**MATHADOLOGY USED IN CREATING THE MAP – “VALSAD CITY- ROAD NETWORK”**

**Introduction;**

To create map of the road network of the Valsad city, aerial footage as well as some reference (known locations, landmarks etc.) is required. Also, knowledge of local landmarks is essential. Here vector-based map is created for the road network. This map is created using Bhuvan-2D and QGIS.

**Using ISRO data;**

For aerial footage and reference, Bhuvan platform is used. In order to create lines for major roads one of the Bhuvan’s feature bhuvan-2D is used in which maps (base admin) and satellite imagery is used. To draw the lines “draw tool” feature within the Bhuvan-2D is used.

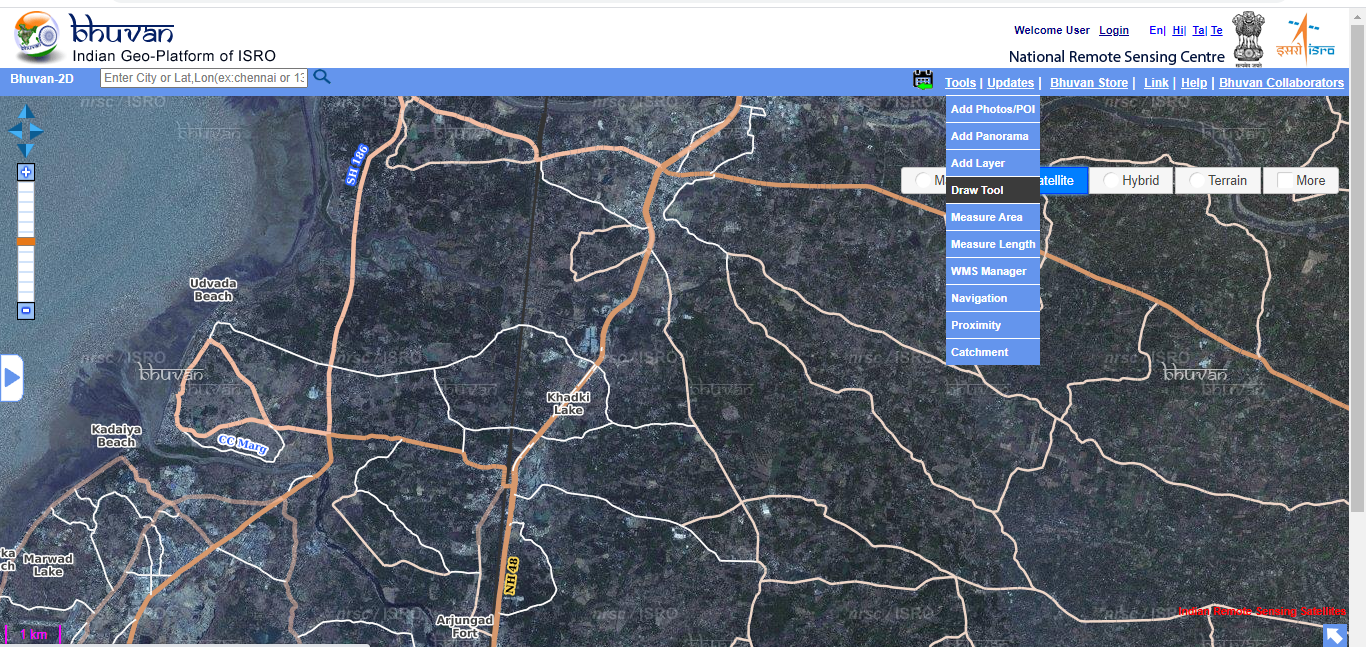


Figure : Tool feature of Bhuvan-2D

In the same way, for drawing polygon this tool is used. We can also add point using this tool. This tool provides Edit feature too, for correcting mistakes.

