Land Utilization Rating Application (LURA)

User's Guide

2021 v2.0

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Introduction

The World Bank is finalizing a comprehensive set of global coal mine closure good practice technical standards that will enable the transition from “physical closure” to a more “sustainable” closure in the context of achieving a “Just Transition for All”. The good practice technical standards outline activities, regulatory implications, and policy issues that need to be addressed during planning, execution and post closure of a coal mine sites.

The World Bank encourages and supports the use of tools to assess, evaluate, and classify resources which are at risk of losing value if the threat of environmental degradation and community safety are not addressed. Moreover, this approach recognizes the interconnected nature of the issues that confront operating companies at the time of mine closure and underscores the need for mine operators to develop a comprehensive resource management plan early in mine operation and periodically through closure and repurposing.

A tool (LURA) has been designed with risk-based, spatial planning capabilities and is aligned with new global standards for coal mine closure. This ensures that guidance / advice on planning and preparation for coal mine closure is aligned with a regulatory approach in which technical standards used to close a mine address legacy risks from surface and underground mine operations.

For surface or underground coal mine operations different biological, physical, chemical, socioeconomic and financial conditions are evaluated that may affect the closed mine or broader area during closure or many years after closure (post closure legacies). The aim is to characterize mine land for legacies, but at the same time consider possible repurposing scenarios and evaluate future repurposing potential in order to create a sustained development during mine closure operations.

A dedicated cloud based, simple to use **L**and **U**tilization **R**ating **A**pplication (**LURA**) has been developed in order to support stakeholders, organization or entities involved with post mine land transition management. This document provides the User’s Manual for LURA usage.

Accessing the Application

The application is accessed from any device such as a PC, laptop, tablet or smart phone if an internet connection is available. The application is available on https://wb.geosysta.com/ using any modern web browser. Users are greeted with the screen in Figure 1 will appear.

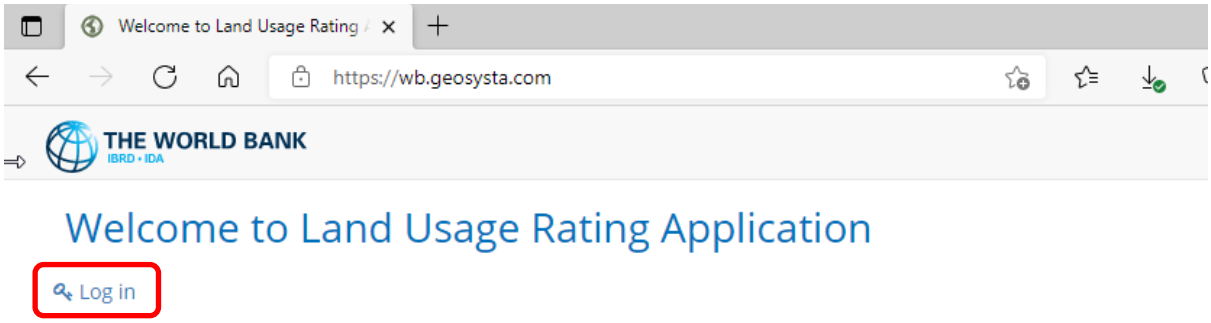


Figure 1: LURA welcome screen

When users click on "Log in" a form will appear as the one presented in Figure 2 in which users will be prompted to enter their username (e-mail) and password in order to get access to the application.

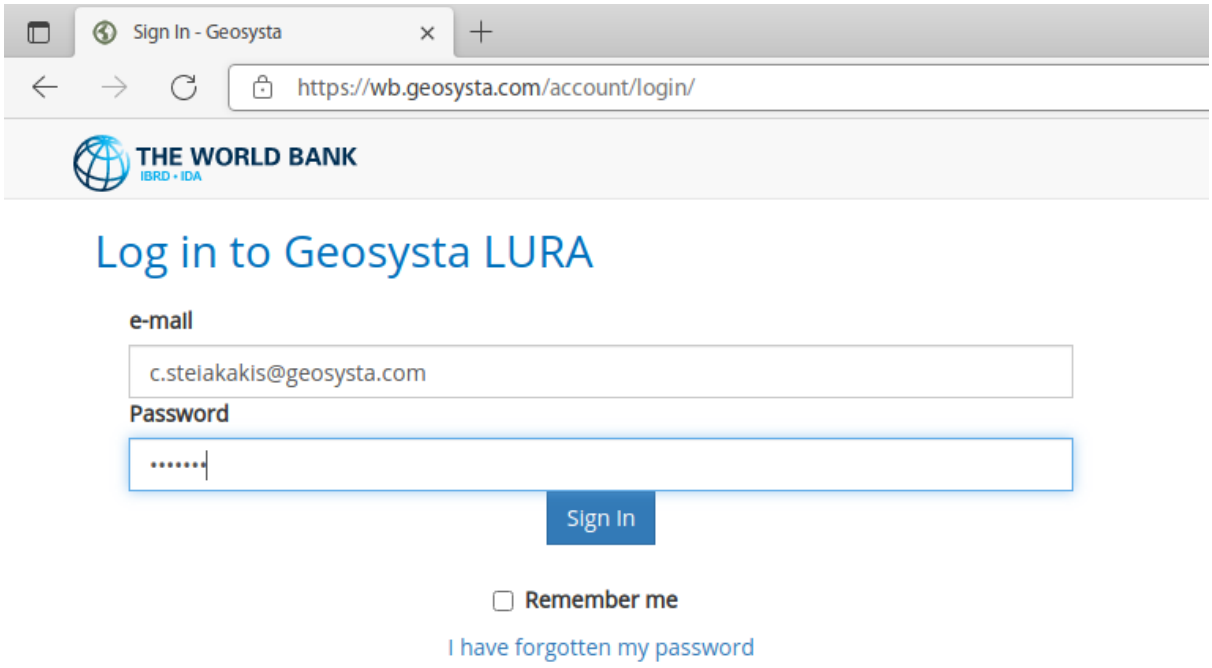


Figure 2: Log in form.

In order to get logged in, the user needs to have an account preapproved and created by the WB or the organization that is using LURA.

If a user has forgotten their password, they can click on the "*I have forgotten my password*" option under the sign in form and an e-mail will be send that will enable the user to change their password and log in again.

Starting a New Project

To start rating a mine area the user first needs to create a new project or use an existing one. The way to create a new rating project is the following:

After logging in, the *Projects page* will be displayed (Figure 3), where the user can select an existing project or create a new one by clicking "**Start new project**" on the top left corner.

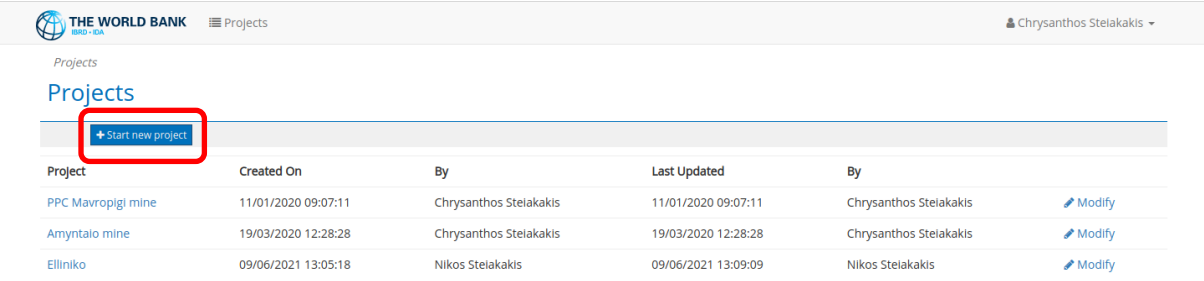


Figure 3: List of projects

When the users selects **"start new project**" the page shown in Figure 4 is displayed. In this top left corner of the page the user needs to type the new "**Project Name**" in the text box above the map.

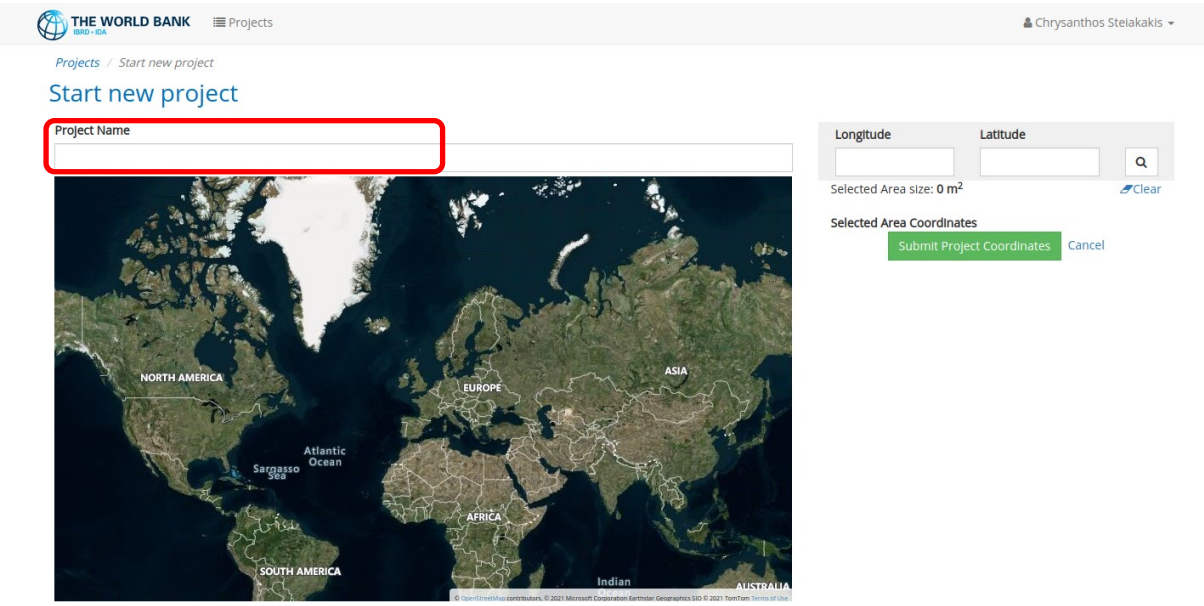


Figure 4: New project page

To find a mine land location the user can either insert coordinates in WGS system or select the location from the world map (Figure 5). Using the mouse wheel, users can zoom in or out on the map. To navigate in the map, users can click and hold the left mouse button to pan the viewable area.

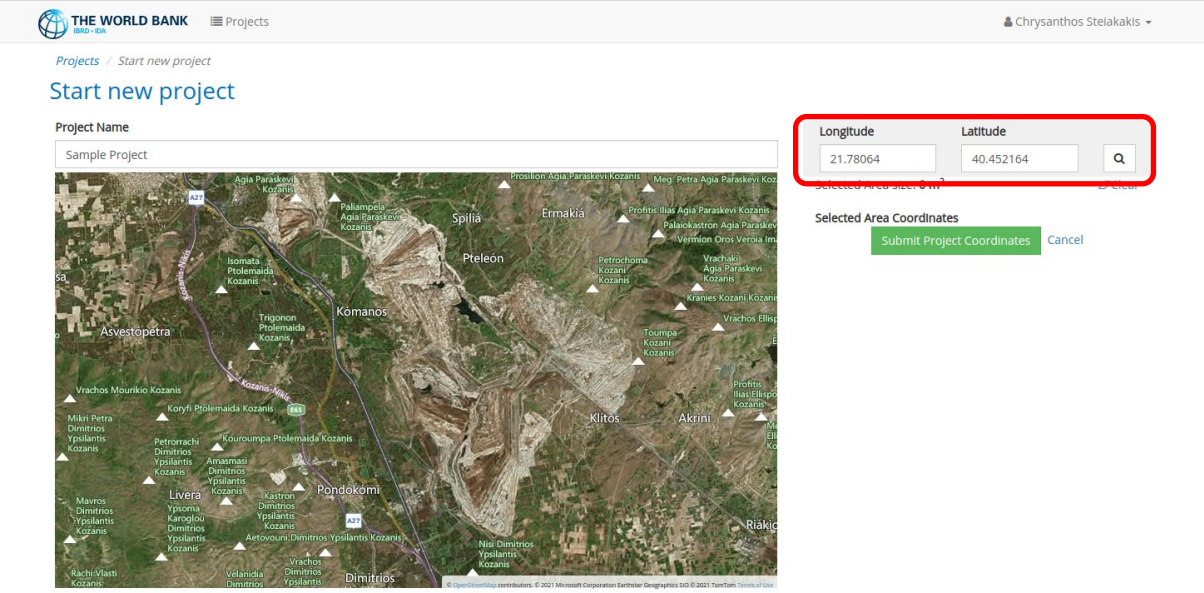


Figure 5: New project by coordinates

Selecting the Project Area

Using the mouse, the user can then select the area to be rated. The first node can be created by **clicking** the left mouse button **once**. Subsequent clicks on left mouse button in other locations form a polygon (polyline) that encloses the study area change. As the user clicks the left mouse button and the polygon is created the already selected area is highlighted and the coordinates of each nodal point are displayed on the right side of the screen. When the selected area is finished the **submit button** at the bottom of the page should be clicked (Figure 6). A selection can be discarded by clicking on **cancel.** A new project can be started from the "**Start new project**" menu.

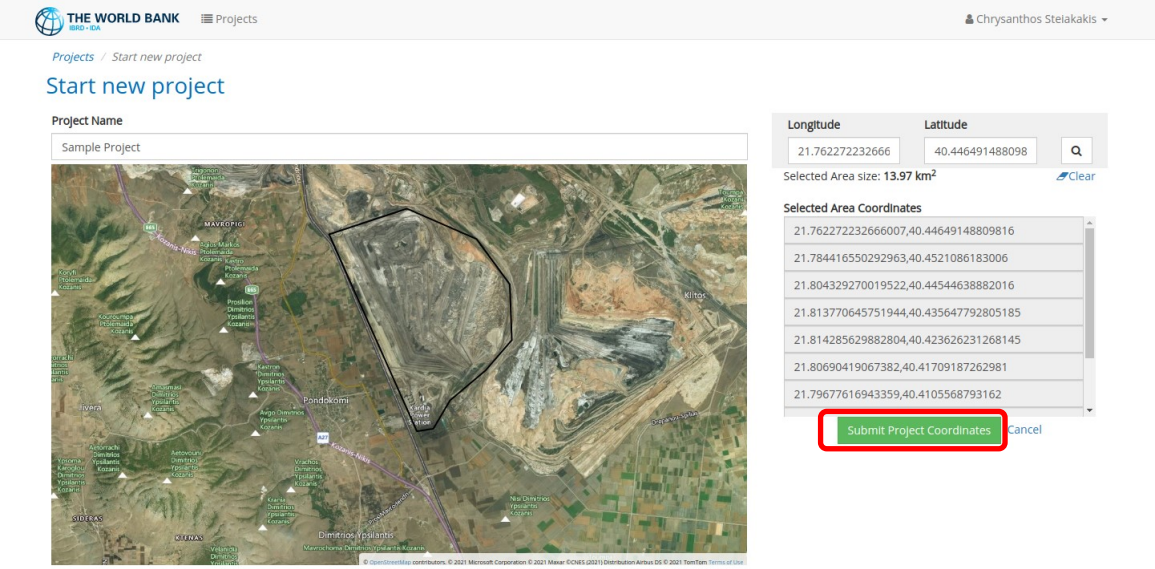


Figure 6: Submitting project coordinates

The user can complete the polygon selection, either by **double clicking** on the map, or by **clicking on the starting point** of the selected polygon. The user can then **modify and enhance** the edges and lines of the polygon by placing the mouse pointer anywhere in the polygonal line and a new blue node will appear. Once the new node appears, clicking on left mouse button will create the node and allow the user to move it around. To discard the selected area and start the polygon creation again the user should click on **clear** from the right side of your form (Figure 7).

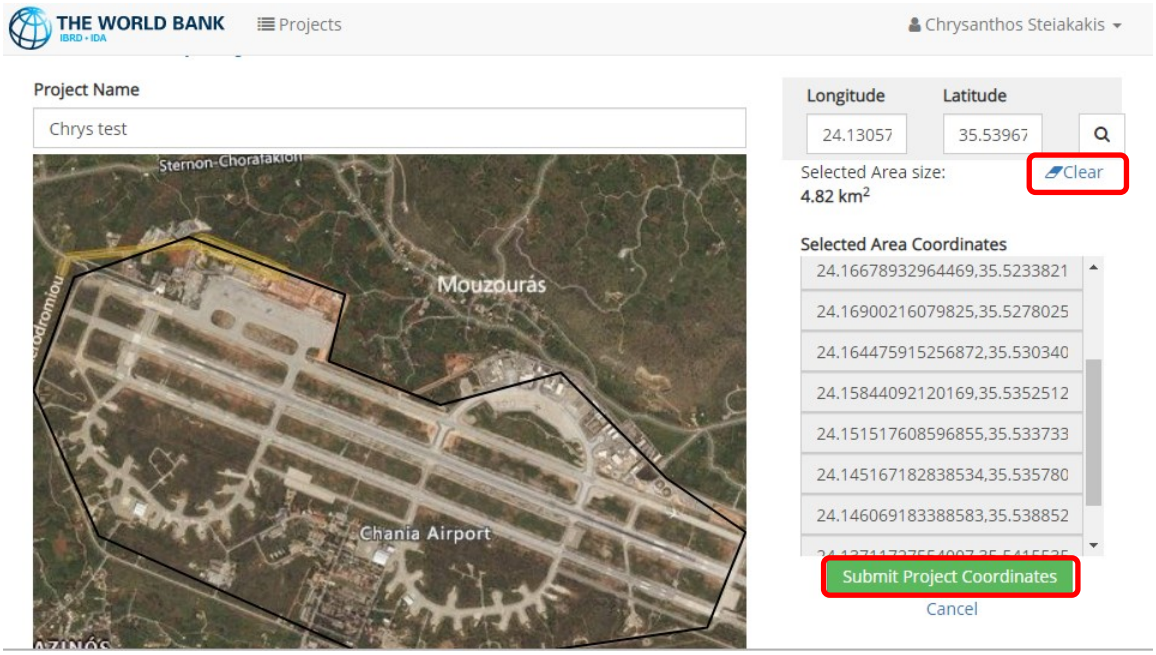


Figure 7: Clearing the polygon

When the polygon/area selection is completed, the user should click on **submit** and then they will be redirected to another page where the user can **define the cell size** and create the rating grid. A default

value of 0.5x0.5km is shown (Figure 8). The user can select a different cell size and click on "**Set Cell Size on Grid**" to preview the change on the map.

