

The GIS Reconstruction of an Aboriginal Settlement based on Digital Archives of Jijiwa's Manuscripts and Photos

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Outline

- Survey of Suketarou Jijiiwa
- Aboriginal policy & Settlement Relocation
- Atayal Slamaw
- Jijiiwa's mountain route in GIS
- Architecture in 3D-Max
- Digital reconstruction of Slamaw
- Conclusion

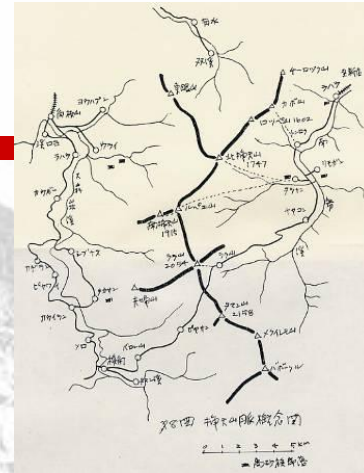


- Survey of Suketarou Jijiwa

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Survey of Suketarou Jijiwa

- Survey 1934-1943
- 7 nations, 111 tribes,
- 127 buildings



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A black and white photograph of a traditional thatched-roof hut, likely an Aboriginal dwelling, set in a tropical environment with several palm trees. The hut has a steeply pitched, conical roof made of thick thatch. The background shows more palm trees and a clear sky.

- Aboriginal policy & Settlement Relocation

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Invasion in Atayal



Invasion in Slamaw

- 1912
- 1913
- 1920



1913

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Settlement Relocation

Relocation

Atayal Nation

| period | source | Settle- ments | relocation | |
|---------------|----------|------------------|------------|----|
| 1939 | governor | 181 | N.A. | -- |
| 1935- 1941 | Jijiiwa | 31 | Yes | 9 |
| | | | Not | 8 |
| | | | unknow | 14 |

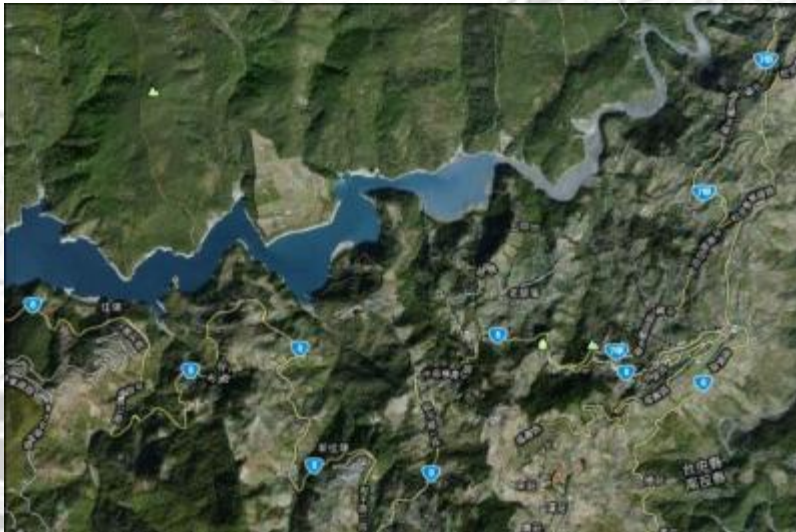


• Atayal Slamaw

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Slamaw Group

- **Jiayang & Slamaw**
- In Dongshi county, state Taichung



Google Map 2010



Map 1924

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Population Slamaw

策 冊

| Time | A Tribe (Household/Person) | B Tribe (Household/Person) |
|-----------------------------------|---------------------------------------|---------------------------------------|
| (1921) | Jiayang | Kaiyang |
| | 34/ 177 | 17/ 87 |
| (1925) | N.A. | N.A. |
| | N.A. | 16/ 86 |
| (1929) | Jiayang | Kaiyang |
| | 23/ 115 ▼ | 16/ 94 ▲ |
| (1930) | Jiayang | Slamaw |
| | 20/ 103 ▼ | 17/ 97 ▲ |
| (1939) *Jijiwa's Survey | Jiayang | Slamaw |
| | 18/ 89 ▼ | 21/ 115 ▲ |

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Interview & Field Survey

- Seniors Interview
- Locating Global coordinates & altitudes
- Define Reference points
- Topographic adjustment



A black and white photograph of a traditional thatched-roof hut, likely made of palm fronds or similar natural materials. The hut has a steep, conical roof and is situated in a tropical environment with several palm trees visible in the background. The image is slightly faded and serves as a background for the text.

