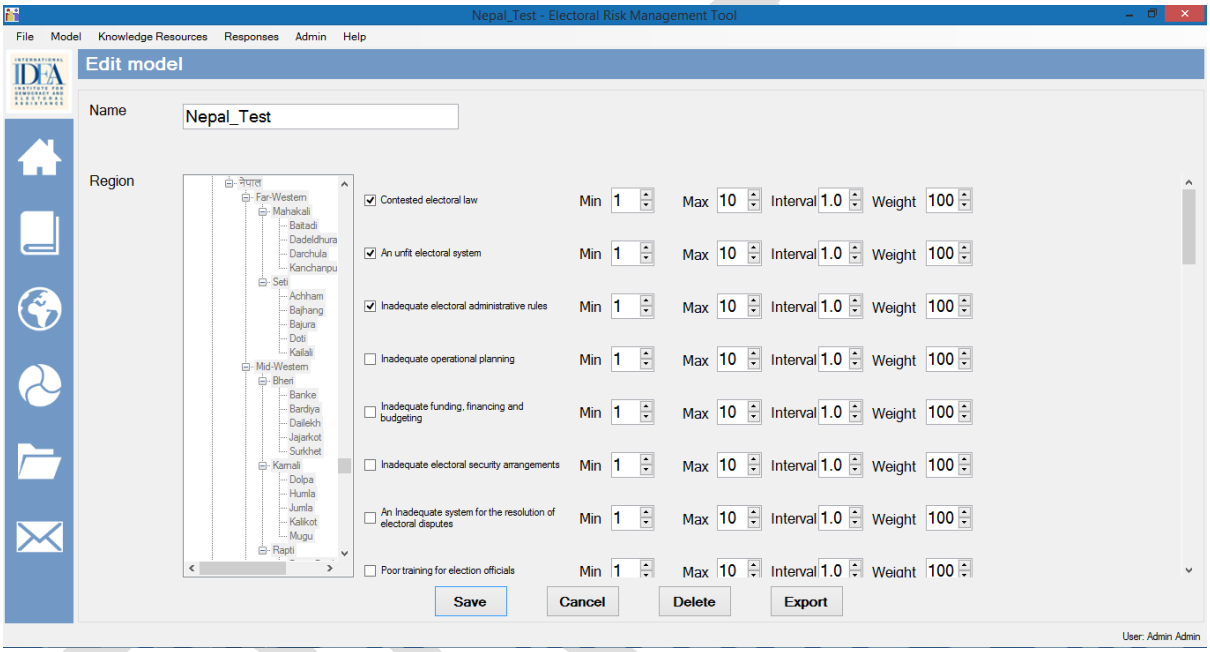
The user can edit the model, if the user needs to add/remove factor(s) from the model.

To Edit the Model

Go to Model - Current Model - Edit (Ctrl +E)



A new window will appear:



The user can edit the title and add or remove factors. The user can also change the scale, interval and weight. However, the user cannot select the regions while editing a model.

Note: While editing, if any factor(s) previously added to the model has data under changing the scale, interval and weight, data will be lost.

After the user clicks on 'Analytical Instrument' (Globe icon) either in the Home Screen or Side Bar, the screen below will appear:

The screen is divided into four sections:

a. Map Settings

This enables the user to select the date, factor/s, region/s, marker/s (if any), color scheme, save/load settings.

B. Tab Bar

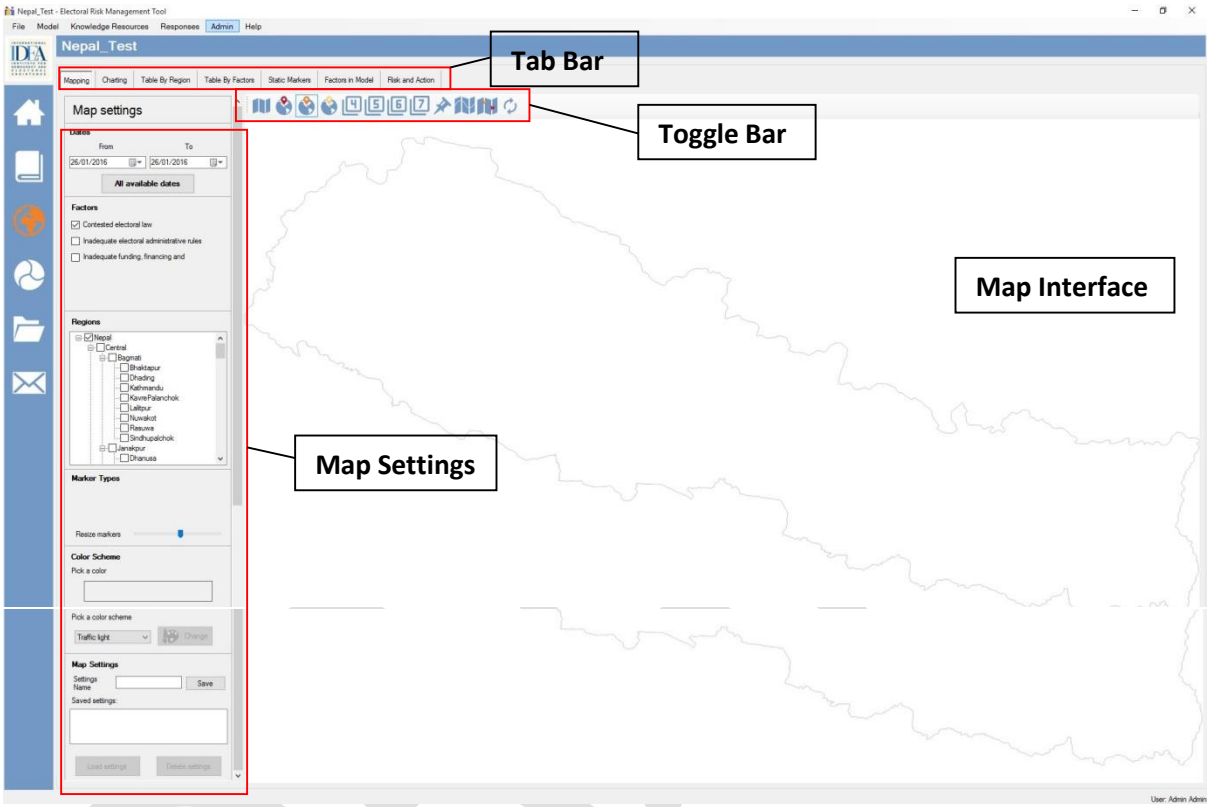
This enables the user to switch between different tabs (mapping, charting, table by regions, table by factor, static markers, model in factor and risk & action)

C. Toggle Bar

This enables the user to select the administrative layers (continent to lower division of country), static markers, roads, POI and refresh the map.

d. Map Interface

This interface helps the user view the maps, with the help of the map settings selection and toggle bar.



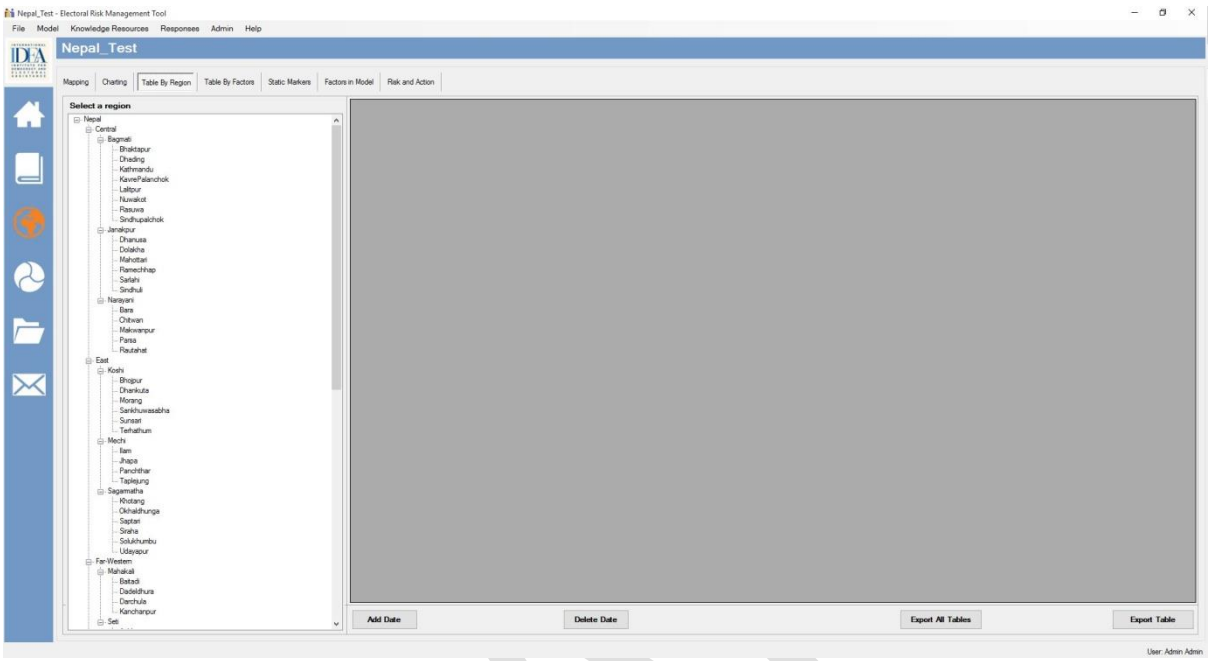
d. Adding Data:

Users will be able to add data through 'Table by Factor' and 'Table by Region'. The type of data being entered will depend on what factor is being observed. For example, an observable indicator of poor performance of the EMB would be the level of trust and confidence enjoyed by the EMB across the country. For instance, a survey looking at citizens or Political Party trust in EMBs work across the country, could be used as data. Data can be collected on the same observable indicator, over a long period of time. Data relating to trust in the EMB for example, can be collected on separate occasions and can be projected in mapping and trend analysis. For large data sets, it may be worthwhile to add data into an excel sheet, then paste it into the application. Data can also be saved by clicking on 'Export All Tables'.

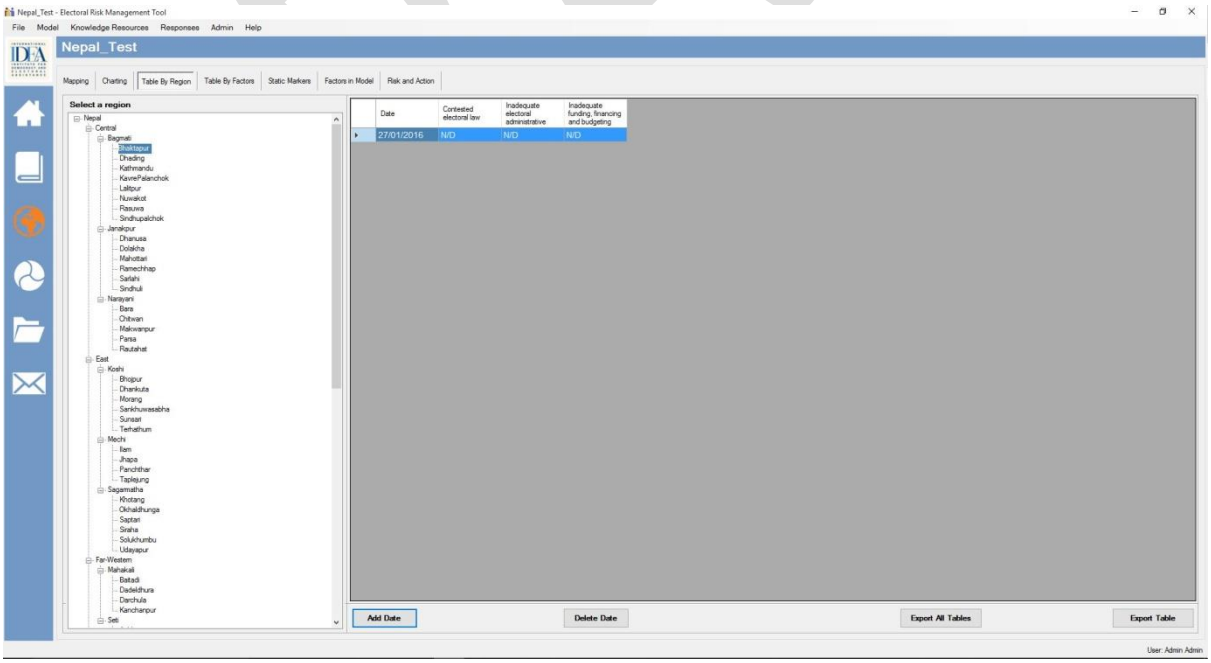
Users can add data by way of two methods in the ERMT. Users can either go to 'Table by Region' or 'Table by Factor' on Tab Bar.

1. Table by Region

This data entry method is used when data is collected over regions, which helps to enter data for a specific region. Data collected can be for factors or more.



In this method, the user can select a particular region and then after the region is selected, all the factors in the model will be shown on the right side of the window.



To add the date, users need to press ‘Add Date’, and a line with the current date appears below the factor. Users can add the data for a particular factor. If the user has data for more than one factor, the user can add the data as required. Users can also change the date, if data is available for the previous date.

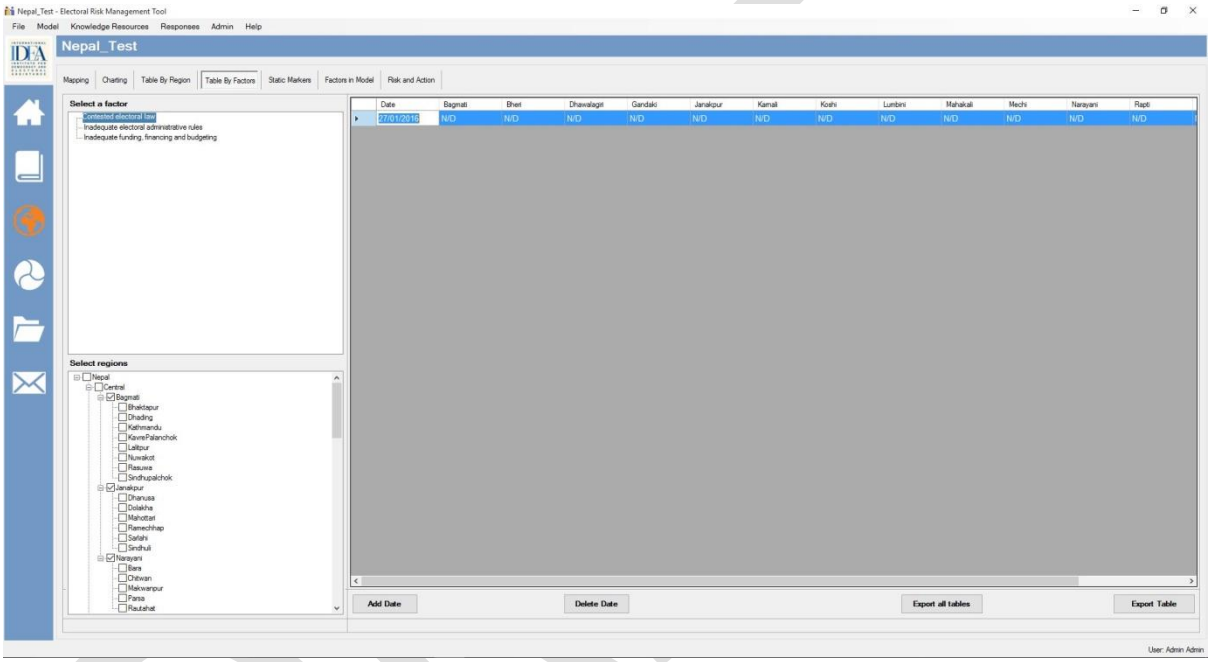
Note: Once data is added, the tool automatically **saves** the data. As the user will see, there is no save button displayed on the screen.