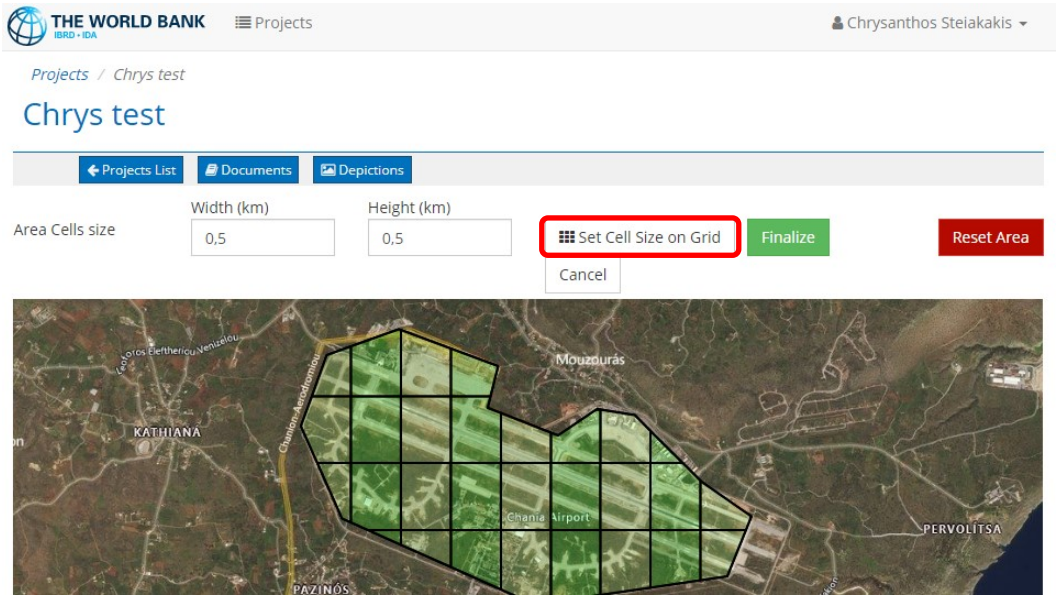


Figure 8: Sample project grid

Clicking on **Reset Area** (Figure 8) will clear the selection and allows the user start the selection again from scratch. In other words, this function will remove any selection from the map and will allow the user to make a new selection of the area to be rated. If the user unintentionally clicks on **Reset Area** they can click on the **back button** of the browser and go back to the original selection.

A user needs to enter a cell size preference and click on "**Finalize**" to complete the map selection (Figure 8). Blue buttons available at the top of the form (Figure 9) allow the user to check whether documents or any other Depictions (such as maps or drawings) have been assigned to an existing project. This feature is helpful for existing projects when a user or multiple users have assigned different information to the project. Such information could be a topographical map, an underground room and pillar map, a hydrogeological map etc.

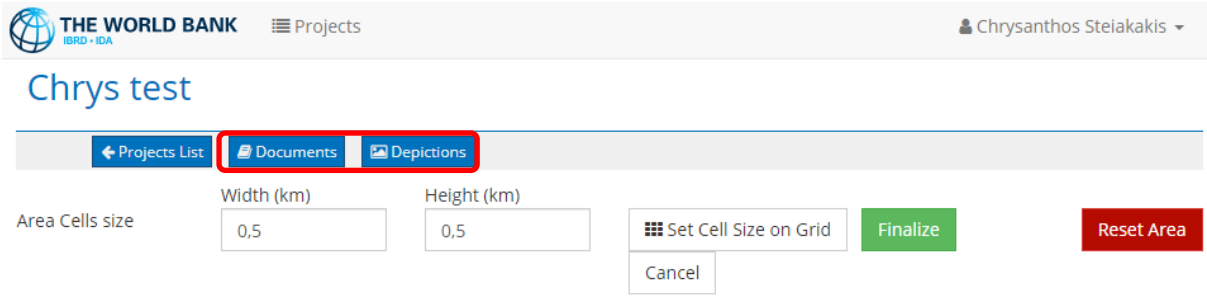


Figure 9: Accessing documents and depictions

For an existing project, clicking on **Documents**, will open a new page in which the selected area is shown as well as a list of the different documents that have been uploaded. In addition, a description is provided under "comments", and the date/time of when the documents were uploaded as well as the name of the person that uploaded the documents (Figure 11).

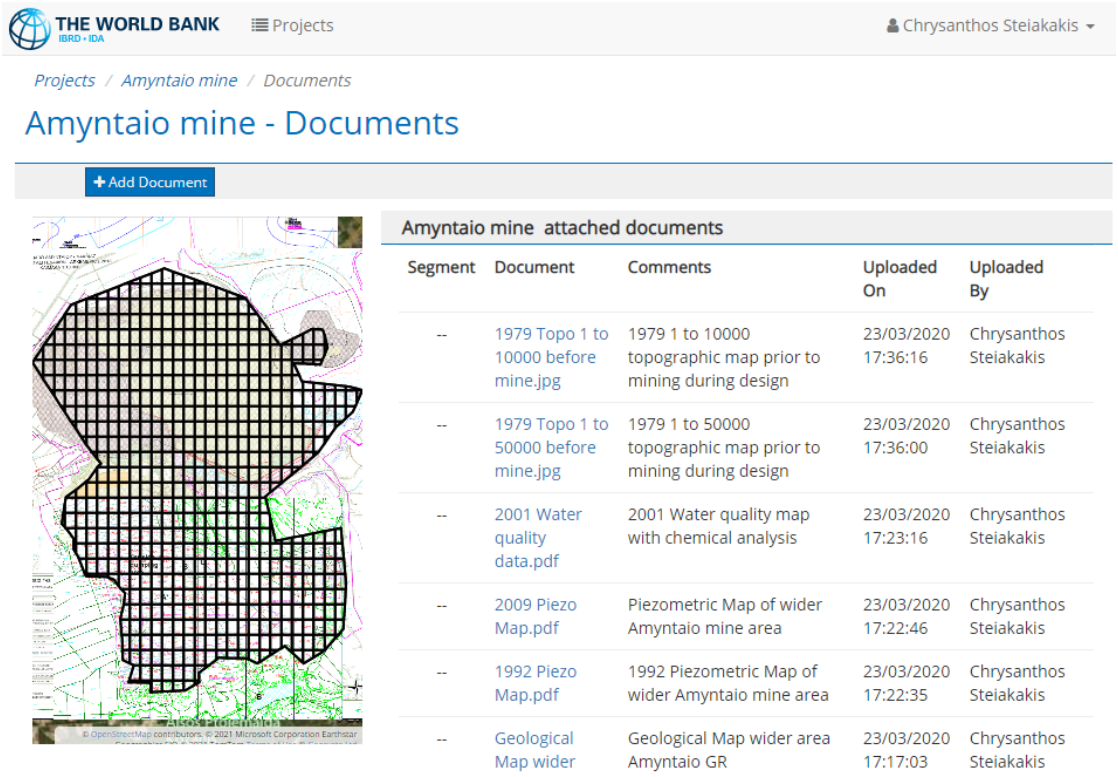


Figure 10: Information on documents attached to a project

Extending the Project Area

An already selected project area can be easily extended, with one or more additional area selections that might not even be adjacent to the original selection. To accomplish this, the user can click on "**Modify**" on the Projects list page (Figure 11).

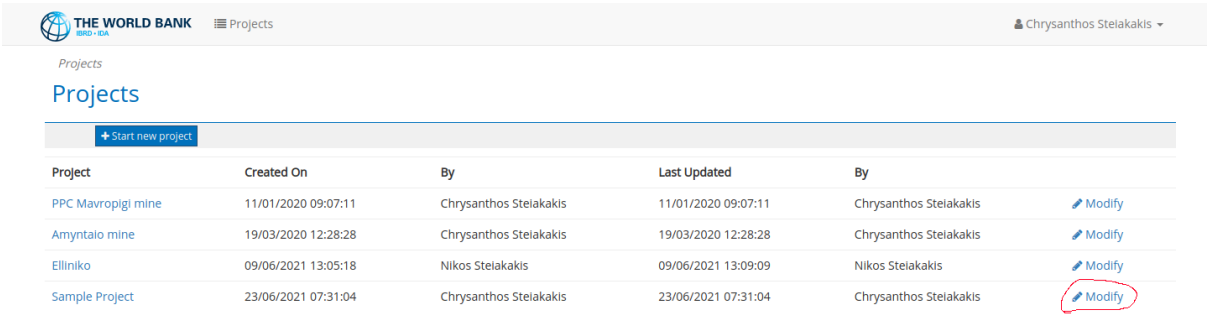


Figure 11: List of projects

Clicking on "**Modify**" will show the project area modification page. Clicking on "**Extend Project Area**" will allow a user to select an additional area on the map (Figure 12).

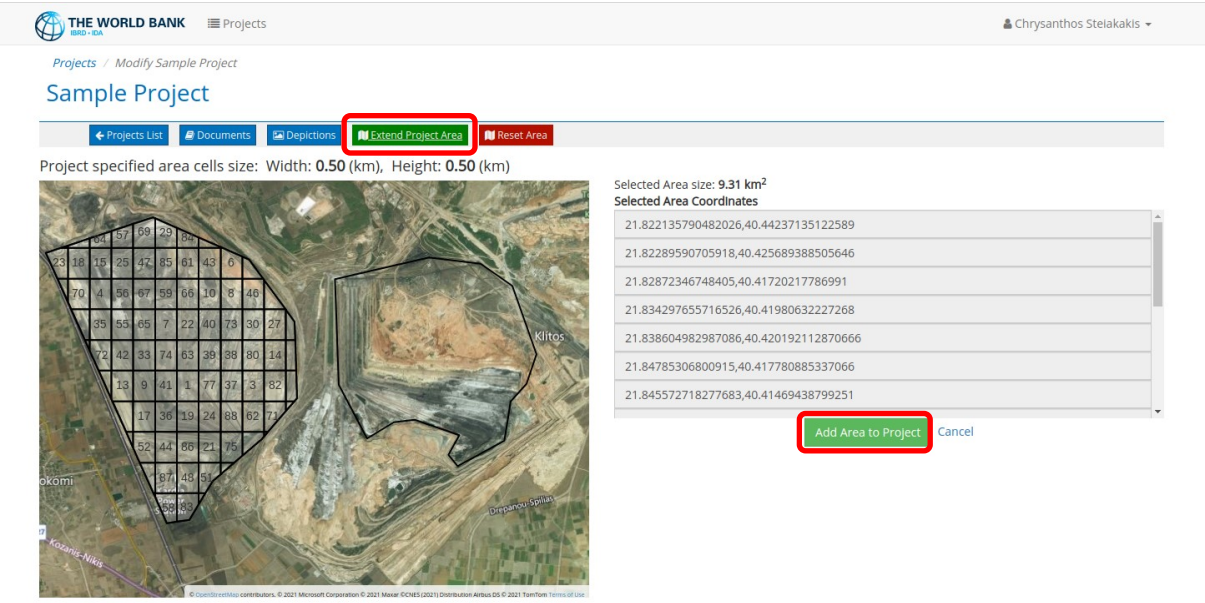


Figure 12: Extending a project area

Following the same procedure as when creating a new project, the user can complete the new polygon area and then confirm the selection by clicking on the "**Add area to project**" button.

With this feature a user can add additional land areas for rating on the same project as these lands become available or additional information becomes available for lands that were previously not included in the given project. For example, an underground coal mine has been rated and then additional maps or information become available for areas that have been mined but had not been known during the initial rating.

All areas of a given project should use the same grid cell size (Figure 13). The program does **not allow** the **use of a different grid cell size for different areas of the same project**. The cell size used when the original selection was created will be used for all additional area selection added to the project. However, note that various area grid cells can be **subdivided** to smaller sections if necessary.

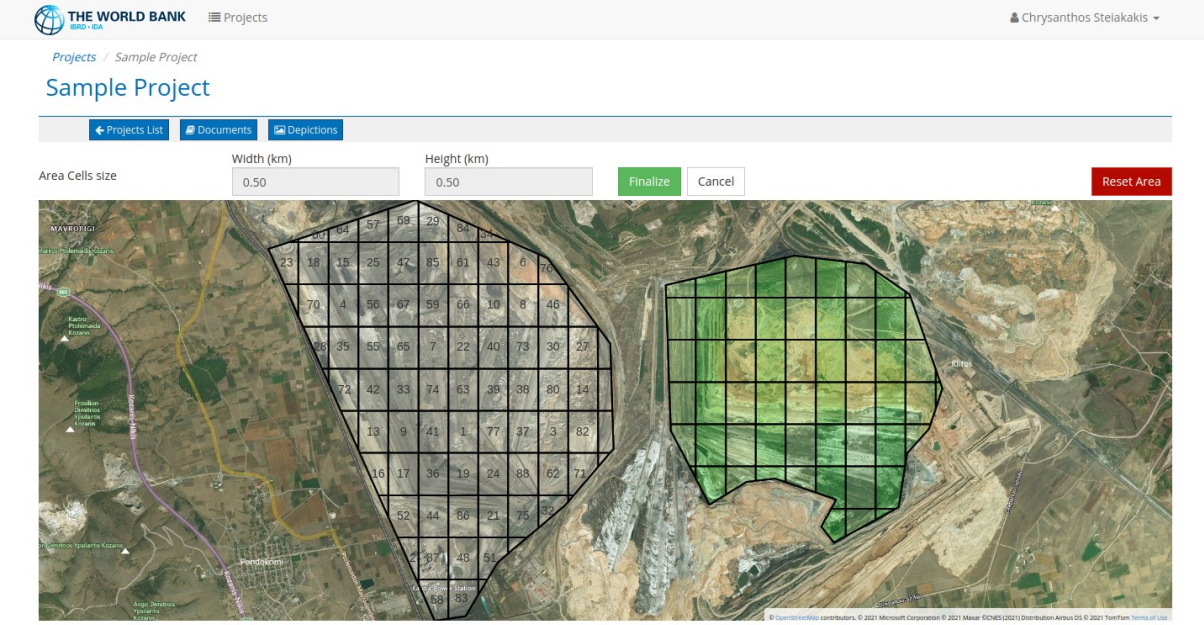


Figure 13: All areas of a specific project should have the same grid cell size

Subdividing Area Cells to Smaller Sections

Clicking on "**Modify**" on the projects list page (Figure 11), the user is once again presented with the project area modification page. By clicking on any grid cell on the area selection map, the size and coordinates of the cell will be displayed (Figure 14).

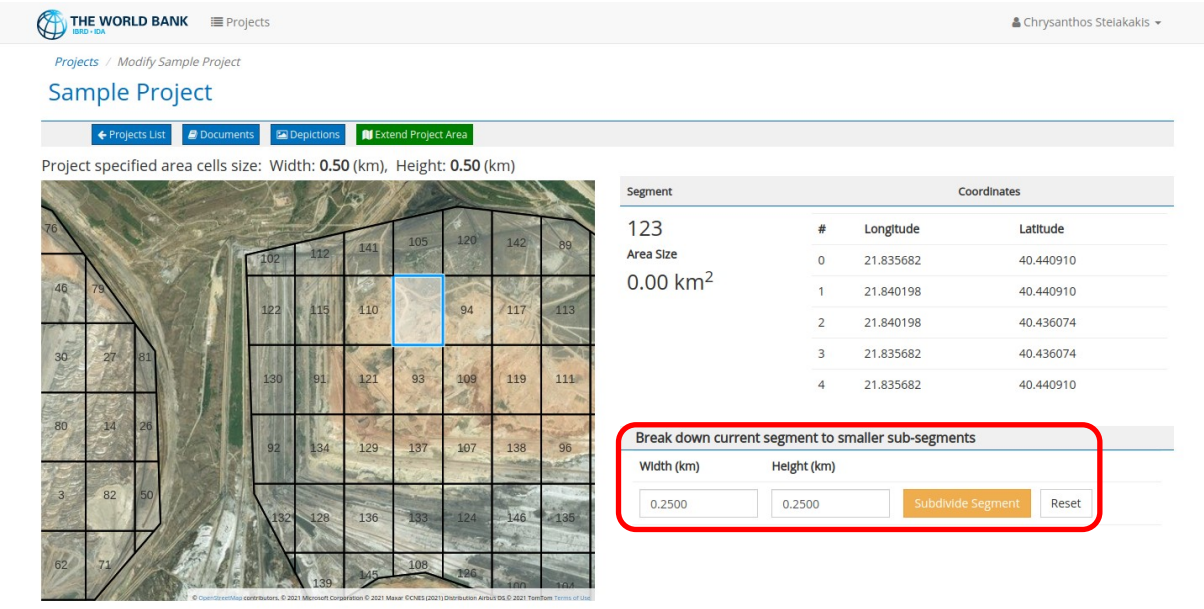


Figure 14: Displaying the size and coordinates of a cell

The user can then set the width and height of the sub-segments to break down the specific cell. Clicking on "**Subdivide**" this will present a preview of the newly created sub-cells of the particular area segment (Figure 15).