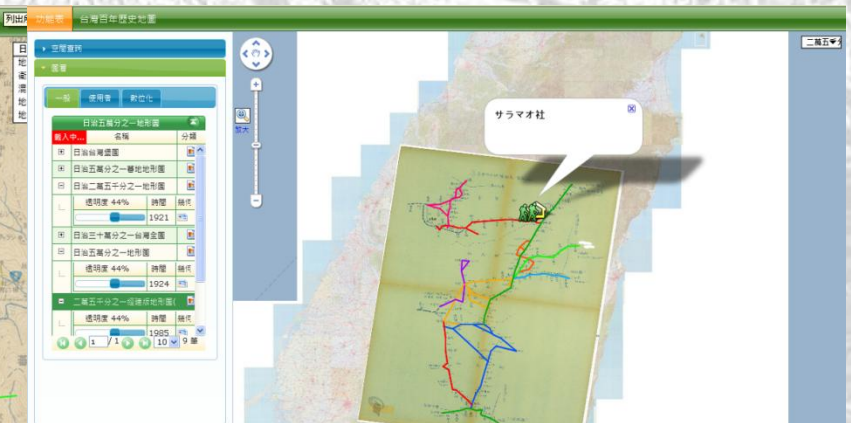
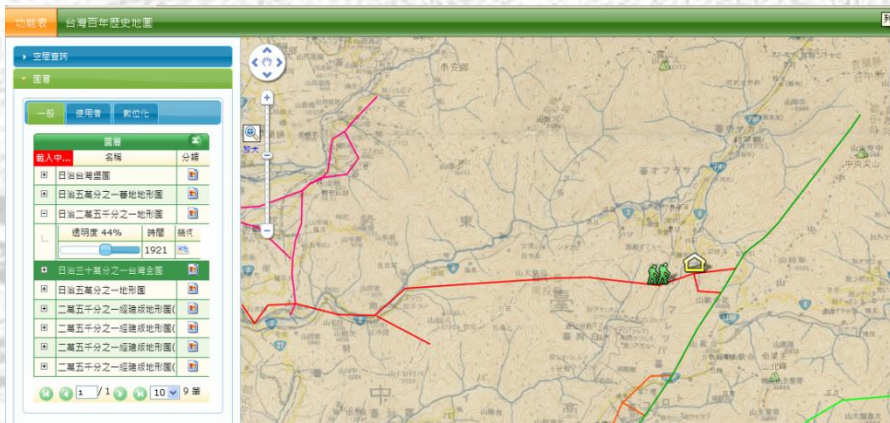
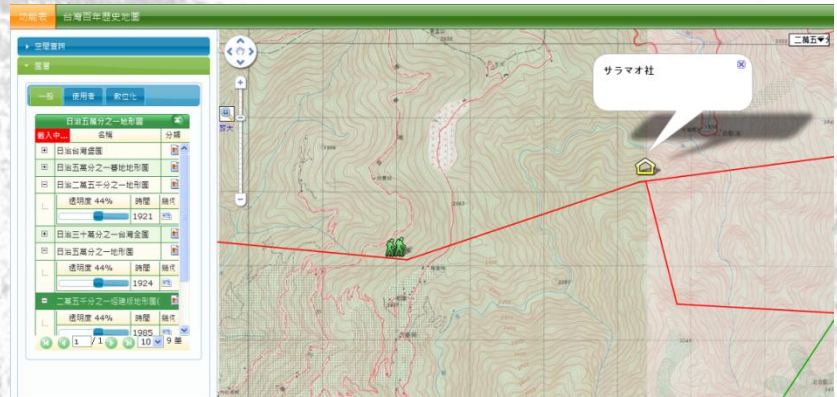
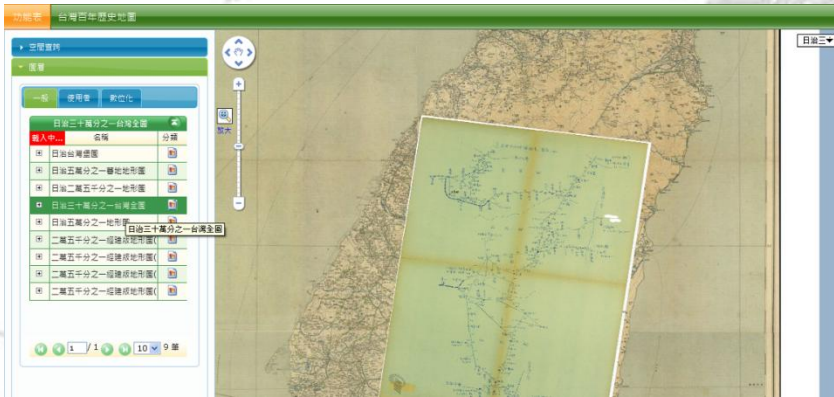
- Jijiwa's mountain route in GIS

- Routes in 1930s to Slamaw

- (1) Scan drawn Map
- (2) correct errors of manuscripts
- (3) check maps 1924 & 1922
- (4) Adjustment & location with Mapinfo Raster Image/ Register/ ArcGIS by coordinates Georeferenceings

•Routes in 1930s to Slamaw

GIS



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•Routes in 1930s to Slamaw

GIS

(7) Link Detabases of Routes, Settlements & 3D Building Simulations

(8) Set up Searching Platform for routes & settlements on Google Map system



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•Routes in 1930s to Slamaw

GIS

(9) provide exchanging files for kml/kmz of Google Map/Earth, with feed-back

(10) GPS data form Field survey for correcting manuscript





Architecture in 3D-Max

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Manuscript redrawn in CAD

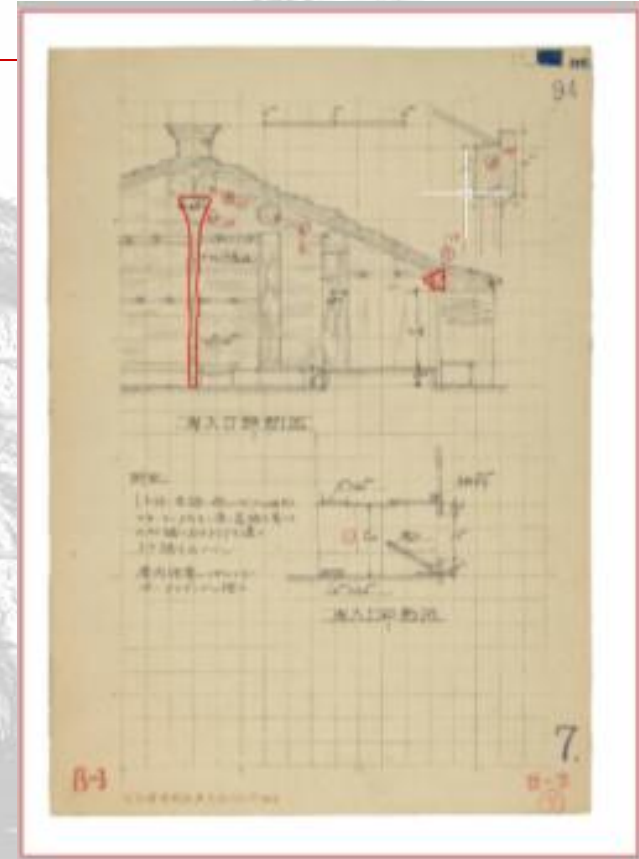
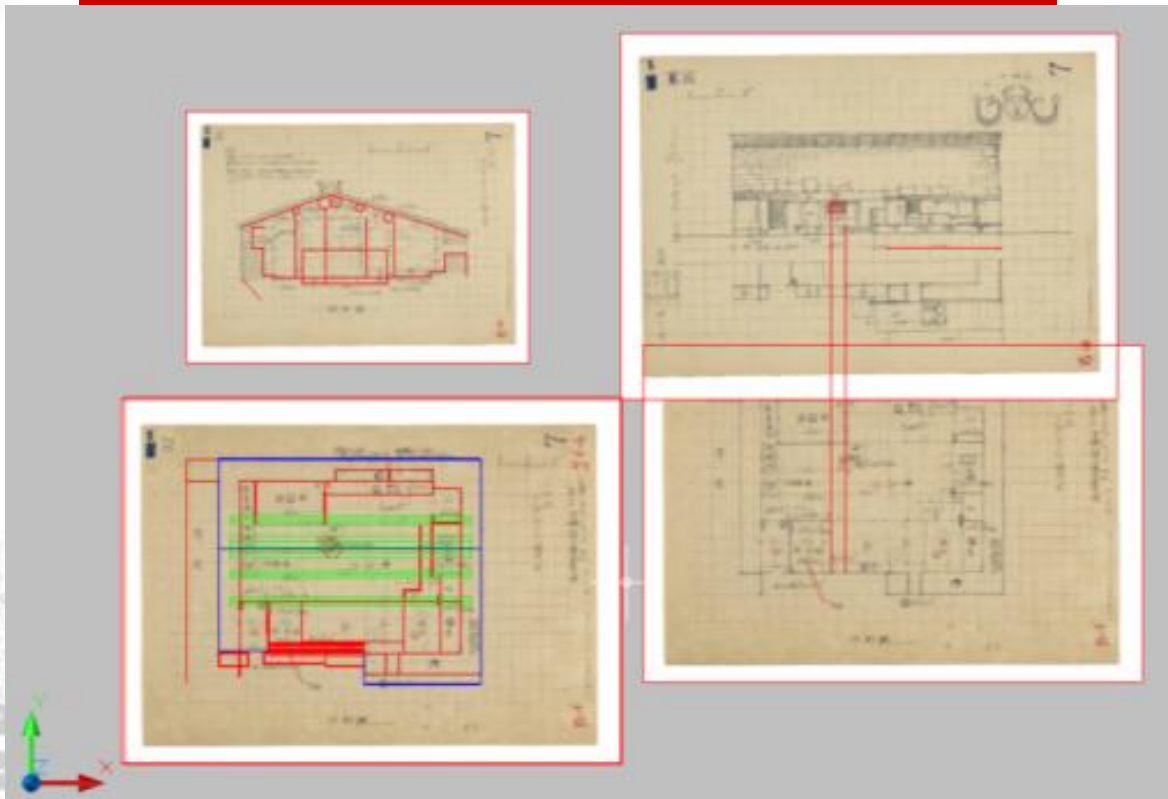
Tectonic Analyse/ Process

