Directorate General NDRF & Civil Defence (Fire)

Ministry of Home Affairs

East Block 7, Level 7,

NEW DELHI, 110066

Fire Hazard and Risk Analysis in the Country for Revamping the Fire Services in the Country

Final Report - User/ Training Manual – Fire Decision Support System (FDSS)

November 2012

Submitted by

RMSI
A-8, Sector 16
Noida 201301, INDIA
Tel: +91-120-251-1102, 2101
Fax: +91-120-251-1109, 0963
www.rmsi.com

Contact: **Sushil Gupta**
General Manager, Risk Modeling and Insurance
Email: Sushil.Gupta@rmsi.com

RMSI
Delivering a world of solutions

Table of Contents

List of Figures

List of Tables

1 Overview

Fire service is one of the most important emergency response services. It is the 'first responder' to any kind of emergency. The growth of this emergency service in the country has been on an ad-hoc basis, without much scientific analysis of existing risks in different parts of the country. Now, varying risk scenarios need different kinds and types of equipment depending upon the risk category of the coverage area of the Fire Station. Lack of knowledge management for future planning, institutional capacity and funds are major challenges in addressing improvements in fire and emergency services in the country.

As per a recent analysis by the Standing Fire and Advisory Council (SFAC), the overall deficiency in the country is more than 80% in fire fighting and rescue vehicles and 95% in fire stations and fire personnel, respectively (NDMA Guideline, 2012, CR SFAC, 2011).

The Directorate of National Disaster Response and Civil Defence (NDRF&CD, Fire Cell), Ministry of Home Affairs (MHA) felt the need for a comprehensive study to identify existing gaps considering the above said deficiency, rapid pace of urbanization and industrialization in the country and the increasing fire risks from various hazards such as Fire Following an Earthquake (FFEQ).These gaps can be in terms of availability and requirement of fire stations, capacity-building, not only in terms of trained man-power but also vehicles, specialized equipment for fire-fighting and rescue. This comprehensive study aims to prepare a perspective plan for the next 10 years for revamping the fire services in the country.

The **Fire Decision Support System** (FDSS) has been developed mainly as a dynamic application, aimed at supporting decision makers take optimal decisions on complex tasks, such as resource prepositioning, gap analysis, prioritization, and resource optimization along with the day-to-day tasks. The most important aspect of FDSS is that it enables the apex fire management authority to provide the entire country's fire agencies information on a single platform.

1.1 About this Manual

The FDSS User Manual aims to assist users in using the system effectively.

There are six sections in the manual which are arranged as follows: Section 1 (Overview) provides an overview of FDSS. Section 2 (Getting Started) is devoted to take the user through the processes of logging into the system and logging out of it. Section 3 (Introducing the FDSS Interface) introduces the various displays and controls used in the User Interface. Section 4 (Viewing Hazard and Climatic Zones, and Fire Risk) takes the user through the basic steps of using FDSS to view the wind and seismic hazard zones, and the climatic zones at a country level, and for viewing the fire risk at a district level. The section also details steps for generating reports thereof. Section 5 describes all the layers in FDSS, namely, Hazard, Country, States and Union Territories, and Administrative Boundaries etc. These may actually be looked upon as an extension of the FDSS interface section (Section 3) where these layers are introduced summarily only. Section 6 deals with the User Management functions provided in FDSS and are primarily of use to system administrators.

Hence, Sections 2 to 4 and Section 6 pertain to assisting users with the various tasks they can perform through FDSS. These sections also serve as a reference to any queries related to using the displays and controls provided in the User Interface. The instructions in these sections are in the form of well defined and easy to follow steps. Section 5 forms the descriptive part of the manual, wherein all the layers in FDSS application are described to give users an idea of what each layer includes.

2 Getting Started

2.1 Logging into FDSS

Open the web browser[1] and type the URL in the address bar to launch the FDSS application as shown by the red highlighted box in Figure 2-1.The URL depends upon whether the application is accessed across the internet or installed locally. The FDSS administrator provides the URL for all new users.

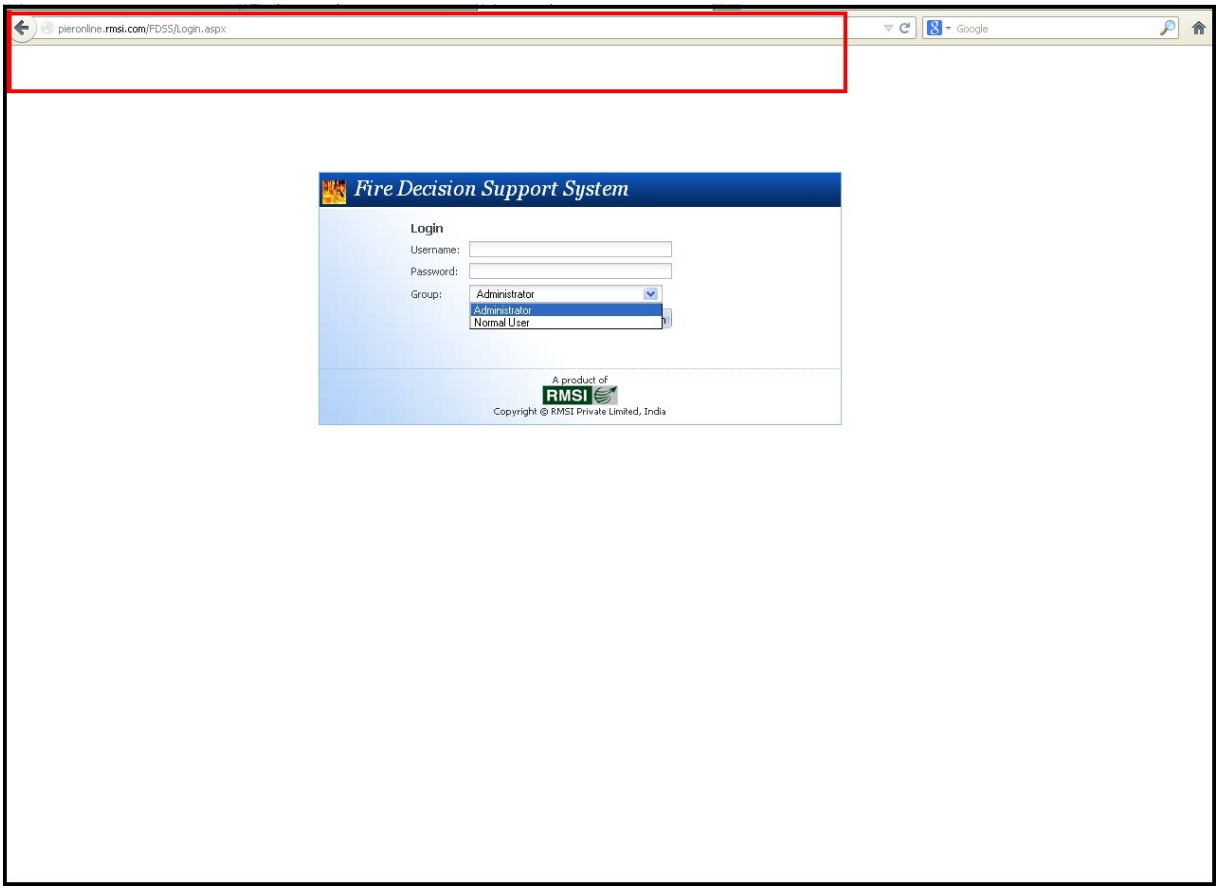


Figure 2-1 : Launching the FDSS application in web browser (Login Page)

The user is taken to the FDSS login page as shown in Figure 2-1. The login page has three fields namely, the Username textbox, the Password textbox and the Group dropdown list. FDSS has two user groups; Administrator and Normal User. The Group dropdown displays Administrator by default. The user can click the down arrow ▾ of the dropdown to reveal the list displaying the second user group option, namely Normal User.

[1] Firefox 3.0 or above is recommended, though, IE 7.0 or above is compatible

2.1.1 Normal User login

New users can only login to FDSS after the administrator has created user accounts giving unique user names and passwords. The user can then use these credentials and login to FDSS by following the steps described next.

Type user name in the Username textbox, the password in the Password textbox, provided by the administrator , and select the Normal User option from the Group dropdown.

Click the Login button. The application validates the user name and password provided. If these are correct, the user is taken to the FDSS home page as shown in Figure 2-2. The logged in user is identified by the user name at the top right of the screen as: You are logged in as: <user name>

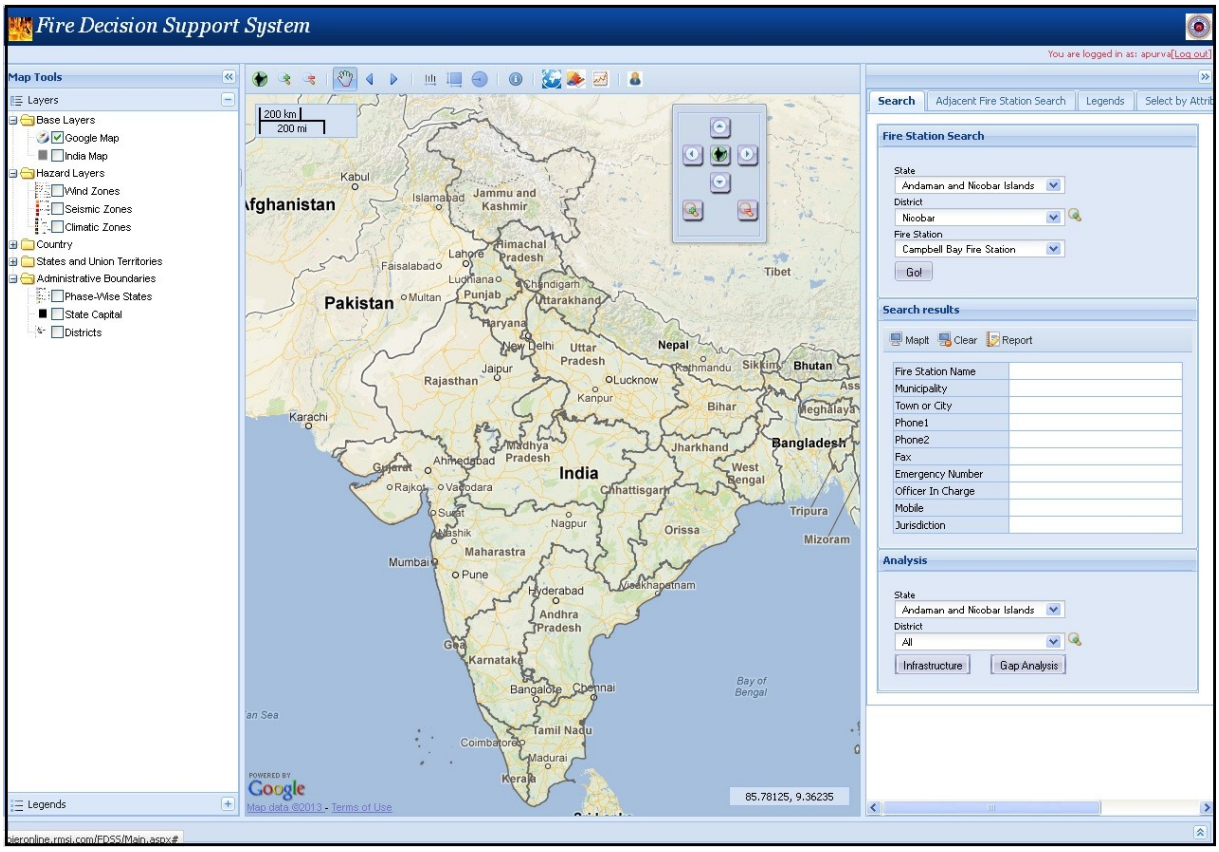


Figure 2-2: FDSS Home Page

2.1.2 Administrator Login

Type in the administrator user name in the Username textbox, the password in the Password textbox, and select the Administrator option from the Group dropdown. FDSS is shipped with a number of users already created, when the system is first installed or configured. The illustration in Figure 2-1 shows the user logging in as an administrative user.

Click the Login button. The application validates the user name and password provided. If these are correct, the user is taken to the FDSS main page as shown in Figure 2-2. The logged in user is identified by the user name at the top right of the screen as: You are logged in as: <user name>

2.1.3 Changing user-account information

A normal user cannot change the Username and Password. Only a user from the Administrator group can modify user account information. The user can continue to use the login information as configured by the administrator or request the administrator to change such account information. Please refer to Section 6 for more information.

2.1.4 Logging Out

To log out of the FDSS application, click on the [Log Out] link at the top right corner of the screen as shown in Figure 2-2.

3 Introducing the FDSS interface

The FDSS User Interface has seven parts as listed below:

1. Toolbar panel
2. Map window
3. Map Tools window
4. Search window
5. Analysis window
6. Results window
7. a) Scale bar
   b) Map Co-ordinates

When a user logs into a new FDSS session, results window pane is kept hidden. User can view it by clicking the expand icon in the bottom right corner of the page. All other windows are arranged in the User Interface as shown in Figure 3-1.

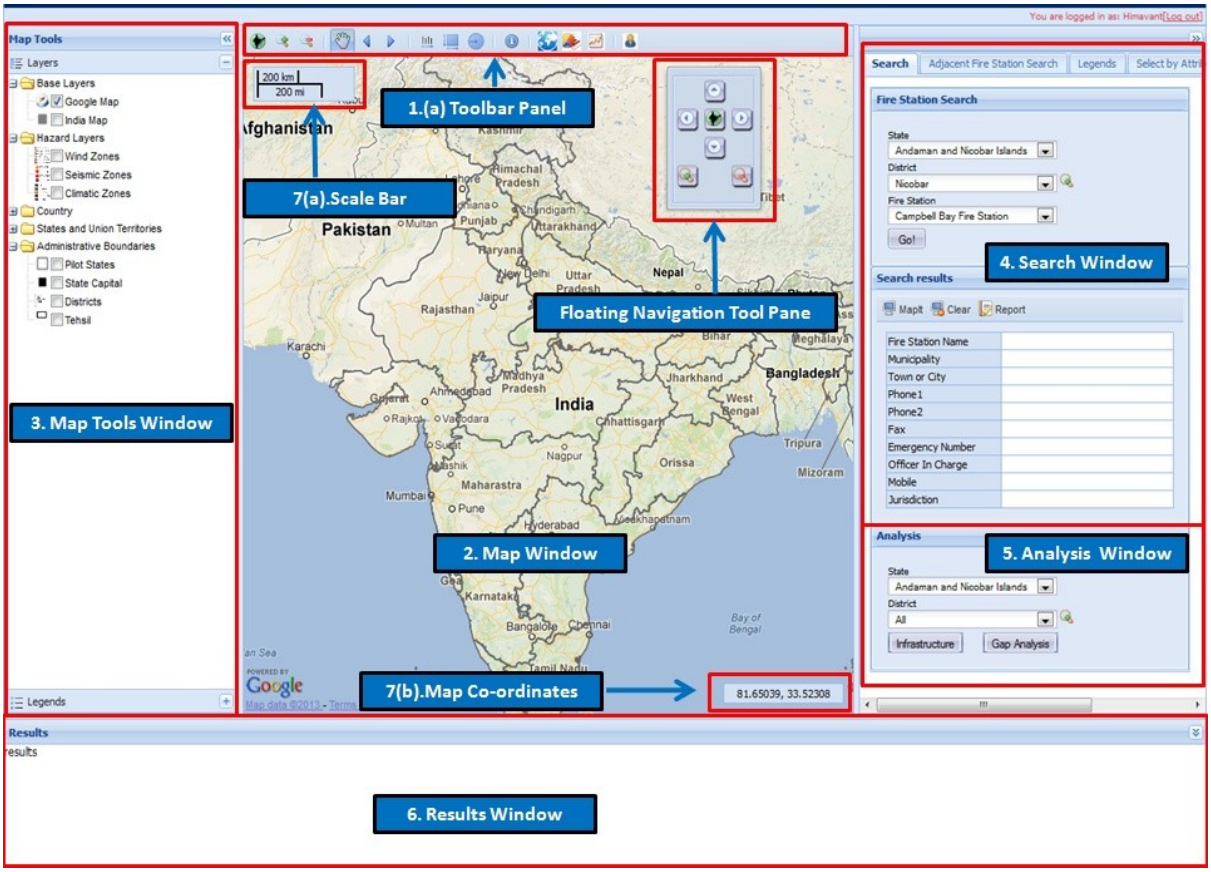


Figure 3-1: FDSS User Interface showing its main parts

3.1 Toolbar panel

The toolbar panel shown in Figure 3-2 contains a set of tools for working with maps and their content. These tools help in navigating the Map window (Section 3.2). The panel also includes tools to generate user defined maps, National Level Infrastructure report and National Level Gap report. The tool name and brief description is displayed when a user points mouse over a tool icon. These tools are summarily described in Table 3-1.

Figure 3-2: FDSS Toolbar panel

Table 3-1: Tools in FDSS Toolbar panel and their functions.

Tool Icon	Tool Name	Description
	Zoom to India	This tool displays the map of India in the Map window
	Zoom In	Zoom in to the map, increasing the scale and magnification. User can click the left mouse button to zoom or user can drag the mouse to create and zoom into a rectangular area.
	Zoom Out	Zoom out of the map. User can click the left mouse button to zoom out or user can drag the mouse to create and zoom out of a rectangular area.
	Pan Map	This tool helps in panning the Map for navigating to different locations. At start up, control rests with the Pan tool by default.
	Previous View	This tool takes the user to the previous view in the Map window.

Tool Icon	Tool Name	Description
	Next View	This tool takes the user to the next view in the Map window.
	Measure Distance	This tool helps in measuring distance on the map. User can mark the points and double click to measure the distance.
	Measure Area	This tool helps in measuring area on the map. User can mark the points and double click to measure the area.
	Measure by Circle	This tool helps in measuring the area of any region in a user defined circle. Marking the radius and double clicking calculates the area of the circular region.
	Identify a feature	This tool helps in displaying information related to a geographical location in the Map window and the selected layer in the Map Tools window. See Section 3.6 for usage of this tool.
	Generate Map	This tool generates map as specified by the user. This tool is described in Section 3.1.1 below.
	Fire Statistical Report	This tool generates Fire Statistical Report as specified by user. This tool is described in Section 3.1.2 below.

Tool Icon	Tool Name	Description
	National Infrastructure Report	This tool generates National level infrastructure report of India. This tool is described in Section 3.1.3 below.
	National Gap Report	This tool generates National level gap analysis report of India. This tool is described in Section 3.1.4 below.
	Help	This tool generate user manual for providing help to use FDSS. This tool is described in Section 3.1.4 below.
	User	This tool helps in basic user management tasks. This tool is described in Section 3.1.6 below.

3.1.1 Generate Maps tool

The Generate Maps tool  in the Toolbar panel is used to prepare thematic maps as defined by the user. To generate a map follow the steps mentioned below:

1. Click on the Generate Maps tool from the toolbar to display the Generate Maps window. A list of layers available in FDSS is displayed as shown in Figure 3-3. The Hazard and Administrative Boundaries layers are displayed in an expanded view by default. User can expand the Country, States, and Union Territories layers by clicking the expand icon  to the right of the layer name. See Section 3.3.1 for assistance with operating the tree structure.

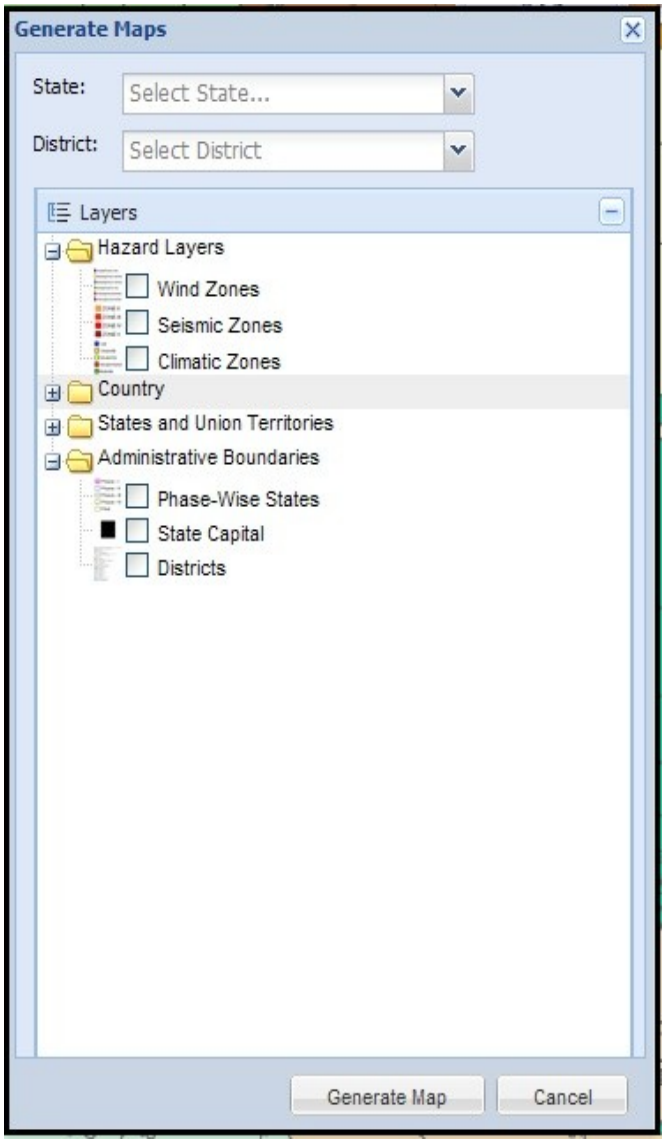


Figure 3-3: Generate Maps tool pop-up window displaying layers

2. Select state from the State dropdown by clicking the dropdown icon. User can either select a single state or the All option from the State dropdown to generate a map at country level. Similarly, user has to select a district from the District dropdown list when a particular state is selected. As an example, if the user wishes to generate a map of wind zones in Andhra Pradesh for all the districts then the user has to select Andhra Pradesh state from the State dropdown and the All option from the District dropdown and then click the checkbox corresponding to Wind Zones layer as shown in Figure 3-4. Finally, the user has to click the Generate Map button to view the final thematic map.

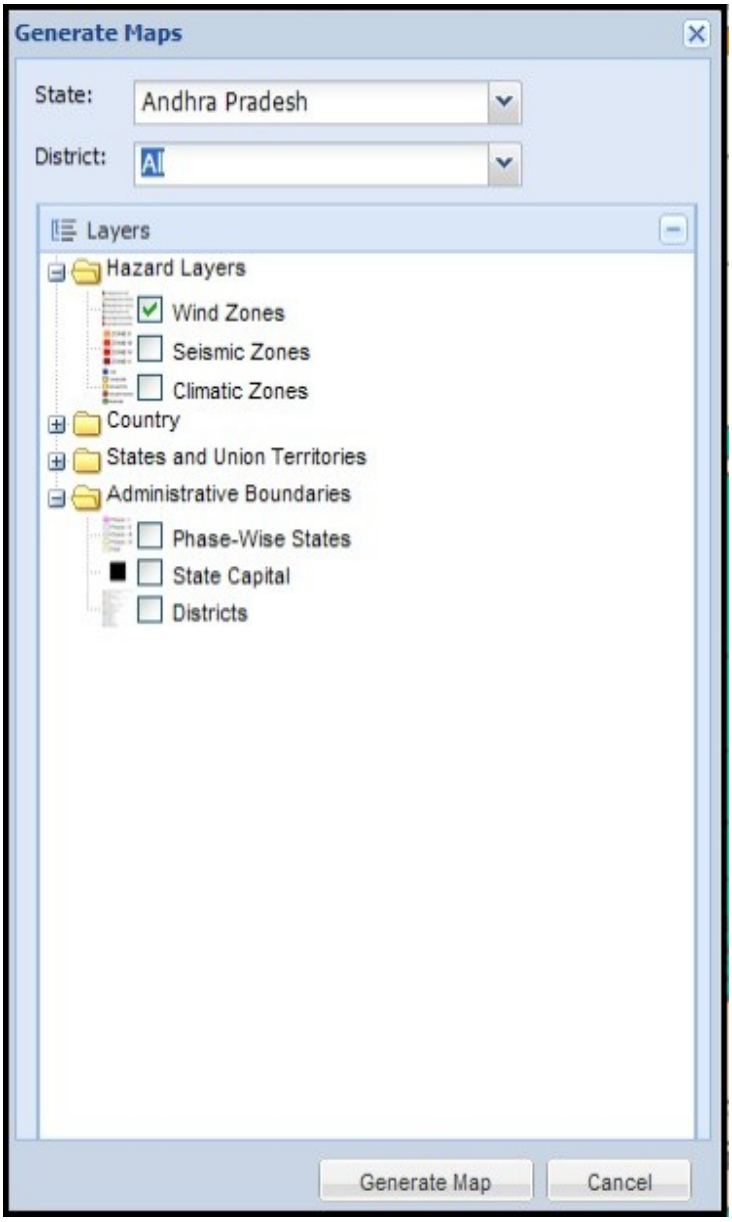


Figure 3-4: Selecting State, District and Layers in the Generate Maps tool

3. A map of checked layer(s) for the state and district specified is generated in a separate browser page. A sample map of wind zones in Andhra Pradesh state for All districts is shown in Figure 3-5.

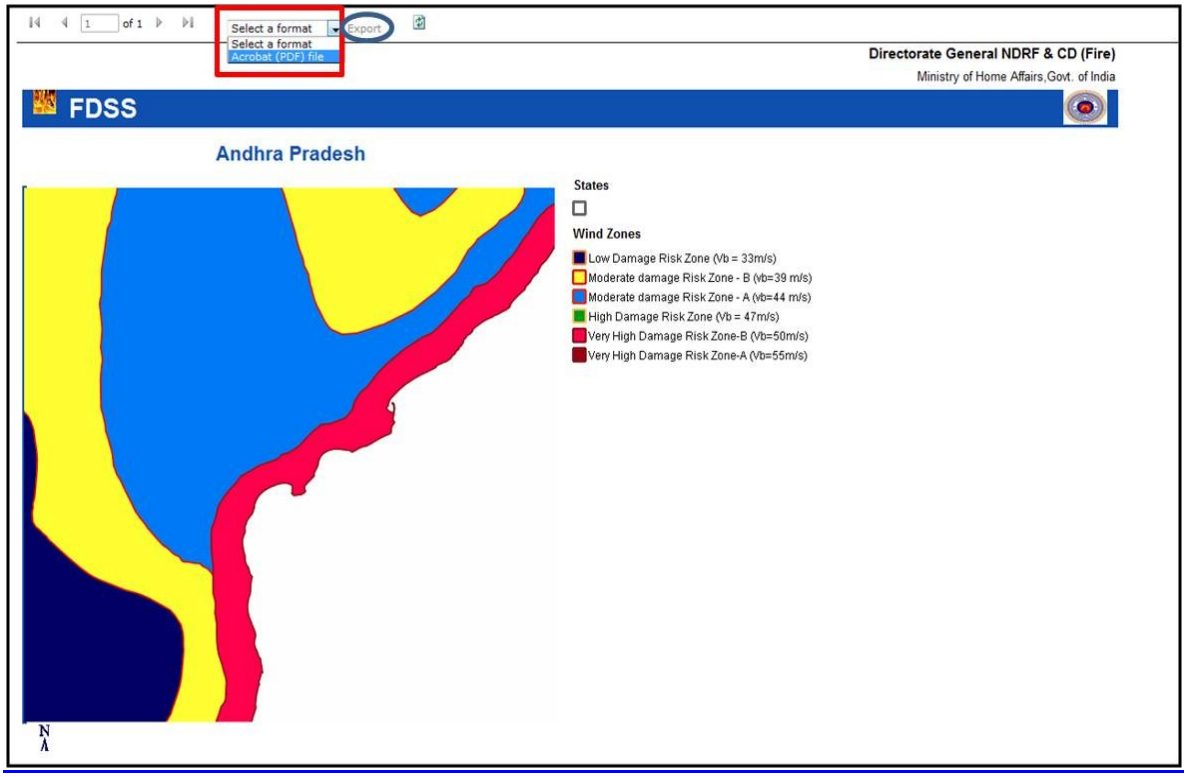


Figure 3-5: Sample output of Generate Map tool

3.1.1.1 Exporting and Printing a Generated Map or Report

As highlighted by the red box in Figure 3-5 , the user can save the generated map in Acrobat (PDF) file format by clicking the Export button as highlighted by the blue circle. In FDSS application, the user may find a number of instances where similar options for generating and exporting reports are provided. The following steps are useful in exporting and printing such maps and reports.

1. Select the Excel[2] or Acrobat (PDF) file type from the Export 

dropdown list at the top of the Report window as highlighted by the red box in Figure 3-5. Selecting any one of the options enables the Export button to the right of the dropdown list.

[2] Excel option will be available only in case of reports. For maps the available export option is Acrobat (PDF) only.

2. Click the Export button. This displays a new dialog box (Opening…) as shown in Figure 3-6.

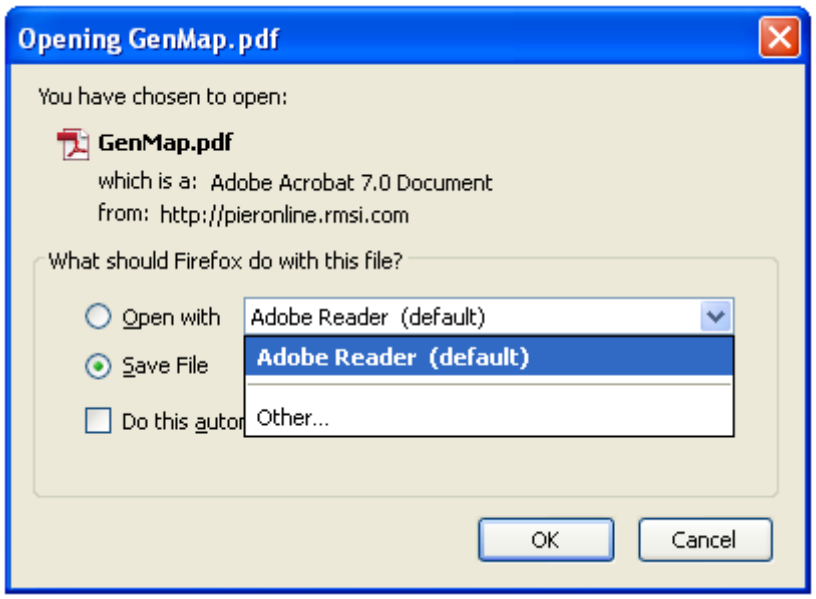


Figure 3-6: Opening or saving the generated report in Excel or PDF format

3. Select the Open with option button. By default, the Microsoft Office Excel (default) or Adobe Reader (PDF) option is selected in the file type dropdown list. See the footnotes[3] for more information.
4. Click the OK button to open the report as an Excel or PDF document.
5. Select the Save As or Save File option button. By default, the Microsoft Office Excel (default) or Adobe Reader (PDF) option is selected in the file type dropdown list. See the notes under this section for more information.
6. Click the OK button to save the report as an Excel or PDF document. The user can then use the Save and Print options to save and print the file as for other Windows based application files.

[3] The default value in the file type dropdown (Figure 3-6) list corresponds to the selection made by the user in Step 1 above.

The file type dropdown list for the Open with option (Figure 3-6) also has the “Other” option. Selecting this option displays the Choose Helper Application dialog box (Figure 3-7). A sample of this dialog box is shown below. The user can use this dialog box to select an appropriate application to open/save the report. HOWEVER, THE USE OF THIS OPTION IS NOT RECOMMENDED.

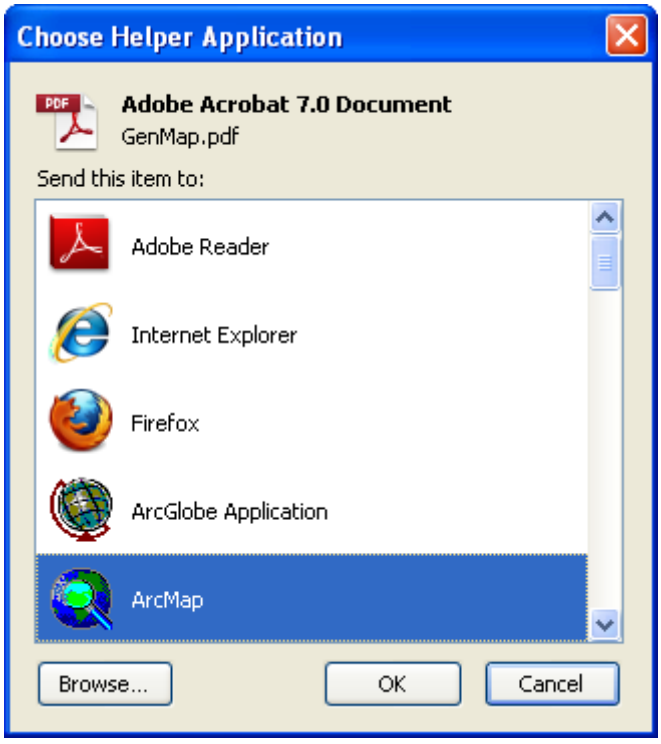


Figure 3-7: Choose Helper Application dialog box

3.1.2 Generate Fire Statistical Report

The Generate Fire Statistical Report tool  in the Toolbar panel is used to prepare Fire Statistical Report as defined by the user. To generate a Report follow the steps mentioned below:

1. Click on the Generate Fire Statistical Report tool from the toolbar to display the Generate Fire Statistical Report window. A list of layers available in FDSS is displayed as shown in Figure 3-8. The State, District, Month, and Year layers are displayed in a view by default.

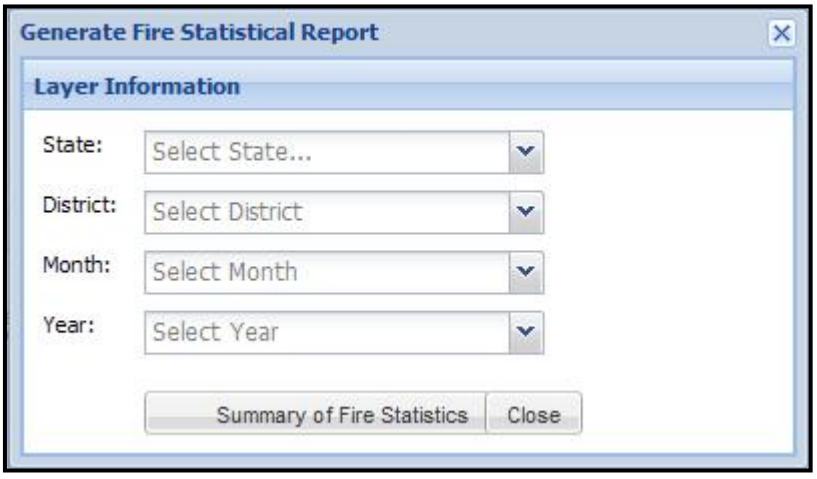


Figure 3-8: Generate Fire Statistical Report tool pop-up window displaying layer information

2. Select state from the State dropdown by clicking the dropdown icon. User can either select a single state or the All option from the State dropdown to generate a Fire Statistical Report at country level. Similarly, user has to select a district from the District dropdown list when a particular state is selected. As an example, if the user wishes to generate a Fire Statistical Report of Andhra Pradesh State for all the districts for all months of Year 2011 then the user has to select Andhra Pradesh from the State dropdown, the All option from the District dropdown, the All option from the Month dropdown, and selecting 2011 in Year dropdown as shown in Figure 3-9. Finally, the user has to click the Summary of Fire Statistics button to view the final Fire Statistical Report.

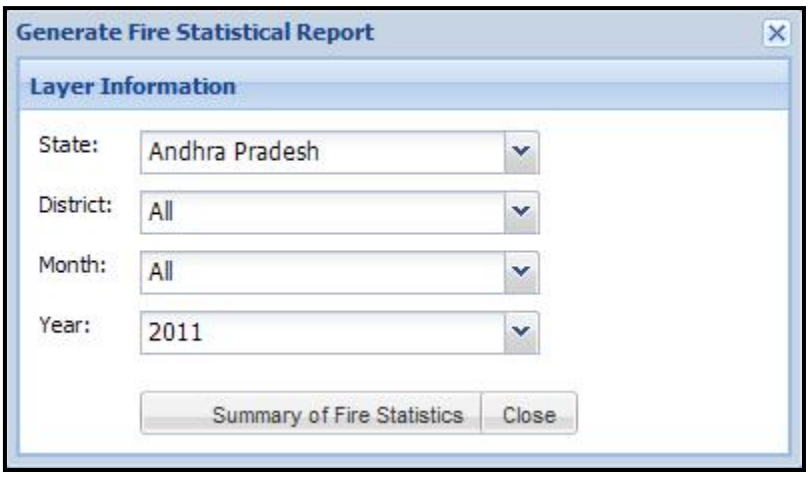
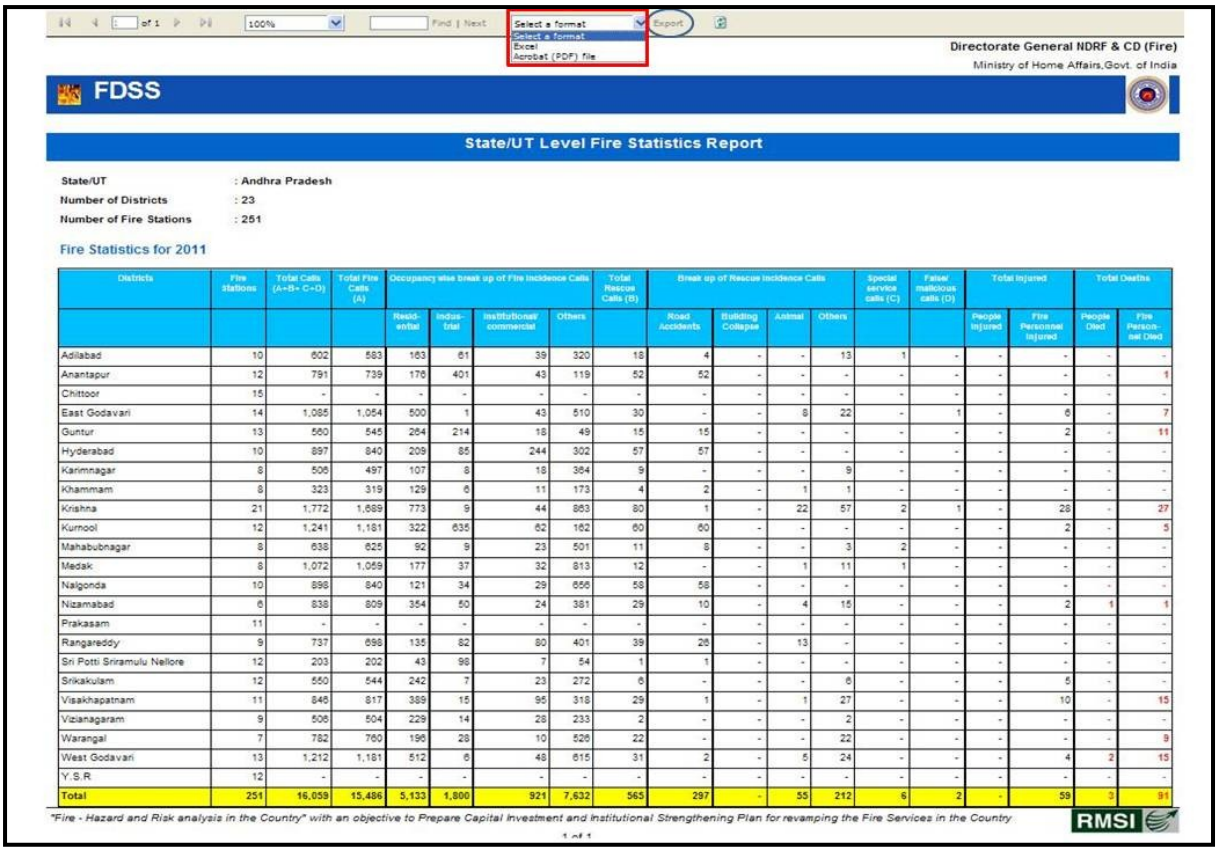


Figure 3-9: Selecting State, District, Month and Year in the Generate Fire Statistical Report tool

3. A Report of selected layer(s) for the state, district, month and specified year is generated in a separate browser page. A sample Report of Andhra Pradesh state for All districts for all months in Year 2011 is shown in Figure 3-10.



Districts	Fire Stations	Total Calls (A+B+ C+D)	Total Fire Calls (A)	Occupancy wise break up of Fire Incidence Calls				Total Rescue Calls (B)	Break up of Rescue Incidence Calls				Special service calls (C)	False/ malicious calls (D)	Total Injured		Total Deaths	
				Resid-ential	Indus-trial	Institutional/ commercial	Others		Road Accidents	Building Collapse	Animal	Others			People Injured	Fire Personnel Injured	People Died	Fire Person-nel Died
Adilabad	10	602	583	163	61	39	320	18	4	-	-	13	1	-	-	-	-	-
Anantapur	12	791	739	176	401	43	119	52	52	-	-	-	-	-	-	-	-	1
Chittoor	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East Godavari	14	1,085	1,054	500	1	43	510	30	-	-	8	22	-	1	-	6	-	7
Guntur	13	560	545	264	214	18	49	15	15	-	-	-	-	-	-	2	-	11
Hyderabad	10	897	840	209	85	244	302	57	57	-	-	-	-	-	-	-	-	-
Karimnagar	8	506	497	107	8	18	364	9	-	-	-	9	-	-	-	-	-	-
Khammam	8	323	319	129	6	11	173	4	2	-	1	1	-	-	-	-	-	-
Krishna	21	1,772	1,689	773	9	44	863	80	1	-	22	57	2	1	-	28	-	27
Kurnool	12	1,241	1,181	322	635	62	162	60	60	-	-	-	-	-	-	2	-	3
Mahabubnagar	8	638	625	92	9	23	501	11	8	-	-	3	2	-	-	-	-	-
Medak	8	1,072	1,059	177	37	32	813	12	-	-	1	11	1	-	-	-	-	-
Nalgonda	10	896	840	121	34	29	656	56	56	-	-	-	-	-	-	-	-	-
Nizamabad	6	838	809	354	50	24	381	29	10	-	4	15	-	-	-	2	1	1
Prakasam	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rangareddy	9	737	698	135	82	80	401	39	26	-	13	-	-	-	-	-	-	-
Sri Potti Sriramulu Nellore	12	203	202	43	98	7	54	1	1	-	-	-	-	-	-	-	-	-
Srikakulam	12	550	544	242	7	23	272	6	-	-	-	6	-	-	-	5	-	-
Visakhapatnam	11	846	817	389	15	95	318	29	1	-	1	27	-	-	-	10	-	15
Vizianagaram	9	506	504	229	14	28	233	2	-	-	-	2	-	-	-	-	-	-
Warangal	7	782	760	196	28	10	526	22	-	-	-	22	-	-	-	-	-	9
West Godavari	13	1,212	1,181	512	6	48	615	31	2	-	5	24	-	-	-	4	2	15
Y.S.R	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	251	16,059	15,486	5,133	1,800	921	7,632	565	297	-	55	212	6	2	-	58	3	91

Figure 3-10: Sample output of Generate Fire Statistical Report tool

3.1.2.1 Exporting a Generated Fire Statistical Report

As highlighted by the red box in Figure 3-10, the user can open or save the generated report in Acrobat (PDF) file format or Microsoft Excel file format by clicking the Export button as highlighted by the blue circle. In FDSS application, the user may find a number of instances where similar options for generating and exporting reports are provided. The following steps are useful in exporting such maps and reports.

1. Select the Excel or Acrobat (PDF) file type from the Export 

dropdown list at the top of the Report window as highlighted by the red box in Figure 3-10. Selecting any one of the options enables the Export button to the right of the dropdown list.
2. Click the Export button. This displays a new dialog box (Opening…) as shown in Figure 3-11 and Figure 3-12.
3. Select the Open or Save button as shown in Figure 3-11 and Figure 3-12 to open or save the Fire Statistical Report.