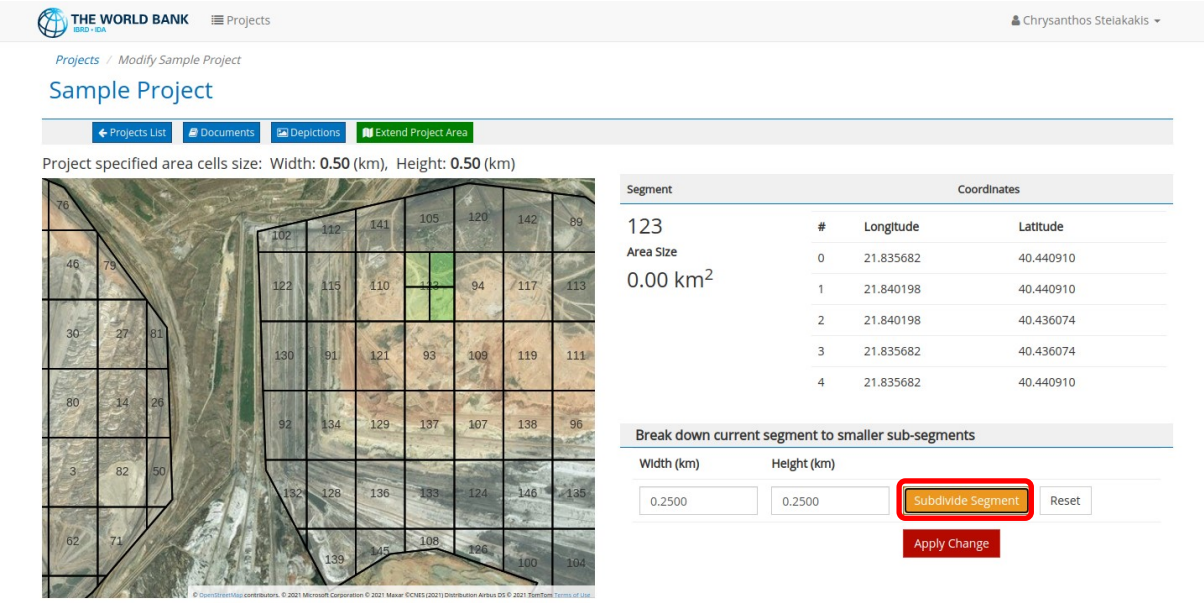


Figure 15: Subdividing cells

If different size needs to be applied, the values in the width and height input boxes can be changed and the "**Subdivide"** button should be clicked again.

By clicking on "**Apply Change**" the specific area segment will be permanently divided to the smaller segments selected.

On the right side of the screen (Figure 15), the cell information such as its ID number, its area size and its corner coordinates in the WGS system is displayed.

Rating the Project Area

When the selected area and grid are finalized, the rating process can start. By clicking on the project name on the project list page (Figure 11) the user will be redirected to the project ratings page (Figure 16). To start a new rating, the user should click on **"Start new rating**" at the upper left corner of the project ratings page (Figure 16).

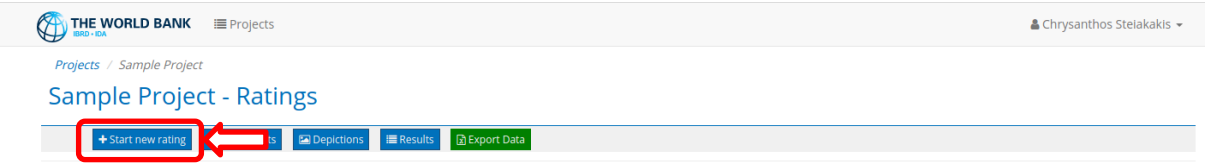


Figure 16: Project ratings

A new page is then opened which depicts the selected and subdivided area or areas of the project. A selected area could be either an open pit lignite mine (Above ground) or an underground coal mine (Below ground). When a selected area has both types of mines, an open pit mine that has become an underground mine or a combination of open pit and underground mines, then dual rating is possible. In this case the user needs to start a new rating by clicking on "**Start new rating**", select the type of mine (above or below ground) and execute the rating. To execute a different type of mine rating the user needs to click on "**Start new rating**" again (for the same project) and select a different type of mine.

Furthermore, multiple ratings for the same type of mine can be performed by different users. For example, in an existing project which was a surface lignite mine that was created and rated by User XXX, a different user can click on "**Start new rating**" and start a completely new rating of the area. A different user can rate an area either with the same or a different type of mine. In the end, a list of different ratings is provided for the same project as can be seen in Figure 17.

For the selected project, the user can see how many ratings have been performed by inspecting the left column (Figure 17), the description of each rating, the mine type that was rated, when the rating started, by whom and when it was last updated. Also, a report can be extracted per rating by clicking on the Show button at the far-right side of the list.

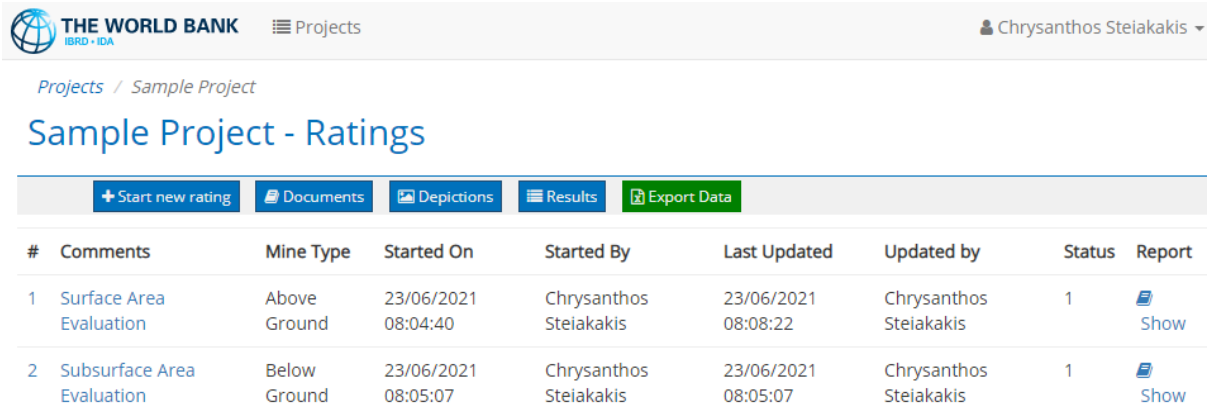


Figure 17: Sample project ratings

When a new rating is started, the user needs to add a descriptive title to identify the rating, as well as select the Mine Type for the rating, i.e. whether it is an "Above Ground" mine type or "Below Ground" (Figure 18).

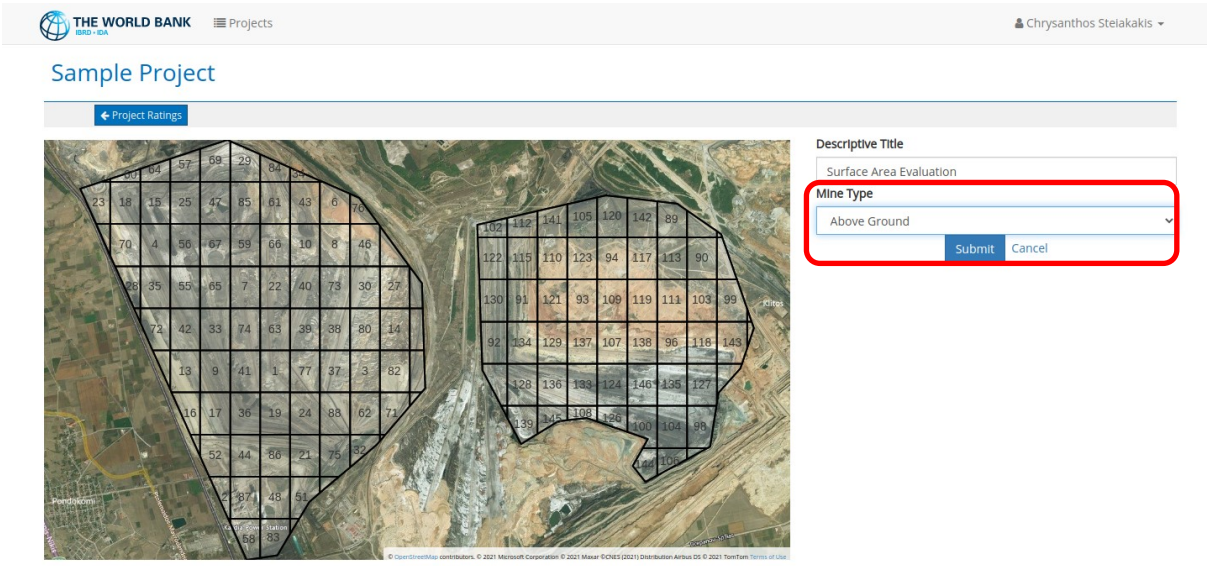


Figure 18: Selecting the type of mining

After the Descriptive Title and the Mine Type are entered, for example "*Surface Area Evaluation*" and "*Above Ground*" the user should click on **submit**. The project ratings page will then be loaded (**Error! Reference source not found.**).

This page (**Error! Reference source not found.**) will display all rating records either completed or partly completed. The user can also generate a report of previous ratings by clicking on the "**Show**" button on the right side of any rating item. To start rating on a new project or to continue rating a previous project just click on the rating title on the left. The application will navigate to the actual rating page (Figure 19).

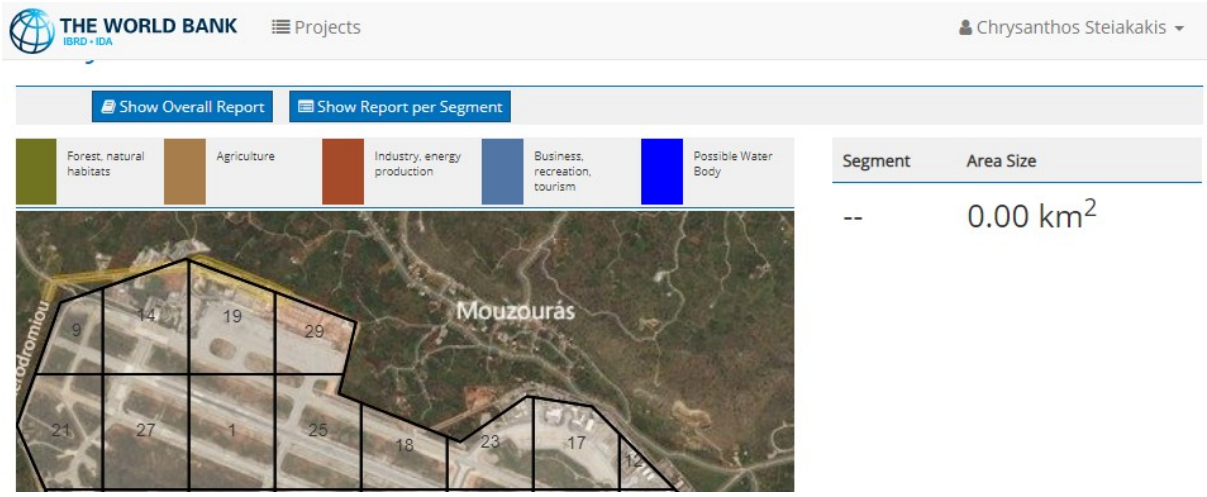


Figure 19: Project rating

This page (Figure 19) shows a map of the selected and subdivided area and the satellite image below the grid. Each segment of the grid has a unique number that defines it. To start rating the user can begin from segment number 1 or they can choose any segment on the map. Figure 20 shows the rating process for segment number 110. Note that on the top of the map the different available land uses are presented. After each segment of the grid has been rated, a color will appear that will denote which land use is determined by the application to be optimal.

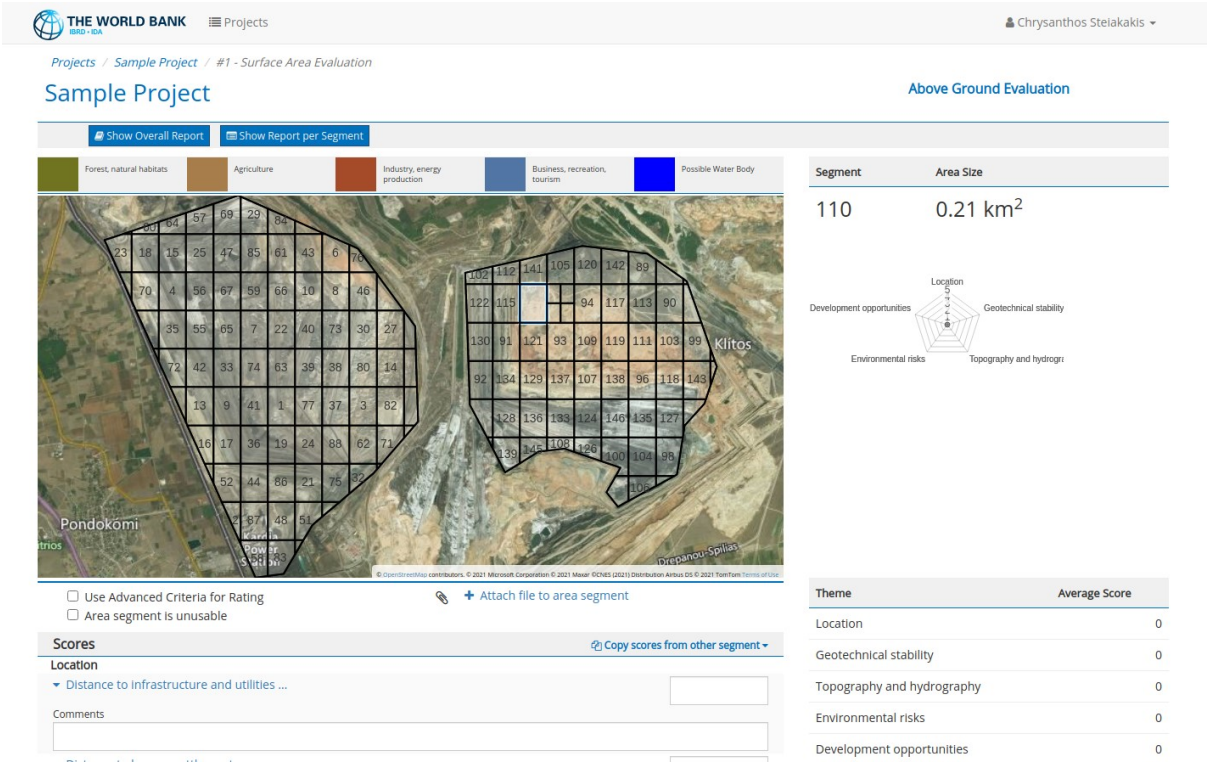
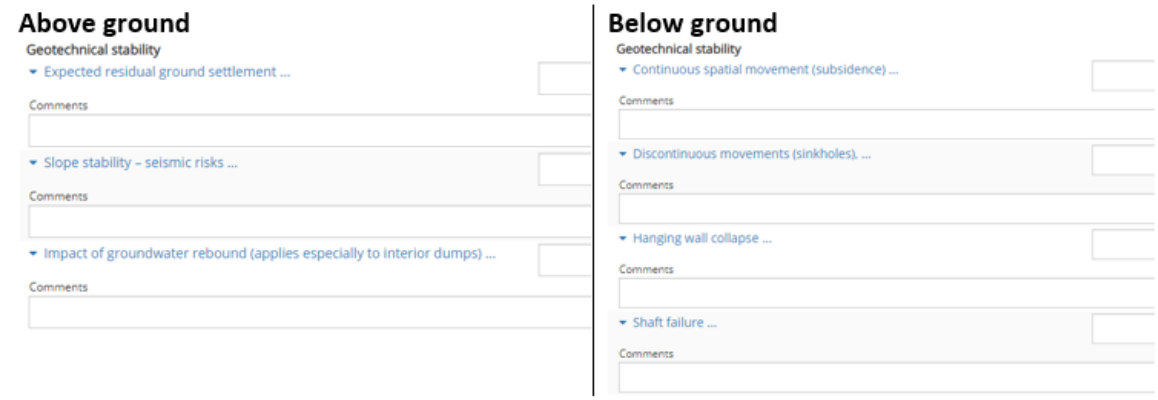


Figure 20: Rating a random cell

As soon as the user clicks on a cell grid with the mouse pointer, the appropriate scoring categories are displayed (Figure 21 and Figure 22). The scoring categories displayed depend on the **selected Mine Type**, which is shown at the top right side of the screen. The user can then assign score values to each category. The rating themes for both above ground and below ground mine types follow the same logic. Irrespective of the mine type, (above ground or below ground), all of the five themes shown in Figure 21 and Figure 22 should be rated.

1. Location:

2. Geotechnical stability:



3. Topography and hydrography:

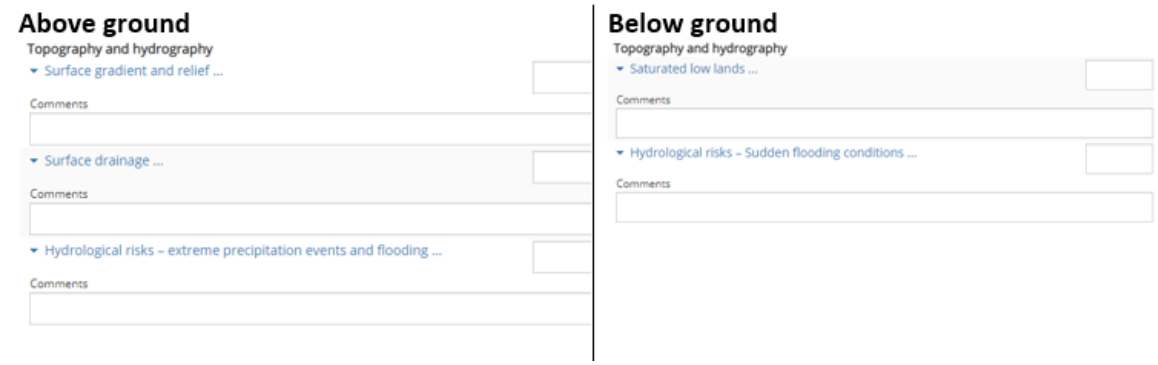


Figure 21: Rating criteria 1-3

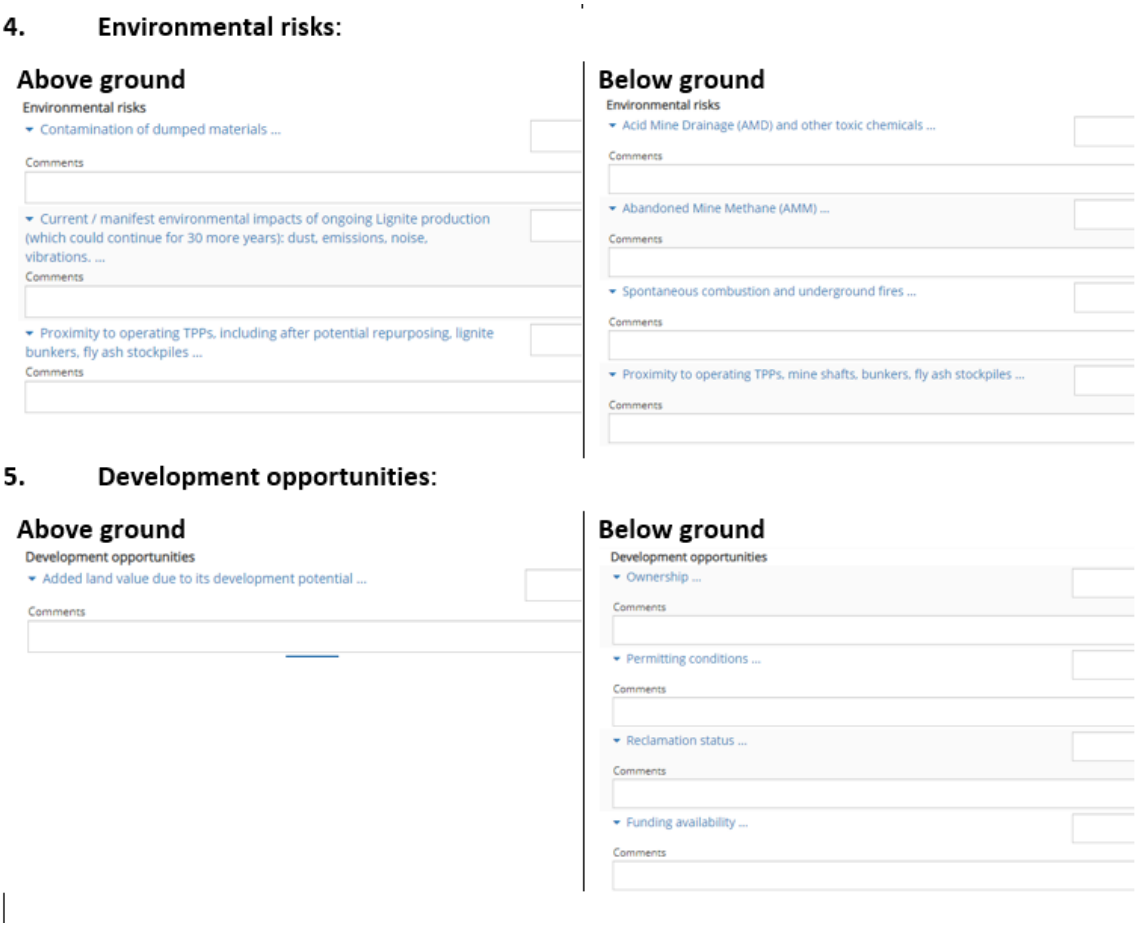


Figure 22: Rating criter 4-5

Figure 23 presents the rating screen for an above ground mine type.