Material & Texture

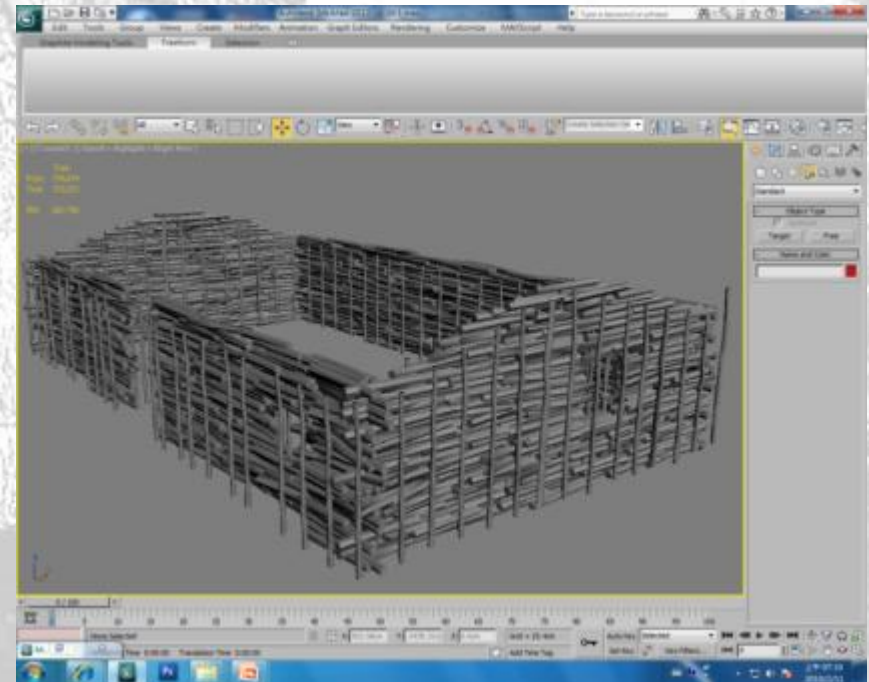
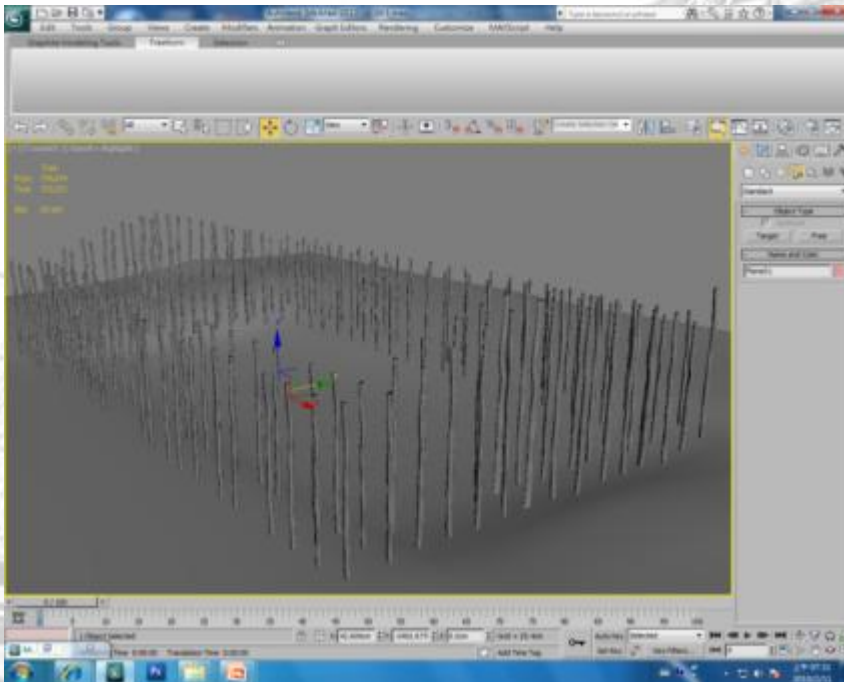
Scenes Render