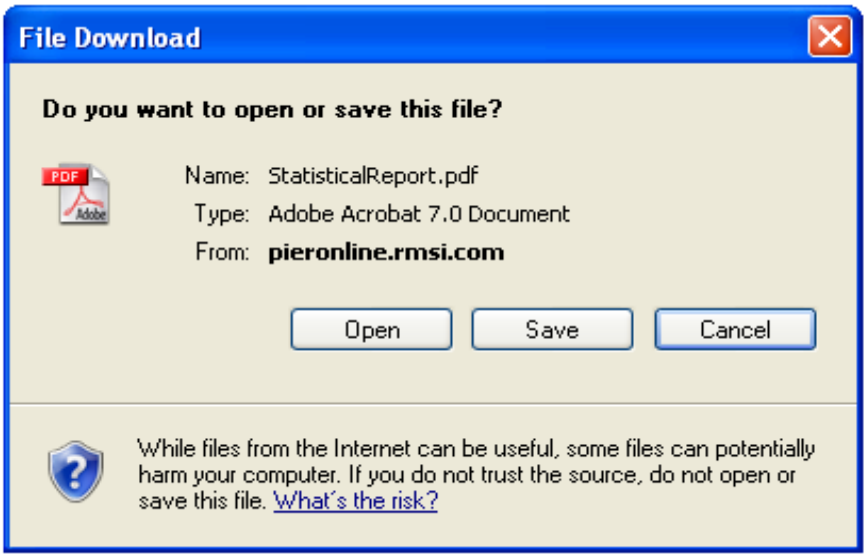


Figure 3-11: Opening or saving the generated report in PDF format

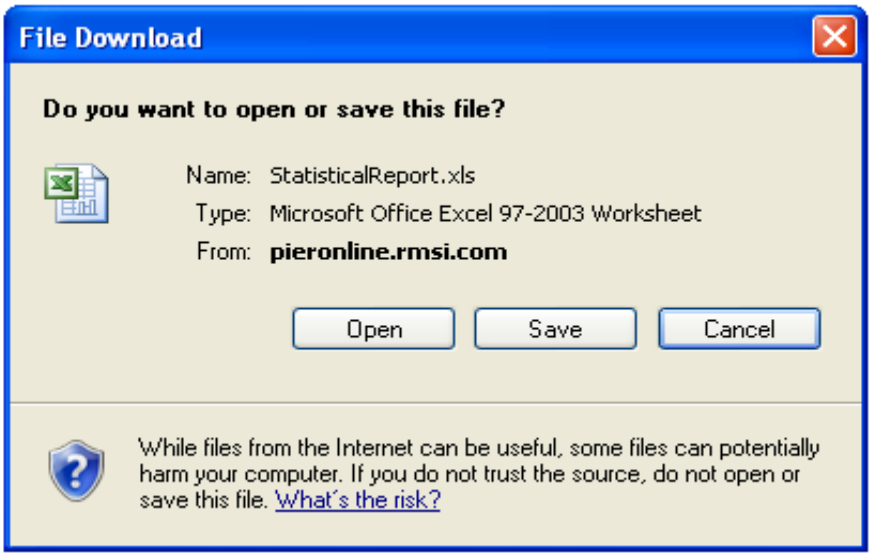


Figure 3-12: Opening or saving the generated report in Excel format

3.1.3 National Infrastructure Report tool

The National Infrastructure Report tool  in the toolbar generates an infrastructure report at the national level. The report opens in a separate browser page. The National Infrastructure Report is a comprehensive listing of details pertaining to all fire stations in India. The first page has demography statistics of India as shown in Figure 3-13. It is followed by state-wise infrastructure information of operational fire stations such as fire fighting and rescue vehicles, specialized equipment, available manpower by designation, and building infrastructure details.

The user can export the report in either Excel or Acrobat (PDF) file format as shown by the red highlighted box in Figure 3-13. See Section 3.1.1.1 for more detailed steps.

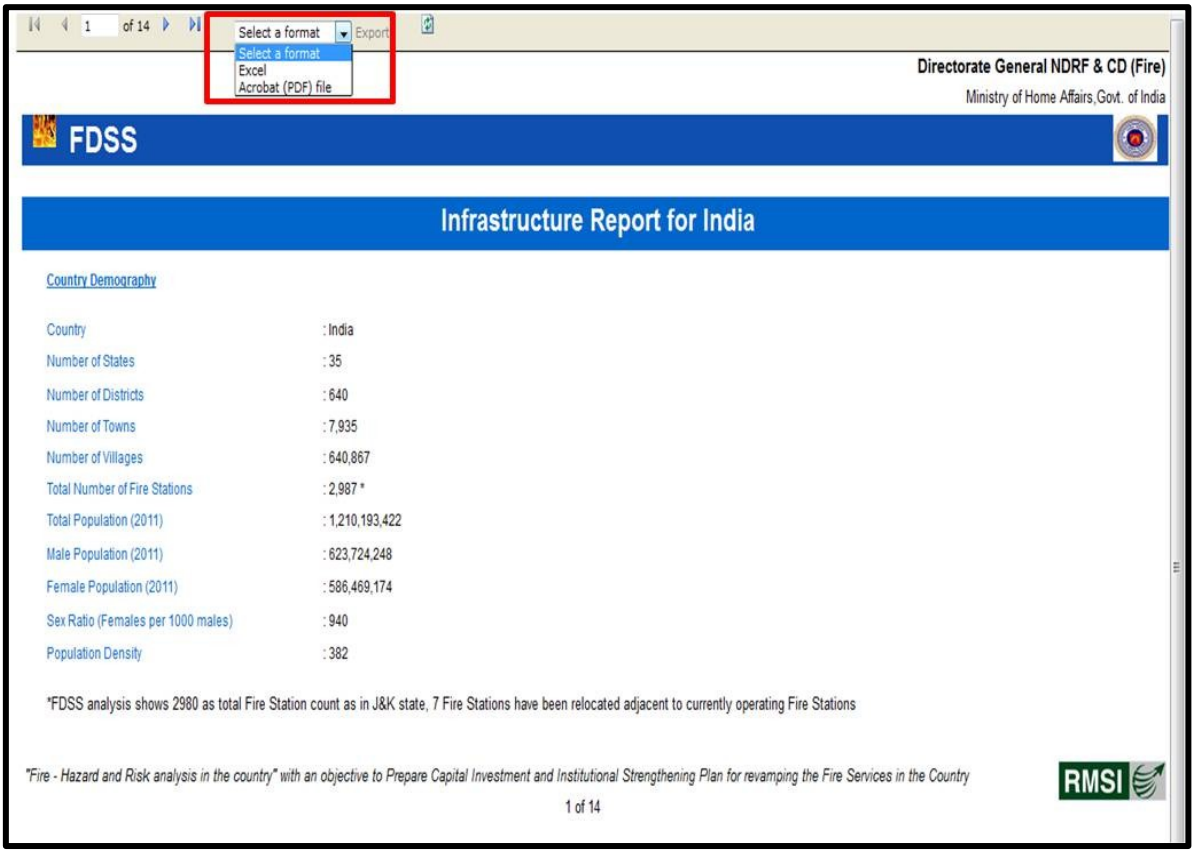
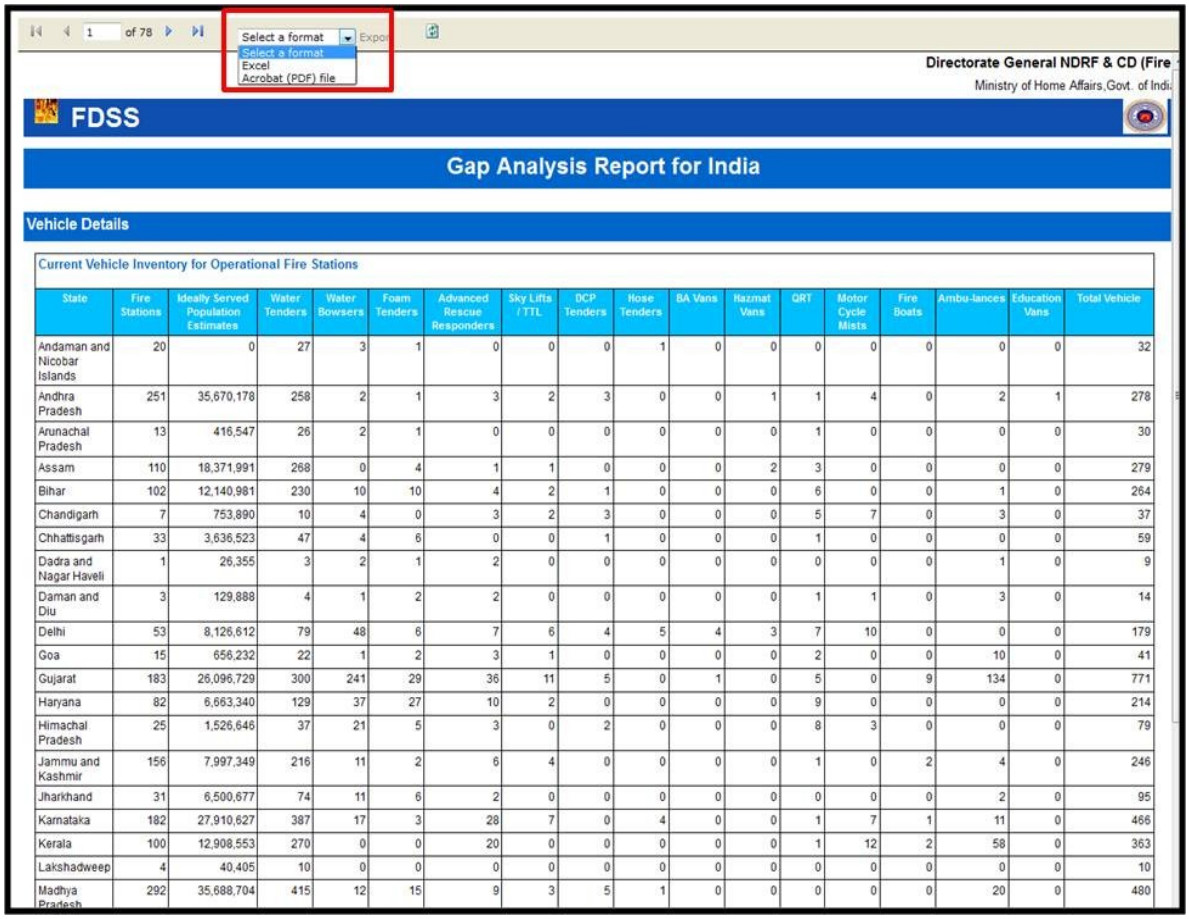


Figure 3-13: First page of National Infrastructure Report showing report export option.

3.1.4 National Gap Report tool

The National Gap Report  tool in the toolbar generates a Gap Analysis report at the national level. The report opens in a new browser page. The National Gap Report is an analytical summary of existing gaps in fire fighting and rescue vehicles, specialized equipment, trained manpower, and building infrastructure. The report contains a state-wise summation of gaps detailing additional requirement for operational, new urban, and new rural fire stations. The report also contains financial details for filling such gaps and a 10-year investment plan for entire India. A sample page of this report is shown in Figure 3-14.

User can export the report in either Excel or Acrobat (PDF) file format as indicated by red highlighted box in Figure 3-14. See Section 3.1.1.1(Exporting and Printing a Generated Map or Report) for help on exporting a report.



State	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Bowsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambu-lances	Education Vans	Total Vehicle
Andaman and Nicobar Islands	20	0	27	3	1	0	0	0	1	0	0	0	0	0	0	0	32
Andhra Pradesh	251	35,670,178	258	2	1	3	2	3	0	0	1	1	4	0	2	1	278
Arunachal Pradesh	13	416,547	26	2	1	0	0	0	0	0	0	1	0	0	0	0	30
Assam	110	18,371,991	268	0	4	1	1	0	0	0	2	3	0	0	0	0	279
Bihar	102	12,140,981	230	10	10	4	2	1	0	0	0	6	0	0	1	0	264
Chandigarh	7	753,890	10	4	0	3	2	3	0	0	0	5	7	0	3	0	37
Chhattisgarh	33	3,636,523	47	4	6	0	0	1	0	0	0	1	0	0	0	0	59
Dadra and Nagar Haveli	1	26,355	3	2	1	2	0	0	0	0	0	0	0	0	1	0	9
Daman and Diu	3	129,888	4	1	2	2	0	0	0	0	0	1	1	0	3	0	14
Delhi	53	8,126,612	79	48	6	7	6	4	5	4	3	7	10	0	0	0	179
Goa	15	656,232	22	1	2	3	1	0	0	0	0	2	0	0	10	0	41
Gujarat	183	26,096,729	300	241	29	36	11	5	0	1	0	5	0	9	134	0	771
Haryana	82	6,663,340	129	37	27	10	2	0	0	0	0	9	0	0	0	0	214
Himachal Pradesh	25	1,526,646	37	21	5	3	0	2	0	0	0	8	3	0	0	0	79
Jammu and Kashmir	156	7,997,349	216	11	2	6	4	0	0	0	0	1	0	2	4	0	246
Jharkhand	31	6,500,677	74	11	6	2	0	0	0	0	0	0	0	0	2	0	95
Karnataka	182	27,910,627	387	17	3	28	7	0	4	0	0	1	7	1	11	0	466
Kerala	100	12,908,553	270	0	0	20	0	0	0	0	0	1	12	2	58	0	363
Lakshadweep	4	40,405	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Madhya Pradesh	292	35,688,704	415	12	15	9	3	5	1	0	0	0	0	0	20	0	480

Figure 3-14: First page of National Gap Report showing report export option

3.1.5 Help tool

The help tool in the toolbar panel generates User Manual of FDSS. The user manual contains the detailed information of FDSS to provide technical support to beginner as well as advanced level FDSS user.

3.1.6 User Management tool

The User Management tool in the Toolbar panel is only enabled when a user from Administrator group logs into the FDSS application. This tool provides an interface to the administrator to view, add, and remove users from the application. This tool also allows the administrator to change the password and the group of users from administrator to normal user or vice versa. Please refer to Section 6 where these steps are explained in detail.

3.1.7 Floating Navigation tool pane

The Floating Navigation tool pane as shown in Figure 3-15 helps the user to navigate through the map currently displayed in the Map window. Table 3-2 illustrates various buttons in this tool pane and their functions.

Figure 3-15: Floating Navigation toolbar

Table 3-2: Various tools and their functions in Floating Navigation tool pane

Tool icon	Tool name	Description
	Pan North	This tool pans the map in north direction. The map is navigated up when the user clicks on the tool.
	Pan West	This tool pans the map in west direction. The map is navigated to left when the user clicks on the tool.
	Pan South	This tool pans the map in south direction. The map navigates down when user clicks on the tool.
	Pan East	This tool pans the map in east direction. The map navigates to right when user clicks on the tool.
	Zoom to India	This tool zooms in the Map window to extent of India.
	Zoom In	Zooms in to the map. The map zooms in when the user clicks on the tool

Tool icon	Tool name	Description
	Zoom Out	Zooms out of the map. The map zooms out when the user clicks on the tool.

3.2 Map window

The Map window (Figure 3-1) displays all the layers which are turned on by the user in the Map Tools window (Section 3.3). User has to check the appropriate layer in Map Tools to turn on a layer. By default, the Map window displays a Google Map layer when the user starts a session. Please refer to section 3.3.2.1 for more information on base layers which are displayed by default.

The user can navigate the Map window using simple functions mentioned in Section 3.1 (Toolbar panel) and Section 3.1.7 (Floating Navigation tool pane).

3.3 Map Tools window

The Map Tools window is displayed on the left side of the FDSS home page and it is divided into 2 parts - Layers and Legends. See Figure 3-16(Map Tools window highlighted by red rectangle).

Layers: The Layers section displays the various layers (displayed or capable of being displayed in the Map window) in a tree structure. Details of various layers in Map Tools window are given in Section 3.3.2.

Legends: Legend is a key to all the colors and symbols used in a map. The legends section describes how the user can understand the meaning of what the map colors and symbols represent. Details of the Legends are shown in Section 3.3.3.

The Map tools window is arranged in to tabs which are further divided in to directories. This type of arrangement is known as tree structure and the view is referred to as tree view. These terms are used throughout the manual. The following section helps the user in understanding how the layers and sub layers are arranged and how the user may navigate through them.

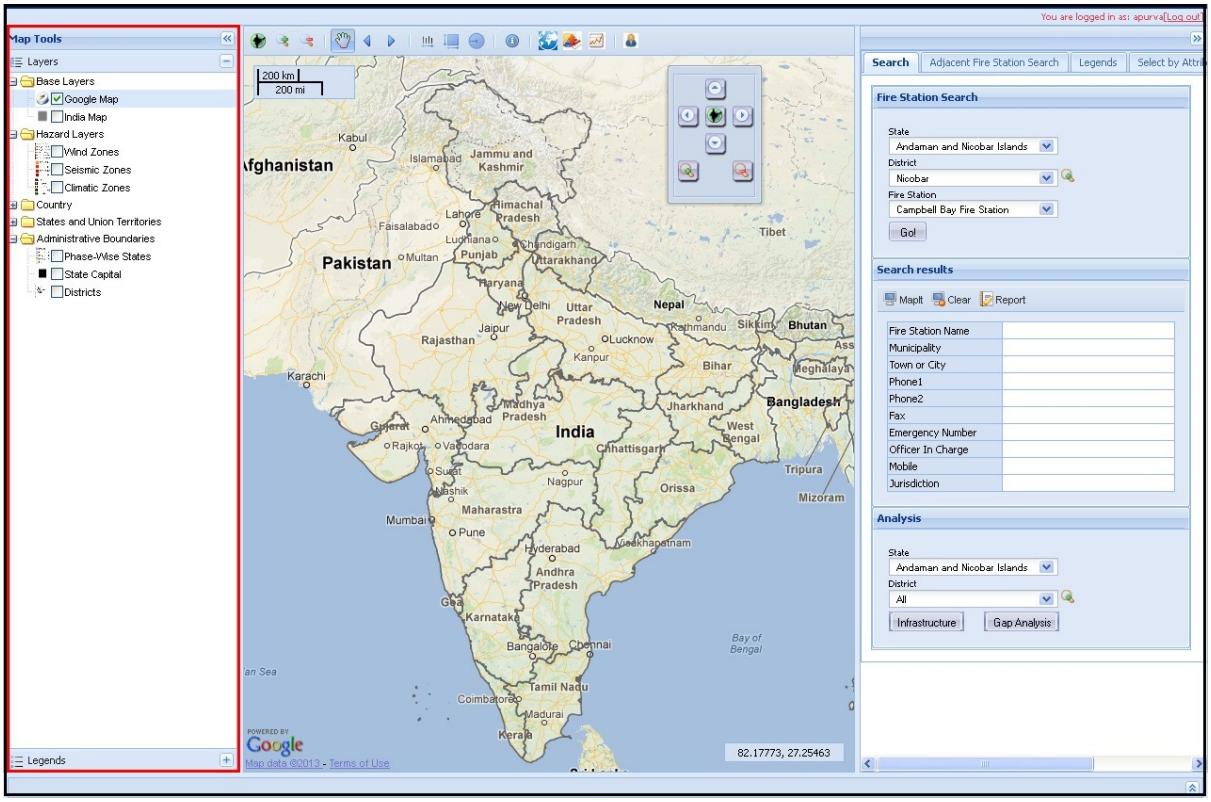


Figure 3-16: Map Tools window with layers and legends

3.3.1 How to navigate the tree view

1. Click the – sign ( ) to the left of the directory symbol of a layer to collapse the tree view or click the + sign ( ) to the left of the directory symbol of a layer to expand the tree view, as required.
2. In the expanded tree view, each layer has a number of checkboxes and or more + signs ( ) or – signs ( ). An example of this is shown in the Figure 3-17 below. Click these signs to expand or collapse the tree view as relevant.

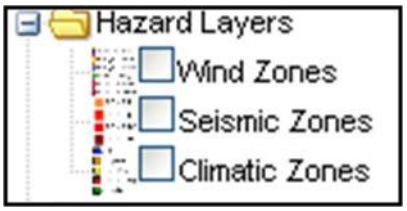


Figure 3-17: Navigating the tree view

3. To display any particular layer from the tree view, select the checkbox by clicking on it. The selected layer will be displayed in the Map window.

3.3.2 Layers

There are five group of Layers in FDSS application, namely the Base Layers, the Hazard Layers, Country layers, State and Union Territories layers, and the Administrative Boundaries layers. Since the FDSS user is likely to use all five layers simultaneously, it is important to understand what these layers constitute of and how they are related to each other.

By default (when the application first opens), the Map Tools window displays a part of the tree structure as shown in Figure 3-18. Various layers in Map Tools window are described summarily in the following sub sections.

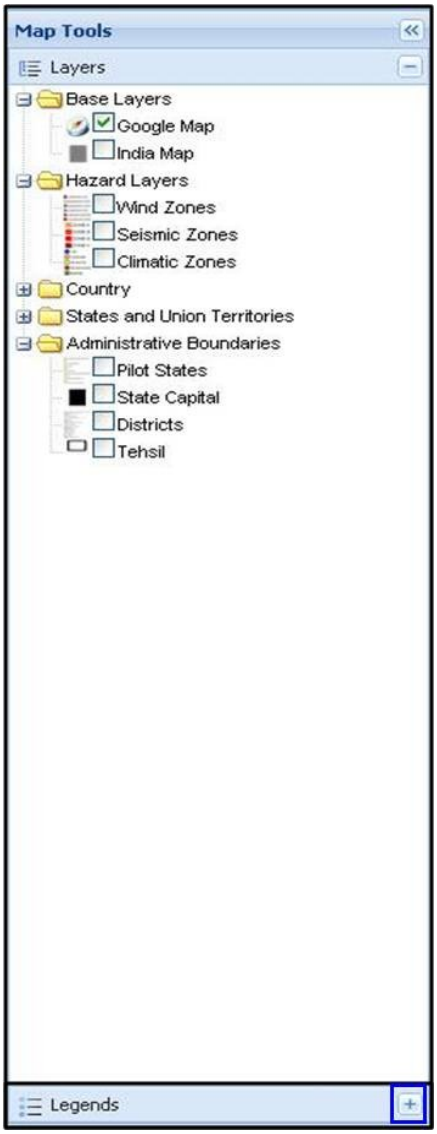


Figure 3-18: Default tree view of layers in Map Tools window

3.3.2.1 Base Layers

The Base Layers section has two options, namely, Google Map and India Map with their respective checkboxes. The Base Layers behave differently, depending on whether the user is connected to the internet or not (that is when working on an intranet connection).

3.3.2.1.1 Base Layers When Connected to Internet

When the user is connected to the internet, both the checkboxes are displayed. The user can use one of two options given below:

1. Select the Google Map checkbox to display the google map in the Map window as shown in the Figure 3-19.

Figure 3-19: Base Layers when connected to internet

2. The display in the Map window corresponding to selecting the Google Map checkbox is shown in Figure 3-20.

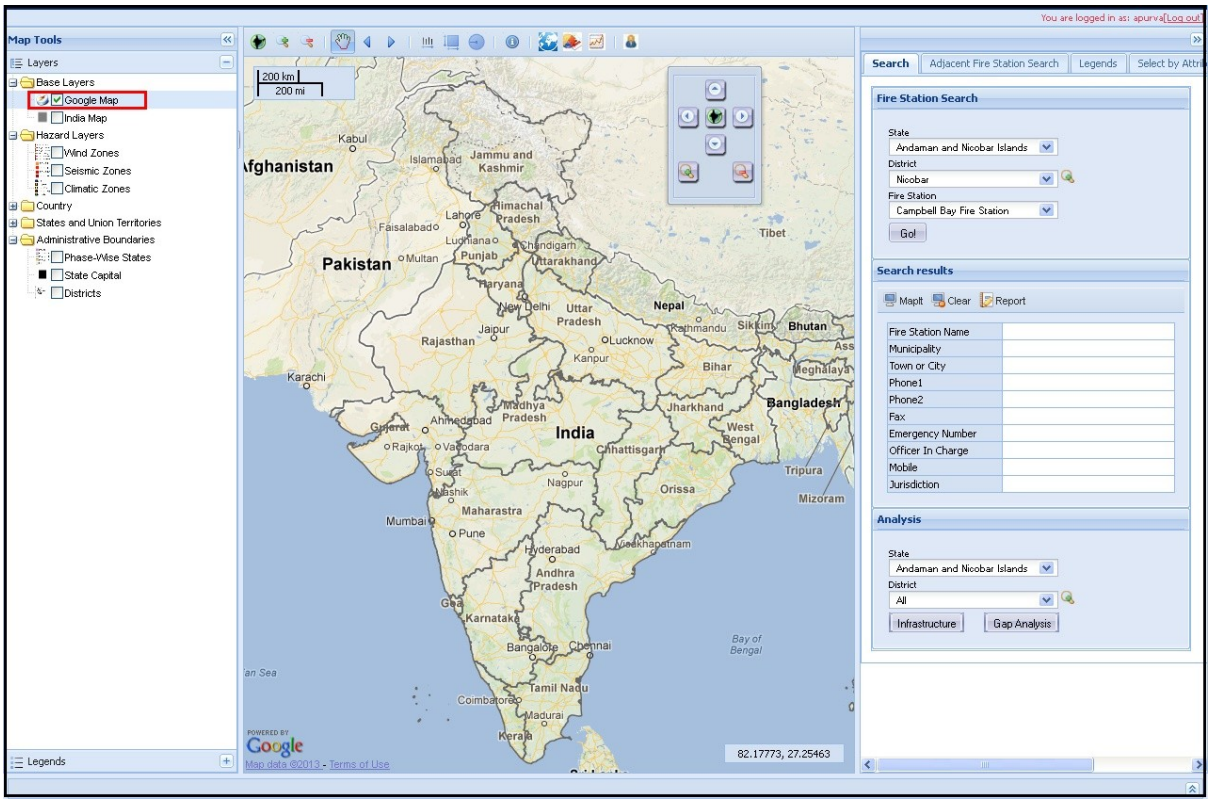


Figure 3-20: FDSS - Google (Satellite) Map

3. Alternatively, user can select the India Map checkbox to display the India map in the Map window. This is same as the default view of Map window when the user is not connected to internet as described in the next sub section.

3.3.2.1.2 Base Layers when not connected to internet

When the user is not connected to the internet (is working across a local intranet) only the India Map checkbox is displayed as shown in the illustration below. By default, the India Map checkbox is selected. The user can only use the following option given below:

1. Deselect/select the India Map checkbox to hide/display the India map in the Map window as shown in Figure 3-21.

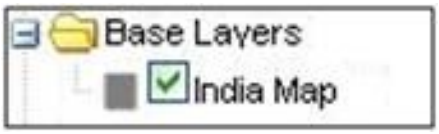


Figure 3-21: Base Layers when not connected to internet

2. The display in the Map window corresponding to selecting the India Map checkbox is shown in Figure 3-22.

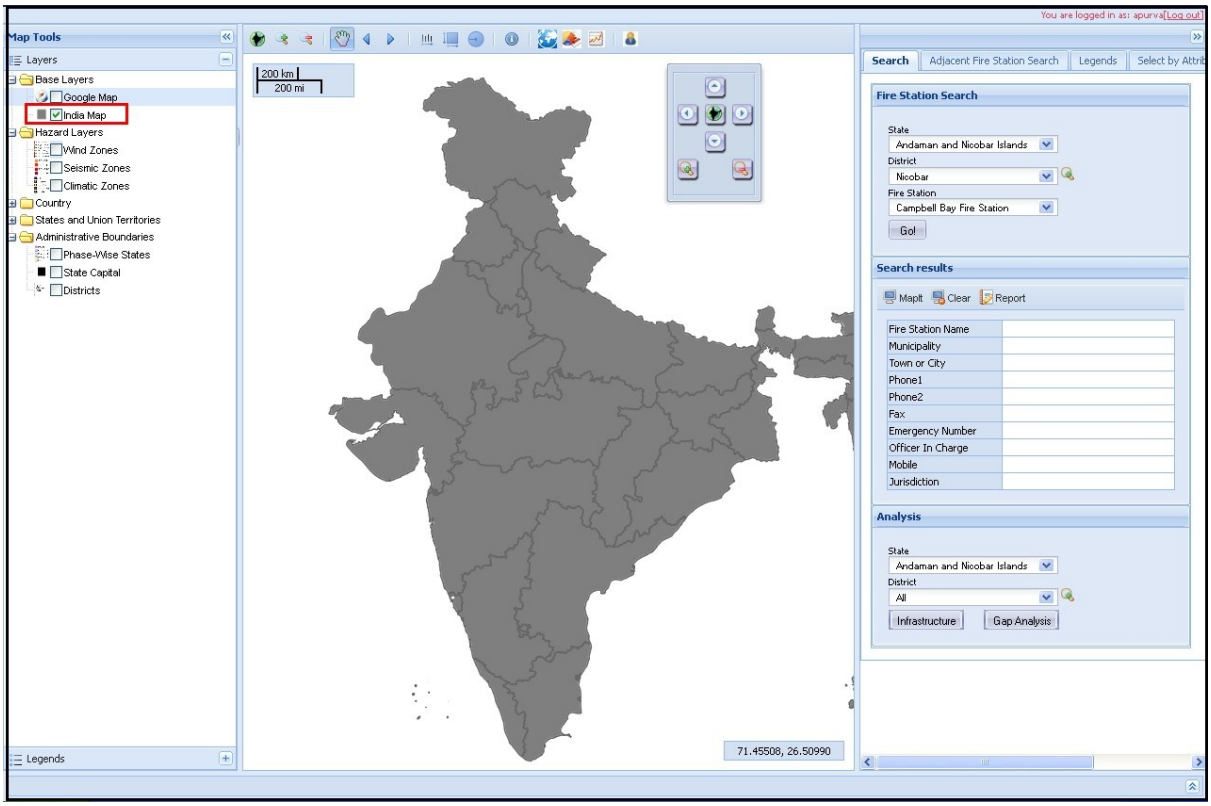


Figure 3-22: FDSS- India Map

3.3.2.2 Hazard Layers

The Hazard Layers include Wind Zones, Seismic Zones and Climatic Zones. The layers show hazards in terms of their geographical spread, their intensities, and other hazard-related parameters involved. The expanded tree view of the Hazard Layers illustrates the complete menu and is shown in Figure 3-23.

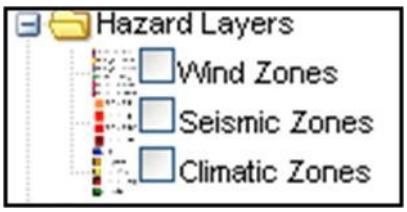


Figure 3-23: Fully expanded tree view of Hazard layers

The Hazard Layers, when viewed independently, present the hazards at a country-level (India-level). While these may prove invaluable in getting an overview of the hazards, the Fire DSS user is often more concerned about location-specific hazards. This layer allows the user to drill down to specific locations and view the hazards specific to the selected location.

Details of each data layer under the hazard layers are elaborated in Section 5.1.

3.3.2.3 Country layer

There are five layers grouped in the Country layer, namely Fire Stations in India, Operational Fire Stations, Proposed Fire Stations, Other agency fire stations Area and District Fire Risk Category. The expanded tree view of the Country layer section illustrates the complete menu and is shown in Figure 3-24. For More information on Country layers, see Section 5.2.

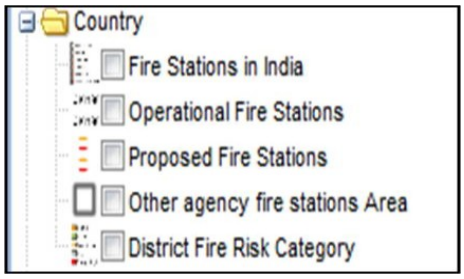


Figure 3-24: Fully expanded tree view of Country layer

3.3.2.4 States and Union Territories layer

The States and Union Territories layer includes thirty five layers, each devoted to a single state or union territory. Under each State or Union Territory layer, there are several sub layers, namely, Major Roads, Minor Roads, Rail Network, Land Use Land Cover, Built up Area and Ideal urban fire station jurisdiction.

The expanded tree view of the States and Union Territories layer illustrates the complete menu and is shown in Figure 3-25.

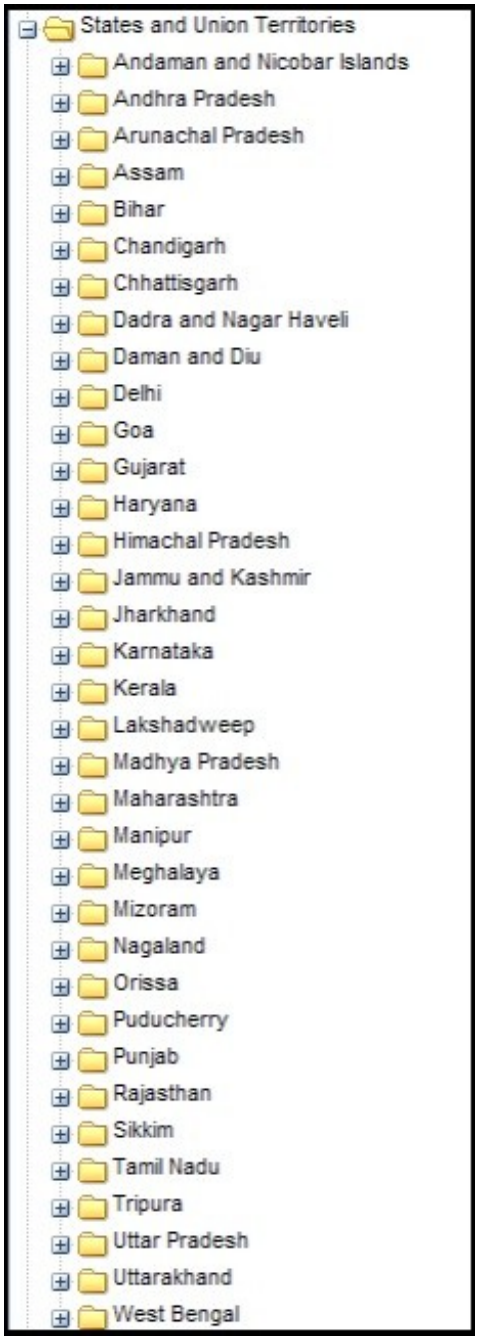


Figure 3-25: Expanded tree view of States and Union Territories

.

For more information on the States and Union Territories layer see Section 5.3.

3.3.2.5 Administrative Boundaries layer

The Administrative Boundaries layer includes, Phase-Wise States, State Capital and Districts layer. The expanded tree view of the Administrative Boundaries layer illustrates the complete menu and is shown in Figure 3-26.

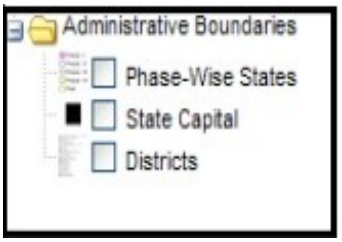


Figure 3-26: Expanded tree view of the Administrative Boundaries layer

For more information on the Administrative Boundaries layer see Section 5.4.

3.3.3 Legends overview

The map displayed in Map window displays information using symbols. These symbols can be figures, shapes, lines and colors that represent quantity / type/ classification present in the attribute database of a feature (GIS data) that is being presented in the window. Therefore, the map's legend tells the user what these symbols mean. This enables the user to interpret the map displayed and draw inferences.

Each layer in FDSS application is essentially a map. Therefore, each layer has its own unique legend. In the FDSS User Interface, user has the provision to view legend of the same layer in three ways.

a. Legend of a specific layer is displayed when the user points[4] the hand pointer over that layer.
b. Legend of the same layer is also displayed in Search window (Section 3.4) under the Legends tab. This display is dynamic in nature and is triggered when a user checks a layer. This functionality is described in detail in Section 3.4.3.
c. Legend of the same layer can also be viewed in Map Tools window as described under.

The Legends tab is hidden by default when a user logs into an FDSS session (See Figure 3-18). User has to expand the tab by clicking on expand icon (highlighted by blue box in

[4] Pointing the mouse is also called Hover or Rollover. User has to only "point" the mouse over the layer. Clicking on the layer does not display any legend.

Figure 3-18). When the tab is expanded, user can see a master list [5]of legends arranged in the order of their occurrence in Layers tab (described in Section 3.3.2).

Figure 3-27 illustrates a sample legend view in the Map tools window when the user expands the legend tab and scrolls the seeker bar (highlighted in red box) down to view the legends.

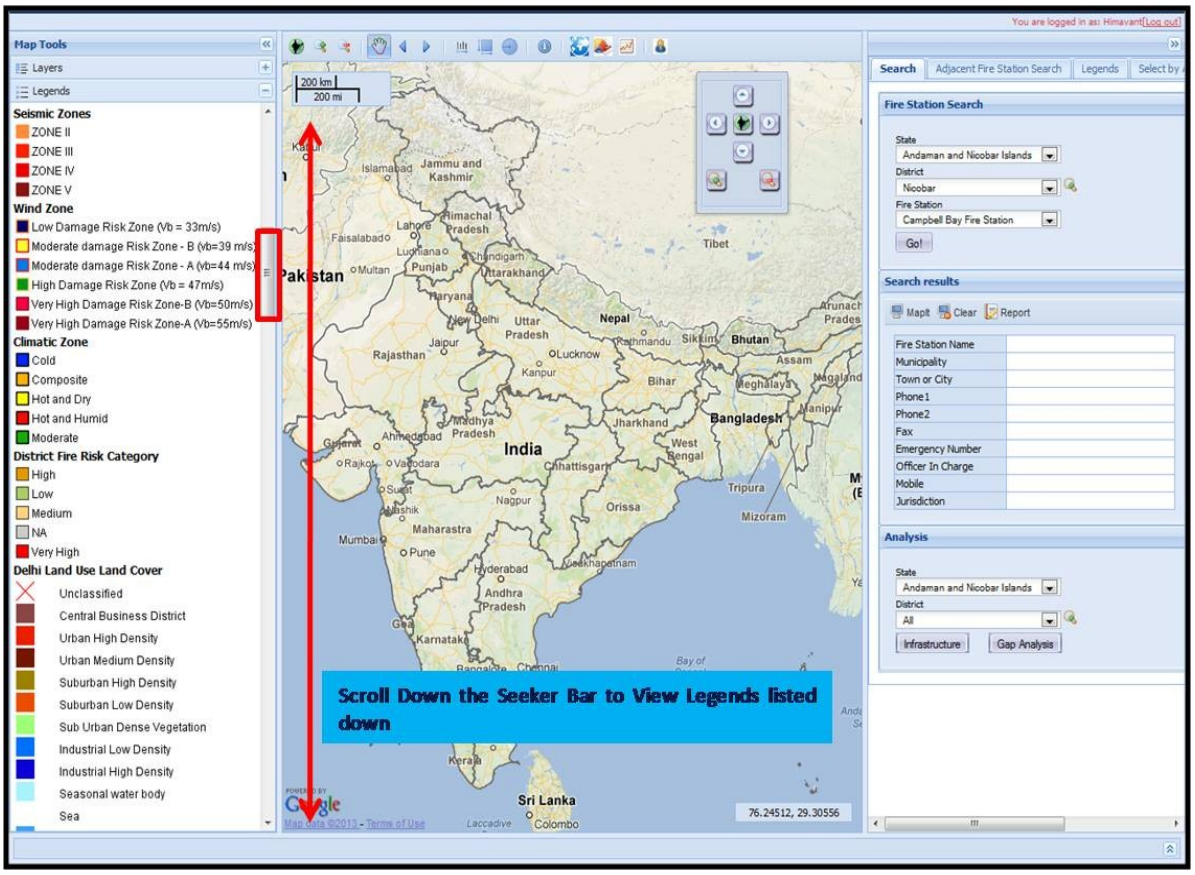


Figure 3-27: Expanded Legends tab in Map Tools window showing Seeker bar

3.4 Search window

The Search window appears on the right side of the FDSS homepage. There are five search options arranged in tabs in this window. They are listed as under:

1. Search
2. Adjacent Fire Station Search
3. Legends
4. Select by Attributes
5. Select by Location

[5] The legend of all the layers are listed in the Legends tab. There is no group wise arrangement. User has to scroll down to the legend of the appropriate layer in the list to view the legend.

These search options are illustrated in Figure 3-28. User can move the seeker bar provided at the bottom of the window in order to view relevant tab.

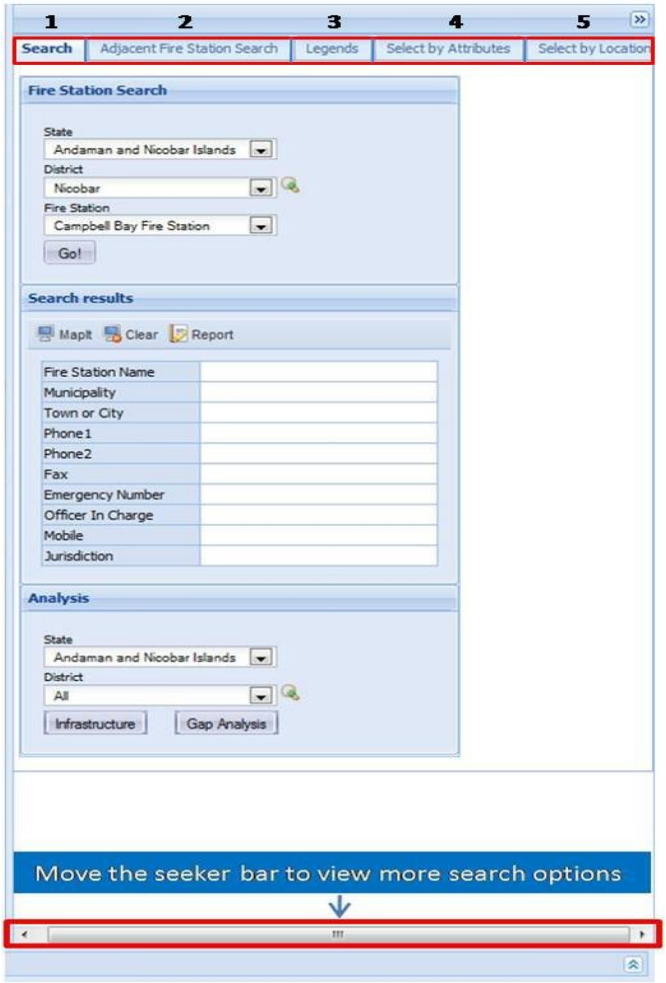


Figure 3-28: Search window displaying search options

3.4.1 Search

This is the first tab in the Search window (Figure 3-28). The main functionality of the Search option is to search for a particular fire station in India by district as specified by the user. Besides that, the Fire Station Search as shown in Figure 3-29, allows users to carry out the following functions:

- Select a State or Union Territory
- Select a district from the State or UT selected above
- Zoom to the selected district in Map window
- Select a particular fire station from the district selected above
- Map the selected fire station in the Map window
- Generate a report for the selected fire station

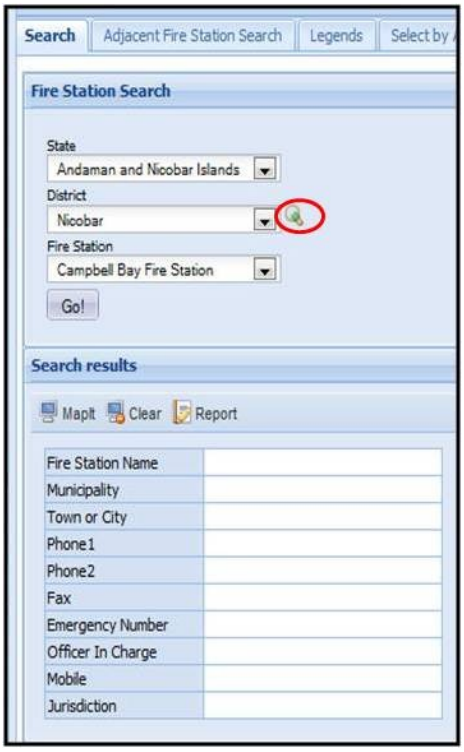


Figure 3-29: Fire Station Search functionality

3.4.1.1 Zoom into a selected district within a state

This functionality allows the user to zoom into any district within the state by following the steps mentioned below:

1. Select the state name from the State dropdown box. This will display the names of all the districts within that state in the District dropdown box.
2. Select the district of choice within the state from the District dropdown box.
3. Click the  button highlighted by a red circle in Figure 3-29. This tool zooms to the selected district and displays it in the Map window.

Figure 3-30 shows the result of a search made for the Central Delhi district within the Delhi state and the resultant view in the Map window.

