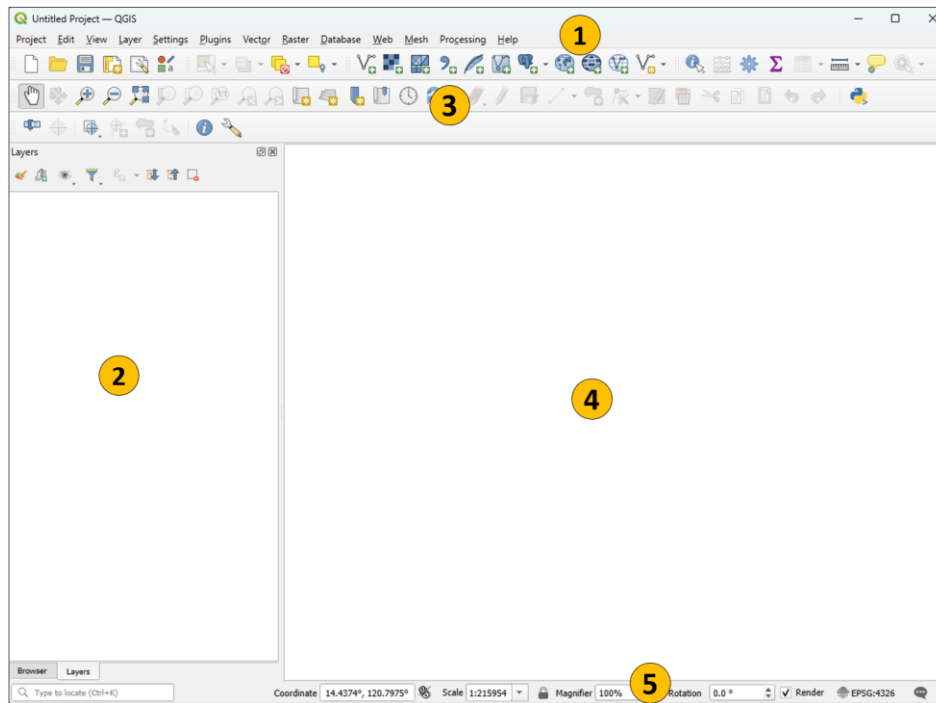


Introdusaun ba jestaun dadus jeoespasiál no teknolojia sira ba workshop formasaun Programa Saúde - Timor Leste

Ezersísio 2: Uza funcionalidade báziku sira husi software GIS (QGIS)

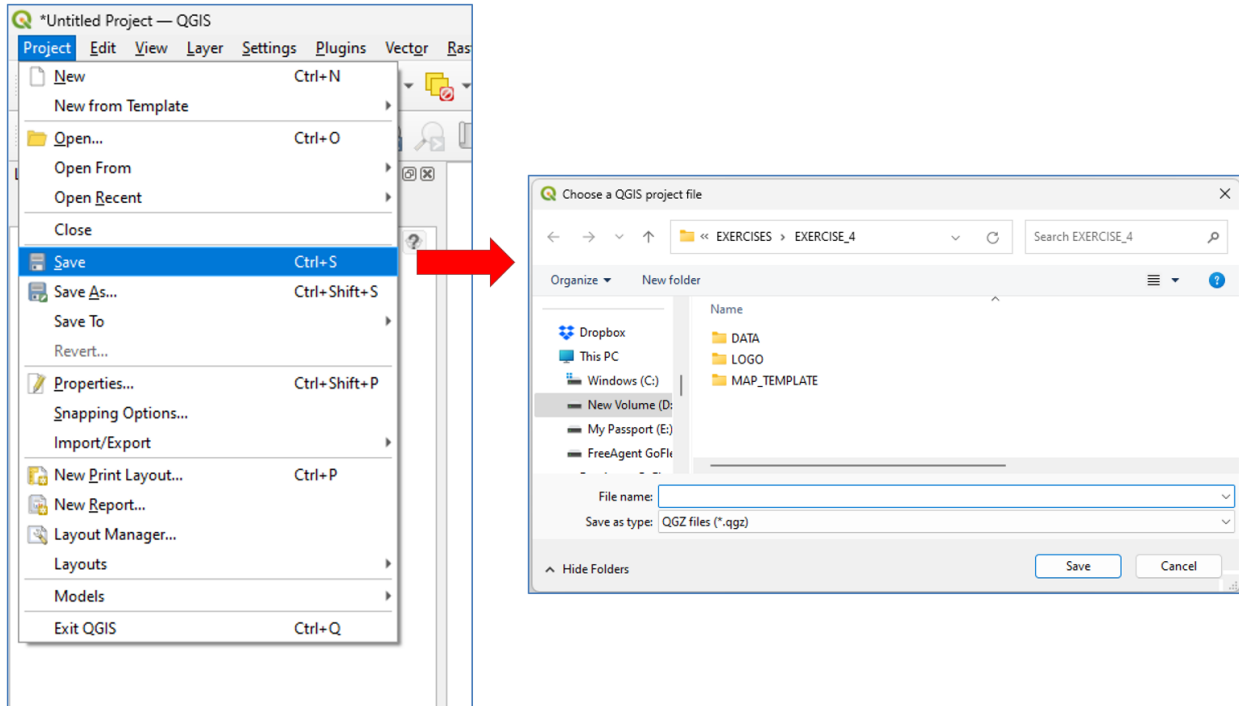
Navega iha Interfase:



Interfase QGIS fahe ba área prinsipál 5:

1. Menu Prinsipál
 - Fornese asesu ba karakterístika oioin QGIS nian uza menu ierárkiku padraun ida
2. Layers Panel / Browser Panel
 - Painél Kamada sira: iha ne'ebé ita-boot sei haree lista hosi kamada mapa oioin ne'ebé ita-boot aumenta ona ba ita-boot nia mapa
 - Painél Browser: Husik ita-boot atu navega ho fasil iha ita-boot nia sistema arkivu no jere ita-boot nia dadus.
3. Toolbars
 - Fornese asesu ba maioria funsaun sira ne'ebé hanesan ho menu sira, no mós ferramenta adisionál sira hodi halo interasaun ho mapa
4. Map View
 - Nune'e mós hanaran Map canvas, ida-ne'e maka " negósiu final" husi QGIS — mapa sira hatudu iha área ida-ne'e.
5. Status bar
 - Fornese ita-boot ho informasaun jerál kona-ba mapa nia haree, no asaun sira ne'ebé prosesa ka disponivel no ofere se ba ita-boot ferramenta sira atu jere mapa nia haree.

Rai File Project nian



- QGIS bele salva sesaun sira utilizadór nian. (Arkivu QGIS ne'e hanaran 'projetu'.)
- Iha menu prinsipál, click *Project* > *Save*
- Hakerek naran arkivu ida no rai ita-boot nia projetu hanesan arkivu QGZ (.qgz)
 - Formatu arkivu QGZ maka formatu padraun foun ba QGIS. Ida-ne'e maka formatu komprimidu ho arkivu .qgs (formatu padraun uluk) ne'ebé inkorpora iha laran hamutuk ho nia baze-dadus sqlite asociadu (.qgd) ba dadus auxiliár.

Manage Layers Toolbar



- Add Vector Layer
- Add Raster Layer
- Add Mesh Layer
- Add Delimited Text Layer
- Add Spatialite Layer
- Add/Edit Virtual Layer
- Add PostGIS Layers
- Add WMS/WMTS Layer
- Add WCS Layer
- Add WFS Layer
- Add Layer from STAC Catalog
- New Shapefile Layer

Attributes Toolbar



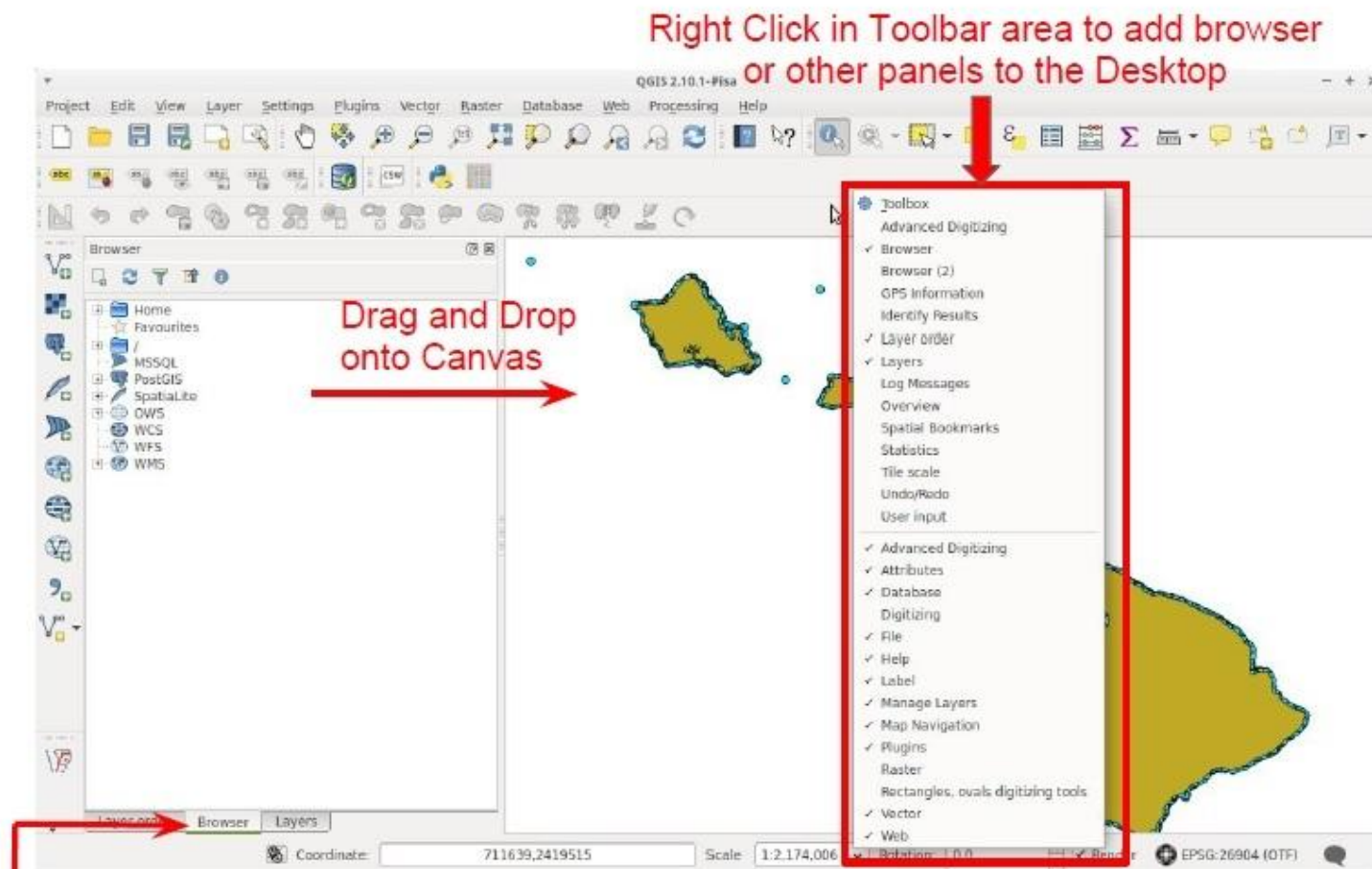
- Identify Features
- Open Field Calculator
- Toolbox
- Show Statistical Summary
- Open Attribute Table
- Measure Line
- Show Map Tips