Building cluster

- Manuscript redrawn in CAD

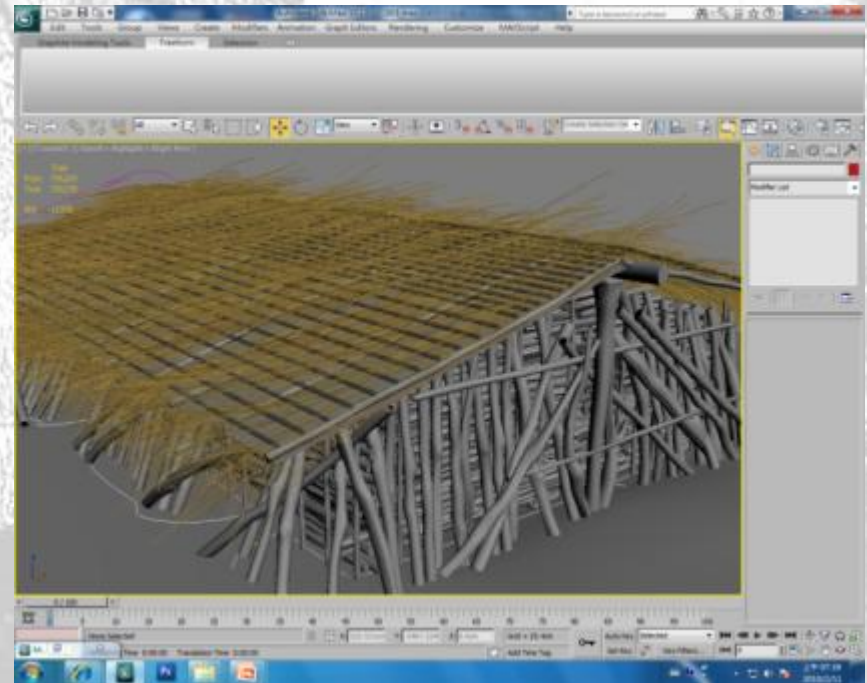
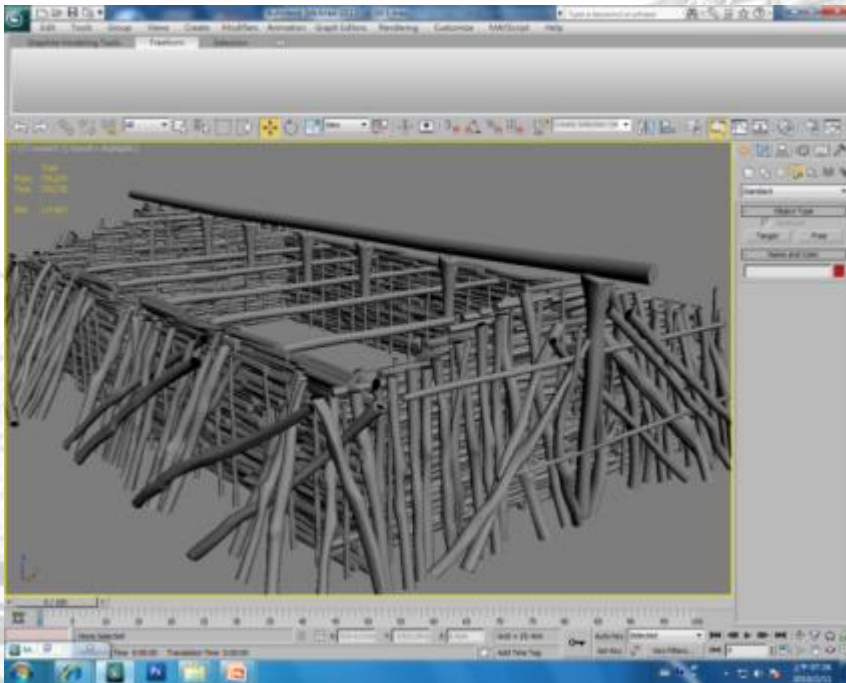


•Tectonic Analyse



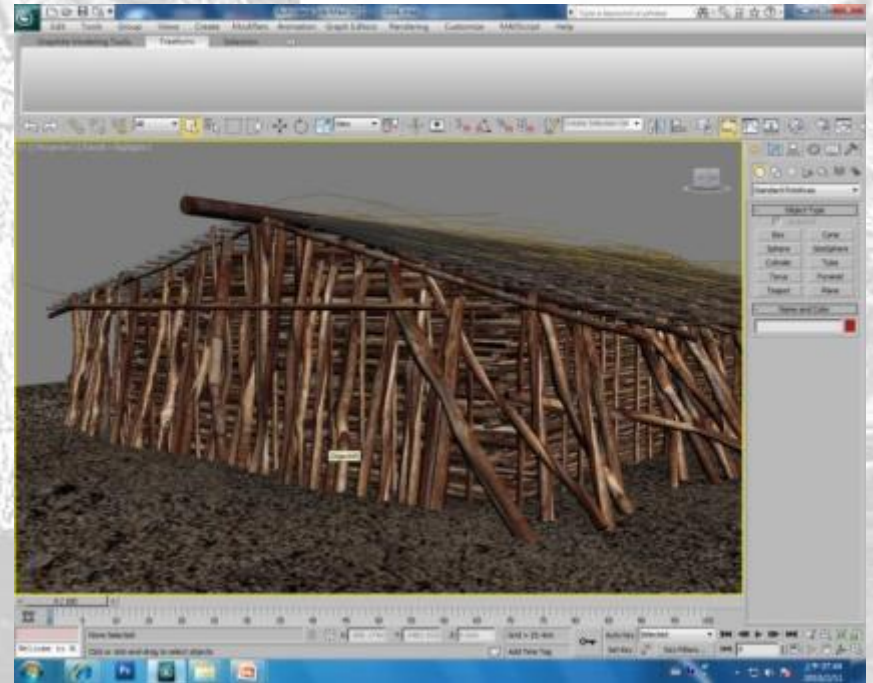
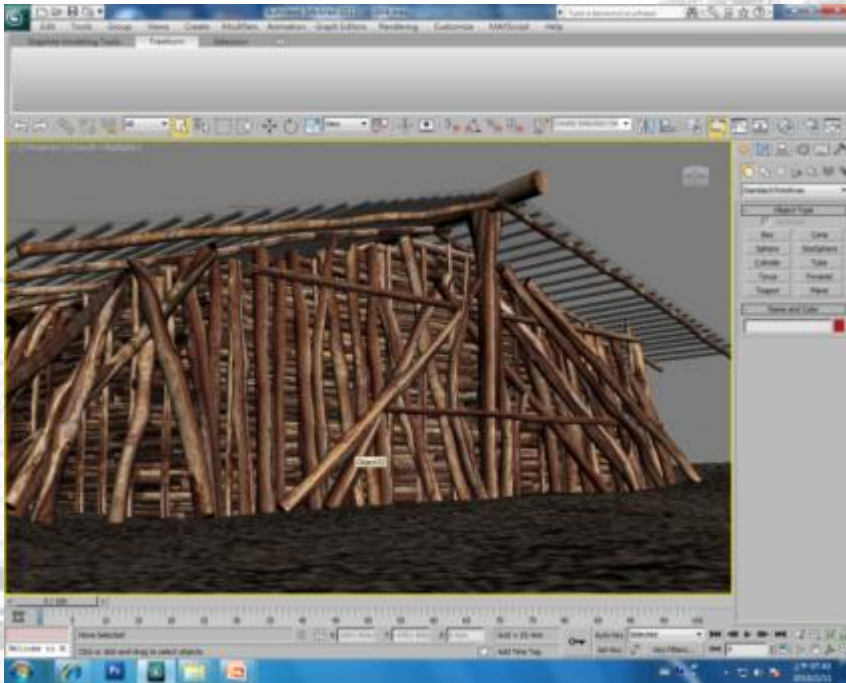
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•Tectonic Process