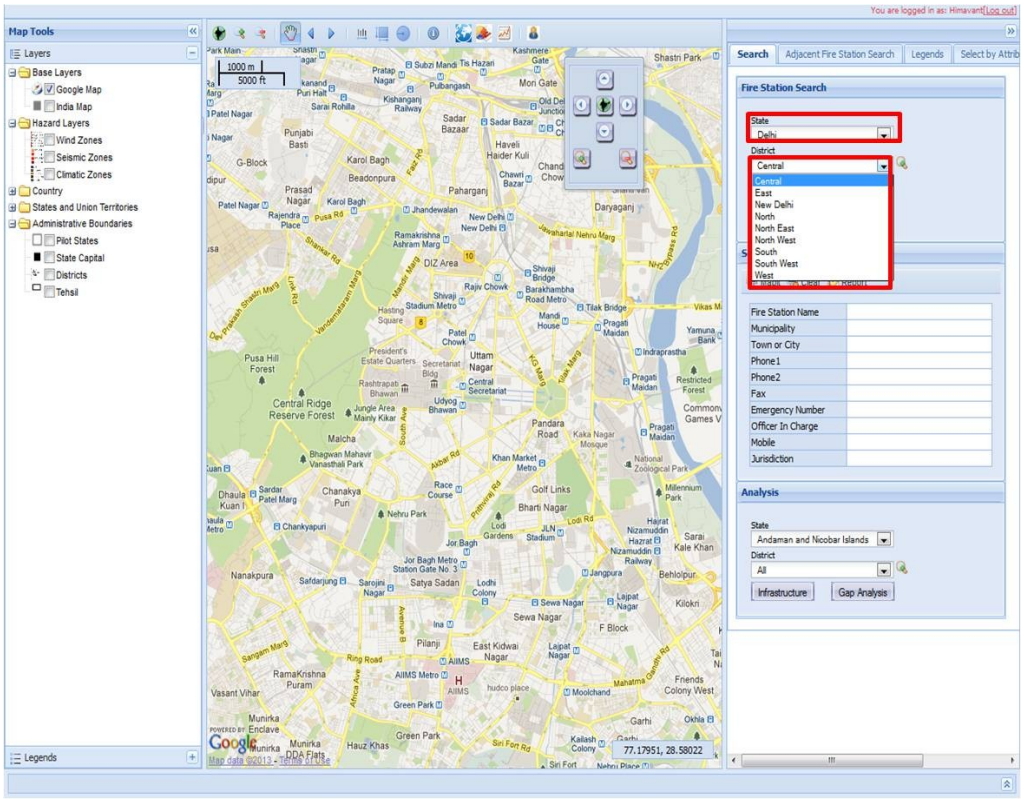


Figure 3-30: Zoom into a selected district

Notes:

- The zoom function in the fire station Search window only changes the display in the Map window.
- User cannot use the Go button, the controls in the Search results frame (namely, Map It, Clear and Report buttons) with the zoom into a district search function. Also the table in the Search results frame is not populated when the zoom into a district search function is used.

3.4.1.2 Select and Map a Fire Station

The Fire Station Search allows a user to select a particular fire station from a particular district within a state by following the steps mentioned below:

1. Select the state, district and fire station from the State, District, and Fire Station dropdowns respectively as shown in Figure 3-30. As an example, the Connaught Circus fire station of Central Delhi district in Delhi state has been shown in Figure 3-31.
2. Click the Go button 

(as shown by the blue highlighted box in Figure 3-31).
3. The Search results table (as shown by the green highlighted box in Figure 3-31) displays all the information for the selected fire station.

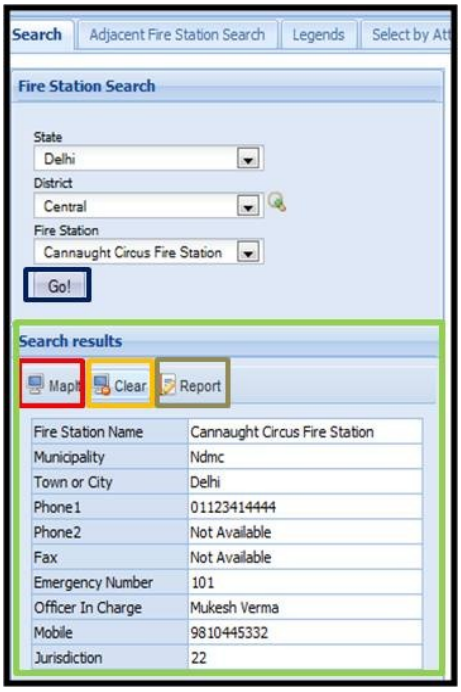


Figure 3-31: Search results table showing Map It, Clear and Report options

4. To map the fire station, click the Map It button (as shown by the red highlighted box in Figure 3-31). The Map window is zoomed to the Connaught Circus Fire Station with a place marker indicating its position as shown in Figure 3-32.

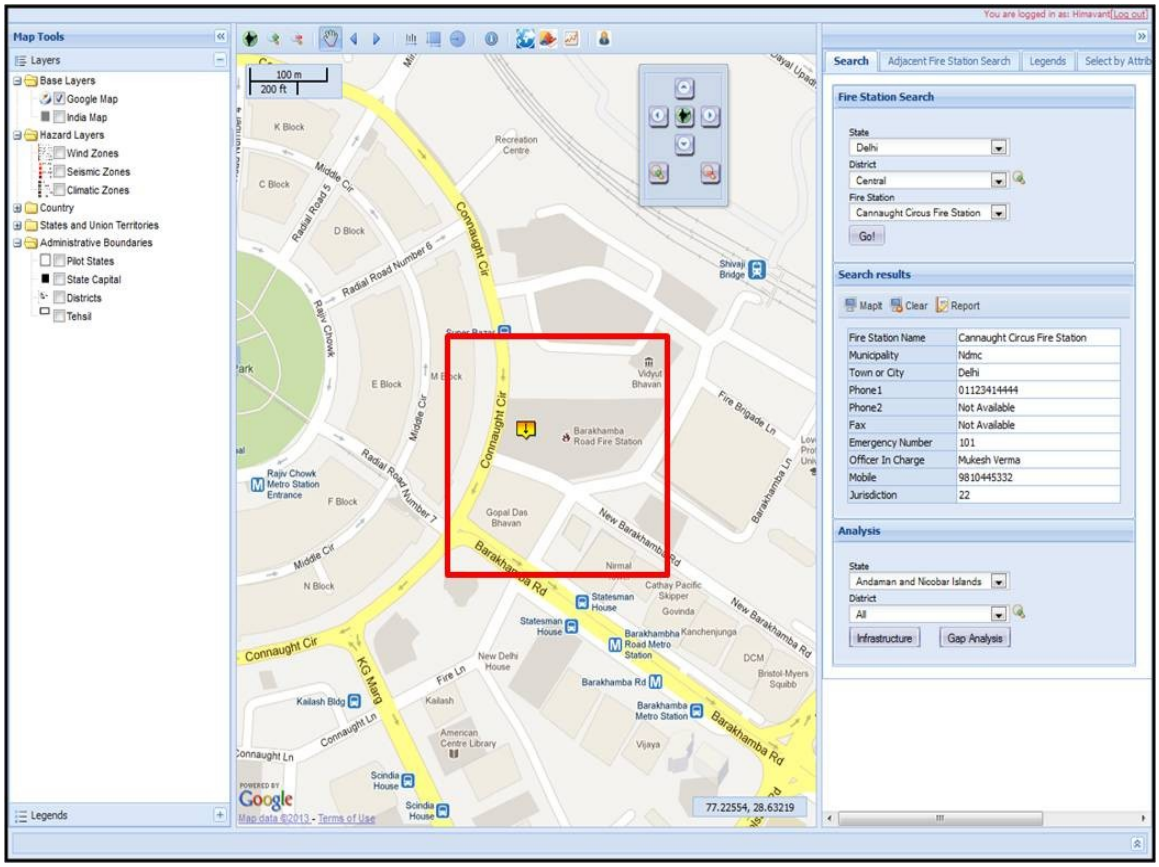


Figure 3-32: Fire Station search showing populated table and corresponding result mapped in the Map window after using the Map It button

5. To remove the place marker from the Map window, click Clear button (As shown by the orange highlighted box in Figure 3-31) in the Search results frame inside the Search window.
6. Click the Report button (As shown by the tan highlighted box in Figure 3-31) in the Search results section in the Search window to generate a fire station report for the searched fire station. The fire station report is displayed in a new window and a sample report is shown in Figure 3-33.

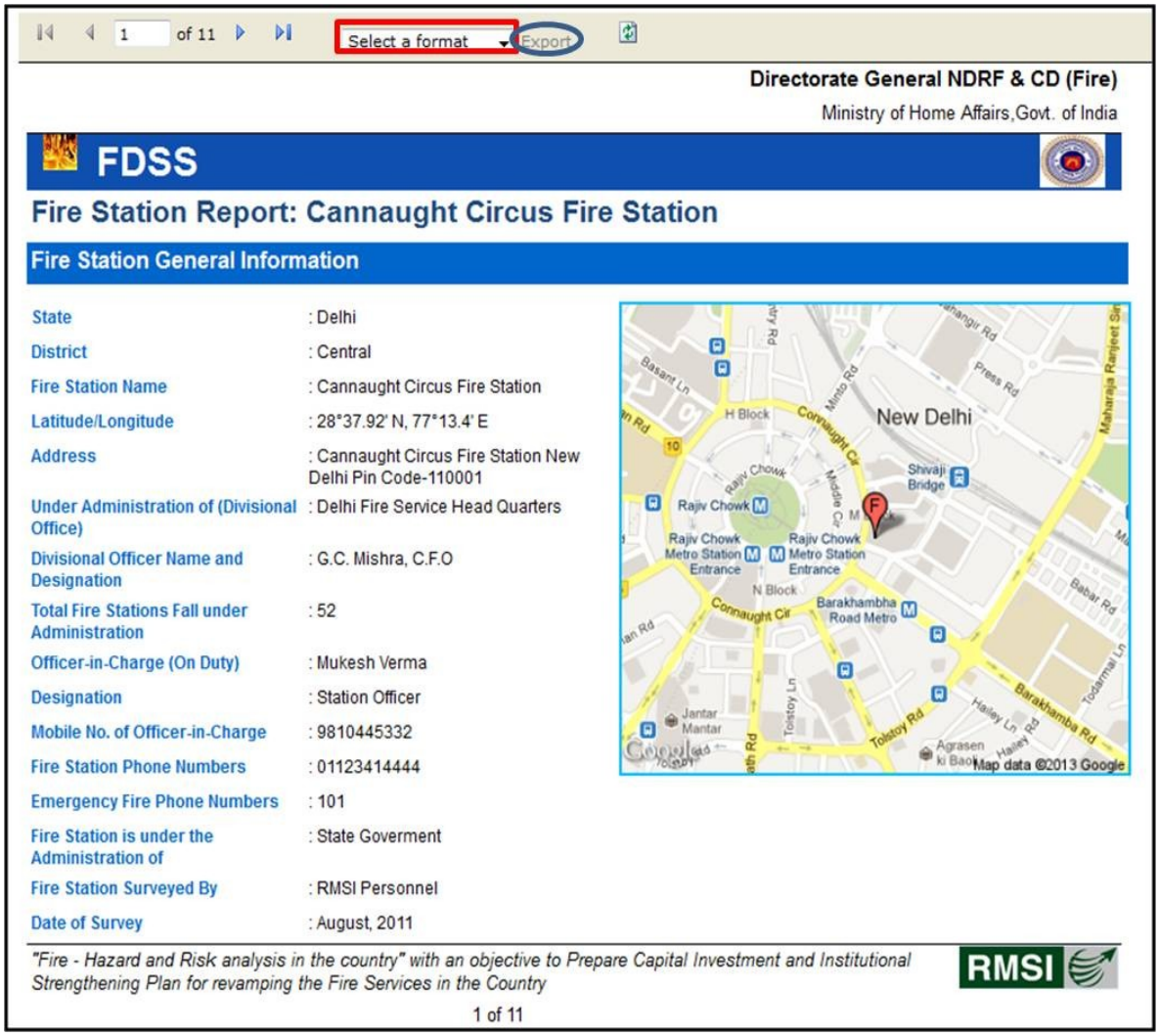


Figure 3-33: Sample of a searched fire station report

3.4.1.2.1 Exporting the fire station search report:

Please follow the instructions in Section 3.1.1.1 (Exporting and Printing a Generated Map or Report) to Export and Print the Fire Station Search Report.

3.4.2 Adjacent Fire Station Search

This is the second tab in the Search window (Figure 3-28). The Adjacent Fire Station Search functionality (shown by the blue highlighted box in Figure 3-34) helps the user in searching for all fire stations within a user specified distance from a particular fire station. This is particularly helpful for decision making in the event of a fire incident. A fire station can request back up (depending upon extent of fire) from nearby fire stations based on their proximity from the fire incident.

To operate this tool, the user has to follow the steps mentioned below:

1. Select the state from State dropdown box.
2. Districts from the selected state are populated in the District dropdown box. User has to select a district from the District dropdown.

3. Fire Stations under the selected district are populated in the Fire Station dropdown box. User has to select a fire station from this dropdown. As an example, Connaught Circus Fire Station in Central district of Delhi state is shown in Figure 3-34.
4. Next, the user types in a distance[6] in the Radius textbox (Shown by the red highlighted box in Figure 3-34) to identify fire stations in the proximity.
5. Click on Go! button. This will perform two tasks. Firstly, it will calculate the aerial distance and displays a circular boundary of specified radius with the selected fire station at the center of the circle. Secondly, it will generate an Adjacent Fire Station search report containing information of all the fire stations falling within the user specified radius. Figure 3-34 and Figure 3-35 shows all the fire stations falling within the specified radius (10 km in this example) from Connaught Circus fire station and a sample report of it respectively.
6. The report generated can be exported using instructions mentioned in Section 3.1.1.1 (Exporting and Printing a Generated Map or Report).
7. Click on Clear button to clear the fire station results and circular boundary from the Map window display.

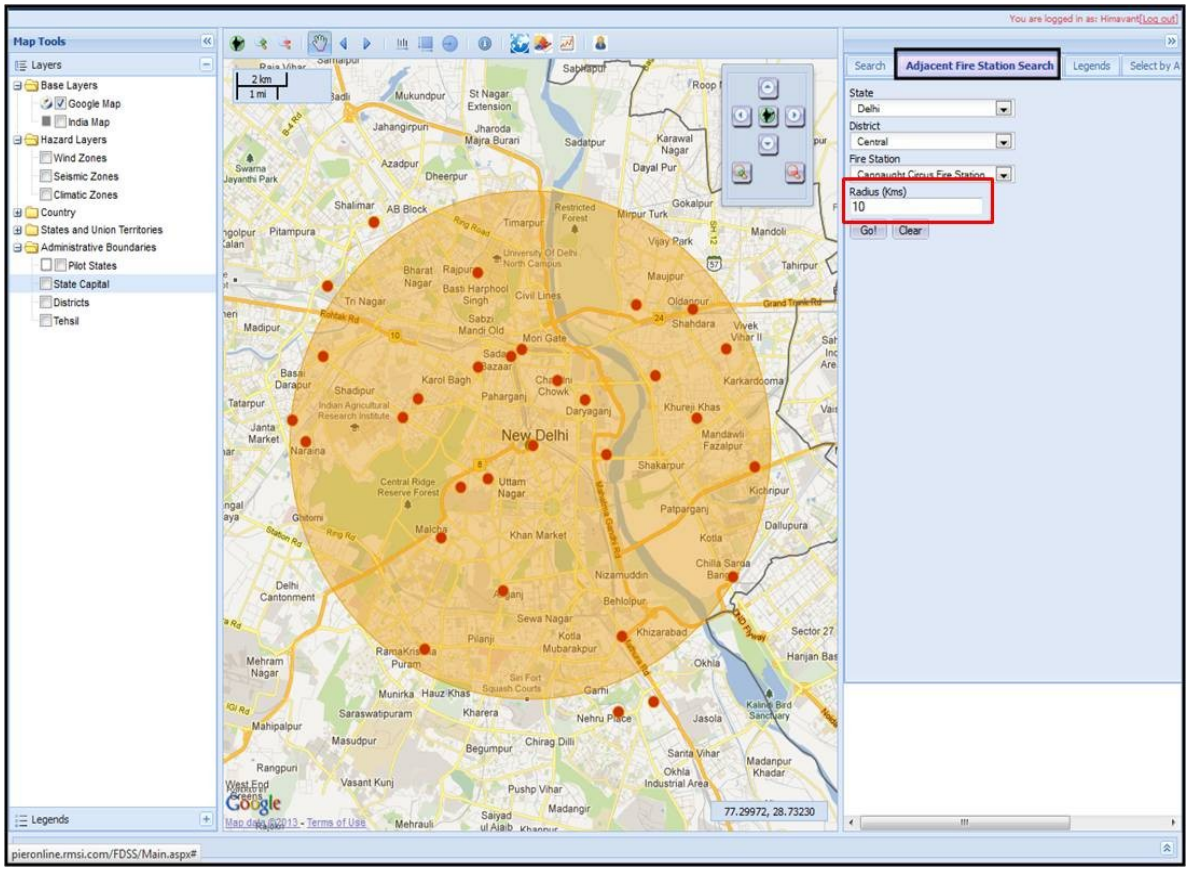


Figure 3-34: Adjacent Fire Station Search window

[6] Unit of radius is Kilometers (Km)

Directorate General NDRF & CD (Fire)
Ministry of Home Affairs,Govt. of India

FDSS

Adjacent Fire Stations to 'Cannaught Circus Fire Station' within 10 km radius

Aerial Distance(km)	Fire Station	Street Address	Municipality	Officer In Charge Name	Officer In Charge Mobile No	Phone	District	State
0.10	DFS Headquarter Fire Station	Cannaught Place New Delhi Pin Code-110001	NDMC	Mr. Mahmood	9968306650	01123412222	Central	Delhi
1.94	Rakabganj Fire Station	Rakabganj Fire Station New Delhi Pin Code-110001	NDMC	Hari Chand	9810496802	01123719497	Central	Delhi
2.43	Paiwalan Fire Station	Paiwalan Fire Station Near Jama Masjid Delhi,Pin Code-110006	MCD	Tarkeswar Rai	9868756761	01123244101	New Delhi	Delhi
2.53	Darya Ganj Fire Station	Darya Ganj Fire Station New Delhi Pin Code-110002	MCD	Bacchanlal	9868124930	01123268219	New Delhi	Delhi
2.81	Delhi Secretariat Fire Station	Delhi Secretariat,New Delhi Pin Code-110002	MCD	Rajpal Singh	9953402991	01123392677	New Delhi	Delhi
2.93	Rashtrapati Bhawan Fire Station	Rashtrapati Bhawan New Delhi Pin Code-110001	NDMC	Ved Prakash	9818767080	011-23015321	Central	Delhi
3.13	Teliwara Fire Staion	Qutub Road,Sadar Bazar Delhi, Pin Code-110006	MCD	Manish Kumar	9891987763	01123612755	North	Delhi
3.29	Rani Jhansi Road Fire Station	Filmistan Cinema, Rani Jhansi Road, Delhi - 110005	MCD	Avtar Singh	9811881761	01123672229	New Delhi	Delhi
3.30	S P Mukherjee Marg Fire Station	S P Mukherjee Marg,Delhi Pin Code-110006	MCD	Sanjay Tomar		01123975553	North	Delhi
4.40	Prasad Nagar Fire Station	Prasad Nagar,Delhi Pin Code-110008	MCD	N.P. Sharma	9818031656	01125751999	New Delhi	Delhi
4.56	Chanakyapuri Fire Station	Chanakyapuri Fire Station Kautilya Marg,New Delhi Pin Code-110021	NDMC	Rajbir Kharb	9968272496	01126112226	Central	Delhi
4.75	Shanker Road Fire Station	Shankar Road New Delhi Pin Code-110008	MCD	Mr. Roop Chandra	9718093701	011287422	New Delhi	Delhi
5.12	Safdarjung Fire Station	Safdarjung Fire Station,Jor Bagh, New Delhi Pin Code-110003	MCD	S S Yadav	101	01124611111	South	Delhi
5.16	Geeta Colony Fire Station	Near St. Lawrence School Geeta Colony,Delhi Pin Code- 110031	MCD	Mr. Ved Pal Chikara	9868202979	01122513330	East	Delhi
6.16	Laxmi Nagar Fire Station	Near Scope Minar,Laxmi Nagar Delhi,Pin Code-110092	MCD	Nagendra Singh	9868882111	01122417747	East	Delhi
6.19	Shashtri Park Fire Station	Near Jag Parvez Chand hospital Shashtri Park Pin Code-110053	MCD	Udai Vir Singh Tomar	9868154496	01122853933	North East	Delhi
6.23	Roop Nagar Fire Station	Roop Nagar,Delhi Pin Code-110007	MCD	Mr. K.K. Saxena	9810228404	01123842505	North	Delhi
7.40	Mathura Road Fire Station	Ashram Chowk,Delhi Pin	MCD	Bharat Singh		01126341301	South	Delhi

Waiting for pieronline.rmsi.com...

Figure 3-35: Sample report of Adjacent Fire Station Search tool

3.4.3 Legends

As mentioned in Section 3.3.3 each layer in the FDSS application is essentially a map. Therefore, each layer has its own unique legend. In the FDSS User Interface, Legends can also be viewed using the tab provided in the Search window[7].

As described in Section 3.2 (Map window) and Section 3.3.2 (Layers), a layer is turned on when the user checks the appropriate checkbox for that layer. The layer is also displayed in the Map window. In addition to that, the legend corresponding to the checked layer is displayed in the Legends tab in the Search window.

To view the legend of a specific layer in the Legends tab in Search window, the user has to follow the steps described below:

[7] Legends tab is numbered 3 in Figure 3-28

1. Check the layer in the Map Tools window (For example, Wind Zones layer as shown by red highlighted box in Figure 3-36 is selected).
2. Click on the Legends tab in the Search window (Shown by the orange highlighted box in Figure 3-36). The Legends tab will display the legend of the selected layer in the Layers tab.

As an example, the legend of the Wind-Zones layer under Hazard Layers is shown in Figure 3-36.

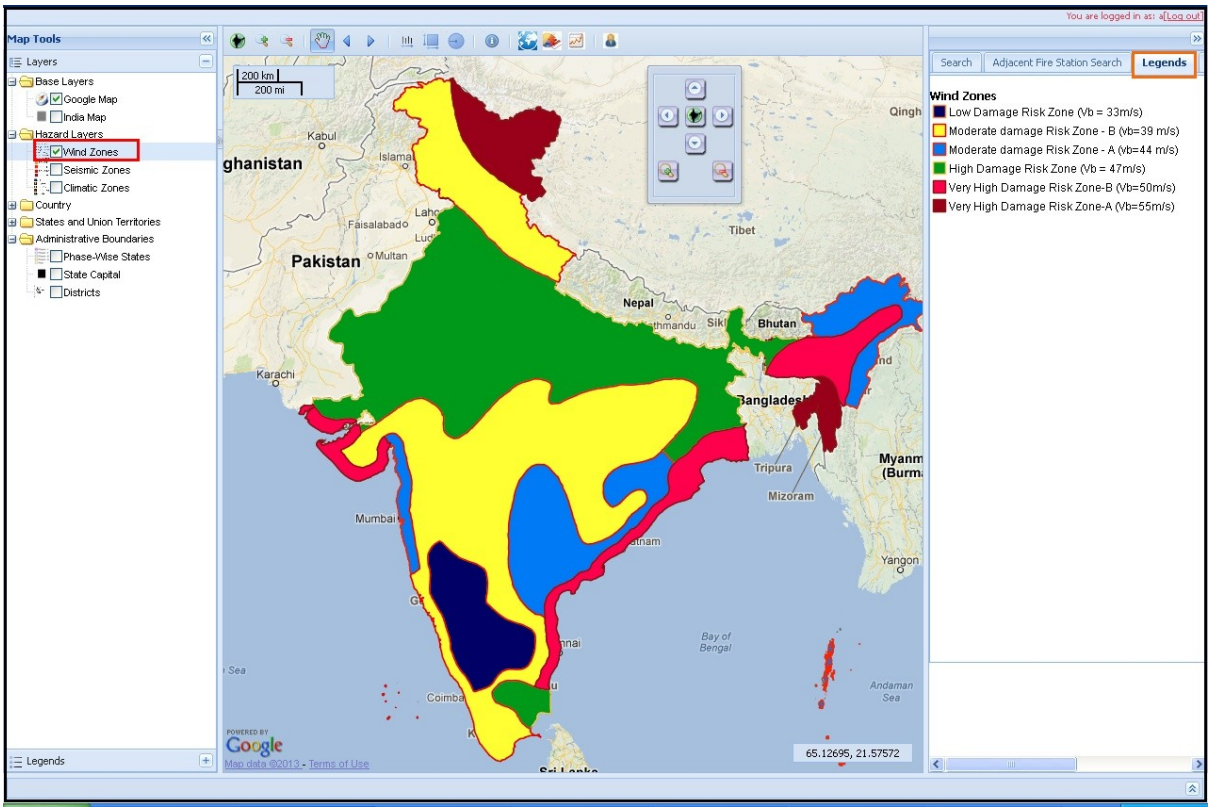


Figure 3-36: Legends tab in Search window illustrating legend of wind zones

3.4.4 Select by Attributes

The Select by Attributes tab provides users with the facility to map or highlight an active layer based on the attributes of the layer. To operate this tool, the user has to follow the steps mentioned below:

1. Click on the 'Select by Attributes' tab provided in the Search window to open the Select by Attributes table as shown in Figure 3-37.

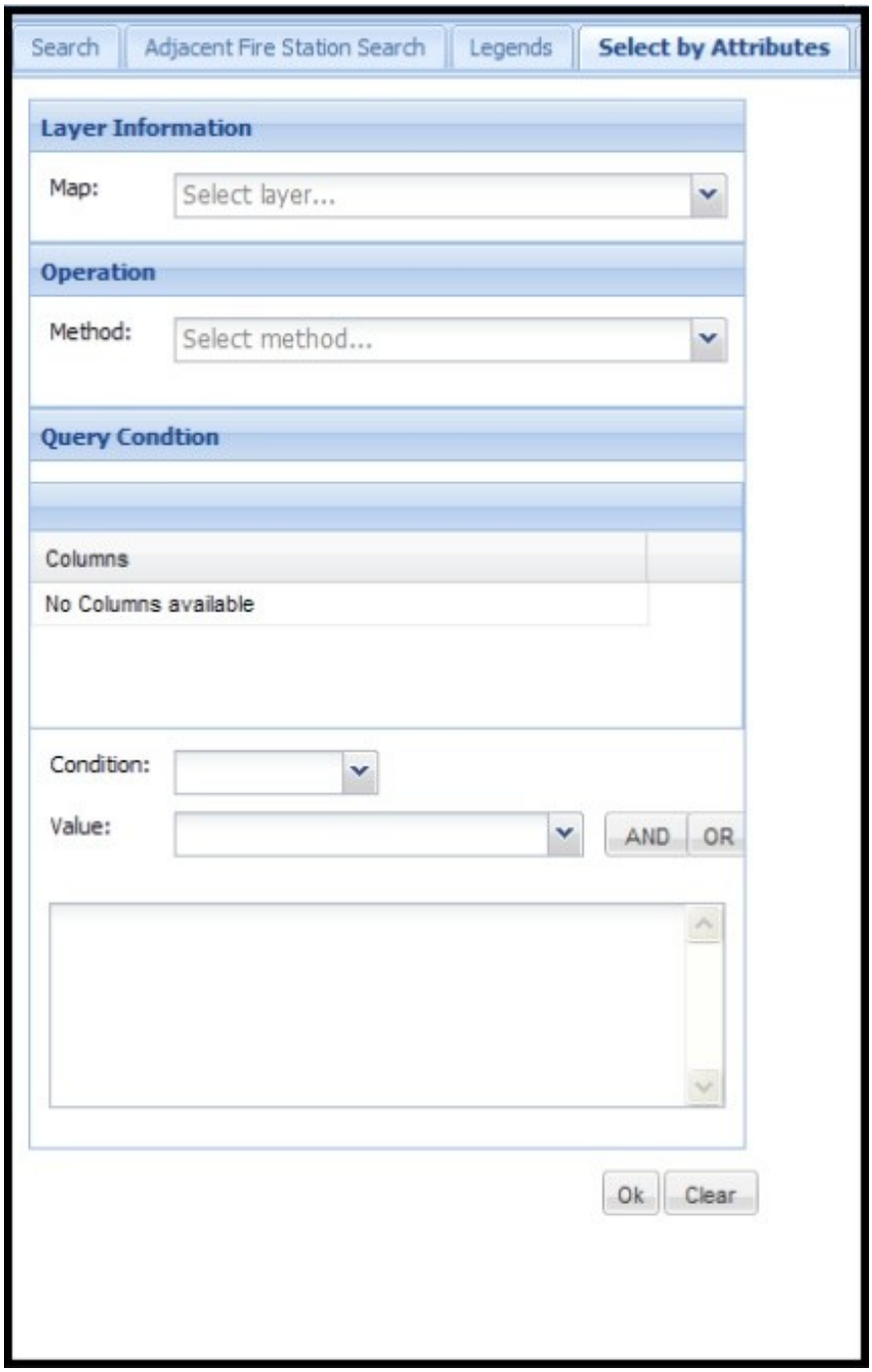


Figure 3-37: User Interface of Select by Attribute tool

2. Activate the layer or layers by clicking the checkbox or checkboxes in the Map Tools window for which information is required using the Select by Attributes tool. Only the layers that are activated in the Map Tools window will appear in the Map dropdown box of the Select by Attributes tab. As an example Wind Zones and Seismic Zones layers selected in Map Tools window (highlighted by the red rectangle in Figure 3-38) get populated in the Map dropdown (highlighted by the green rectangle in Figure 3-38).

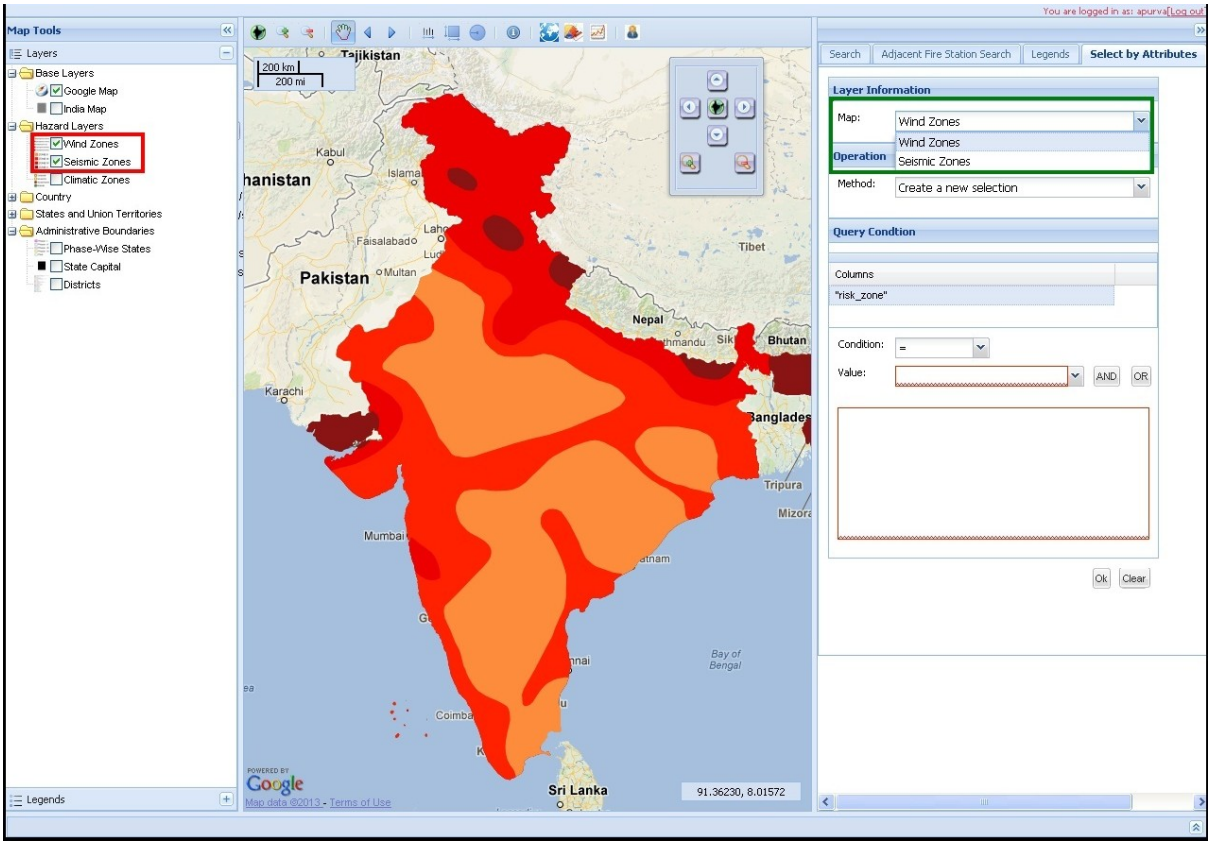


Figure 3-38: Layer information generated in Map dropdown

3. Fill in the required information from the relevant dropdown boxes as follows:
    A. Map (in Layer Information) - Select one of the currently activated layers to be mapped. As an example, Seismic Zone layer is selected.
    B. Method (in Operation) – The application allows the user to opt for any of the three methods viz.
        - Create a new selection: This method is opted when a user wishes to create a new query. In the example, ‘Create a new selection’ is chosen
        - Add to a current selection: ‘Add to current selection’ is used to map the already mapped layer with some other set of attributes This has to be opted in combination with the previously executed query (created using ‘Create a new selection’ method). When a query is executed using this method, it displays both the outputs generated using ‘Create a new selection’ method and ‘Add to a current selection’ method.
        - Remove from current selection: This method is opted when a user wish to clear the output (highlighted area) generated on the Map window.
    C. Columns (in Query Condition) – Columns in the Query Condition frame contains the list of attributes of the selected layer. In the example, the column for which query needs to be executed (Here, seismic zone column/attribute is selected, highlighted by inner green rectangle in Figure 3-39).

D. Condition (in Query Condition) – The Condition dropdown contains various relational information (Here = has been selected). Details of the conditions are given in Table 3-3.
E. Value (in Query Condition) – This displays the information available in the database for the selected column. Select the value from the Value dropdown (Here Zone II has been selected).

4. Click the AND button (as highlighted by the red rectangle in the figure below) to write the information provided in the Query Condition in a query format in the textbox provided below (highlighted by blue rectangle).

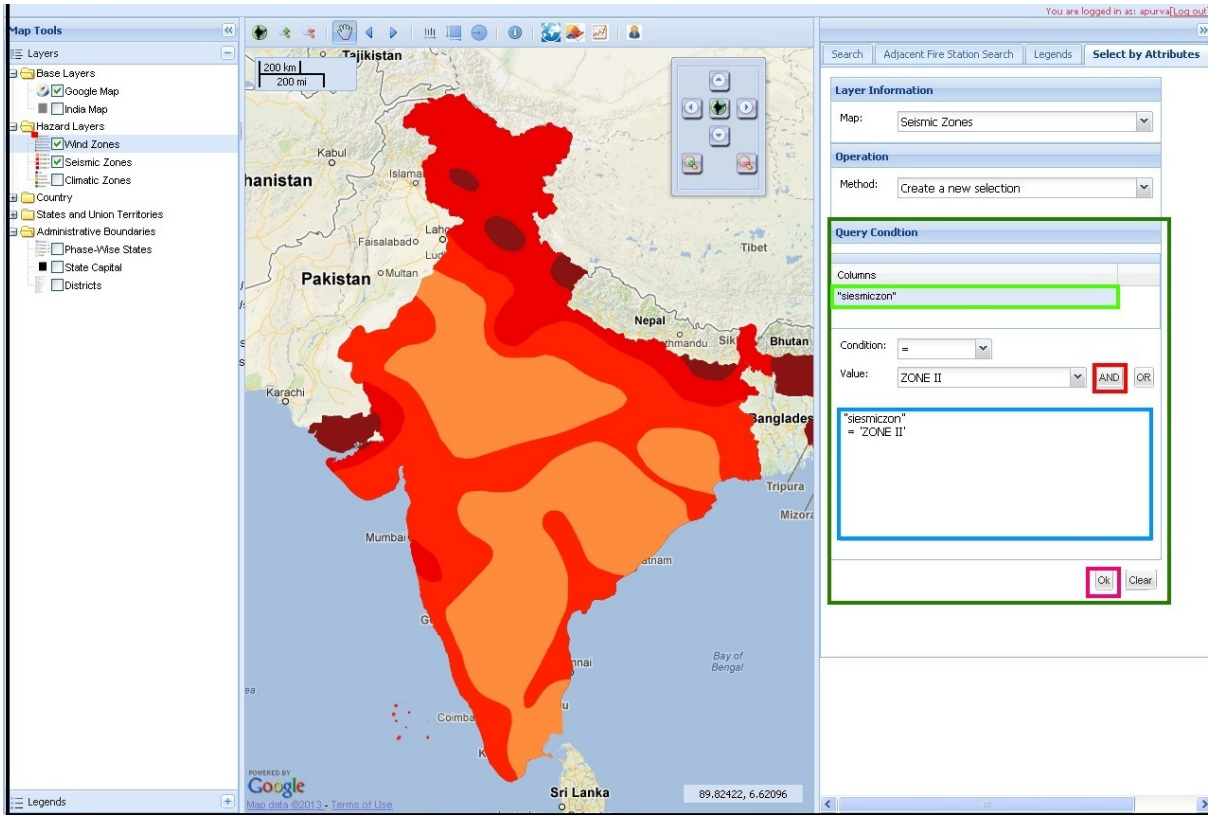


Figure 3-39: Example showing use of Select by Attribute tool

5. Click the Ok button (as highlighted by the pink rectangle in the figure above). This highlights the area which lies within Zone II in the Map window as shown in Figure 3-40.

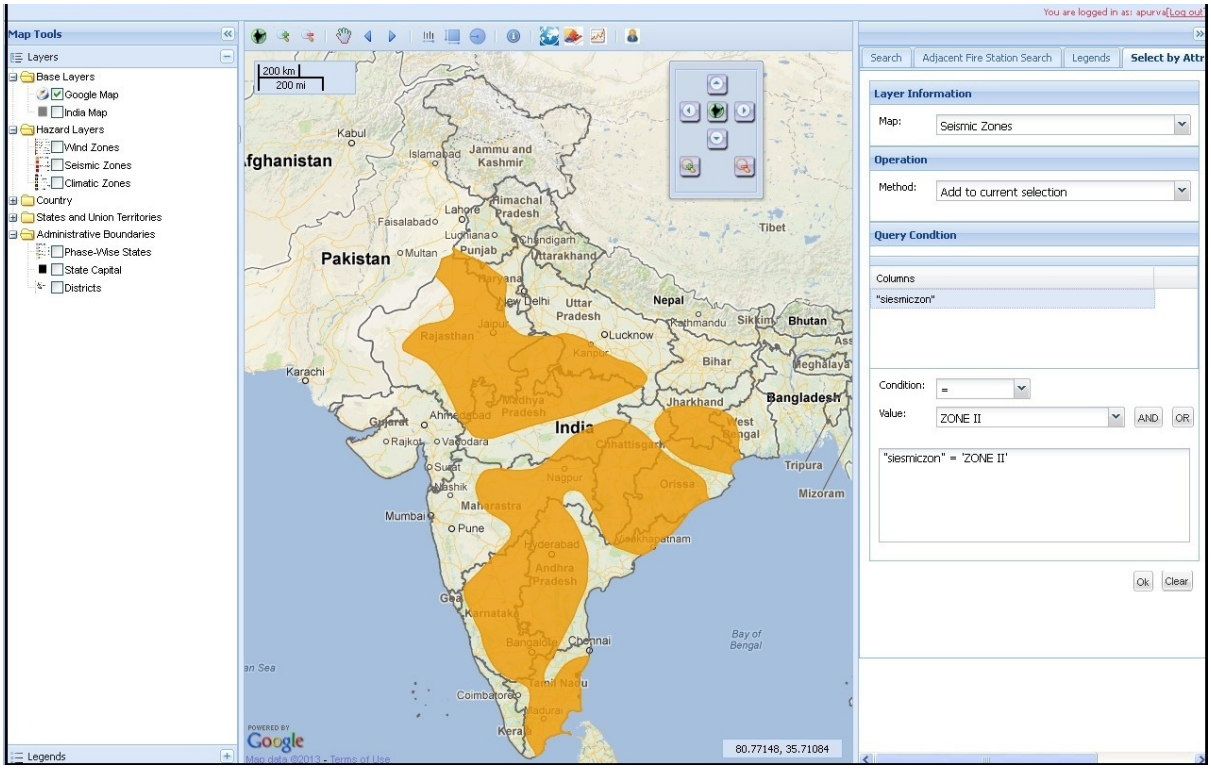


Figure 3-40: Map showing area lying under Zone II after unchecking the checkbox corresponding to Seismic Zones layer

6. In order to remove the selection, select the method 'Remove from current selection' and click on the Ok button. This deselects the highlighted area.

Details of each condition that can be selected in the Select by Attributes tab are given in Table 3-3:

Table 3-3: Details of conditions in the Select by Attributes tool

Condition	Detail
=	Equal To
>	Greater Than

Condition	Detail
>=	Greater Than Equal To
<	Less Than
<=	Less Than Equal To
< >	Not Equal To
Like	Search for specified characters in column

3.4.5 Select by Location

The Select by Location functionality provides users the facility to map or highlight an active layer based on its location attributes with respect to another active layer. To operate this tool, the user has to follow the steps mentioned below:

1. Click on the Select by Location tab provided in the Search window (numbered 5 in Figure 3-28). The Select by Location tab is displayed as shown in Figure 3-41.

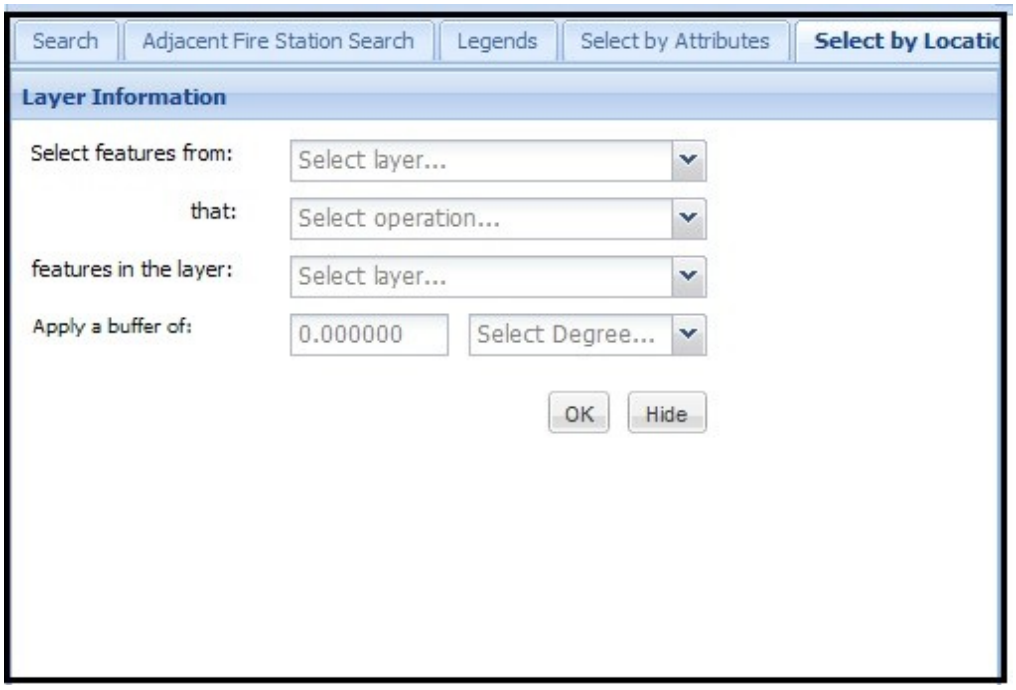


Figure 3-41 : User Interface for Select by Location tab

2. Activate the layers on which the Select by Location function is to be run by clicking the checkbox besides it in the Map Tools window. Only the layers that are activated in the Map Tools window will appear in the Select by Attributes tab. As an example Operational Fire Stations and Proposed Fire Stations layers selected (as highlighted by red rectangle in Figure 3-42) get populated in the 'Select features from' dropdown. (Highlighted by green rectangle in the Figure 3-42).