Note: To edit the value, the user can click on the value below the factor and can make changes.

Note: The user can also delete the values for a particular region/date by pressing Delete Date.

2. Table by Factor:

The second method of data entry on the tool is by selecting the tab 'Table by Factor' from Tab Bar. This will be more useful for the user to enter data if the user has the data for a particular factor/s and for all the regions.



To enter the data, first the user has to select regions, then the factor and then Add Date. The region selected will appear on the right side. The user then can enter the data and it will save automatically, as is done in the 'Table by Region' option.

Note: Right click menu on select regions

Select all child regions - This menu helps to select all the child regions that fall under the selected parent region.

Select all region on this level - This menu helps to select all the regions on the same level.

Deselect all child regions - This menu helps to deselect all the regions that falls under the selected region.

Deselect all regions on this level - This menu helps to deselect all the selected regions on the same level.

Export Table: This function enables users to export the current factor to Excel.

Export All Tables: This function enables users to export all the factors to Excel.

e. Mapping

Once data has been entered into the application then it can be manipulated and viewed in the mapping interface. The different colored regions represent variance in risk. The map is now displaying an average risk level per region. This function is useful when looking at risk over a given time period.

Steps:

Go to Mapping Tab on 'Analytical Instruments'.

Note: User will see the country map only.

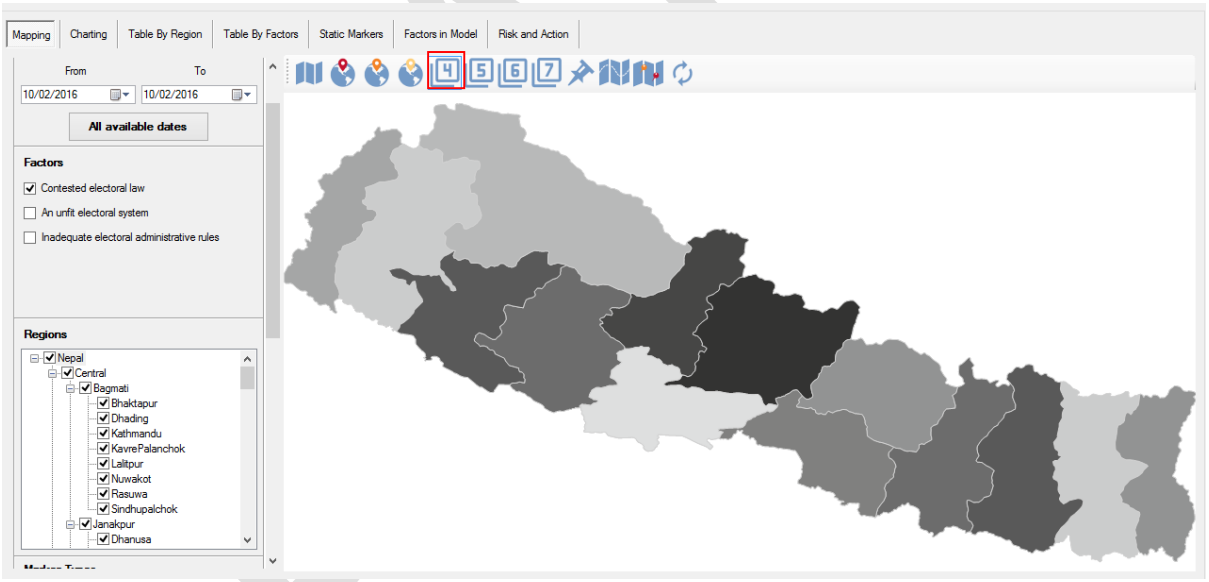
Select the date (from and to) (the user can select the dates according to requirements)

Then select the factors.

Then right click on Country name and either select all the regions or select the specific regions to be drawn.

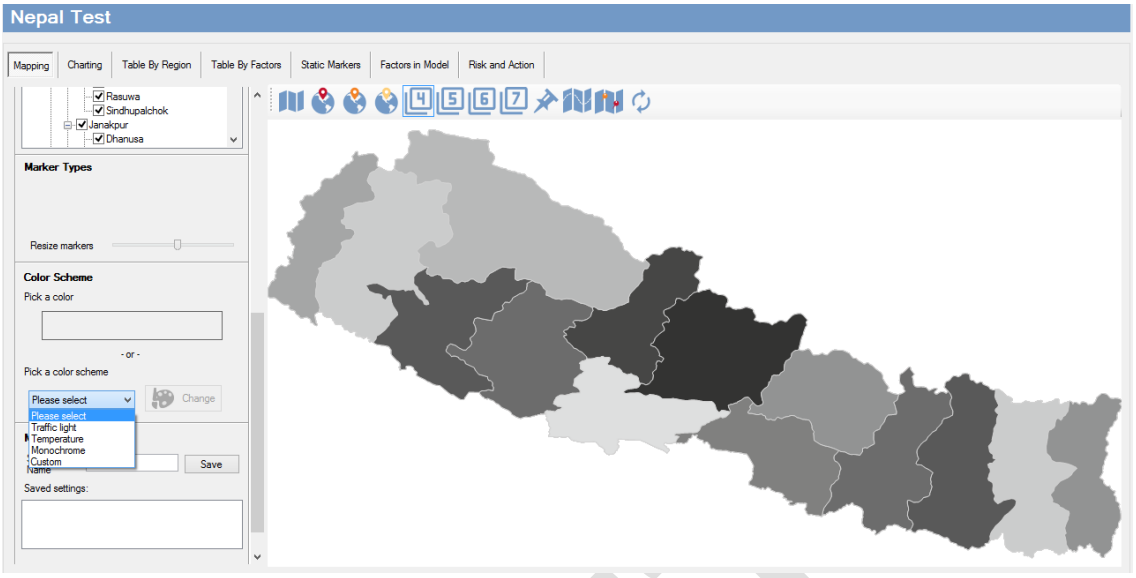
Note: Right click on the regions section – This has the same functionality as in the Table by Regions

Now, in the toggle tab select the layer you want to be drawn (in this case we will select the 1st Administrative Layer)



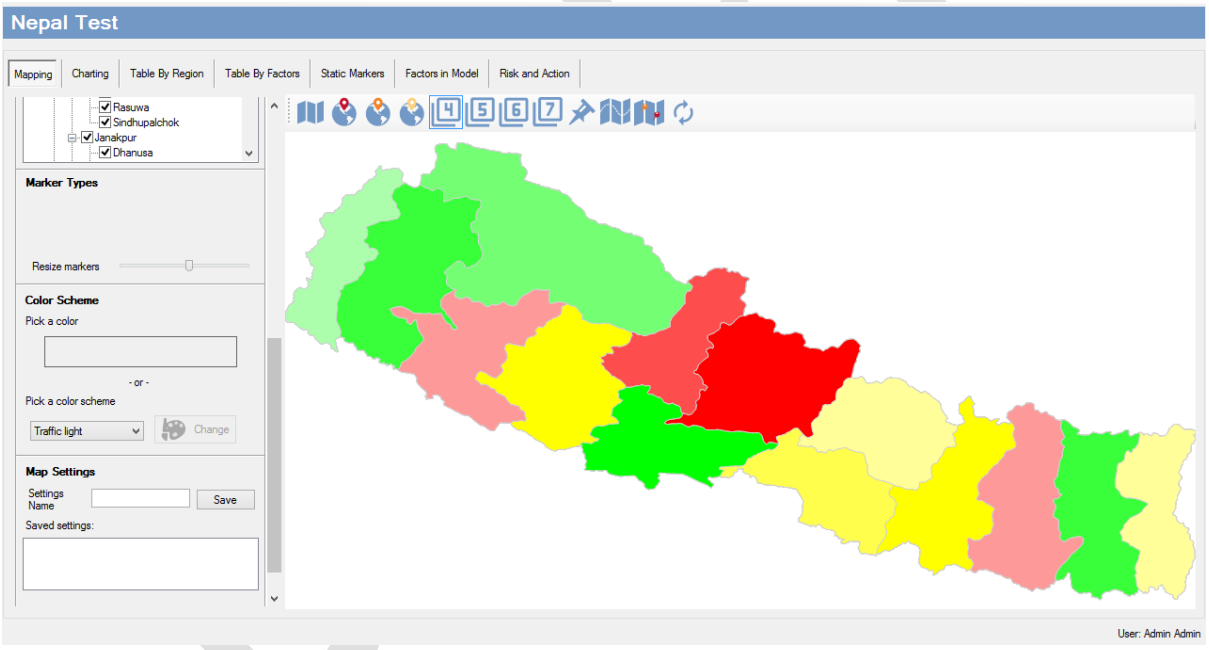
Note: Users can select regions/ administrative level depending upon the availability of the data.

The user will see a monochrome display of data. If the user would like to change the color scheme, the user can select a color from **Pick a color** or use a default color scheme such as monochrome, traffic light, temperature or the user can select a custom color for each risk level as shown below.

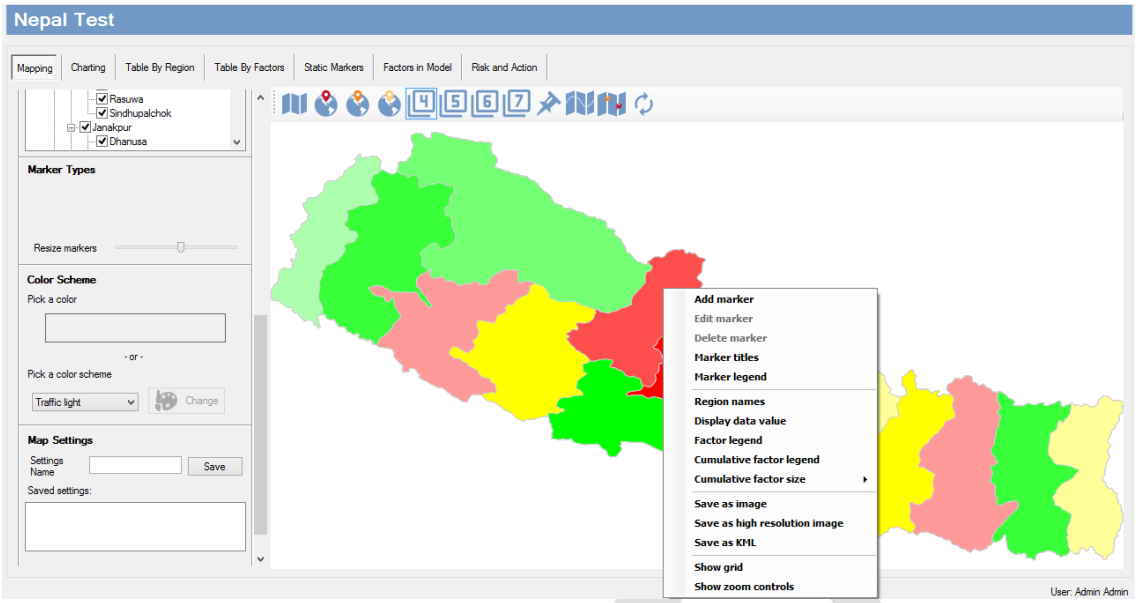


From the dropdown list on the color scheme, select the scheme.

Below is an example of the traffic light color scheme.



Note: Some right click functionality on the maps (Other functionality will be discussed further on other relevant topics)



Right click functionality on Map Interface:

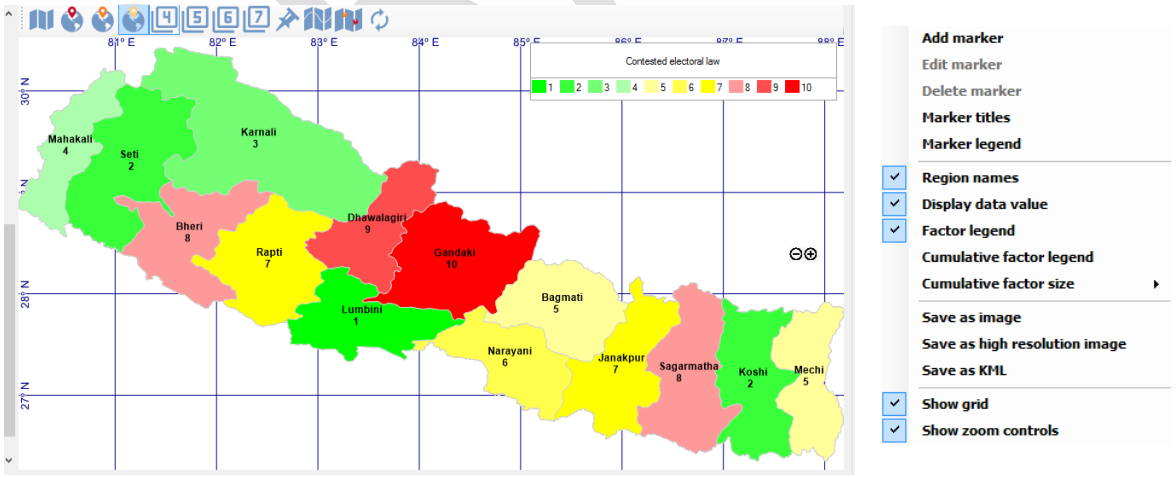
Region Name: Display the names of region selected.

Display data value: Shows the color coded value for each region. (If more than one factor has been selected, the mean value is displayed)

Factor legend: Shows the value and the color representing the value.

Show grid: Displays the geographical grid on the map

Show zoom controls: Displays the zoom controls to help zoom in or out.



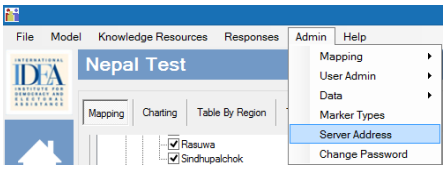
f. Settings

Users will be able to use different settings from the tool, which will ease the use of the tool while working on multiple risk alerts. Also, users will be able to connect to the server if lost. Some of the troubleshooting will also be mentioned. Map and chart settings are mostly useful when users are working on more than one map. Users can save the current settings and work on other maps and can alternate between maps as required..