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- Material & Texture



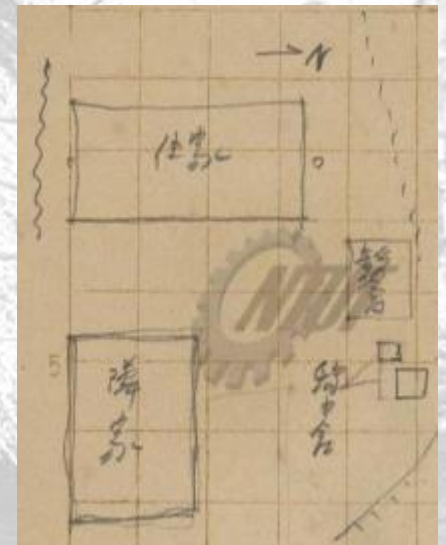
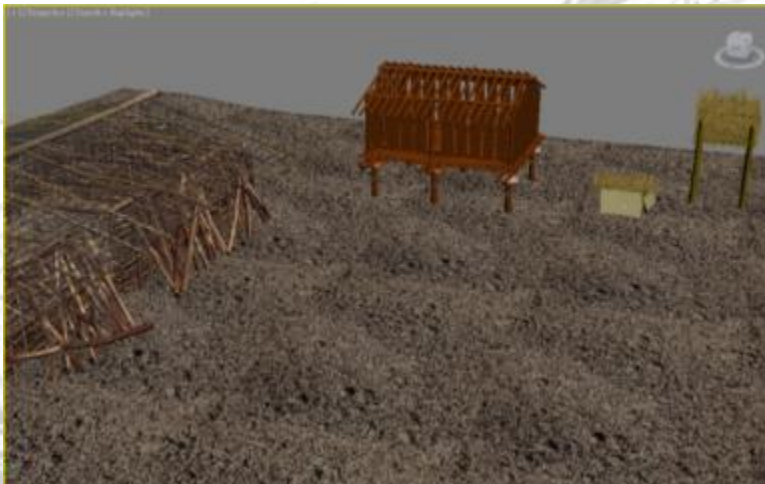
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- Scenes Render



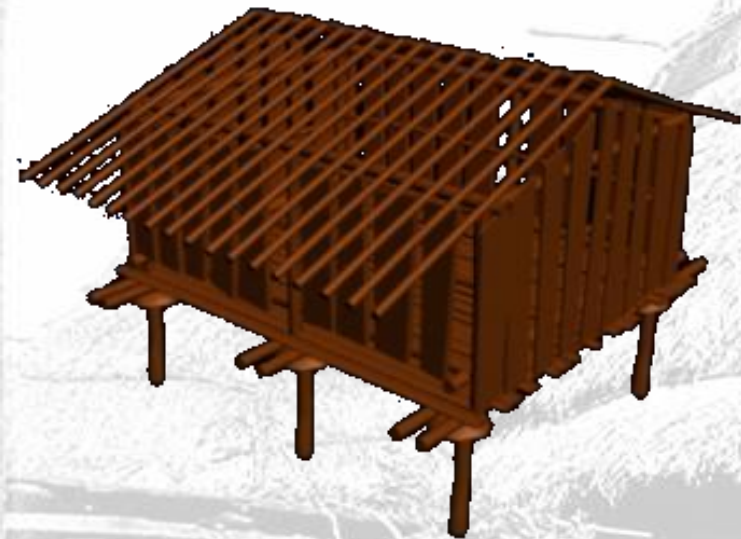
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• Building cluster



- Attached Structure

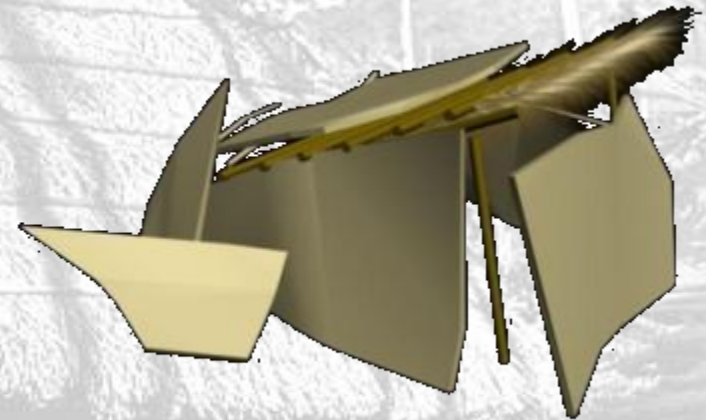
Granary



coop



Pigpen



A black and white photograph of a traditional thatched-roof hut, likely a traditional dwelling in a tropical region. The hut has a steep, conical roof made of thick thatch, supported by a wooden frame. It is surrounded by palm trees and other tropical vegetation. The image is semi-transparent, serving as a background for the text.

Digital reconstruction of Slamaw

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Overlay manuscript
on Map 1921