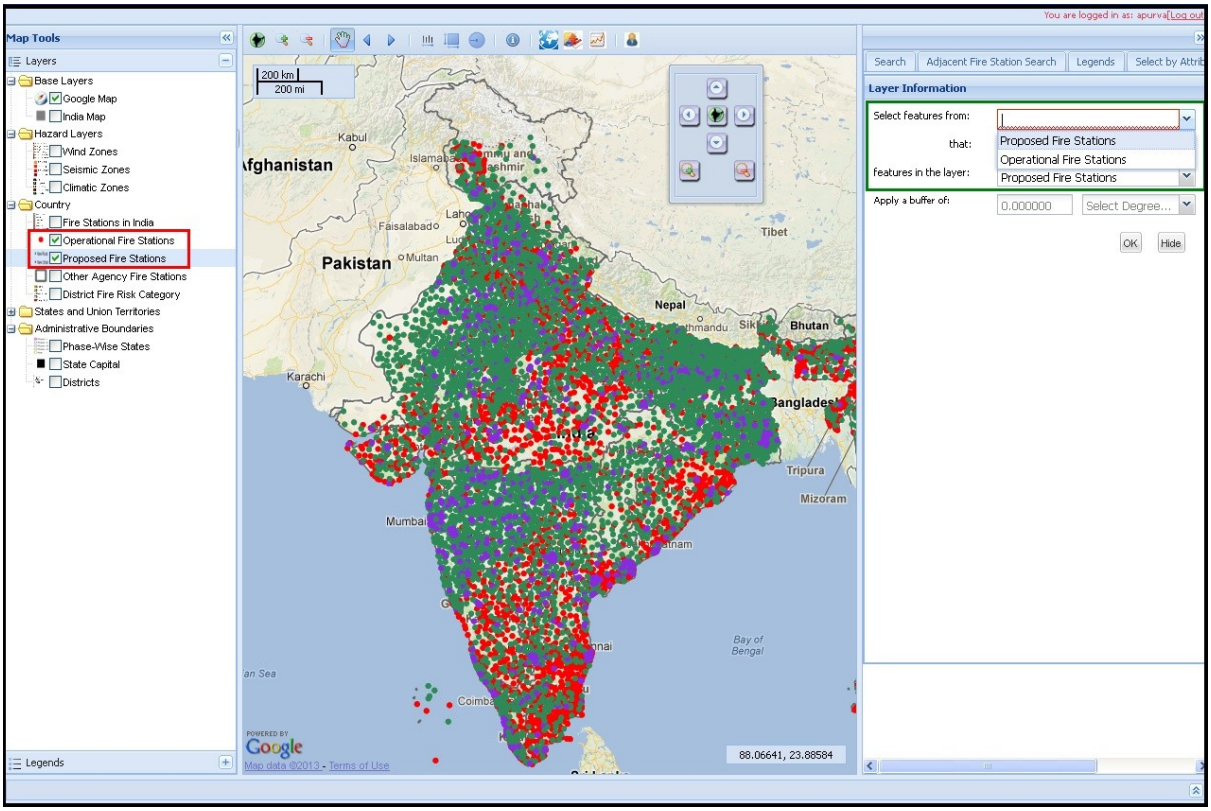


Figure 3-42: Activating the layer

3. Fill in the required information from the relevant dropdown boxes of the 'Select by Location' tab as follows: (See Figure 3-43).
    A. Select features from - The activated layer from which features will be selected (Operational Fire Stations layer is selected in the example).
    B. That – the spatial function to be assessed ('are within a distance of' is selected in the example).
    C. Features in the layer – The activated layer with respect to which the spatial relationship of the previous layer will be assessed (Proposed Fire Stations is selected in the example).
    D. Apply a buffer of – The buffer distance (10 is selected in the example and the unit is taken as Kilometers).

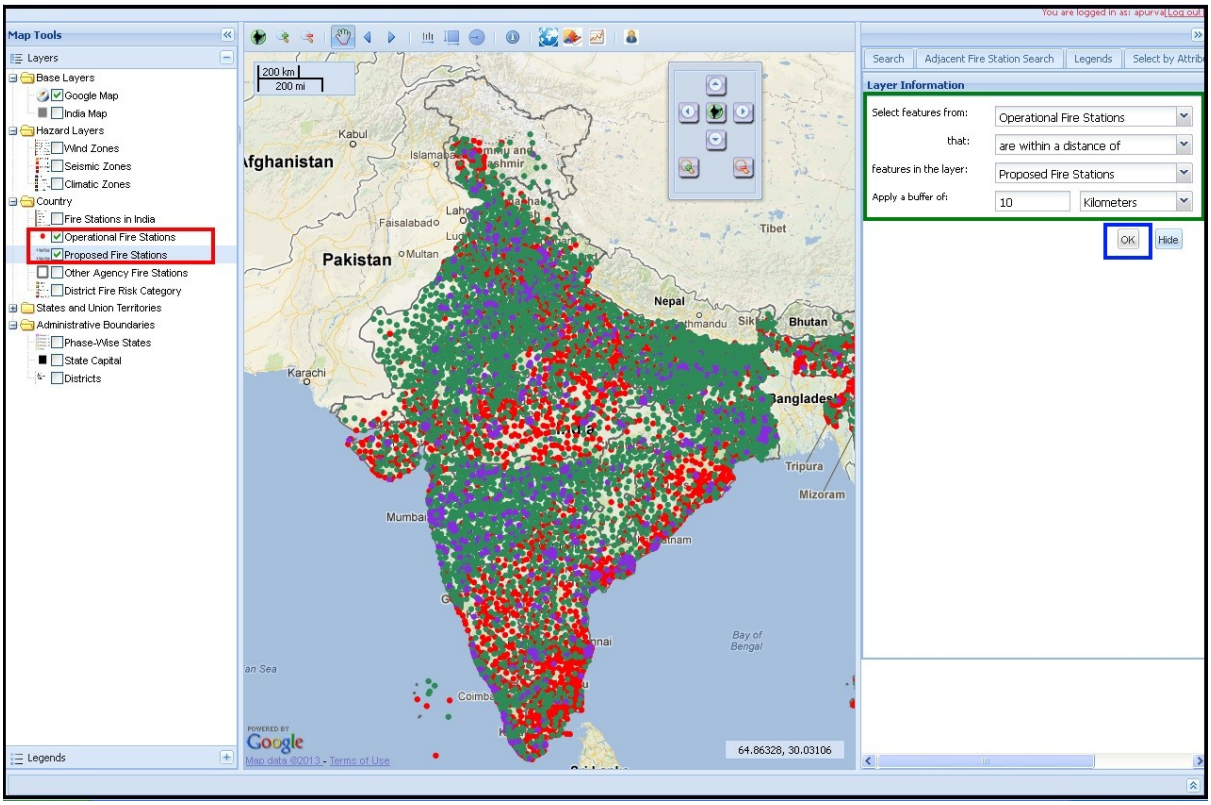


Figure 3-43: Filling layer information

4. Now Click the OK button (highlighted by the blue rectangle in Figure 3-43) to highlight all the operational fire stations in India which are at a distance of 10 Kilometers from the proposed fire stations in India on the map in the Map window. The resultant map is shown in Figure 3-44.

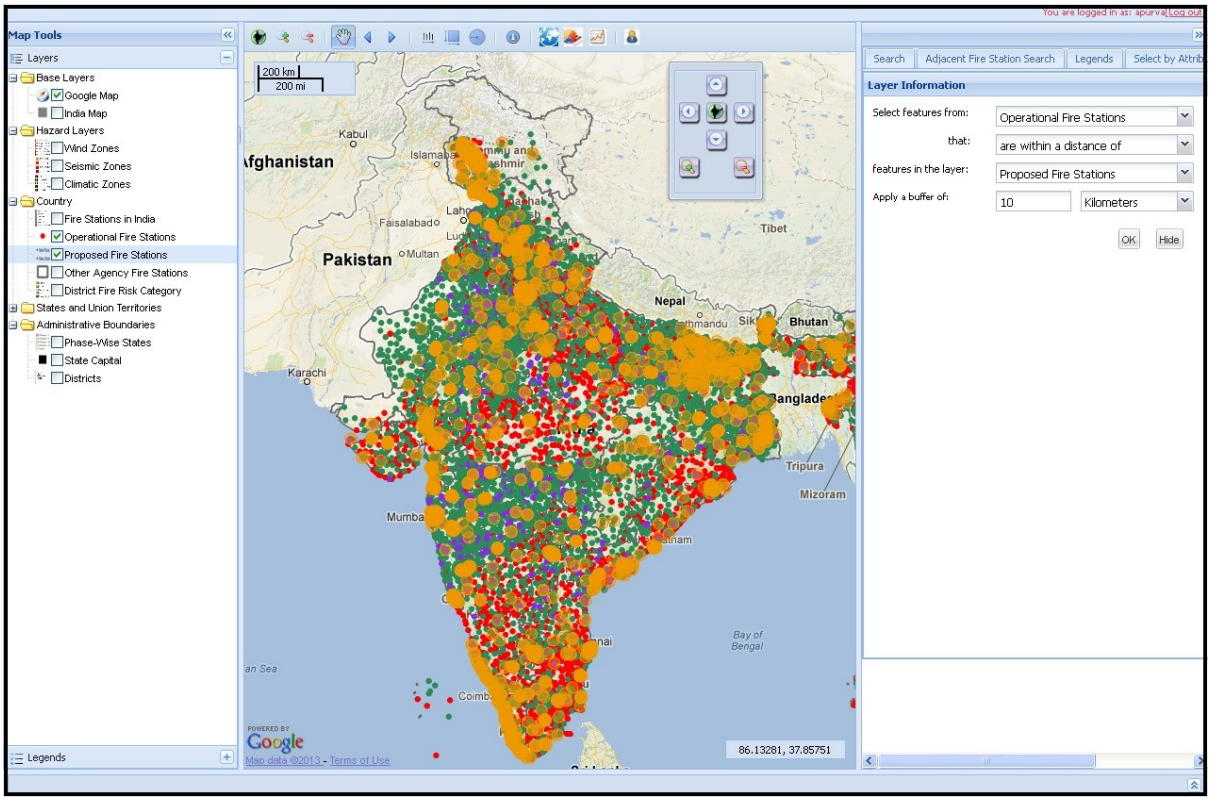


Figure 3-44 : Map showing operational fire stations that are within a distance of 10 km from proposed fire stations

5. FDSS provides options of spatial functions that can be analyzed from the Select by Location tab. Details of each spatial function that can be selected in the Select by Location tab are given in Table 3-4 below:

Table 3-4: Details of spatial functions in Select by Location tool

Spatial Function	Detail
Intersect	Returns true if geometry A shares any portion in space with geometry B
Are within a distance of	Returns true if geometry A is within a specified distance of geometry B

Spatial Function	Detail
Completely contain	Returns true if geometry B intersects the interior of A but not the boundary
Are completely within	Returns true if geometry A is completely inside geometry B
Have their centroid in	Returns true if the centroid of geometry A lies inside the geometry B
Touch the boundary of	Returns true if the geometries have at least one point in common but their interiors do not intersect
Are identical to	Returns true if A and B have the same geometry
Are crossed by outline of	Returns true if the geometries have some but not all interior points in common
Contain	Returns true if and only if no points of geometry B lie in the exterior of A and at least one point of interior B lies inside A
Are contained by	Returns true if no point in geometry A is outside geometry B

Notes:

- Geometry A here refers to the layer selected in the Select features from dropdown box.
- Geometry B here refers to the layer selected in 'features in the layer' dropdown box

3.5 Analysis window

The Analysis window is located at the bottom right corner of the FDSS User Interface. There are two types of analysis tools available in this window namely, Infrastructure and Gap Analysis as shown in Figure 3-45.

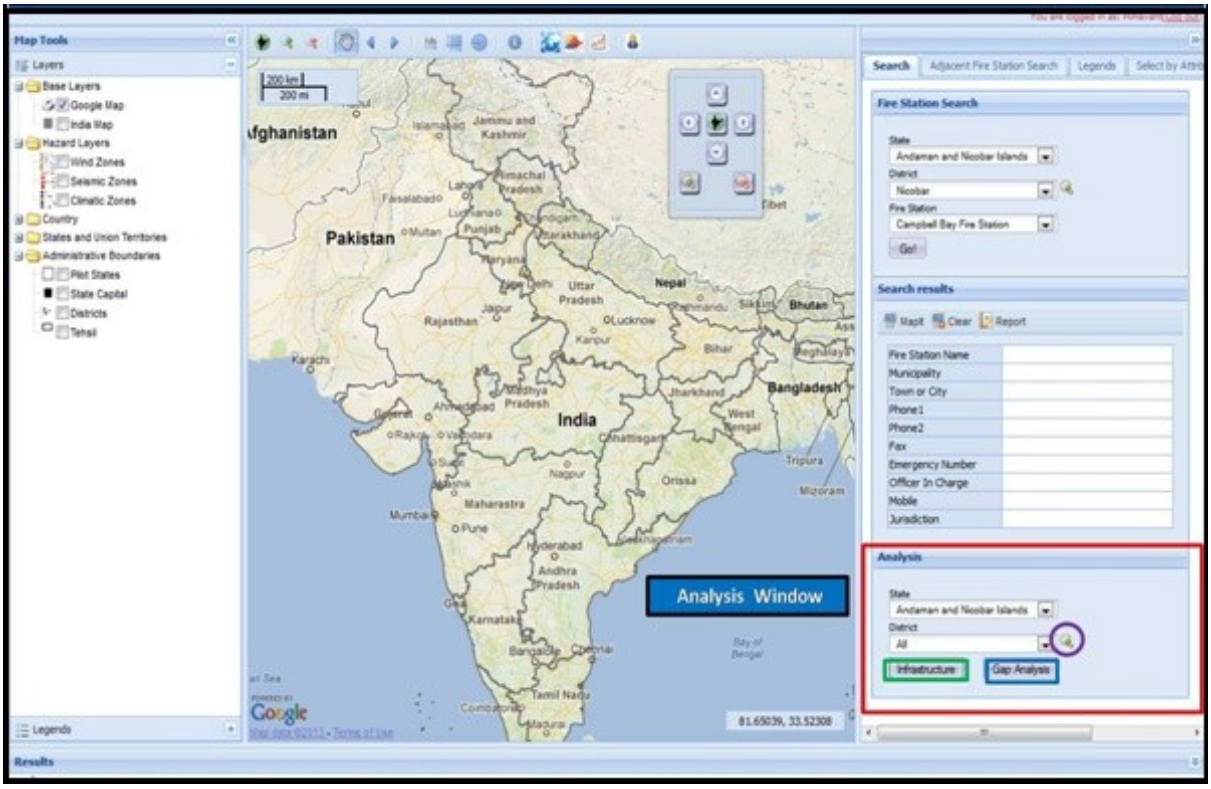


Figure 3-45: Analysis window showing analysis tools

The analysis tools allow users to generate Infrastructure and Gap Analysis reports by using the corresponding buttons located at the bottom of it. These reports can be generated at both the district and state levels.

3.5.1 Infrastructure

The Infrastructure tool is shown by green highlighted box in Figure 3-45. The Infrastructure tool helps in identifying the available trained manpower, specialized equipment, and fire fighting vehicles for all the fire stations in a particular state or in a particular district of a state. As the Infrastructure report is a summation of details for all the fire stations, user can view infrastructure details of individual fire stations as well.

3.5.1.1 Generating an Infrastructure report

1. Select a state from the State dropdown list. As an example Delhi state is selected in Figure 3-46.
2. Select a district from the District dropdown list. In this dropdown list, user has two options:

a. **Select All option from District dropdown**: This option generates State Infrastructure Report for the state selected in Step 1 as all the districts are selected. This option is highlighted with a green box in Figure 3-46.
b. **Select a particular district from District dropdown**: This option generates District Infrastructure report for the selected district. This option is highlighted with a blue box in Figure 3-46.

3. The Zoom icon  (highlighted by purple circle in Figure 3-45 and Figure 3-46) displays the selected district or all districts in the Map window.
4. Click the Infrastructure button (highlighted in green box in Figure 3-45). This opens a new browser page showing the Infrastructure report as selected by the user.
5. To export or print the report, follow instructions provided in Section- 3.1.1.1.

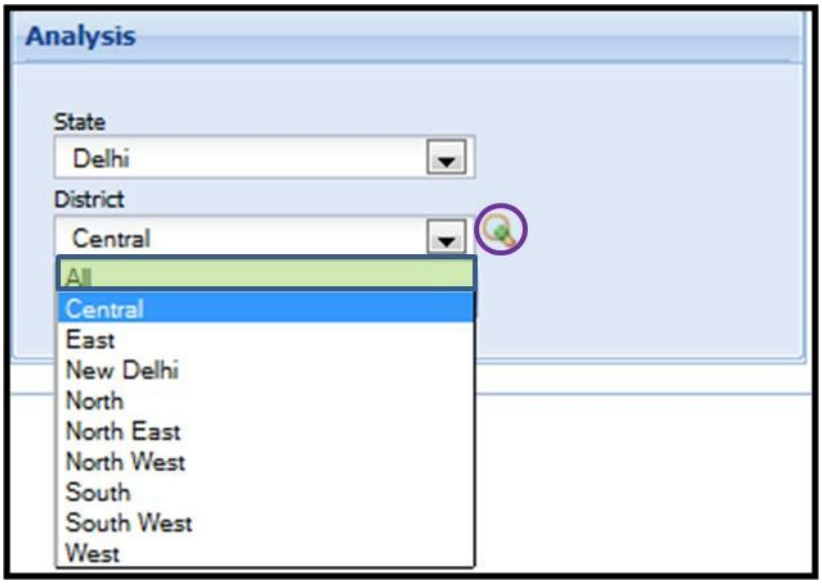


Figure 3-46: Analysis window illustrating State and District selections

A sample page of State Infrastructure Report for all districts in Delhi State is shown in Figure 3-47.

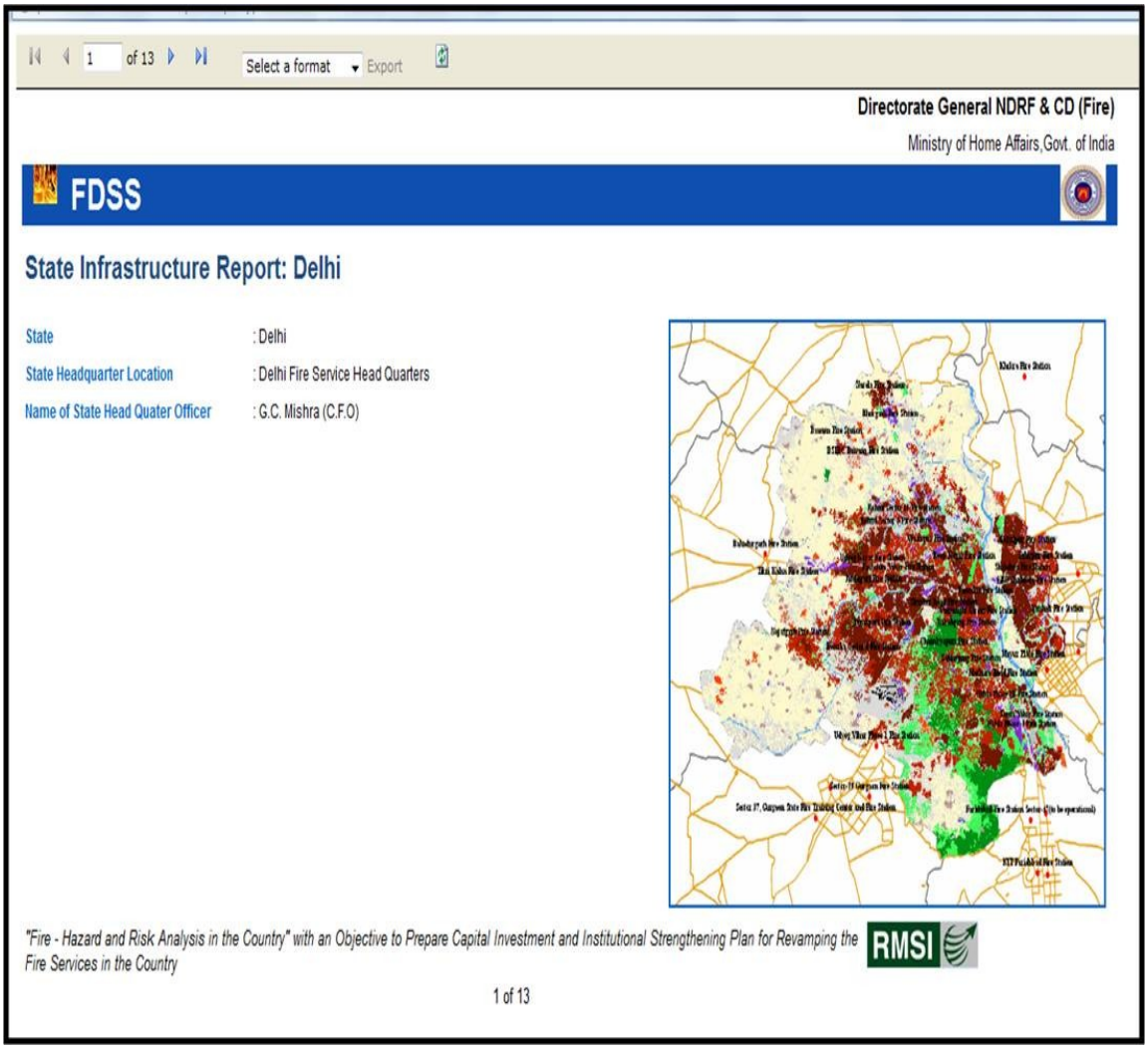


Figure 3-47: Sample page from Infrastructure report for Delhi State (All Districts selected)

A sample page of District Infrastructure Report for Central district in Delhi State is shown in Figure 3-48.

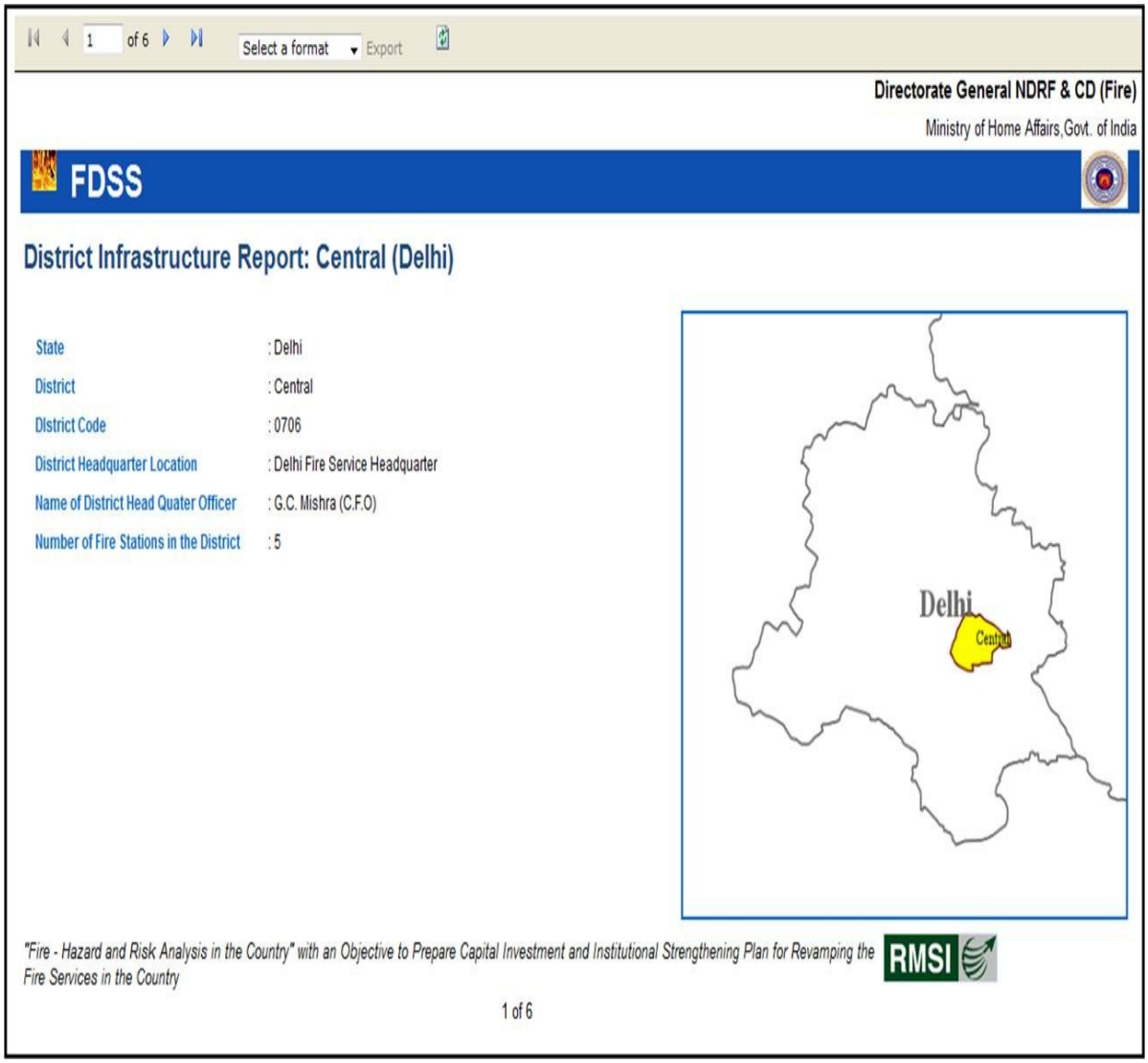


Figure 3-48: Sample page from Infrastructure report of Central district, Delhi state (Only Central district selected)

3.5.2 Gap Analysis

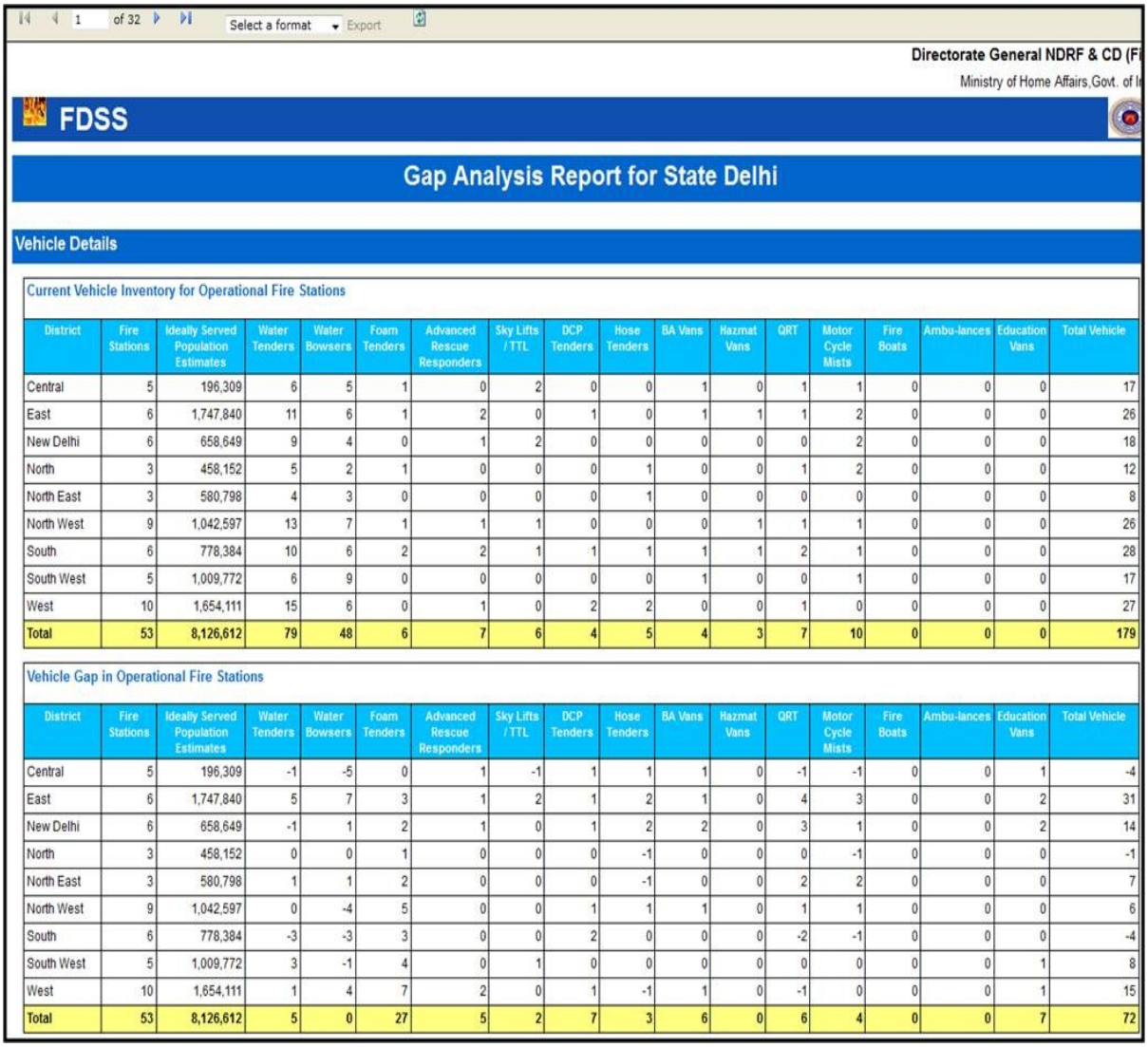
Gap Analysis tool identifies additional requirement to be added upon the existing resources mentioned in Infrastructure reports (Section 3.5.1). Gap Analysis tool helps the user to generate a report showing the gaps between available and required specialized equipment, trained manpower, and fire fighting vehicles for the fire stations in a selected district or all districts in a particular state. As the Gap Analysis report is a summation of gaps for all the fire stations, user can view gap details ire stations at district level as well.

3.5.2.1 Generating a Gap Analysis Report

The interface for both Gap Analysis tool and Infrastructure tool described earlier in Section 3.5.1 is same. As a result, the instructions for generating Gap analysis report are similar. These steps are listed as under:

1. Select a state from the State dropdown list. As an example Delhi state is selected in Figure 3-46.
2. Select a district from the District dropdown list. In this dropdown list, user has two options:
   a. **Select All option from a District dropdown**: This option generates state gap analysis report for the state selected in Step 1 as all the districts are selected. This option is highlighted with a green box in Figure 3-46.
   b. **Select a particular district from District dropdown**: This option generates district gap analysis report for the selected district. This option is highlighted with a blue box in Figure 3-46.
3. The Zoom icon  (highlighted by purple circle in Figure 3-45 and Figure 3-46) displays the selected district or all districts in the Map window.
4. Click the Gap Analysis button (highlighted in blue box in Figure 3-45). This opens a new browser page showing the Gap Analysis report as selected by the user.
5. To export or print the report, follow instructions provided in Section- 3.1.1.1.

A sample page of state gap analysis report for all districts in Delhi state is shown in Figure 3-49.



1 of 32 Select a format Export

Directorate General NDRF & CD (Fi
Ministry of Home Affairs,Govt. of I

FDSS

Gap Analysis Report for State Delhi

Vehicle Details

Current Vehicle Inventory for Operational Fire Stations

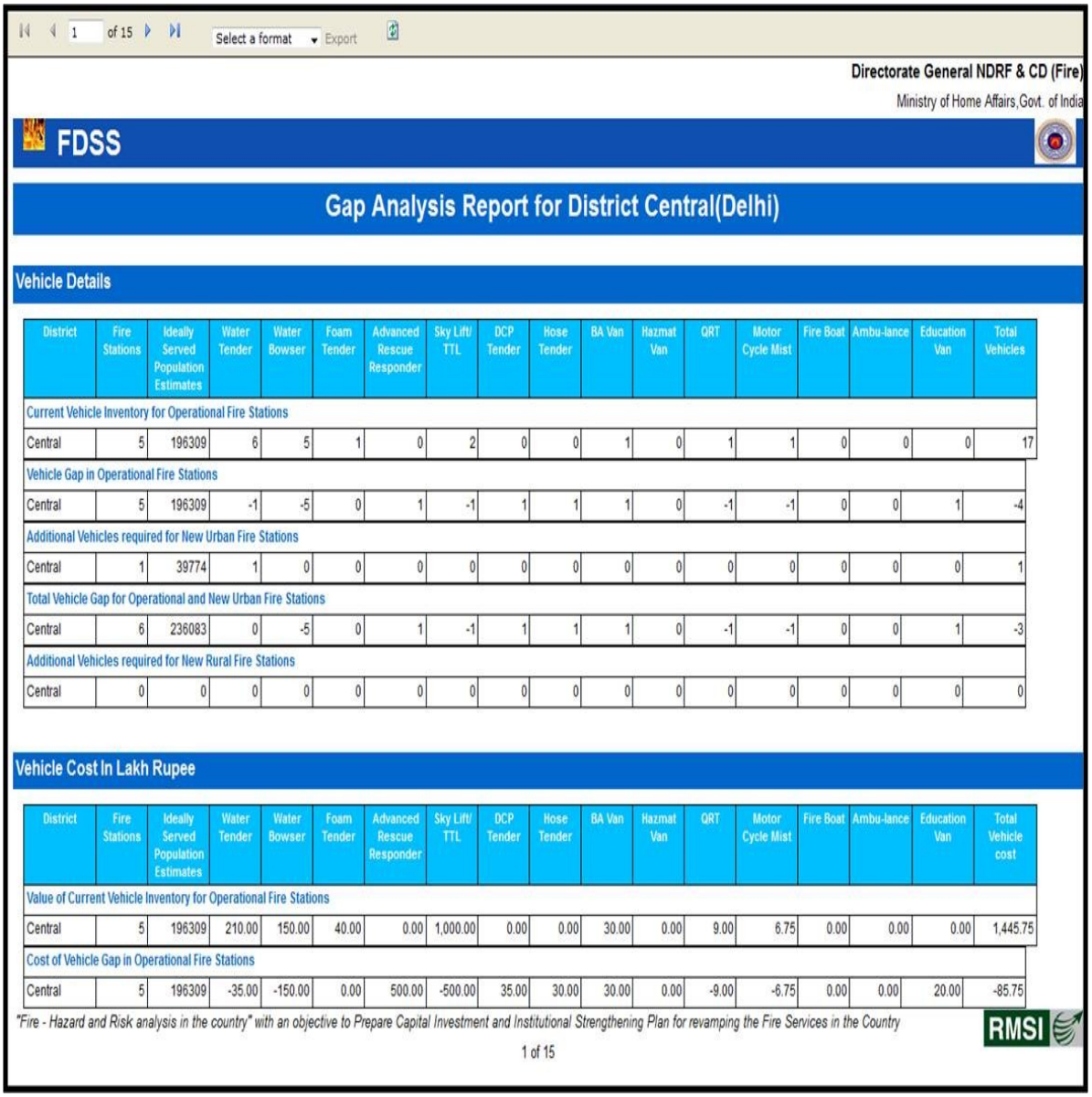
District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Bowsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambu-lances	Education Vans	Total Vehicle
Central	5	196,309	6	5	1	0	2	0	0	1	0	1	1	0	0	0	17
East	6	1,747,840	11	6	1	2	0	1	0	1	1	1	2	0	0	0	26
New Delhi	6	658,649	9	4	0	1	2	0	0	0	0	0	2	0	0	0	18
North	3	458,152	5	2	1	0	0	0	1	0	0	1	2	0	0	0	12
North East	3	580,798	4	3	0	0	0	0	1	0	0	0	0	0	0	0	8
North West	9	1,042,597	13	7	1	1	1	0	0	0	1	1	1	0	0	0	26
South	6	778,384	10	6	2	2	1	1	1	1	1	2	1	0	0	0	28
South West	5	1,009,772	6	9	0	0	0	0	0	1	0	0	1	0	0	0	17
West	10	1,654,111	15	6	0	1	0	2	2	0	0	1	0	0	0	0	27
Total	**53**	**8,126,612**	**79**	**48**	**6**	**7**	**6**	**4**	**5**	**4**	**3**	**7**	**10**	**0**	**0**	**0**	**179**

Vehicle Gap in Operational Fire Stations

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Bowsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambu-lances	Education Vans	Total Vehicle
Central	5	196,309	-1	-5	0	1	-1	1	1	1	0	-1	-1	0	0	1	-4
East	6	1,747,840	5	7	3	1	2	1	2	1	0	4	3	0	0	2	31
New Delhi	6	658,649	-1	1	2	1	0	1	2	2	0	3	1	0	0	2	14
North	3	458,152	0	0	1	0	0	0	-1	0	0	0	-1	0	0	0	-1
North East	3	580,798	1	1	2	0	0	0	-1	0	0	2	2	0	0	0	7
North West	9	1,042,597	0	-4	5	0	0	1	1	1	0	1	1	0	0	0	6
South	6	778,384	-3	-3	3	0	0	2	0	0	0	-2	-1	0	0	0	-4
South West	5	1,009,772	3	-1	4	0	1	0	0	0	0	0	0	0	0	1	8
West	10	1,654,111	1	4	7	2	0	1	-1	1	0	-1	0	0	0	1	15
Total	**53**	**8,126,612**	**5**	**0**	**27**	**5**	**2**	**7**	**3**	**6**	**0**	**6**	**4**	**0**	**0**	**7**	**72**

Figure 3-49: Sample page from Gap Analysis report for Delhi state (All districts selected)

A sample page of district Gap Analysis Report for Central district in Delhi State is shown in Figure 3-50.



1 of 15 Select a format Export

Directorate General NDRF & CD (Fire)
Ministry of Home Affairs,Govt. of India

FDSS

Gap Analysis Report for District Central(Delhi)

Vehicle Details

District	Fire Stations	Ideally Served Population Estimates	Water Tender	Water Bowser	Foam Tender	Advanced Rescue Responder	Sky Lift/ TTL	DCP Tender	Hose Tender	BA Van	Hazmat Van	QRT	Motor Cycle Mist	Fire Boat	Ambu-lance	Education Van	Total Vehicles
Current Vehicle Inventory for Operational Fire Stations																	
Central	5	196309	6	5	1	0	2	0	0	1	0	1	1	0	0	0	17
Vehicle Gap in Operational Fire Stations																	
Central	5	196309	-1	-5	0	1	-1	1	1	1	0	-1	-1	0	0	1	-4
Additional Vehicles required for New Urban Fire Stations																	
Central	1	39774	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Vehicle Gap for Operational and New Urban Fire Stations																	
Central	6	236083	0	-5	0	1	-1	1	1	1	0	-1	-1	0	0	1	-3
Additional Vehicles required for New Rural Fire Stations																	
Central	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Vehicle Cost In Lakh Rupee

District	Fire Stations	Ideally Served Population Estimates	Water Tender	Water Bowser	Foam Tender	Advanced Rescue Responder	Sky Lift/ TTL	DCP Tender	Hose Tender	BA Van	Hazmat Van	QRT	Motor Cycle Mist	Fire Boat	Ambu-lance	Education Van	Total Vehicle cost
Value of Current Vehicle Inventory for Operational Fire Stations																	
Central	5	196309	210.00	150.00	40.00	0.00	1,000.00	0.00	0.00	30.00	0.00	9.00	6.75	0.00	0.00	0.00	1,445.75
Cost of Vehicle Gap in Operational Fire Stations																	
Central	5	196309	-35.00	-150.00	0.00	500.00	-500.00	35.00	30.00	30.00	0.00	-9.00	-6.75	0.00	0.00	20.00	-85.75

"Fire - Hazard and Risk analysis in the country" with an objective to Prepare Capital Investment and Institutional Strengthening Plan for revamping the Fire Services in the Country

1 of 15

RMSI

Figure 3-50: Sample page from Gap Analysis report of Central district, Delhi state (Only Central district selected)

3.6 Results window

The Results window only works in conjunction with the Identify a feature tool  provided in the tool bar panel (Described in Section 3.1) and, therefore, their combined use is described here in detail.

The Results window only displays information corresponding to a specific location in the Map window (selected by using the Identify a feature tool) and the layer selected in the Map Tools

window. In other words, if the user clicks on a certain location in the Map window using the Identify a feature tool after selecting the Seismic Zones layer in the Map Tools window, the Results window will only show seismic zone information related to the location where the user clicked. This information is populated from the FDSS database.

By default, this window is hidden when the user first logs into a session. The Results window can be displayed by using the Unhide button visible on the extreme right below the Analysis tool. Conversely, when displayed, the window can be hidden by clicking the Hide button visible on the extreme right below the Analysis tool. Figure 3-51 shows the Hide button as an example.

To use the Results window and the Identify a feature tool follow the steps described below:

1. Click on the Identify a feature tool.
2. Click on the label of the layer whose information needs to be displayed.
3. Click on the specific location in the Map window.
4. The Results window will automatically open at the bottom of the screen displaying available information for the selected location and selected layer as shown in Figure 3-51.

In the example given in Figure 3-51, the user has first selected the Identify a feature tool in the Toolbar, then clicked on the Operational Fire Stations layer in the Map Tools window and finally clicked on Bikaner District (in Rajasthan) in the Map window. The information corresponding to the layer and the geographical location are displayed in the Results window.

The user can hide the Results window by clicking the Hide button just below the Analysis tool as shown in Figure 3-51 (highlighted by green rectangle).

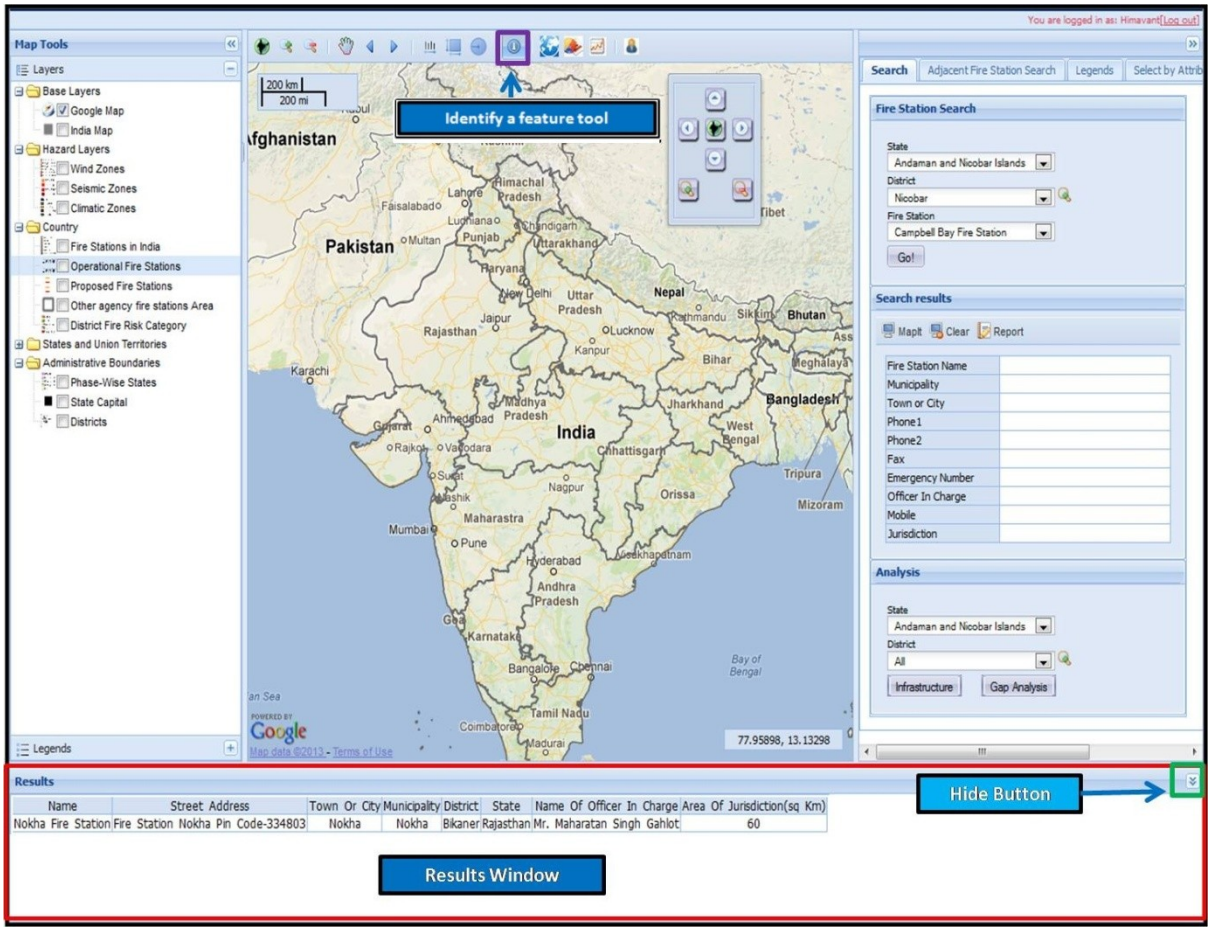


Figure 3-51: Results window showing the populated results with the use of Identify a feature tool

3.7 Map Elements

In the FDSS User Interface, there are additional elements which are not used in any type of analysis or reporting. They are solely used for the cartographic representation of map displayed in the Map window. They are called as Map elements and are shown in Figure 3-52.

There are two map elements in the FDSS user Interface.

a. Scale Bar
b. Map Co-ordinates

Figure 3-52: Map elements in FDSS User Interface

4 Viewing Hazard Zones, and Fire Risk

FDSS allows users to view the distribution of Wind, Seismic, and Climatic Zones across India (country level) or to determine their status at a specific geographic location (state or district level, i.e., location-specific) within India. The sections below take the user through the steps to view these zones at the country level and Fire risk at district level.