Map Navigation Toolbar



- Pan Map
- Pan Map to Selection
- Zoom In
- Zoom Out
- Zoom Full
- Zoom to Selection
- Zoom to Layer
- Zoom to Native Resolution
- Zoom Last
- Zoom Next
- New Map View
- New 3D Map View
- New Spatial Bookmark
- Show Spatial Bookmarks
- Temporal Control Panel
- Refresh

Browser Tab



From the Manage Layers Toolbar and the Browser Panel you can add Shapefiles, Databases, WFS, WMS, and several other types of files.

Project Properties

The image shows the QGIS Project Properties dialog box with the 'General' tab selected. A red arrow points from the 'Properties...' menu item in the QGIS menu to the dialog box. Red arrows also point from each tab in the dialog box to its corresponding description.

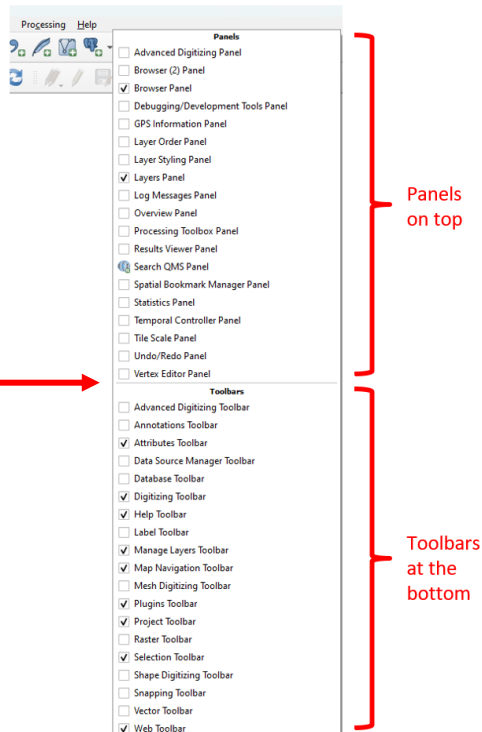
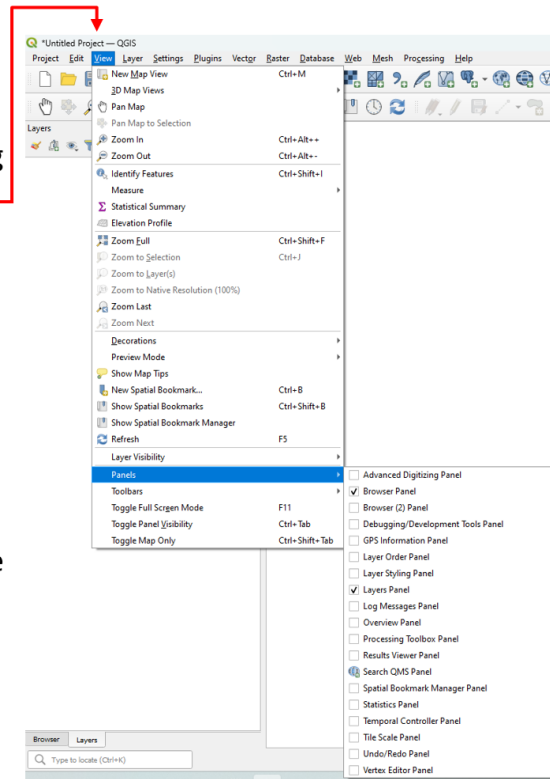
Tab	Description
General	Project file name; Project home; Map Measurements
Metadata	Allows detailed metadata to be defined
View Settings	Provides means to control the project map canvas
CRS	Helps set the coordinate reference system of the project
Transformations	Helps control the layers reprojection settings
Styles	Allows to configure symbols and colors
Colors	Allows to choose the color model of the project
Data Sources	Allows to configure the editing behavior & layer capabilities
Relations	Used to define relations between layers
Variables	Allows to manage project-level variables
Macros	Used to edit Python macros
QGIS Server	Allows to configure project in order to publish it online
Temporal	Used to set the temporal range of the project
Elevation	Helps configure default settings for the terrain and elevation
Sensors	Used to configure sensors and toggle their connection status