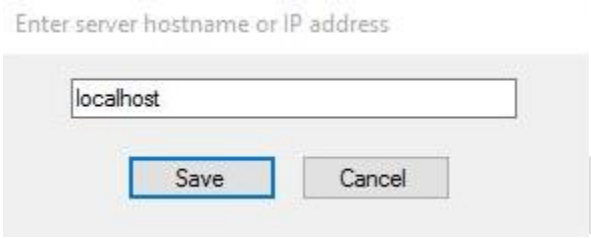
Steps:

To connect to new/other servers:

Go to Admin – Server Address



A windows opens, the user can provide the **IP address** or **computer name** of the server to get connected to the new server.



Change the hostname or IP address of the new server and **Save** it.

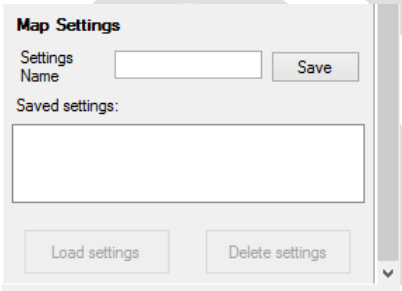
Restart the tool, and you will get connected to the new server.

Note: The local host in the tool refers to where the server and client are both installed in the same system.

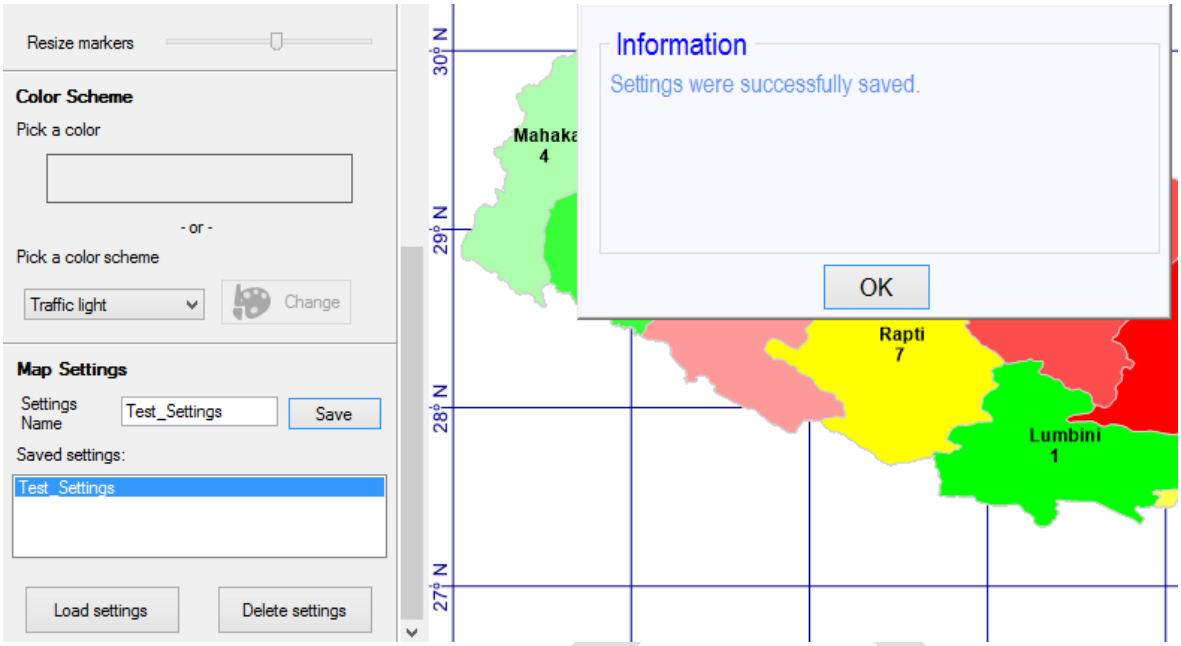
Map/Chart Settings:

Steps:

Scroll down to Map Settings on Mapping Tab.



Enter the name to save the current settings and press **Save** and **OK** to confirm saving the setting.



Once saved, the name appears on the saved setting box in the Map Settings Section.

To **load the setting** saved previously, select the setting, and press Load Settings.

To **delete the setting**, select the setting, and press Delete Settings.

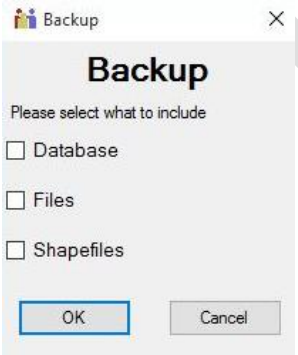
g. Saving work

Users will be able to save models and databases. The importance of saving work frequently will help to minimize the risk of losing data, if the system becomes unstable. The tool acts as a depository for risk data during elections and between elections, and saving work should become common practice by all users in case the ERM Tool application runs into critical errors or a new version of the Tool requires installation. The main difference between backup and export is, backup will save all the models included in the tool whereas export will only save the current model selected. To save the work, users can either backup or export.

Steps:

Backup and Restore:

To backup the database – Go to Admin menu – Data – Backup. The following screen will appear:

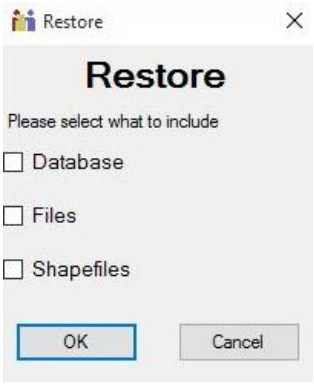


The user can either backup only the database or files added to the tool or shape files (i.e. GIS datasets) or all three of them.

Press **OK**.

A dialogue box will open and the user may provide a name for the backup file and location on your hard drive. It will take some time to backup the database. After the database backup is completed successfully, information will be shown. **Note: It is recommended to check all three before creating a backup.**

To restore database – Go to Admin – Data – Restore. The following screen will appear:



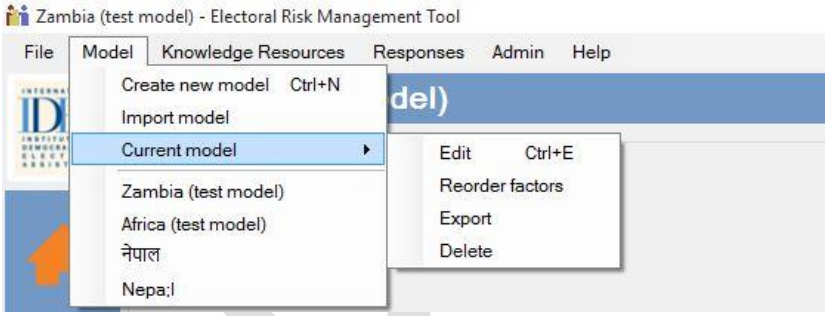
Users need to remember how the backup was taken previously. If all the three options were checked, check all the options or use the selected option to restore the database.

Press **OK** and locate the previously saved database and wait for a few minutes till the database has been restored.

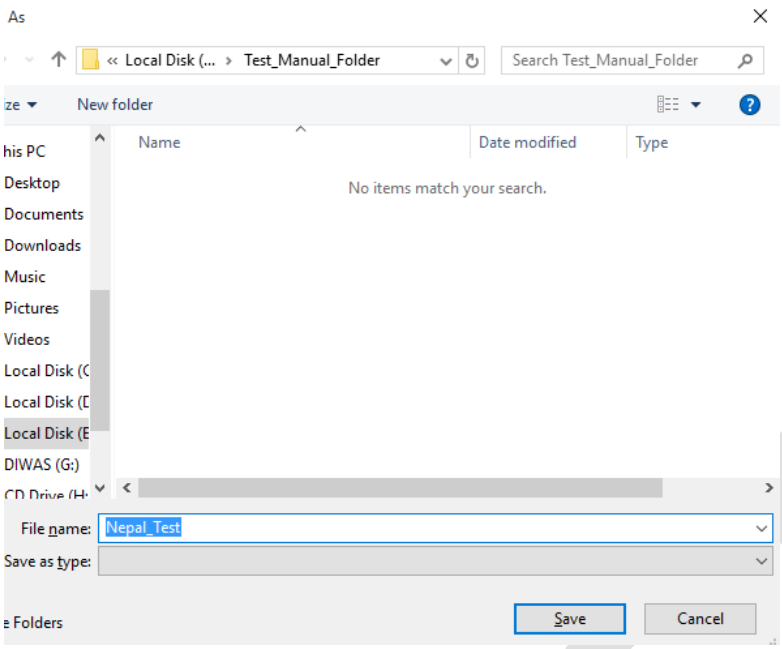
Note: The user will need the computer's administrative privileges to restore the database.

Import and Export Model:

To export the model: Go to Model Menu – Current – Export

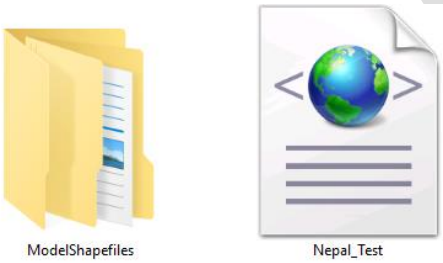


A new dialogue box will appear:

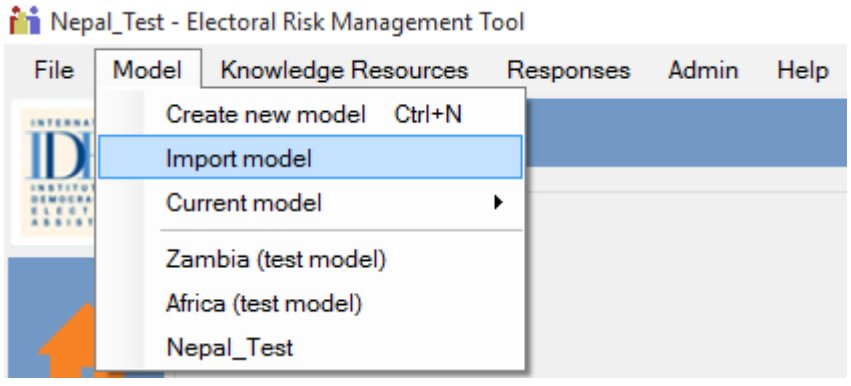


Provide a location on your hard drive and press save to export the desired model.

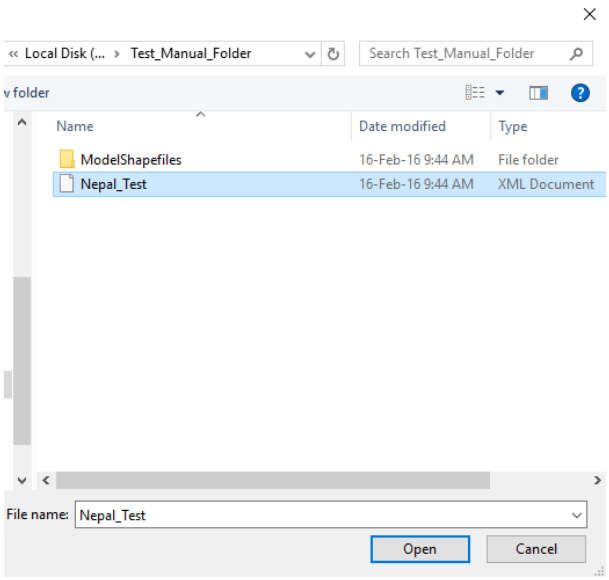
Note: The shape files associated with the model will also be exported in the same location in a folder named “ModelShapeFiles” where the model is exported as shown below.



To Import the model: Go to Model Menu – Import Model



A new dialogue box will appear



Locate and select the model that need to be imported and press open. The model will be imported and will be shown on the **Model Selection Drop Down Menu.**

Note:

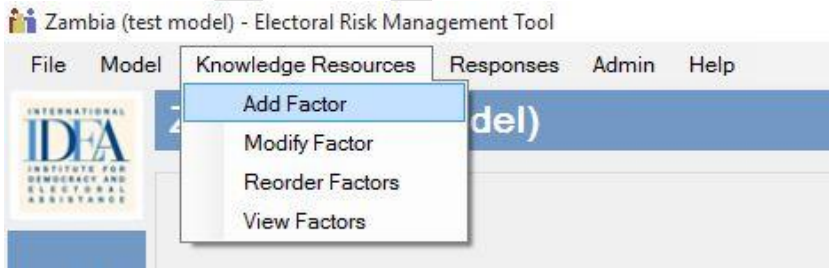
- If the model you are importing does not have the shape file, you would have to import the shape file first and then import the model.
- If the model with the same file name is imported, the tool will automatically rename the model name by adding a number after the model name.

h. Cumulative Factors:

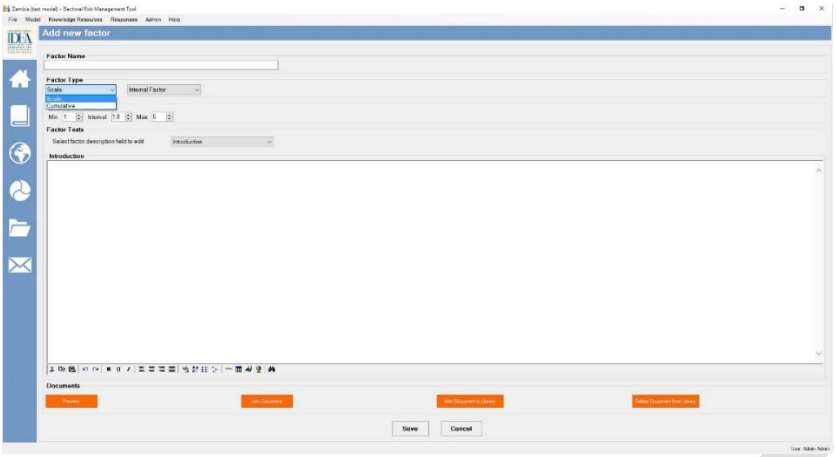
Cumulative factor(s) are used to present numerical data. For example, a security incident or a complaint. If more than one numerical entry is made for the same factor/region under different dates, numbers are aggregated. Cumulative factor(s) can be combined with color coded factors, providing two levels of information. Several cumulative factors can be displayed in the map at the same time.