4.1 Viewing Hazard Zones at the Country Level

At this level, the user can view the distribution of the Wind, Seismic, and Climatic Zones across India.

1. Click the Zoom to India icon in the Floating Navigation tool pane to zoom to the country boundary extent. This step may not be necessary when the user first logs into a session since the default Map window view is set to the country boundary extents.

2. Click the + sign ( ) to the left of the directory symbol of the Hazard Layer (Refer to area highlighted by red rectangle in Figure 4-1). This expands the tree view to display the Wind zones, Seismic zones, and Climatic zones layers.

3. Select the checkbox or checkboxes next to the layer or layers to be viewed in the Map window. The illustration in Figure 4-1 shows the mapping of the Seismic zone layer. Users can select one or multiple layers at the same time.

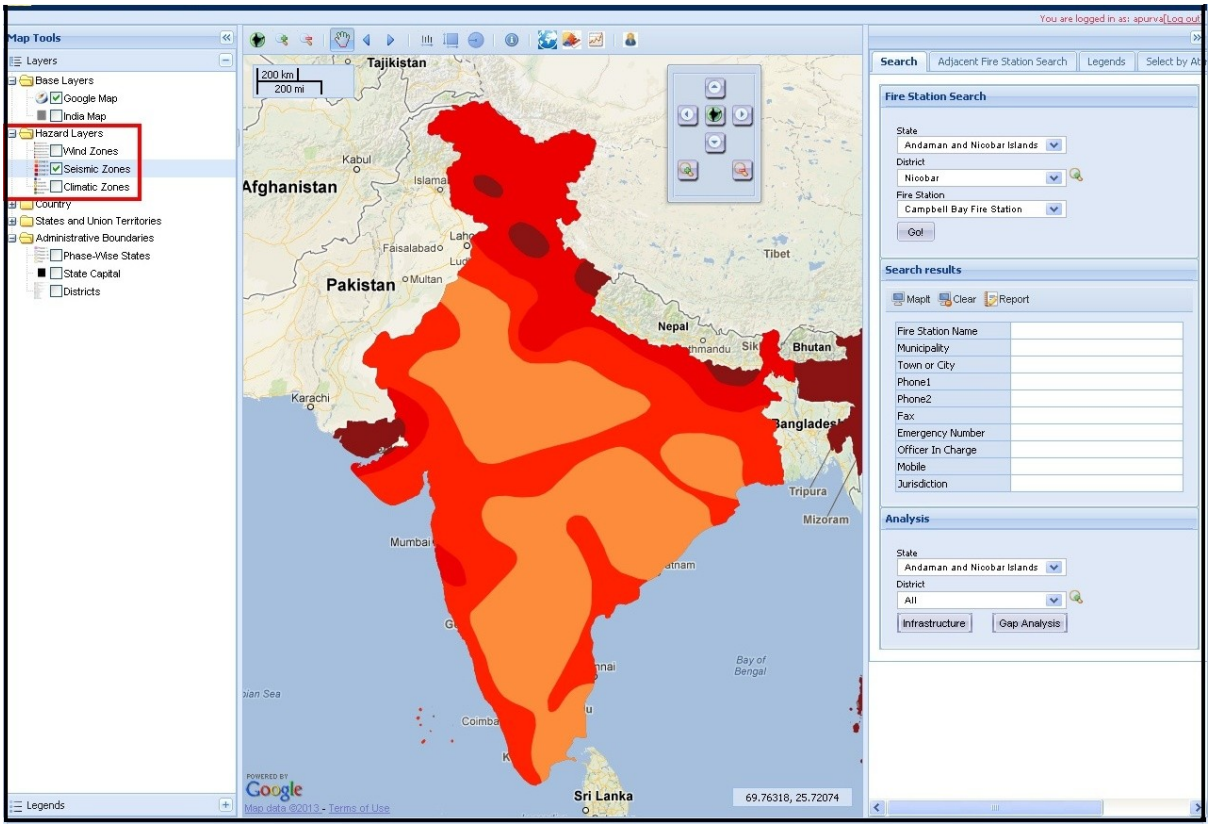


Figure 4-1: Viewing levels of seismic hazard risk (Seismic zones) at country level

4.2 Viewing District Fire Risk at the Country-Level

FDSS categorizes each district in India as per a Fire Risk Index, which has 4 categories, namely Very High, High, Medium and Low (fire risk). The user can view the district fire risk category at the country-level by following the steps below:

1. Click the Zoom to India icon in the Floating Navigation tool pane to zoom to the country boundary extent. This step may not be necessary when the user first logs into a session since the default Map window view is set to the country boundary extents.
2. Click the + sign ( ) to the left of the directory symbol of the Country Layer. This expands the tree view to display the District Fire Risk Category checkbox (Refer to area highlighted by red rectangle in Figure 4-2).
3. Select the District Fire Risk Category checkbox to display the District level fire risk in all the states, in the Map window. The illustration in Figure 4-2 shows the mapping of the District Fire Risk Category layer (at a country-level) and its corresponding Legend popup.

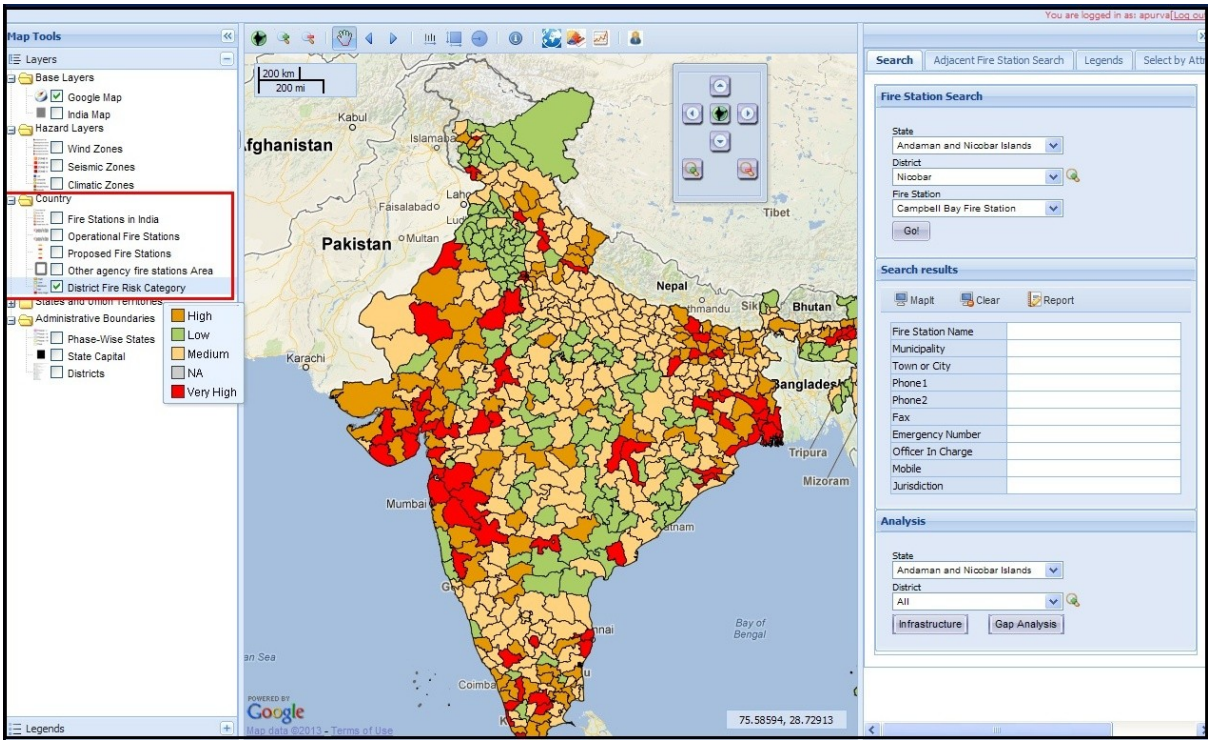


Figure 4-2: Map showing district fire risk category in India

5 Layers

While Section 4 assists the FDSS user in performing various key functions through the system and explains the procedures to be followed in a step-wise manner. This section provides a description of all the layers and sub-layers present in the Map Tools window of FDSS.

5.1 Hazard Layers

This section describes the various sub-layers under the Hazard layer. A fully expanded view of the hazard layers' tree structure is shown in Figure 5-1

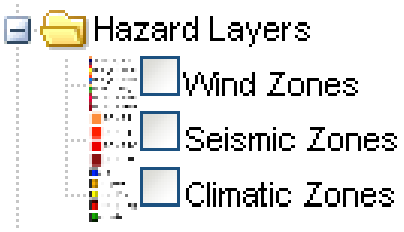


Figure 5-1: Tree Structure of the Hazard Layers

5.1.1 Wind Zones

The Wind Zones layer classifies India into different wind zones based on the intensity of the wind hazard, which is directly correlated to the wind velocity. The Wind Zones layer is displayed on selecting the Wind Zones checkbox. The classification and the corresponding Legend popup are shown in Figure 5-2.

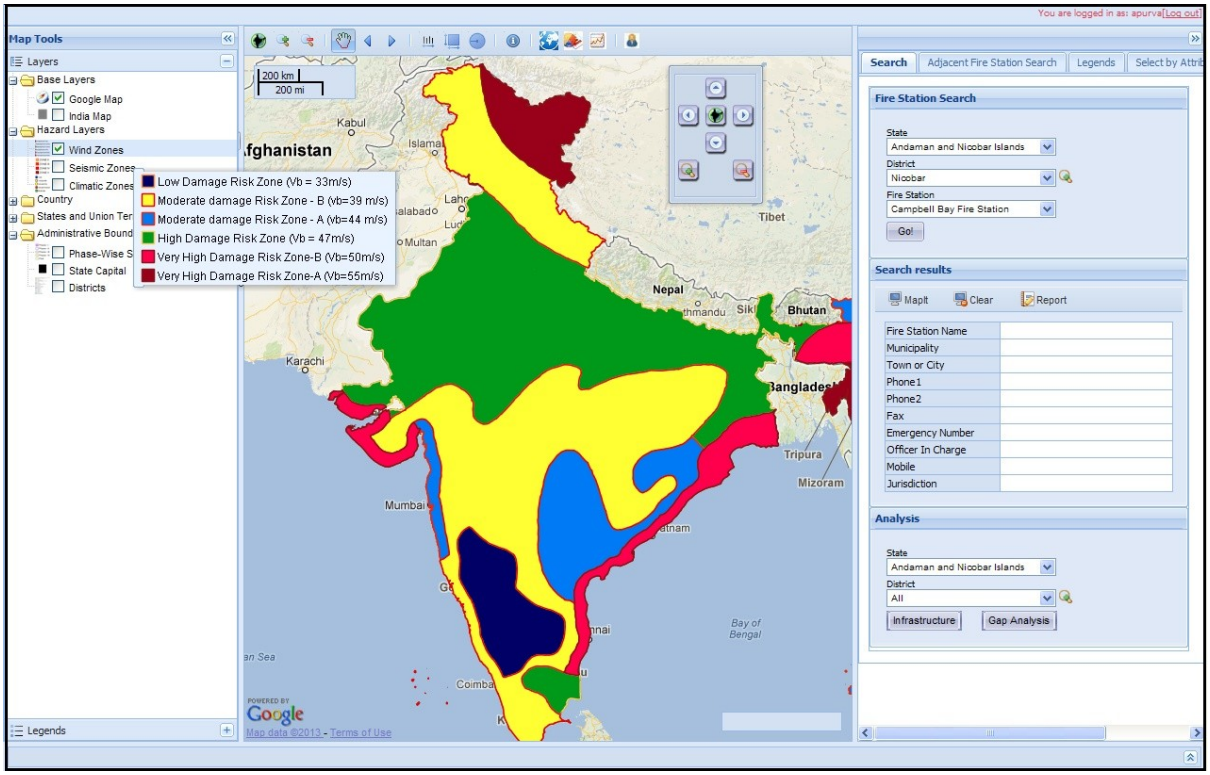


Figure 5-2: Map showing wind zones in India

5.1.2 Seismic Zones

The whole country is classified into 4 Seismic zones. To view which part of India lies under which seismic zone select the checkbox corresponding to the Seismic Zones layer. The classification and the corresponding legend popup are shown in Figure 5-3.

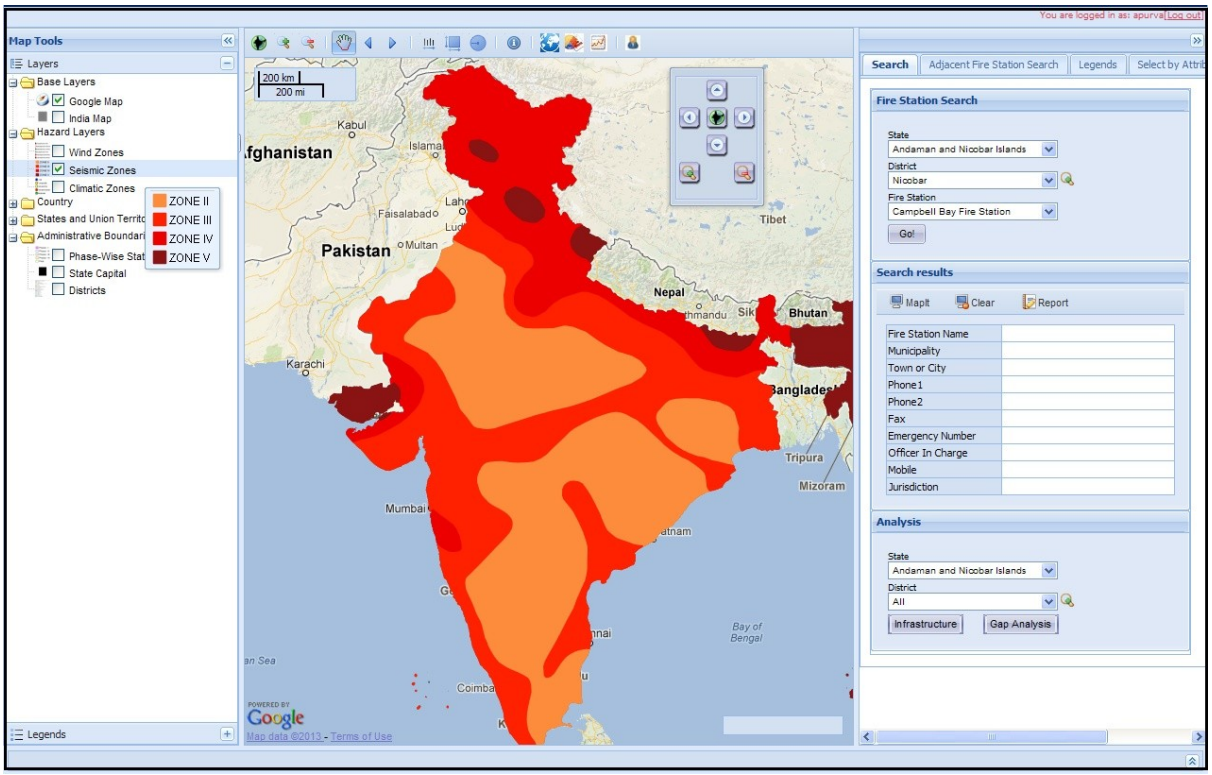


Figure 5-3: Map showing seismic zones in India

5.1.3 Climatic Zones

India has a large variation in climate from region to region due to its vast size. The climate ranges from extremely hot desert regions to high altitude locations with severely cold conditions. Climate zones are classified into 5 distinct types: cold, composite, hot and dry, hot and humid, and moderate. Select the checkbox corresponding to the Climate Zone layer to view its mapping and the corresponding Legend popup as shown in Figure 5-4.

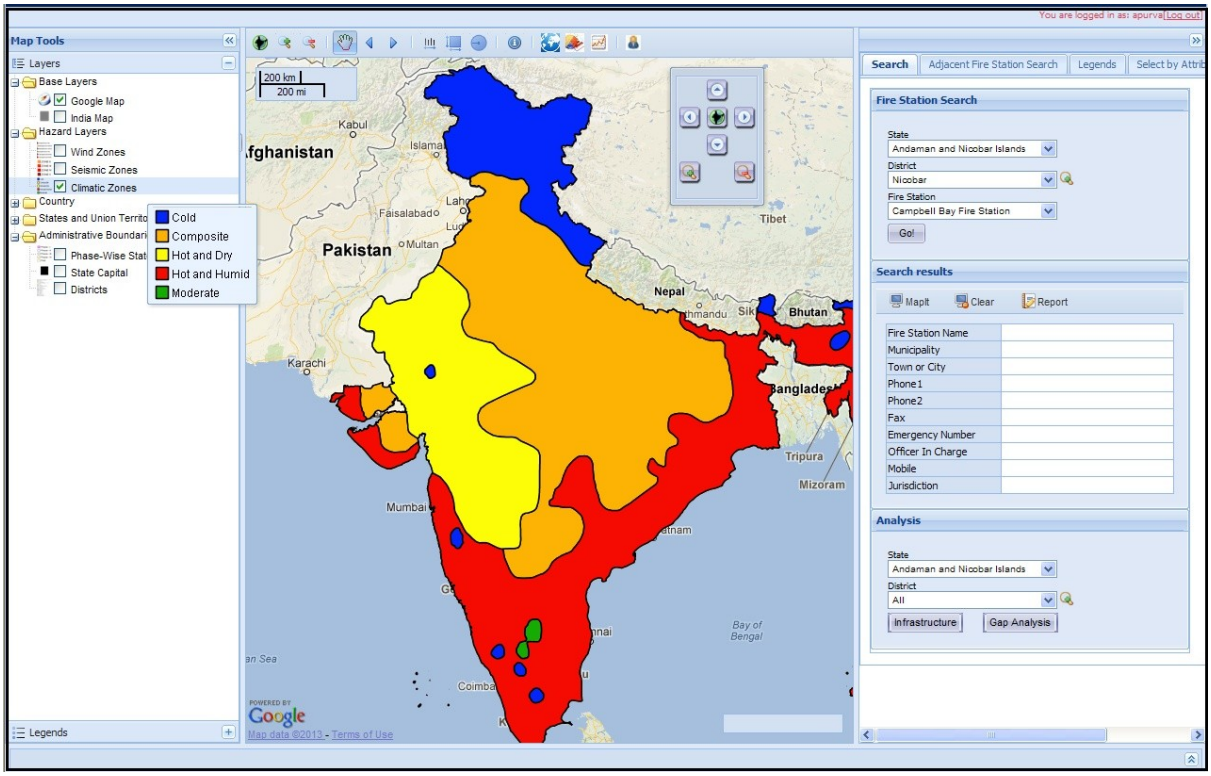


Figure 5-4: Map showing climatic zones in India

Note:

To view wind, seismic or climatic zone information at a particular location in India, use the Identify a feature tool as described in Section 3.6

5.2 Country layer

This section describes the various sub-layers under the Country layer. The tree view of the Country layer is shown in Figure 5-5 below.

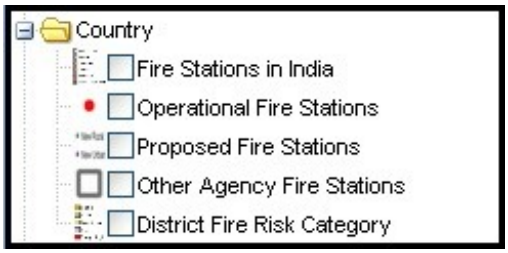


Figure 5-5: Fully expanded tree view of the Country layer

5.2.1 Fire Station Density in India

FDSS has classified the density of fire stations in India into 6 different categories. Select the Fire Stations in India checkbox to view its mapping and the corresponding Legend popup as shown in Figure 5-6.

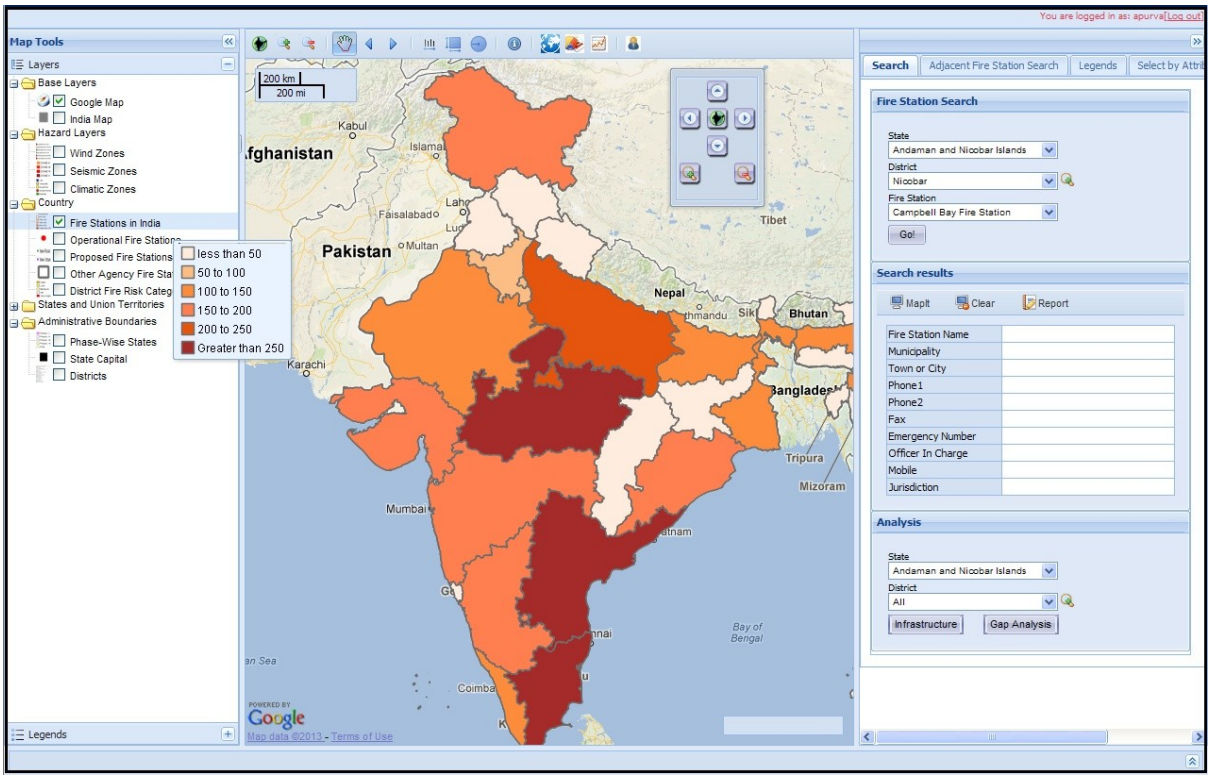


Figure 5-6: Fire Station Density in India

5.2.2 Operational Fire Stations

Operational Fire Stations layer include all working fire stations in the country and which are available for fire emergency. Select the Operational Fire Stations checkbox to view the operational fire stations in the Map window as shown in Figure 5-7.

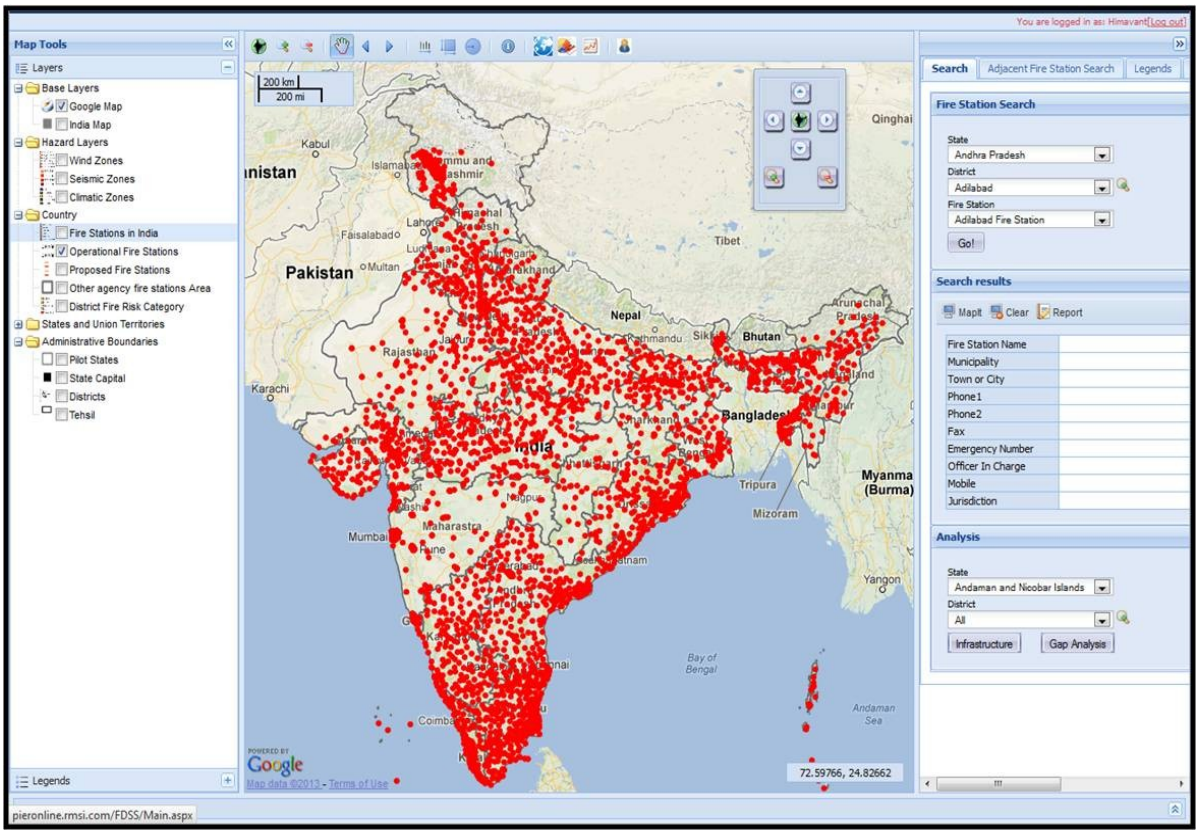


Figure 5-7: Operational Fire Stations in India

5.2.3 Proposed Fire Stations

Proposed Fire Stations include all the fire stations which are proposed in addition to Operational Fire stations. These proposed fire stations are derived from response time based GIS analysis based on road networks and risk categories. Select the Proposed Fire Stations checkbox to view the proposed rural and urban fire stations in the Map window as shown in Figure 5-8.

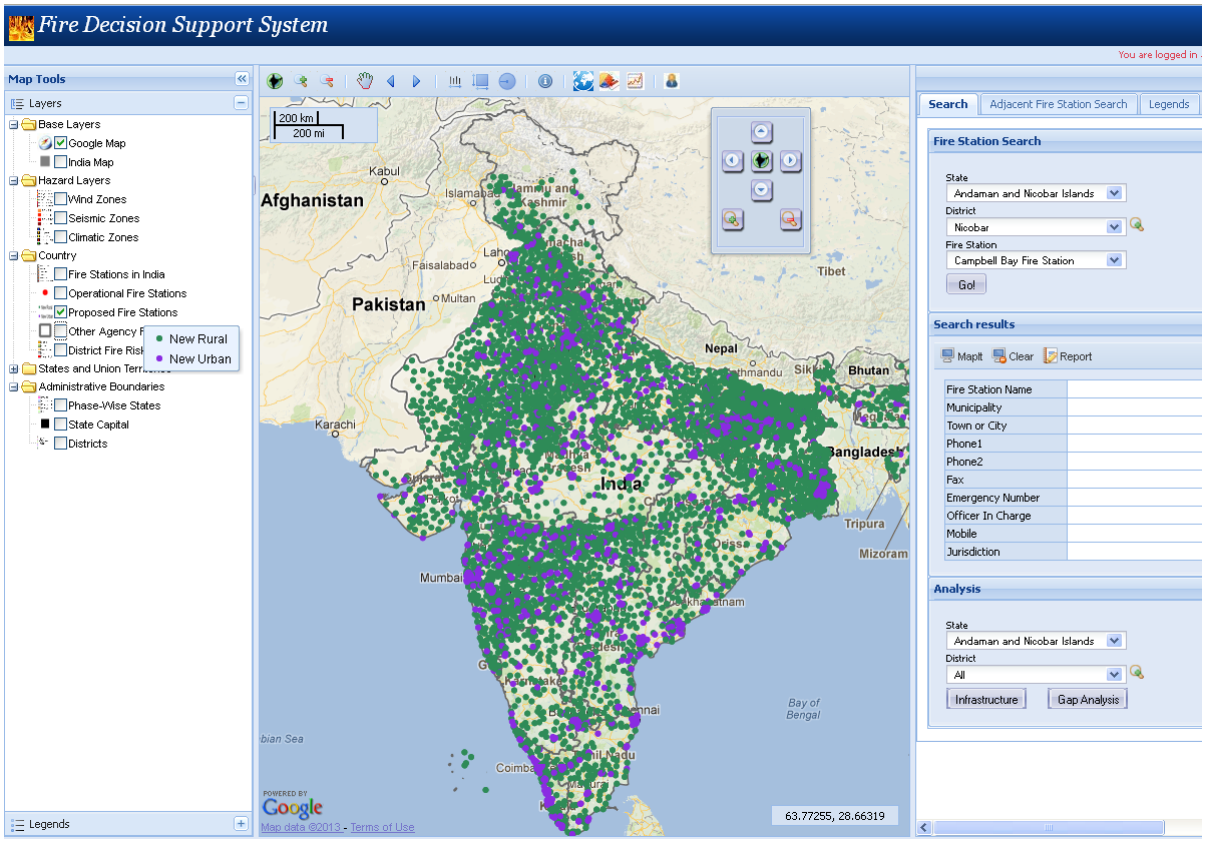


Figure 5-8: Proposed Fire Stations in India

5.2.4 Other Agency Fire Stations Area

Other agency fire station area includes service area being served by other agencies such as private establishments in industrial estates, fire stations under thermal power plants, public sector industrial compounds etc. Select the Other Agency Fire Station Area checkbox to view the layer in the Map window.

The user has to zoom into a particular area in the Map window, to be able to view this layer. As an example, Figure 5-9 shows one such area served by other agency fire station in Ahmadabad, Gujarat.

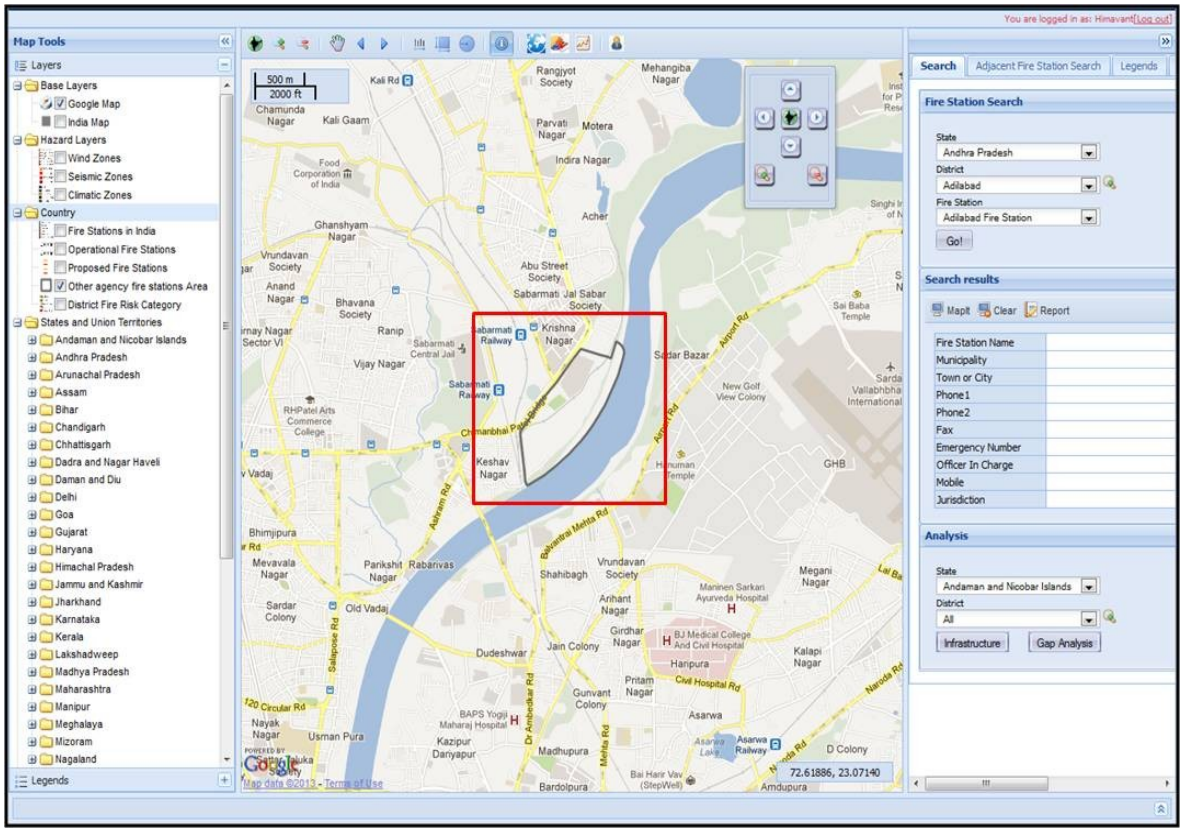


Figure 5-9: Other Agency Fire Stations Area

5.2.5 District Fire Risk Category

The project team has categorized districts of India into 5 fire risk categories (viz. Very High, High, Medium, and Low) based on weighted overlay of various hazard and risk factors. Select the District Fire Risk Category checkbox to view the district level risk and the corresponding Legend popup as shown in Figure 5-10. For more details refer to Section 4.2

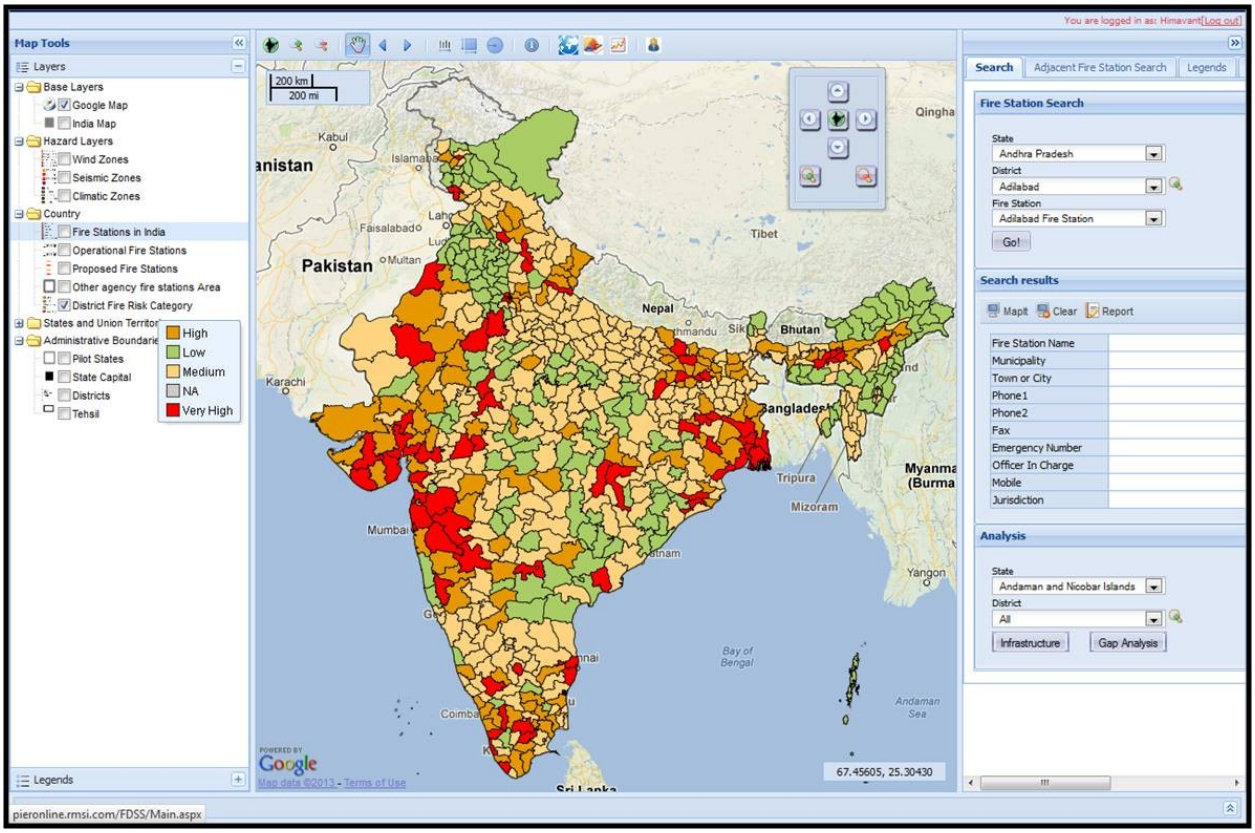


Figure 5-10: District Fire Risk Category in India

Note: To view fire risk category information at a particular location in India, use the Identify a feature tool as described in Section 3.6.

5.3 States and Union Territories layer

As mentioned earlier in Section 3.3.2.4, The States and Union Territories layer includes thirty five layers, each devoted to a single state or union territory. Under each State or Union Territory layer, there are several sub layers, namely, Major Roads, Minor Roads, Rail Network, Land Use Land Cover, Built up Area and Ideal urban fire station jurisdiction.

As an example, the expanded tree view of Delhi State illustrating the sub-layers is shown in Figure 5-11. However, not all the States or Union Territories would necessarily have all the sub layers.

Figure 5-11: Expanded view of Delhi state illustrating sub-layers

5.3.1 Major Roads

Select the Major Roads checkbox to view it in the Map window as shown in Figure 5-12.The Major roads include highways and main roads for each State/ UT.

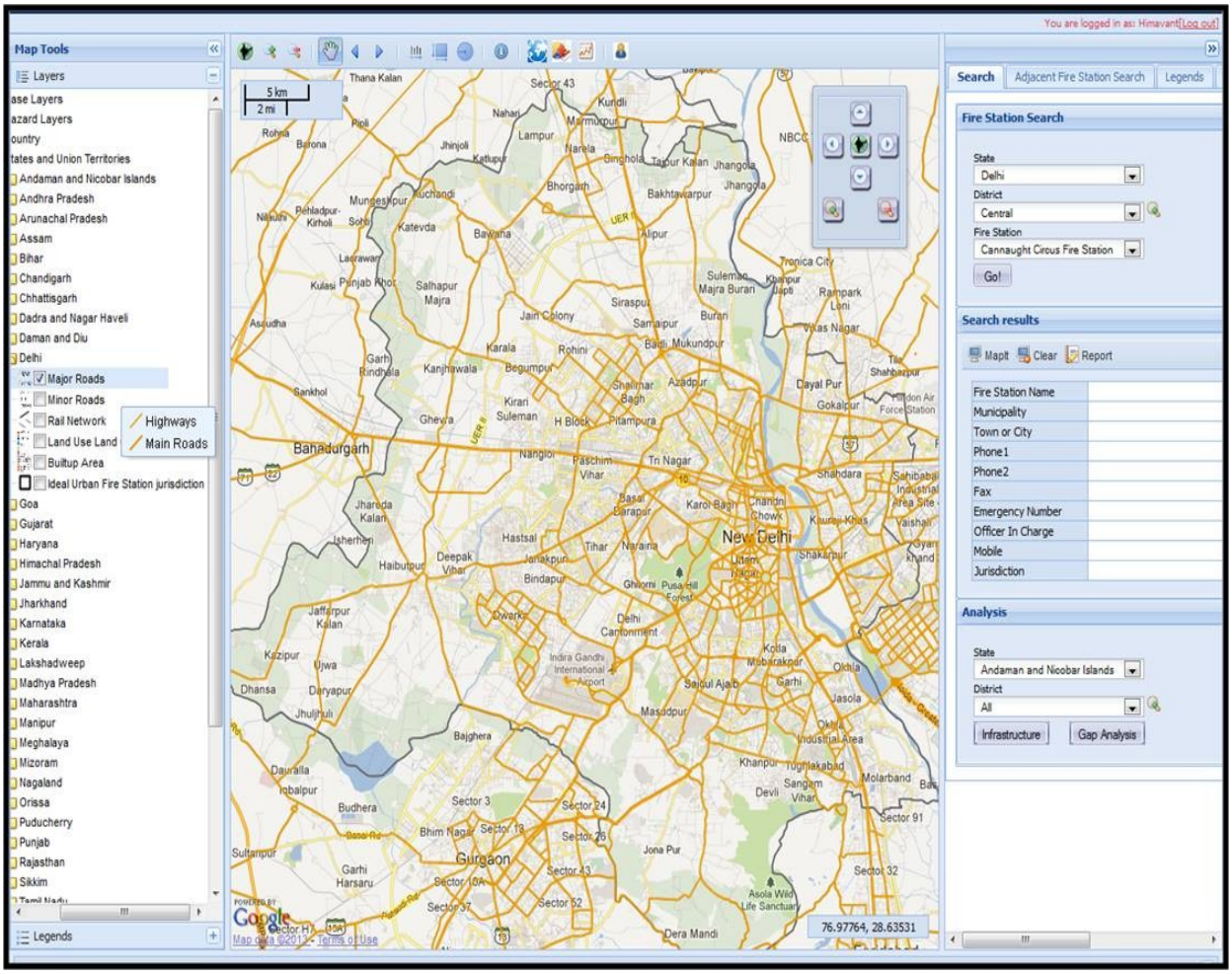


Figure 5-12: Major Roads of Delhi

5.3.2 Minor Roads

Select the Minor Roads checkbox to view it in the Map window as shown in Figure 5-13. Minor Roads include some Bypass roads, Streets and Other minor roads.

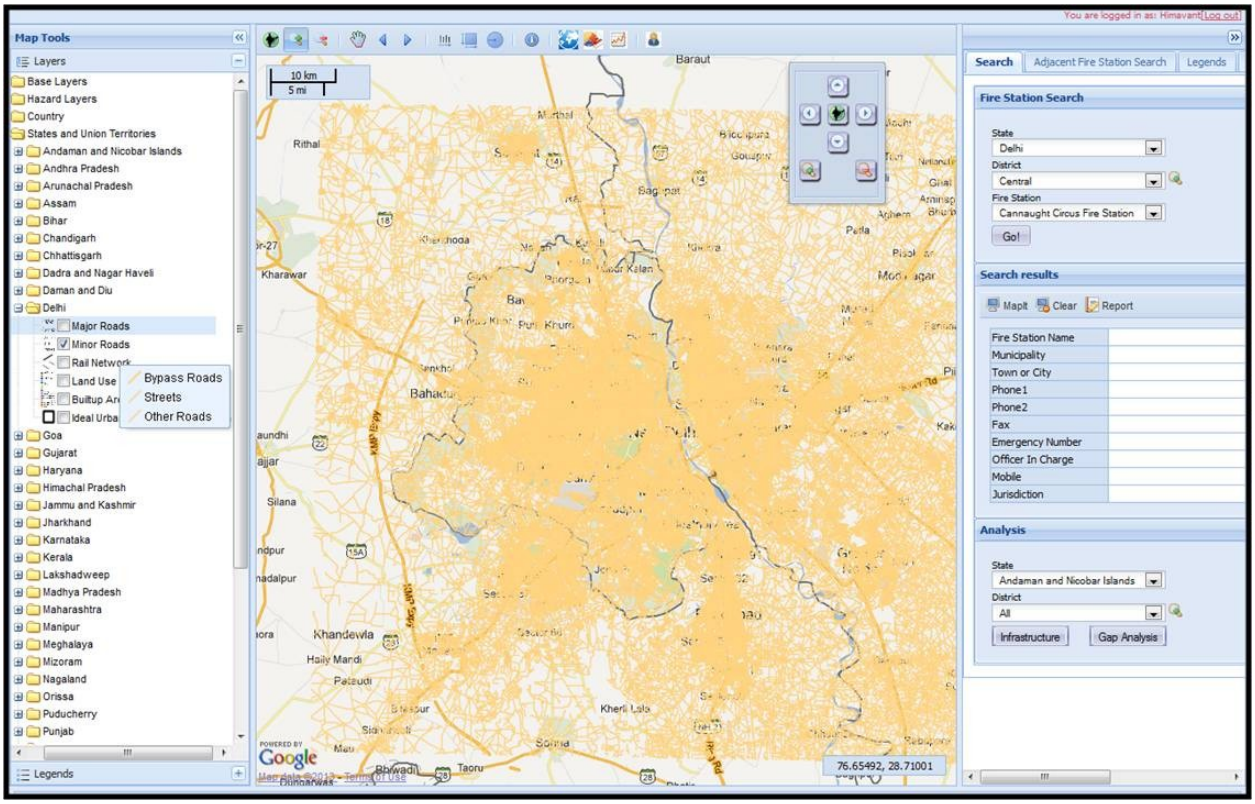


Figure 5-13: Minor Roads of Delhi

5.3.3 Rail Network

Select the Rail Network checkbox to view it in the Map window as shown in Figure 5-14.