Propriedade Projeto nian permite atu muda konfigurasaun padraun sira ba **ATUAL** projetu QGI

Panels and Toolbars

Panels and Toolbars:

- Turn them on and off by going to *View > Panels or Toolbars*
- Panels provide interactive “windows”. Examples: Layers, Browser, GPS Information
- Toolbars are a grouping of tools
- Panels/Toolbars can also be added/removed by right-clicking on the toolbar area then checking/unchecking the desired panel or toolbar



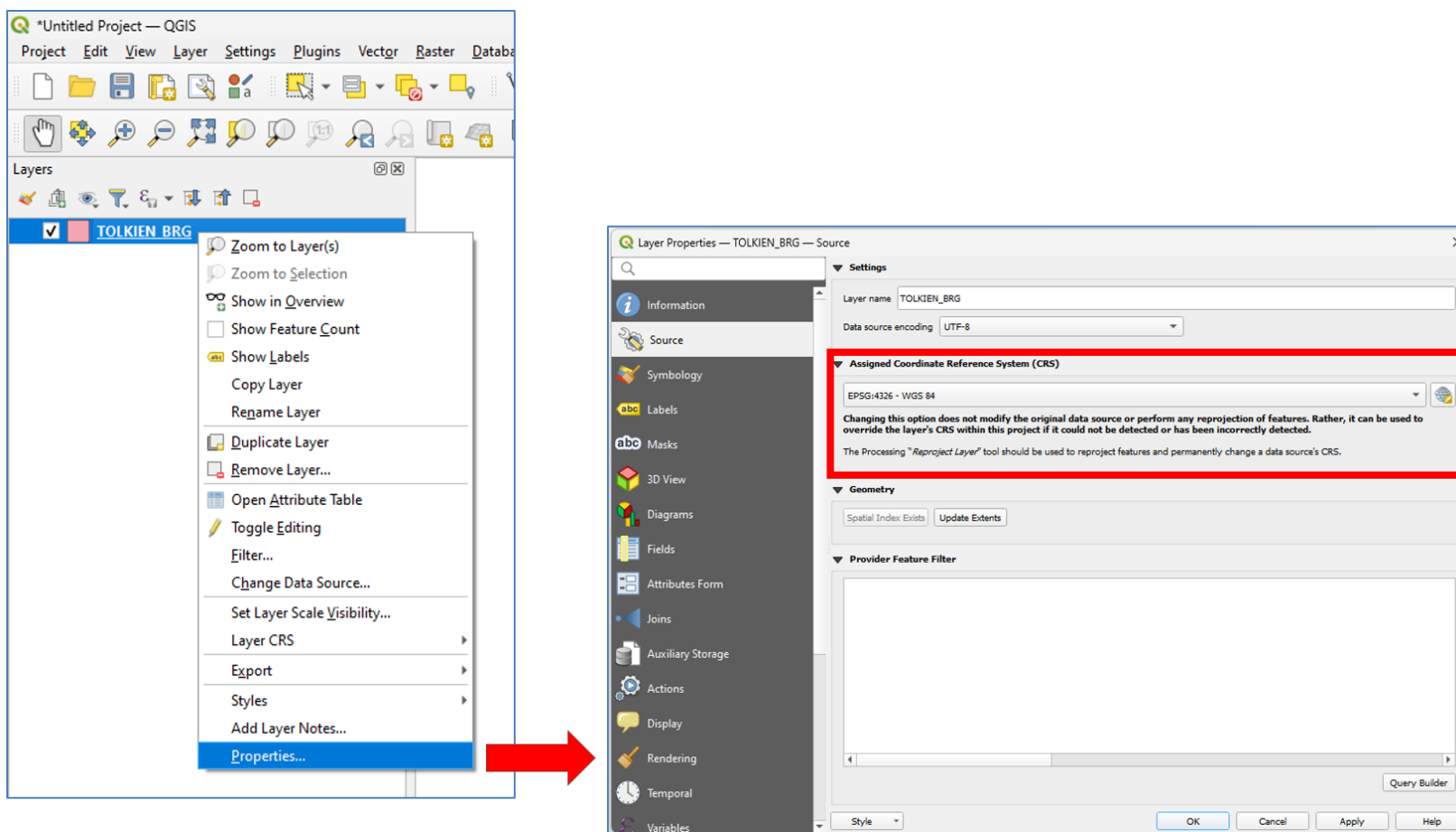
Vector Layer Properties

The image shows the QGIS interface with the 'Properties' menu open for the 'TOLKIEN_BRG' layer. A red arrow points from the 'Properties...' option in the menu to the 'Layer Properties' dialog box on the right. The dialog box is titled 'Layer Properties — TOLKIEN_BRG — Int' and contains a list of property categories, each with a red arrow pointing to a descriptive text block.