Steps:

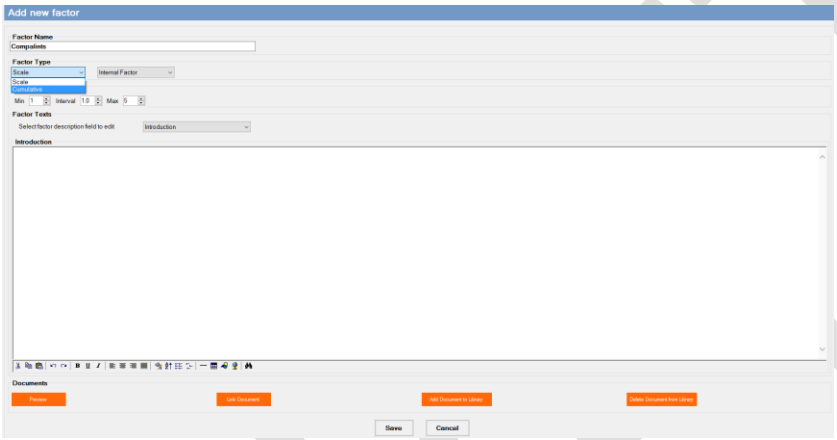
To create a cumulative factor: Go to Knowledge resources – Add New Factor



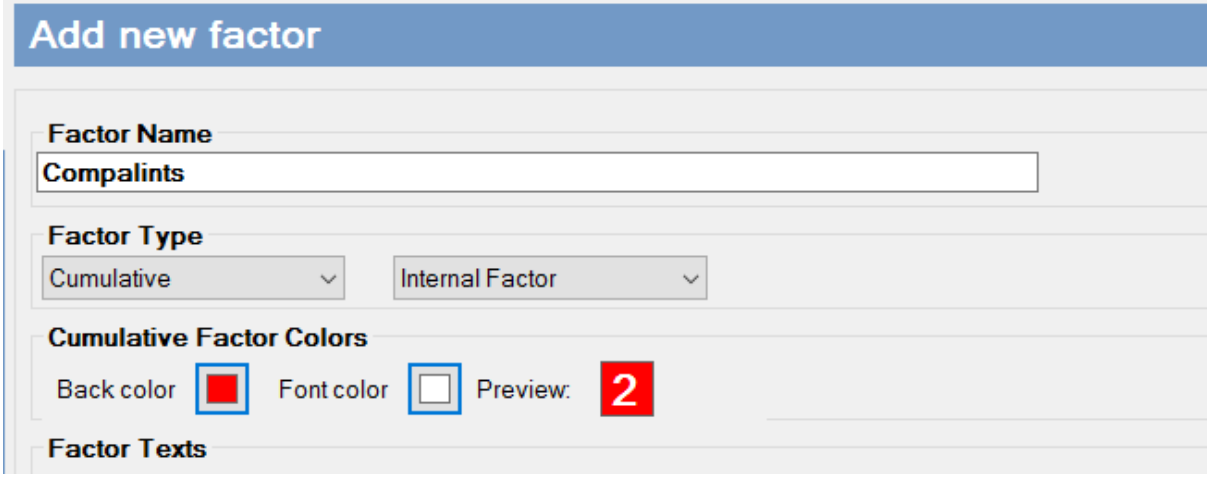
A new window open within the tool same as color coded factor.



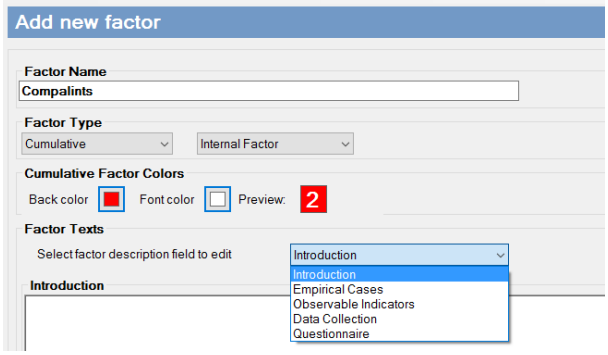
Enter the title for the factors (for this example, the title for the cumulative factor will be ‘complaints’).



1. Now, select the Factor Type from the drop down menu to Cumulative, and specify the factor to be internal or external.
2. The user will be able to select the colors under the Cumulative Factor Colors. Select the Back color and Font Color as required.



3. The user can also add an introduction, empirical cases, observable indicators, data collection and questionnaires to the factor, as is done in the color-coded factor.



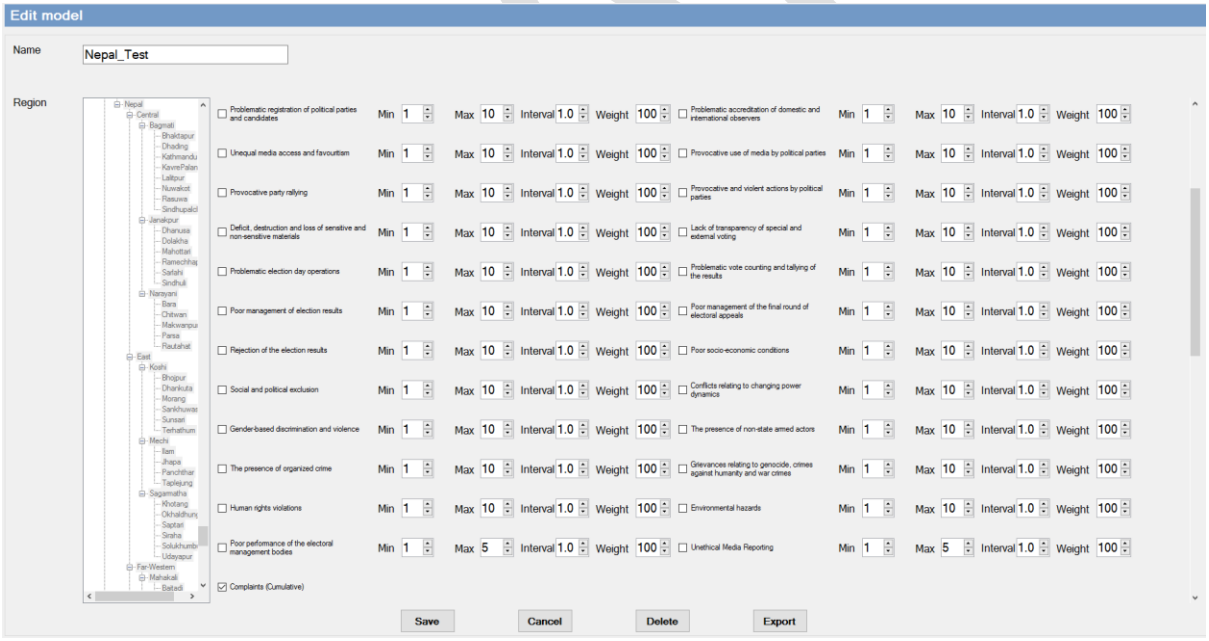
4. After all the required information is entered, press **Save** to create a new cumulative factor.

Note: The user can also view the cumulative factor/s in the Knowledge Resource Library.

After the user has created the cumulative factor, it is time to add the factor to the model. To add the factor to the model:

Go to Model Menu – Current Model – Edit or Press **Ctrl + E**.

Add the factor to your current model



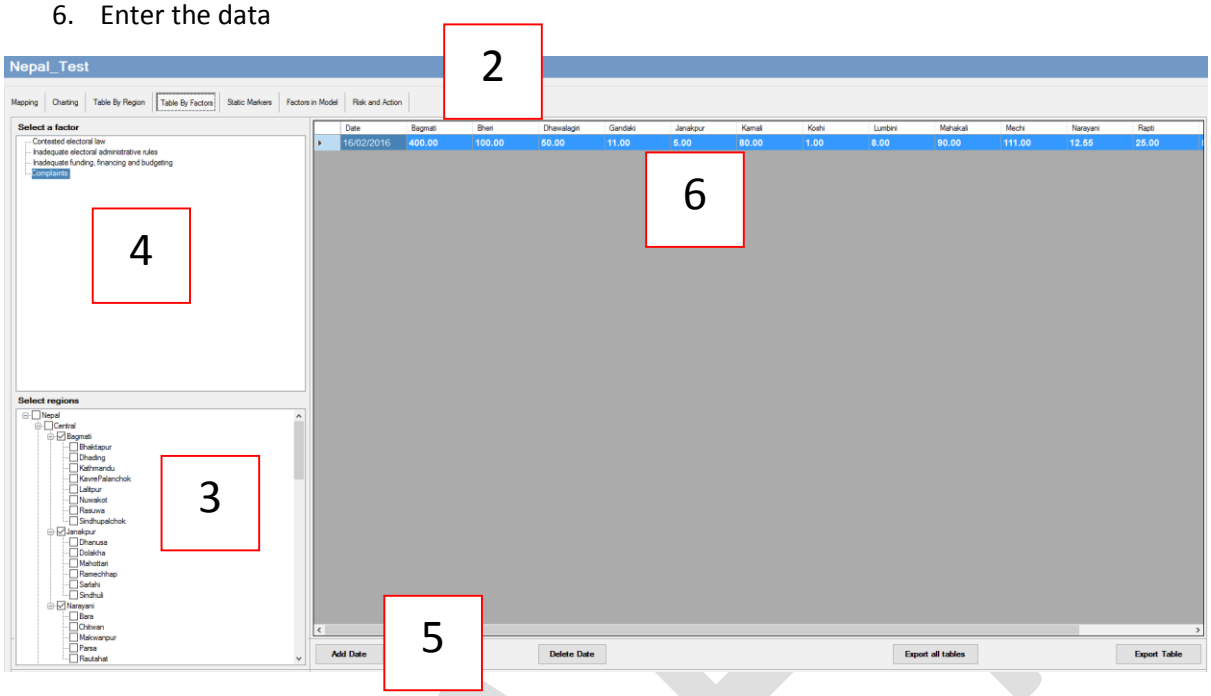
Press **Save** to add the cumulative factor to the model.

Note: Adding data to the Cumulative factor is the same as adding data in the color-coded factor.

Steps:

1. Open 'Analytical Instruments'
2. Add data by either 'Table by Region' or 'Table by Factor' from Tab Menu
3. Select the region/s for the data

4. Select the Cumulative factor
5. Press Add Date
6. Enter the data

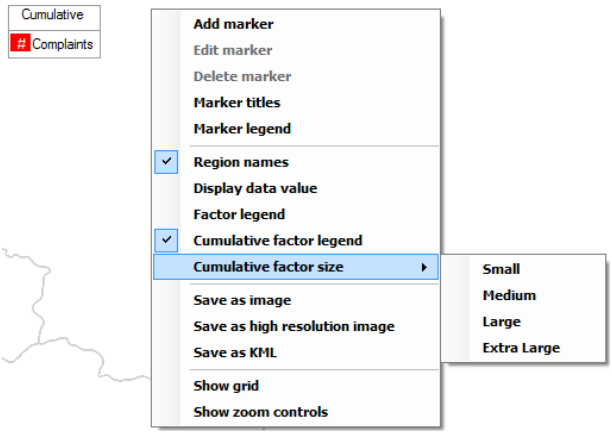


After the data has been entered, go back to Mapping Tab.

Select the date, factor and region to be drawn.

Note: The user can add more than one cumulative factor to the model. The user can also show the legends by using right click menu.

Note: The user can also increase the size of cumulative factors by right clicking on the mapping interface and selecting the size as required (Small, Medium, Large or Extra Large).



i. Static Markers

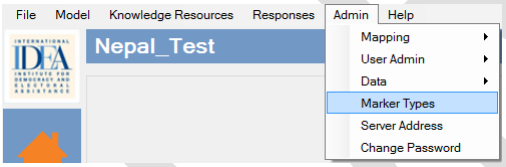
Static markers can be used in a number of ways such as: display location of facility (polling station, police station, and warehouse), events or incidents (political party rally, hate speech, human rights violation, and gender-based violence), material (sensitive or non-sensitive electoral material, small arms) or actor (political party, police, election monitors, and election officials). Also static markers can be used to denote any of the 36 internal or external factors to a particular location. The static marker feature can make use of GPS coordinates.

By default, the tool comes with two static markers, but users can also create a new static marker depending upon their needs. Users can select marker/s from the list or use their own marker (**Note:** The static marker should be in .png image format)

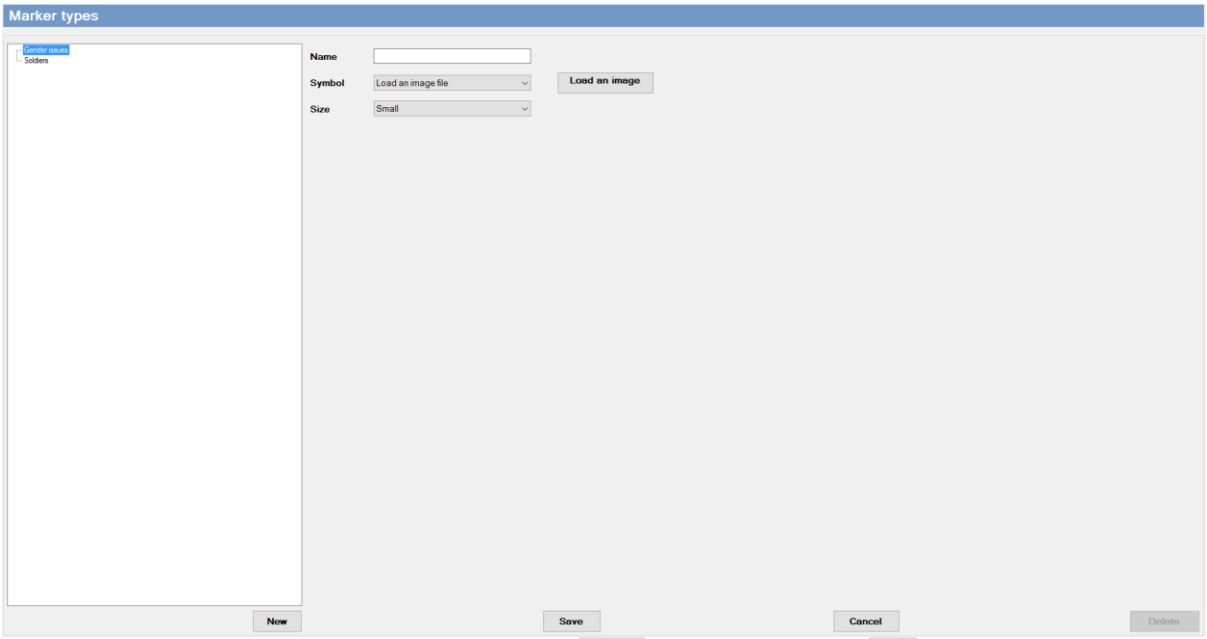
Steps:

To add a new static marker in the tool:

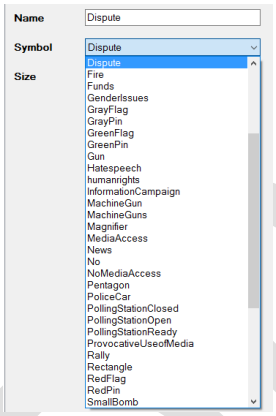
Go to Admin Menu – Marker Types



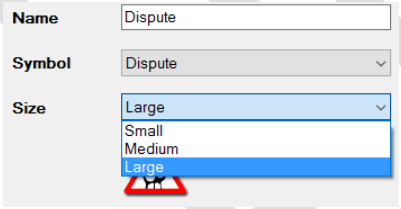
A new window will open:



