

METHODOLOGY

DATA INFORMATION:

The data of road network of Paschim Bardhaman district of the state of West Bengal are collected from website of Bhuvan (ISRO). Line shapefile, point shapefile and polygon shapefile are created or collected from Bhuvan.

METHODS:

At first we open the website of Bhuvan ⇒ Then open Bhuvan 2D (<https://bhuvan-app1.nrsc.gov.in/bhuvan2d/bhuvan/bhuvan2d.php>) ⇒ Next we search the Paschim Bardhaman district from the search box ⇒ And then added “Add Draw tool” from tool ⇒ Next we created the required shapefiles with the help of the draw tools ⇒ Then download the all shapefile which we have been draw.

In the next step we open QGIS(v3.12.2) software ⇒ Then Add the downloaded data from Bhuvan [‘Layer’ ⇒ ‘Add Layer’ ⇒ ‘Add Vector Layer’ ⇒ ‘Browser’ ⇒ Select the data ⇒ ‘Add Selected Data’] ⇒ Then marge the polylines as our require [‘Vector’ ⇒ ‘Data Management Tools’ ⇒ ‘Merge Vector Layers...’] ⇒ Next we converted the polylines to raster [‘Raster’ ⇒ ‘Conversion’ ⇒ ‘Rasterized(Vector to Raster)’] ⇒ Then we calculate the proximity of the roads (rasterized polyline) [‘Raster’ ⇒ ‘Analysis’ ⇒ ‘Proximity(Raster Distance)’] ⇒ Then we clip the raster(proximity) by mask [polygon(district)] [‘Raster’ ⇒ ‘Extraction’ ⇒ ‘Clip Raster by Mask Layer’]

And the last step is layout [‘Project’ ⇒ ‘New Print Layout’ ⇒ ‘Create Print Layout Title’ ⇒ ‘Add Items’ ⇒ ‘Add Map’, ‘Add Label’, ‘Add Legend’, ‘Add Scale Bar’, ‘Add North Arrow’ ⇒ ‘Layout’ ⇒ ‘Export as Image’]

COMPEXITIES:

- We have downloaded the data individual; not as continuous. So we downloaded so many data which create many complexities for ours.
- Sometimes Bhuvan site work very slow.

APPLICATION OF MAP:

- This map gives us information about road network of Paschim Bardhaman district and which area under Primary roads, Secondary roads, Tertiary roads, Street roads and Residential roads.
- Road network, Rail line, Hospitals, Mining, Railway station, Bus stop and Airport all of this features described on this map which is improve our mental map.
- The business people get idea about road connectivity from this map which is helping them to start a transport business.
- It also serves as a communication tool.