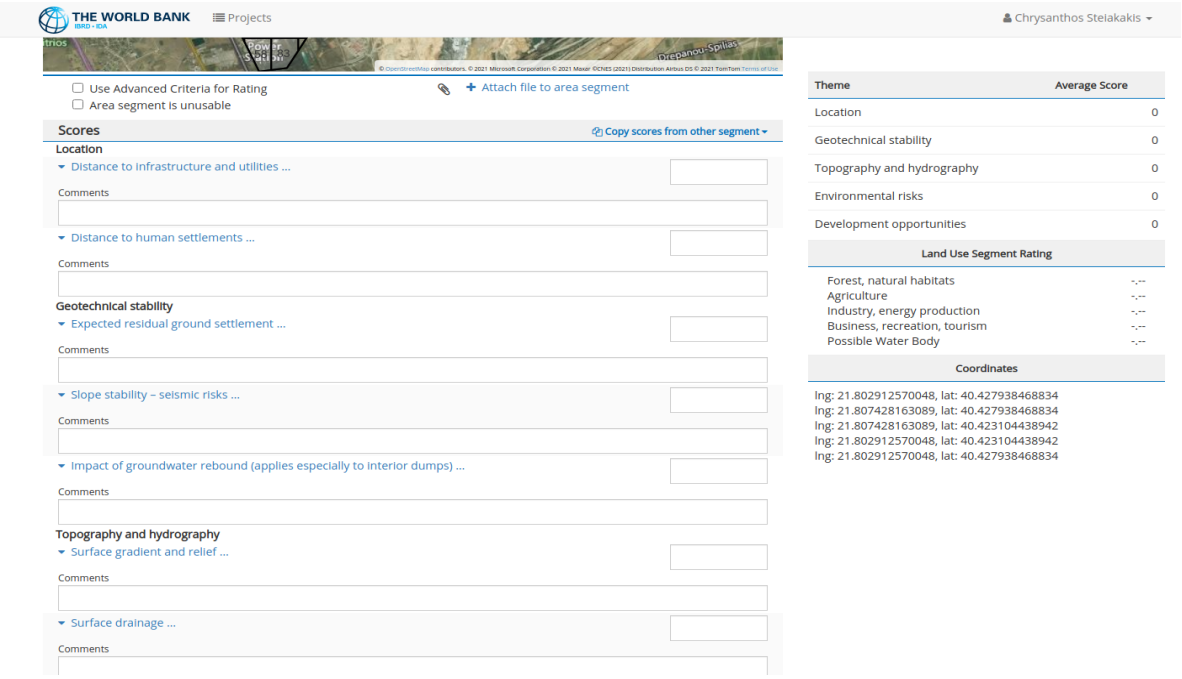


Figure 23: Rating for surface mines (above ground)

When rating an area or a cell, the segment (cell) number is displayed (i.e. 118) and the cell is highlighted (Figure 24). The user can zoom in or out of the study area map. The user can upload a different map for each study area, for example a topographic map or any other map. Under the selected cell the topographic map provided by the mine is overlain on top of the satellite image. On the right of the screen the segment number is displayed together with the area size and also the spider graph of the rating for this segment.

Figure 24: Highlighting the cell selected for rating

Underneath the map, right above the criteria scoring list, the user can select to use “Advanced Criteria for Rating” (by checking the appropriate checkbox), or consider the cell unusable by checking the “**Area segment is unusable**” checkbox. If the “**Area segment is unusable**” checkbox is checked a drop-down box appears in which different predefined land uses are assigned which can be given to the selected segment (Figure 25). For example, these land uses can include prohibited areas for any development due to archeological findings. The “unusable” segment is assigned a different color due to the predefined land use and is excluded from the rating procedure.

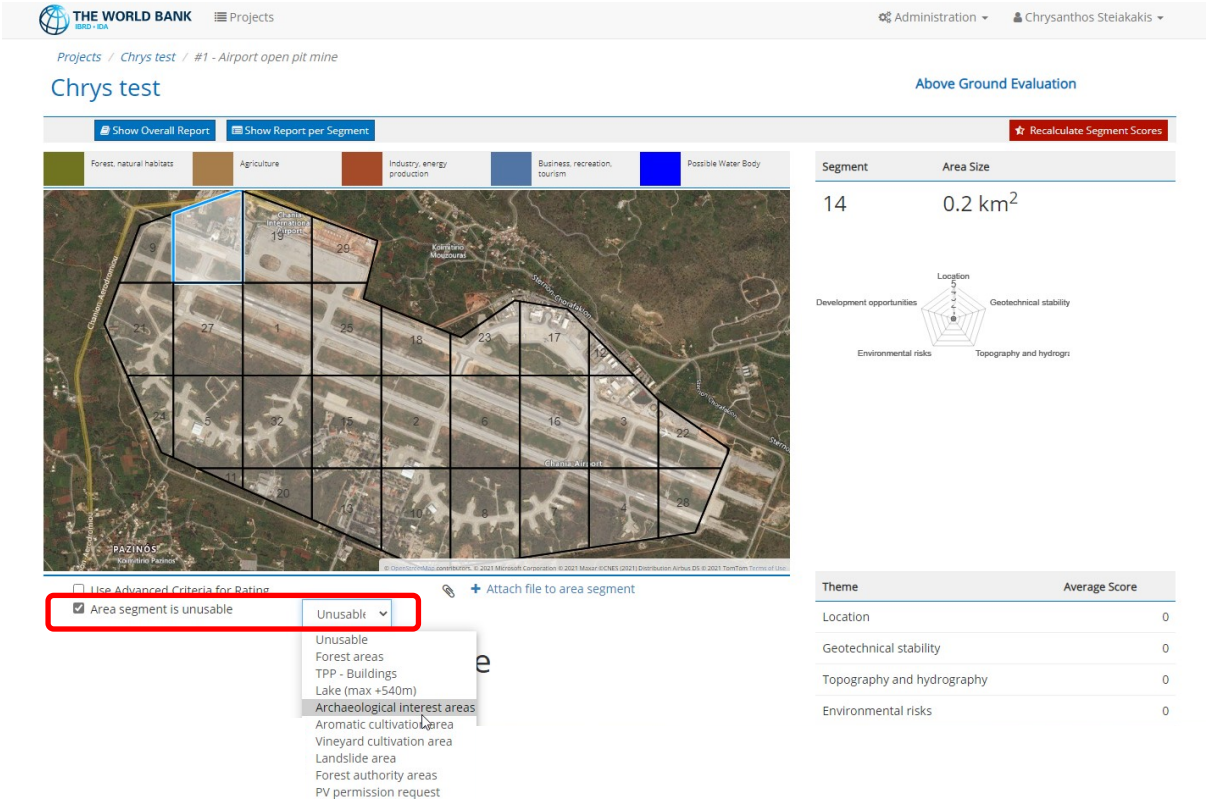


Figure 25: Reasons for rendering a cell "unusable"

If none of these two special cases are selected, rating can be completed by utilizing the normal "simplified" criteria. When an area is rated based on a theme, a rating value can either be entered directly in the right-hand side score box, or selected by clicking on the blue text corresponding to the appropriate rating information (Figure 26). Also, a comment regarding the rationale or the information behind the rating can be included under the rating values.

For example, when rating for the "Geotechnical Stability" theme for an above ground mine and the "expected residual ground settlement…" is evaluated for a waste fill, the user can use the predefined criteria such as the overburden height, the time of placement and the equipment used for placement. In this situation the user has the following information about the waste fill: "*The area has overburden between 50 and 70m and the waste material was placed 12 years ego, by a stacker*". This information places the rating between 2.00 and 3.00 so the user can manually enter "2.5" in the right box besides the criterion. This example is shown in Figure 26.

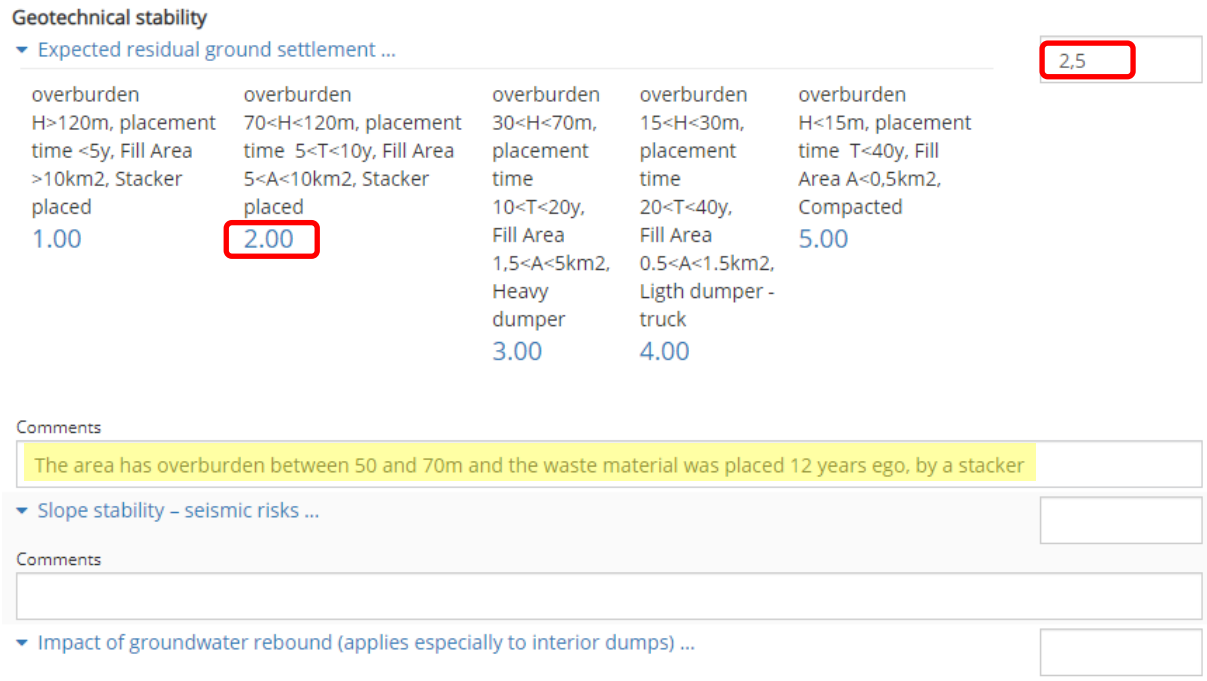


Figure 26: Rating for a specific theme

By clicking on the rating number under the appropriate criterion, the corresponding value will be entered as the rating for this criterion. The numerical value can be adjusted either by clicking and inserting a value from the keyboard or by using the up and down arrows. For example, if a score between 2 and 3 is needed, then the value of 2 can be selected and then adjusted to 2.5 which corresponds to a rating between 2 and 3.

Once the rating of a cell is completed and rating values have been assigned to all criteria, the rating should be saved by clicking the **save** button at the bottom of the screen (Figure 27). Once the rating values are saved, the rating will appear on the spider graph. Also the average score for the different criteria is shown at the left bottom of the screen together with the assigned typology for the cell (Figure 28). The user can then click on "OK" at the bottom of the screen and can continue rating of a different cell.

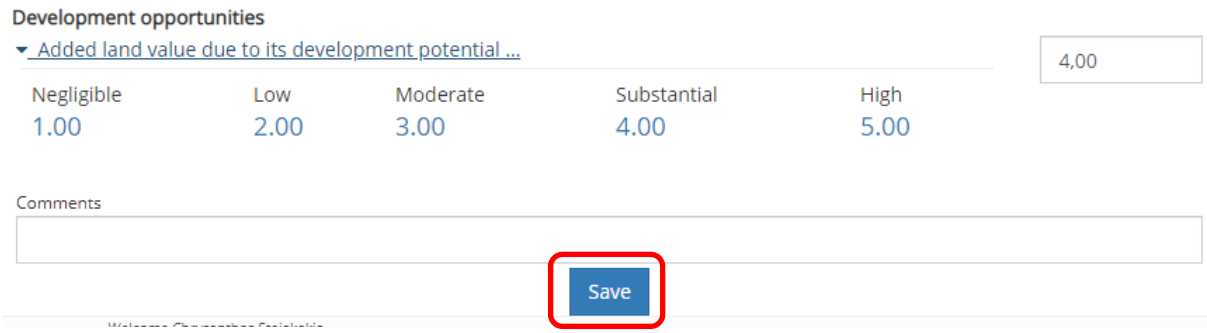


Figure 27: Completing the rating process

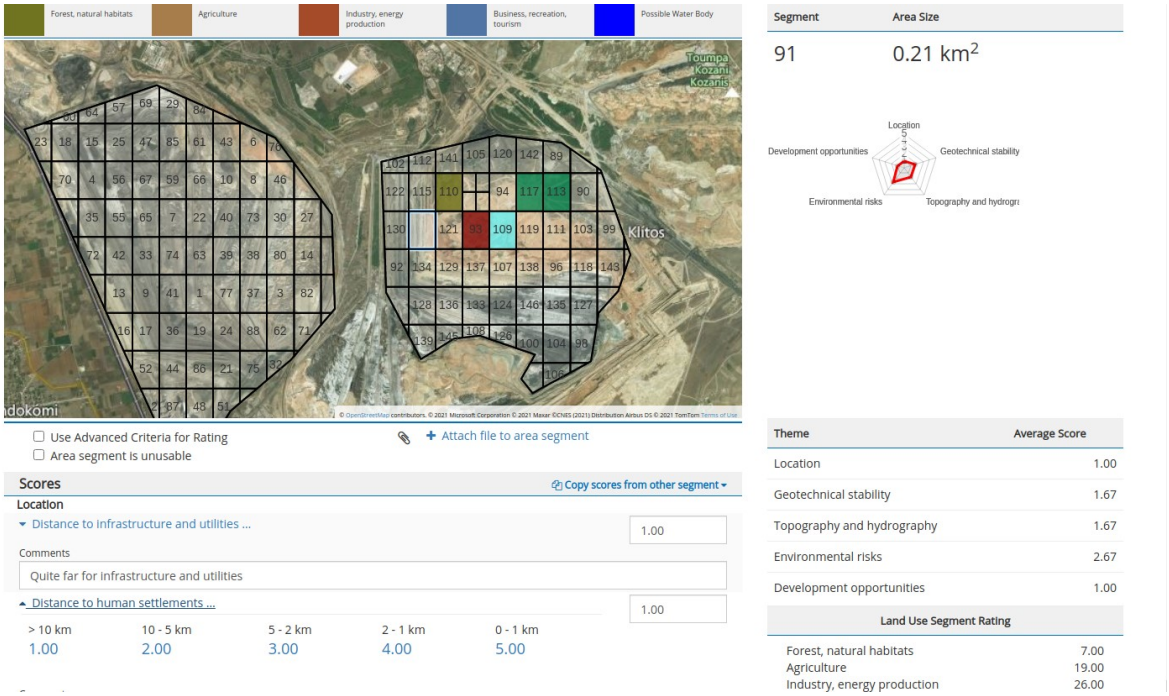


Figure 28: Displaying the rating of a cell

Once rating of a cell is completed, the application will access the next cell by identified numerical order. At any time the user can select a different cell. If most of the ratings of the cell that will be rated next are similar to the ratings of a previously rated cell, then the scores previously assigned can be copied to the current cell by clicking on "**copy scores from other segments**". A drop-down menu will then appear so that the user can enter the cell number from which to copy the rating (Figure 29).