3D Topographic model

Location of settlement
by GPS

Adjust Altitude with
GPS

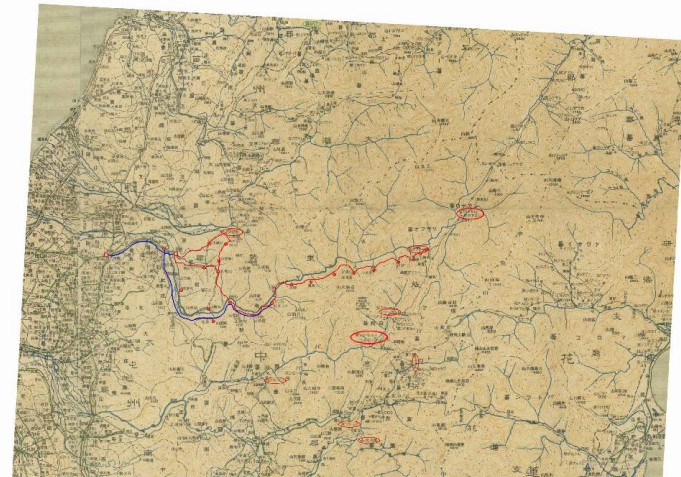
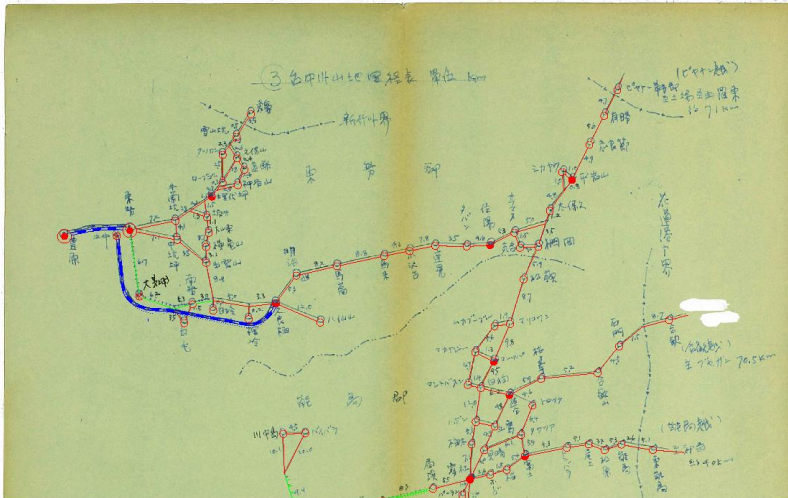
Reconstruct the
Settlement

3D-Virtual
Reconstruction

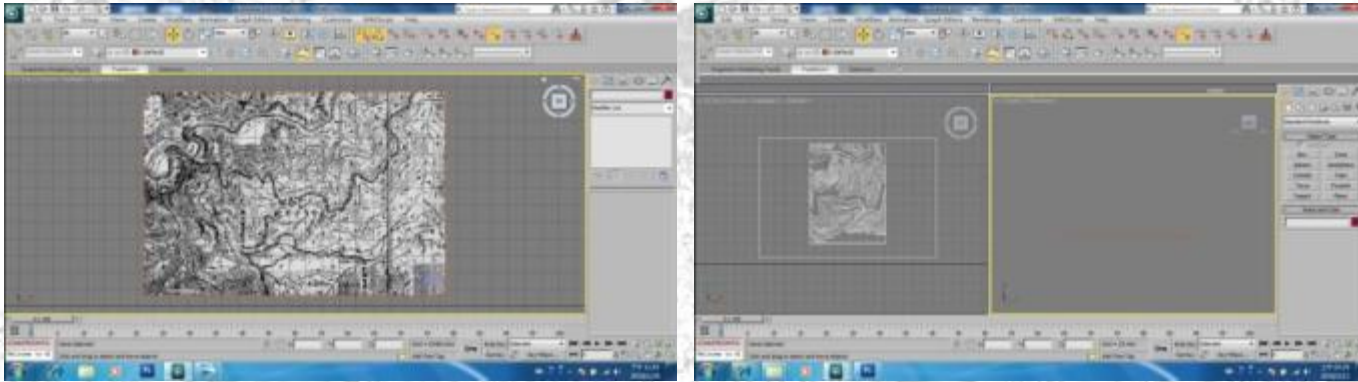
Old Map vs.
3D Map

Overlay manuscript on Map 1921

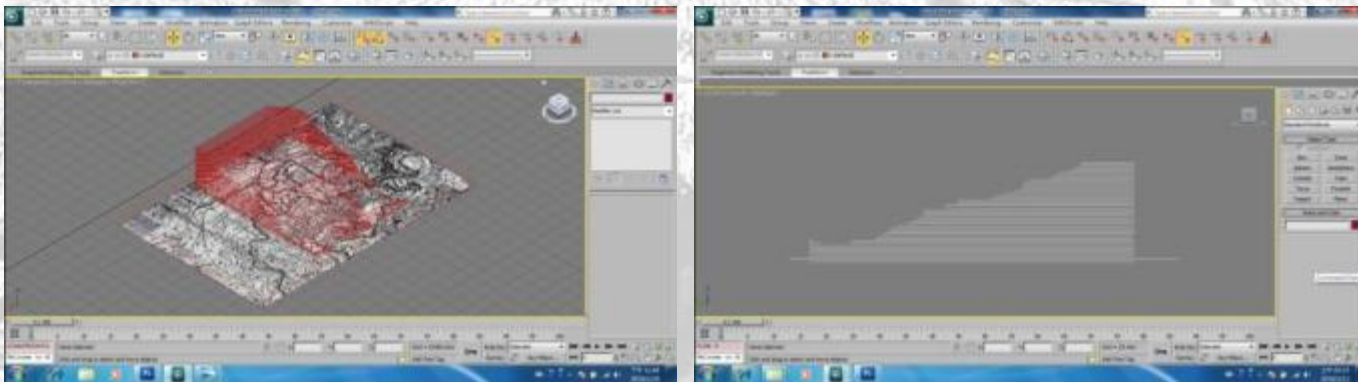
- Overlay manuscript and locate settlements on Map 1921



3D Topographic model

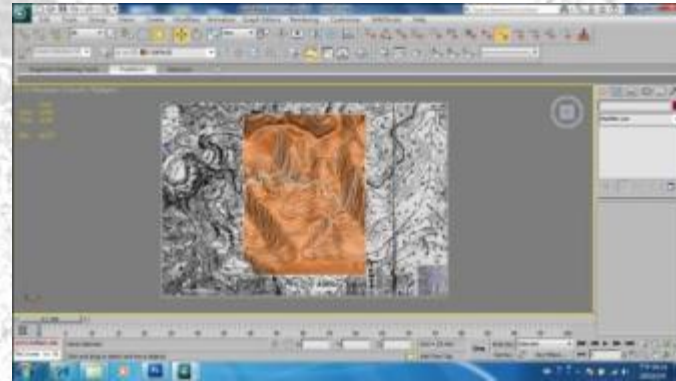
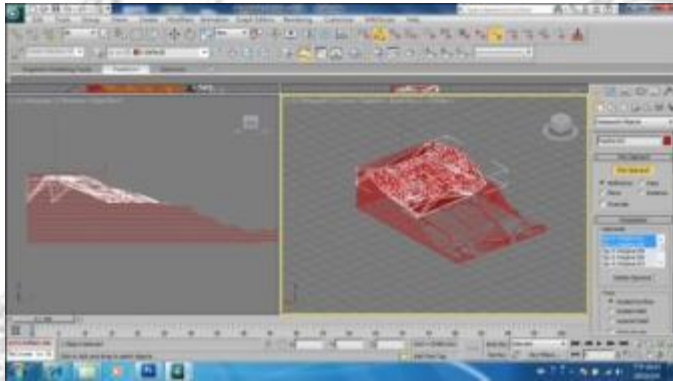