- Information** → Read-only summary of information and metadata on the current layer
- Source** → Used to define general settings for the vector layer
- Symbology** → Provides a comprehensive tool for rendering and symbolizing vector data
- Labels** → Provides the capabilities to configure smart labeling on vector layers
- Masks** → Helps configure the current layer symbols overlay with other symbol layers or labels
- 3D View** → Provides settings for vector layers that should be depicted in the 3D Map view tool
- Diagrams** → Allows to add a graphic overlay to a vector layer
- Fields** → Provides information on fields related to the layer and helps organize them
- Attributes Form** → Helps set up the form to display when creating new features or querying existing one
- Joins** → Allows to associate features of one layer to features from another loaded vector or table
- Auxiliary Storage** → Allows to store properties for layers that are not editable
- Actions** → Provides the ability to perform an action based on the attributes of a feature
- Display** → Helps configure fields to use for feature identification
- Rendering** → Allows to set the scale dependent visibility and simplify geometry
- Temporal** → Provides options to control the rendering of the layer over time
- Variables** → Lists all the variables available at the layer's level
- Elevation** → Provides options to control the layer elevation properties within a 3D map view
- Metadata** → Provides options to create and edit a metadata report on a layer
- Dependencies** → Allows to declare data dependencies between layers
- Legend** → Provides advanced settings for the Layers panel and/or the print layout legend
- QGIS Server** → Consists of Description, Attribution, MetadataURL, and LegendUrl sections
- Digitizing** → Gives access to options that help to ensure the quality of digitized geometries

Janela Propriedade Kamada (Vetor) nian fornese informasaun kona-ba kamada vetor nian no fornese konfigurasaun jerál sira hodi jere aparénsia hosi karakterístika sira kamada nian iha mapa (simbolojia, rótulu ka label, diagrama sira) no interasaun ho rate (asaun sira, pontu sira mapa nian, dezeñu formuláriu nian).

Data Projections



Kamada vetor/raster hotu-hotu iha projesaun ka Sistema Referénsia Koordinasaun (CRS). Maneira lalais liu atu verifika projesaun sira maka klik liman-loos iha *layer > Properties... > Source* tab.