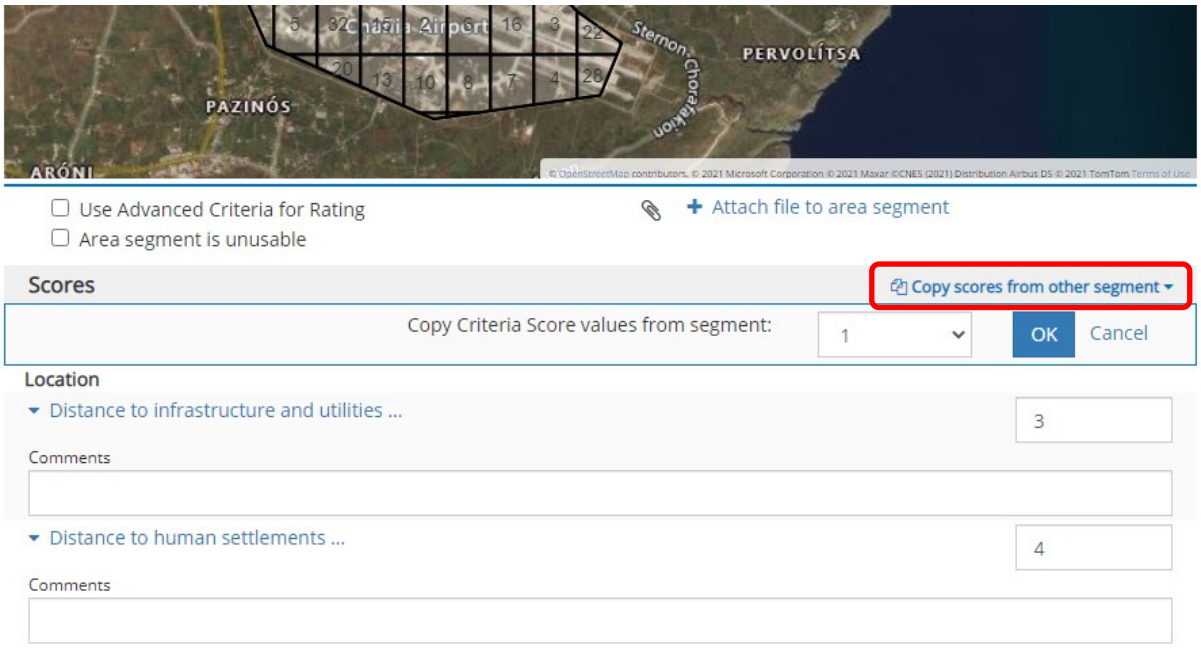


Figure 29: Copying ratings from previously rated cells

The copied rating can either be accepted or partially adjusted. The user needs to click on **save** at the bottom of the screen to complete the rating. In fact the information of any cell can be copied in to a different cell. The cell to be rated needs to be selected first. Clicking on "**copy scores from other segments**" will allow the users to select the number of the segment that the rating values should be copied from.

Attaching Extra Documentation and Information

During the cell rating process the user may upload a file which has been used the rating decision, e.g. a borehole report, an environmental report, a photograph or any other file that includes additional information, and attach it to the cell being rated. This file is stored for that cell only and can be reviewed in a later stage and/or can be seen by other Raters who may be rating the same project. To attach a document to a cell click on **"Attach file to area segment**" which is located below the map and above the "Copy scores from other segments". In the form that appears (Figure 30) the user can select the file through the browse button and can also add comments regarding the uploaded file.

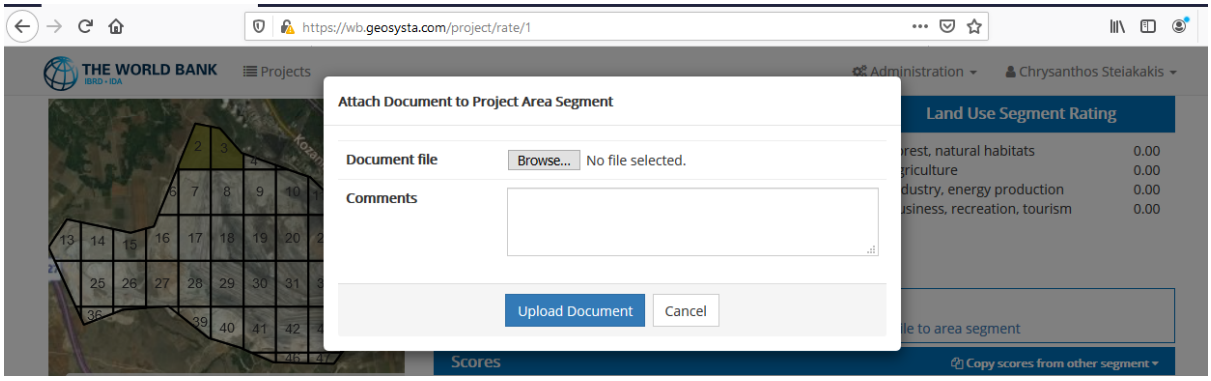


Figure 30: Attaching documentation to a project area segment (cell)

Rating Results and Reporting

As soon as the rating of the selected area is completed the colored typology map is displaying on the screen together with the pentagram for the selected cell. The user can then review any cell and modify the rating to new values (Figure 31).

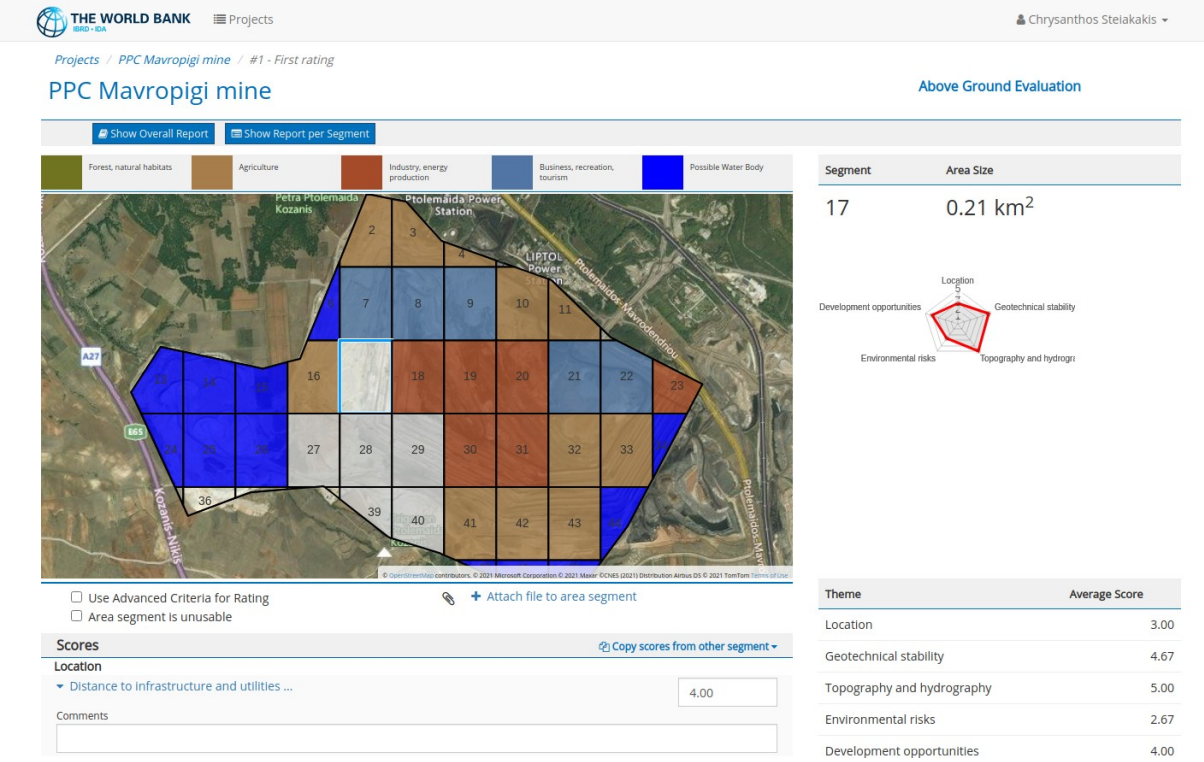


Figure 31: Completed rating

When the rating process is completed, click the “Show Overall Report” button at the top left of the screen (Figure 32).

The final outcome of the rating will then be displayed including the map with the different assigned typologies (Figure 33).

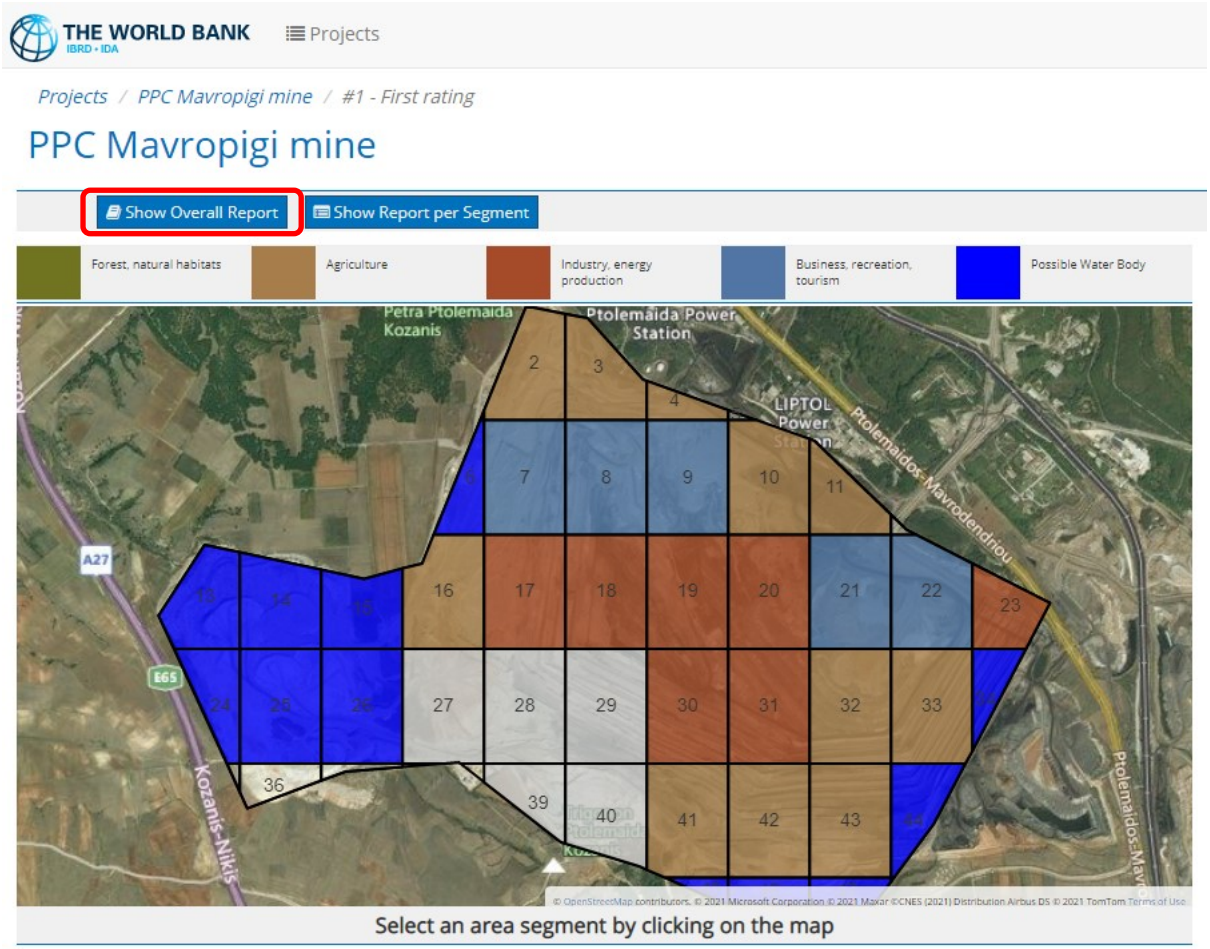


Figure 32: Overall report

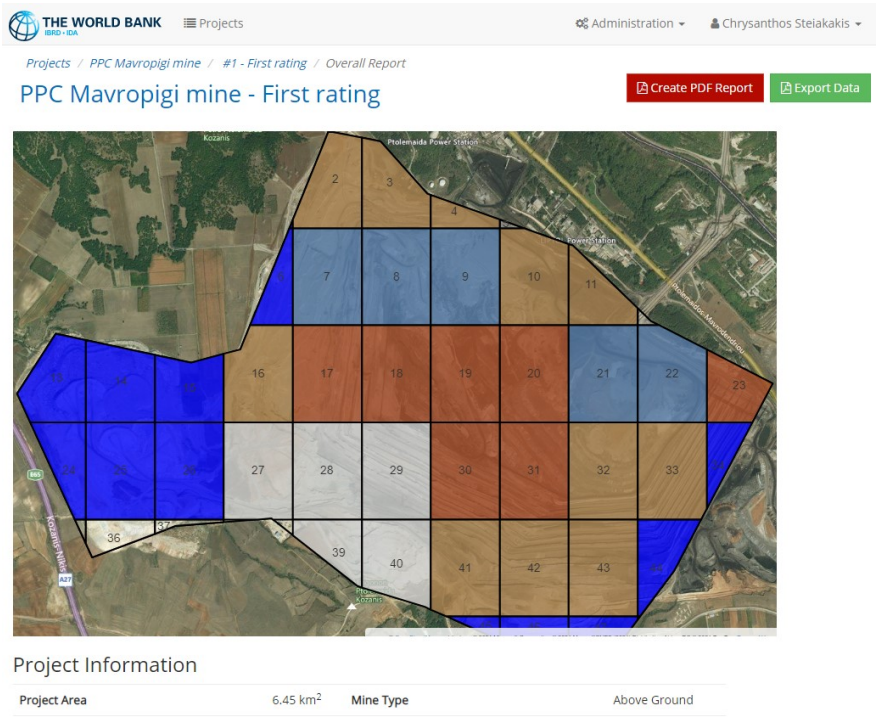


Figure 33: Final rating outcome

Under the map the project information is displayed including the total area that was selected for rating, the number of segments and the segment dimensions (Figure 34).

Project Information

Project Area	6.45 km^2	**Mine Type**	Above Ground
Total Area Segments	48		
Segment Width	0.50 km	**Segment Height**	0.50 km

Usage Statistics

Utilization	**Total Segments**	**Total Area Size**	**%**
Industry, energy production	7	0.94km^2	14.58
Business, recreation, tourism	5	0.67km^2	10.42
Forest, natural habitats	0	0.00km^2	0.00
Agriculture	11	1.48km^2	22.92
Possible Water Body	13	1.75km^2	27.08
Total	**36**	**4.84km^2**	**75.00**

Unusable Category	**Total Segments**	**Total Area Size**	**%**
Unusable	5	0.67km^2	10.42
Total	**5**	**0.67km^2**	**10.42**

Figure 34: Project rating outcome and statistics

The different typologies are then presented, including the number of cells with the same typology assigned and the percent of the total area that each typology covers (Figure 34)

Finally, a short one-page project report can be crated to by clicking the “Create PDF Report” button at the upper right corner of the screen ().

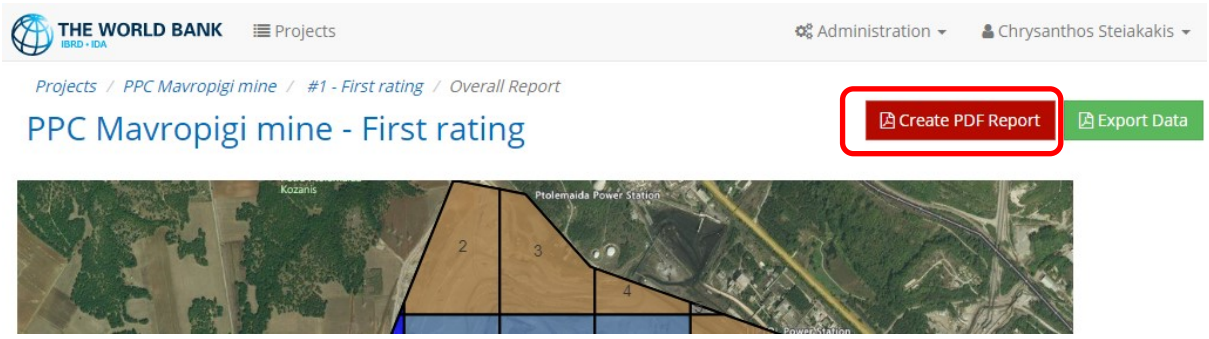


Figure 35: Creating a PDF report

After the rating and reporting have completed the user may select to edit the existing rating or create a new rating project that pertains to the same or a different area in the same or different location / country.

When more than one rating have been completed for a specific project, an overview of each rating's outcomes can be displayed by clicking on the "**Results**" button in the Project Ratings Page (Figure 36).

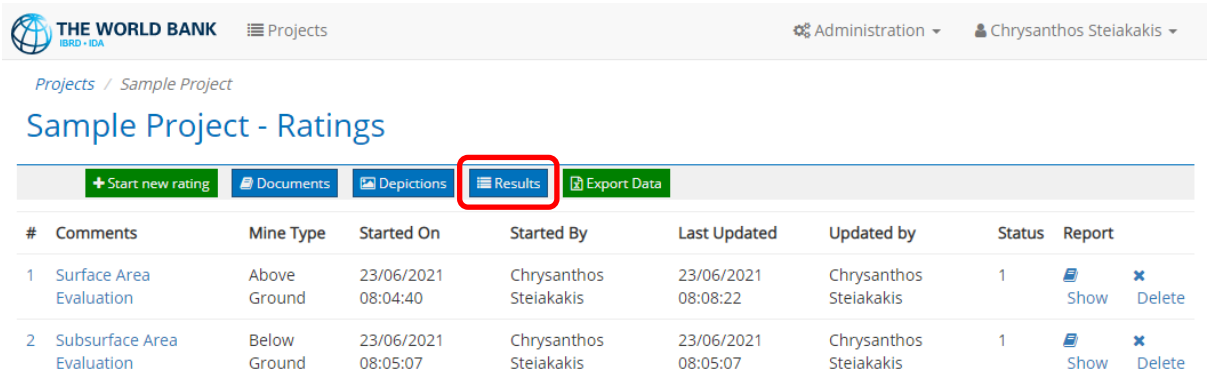


Figure 36: Overview of project ratings

This will show the utilization category percentages derived for each rating conducted, as well as some basic information about the rating, such as the user that created it, the time of last update and the Mine Type (Figure 37).