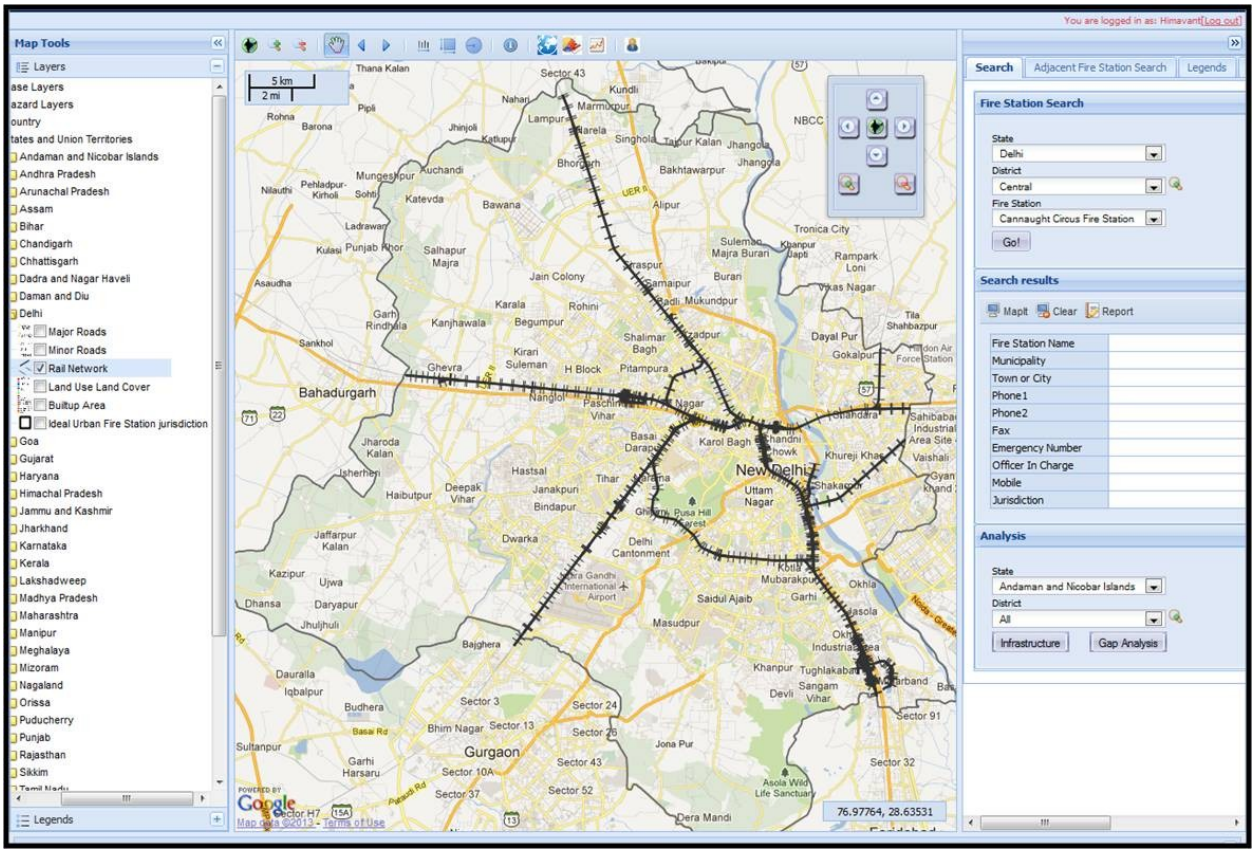


Figure 5-14: Rail Network of Delhi

5.3.4 Land Use Land Cover

Land Use Land Cover involves the classification of land into various categories by classifying raw satellite data. Basically, the Land Use and Land Cover (LULC) data files describe the vegetation, water bodies, natural surface, and cultural features on the land surface. Select the checkbox corresponding to land use land cover to view its mapping as shown in Figure 5-15.

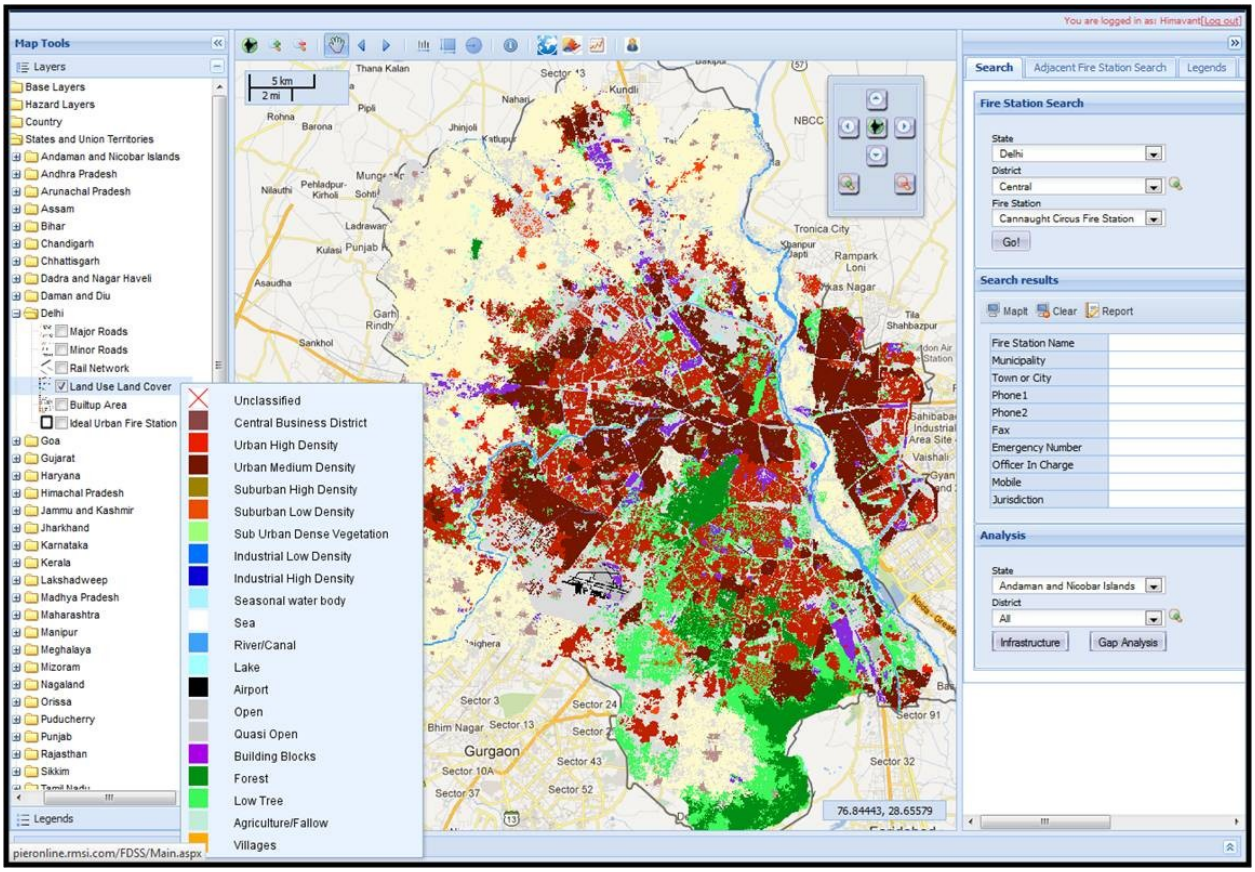


Figure 5-15: Land Use Land Cover of Delhi

5.3.5 Built-up Area

Built up area represents the classified building footprints in an area according to its usage and the types of structures. Select the Built up Area checkbox to view its mapping and the corresponding Legend popup as shown in Figure 5-16.

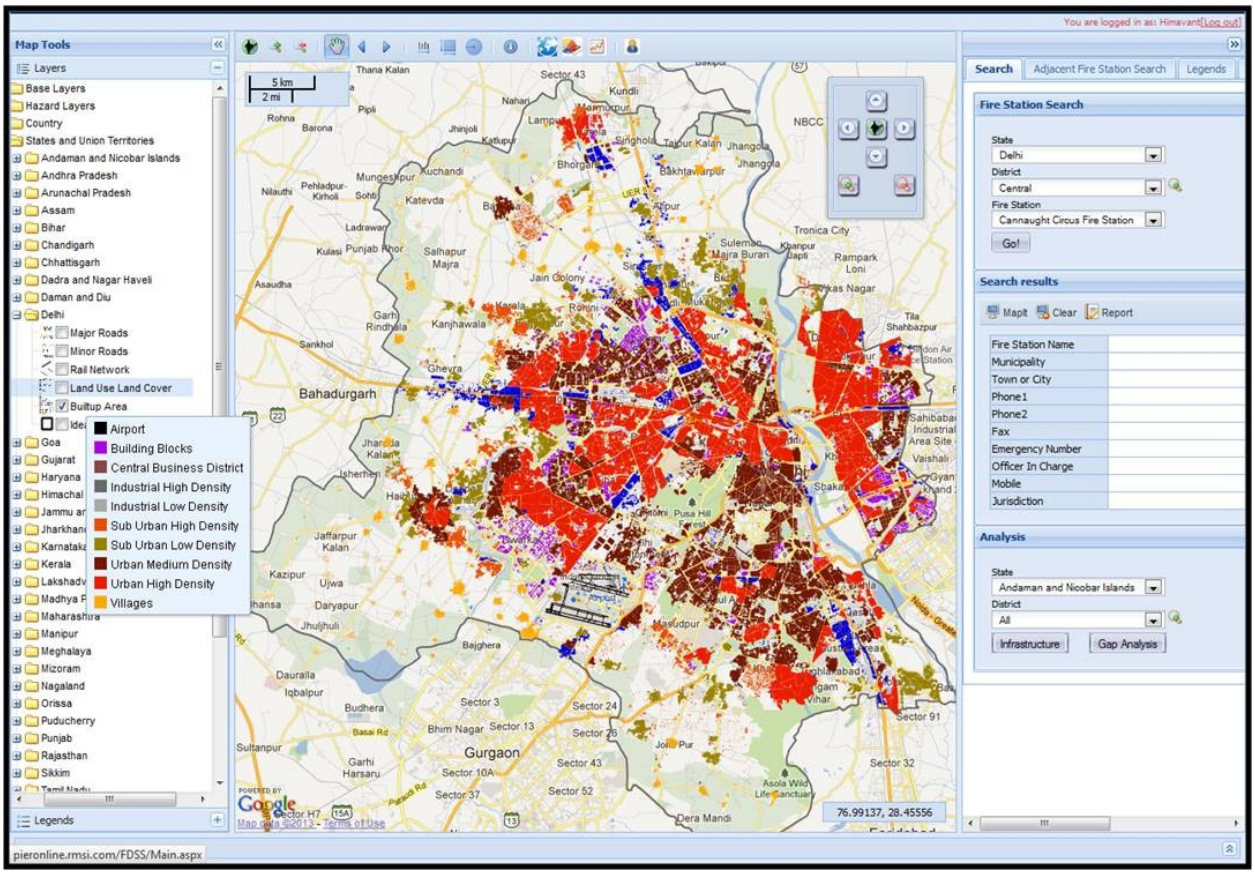


Figure 5-16: Built-up area of Delhi

5.3.6 Ideal Urban Fire Station Jurisdiction

This layer shows the ideal service area of an operational urban fire station based on response time of a firefighting vehicle to reach the fire scene. Ideal Urban fire station jurisdiction areas are delineated for redeploying proper coverage of each fire station through GIS analysis. This analysis comes from travel time taken by a fire engine to reach the place of fire incidence and risk assessment in the area. Select the Ideal Urban Fire Station Jurisdiction checkbox to view its mapping as shown in Figure 5-17.

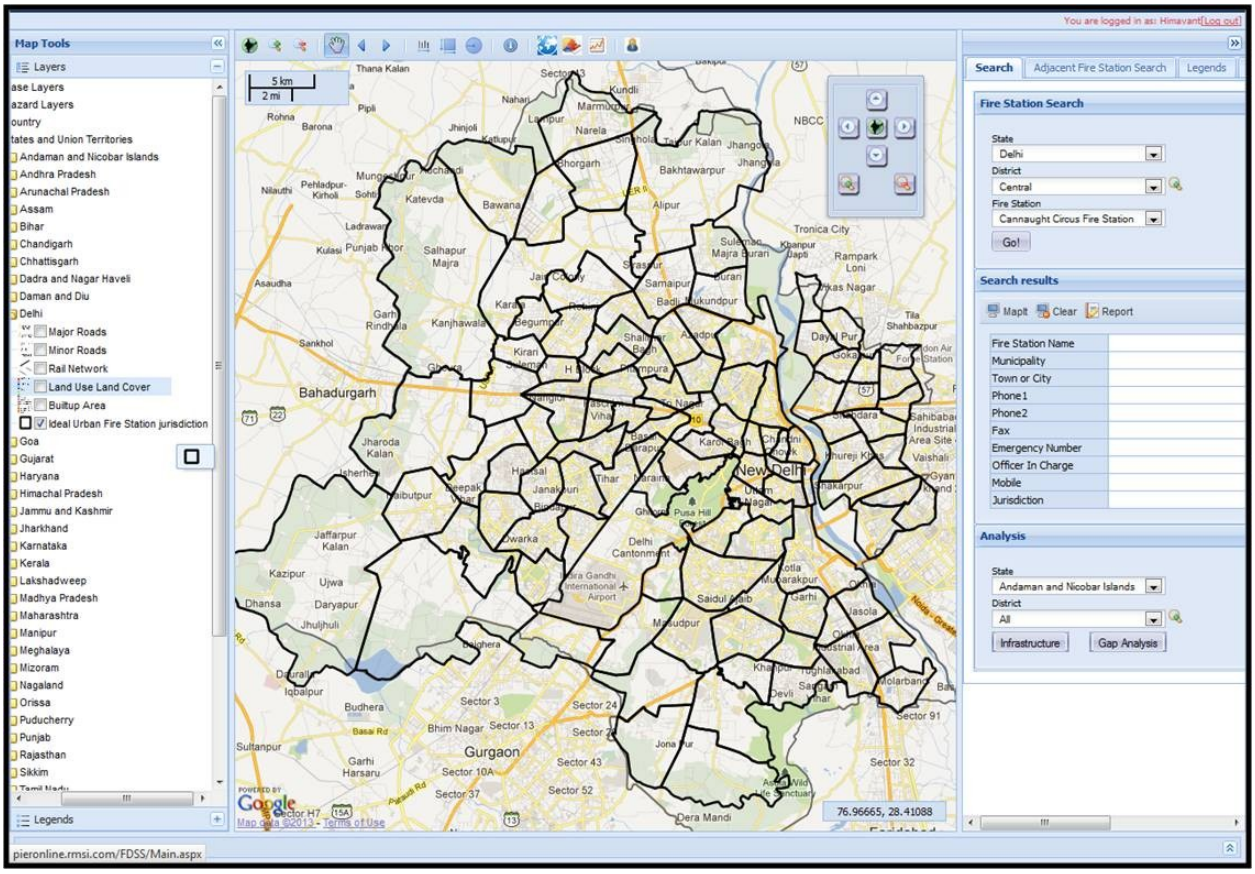


Figure 5-17: Ideal Urban Fire Station Jurisdictions of Delhi

5.4 Administrative Boundaries layer

The Administrative Boundaries layer includes three layers, namely, Phase-Wise States, State Capital and Districts layers. The expanded tree view of the Administrative Boundaries layer illustrates the complete menu and is shown in Figure 5-18.

Figure 5-18: Expanded Tree view of Administrative Boundaries layer

5.4.1 Phase-Wise States

This layer displays the states covered under the five different phases of the development of the Fire Hazard and Risk Analysis project. These States can be viewed by selecting the Phase-Wise States checkbox under Administrative Boundaries layer as shown by the red highlighted rectangle in Figure 5-19.

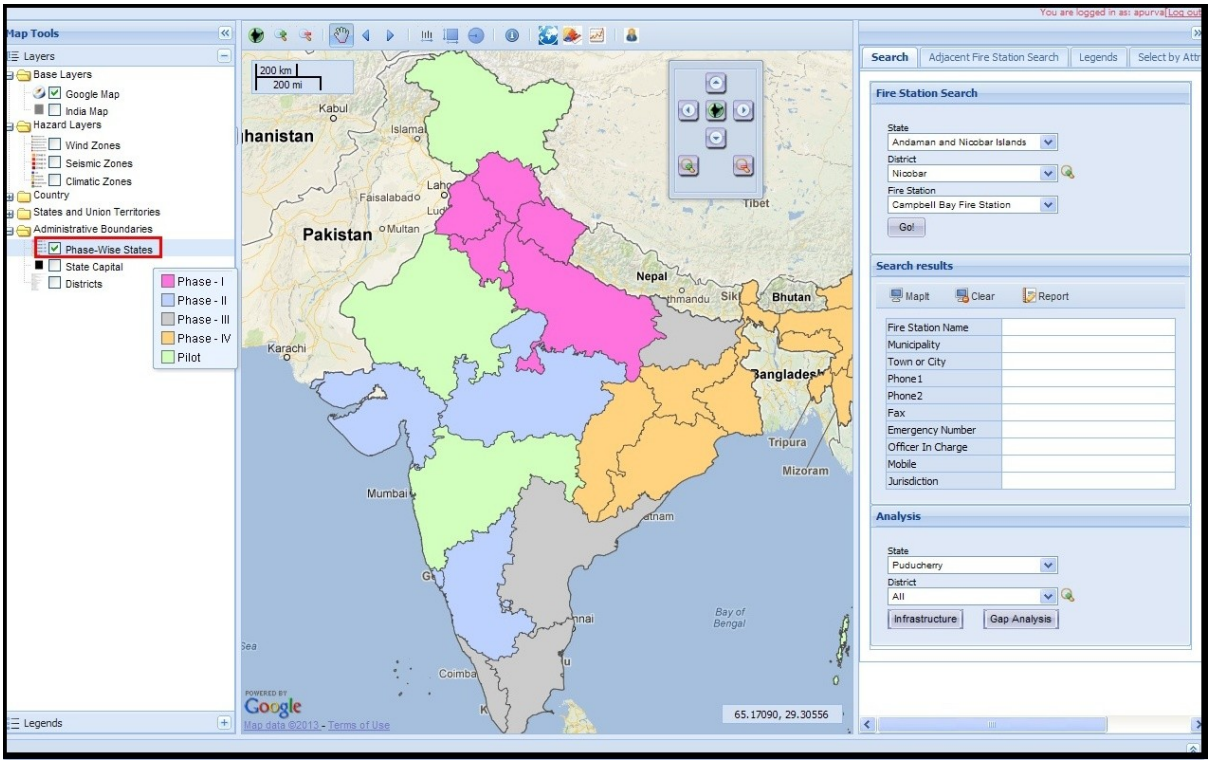


Figure 5-19: Map showing phase wise states in India

5.4.2 State/UT Capital

This layer displays the state capitals of all the Indian states/UTs. The state/UT capitals can be viewed by selecting the State/UT Capital checkbox under Administrative Boundaries layer as shown in Figure 5-20.

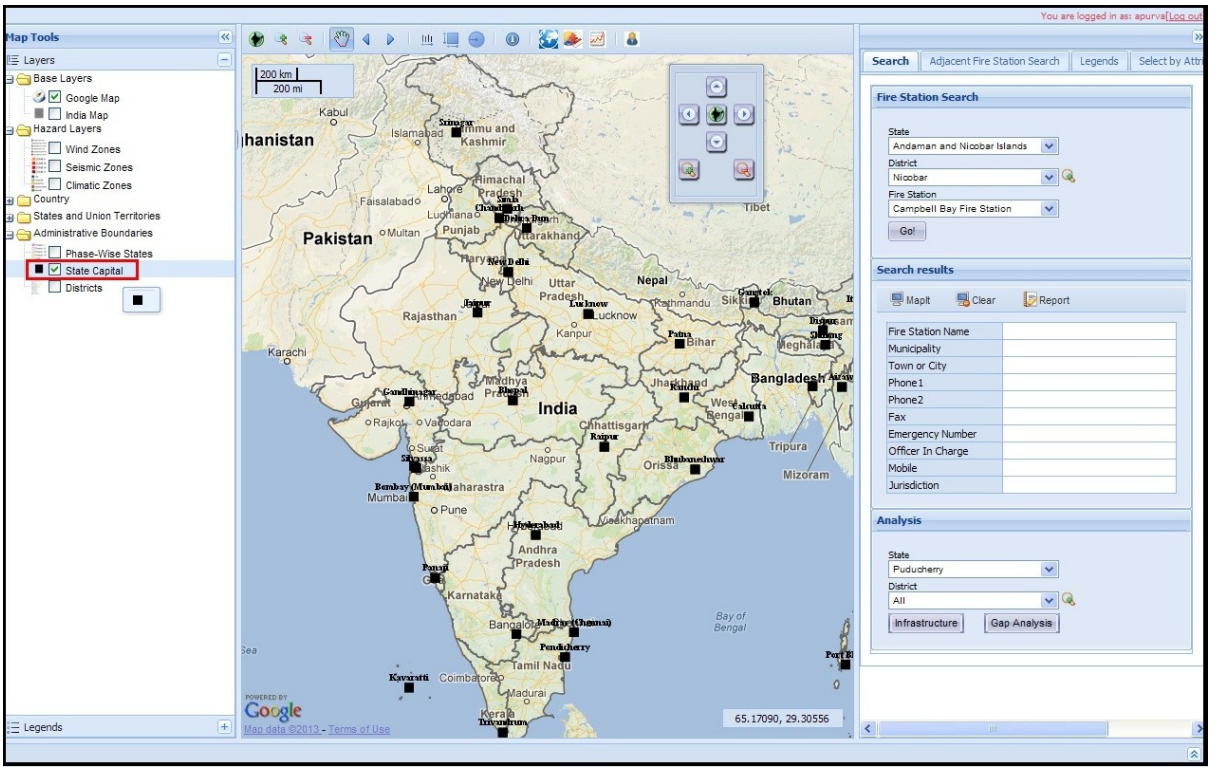


Figure 5-20: Map showing State Capital

5.4.3 Districts

This layer displays all the districts in India along with their boundaries. The district boundaries can be viewed by selecting the Districts checkbox under Administrative Boundaries as shown by the red highlighted rectangle in Figure 5-21.

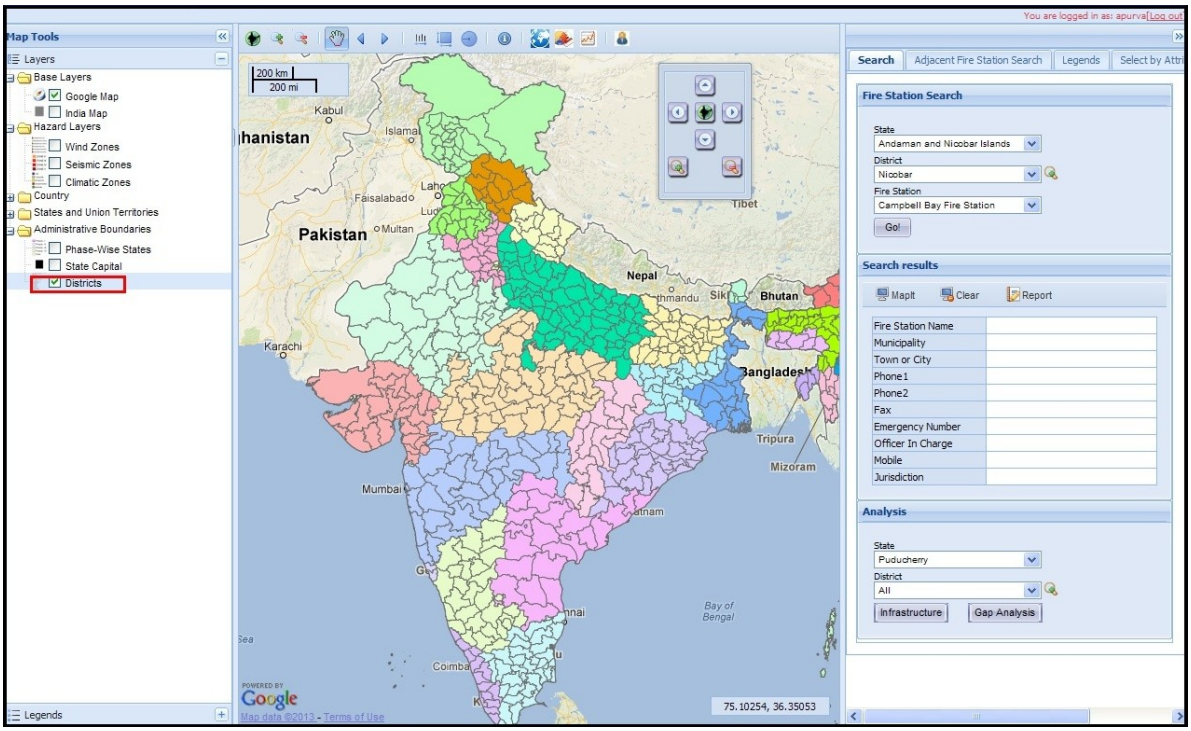


Figure 5-21: Map showing districts in India

6 User Management

As already stated in the Getting Started section, FDSS has two types of users, namely:

1. Administrator
2. Normal User

The User button on the toolbar is enabled only when a user logs in as an Administrator (Refer to area highlighted by red rectangle in the toolbar in Figure 6-1).

1. Click on the User button in the toolbar to display the User Management window. This window lists all existing Administrative and Normal users in the FDSS as shown in Figure 6-1 below with the red highlighted rectangle at the centre.

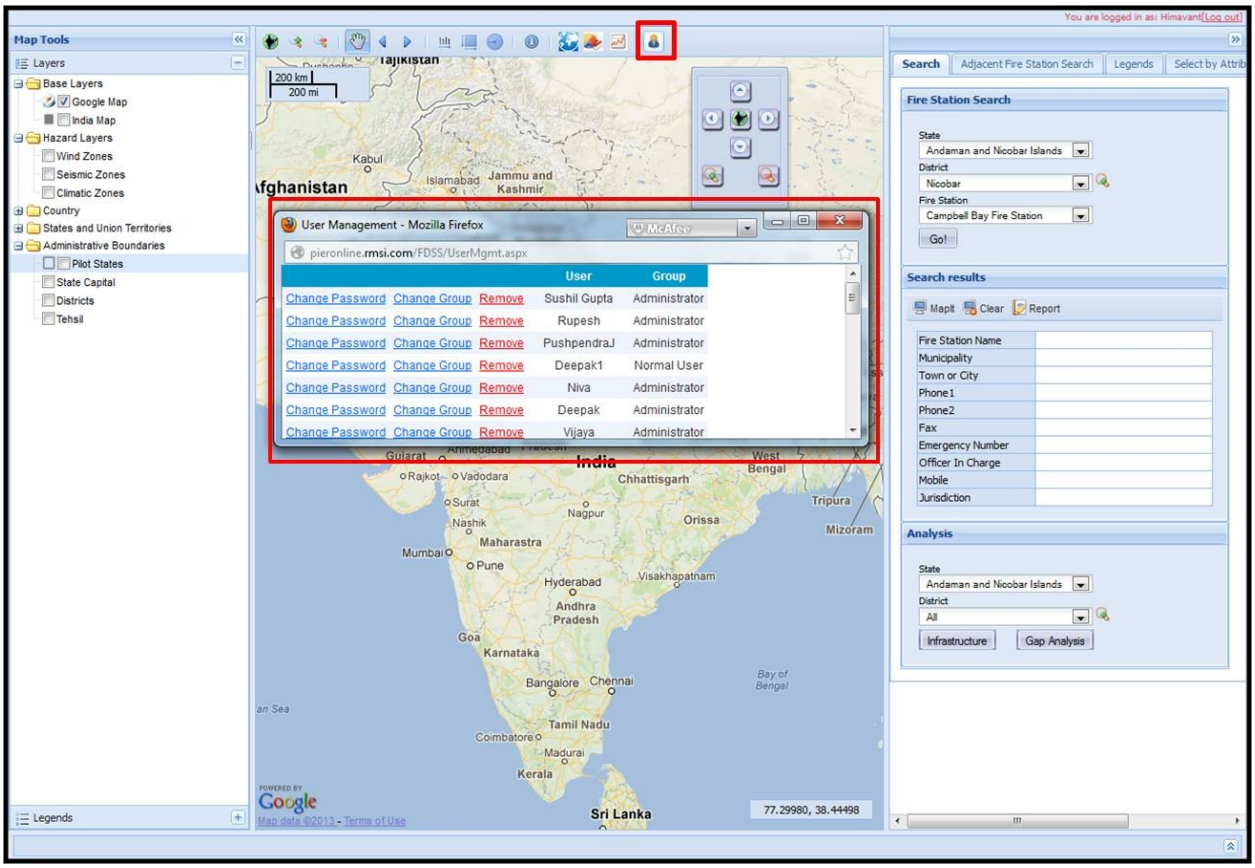


Figure 6-1: User Management window

The user management window is depicted in Figure 6-2 to illustrate the various management tasks which can be carried out by an FDSS administrator. The User (Orange Circle in Figure 6-2) column lists the Usernames and Group (Red Circle in Figure 6-2) column lists the corresponding User Type.

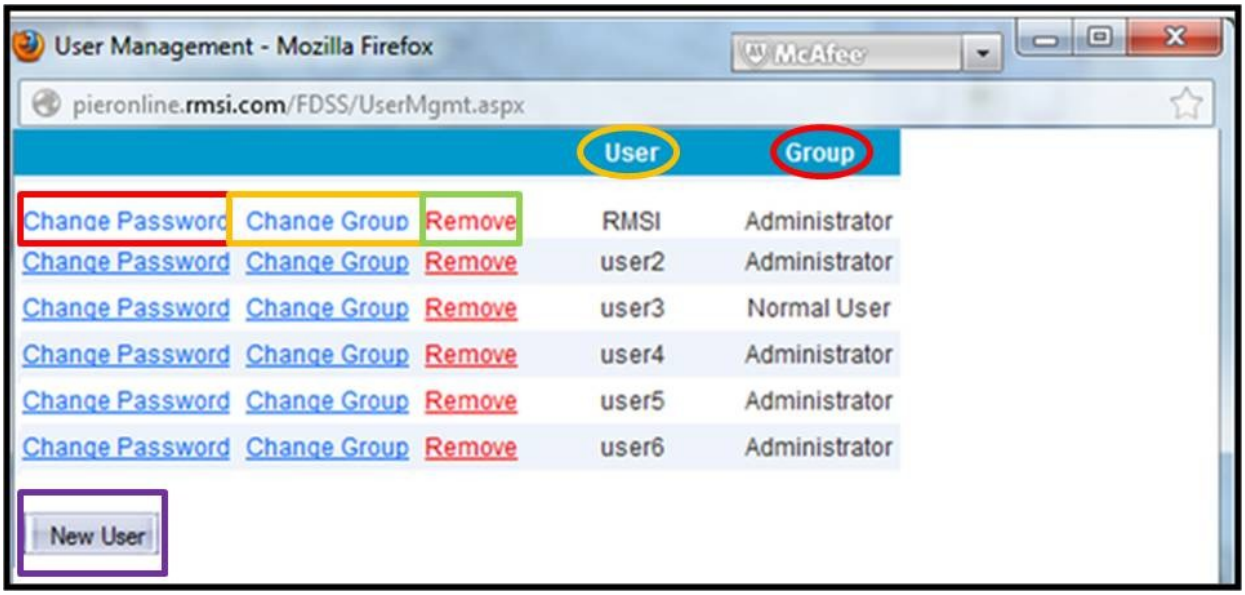


Figure 6-2: User Management window illustrating Administrator tasks

6.1 Change password

1. To change the password, click the Change Password link in the first column (Red Box in Figure 6-2) corresponding to the user whose password needs to be changed. This displays the Change Password window as shown in Figure 6-3.

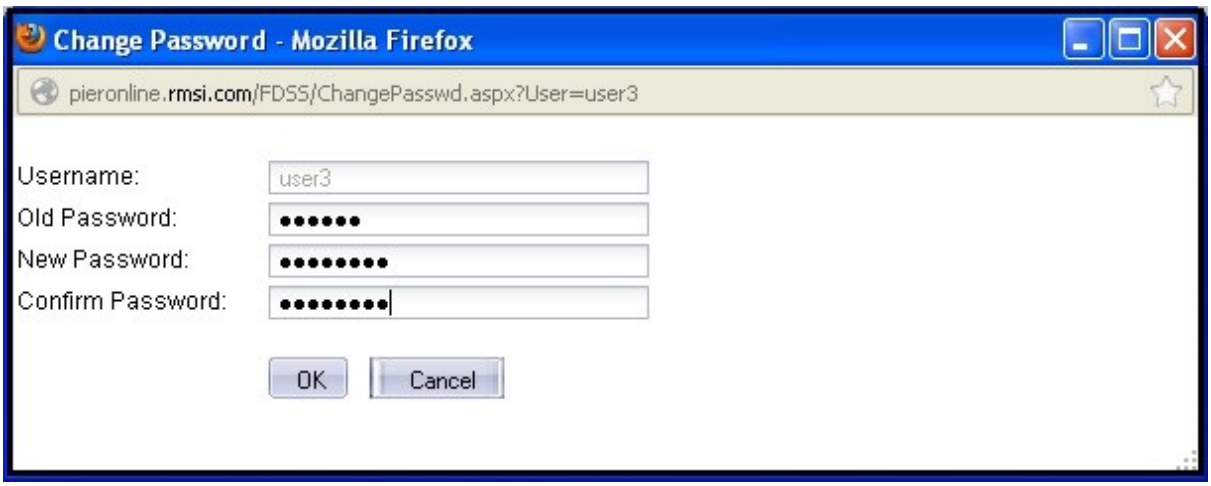


Figure 6-3: Change Password window

2. Fill in the old password in Old Password textbox, new password in New Password textbox and retype new password in Confirm Password textbox as shown in Figure 6-3.
3. Click the OK button to change the password. The new password gets activated.
4. Click Cancel to abort the operation and return to the previous screen.

Note:

- Make sure the old password entered is correct. No change is done if the old password is incorrect.
- Only alphanumeric characters are allowed.

6.2 Change Group

1. To change the group, click the Change Group link in the second column (Orange Box in Figure 6-2) corresponding to the user whose group needs to be changed. This displays the Change Group window as shown in Figure 6-4.

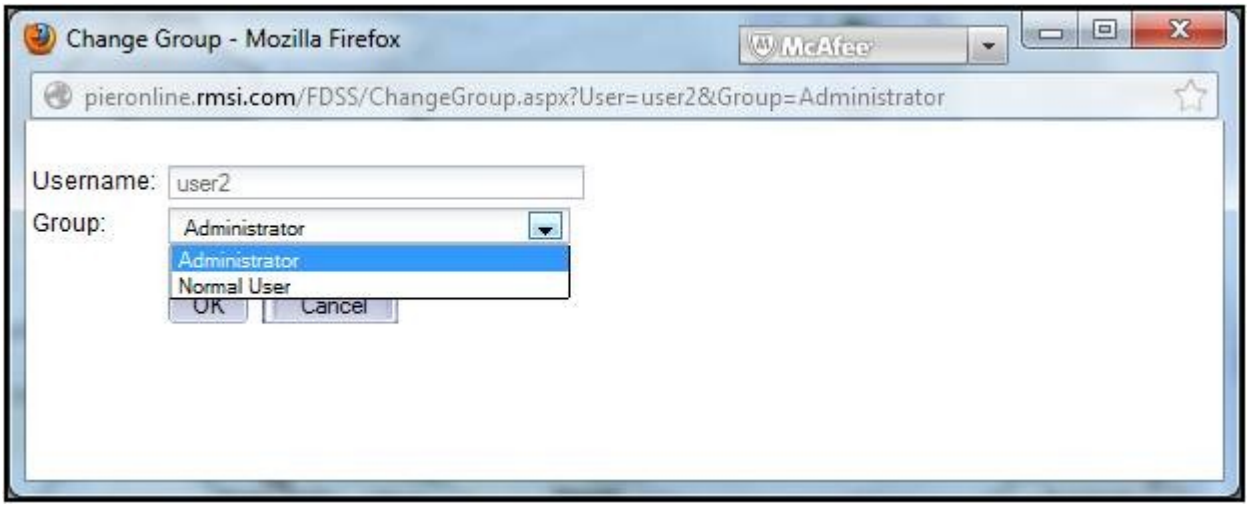


Figure 6-4: Change Group window

2. Select Administrator or Normal User from the Group dropdown list.
3. Click OK to change the group.
4. Click Cancel to abort the operation and return to the previous screen.

6.3 Add New User

1. To add a new user click the New User button at the bottom left of the User Management window (Purple box in Figure 6-2). This displays the Create New User window as shown in Figure 6-5.

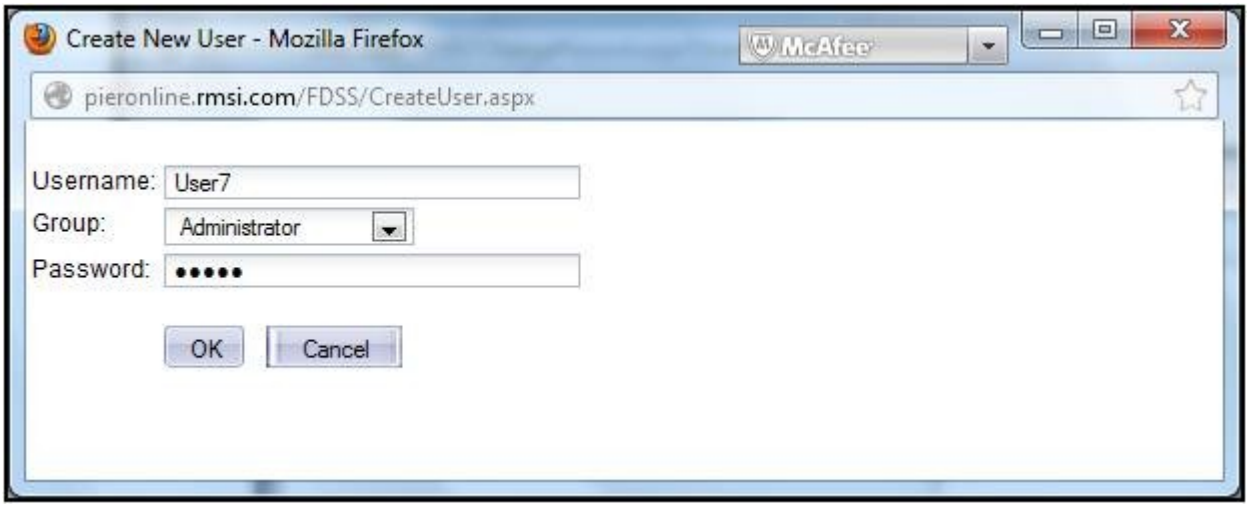


Figure 6-5: Create New User window

2. Type a user name in the Username textbox.
3. Select the Group from the Group dropdown. The two options available are Administrator and Normal User.
4. Type in a password in the Password textbox.
5. Click OK to add a new user to the system.
6. Click Cancel to abort the operation and return to the previous screen.

6.4 Remove an existing user

1. Click the Remove link as shown in the User Management window (Green Box in Figure 6-2) to remove the user from the list.
2. A prompt pop-up opens on the screen to confirm/cancel the operation as shown in Figure 6-6.

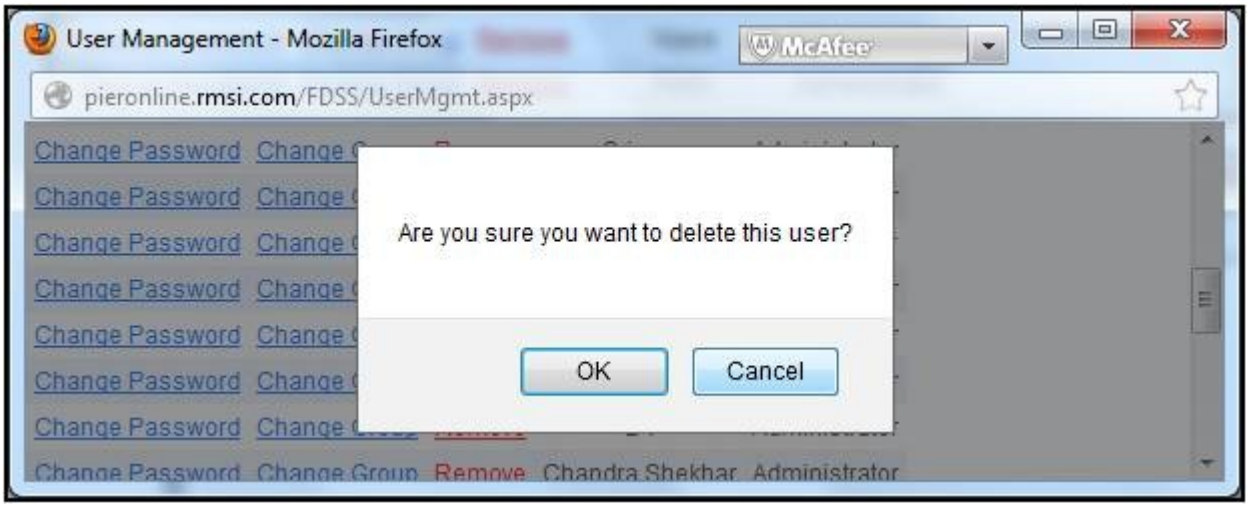


Figure 6-6: Remove user prompt window

3. Click OK to delete the selected user. The deleted user will not be able to log into the system with the earlier assigned user name and password.
4. Click Cancel to abort the operation and return to the previous screen.

7 Annexure: FDSS desktop application

Fire Decision Support System has been developed as an exposure and risk tracking solution that utilizes geospatial technologies to improve identification, assessment and monitoring of fire risk across the country. Along with the FDSS web application (available to all authorized users); an FDSS desktop application has also been developed (available only to users with administrative rights). The FDSS desktop application facilitates entering large amounts of data on fire stations in a quick, easy, and efficient manner. The desktop application provides two tools viz., Data Import Utility tool and Master Table editing tool :

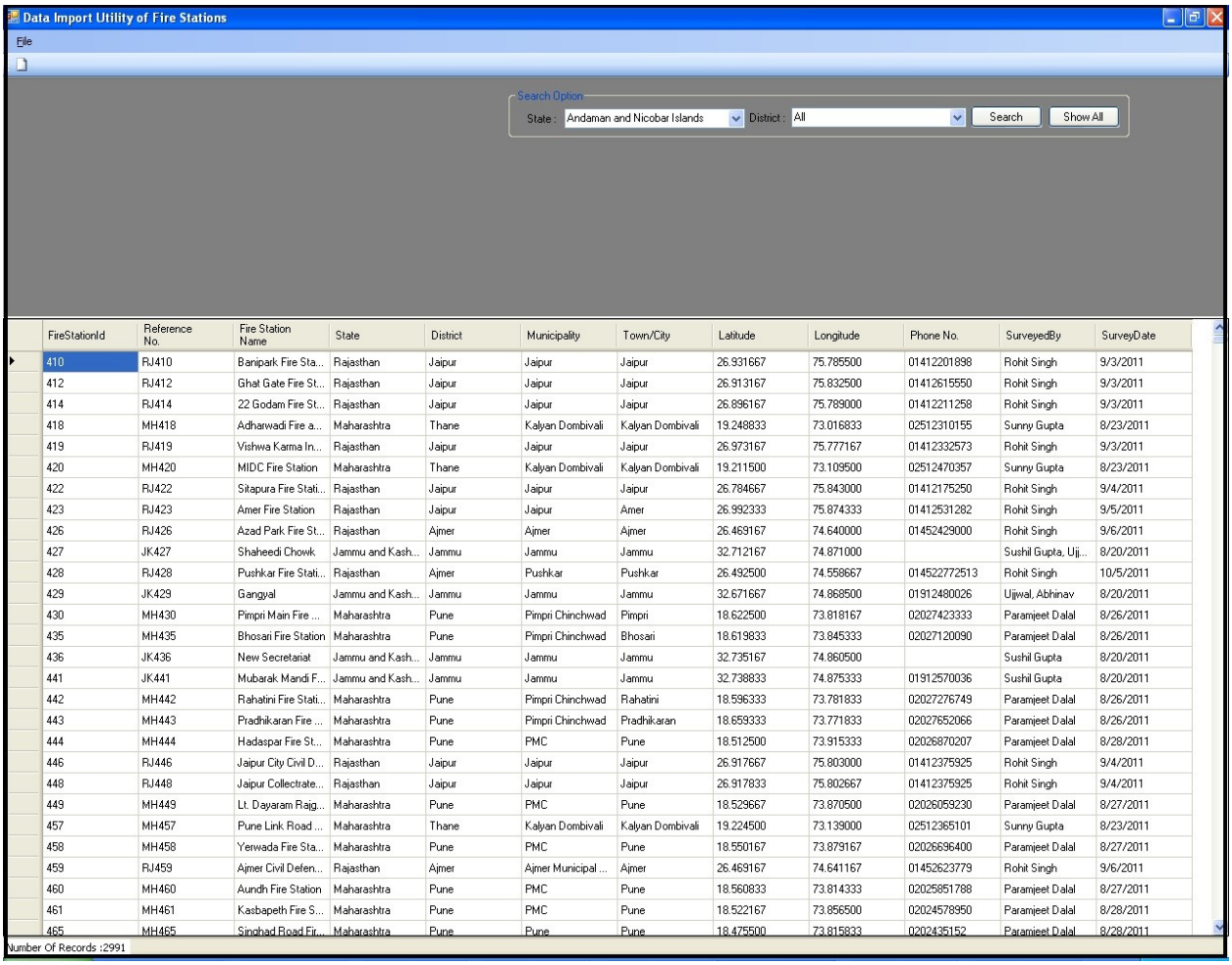
1. Data Import Utility tool contains data on all existing fire stations. It allows administrative users to add new fire stations and edit (add, alter, delete) data on existing fire stations.
2. Master Table editing tool allows administrative users to edit (add, alter, delete) the master table containing data on all the ideal and new proposed fire stations in India that have been generated by applying GIS analysis as part of this project.