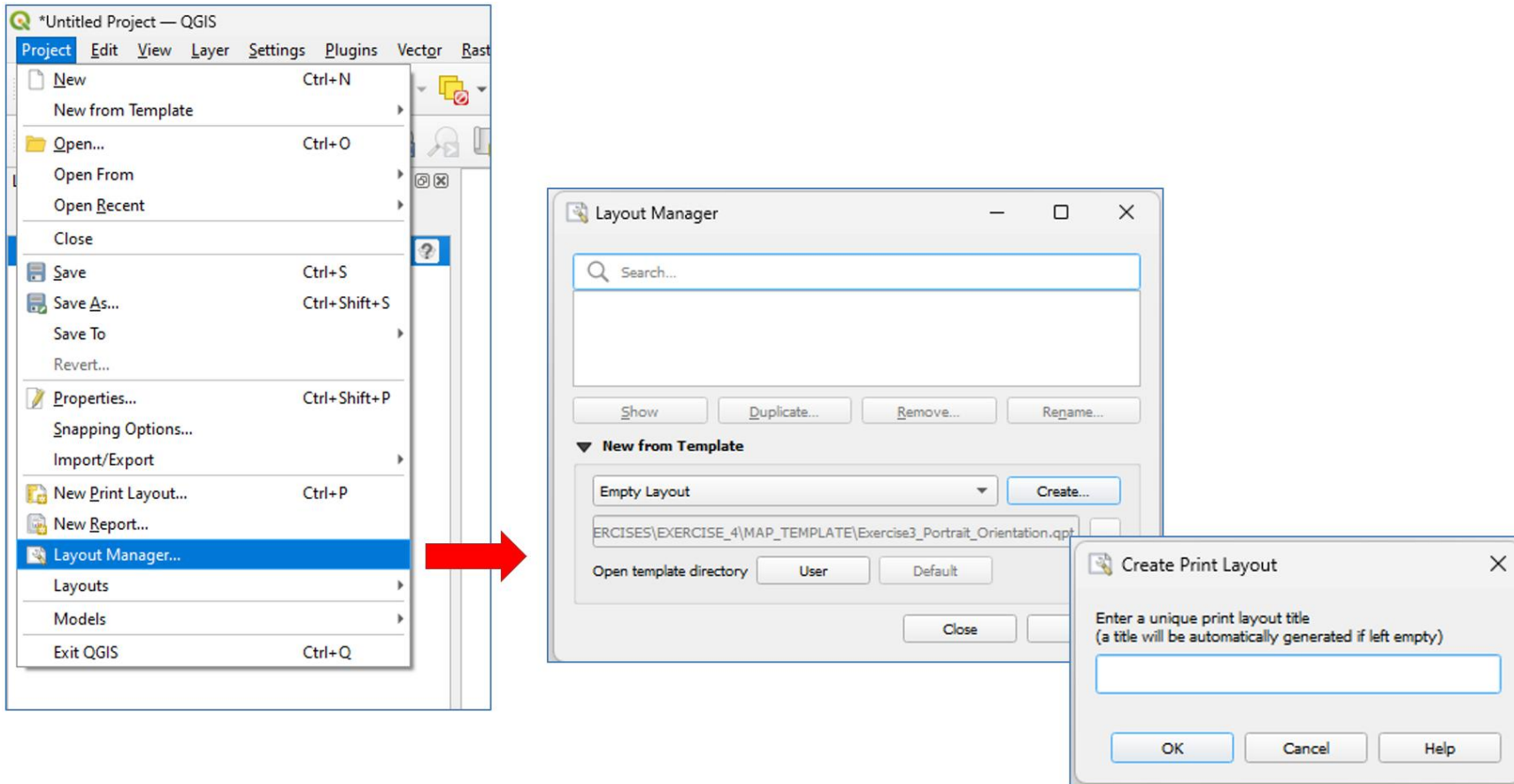
Raster Layer Properties

The image shows the QGIS interface with the Raster Layer Properties dialog box open. The dialog box is titled "Layer Properties - pop_c" and contains a list of property categories. A red arrow points from the "Properties..." option in the Layers panel to the dialog box.

- Information** → Read-only summary of information and metadata on the current layer
- Source** → Displays basic information about the selected raster
- Symbology** → Allows to control how the raster layer is rendered on map
- Transparency** → Provides capabilities to set the transparency level of the raster layer
- Labels** → Provides the capabilities to configure smart labeling on raster layer
- Histogram** → Allows to view the distribution of the values in the raster
- Rendering** → Allows to set scale dependent visibility and refresh layers at interval