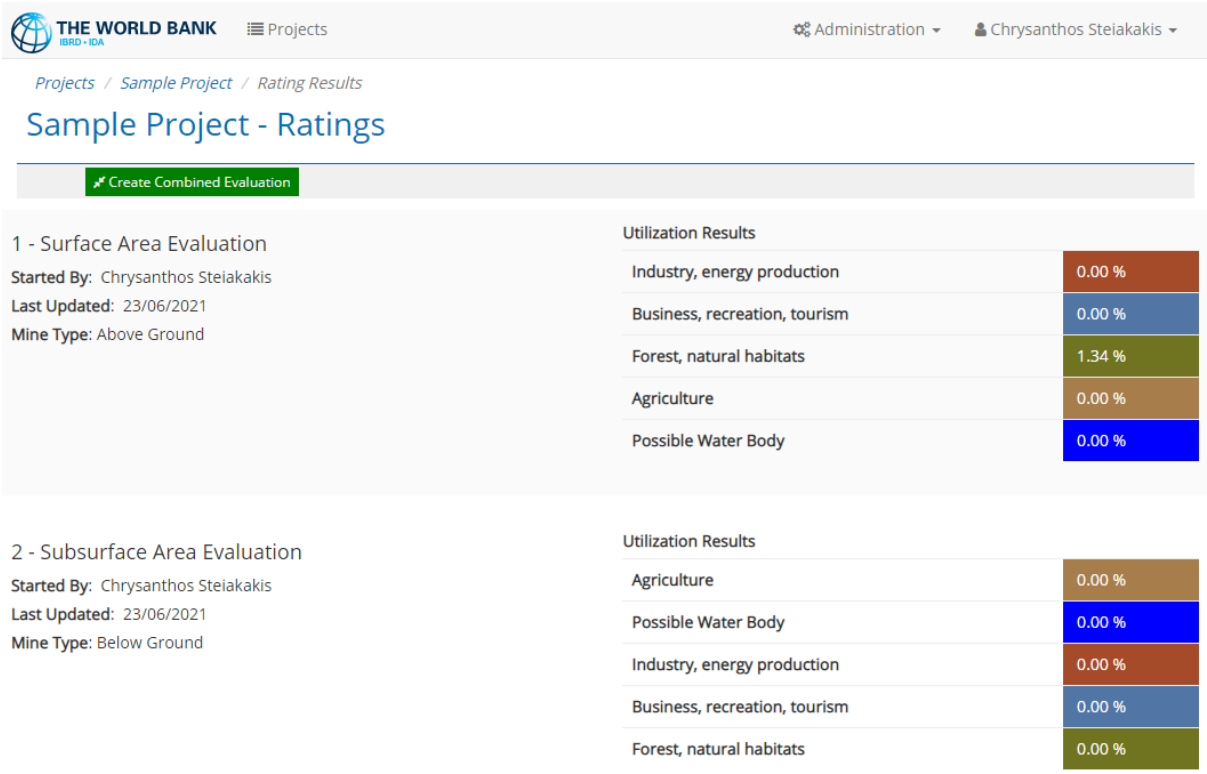


Figure 37: Summary of multiple ratings for the same project

Combined Evaluations

In the results overview, the user can generate combined evaluations that will use the data from a selection of the various existing ratings conducted. By clicking on "**Create Combined Evaluation**" they will be presented with a set of controls to assign a **title and description** for the combined evaluation as well as "**checkbox**" selections to choose which of the ratings will be considered. By default, all project ratings are selected. At least two ratings should be selected for the evaluation (Figure 38).

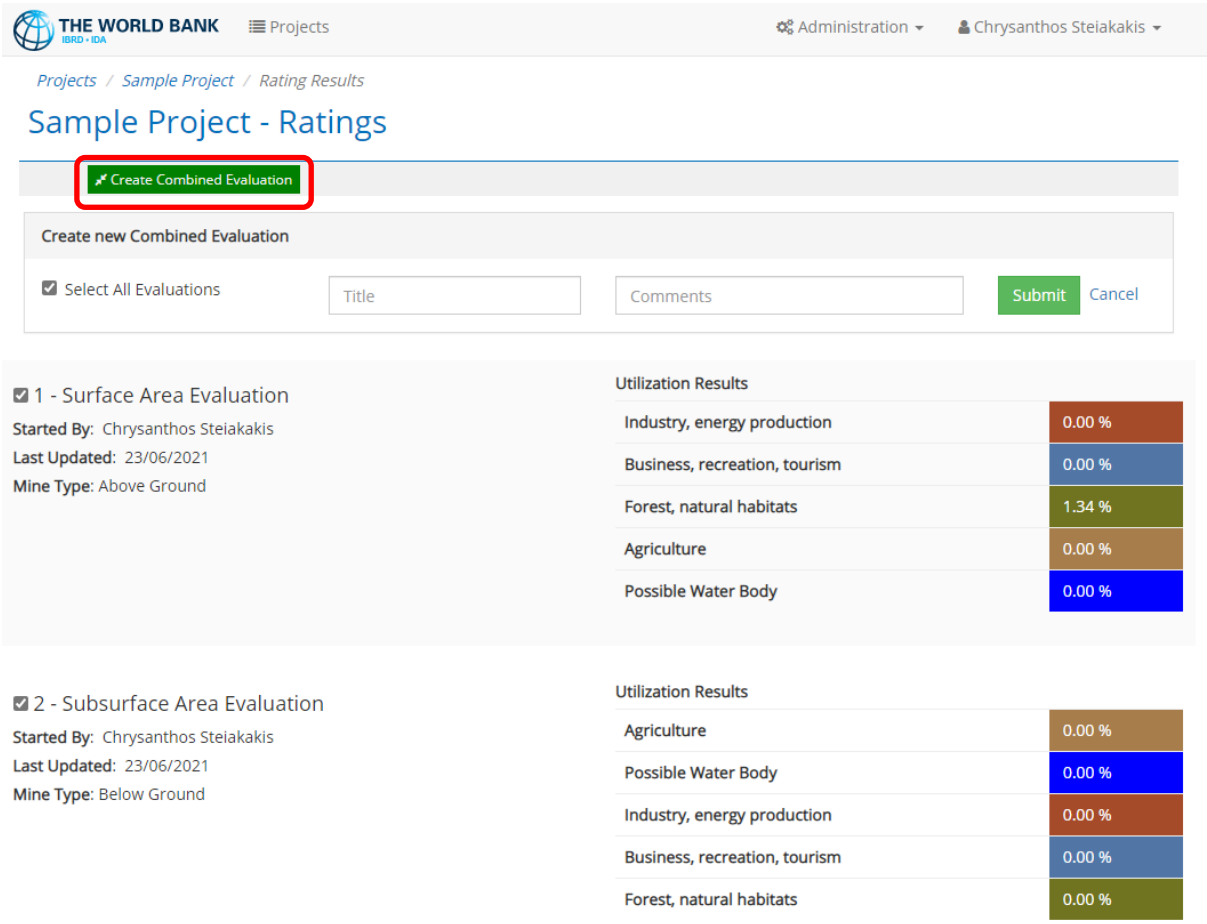


Figure 38: Creating combined evaluations

Once all the required inputs are provided, the user can click on "**Submit**" (Figure 38) and the combined evaluation will be generated. The "combined evaluation" compares every segment of the project that has a different typology regardless if it is an above or below ground rating and returns the typology with the lowest rating. For example, if five (5) ratings have been made for an area (and a segment), and three (3) ratings have produced an agricultural use and the other two (2) ratings have produced a residential development, the typology with the lowest value is assigned in the combined evaluation which for this case is agriculture. It must be pointed out that even if a large majority of ratings have selected a typology of high value, even one with low value, will be the dominant one.

Once the evaluation is completed the user will be presented with a view where a map of the evaluation results is displayed. By clicking on each cell, the user will be presented with the information regarding the values that were derived by each rating and the overall result based on the evaluation (Figure 39).

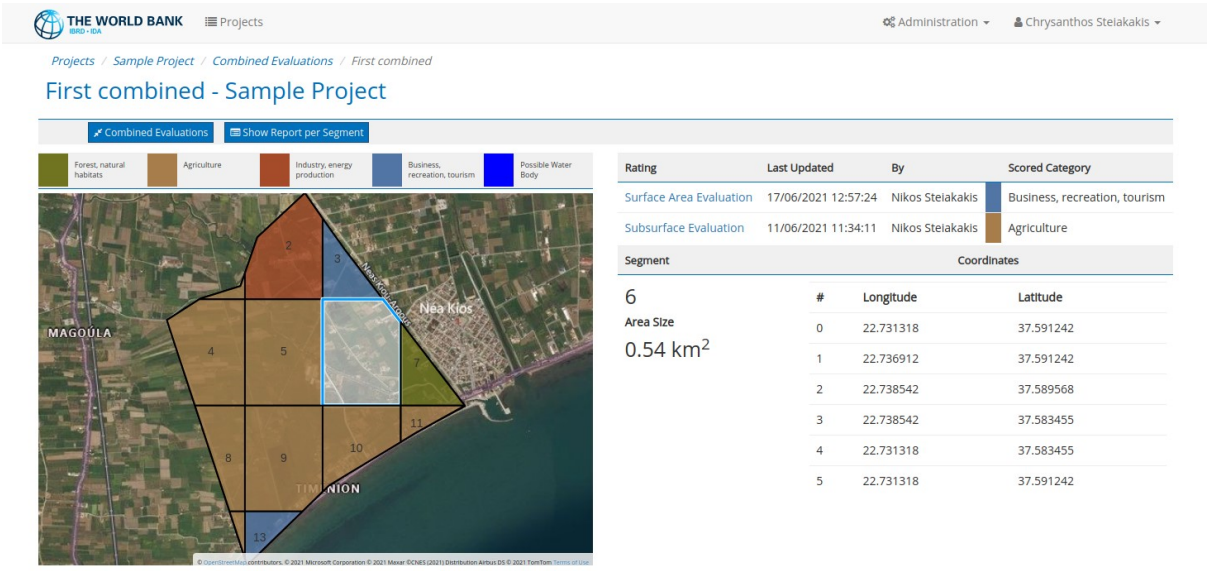


Figure 39: Presenting combined evaluations

The user can also click on "**Show Report per Segment**" to display a list of all area segments and their corresponding evaluation results as shown in Figure 40.

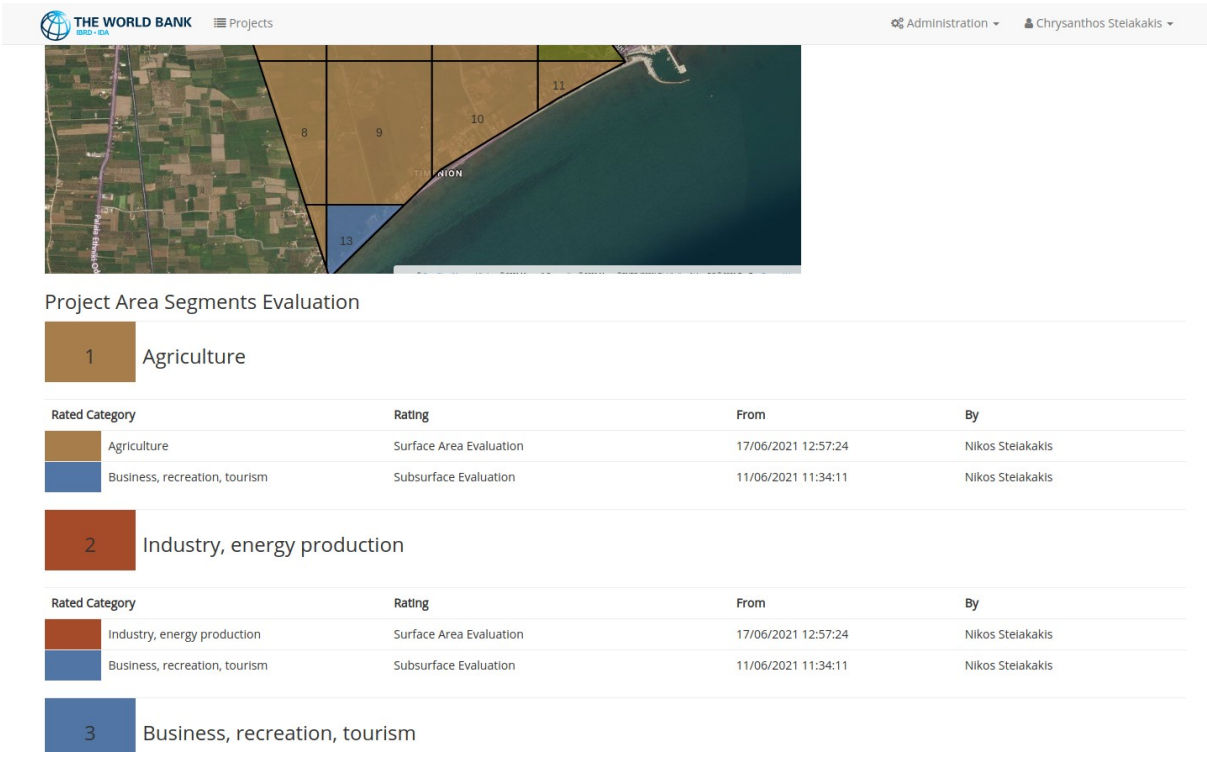


Figure 40: Combined evaluation ratings for a specific cell

The user can also create a PDF version of this report page by clicking on "**Create PDF Report**" at the top right hand side of the page. The user can access all combined evaluations for a particular project by clicking on "**Combined Evaluations**" at the top options list in the Project Ratings page (Figure 41).

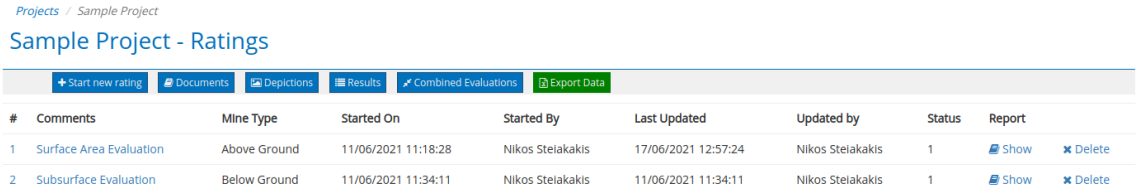


Figure 41: Combined evaluation options

Enhancing Project Views

Uploading Extra Depictions

The user can add extra layers to the project area map views. In the project rating views, click on "**Depictions**" (Figure 42)

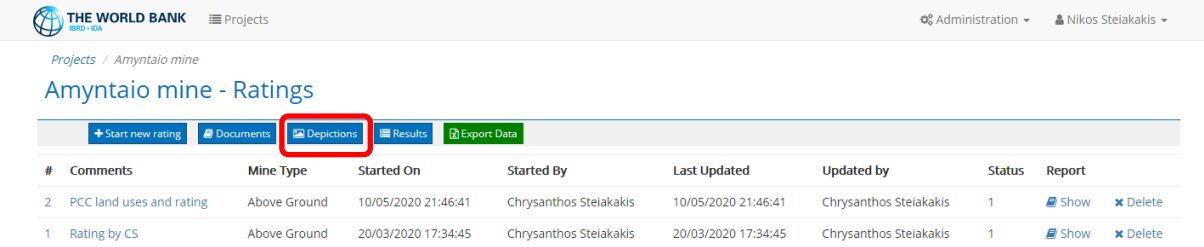


Figure 42: Depictions

This action will navigate the user to the "**Depictions**" upload page (Figure 43).

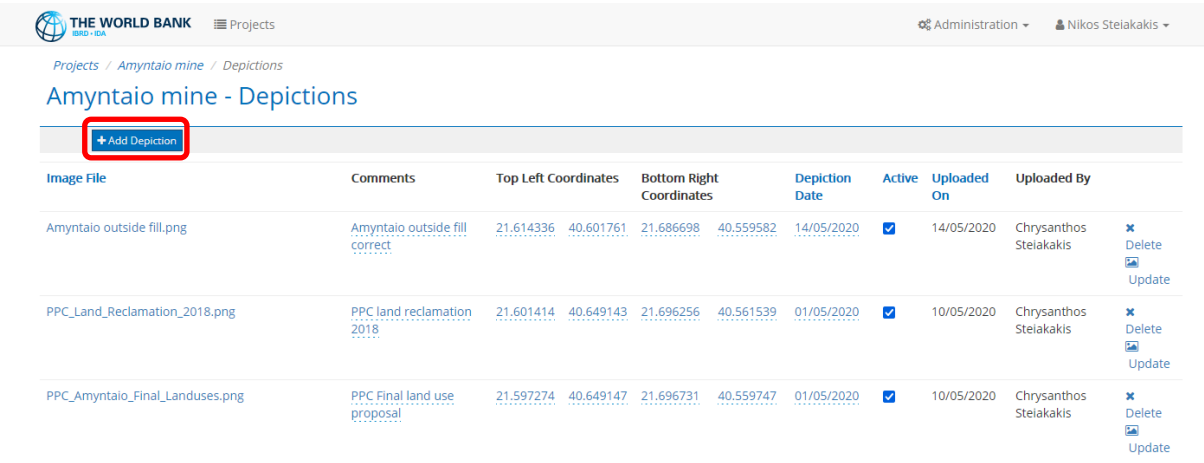


Figure 43: Depictions upload page

By clicking on "**Add Depiction**" the depiction upload form will be displayed. There the user can choose to upload any geolocated image that needs to be displayed as an overlay on the project area maps (Figure 44).

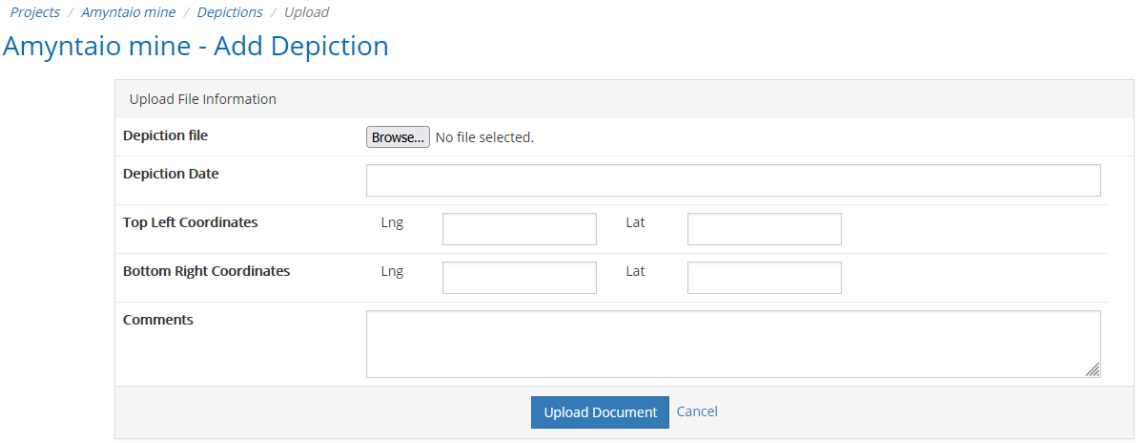


Figure 44: Adding a project depiction

The user must provide the top left and bottom right coordinates in WGS84 (GPS) format. This will enable the application to display the image on the proper position on the map. Multiple images or maps can be uploaded for an area. These images include topographic maps, hydrogeological maps, water elevation contours, natural habitat areas, contaminated sites, restricted areas, etc. These can be used during rating for the user to be able to address the information per segment more easily.