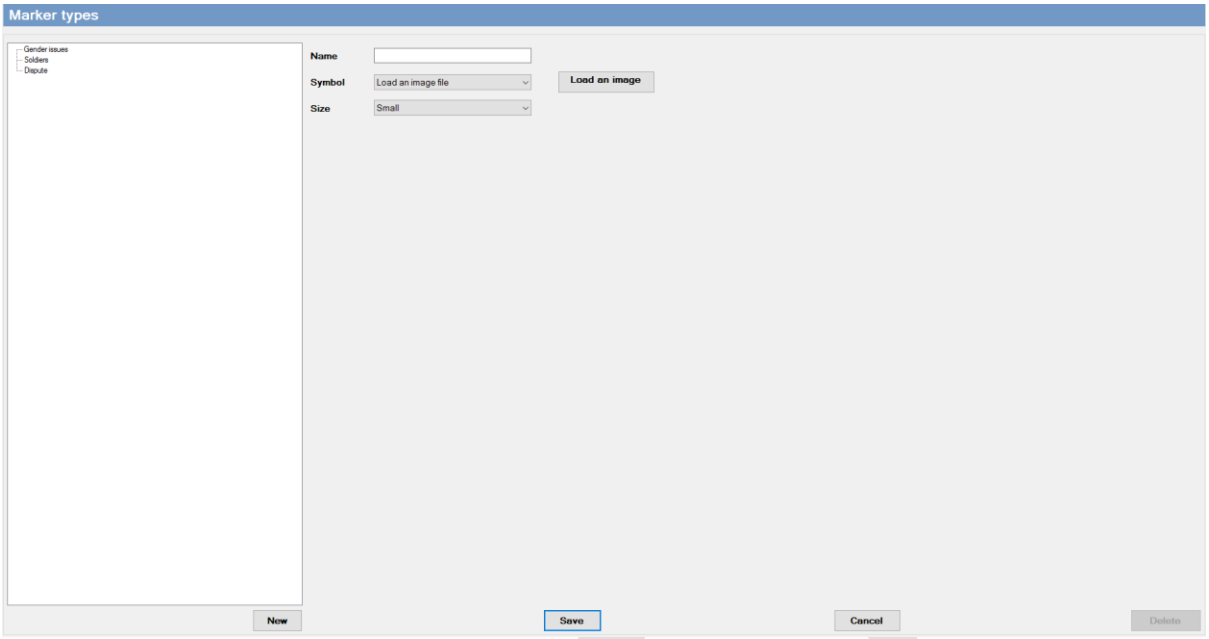
1. Name of the marker
2. Select Symbol from the drop down menu (There are around 40 static markers to be selected)



3. Select the size (Small, Medium or Large)



4. And press Save to add new marker to the tool.
5. After saving, the name of the marker will appear on the left side of the window i.e. markers list.



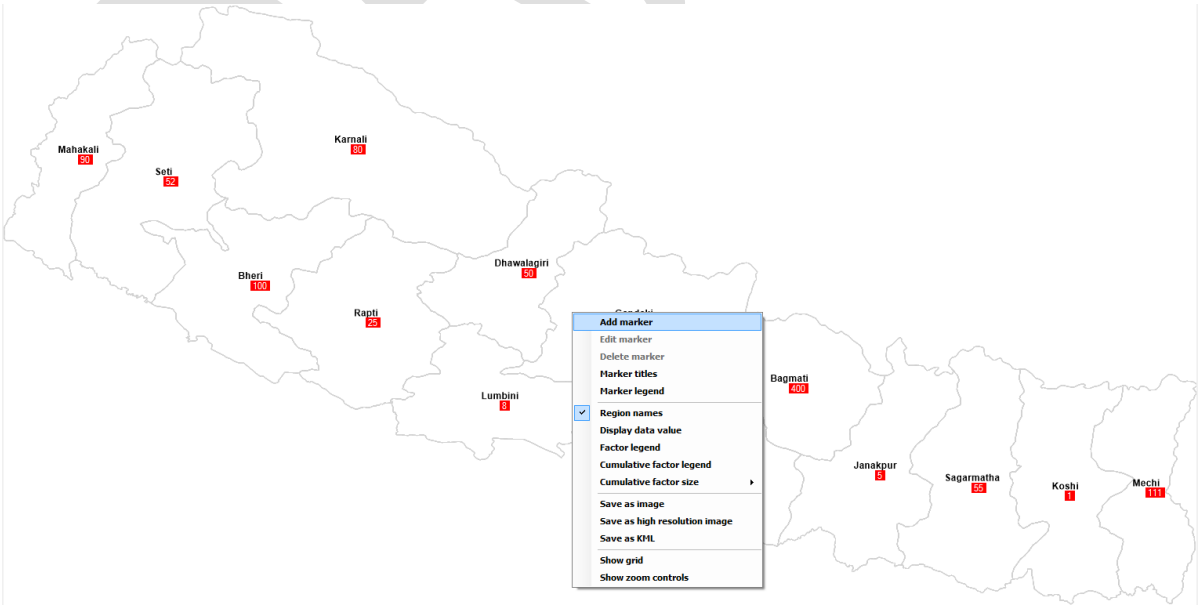
Note:

- The user can also create their own marker and add to the tool, by using **Load an image** button.
- The user can edit the marker name, symbol and size by selecting the marker on markers list.
- The user can delete the marker/s by selecting the marker and pressing delete.

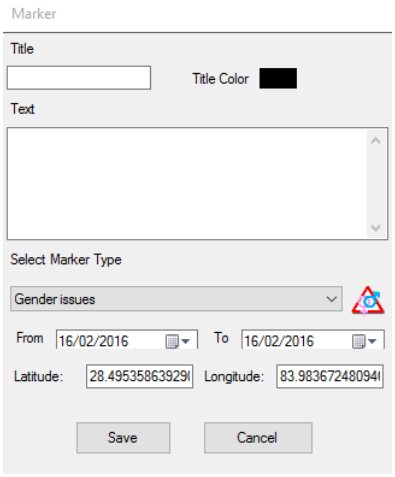
After creating a new marker, it is time to add the marker on the map. For that, the user would need to go back to Analytical Instruments.

Steps:
Right Click on the area where the user needs to add a marker,

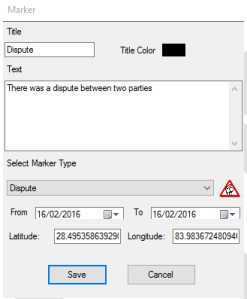
Select **Add Marker**



A new window will pop up as follows:

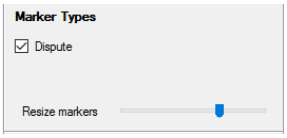


1. Add the title for the marker.
2. If needed, the user can also change the title color by clicking the color.
3. Add the description on Text Field.
4. Select the marker type.
5. Select the date (which enables the user to view the specific marker from that particular date to next particular date).
6. Latitude and Longitude are already added (but if the user has specific data of Latitude and Longitude that can also be added)
7. Press **Save** to add the marker to the map.



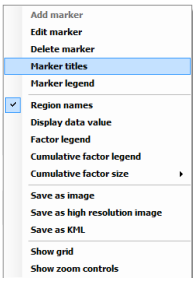
8. The user will not be able to see marker on the map. For this user needs to enable the marker toggle button on the toggle bar.

9. The user can resize the marker - depending upon the need - from Marker Types in Map settings.

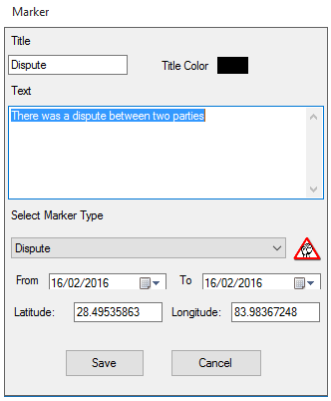


Editing Marker/s:

The user can also edit markers if required. To edit a marker the user can right click on the marker and select edit marker.



A window will open:

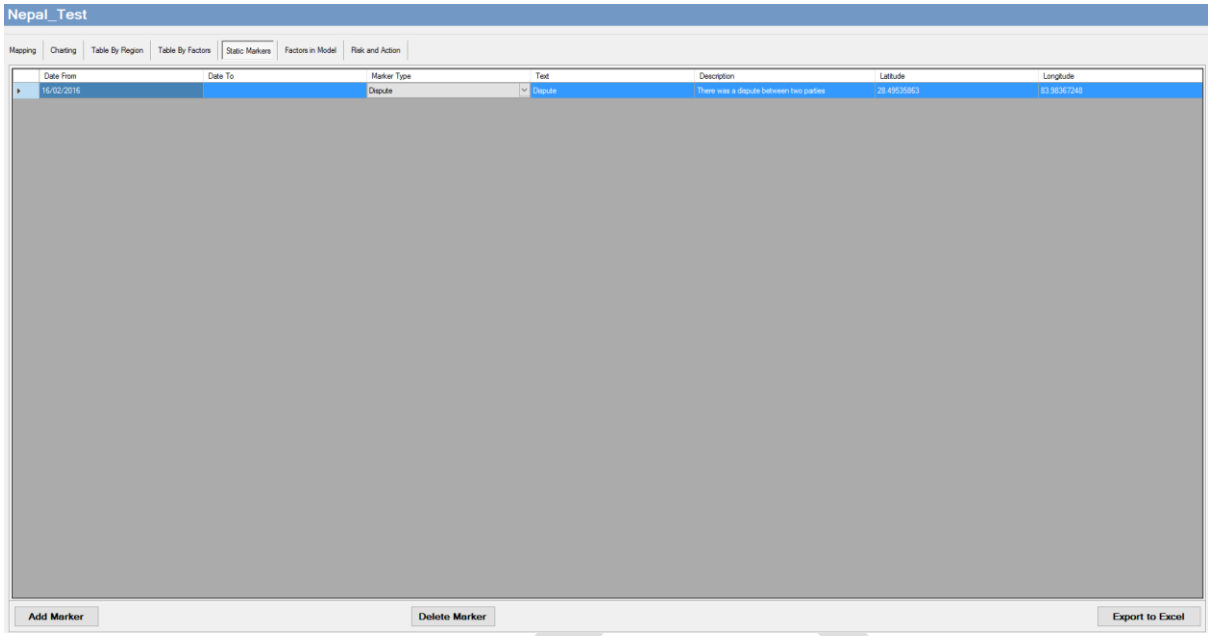


The user can edit title, title color, text, marker type, date and latitude and longitude as needed and save it.

Note:

- The user can also view the legend/s by right clicking and selecting Marker Legend.

- The user can also view the title of marker within the map. Right Click and select Marker Title.
- The user can also see the description (if any) by hovering the mouse over the particular marker.
- The user can also view all the markers, add new ones and edit markers from the **Static Markers** tab on **Tab Bar,** and can also export or copy from an Excel file.



- The user can also export the all the markers to Excel and also import from Excel (a simple copy and paste will work).

j. Charting

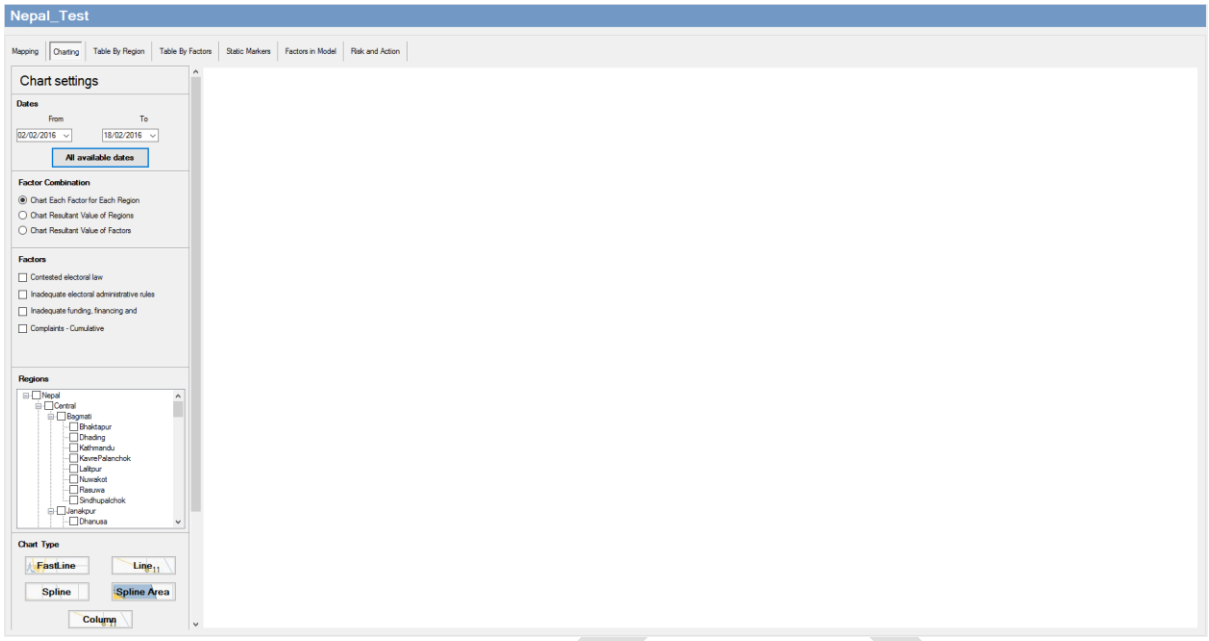
Risk maps by themselves tend to be static, but combined with charts are more dynamic. Trend analysis allows the user to see factor change over time, for example during and between elections. There are three ways to view the charting in the tool:

- **Resultant value of factor** which shows all data using only one simple graph. The user can deselect geographical regions and get for example, the resultant value of factor for a specific region.
- **Resultant value of region** plots a graph for a particular region, taking into account several factors.
- **Chart resultant value of region** plots a graph for a particular region, taking into account several factors. This feature is only useful when data has been collected for two or more factors. Users can create five types of charts. They are line, fast line, spline, spline area and column.