- Temporal** → Provides options to control the rendering of the layer over time
- Pyramids** → Allows to build pyramids to improve raster performance
- Elevation** → Provides options to control the layer elevation properties within a 3D map view
- Metadata** → Provides options to create and edit a metadata report on a layer
- Legend** → Provides advanced settings for the Layers panel and/or the print layout legend
- Display** → Helps to configure HTML map tips to use for pixel identification
- Attribute Tables** → Allows to convert symbology to and import an attribute table
- QGIS Server** → Helps to configure settings of the data when published by QGIS Server

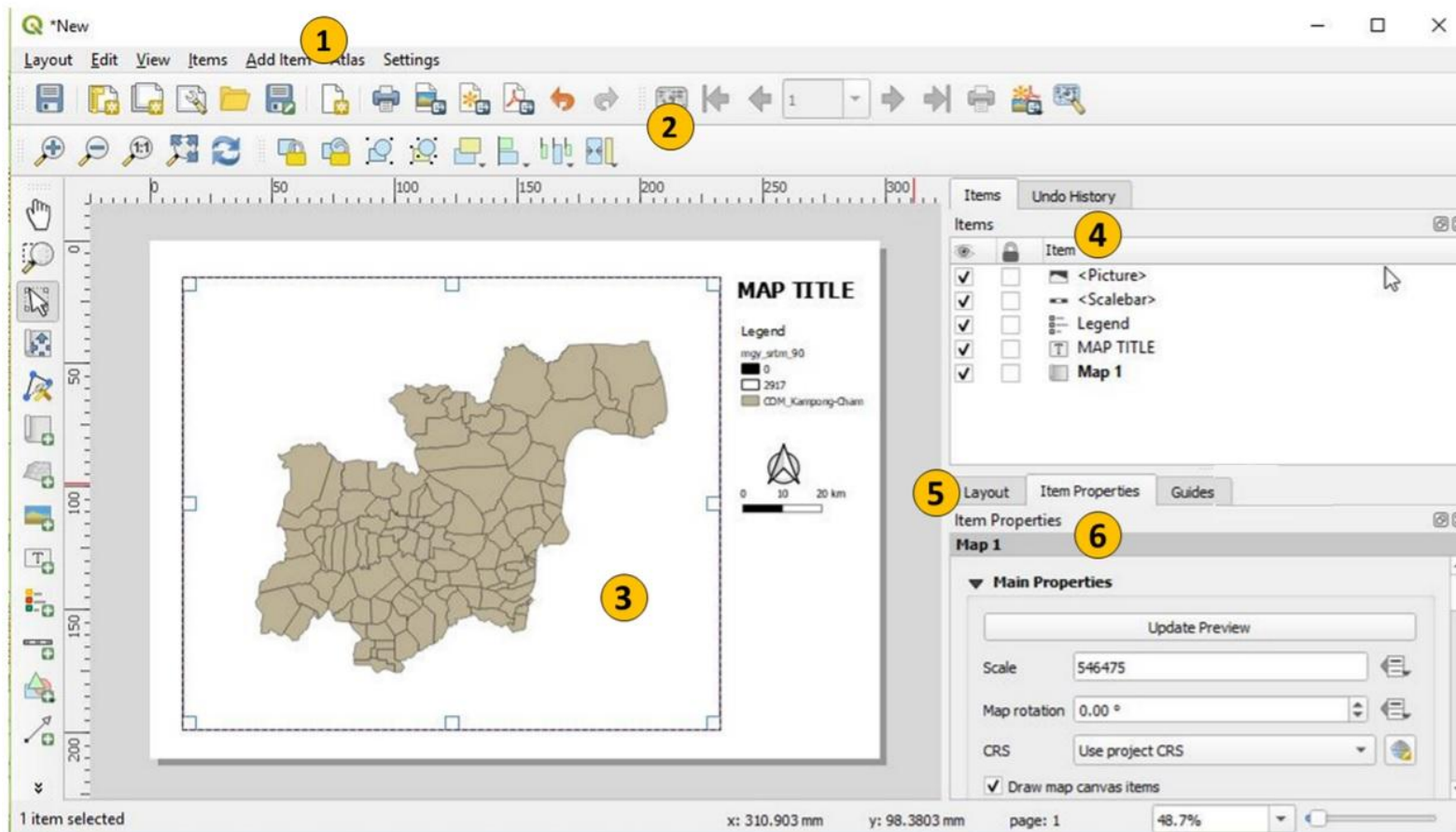
Janela (Raster) Layer Properties fornese informasaun kona-ba kamada no mós abilidade atu tau nível pirámide sira, ajusta aparénsia, no haree histograma.