Changing Depiction Views During Ratings

The depictions uploaded will be displayed as layers over the actual map but below the project area grid as shown in Figure 45.

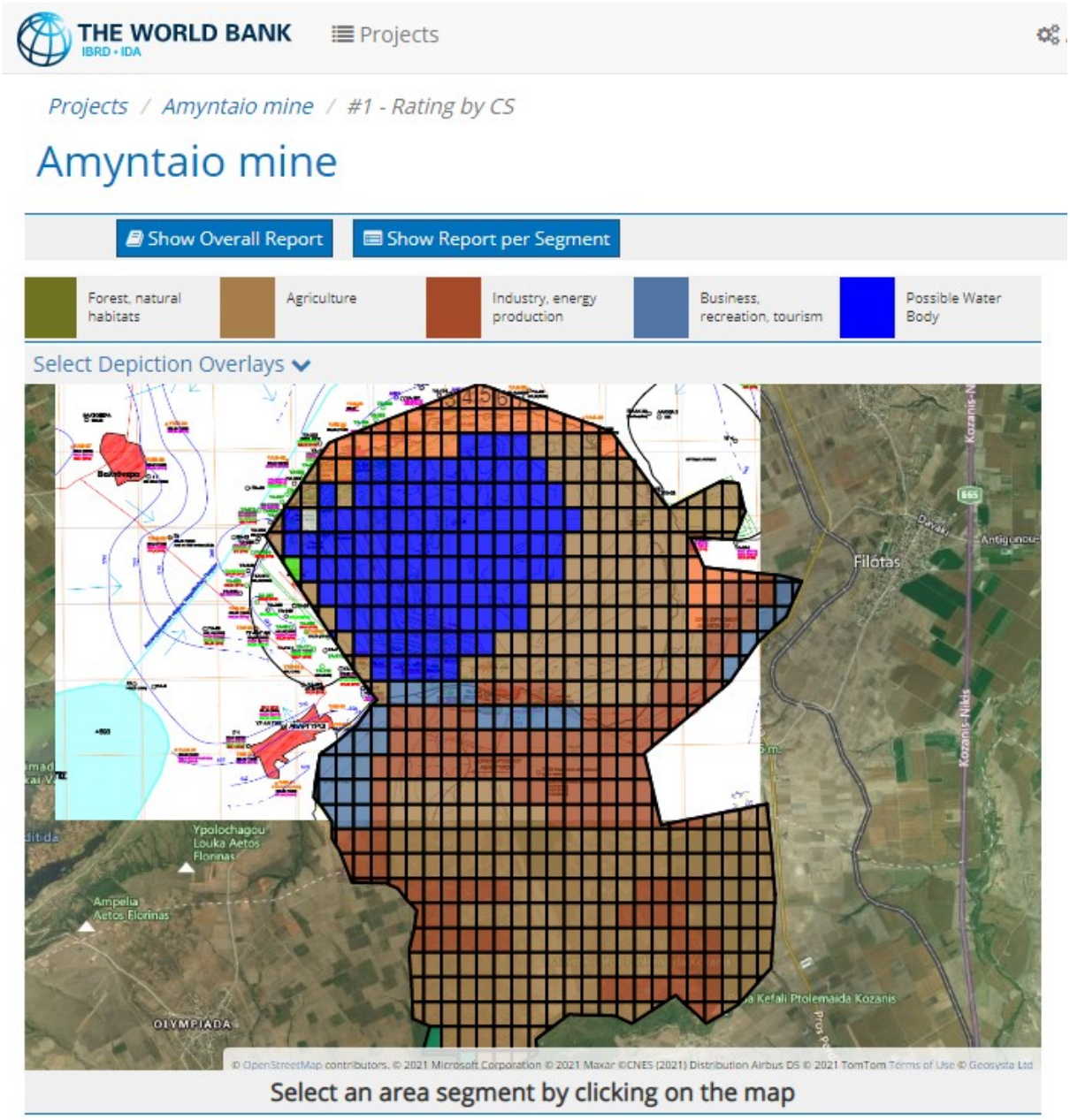


Figure 45: Depiction overlays

Uploaded depictions can be deactivated or re-activated from the "**Depictions**" list page (Figure 46).

Image File	Comments	Top Left Coordinates		Bottom Right Coordinates		Depiction Date	Active	Uploaded On	Uploaded By	
Amyntaio outside fill.png	Amyntaio outside fill correct	21.614336	40.601761	21.686698	40.559582	14/05/2020	☑	14/05/2020	Chrysanthos Steiakakis	Delete

Figure 46: Activating and de-activating depictions

Depictions marked as active will be displayed on the map, while non-active depictions will not. While conducting actual ratings and evaluations, the user can easily toggle the visibility of each active depiction directly via the map. The option "**Select Depiction Overlays**" will be displayed on top of the map. When the user clicks on it, a list of the active depictions will be displayed (Figure 47).

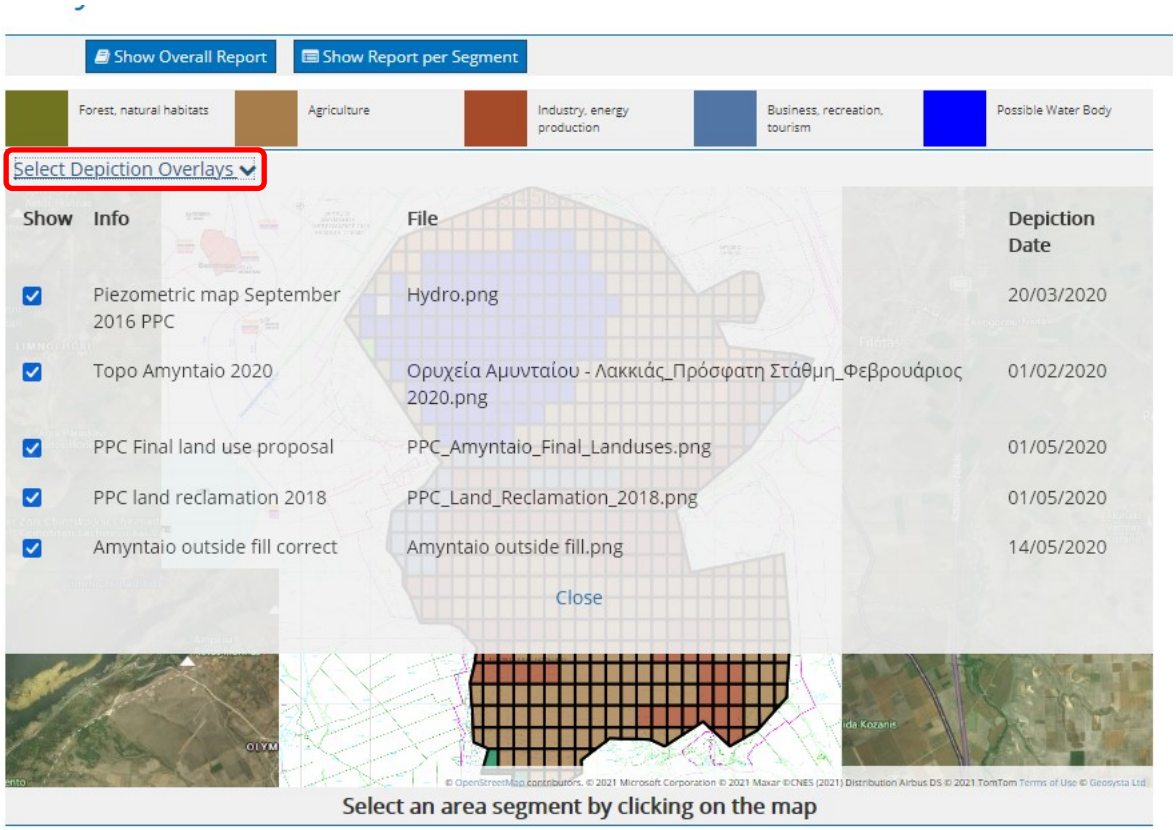


Figure 47: Selecting depiction overlays

The user can select to display only a subset, or even none of the available depictions. This will automatically hide any depictions that are not selected. This, however, does not change the status of a depiction being "Active" as in the previous step. This means that if other users are conducting ratings, they will be able to see the depictions and perhaps even choose a different subset of depictions without affecting one another.

Application Administration

Advanced users with the **assigned privileges** also have access to the "**Administration**" section of the application where they can modify most of the predefined inputs for the system. If a user has been assigned administrative privileges the user will be able to see an "**Administration**" link on the top right of the page (Figure 48).

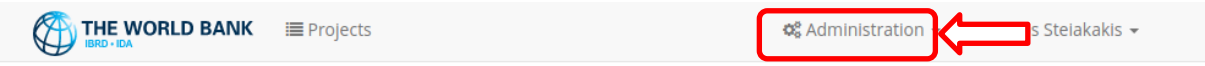


Figure 48: Administration option

When the "**Administration**" link (at the upper right part of the screen next to the user name) is invoked, the drop-down menu shown in Figure 49 is displayed.

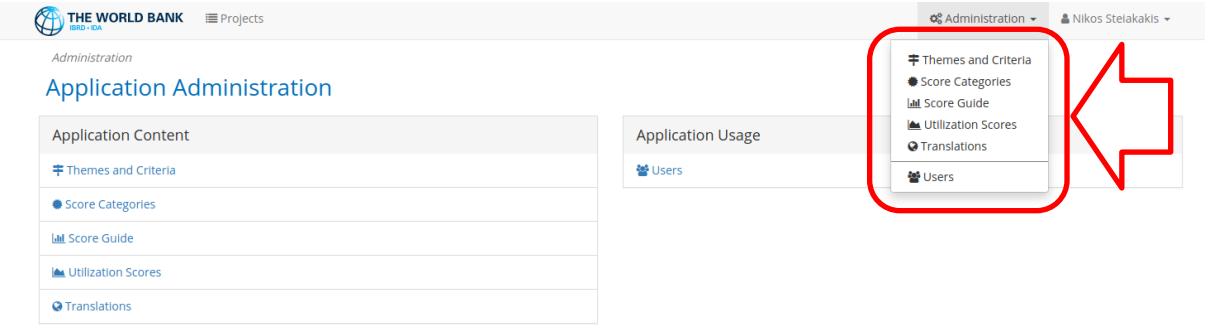


Figure 49: Administration menu

Using the drop-down menu the user can select the respective administrative section.

Themes and Criteria

If the first option, i.e. "**Themes and Criteria**", is selected, the descriptions for themes and criteria can be edited.

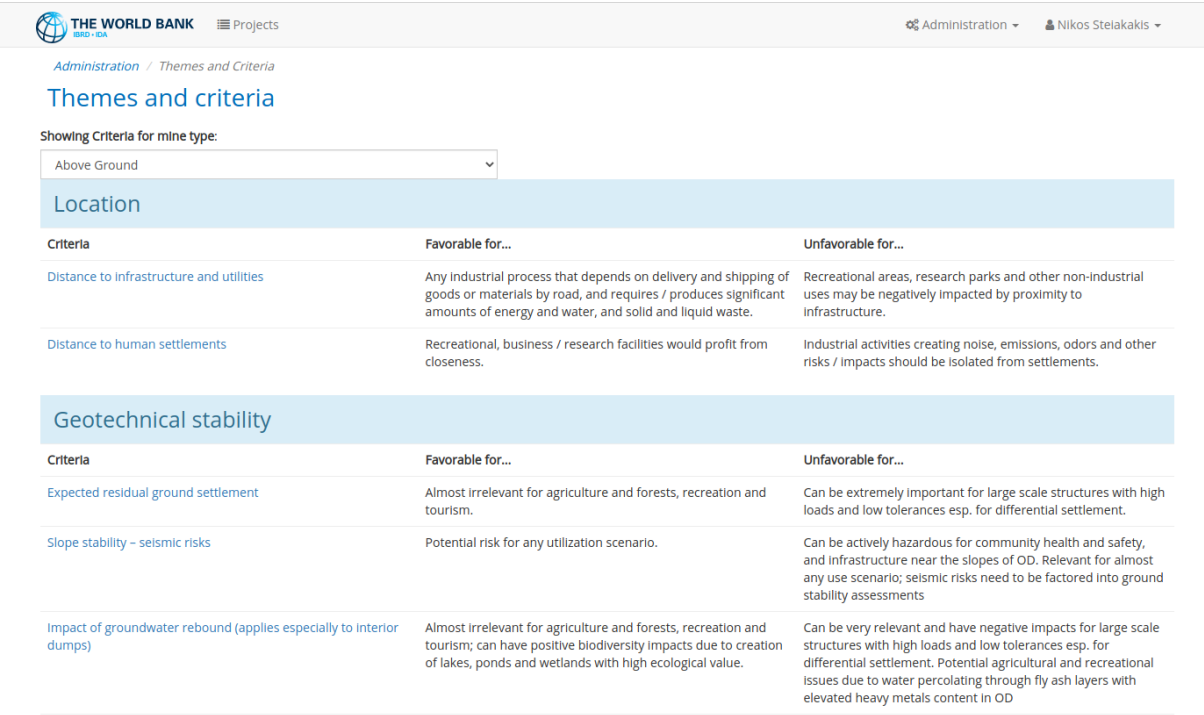


Figure 50: Administration of themes and criteria

The "**Mine Type**" drop-down list at the top left (Figure 50) controls the criteria group that a user can edit. For example, the criteria shown in Figure 50 correspond to the criteria for surface mines or "above ground" mine types.

By clicking on the each criterion, the user can navigate to the corresponding edit page for that criterion (Figure 51).

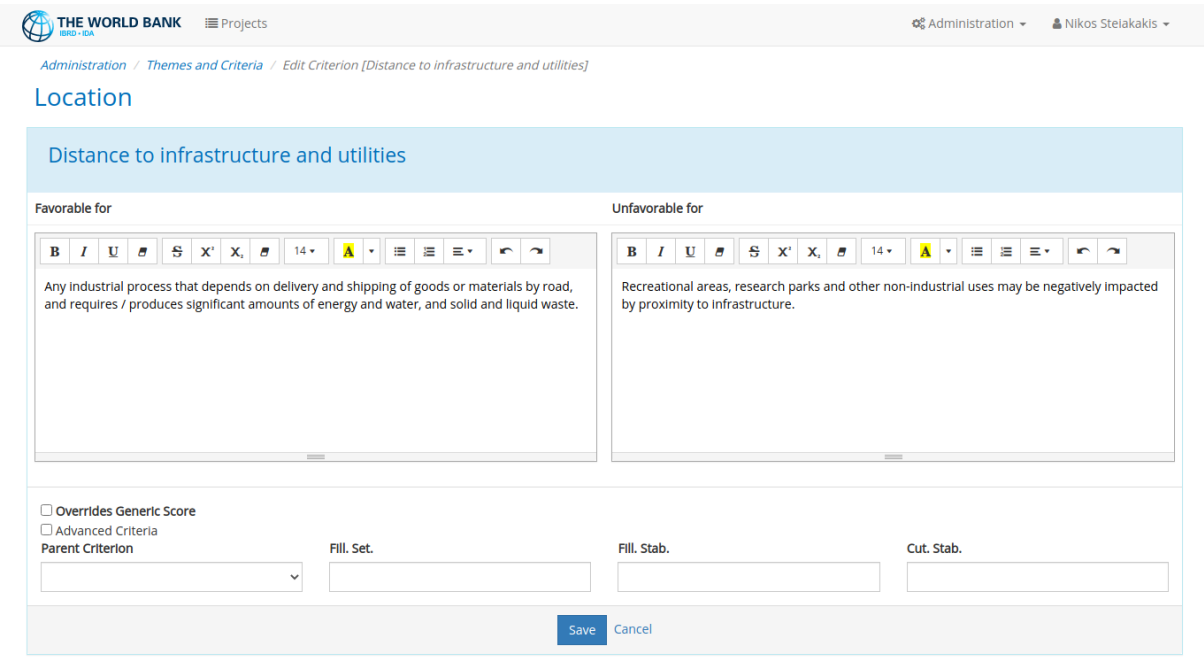


Figure 51: Editing the "distance to infrastructure and utilities" criterion

The edit page (Figure 51) allows the user to edit the description text and also format the text. At the bottom of the page, there are options to edit “Advanced Criteria” such as the criteria pertaining to slope stability.

Score Categories

If the "**Score Categories**" option is selected from the "**Administration**" drop-down menu, the user is allowed to modify the description and/or color of each Category (Figure 52). To accomplish that, the user should click the left mouse button on the blue colored text, and/or on the color icon that corresponds to each Category (Figure 52).