- Input map in 3D MAX

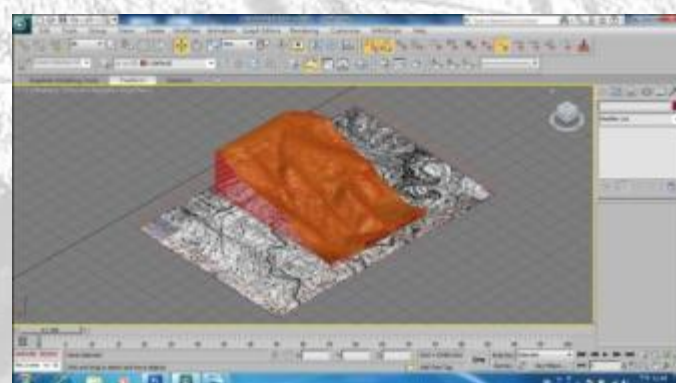
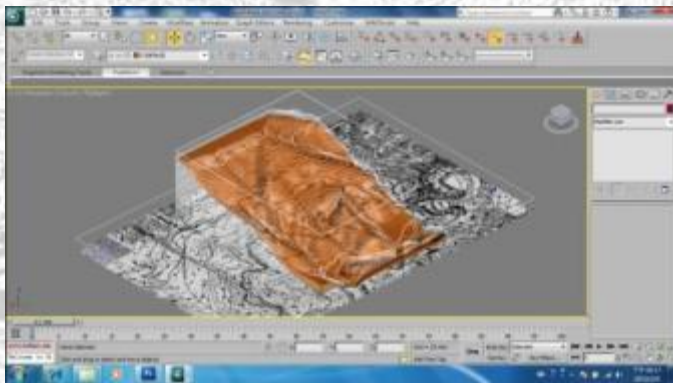


- Raise contour

3D Topographic model

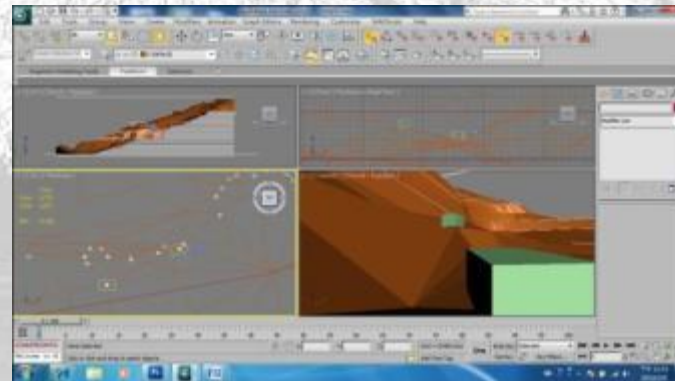
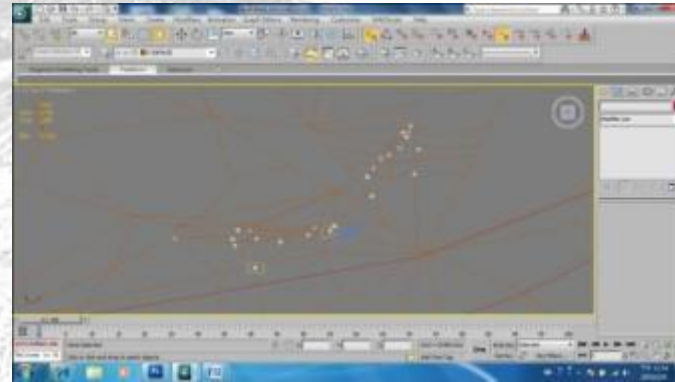


- execute Terrain in 3D MAX



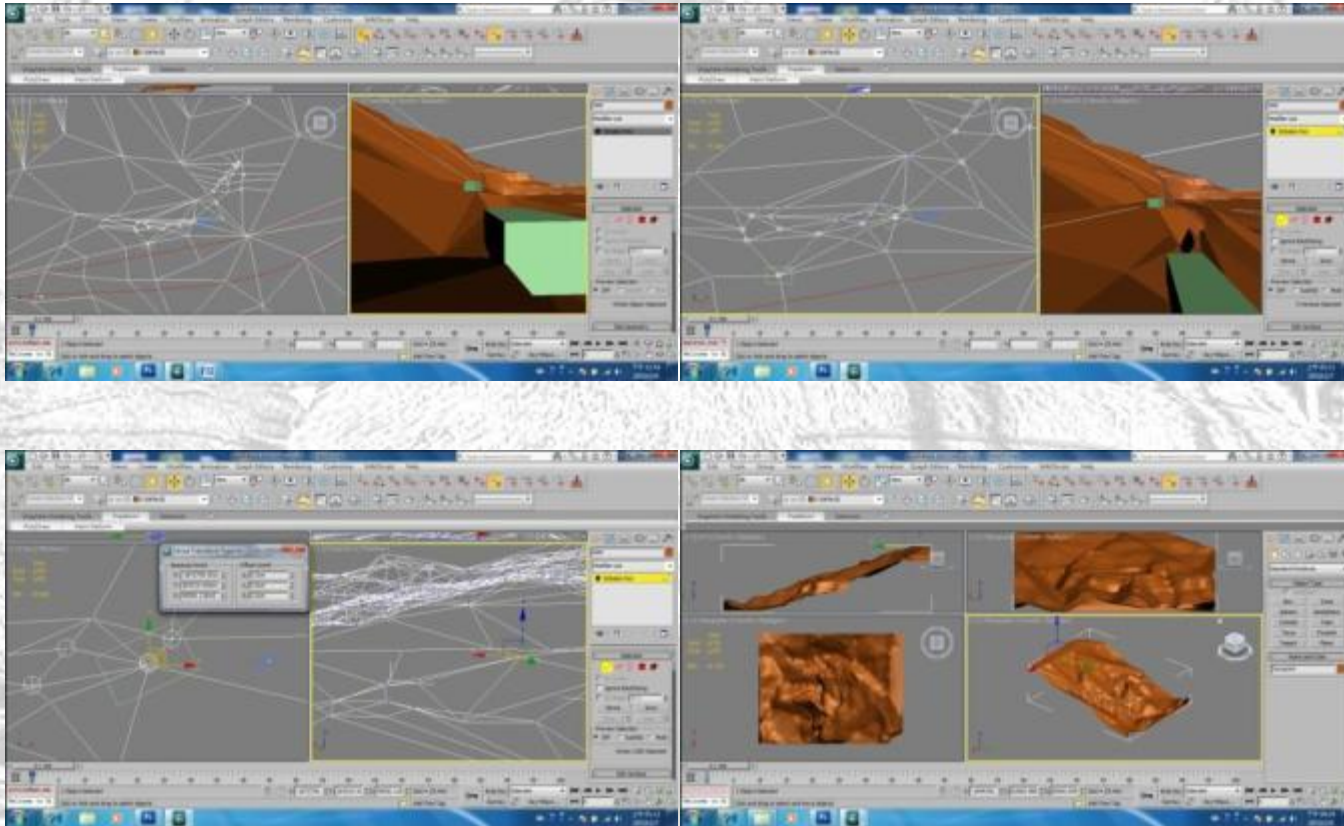
- check inaccuracy between contour & Terrain