Layout Manager



Layout Manager pernite ita-boot atu kria layout mapa foun ida tantu husi layout mamuk ka modelu ida. Bele asesu husi Project menu (*Project > Layout Manager...*) or iha janela Print Layout nian (*Layout > Layout Manager...*).

Print Layout



Print Layout interface: 1. Menu Bar; 2. Toolbar; 3. Map Layout; 4. Items and Command History; 5. Layout Properties; 6. Item Properties

Layout Toolbar



- Save project
- New layout
- Duplicate layout
- Layout manager
- Add items from template
- Save as template
- Add Pages...
- Print Layout
- Export as image
- Export as SVG...
- Export as PDF...
- Undo
- Redo

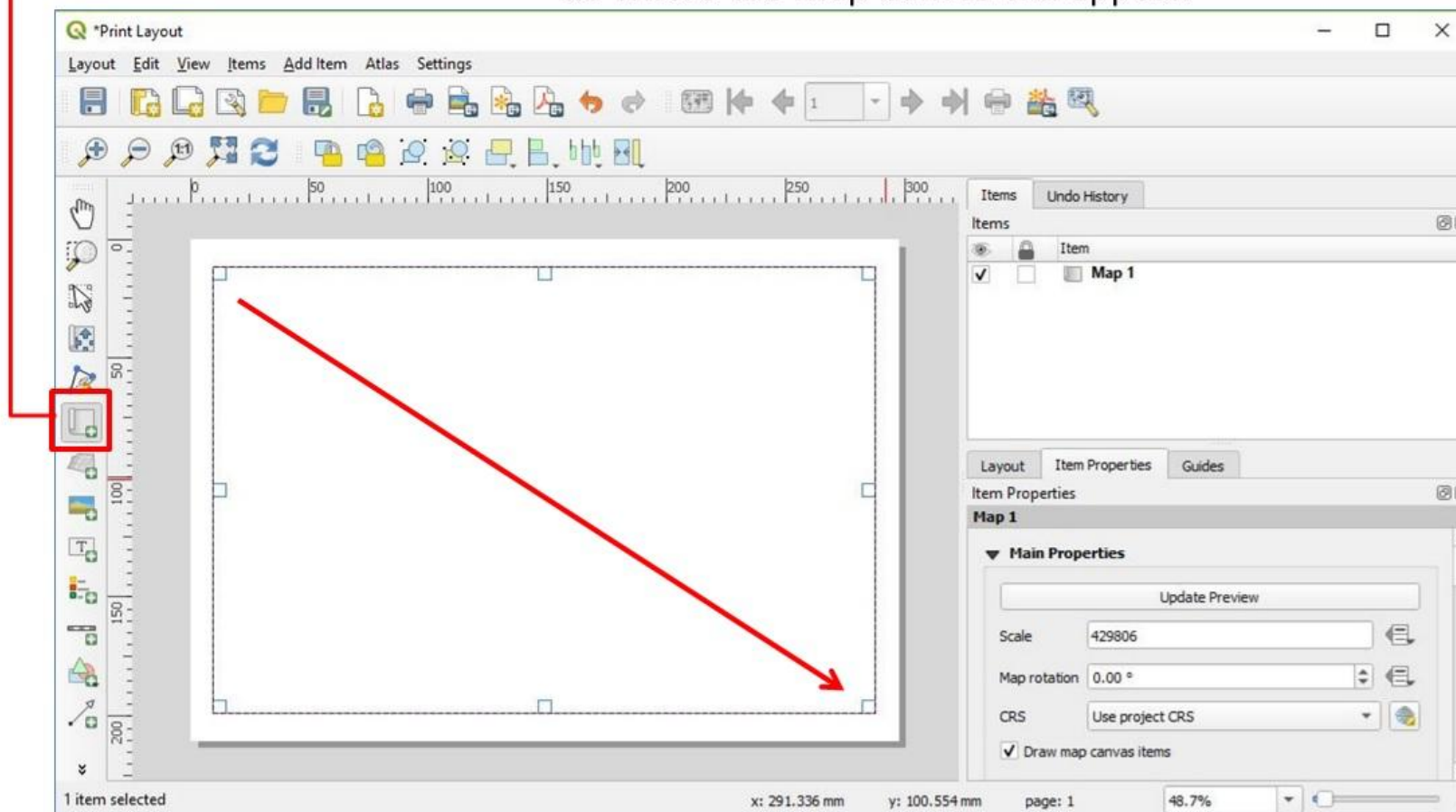
Navigation Toolbar



- Zoom in
- Zoom out
- Zoom to 100%
- Zoom full
- Refresh view

Print Layout

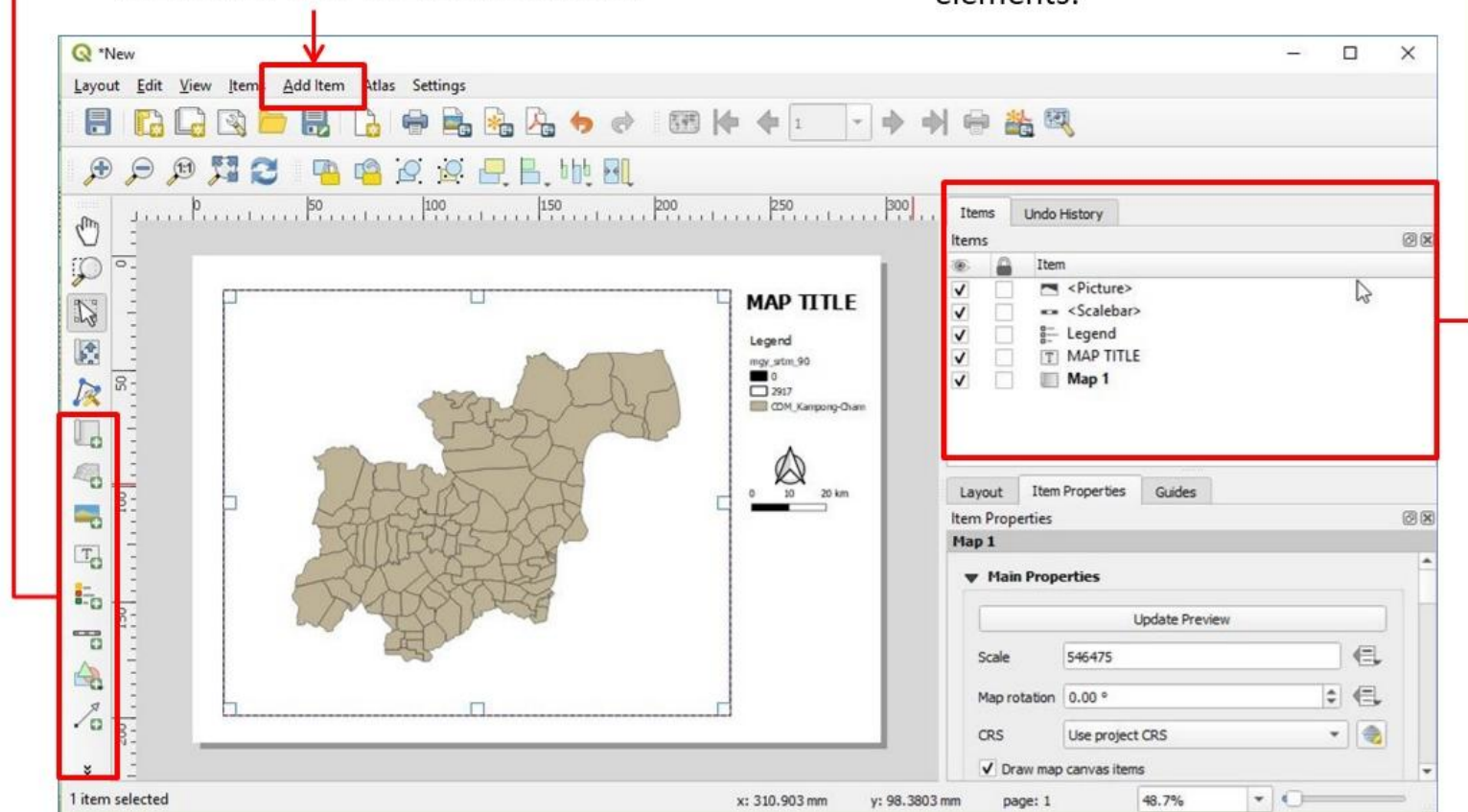
Click on the Add Map button then draw a rectangle for where the Map Canvas will appear.



Map Elements

Add map elements by clicking on the icons on the toolbar or in the Add Item menu

This area keeps track of changes and allows you to customize map elements.



Bainhira mapa aumenta ona, elementu mapa sira seluk bele aumenta. Sira nia propriedade sira, no mós propriedade sira pájina nian, bele haree no modifika. Print Layout akompañã mudansa sira iha janela Undo History.

Layout

- Set the grid spacing and snap tolerance
- Export settings
- Resize layout to content

Item Properties

- Set the font
- Set scale bar properties
- Set legend properties
- Set map element properties