Steps:

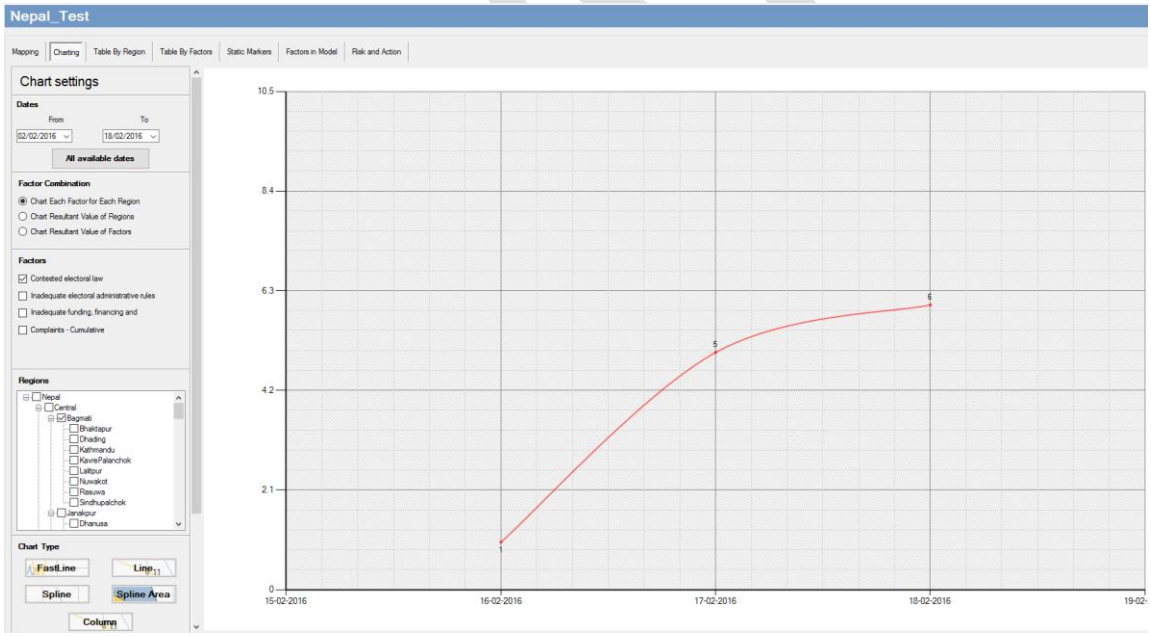
On the Analytical Instrument – Go to Charting Tab from Tab menu

Following screen will appear:



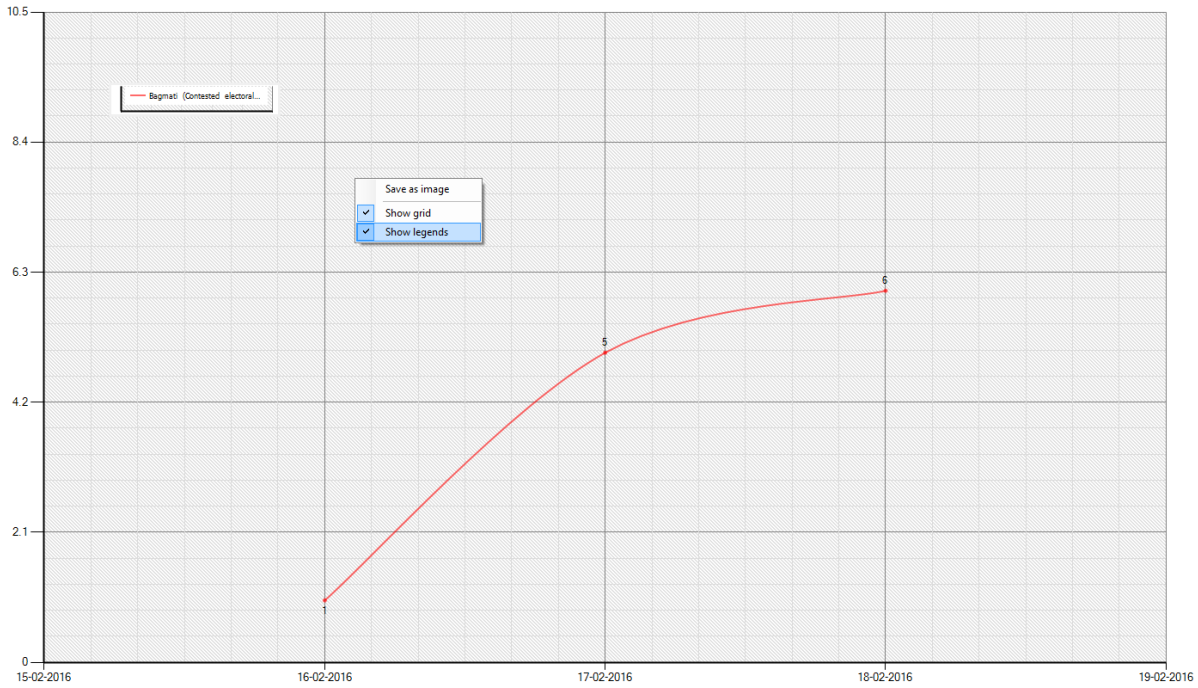
The user can select the date, Factor combination, Factors, Regions and Chart Type (Fast Line, Line, Spline, Spline Area and Column)

For example: Data has been entered for three dates, the factor combination is **Chart Each Factor for Each Region,** the factor selected is **Contested Electoral law, Bagmati** has been selected as the region and Spline is the chart type selection. The following outcome will appear:



Note:

- The user can also see the legend/s for the different types of factor combinations.
- To view the legend, right click on the chart and click show legends.



- The user can also save the chart as image and add it to the report by right clicking on the chart and clicking **save as image** at the desired location. Then, save it or snip it and paste it on the report.

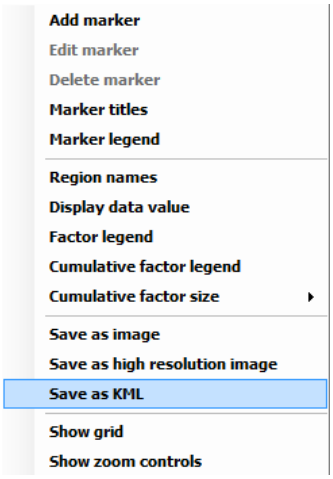
k. Keyhole Markup Language and Google Earth

Color-coded maps and static markers can be saved in KML and uploaded onto Google Earth. Google Earth combined with the ERM Tool maps, is great for presentation purposes. Users will be able to

display the ERMTool maps on Google Earth. Users will need to install Google Earth beforehand, in order to view the KML.

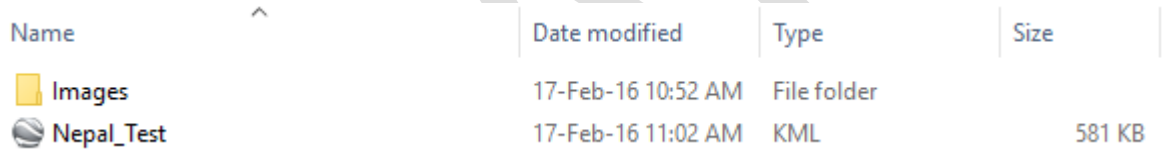
Steps:

Right click on the map and select **Save as KML**

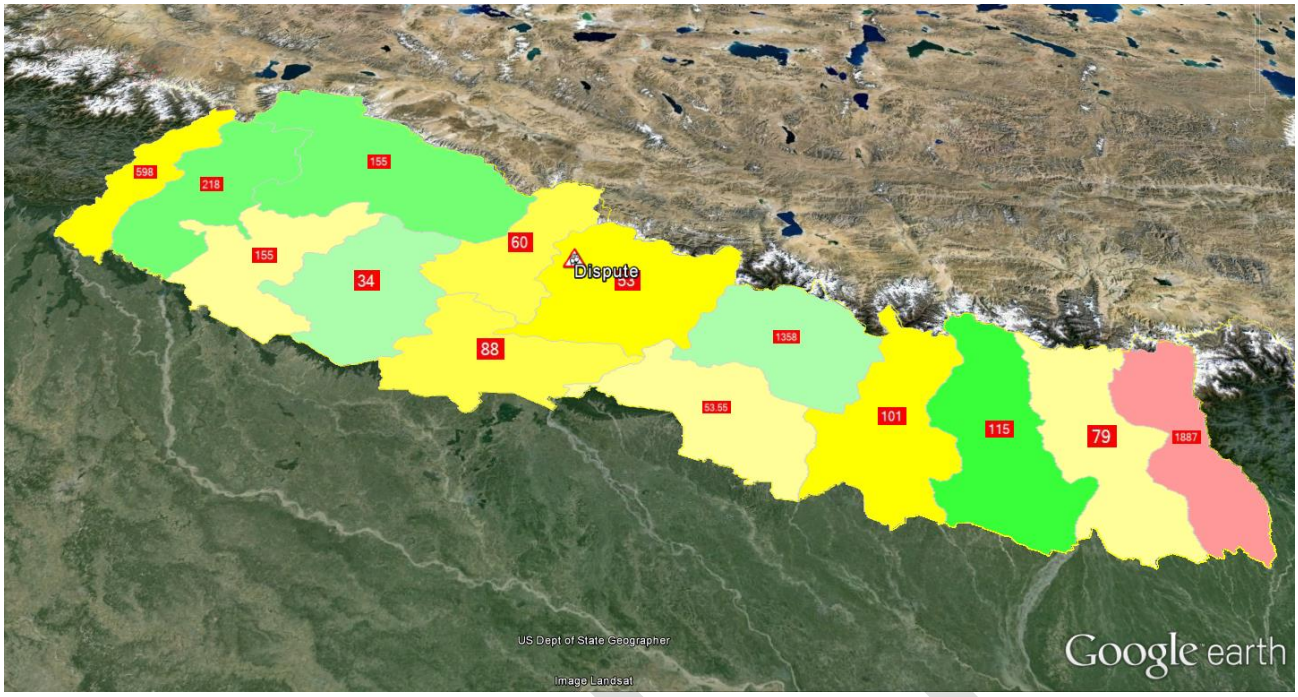


A new dialogue box will appear and select the location and press save to save the KML.

After the KML has been saved, double click to open the file (in this case Nepal_Test) and the file will be opened in Google Earth.



Google Earth will open the file and the following will be shown



Note:

- By default, the model name is used to save KML but the user can also insert a desired filename.
- Google Earth will show the exact map as seen in the ERMTool i.e. if you have enables region names, it will also show the region names. If static markers are enables, it will show static markers and so on.

Now, we have created maps, chart and also KML, it is now time to store all the information in the depository of the ERMTool for the future reference, so it can be viewed at any given time.

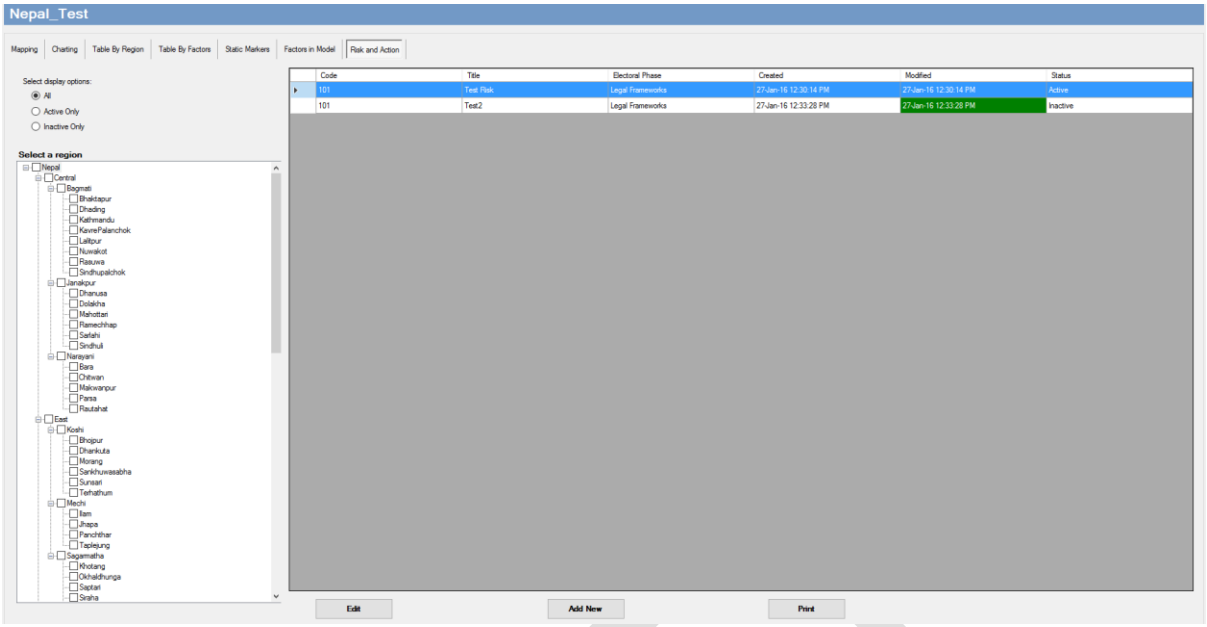
l. Risk and Action Register (RAR)

Risk and Action Register is the institutional depository of the risk alerts created. It enables users to save the information used during the creation of risk alerts. There are two types of RAR i) Model specific RAR and ii) Master RAR. Model specific RAR is used for a single model where the risk alerts created will be stored. Master RAR is the collection of all the model specific RAR created.

Risk alerts are created and saved in the Analytical Instrument module using the 'Risk and Action' tab. These features allow you to systematically document: risk alerts issued; actions taken, and - outcomes of actions.

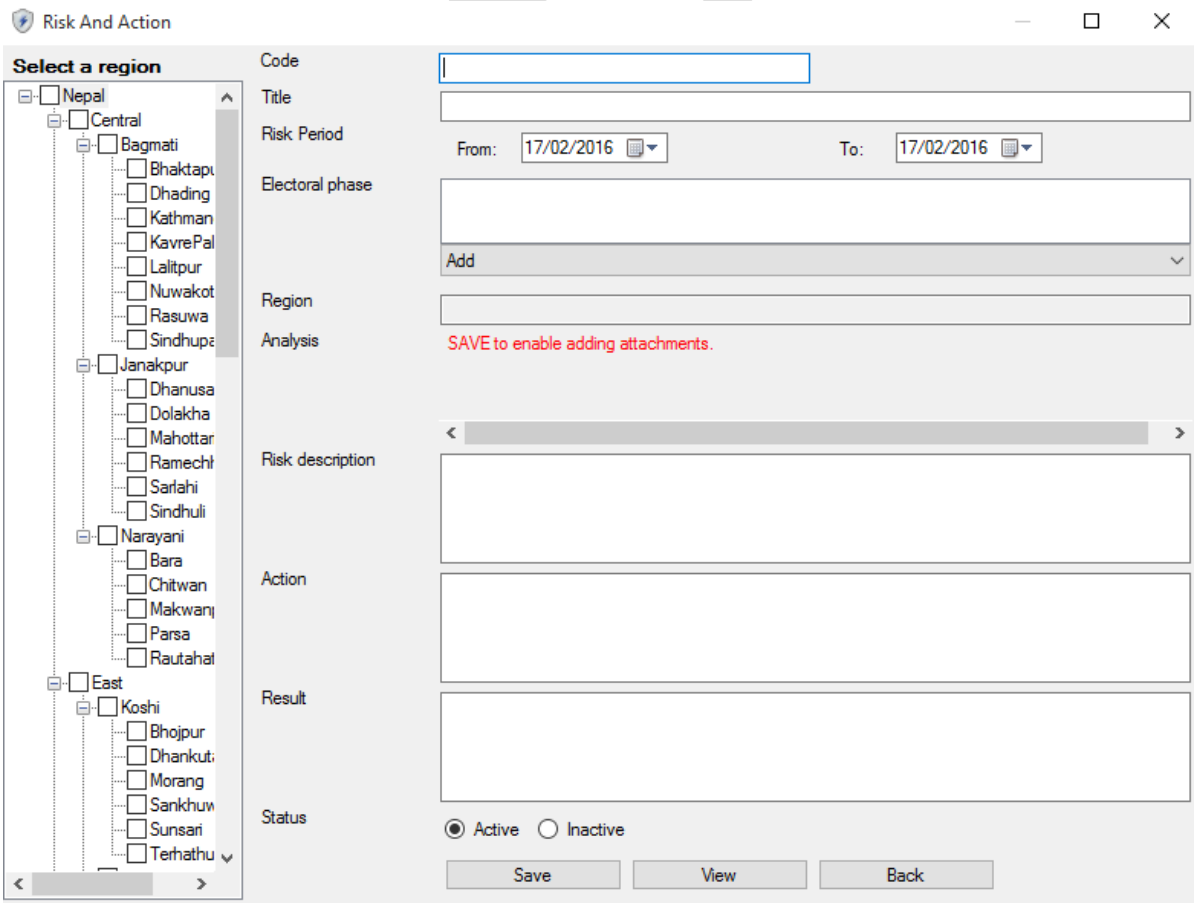
Steps:

Go to Risk and Action tab from Tab Bar in Analytical Instruments.