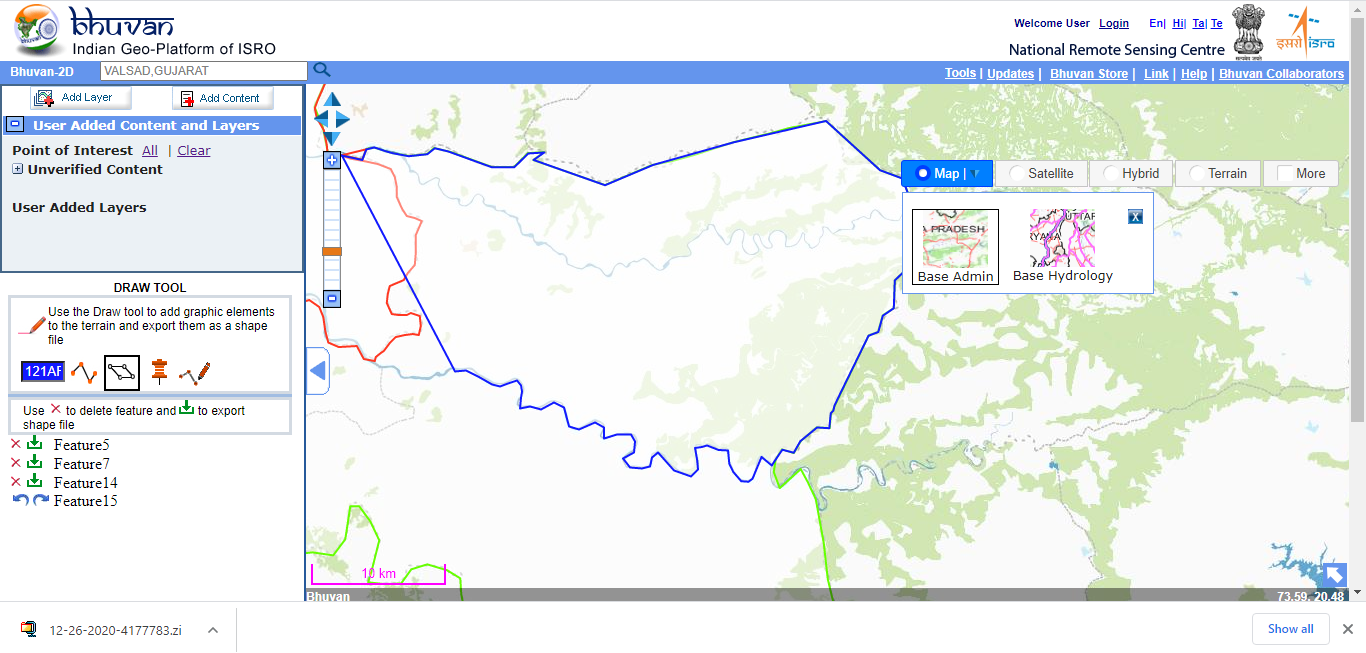


Figure : Polygon Draw tool

One drawback of this tool is that we can create only one line or polygon at a time in a single layer. And for different roads you have to create different layers and for different layers there will be different attribute table, which makes the job a bit tedious.

After downloading all the features from Bhuvan-2D we can open all the shape files in the QGIS, change the styles and can give them labels.