This Annexure provides users step-by-step assistance in using the Data Import Utility tool and the Fire DSS Editing tool effectively.

7.1 Data Import Utility tool

7.1.1 Opening the tool

Double click on the Data Import Utility tool icon  (on the desktop of Administrator user machines) to start the application. The tool initiates as shown in Figure 7-1.



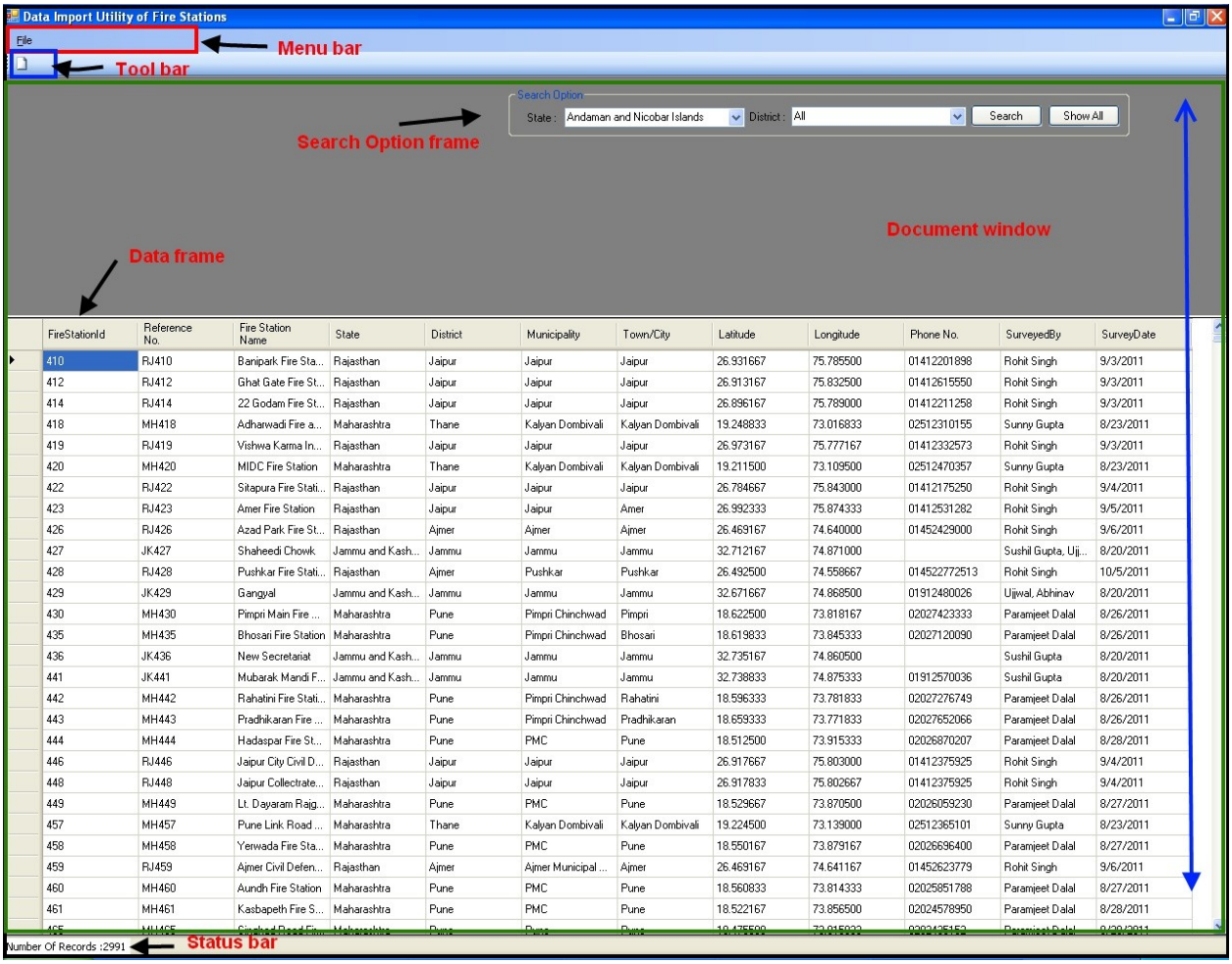
FireStationId	Reference No.	Fire Station Name	State	District	Municipality	Town/City	Latitude	Longitude	Phone No.	SurveyedBy	SurveyDate
410	RJ410	Banipark Fire Sta...	Rajasthan	Jaipur	Jaipur	Jaipur	26.931667	75.785500	01412201898	Rohit Singh	9/3/2011
412	RJ412	Ghat Gate Fire St...	Rajasthan	Jaipur	Jaipur	Jaipur	26.913167	75.832500	01412615550	Rohit Singh	9/3/2011
414	RJ414	22 Godam Fire St...	Rajasthan	Jaipur	Jaipur	Jaipur	26.896167	75.789000	01412211258	Rohit Singh	9/3/2011
418	MH418	Adharwadi Fire a...	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.248833	73.016833	02512310155	Sunny Gupta	8/23/2011
419	RJ419	Vishwa Karma In...	Rajasthan	Jaipur	Jaipur	Jaipur	26.973167	75.777167	01412332573	Rohit Singh	9/3/2011
420	MH420	MIDC Fire Station	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.211500	73.109500	02512470357	Sunny Gupta	8/23/2011
422	RJ422	Sitapura Fire Stati...	Rajasthan	Jaipur	Jaipur	Jaipur	26.784667	75.843000	01412175250	Rohit Singh	9/4/2011
423	RJ423	Amer Fire Station	Rajasthan	Jaipur	Jaipur	Amer	26.992333	75.874333	01412531282	Rohit Singh	9/5/2011
426	RJ426	Azad Park Fire St...	Rajasthan	Ajmer	Ajmer	Ajmer	26.469167	74.640000	01452429000	Rohit Singh	9/6/2011
427	JK427	Shaheedi Chowk	Jammu and Kash...	Jammu	Jammu	Jammu	32.712167	74.871000		Sushil Gupta, Uji...	8/20/2011
428	RJ428	Pushkar Fire Stati...	Rajasthan	Ajmer	Pushkar	Pushkar	26.492500	74.558667	014522772513	Rohit Singh	10/5/2011
429	JK429	Gangyal	Jammu and Kash...	Jammu	Jammu	Jammu	32.671667	74.868500	01912480026	Ujjwal, Abhinav	8/20/2011
430	MH430	Pimpri Main Fire ...	Maharashtra	Pune	Pimpri Chinchwad	Pimpri	18.622500	73.818167	02027423333	Paramjeet Dalal	8/26/2011
435	MH435	Bhosari Fire Station	Maharashtra	Pune	Pimpri Chinchwad	Bhosari	18.619833	73.845333	02027120090	Paramjeet Dalal	8/26/2011
436	JK436	New Secretariat	Jammu and Kash...	Jammu	Jammu	Jammu	32.735167	74.860500		Sushil Gupta	8/20/2011
441	JK441	Mubarak Mandi F...	Jammu and Kash...	Jammu	Jammu	Jammu	32.738833	74.875333	01912570036	Sushil Gupta	8/20/2011
442	MH442	Rahatini Fire Stati...	Maharashtra	Pune	Pimpri Chinchwad	Rahatini	18.596333	73.781833	02027276749	Paramjeet Dalal	8/26/2011
443	MH443	Pradhikaran Fire ...	Maharashtra	Pune	Pimpri Chinchwad	Pradhikaran	18.659333	73.771833	02027652066	Paramjeet Dalal	8/26/2011
444	MH444	Hadaspar Fire St...	Maharashtra	Pune	PMC	Pune	18.512500	73.915333	02026870207	Paramjeet Dalal	8/28/2011
446	RJ446	Jaipur City Civil D...	Rajasthan	Jaipur	Jaipur	Jaipur	26.917667	75.803000	01412375925	Rohit Singh	9/4/2011
448	RJ448	Jaipur Collectrate...	Rajasthan	Jaipur	Jaipur	Jaipur	26.917833	75.802667	01412375925	Rohit Singh	9/4/2011
449	MH449	Lt. Dayaram Raig...	Maharashtra	Pune	PMC	Pune	18.529667	73.870500	02026059230	Paramjeet Dalal	8/27/2011
457	MH457	Pune Link Road ...	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.224500	73.139000	02512365101	Sunny Gupta	8/23/2011
458	MH458	Yerwada Fire Sta...	Maharashtra	Pune	PMC	Pune	18.550167	73.879167	02026696400	Paramjeet Dalal	8/27/2011
459	RJ459	Ajmer Civil Defen...	Rajasthan	Ajmer	Ajmer Municipal ...	Ajmer	26.469167	74.641167	01452623779	Rohit Singh	9/6/2011
460	MH460	Aundh Fire Station	Maharashtra	Pune	PMC	Pune	18.560833	73.814333	02025851788	Paramjeet Dalal	8/27/2011
461	MH461	Kasbapeth Fire S...	Maharashtra	Pune	PMC	Pune	18.522167	73.856500	02024578950	Paramjeet Dalal	8/28/2011
465	MH465	Singhad Road Fir...	Maharashtra	Pune	Pune	Pune	18.475500	73.815833	0202435152	Paramjeet Dalal	8/28/2011

Figure 7-1: Data Import Utility tool UI

7.1.2 Data Import Utility tool interface

The interface has 4 parts as shown in Figure 7-2.

1. Menu bar (red rectangle highlight)
2. Tool bar (blue rectangle highlight)
3. Status bar
4. Document window (green rectangle highlight)



FireStationId	Reference No.	Fire Station Name	State	District	Municipality	Town/City	Latitude	Longitude	Phone No.	SurveyedBy	SurveyDate
410	RJ410	Banipark Fire Sta...	Rajasthan	Jaipur	Jaipur	Jaipur	26.931667	75.785500	01412201898	Rohit Singh	9/3/2011
412	RJ412	Ghat Gate Fire St...	Rajasthan	Jaipur	Jaipur	Jaipur	26.913167	75.832500	01412615550	Rohit Singh	9/3/2011
414	RJ414	22 Godam Fire St...	Rajasthan	Jaipur	Jaipur	Jaipur	26.896167	75.789000	01412211258	Rohit Singh	9/3/2011
418	MH418	Adharwadi Fire a...	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.248833	73.016833	02512310155	Sunny Gupta	8/23/2011
419	RJ419	Vishwa Karma In...	Rajasthan	Jaipur	Jaipur	Jaipur	26.973167	75.777167	01412332573	Rohit Singh	9/3/2011
420	MH420	MIDC Fire Station	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.211500	73.109500	02512470357	Sunny Gupta	8/23/2011
422	RJ422	Sitapura Fire Stati...	Rajasthan	Jaipur	Jaipur	Jaipur	26.784667	75.843000	01412175250	Rohit Singh	9/4/2011
423	RJ423	Amer Fire Station	Rajasthan	Jaipur	Jaipur	Amer	26.992333	75.874333	01412531282	Rohit Singh	9/5/2011
426	RJ426	Azad Park Fire St...	Rajasthan	Ajmer	Ajmer	Ajmer	26.469167	74.640000	01452429000	Rohit Singh	9/6/2011
427	JK427	Shaheedi Chowk	Jammu and Kash...	Jammu	Jammu	Jammu	32.712167	74.871000		Sushil Gupta, Uji...	8/20/2011
428	RJ428	Pushkar Fire Stati...	Rajasthan	Ajmer	Pushkar	Pushkar	26.492500	74.558667	014522772513	Rohit Singh	10/5/2011
429	JK429	Gangyal	Jammu and Kash...	Jammu	Jammu	Jammu	32.671667	74.868500	01912480026	Ujjwal, Abhinav	8/20/2011
430	MH430	Pimpri Main Fire ...	Maharashtra	Pune	Pimpri Chinchwad	Pimpri	18.622500	73.818167	02027423333	Paramjeet Dalal	8/26/2011
435	MH435	Bhosari Fire Station	Maharashtra	Pune	Pimpri Chinchwad	Bhosari	18.619833	73.845333	02027120090	Paramjeet Dalal	8/26/2011
436	JK436	New Secretariat	Jammu and Kash...	Jammu	Jammu	Jammu	32.735167	74.860500		Sushil Gupta	8/20/2011
441	JK441	Mubarak Mandi F...	Jammu and Kash...	Jammu	Jammu	Jammu	32.738833	74.875333	01912570036	Sushil Gupta	8/20/2011
442	MH442	Rahatini Fire Stati...	Maharashtra	Pune	Pimpri Chinchwad	Rahatini	18.596333	73.781833	02027276749	Paramjeet Dalal	8/26/2011
443	MH443	Pradhikaran Fire ...	Maharashtra	Pune	Pimpri Chinchwad	Pradhikaran	18.659333	73.771833	02027652066	Paramjeet Dalal	8/26/2011
444	MH444	Hadaspar Fire St...	Maharashtra	Pune	PMC	Pune	18.512500	73.915333	02026870207	Paramjeet Dalal	8/28/2011
446	RJ446	Jaipur City Civil D...	Rajasthan	Jaipur	Jaipur	Jaipur	26.917667	75.803000	01412375925	Rohit Singh	9/4/2011
448	RJ448	Jaipur Collectrate...	Rajasthan	Jaipur	Jaipur	Jaipur	26.917833	75.802667	01412375925	Rohit Singh	9/4/2011
449	MH449	Lt. Dayaram Rajg...	Maharashtra	Pune	PMC	Pune	18.529667	73.870500	02026059230	Paramjeet Dalal	8/27/2011
457	MH457	Pune Link Road ...	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.224500	73.139000	02512365101	Sunny Gupta	8/23/2011
458	MH458	Yerwada Fire Sta...	Maharashtra	Pune	PMC	Pune	18.550167	73.879167	02026696400	Paramjeet Dalal	8/27/2011
459	RJ459	Ajmer Civil Defen...	Rajasthan	Ajmer	Ajmer Municipal ...	Ajmer	26.469167	74.641167	01452623779	Rohit Singh	9/6/2011
460	MH460	Aundh Fire Station	Maharashtra	Pune	PMC	Pune	18.560833	73.814333	02025851788	Paramjeet Dalal	8/27/2011
461	MH461	Kasbapeth Fire S...	Maharashtra	Pune	PMC	Pune	18.522167	73.856500	02024578950	Paramjeet Dalal	8/28/2011

Figure 7-2: Window highlighting Data Import Utility tool interface

7.1.2.1 Menu bar: File menu

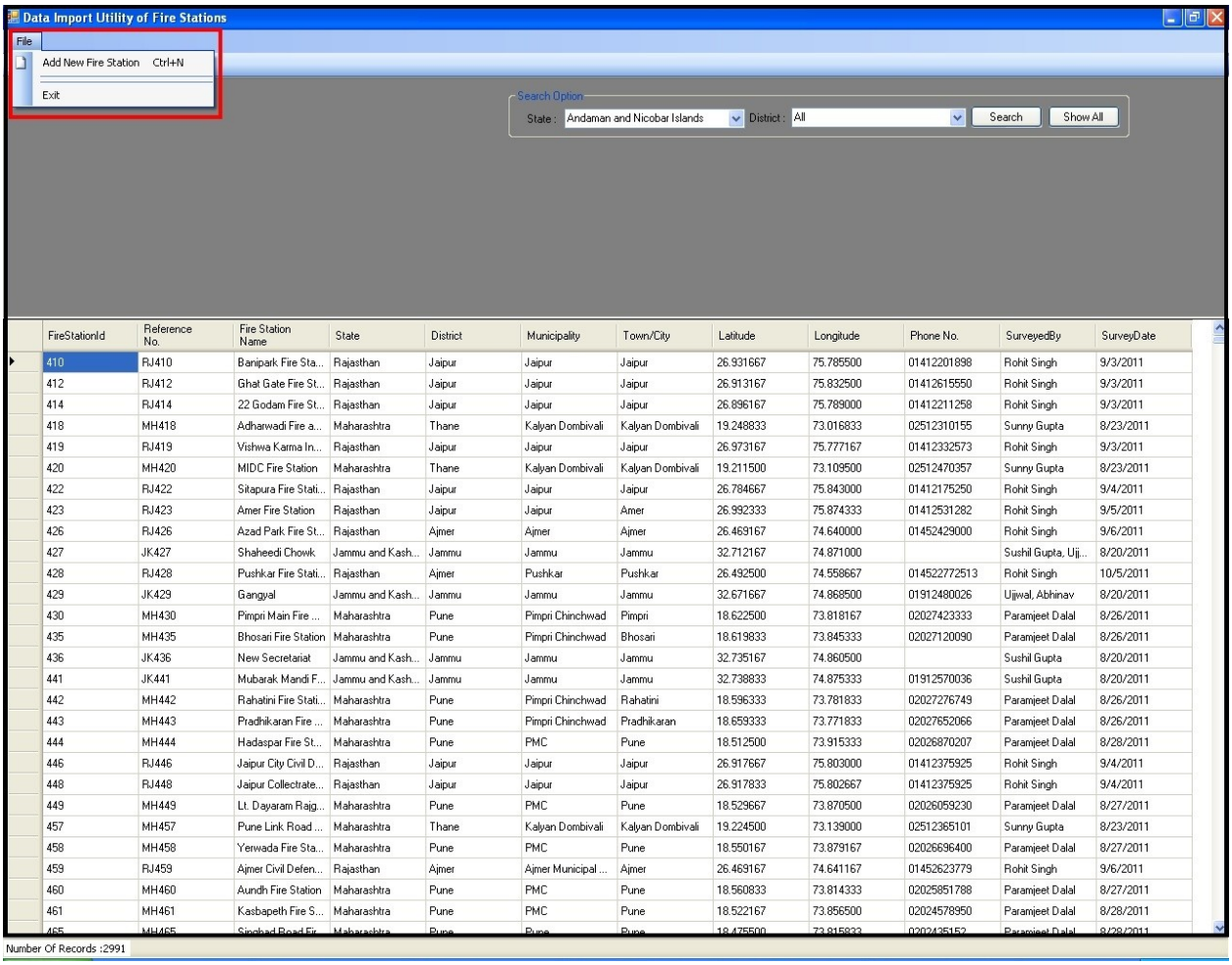
The Data Import Utility tool comprises of one menu element i.e. File menu. Clicking the File menu displays two sub menus, namely, Add New Fire Station and Exit. Figure 7-3 displays the File menu and its sub menus.

Figure 7-3: File menu with its sub menu

7.1.2.1.1 Add a new fire station

The main purpose of the Data Import Utility tool is to add data on new fire stations. The following steps show how to use the Add New Fire Station functionality.

1. Click the File menu in the menu bar and then click Add New Fire Station[8] as shown in Figure 7-4 (highlighted by red rectangle).



FireStationId	Reference No.	Fire Station Name	State	District	Municipality	Town/City	Latitude	Longitude	Phone No.	SurveyedBy	SurveyDate
410	RJ410	Banipark Fire Sta...	Rajasthan	Jaipur	Jaipur	Jaipur	26.931667	75.785500	01412201898	Rohit Singh	9/3/2011
412	RJ412	Ghat Gate Fire St...	Rajasthan	Jaipur	Jaipur	Jaipur	26.913167	75.832500	01412615550	Rohit Singh	9/3/2011
414	RJ414	22 Godam Fire St...	Rajasthan	Jaipur	Jaipur	Jaipur	26.896167	75.789000	01412211258	Rohit Singh	9/3/2011
418	MH418	Adharwadi Fire a...	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.248833	73.016833	02512310155	Sunny Gupta	8/23/2011
419	RJ419	Vishwa Karma In...	Rajasthan	Jaipur	Jaipur	Jaipur	26.973167	75.777167	01412332573	Rohit Singh	9/3/2011
420	MH420	MIDC Fire Station	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.211500	73.109500	02512470357	Sunny Gupta	8/23/2011
422	RJ422	Sitapura Fire Stati...	Rajasthan	Jaipur	Jaipur	Jaipur	26.784667	75.843000	01412175250	Rohit Singh	9/4/2011
423	RJ423	Amer Fire Station	Rajasthan	Jaipur	Jaipur	Amer	26.992333	75.874333	01412531282	Rohit Singh	9/5/2011
426	RJ426	Azad Park Fire St...	Rajasthan	Ajmer	Ajmer	Ajmer	26.469167	74.640000	01452429000	Rohit Singh	9/6/2011
427	JK427	Shaheedi Chowk	Jammu and Kash...	Jammu	Jammu	Jammu	32.712167	74.871000		Sushil Gupta, Ujj...	8/20/2011
428	RJ428	Pushkar Fire Stati...	Rajasthan	Ajmer	Pushkar	Pushkar	26.492500	74.558667	014522772513	Rohit Singh	10/5/2011
429	JK429	Gangyal	Jammu and Kash...	Jammu	Jammu	Jammu	32.671667	74.868500	01912480026	Ujjwal, Abhinav	8/20/2011
430	MH430	Pimpri Main Fire ...	Maharashtra	Pune	Pimpri Chinchwad	Pimpri	18.622500	73.818167	02027423333	Paramjeet Dalal	8/26/2011
435	MH435	Bhosari Fire Station	Maharashtra	Pune	Pimpri Chinchwad	Bhosari	18.619833	73.845333	02027120090	Paramjeet Dalal	8/26/2011
436	JK436	New Secretariat	Jammu and Kash...	Jammu	Jammu	Jammu	32.735167	74.860500		Sushil Gupta	8/20/2011
441	JK441	Mubarak Mandi F...	Jammu and Kash...	Jammu	Jammu	Jammu	32.738833	74.875333	01912570036	Sushil Gupta	8/20/2011
442	MH442	Rahatini Fire Stati...	Maharashtra	Pune	Pimpri Chinchwad	Rahatini	18.596333	73.781833	02027276749	Paramjeet Dalal	8/26/2011
443	MH443	Pradhikaran Fire ...	Maharashtra	Pune	Pimpri Chinchwad	Pradhikaran	18.659333	73.771833	02027652066	Paramjeet Dalal	8/26/2011
444	MH444	Hadaspar Fire St...	Maharashtra	Pune	PMC	Pune	18.512500	73.915333	02026870207	Paramjeet Dalal	8/28/2011
446	RJ446	Jaipur City Civil D...	Rajasthan	Jaipur	Jaipur	Jaipur	26.917667	75.803000	01412375925	Rohit Singh	9/4/2011
448	RJ448	Jaipur Collectrate...	Rajasthan	Jaipur	Jaipur	Jaipur	26.917833	75.802667	01412375925	Rohit Singh	9/4/2011
449	MH449	Lt. Dayaram Rajg...	Maharashtra	Pune	PMC	Pune	18.529667	73.870500	02026059230	Paramjeet Dalal	8/27/2011
457	MH457	Pune Link Road ...	Maharashtra	Thane	Kalyan Dombivali	Kalyan Dombivali	19.224500	73.139000	02512365101	Sunny Gupta	8/23/2011
458	MH458	Yerwada Fire Sta...	Maharashtra	Pune	PMC	Pune	18.550167	73.879167	02026696400	Paramjeet Dalal	8/27/2011
459	RJ459	Ajmer Civil Defen...	Rajasthan	Ajmer	Ajmer Municipal ...	Ajmer	26.469167	74.641167	01452623779	Rohit Singh	9/6/2011
460	MH460	Aundh Fire Station	Maharashtra	Pune	PMC	Pune	18.560833	73.814333	02025851788	Paramjeet Dalal	8/27/2011
461	MH461	Kasbapeth Fire S...	Maharashtra	Pune	PMC	Pune	18.522167	73.856500	02024578950	Paramjeet Dalal	8/28/2011
465	MH465	Singhad Road Fir...	Maharashtra	Pune	Pune	Pune	18.475500	73.815833	02024435152	Paramjeet Dalal	8/28/2011

Figure 7-4: Window showing File menu to add new fire station (highlighted by red rectangle)

2. A form is displayed as shown in Figure 7-5. This form comprises of 8 pages, with each page allowing the user to enter different types of information on the new fire station.

[8] To add a new fire station user can also click on  icon in the toolbar. It will open the same form as shown in Figure 7-2 to enter fire station details.

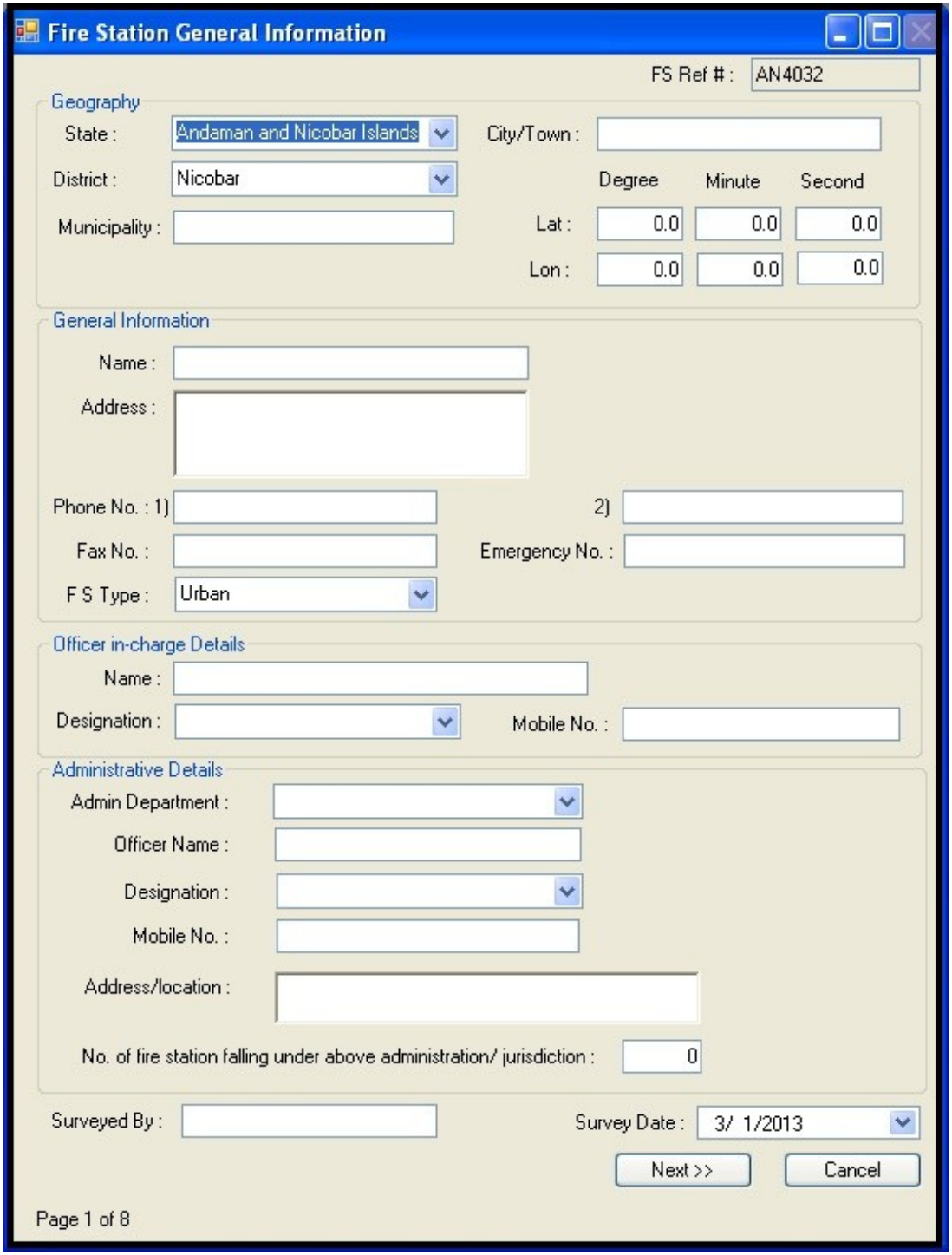


Figure 7-5: Form showing Fire Station General Information page

3. Fill in the details in the form[9]. A sample form showing the last page is shown in Figure 7-6.

[9] A form comprise of various controls such as text boxes, drop down etc. Make sure that correct state and district is selected in the form and other details are filled correct as well.

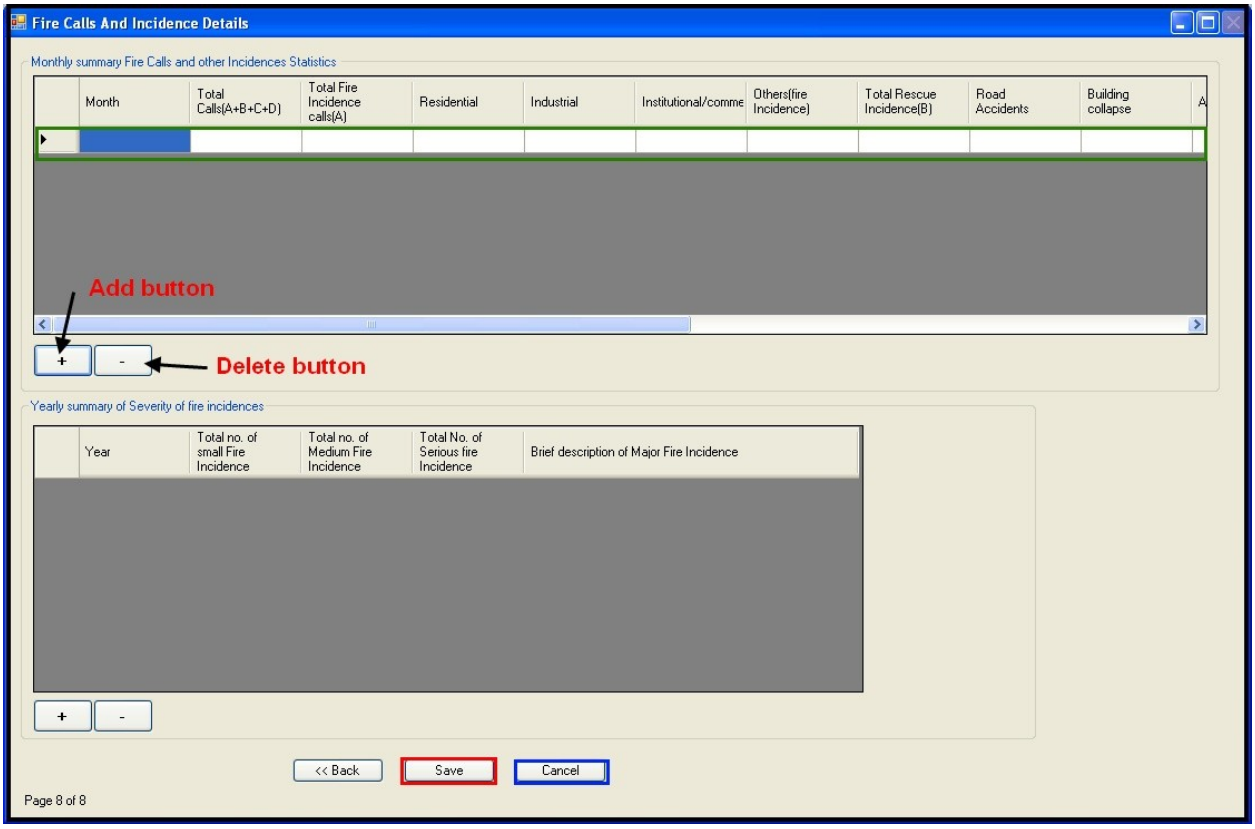


Figure 7-6: Form showing Fire Calls and Incidence Details page

4. Click on the Save button[10] to save the newly entered details as shown in Figure 7-6 (highlighted by red rectangle). This displays a message box as shown in Figure 7-7.

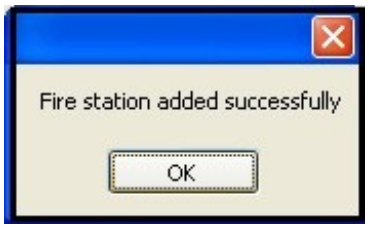


Figure 7-7: Message box displayed on successful addition of a fire station

5. Click on OK. This displays a dialog box (Figure 7-8) prompting on whether user wishes to update ideal fire station details for this fire station.

[10] Save button is given on the last (eighth) page.

Figure 7-8: Dialog box showing question to update ideal fire station details

6. Click on Yes button, to choose the corresponding new fire station proposed by RMSI team. This is because, the new fire station location/name proposed by RMSI team is to suggest approximate location to fire service for construction of new fire station. However, in reality, the selection of location depends on many factors like availability of land, optimum location, its cost etc. Now through this tool, we try to correlate the newly operational fire station with the corresponding proposed one and perform the Infrastructural Gap analysis. Refer to section 7.1.2.1.2 to get overview of this process. To view a new created fire station in a data frame refer to steps mentioned in section 7.1.2.4.1.

   Click on No button if the location/ name of newly operational fire station is different from that recommended by RMSI team in the corresponding State/UT report. In that case, the user needs to perform separate response time analysis for this fire station and manually enter the ideal fire station details in the Master Table using Master Table Editing Tool.

7.1.2.1.2 Moving a new fire station to ideal fire station table

As discussed above (section 7.1.2.1.1), when a new fire station is added in the database, user has to select corresponding proposed fire station location from the proposed list of fire stations and move it to the ideal fire station table. To perform this task, follow the steps mentioned below:

1. Repeat step 1 to step 5 as mentioned in section 7.1.2.1.1.
2. Click on Yes button (refer section 7.1.2.1.1, point 6). A dialog box containing details of new fire stations proposed by RMSI team would be displayed. This list includes the proposed fire stations located within 30 km radius of the newly added fire station (Figure 7-9[11]). A dialog box would not display any fire station if they are not within 30 km radius of the newly added fire station.

[11] Calculation is based on the latitude and longitude specified while entering new fire station details.

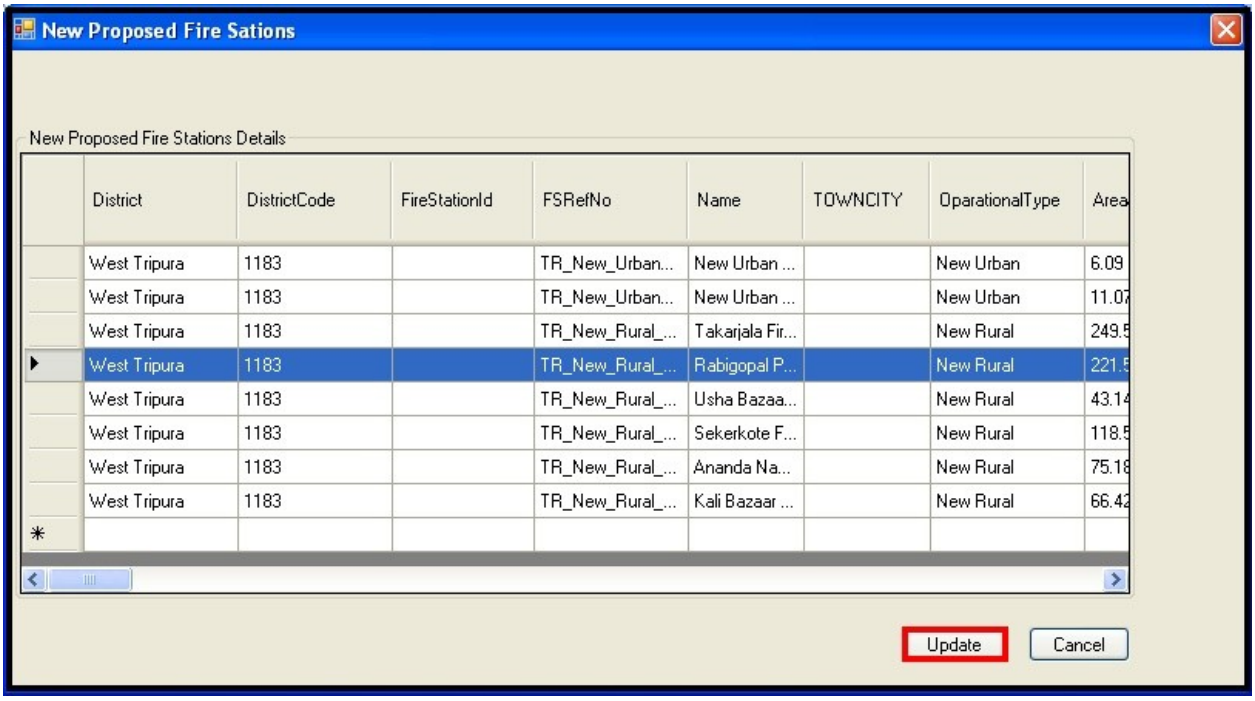


Figure 7-9: Window showing list of all the proposed fire stations within 30 km radius of the new fire station

3. Select the row corresponding to the proposed fire station for which ideal fire station details need to be updated as shown in Figure 7-9.
4. Click on the Update button as shown in Figure 7-9 to apply the changes.
5. The changes made will be reflected in both the existing fire station table and ideal fire station table.

7.1.2.2 Tool bar

Data Import Utility tool provides the Add a New Fire Station tool  in the tool bar. Click this tool to add a new fire station as explained in section 7.1.2.1.1. This tool and the path run though File menu to add a new fire station perform a same functionality.

7.1.2.3 Status bar

The Status bar in the Data Import Utility tool displays the total number of records corresponding to the selected fire station.

7.1.2.4 Document window

The Document window (Figure 7-2) is divided into two frames as follows:

1. Search Option frame: provides the list of existing fire stations based on the state and district selected from the State and District dropdown respectively.
2. Data frame: displays the list of all existing fire stations. Initially when the application initiates, all the fire stations of India are displayed in a Data frame. User can limit the data displayed by using the Search option. It also provides the option to add or delete a fire station.

Working with Search Option and Data frames is described in detail in section 7.1.2.4.1.

7.1.2.4.1 Document window: Searching fire stations

Data Import Utility allows the user to search for fire stations in the following way:

1. Select a state from the State dropdown. As an example, Delhi state is selected (Highlighted by red rectangle in Figure 7-10).

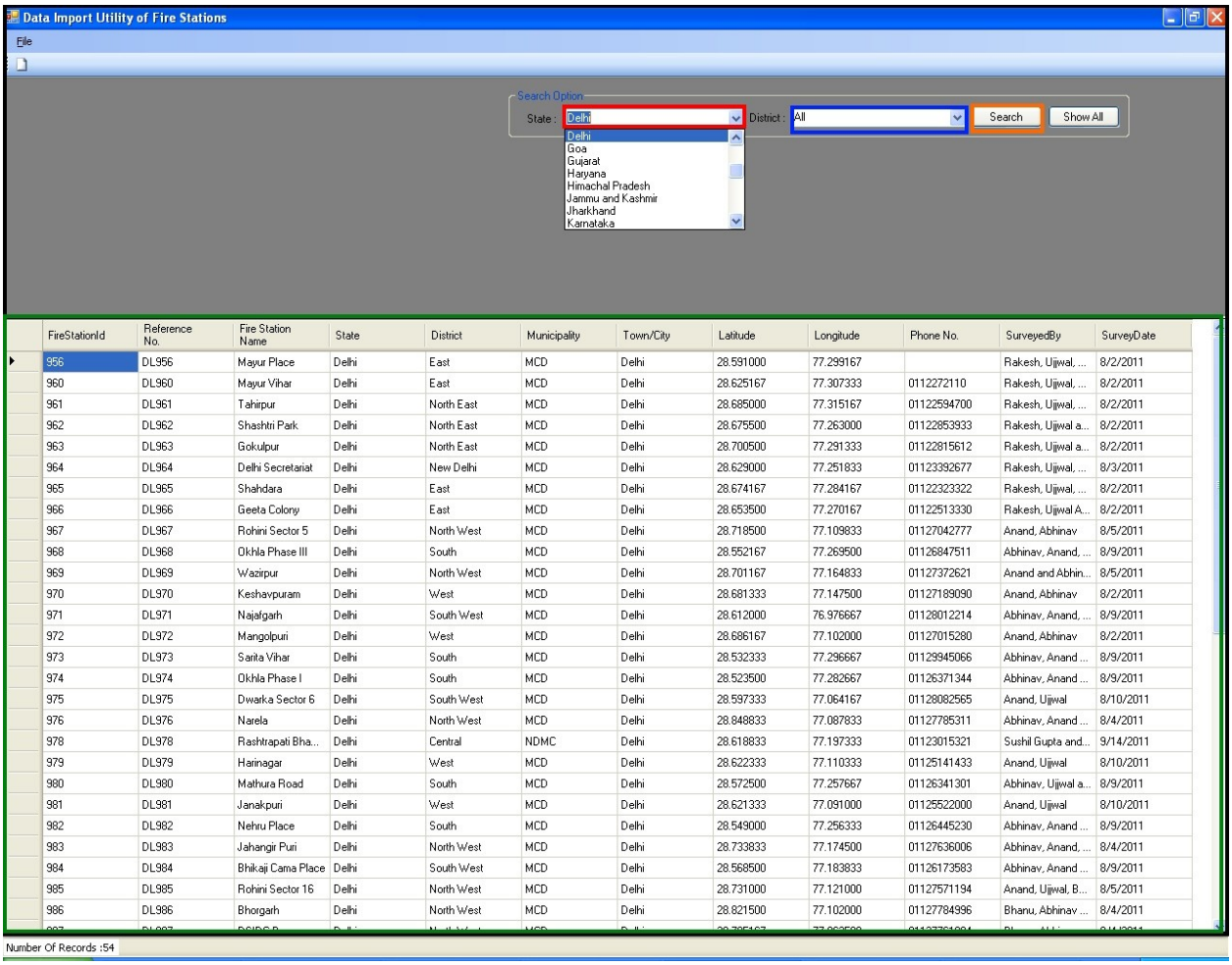


Figure 7-10: Window showing existing fire station details of Delhi state

2. The user can select one of two options in the District dropdown:
    a) **Select All option from District dropdown:** This option generates a list of all the fire stations within a selected State/UT. As an example 'All' option is selected. (highlighted by blue rectangle in Figure 7-10)
    b) **Select a particular district from District dropdown:** This option generates a list of all the fire stations within the selected district and state.
3. Click the Search button as shown in Figure 7-10 (orange rectangle highlight) to generate a list of existing fire stations based on the search criteria selected in step 1 and step 2. In Figure 7-10, details of all the existing fire stations in Delhi are populated in Data frame.(highlighted by green rectangle)
4. Click the Show All button (to the right of the Search button) to view a list of all the fire stations of India.