As we can see, there are already two sets of information in the tool.

To create a new risk register press **Add New**. A new window will popup within the tool as shown below:



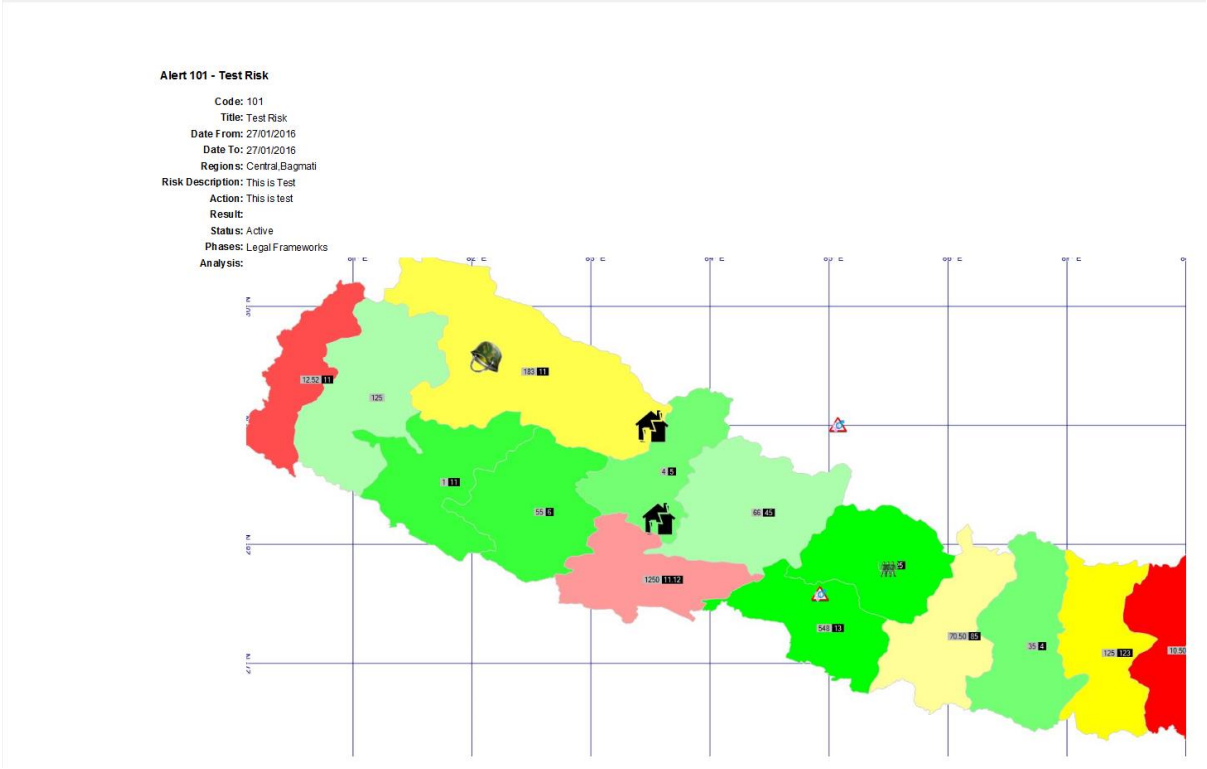
The user would need to add the following:

- Region: From the list on the left, the user has to select at least 1 region for the alert.

- Code: You can use any code for the alert. If you do not want to use anything in particular, then you can just leave the field empty. It will be automatically populated with a number (assigned by the application).
- Title: The title for the alert.
- Date from and to: The date range.
- Electoral Phase: If you click over the “Add” text, a list of electoral phases will be displayed. You need to select at least one.
- Analysis: This allows you to add documents to the alert. You will not be able to add documents until you save the alert for the first time. Then you can edit the alert and add documents to it.
- Risk Description: Written analysis as seen in risk alert.
- Action: Suggested Action of EMBs, SSAs and CSOs
- Result: Actions taken are recorded here.
- Status: Active when the result is not achieved and inactive when the result has been achieved.

After all fields are completed Press Save.

The users can view the risk alert by pressing **View.**



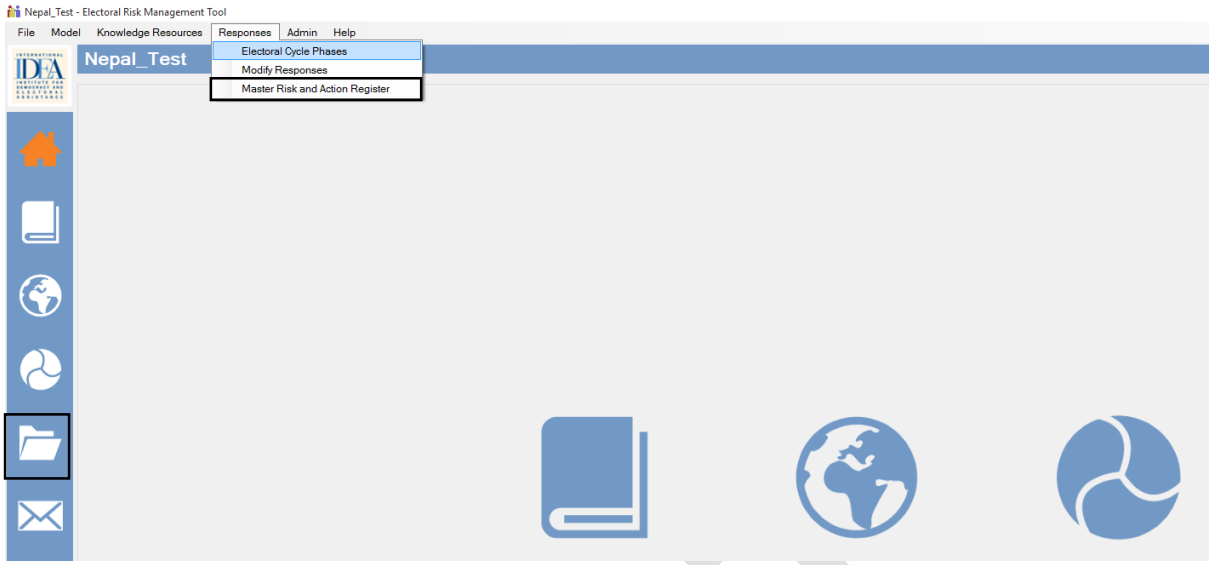
Master Risk and Action Register (RAR):

Master RAR is a depository of all RAR entry from all models in the tool. Users can only view the RAR entry. Users can view the code, model, title, electoral phase, RAR created date, RAR modified date and status of the RAR entry.

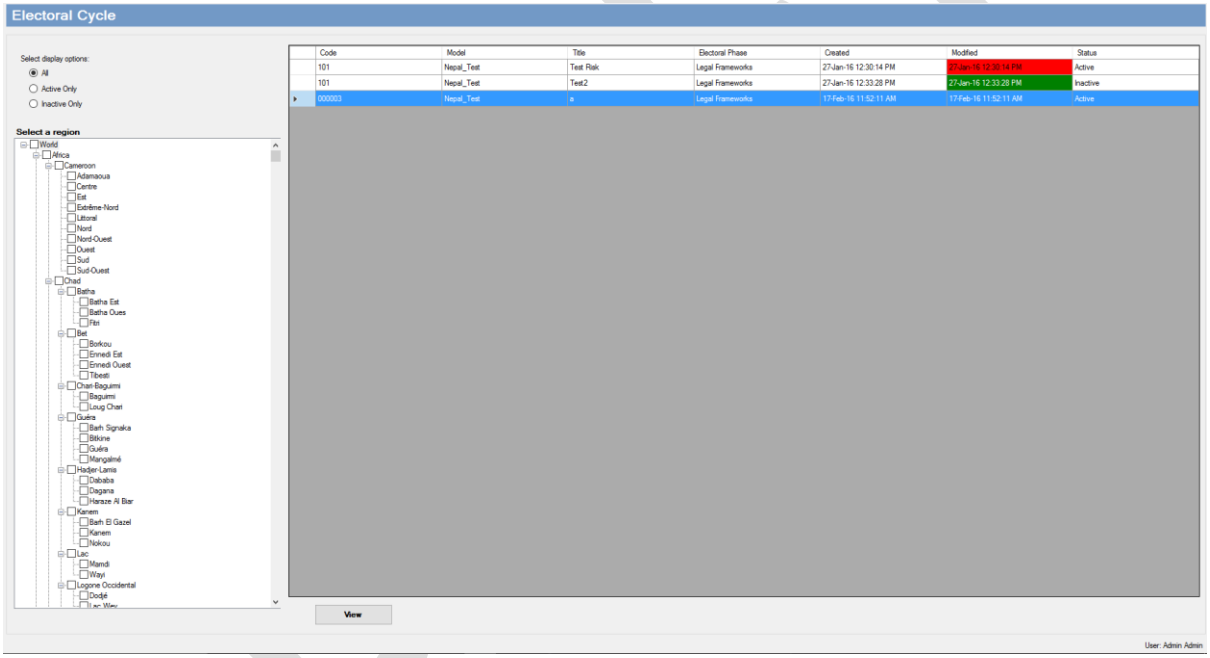
Steps:

To access Master RAR:

Go to Response Menu – Master RAR or click on folder icon on Side bar as highlighted below.



The following screen will appear:



To open a RAR entry

1. Click the RAR and press **View**
   OR
2. Double click to view the RAR entry.

The user can filter the RAR entry based on regions.

The user can filter RAR entry based on status (active/inactive).

4. Prevention and Mitigation

The prevention and mitigation module allows accessing a specific phase of the electoral cycle and learning about possible measures for prevention and mitigation of election-related violence. Comparative action points presented in prevention and mitigation module are developed, implemented and perfected by electoral management bodies, security sector agencies and other state and non-state actors around the world. Presented cases and action points aim to inspire tool users to design prevention and mitigation strategies that are sensitive to specific national and electoral context.

Action points in the prevention and mitigation module or the support document "*Action points for the prevention and mitigation of election-related violence*" (mirrors the information presented in the prevention and mitigation module) may be useful recommendations that can be included in the action box of the risk and action register. In terms of results, it will depend on which action was implemented and the result of that action. Several action points can be recommended depending on the risk and risk level and that these recommendations can be included in the risk alert.

The Prevention and Mitigation module includes about 100 comparative action points for the prevention and mitigation of election-related violence. Action points present possible approaches, based on empirical cases that can be taken to prevent and mitigate election-related violence throughout the eight phases of the electoral cycle.

The phases are:

1) The legal and institutional electoral framework;

2) Planning and preparation for the implementation of electoral activities;

3) Training and education;

4) Registration of voters, political parties and election observers;

5) Electoral campaigning;

6) Voting operations;

7) Election results announcement; and

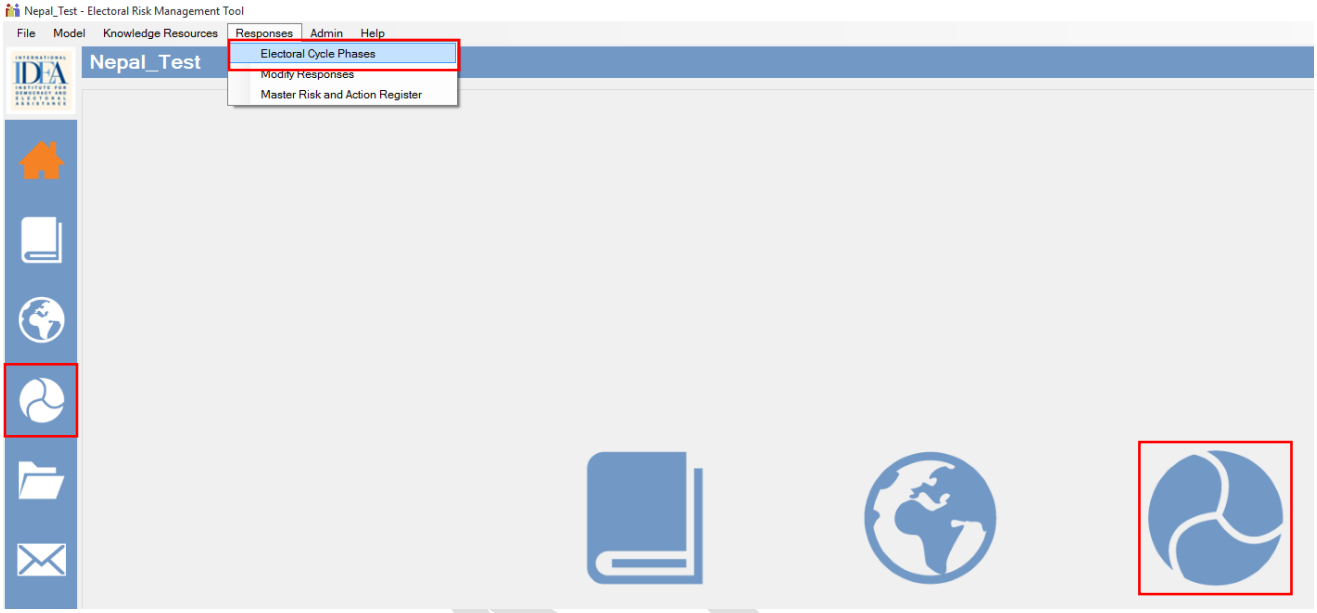
8) The post-electoral phase.