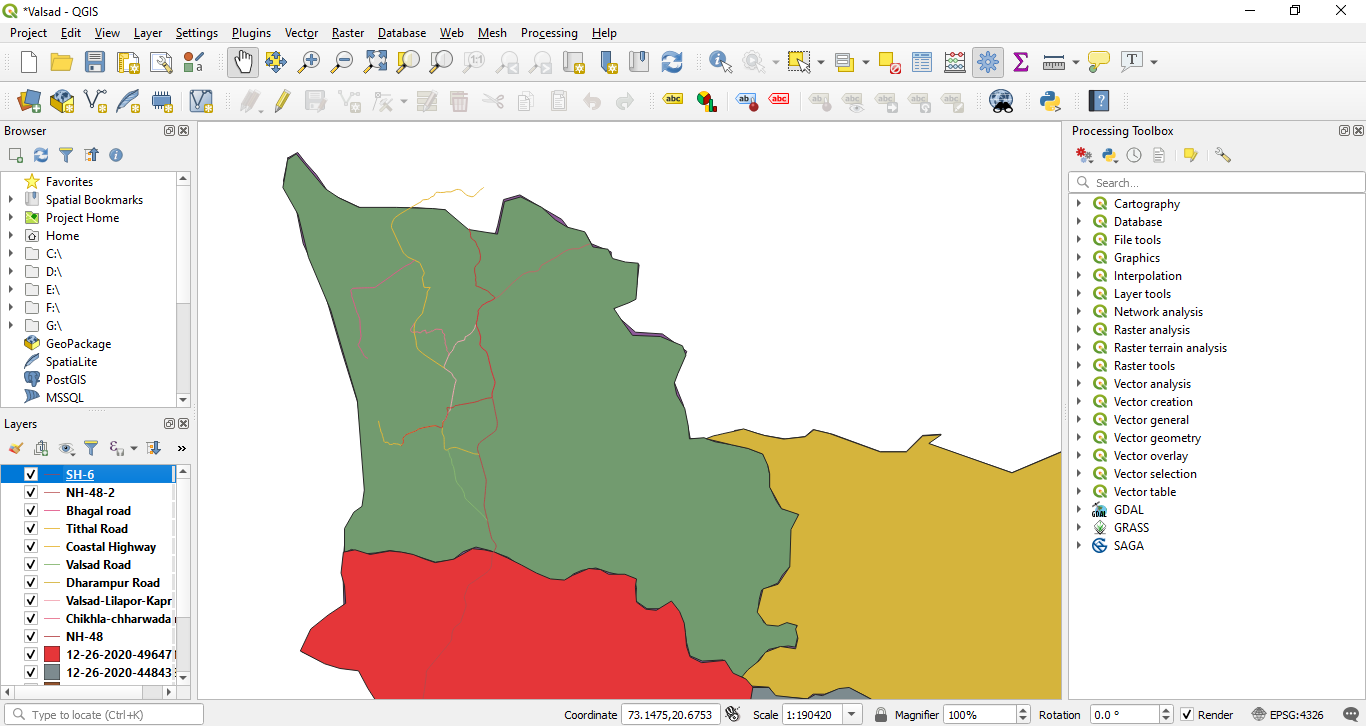


Figure : Shape files in QGIS

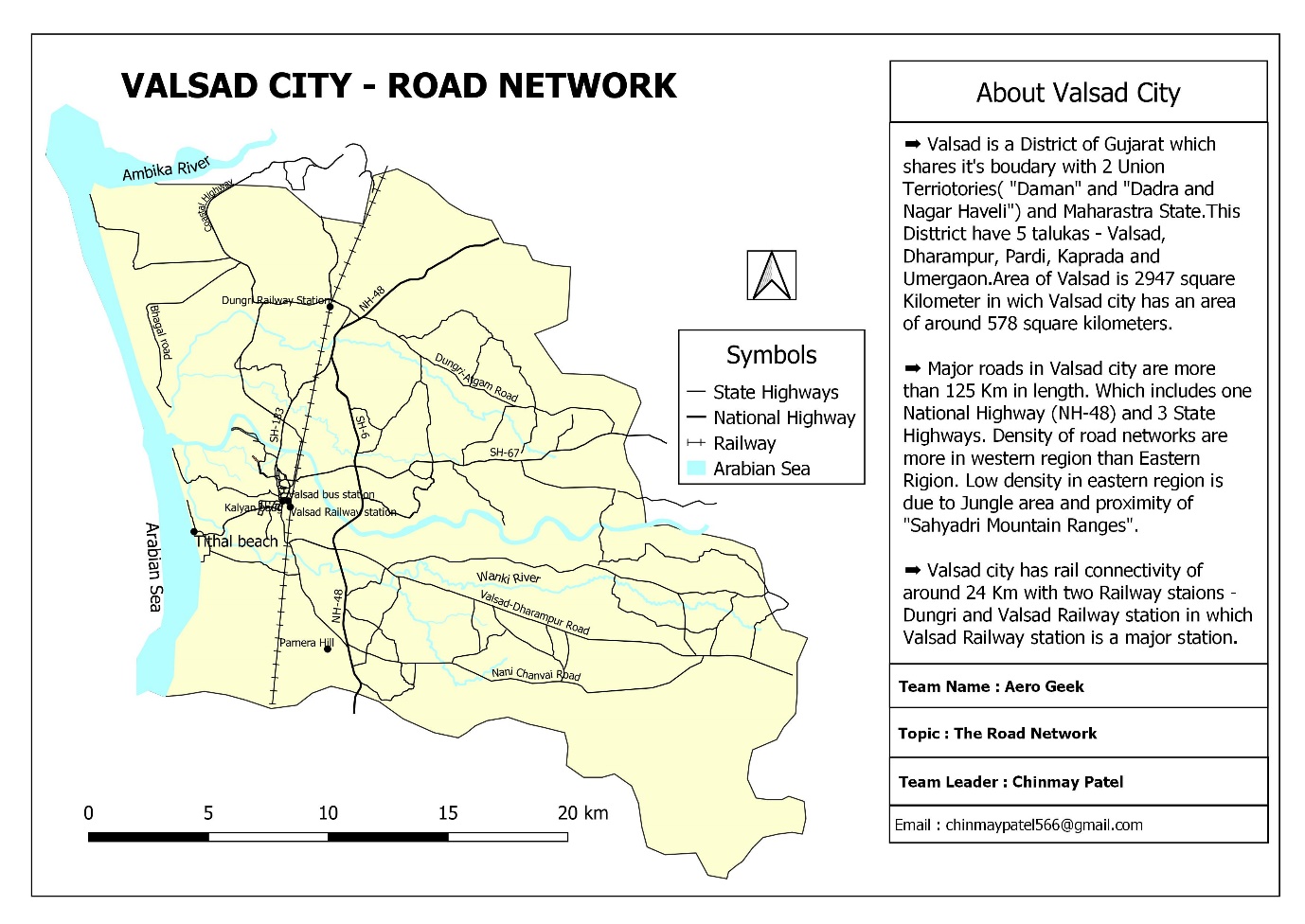


Figure : The final Map

**Application of the map;**

This map can be used by tourists which help them to make an effective plan for travelling. This map can also be used by Industrialists to set their Industry on a favourable location (based on proximity of roads and resources). This map can also be used for strategic purposes. It also helps to select the better roots for emergency situations (e.g. for Ambulances and for police vans).