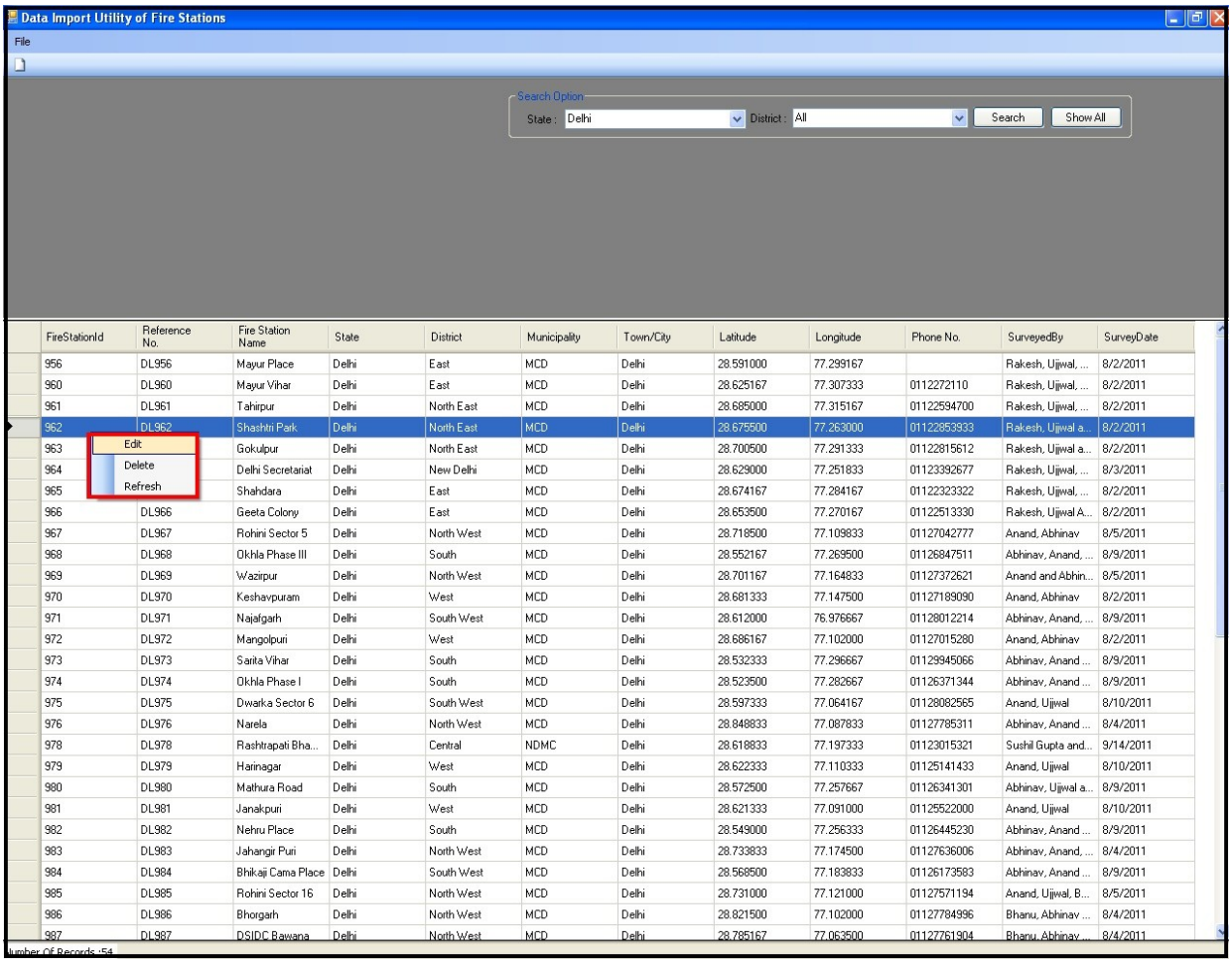
7.1.2.4.2 Document Window: Modifying fire station details

Master Table editing tool provides the user with a facility to edit (modify, add, delete) information on an existing fire station. This function is useful to correct wrong data added earlier or to update existing data with changed data.

7.1.2.4.2.1 Edit a fire station

To edit a fire station, follow the steps mentioned below:

1. Search for a fire station by following the steps described in section 7.1.2.4.1. This displays a list of fire stations within a particular district of a state or of an entire State/UT depending on the search criteria entered.
2. Select the fire station for which data has to be changed by clicking the corresponding row as shown in Figure 7-11.



FireStationId	Reference No.	Fire Station Name	State	District	Municipality	Town/City	Latitude	Longitude	Phone No.	SurveyedBy	SurveyDate
956	DL956	Mayur Place	Delhi	East	MCD	Delhi	28.591000	77.299167		Rakesh, Ujjwal, ...	8/2/2011
960	DL960	Mayur Vihar	Delhi	East	MCD	Delhi	28.625167	77.307333	0112272110	Rakesh, Ujjwal, ...	8/2/2011
961	DL961	Tahirpur	Delhi	North East	MCD	Delhi	28.685000	77.315167	01122594700	Rakesh, Ujjwal, ...	8/2/2011
962	DL962	Shashtri Park	Delhi	North East	MCD	Delhi	28.675500	77.263000	01122853933	Rakesh, Ujjwal a...	8/2/2011
963		Gokulpur	Delhi	North East	MCD	Delhi	28.700500	77.291333	01122815612	Rakesh, Ujjwal a...	8/2/2011
964		Delhi Secretariat	Delhi	New Delhi	MCD	Delhi	28.629000	77.251833	01123392677	Rakesh, Ujjwal, ...	8/3/2011
965		Shahdara	Delhi	East	MCD	Delhi	28.674167	77.284167	01122323322	Rakesh, Ujjwal, ...	8/2/2011
966	DL966	Geeta Colony	Delhi	East	MCD	Delhi	28.653500	77.270167	01122513330	Rakesh, Ujjwal A...	8/2/2011
967	DL967	Rohini Sector 5	Delhi	North West	MCD	Delhi	28.718500	77.109833	01127042777	Anand, Abhinav	8/5/2011
968	DL968	Okhla Phase III	Delhi	South	MCD	Delhi	28.552167	77.269500	01126847511	Abhinav, Anand, ...	8/9/2011
969	DL969	Wazirpur	Delhi	North West	MCD	Delhi	28.701167	77.164833	01127372621	Anand and Abhin...	8/5/2011
970	DL970	Keshavpuram	Delhi	West	MCD	Delhi	28.681333	77.147500	01127189090	Anand, Abhinav	8/2/2011
971	DL971	Najafgarh	Delhi	South West	MCD	Delhi	28.612000	76.976667	01128012214	Abhinav, Anand, ...	8/9/2011
972	DL972	Mangolpuri	Delhi	West	MCD	Delhi	28.686167	77.102000	01127015280	Anand, Abhinav	8/2/2011
973	DL973	Sarita Vihar	Delhi	South	MCD	Delhi	28.532333	77.296667	01129945066	Abhinav, Anand ...	8/9/2011
974	DL974	Okhla Phase I	Delhi	South	MCD	Delhi	28.523500	77.282667	01126371344	Abhinav, Anand ...	8/9/2011
975	DL975	Dwarka Sector 6	Delhi	South West	MCD	Delhi	28.597333	77.064167	01128082565	Anand, Ujjwal	8/10/2011
976	DL976	Narela	Delhi	North West	MCD	Delhi	28.848833	77.087833	01127785311	Abhinav, Anand ...	8/4/2011
978	DL978	Rashtrapati Bha...	Delhi	Central	NDMC	Delhi	28.618833	77.197333	01123015321	Sushil Gupta and...	9/14/2011
979	DL979	Harinagar	Delhi	West	MCD	Delhi	28.622333	77.110333	01125141433	Anand, Ujjwal	8/10/2011
980	DL980	Mathura Road	Delhi	South	MCD	Delhi	28.572500	77.257667	01126341301	Abhinav, Ujjwal a...	8/9/2011
981	DL981	Janakpuri	Delhi	West	MCD	Delhi	28.621333	77.091000	01125522000	Anand, Ujjwal	8/10/2011
982	DL982	Nehru Place	Delhi	South	MCD	Delhi	28.549000	77.256333	01126445230	Abhinav, Anand ...	8/9/2011
983	DL983	Jahangir Puri	Delhi	North West	MCD	Delhi	28.733833	77.174500	01127636006	Abhinav, Anand, ...	8/4/2011
984	DL984	Bhikaji Cama Place	Delhi	South West	MCD	Delhi	28.568500	77.183833	01126173583	Abhinav, Anand ...	8/9/2011
985	DL985	Rohini Sector 16	Delhi	North West	MCD	Delhi	28.731000	77.121000	01127571194	Anand, Ujjwal, B...	8/5/2011
986	DL986	Bhorgarh	Delhi	North West	MCD	Delhi	28.821500	77.102000	01127784996	Bhanu, Abhinav ...	8/4/2011
987	DL987	DSIDC Bawana	Delhi	North West	MCD	Delhi	28.785167	77.063500	01127761904	Bhanu, Abhinav ...	8/4/2011

Number Of Records: 54

Figure 7-11: Window showing selection of a row corresponding to a fire station having id 962 with context menu (highlighted by red rectangle)

3. Right click on any of the columns of the selected row to display the Context menu as shown in Figure 7-11 (red rectangle highlight).
4. Click on the Edit menu to display the Fire Station Information form as shown in Figure 7-12. This form comprises of eight pages (also described under section 7.1.2.1.1).

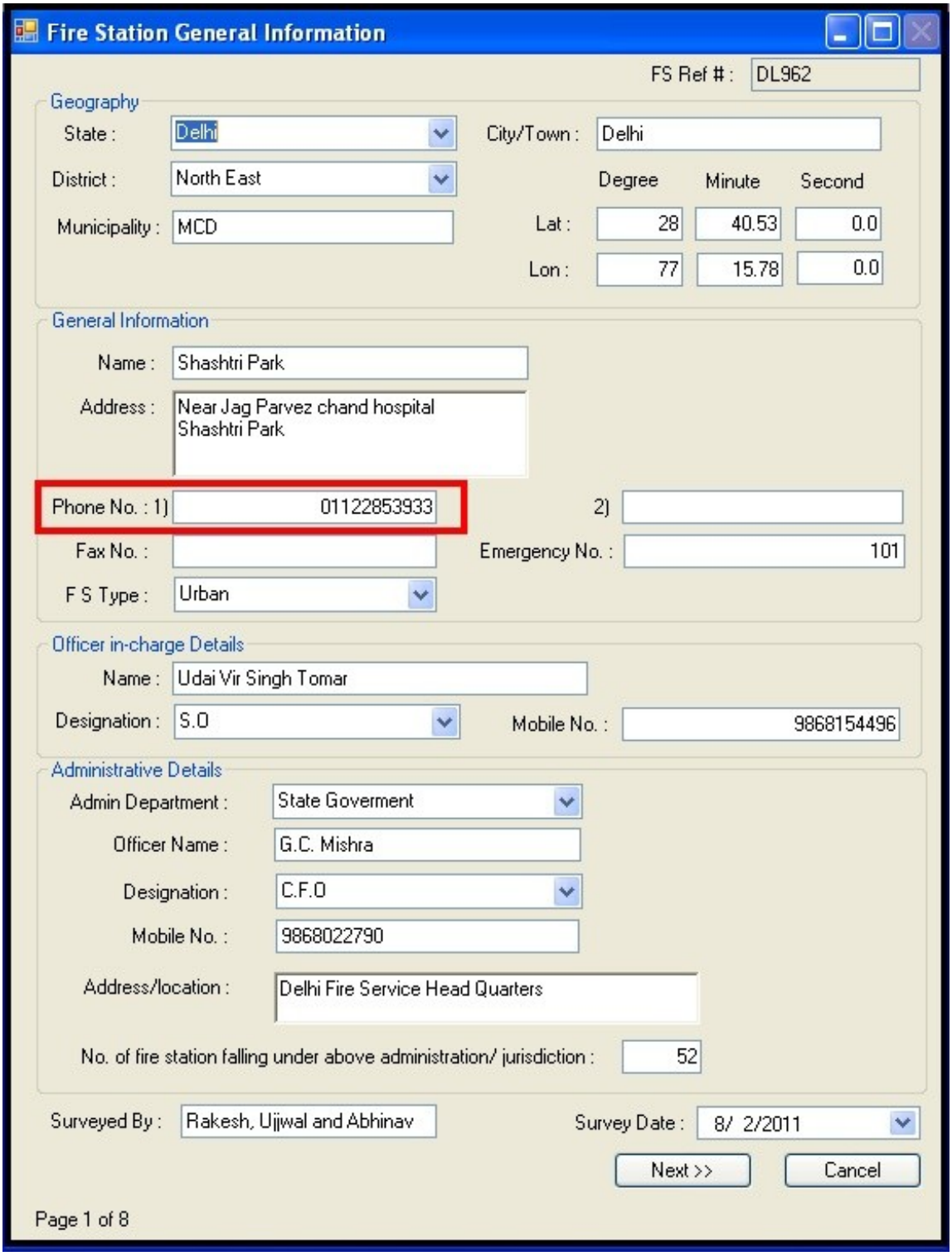


Figure 7-12: Form showing general information of Shashtri Park fire station, Delhi

5. Go to the page where information needs to be edited.[12] Make the required changes. As an example, the phone number can be edited by making the required changes in the Phone No.: 1 field as highlighted by the red rectangle in Figure 7-12.

[12] For reference see the title at every page of form.

6. To save the changes made, the user needs to navigate to the last page by clicking the Next button given on each page.
7. Click the Update button on the last page as shown in Figure 7-13 (highlighted by red rectangle) to make the changes applicable.

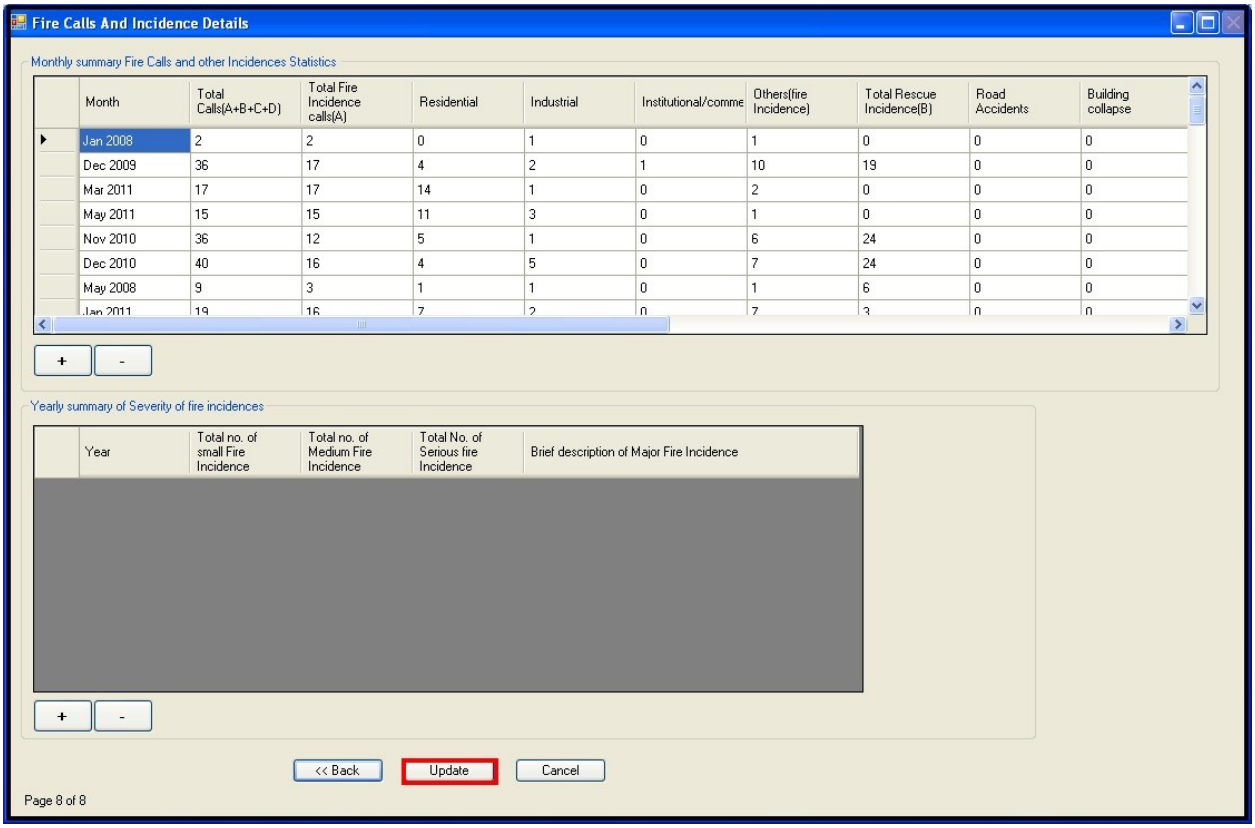


Figure 7-13: Form showing Fire Calls and Incidence Details page with update button (highlighted by red rectangle)

8. A message is displayed as shown in Figure 7-14. Click the OK button to save the changes made.

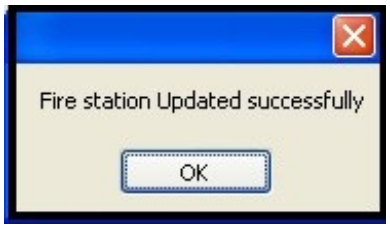


Figure 7-14: Message box showing message to update fire station details

7.1.2.4.2.2 Delete a fire station

To delete a fire station, follow the steps mentioned below:

1. Repeat steps 1 to 3 of section 7.1.2.4.2.1
2. Click on Delete in the Context menu. A dialog box, as shown in Figure 7-15, is displayed.

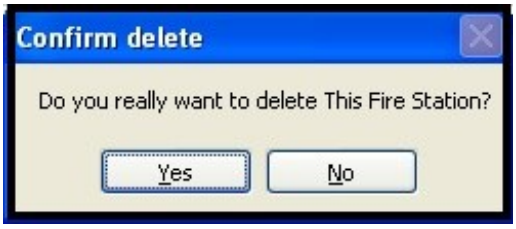


Figure 7-15: Dialog box prompting user to confirm or ignore deletion of selected fire station

3. Click the Yes button to delete a fire station from the table. Click the No button to ignore deletion command.

Note: The Context menu also has a Refresh option. Clicking this option reloads the last saved data and displays it in the Data frame.

7.2 Master Table Editing Tool

The Master Table editing tool provides users with the capability to edit the data in the database. This database comprises of two master tables, namely, Ideal Fire stations and New Proposed Fire Stations that contain results of response time analysis and ideal count of firefighting vehicles, equipment, manpower etc.

7.2.1 Opening the tool

Double click on the Master Table editing tool icon  to start the application. The Master Table Editing Tool window is displayed as shown in Figure 7-16.

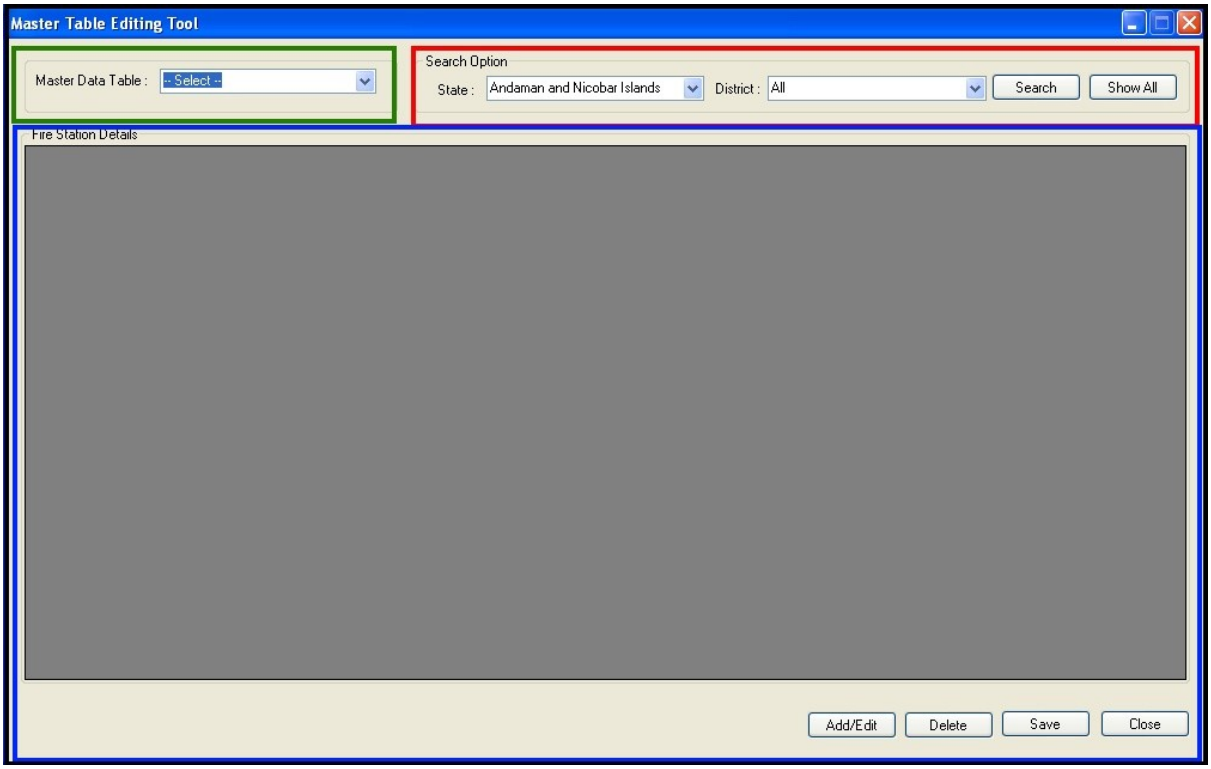


Figure 7-16: Master Table editing tool UI

7.2.2 Master Table Editing Tool interface

The interface is divided into 3 parts as shown in Figure 7-17.

1. Master Data Table frame
2. Search Option frame
3. Fire Station Details frame

7.2.2.1 Master Data Table frame

Master data table comprises of two tables viz., Ideal Fire Stations and New Proposed Fire Stations. To view a list of ideal fire stations, select the Ideal Fire Station option from the Master Data Table dropdown as shown in Figure 7-17 (highlighted by red rectangle). It generates a list of all the ideal fire stations in India and displays the list in the Fire Station Details frame (highlighted by the green rectangle in Figure 7-17).

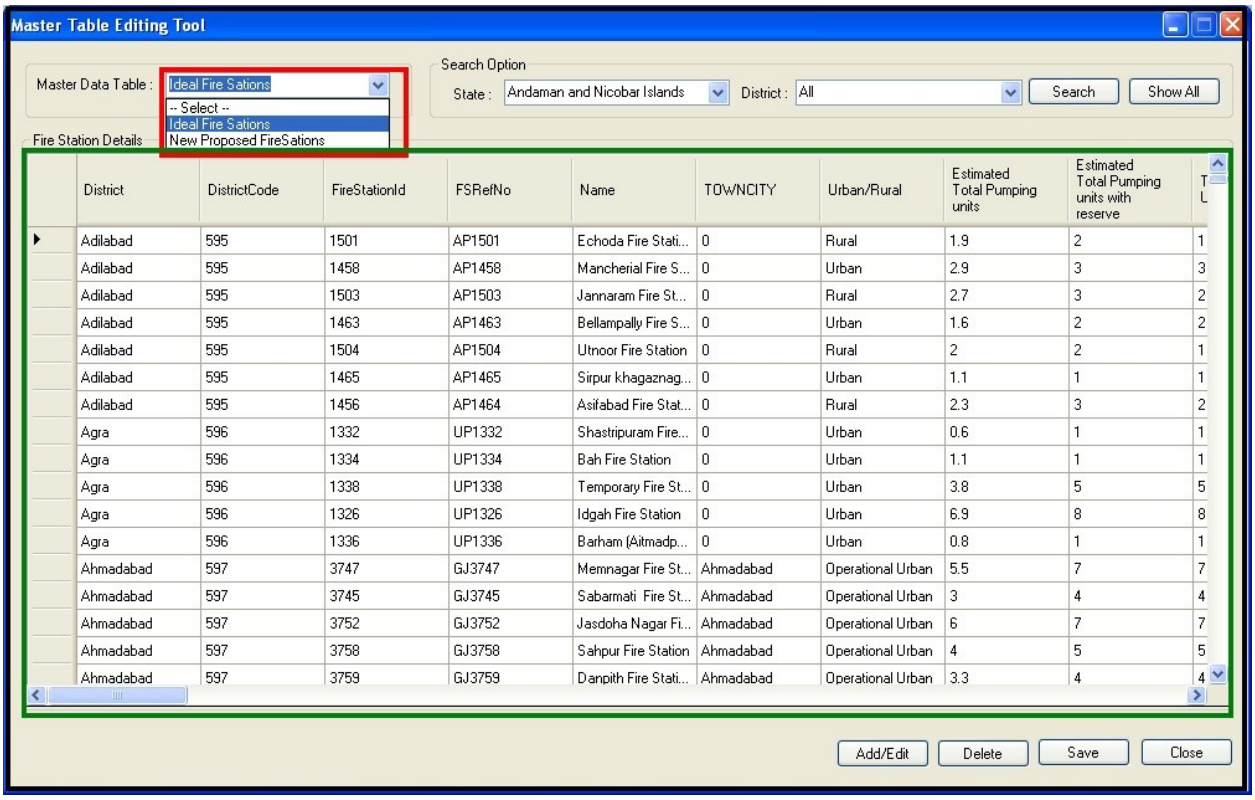


Figure 7-17: Window showing list of all ideal fire stations in India

7.2.2.2 Search Option frame

Search Option frame appears on the top right corner of the window (highlighted by the red rectangle in Figure 7-16). It allows the user to search for ideal or new proposed fire stations based on the state and district selected.

Master Table editing tool allows the users to search for fire stations in the following way:

1. Select Ideal Fire Stations or New Proposed Fire Stations option from Master Data Table dropdown. As an example, Ideal Fire Station option is selected (highlighted by the red rectangle in Figure 7-18).
2. Select a state from the State dropdown. As an example, Maharashtra state is selected (highlighted by the green rectangle in Figure 7-18).

3. Select a district from the District dropdown. In this dropdown the user has two options:
   a) **Select All option from the District dropdown:** This option generates a list of all the fire stations within a selected State/UT.
   b) **Select a particular district from the District dropdown:** This option generates a list of all the fire stations within a district selected, of a particular State/UT. As an example, district Pune is selected (highlighted by the blue rectangle in Figure 7-18).
4. Click the Search button as shown in Figure 7-18 (highlighted by the pink rectangle) to generate a list of fire stations based on the state and district selected in steps 1 and 2 above.
5. To view a list of all the ideal or new proposed fire stations of India, click on the Show All button in the Search Option frame as shown in Figure 7-18 (highlighted by the yellow rectangle).

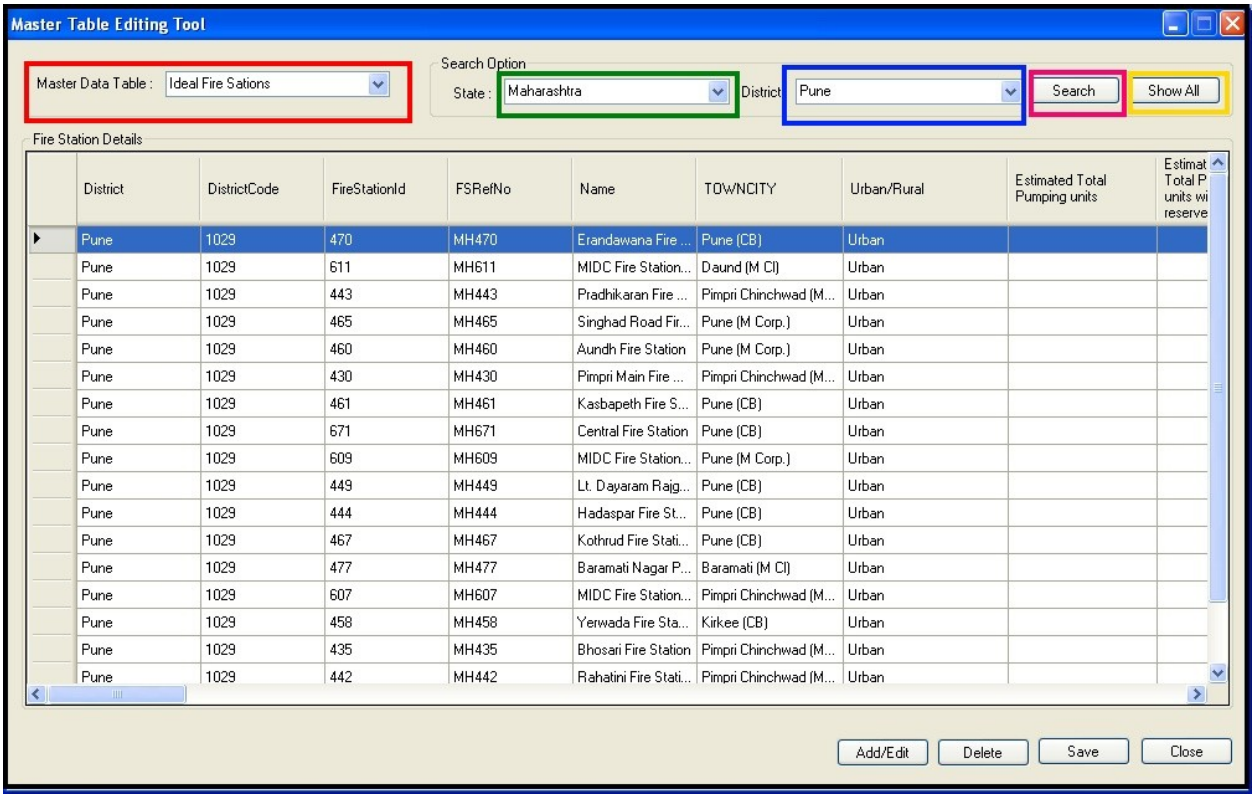


Figure 7-18: Window showing details of ideal fire stations in Pune, Maharashtra

7.2.2.3 Fire Station Details frame

This frame in the window lists fire station details of ideal fire stations or new proposed fire stations depending on the option selected from the Master Data Table dropdown. The user has the option to view fire station details for a particular state or district within a state with the help of the search feature discussed above in section 7.2.2.2.

7.2.2.3.1 Modifying fire station details

7.2.2.3.1.1 Adding or editing fire station details

To edit (modify) any details in the two master tables follow the steps mentioned below:

1. Select the table for which data needs to be edited from Master Data Table dropdown. As an example, Ideal Fire Station table has been selected as shown in Figure 7-19.
2. Select the state and district in which the fire station that needs to be edit exists.
3. Click the Search button to populate a list of all the fire stations in the Fire Station Details frame falling under the selected state and district.
4. Select the fire station for which details have to be changed by clicking on the corresponding row as shown in Figure 7-19. In the figure fire station with id 613 is selected.

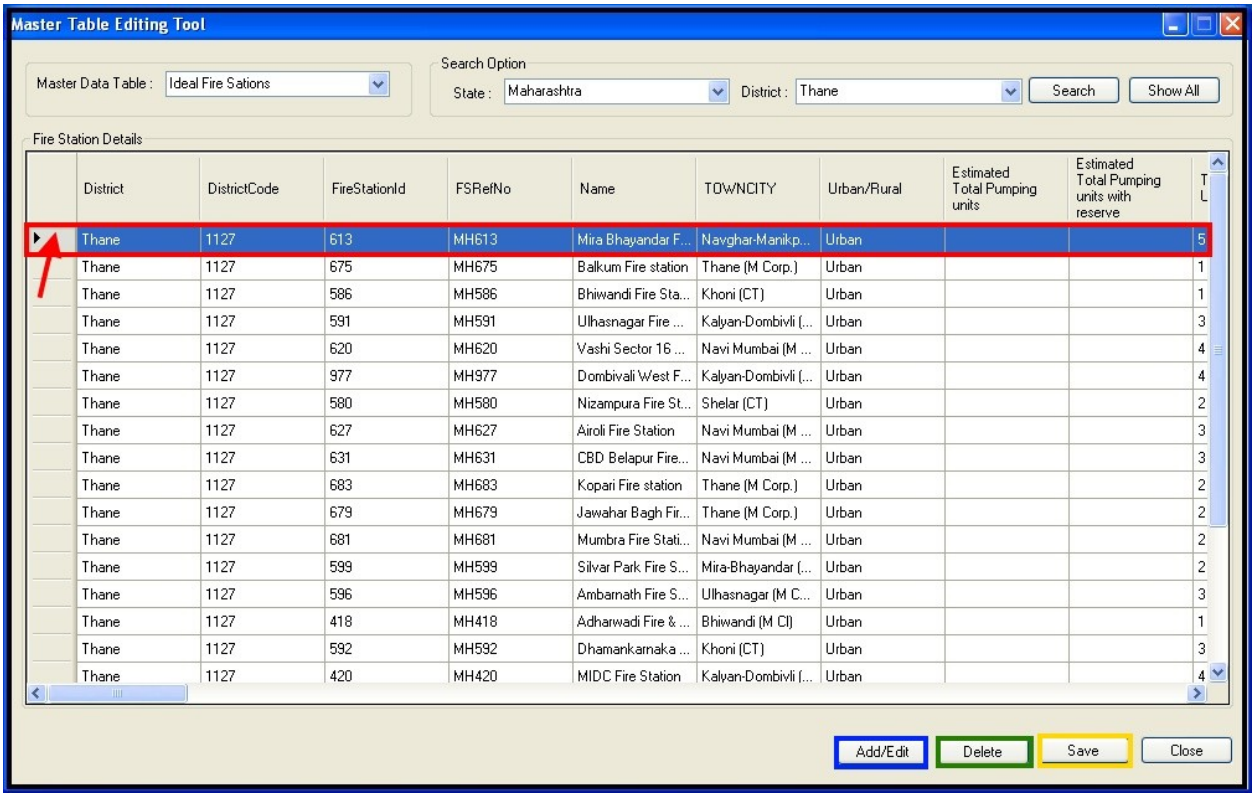


Figure 7-19: Window showing selection of a row corresponding to fire station id 613

5. Click the Add/Edit button (blue rectangle highlight in Figure 7-19).
6. Double click on any of the columns in the selected row to add or edit the data. As an example, Urban/Rural column is selected (see Figure 7-20).

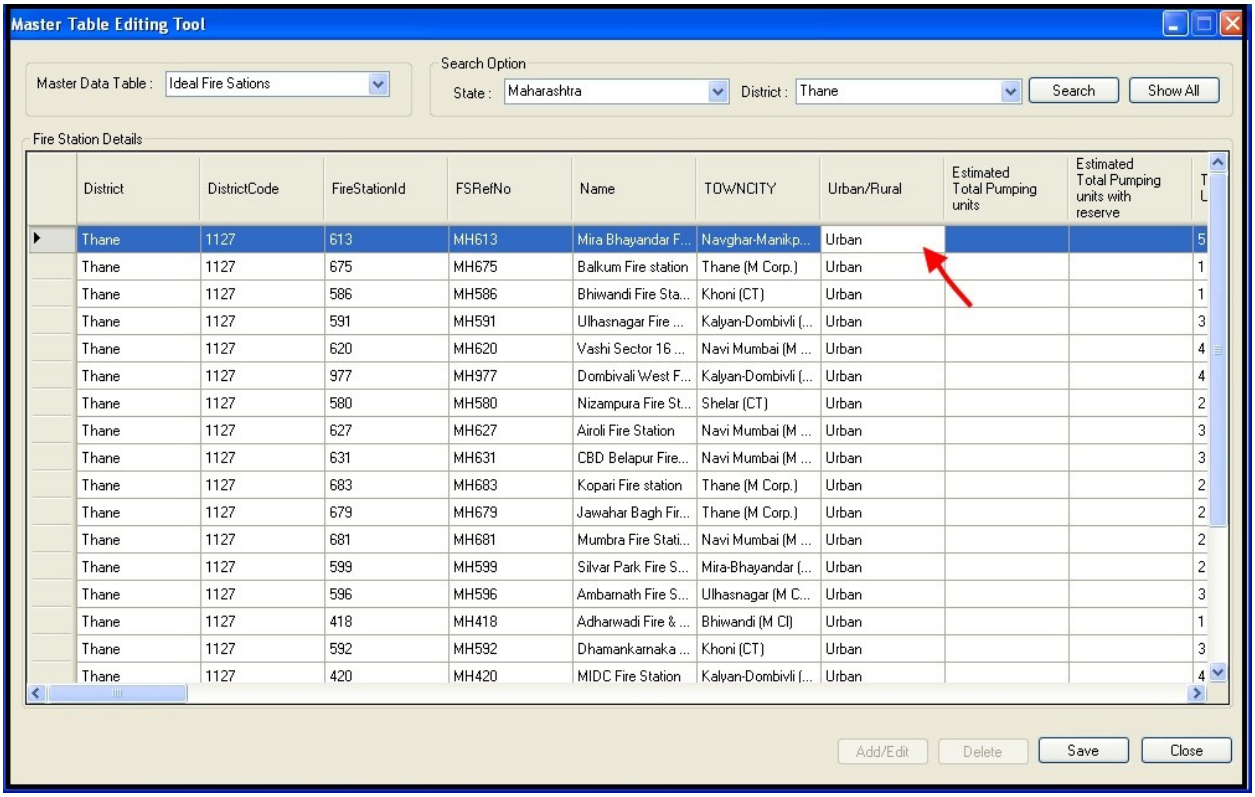


Figure 7-20: Window showing selection of Urban/Rural column to be edited

7. Edit the details in the selected column. In the example in Figure 7-21, the selected Ideal fire station has been changed from urban to rural.

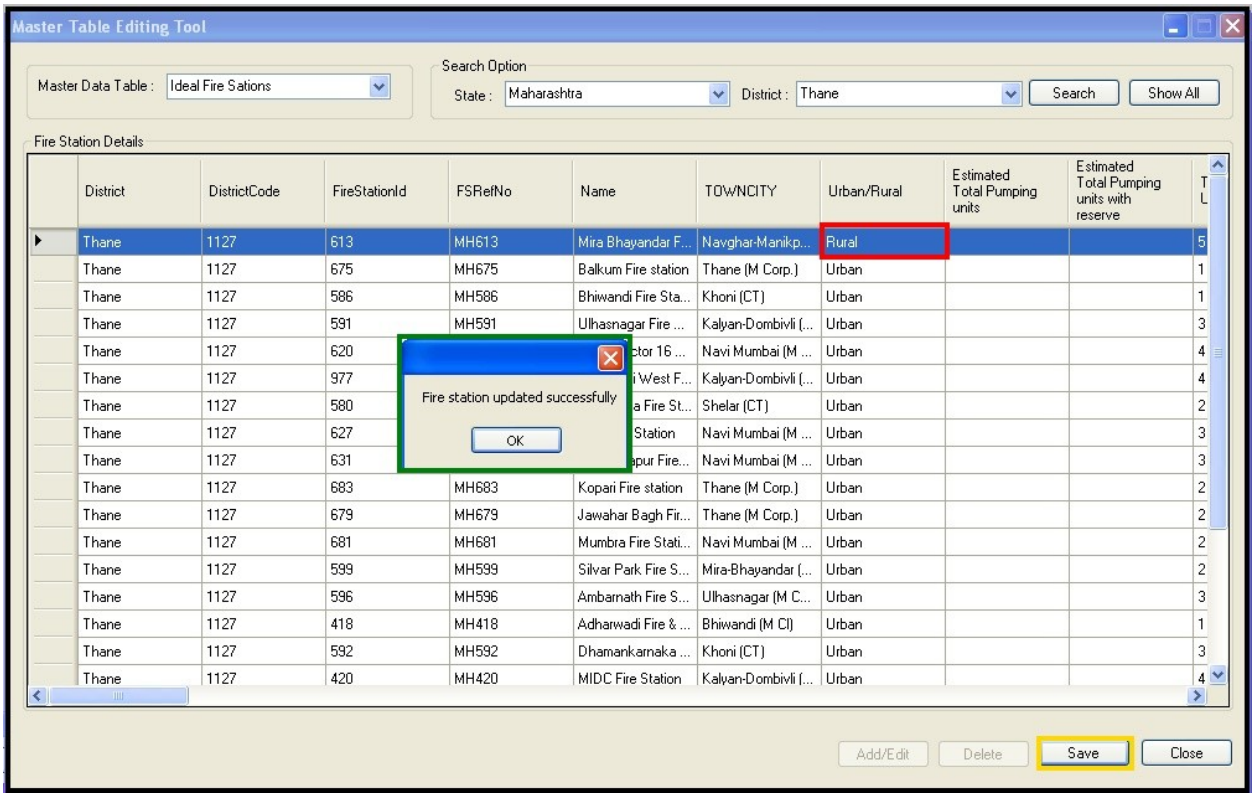


Figure 7-21: Window showing Urban/Rural column changed from Urban to Rural type for fire station having Id 613

8. Click on the Save button (as highlighted by the yellow rectangle in Figure 7-21). A message box stating that the ideal fire station details have been updated is displayed as shown by the green rectangle in Figure 7-21.
9. Click the OK button to update the ideal fire station details in the database.

7.2.2.3.1.2 Deleting a fire station

To delete an ideal or new proposed fire station from the database, follow the steps mentioned below:

1. Repeat steps 1 to 3 from section 7.2.2.3.1.1.
2. Select the fire station for which details have to be changed by clicking on the corresponding row as shown in Figure 7-22.
3. Click the Delete button as shown by the red rectangle highlight in Figure 7-22.

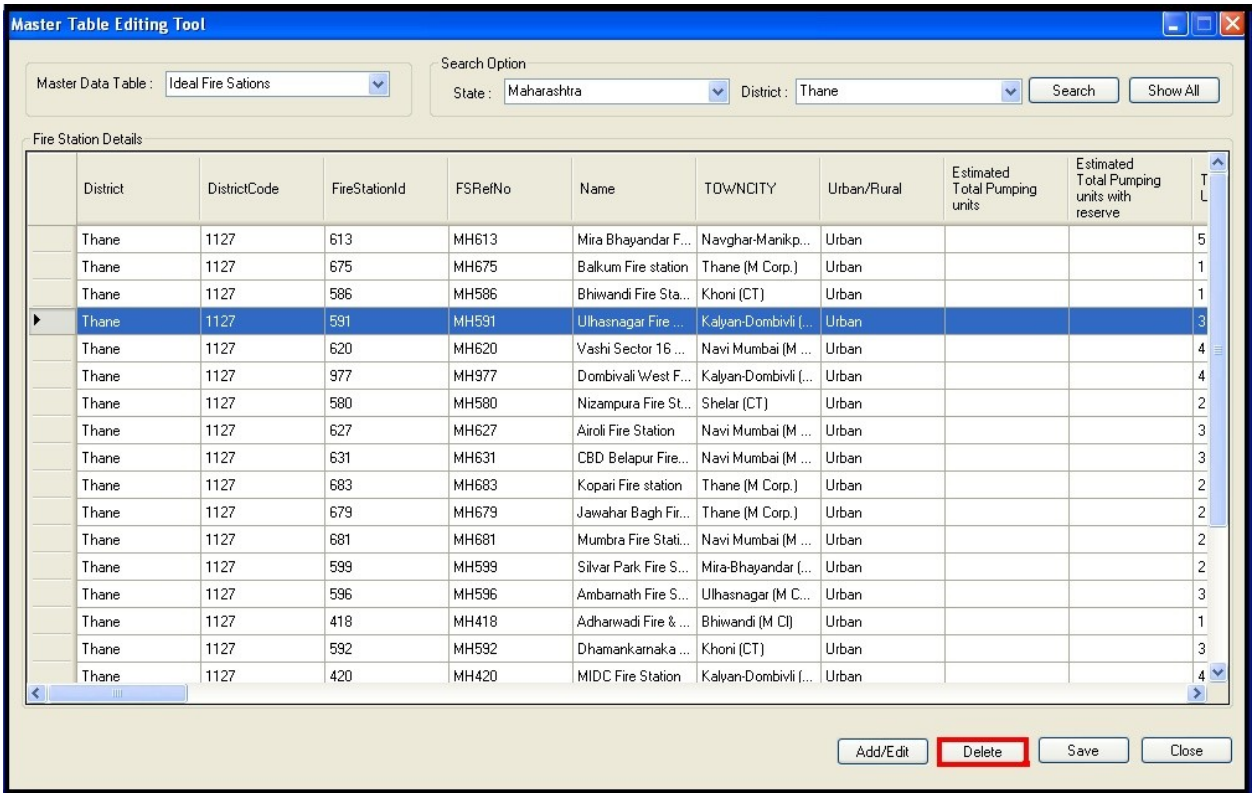


Figure 7-22: Window showing selection of a row corresponding to fire station id 591

4. A dialog box, as shown in Figure 7-23, is displayed.

Figure 7-23: Dialog box displaying question to delete a fire station

5. Click the Yes button to delete the fire station from the table. Click the No button to ignore the deletion command.
6. Click the Save button, as shown in Figure 7-22, to apply the changes to the database table.

RMSI
Delivering a world of solutions

CMMi
A SEI CMMi Level 5 Company

TÜV NORD
TÜV NORD CERT GmbH
Certificate No.
44 100 090933
ISO 9001

RMSI is a professional services company providing geospatial solutions and application software services to clients worldwide

BSI
REGISTERED
ISO 27001

DQ TOP 20
Ranked amongst the Top 5 Indian IT's Best Employers for seven years in a row, since 2003

RANKED #1
Employer in India for 3 years in a row
GREAT PLACE TO WORK INSTITUTE
Business World - Great Places to Work Study 2009
RMSI ranked #1 across all industries, for the third year in a row