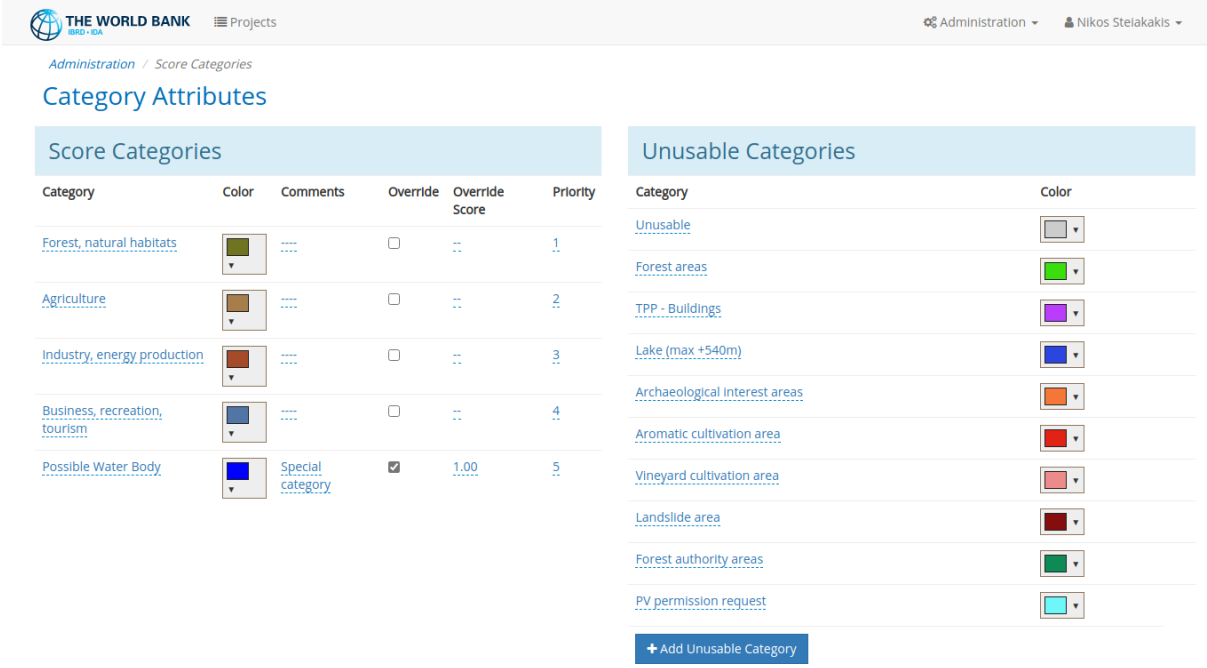


Figure 52: Editing category descriptions

The user can also edit the Unusable Categories and change the respective color. The software allows the creation of more than one unusable category, since these categories may not be known beforehand. The same or different colors can be assigned to different "Unusable Categories" that will eventually be displayed on the main map. The number of main categories cannot be increased or decreased because they are directly linked to the rating capability of the application.

Score Guide

If the "**Score Guide**" option is selected from the "**Administration**" drop-down menu (Figure 49), the user is allowed to edit or modify the rating criteria scale. For example, by clicking on the "Edit" button on the right the value ">2.500m" can be changed to a different value, for example 5,000m (Figure 53).

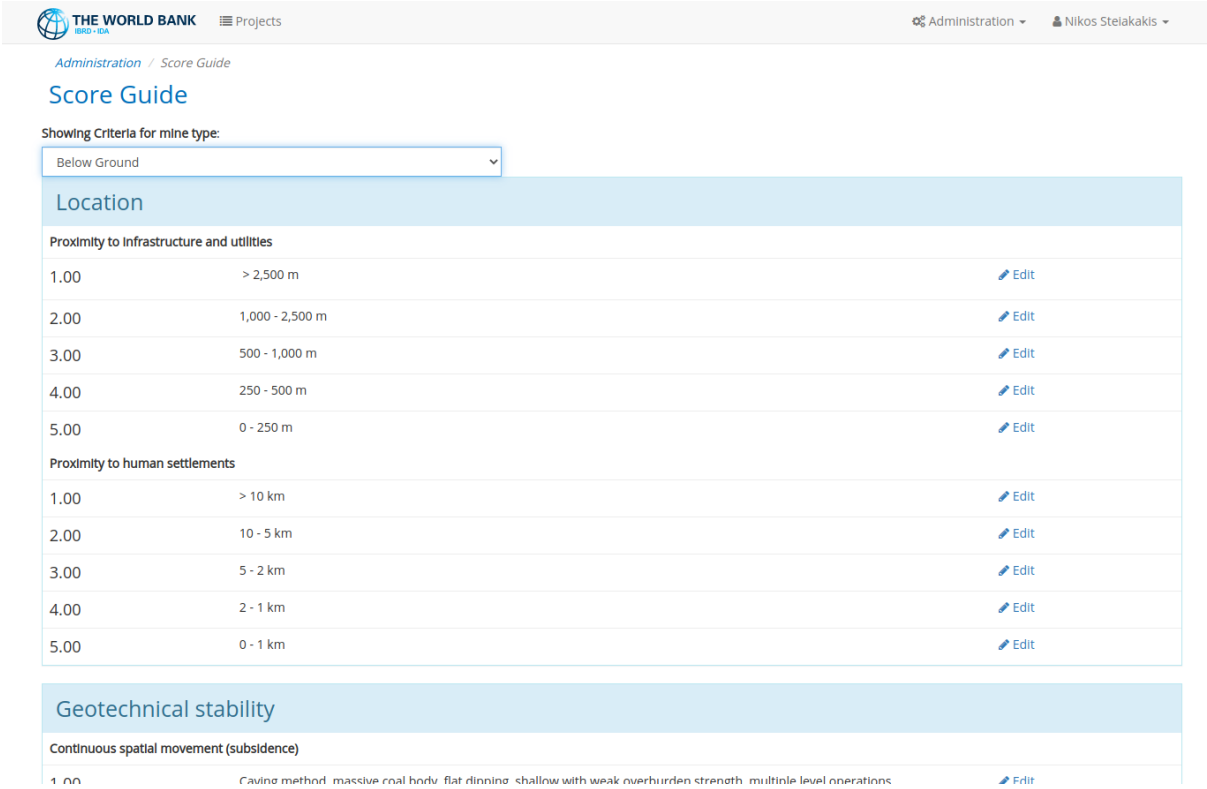


Figure 53: Editing the score guide

Utilization Scores

If the "**Utilization Scores**" option is selected from the "**Administration**" drop-down menu (Figure 49), the user is allowed to edit or modify the weighting coefficients for each criterion (Figure 54).

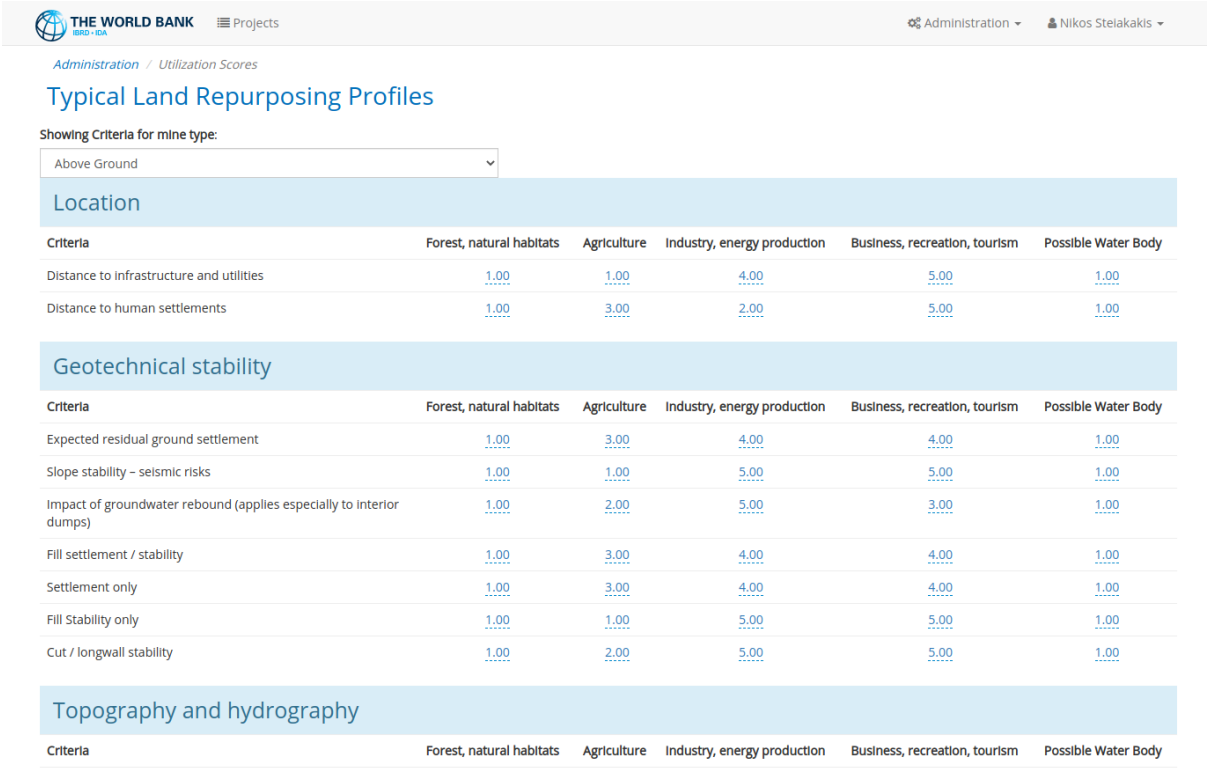


Figure 54: Editing the weighting factors for each criterion

The scores defined in this form (Figure 54) will be used for the calculation of the Land Usage Categories scoring based on the input provided by the users in each rating category. Users updating the utilization scores must be very thorough as this table enables the application to derive the proper utilization category of an area based on the rating value inputs. If, for example, any criteria have been assigned with inapplicable values (e.g. all 1s or all 5s) the results of ratings will be confusing and meaningless.

Users

If the "**Users**" option is selected from the "**Administration**" drop-down menu (Figure 49), the user (administrator) is allowed to register new users that can log in and use this application (Figure 55) or edit the account information of existing users.

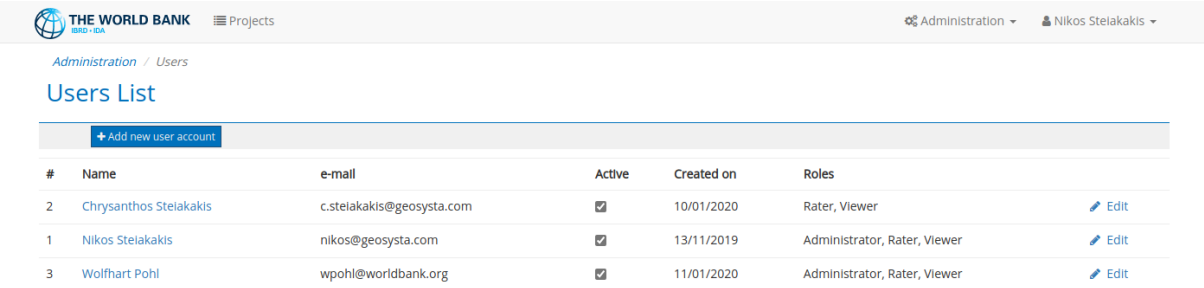


Figure 55: Editing the list of users

A user can be edited by clicking on the edit button on the right side (Figure 55). The user account information can be edited through the form shown in Figure 56.

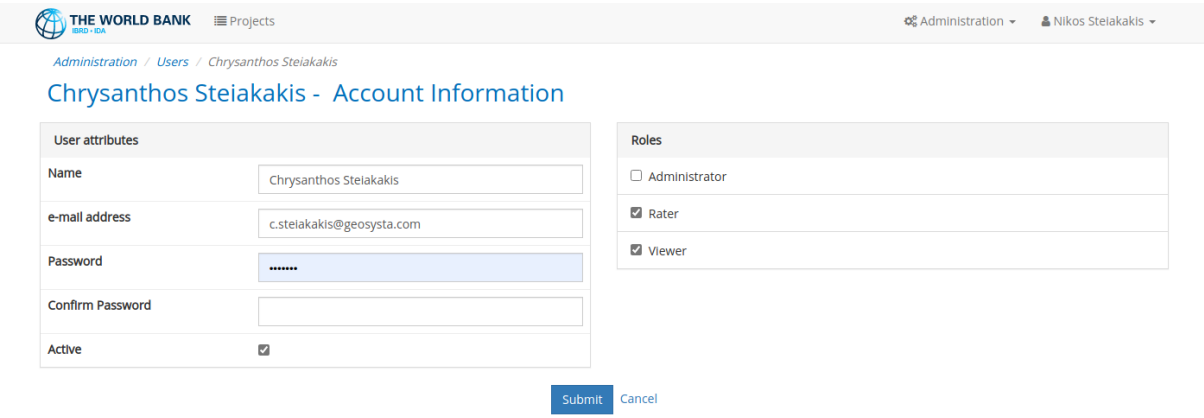


Figure 56: User account information

The name, email, password and the corresponding user authorization, i.e. "Administrator", "Rater" or "Viewer", can be modified (Figure 56). If an "Administrator" role is assigned to a user, that user has full access to the application, while a "Viewer" role allows just viewing of the map and the final rating.

Translations

LURA provides functionality to translate most of the texts shown in descriptions and titles of the various entities (Figure 57).

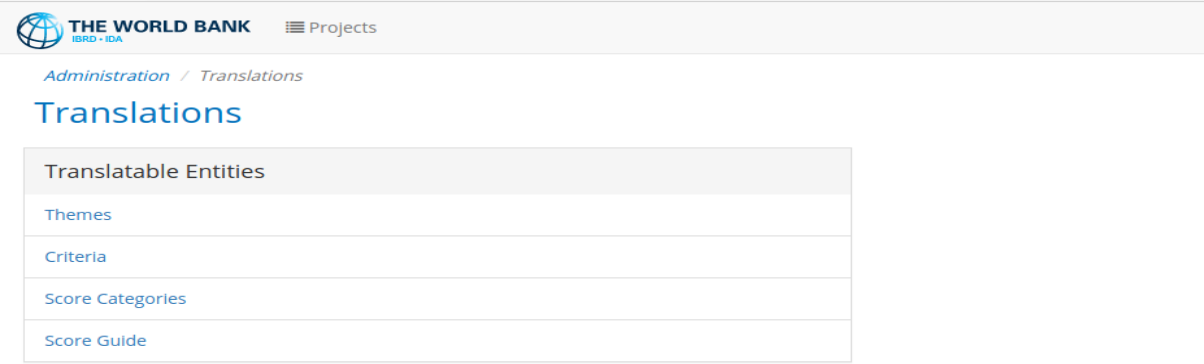


Figure 57: Text translation

Users with administrative privileges can update the available translations for each of the supported entities. The user is presented with the English texts in read-only form and the translations provided in an editable section (Figure 58).

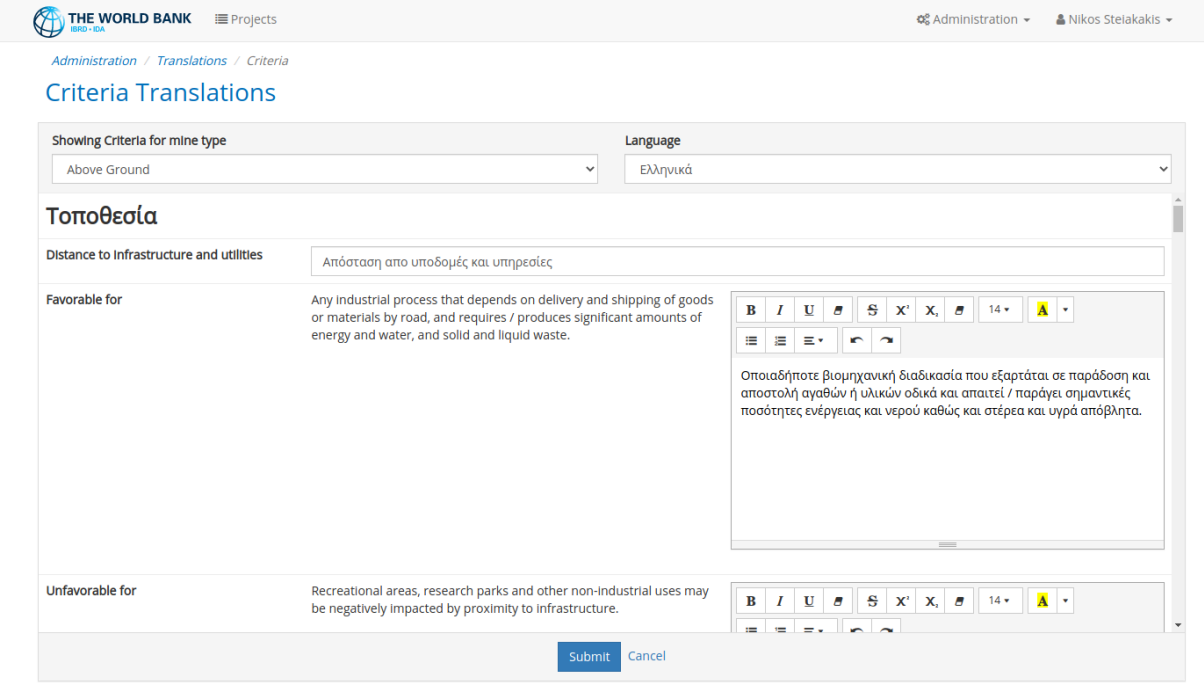


Figure 58: Translation form for each entity

User Preferences

Users can modify their password by selecting the "**Preferences**" option from the drop-down menu when clicking on their username at the top right-hand corner of the screen (Figure 59).

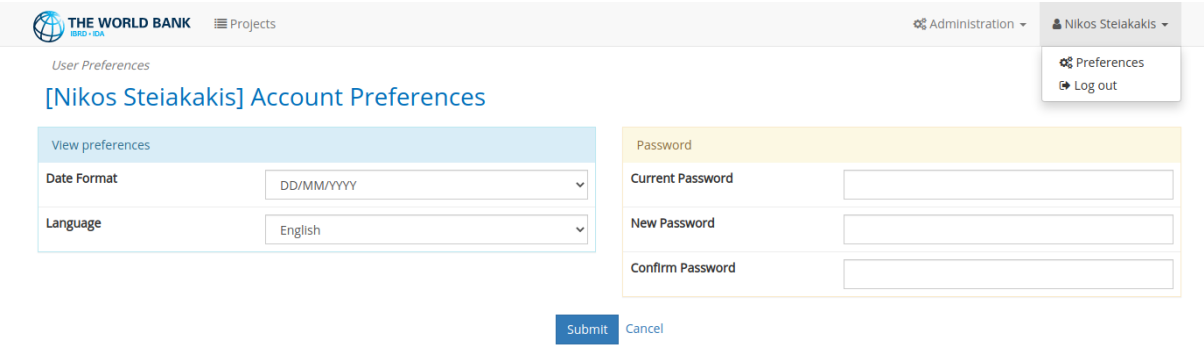


Figure 59: User preferences

On this page users can change their password if they want to. Furthermore, they are able to change the date format to be used on date displays in the application (dd/mm/yyyy or mm/dd/yyyy) as well as the language of choice for displaying descriptions and other text.

Users can choose only from the list of supported languages. English is assigned as the default language.