Within each of these sections, three different clusters of prevention and mitigation actions are explored:

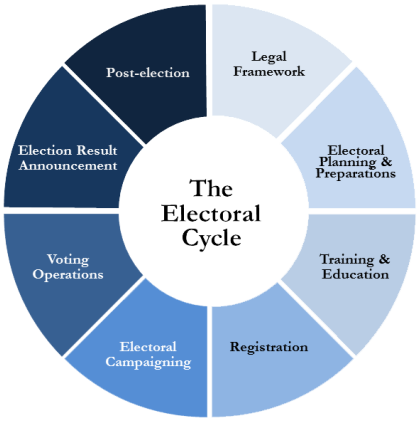
a. Improved electoral management and justice — specific measures which relate to electoral planning, implementation, coordination and dispute resolution that can be undertaken to avoid controversies and technical flaws in order to minimize the potential for outbreaks of violence;
b. Improved electoral security—specific electoral security measures that can be undertaken by SSAs throughout the electoral cycle to protect electoral actors, events, facilities and materials from violence; and
c. Improved infrastructure for peace — different activities that can be implemented by various state and non-state actors to mobilize and coordinate government agencies, CSOs, traditional and religious leaders, reputable individuals and other organizations and individuals with capacity to contribute in defusing and mitigating election-related tensions and violence.

Steps: There are three ways to access Prevention and mitigation (highlighted by red box):

a. Responses Menu – Electoral Cycle Phases
b. Side Bar
c. Module Selection Bar



After clicking any of the three menu following screen appears showing 8 phases of Election:

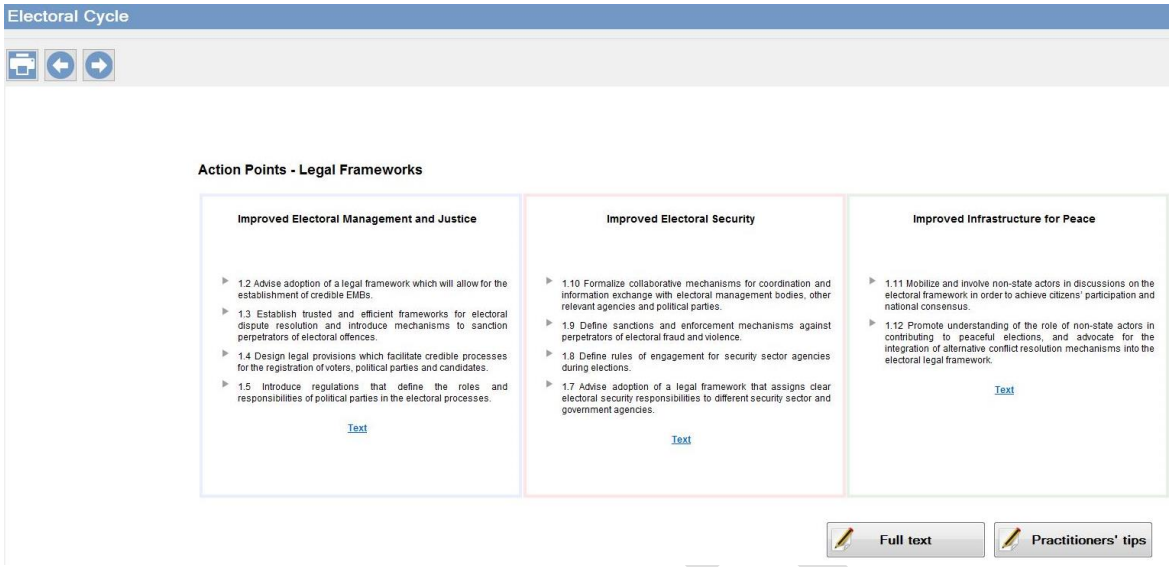


a. Use/Add Responses/s

The user will be able to use the prevention and mitigation measures provides in the tool. They can also refer to *"Action points for the prevention and mitigation of election-related violence"*. The responses have been divided into three layers. The user can select one or all the three responses depending upon the risk alerts.

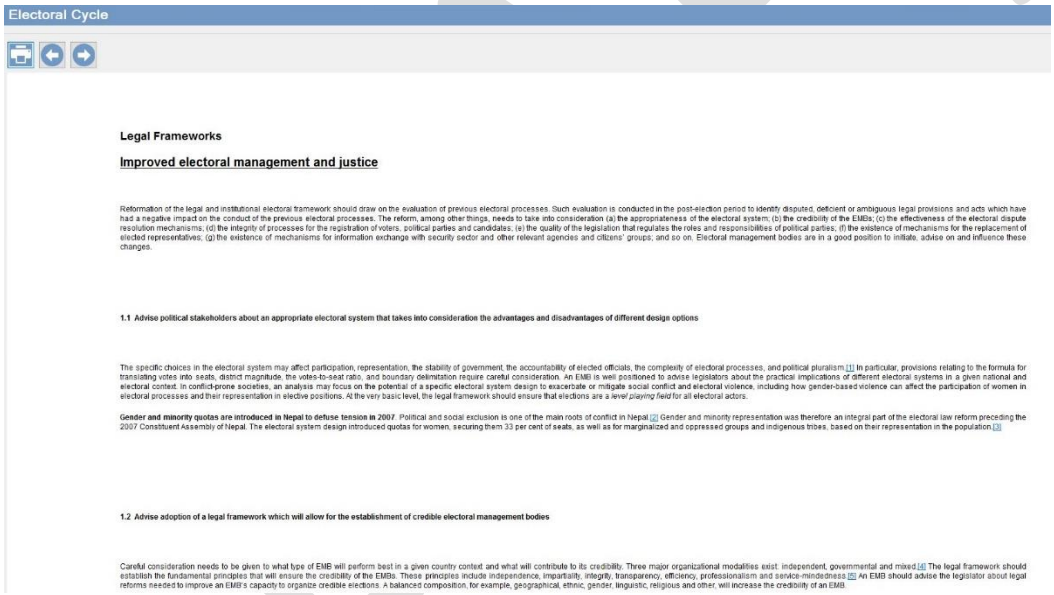
The user will see 8 phases of elections:

Clicking on any of the phases will open the prevention and mitigation measures for that particular phase (in this case we have used **Legal Framework Phase**):



The user can select any mitigation measures for all the three clusters and copy that to risk and action register mention above or to any risk alert reports.

If the user wishes to view the description of that cluster, press **Text** below the each cluster. It will open a new window:



After clicking, the user can see the full text and description with some examples.

Note:

- The navigation button will also help the user to navigate forward and back.
- The print button will enable the user to print the currently viewed page.

Demonstrate how to access the prevention and mitigation module and how to find action points relevant to a particular phase in the electoral cycle. Copy and Paste relevant action point into RAR entry.

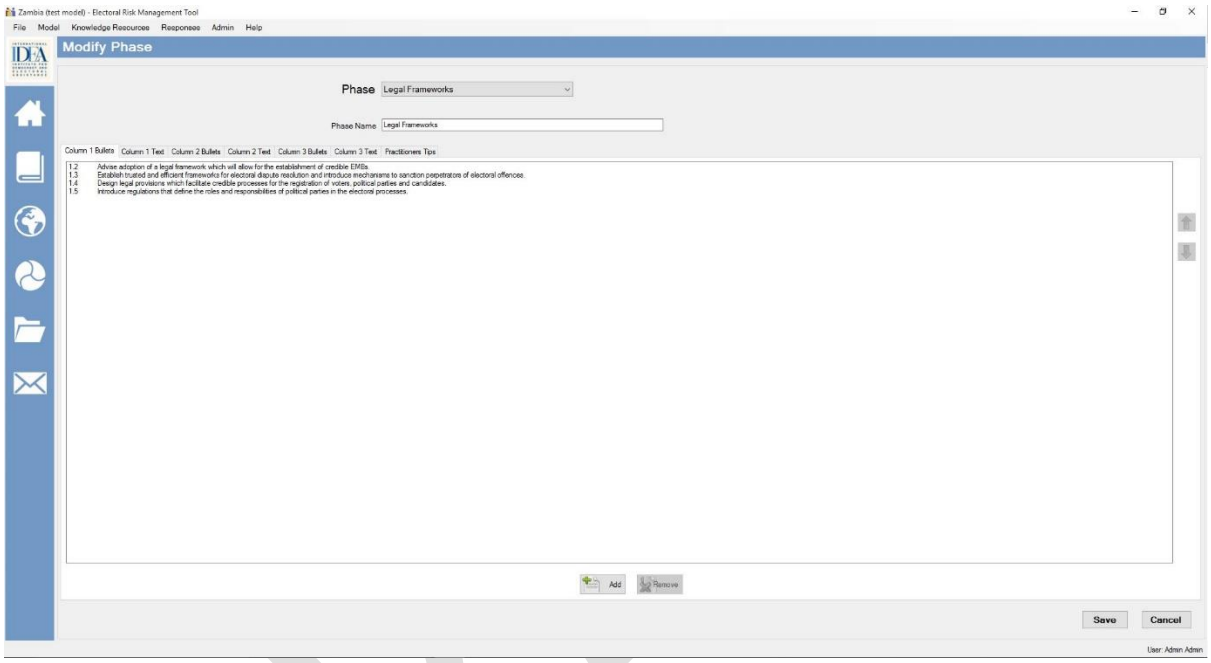
b. Modify/Remove Response/s

The user will be able to modify/remove the preset presentation and mitigation measures in the tool. As a part of customization, the user can easily modify/remove responses and also add new responses.

To modify Responses:

Go to Responses – Modify Responses

A new window will open:



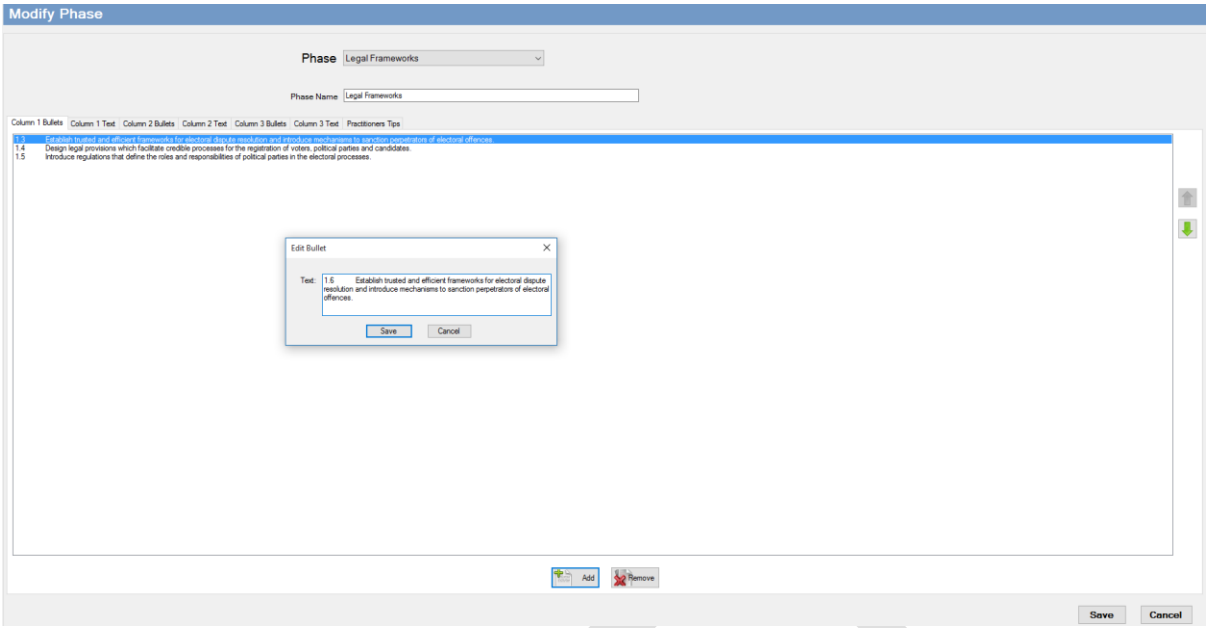
The user can select the phase from drop down menu.

The user can also change the phase name as a part of customization in their own script.

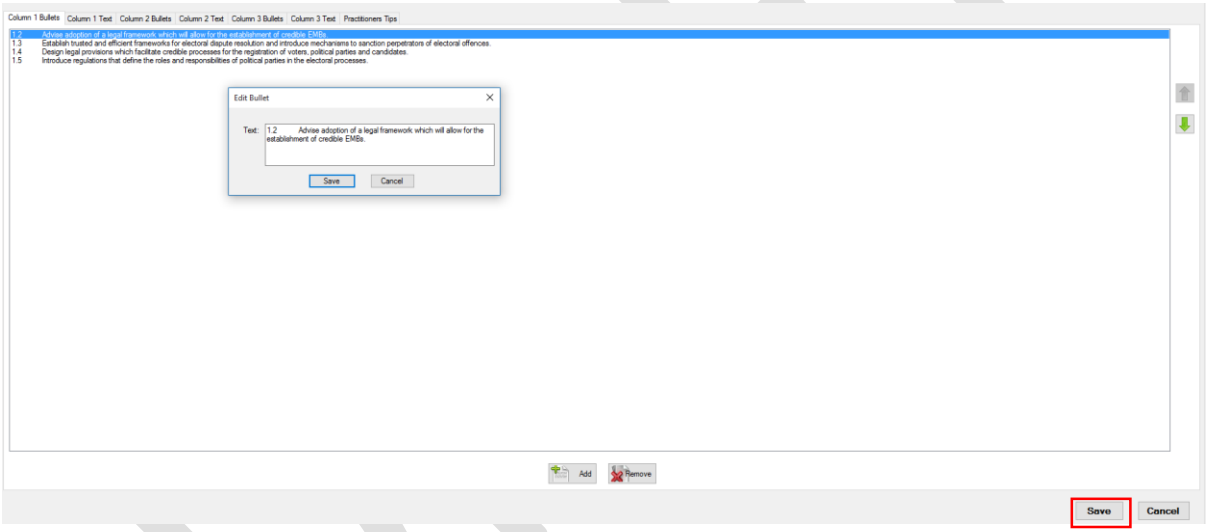
- **Column 1 Bullets** are the mitigation action points for Improved Electoral Management and Justice;
- **Column 1 Text** is the description for Improved Electoral Management and Justice;
- **Column 2 Bullets** are the mitigation action points Improved Electoral Security;
- **Column 2 Text** is the description for Improved Electoral Security;
- **Column 3 Bullets** are the mitigation action points Improved Infrastructure for Peace;
- **Column 3 Text** is the description for Improved Infrastructure for Peace;

Add New Action Points:

The user can press the Add button, write in the action points and press **Save.**



To edit any action points, double click on the particular action point, and a window will popup make changes and press **save.**



To change the description of any action points, go to the column text and double click and edit the description as required and press **Save**.

To Remove Action Points:

Select the action point which you would like to delete/remove.

Press **Remove** and confirm it.

The action point will be deleted from the tool.

If the user wants to delete the description, go to column text relevant to action point, locate the description and select it and press **Delete** button on your keyboard.

Note: The user need to press **Save** before exiting the modify responses menu (highlighted in the image above).

Please contact I-IDEA via ermtool@idea.int **if you have any questions relating to the ERM Tool**.