Location of settlement by GPS



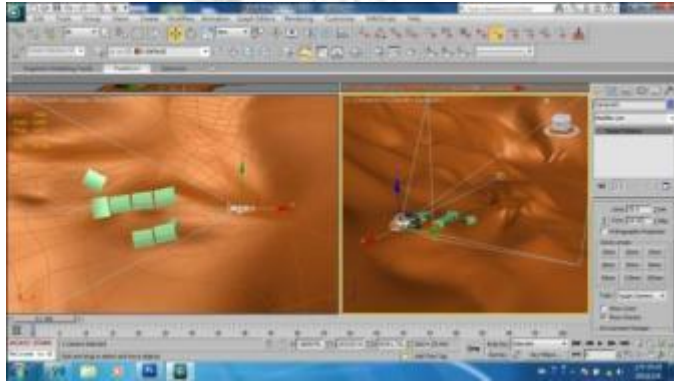
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Adjust Altitude with GPS

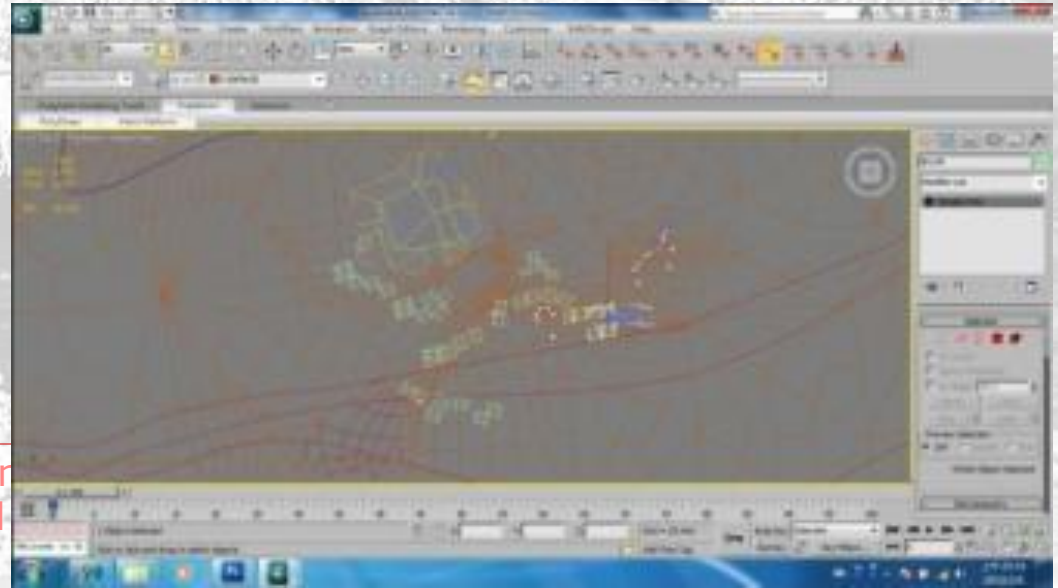
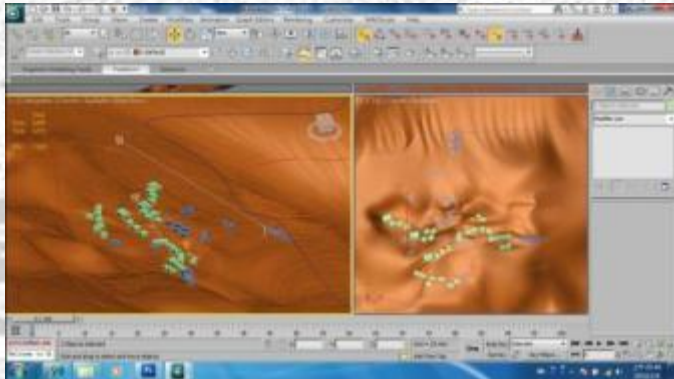
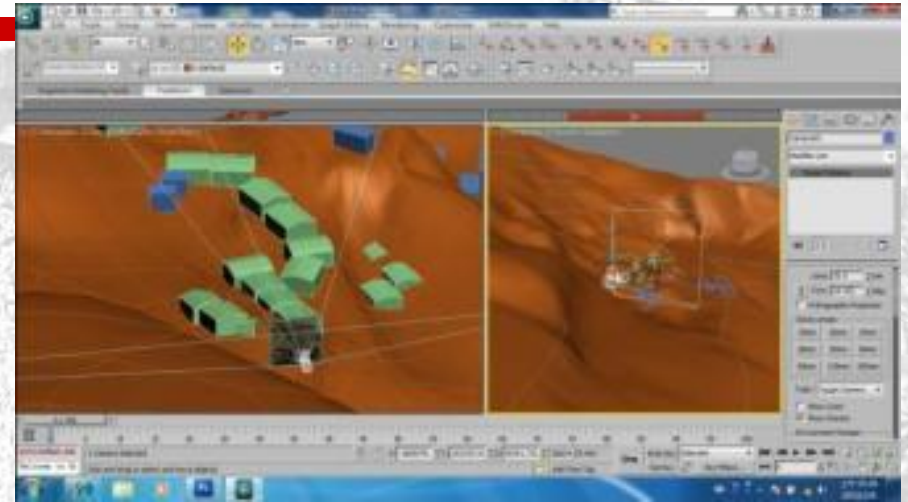


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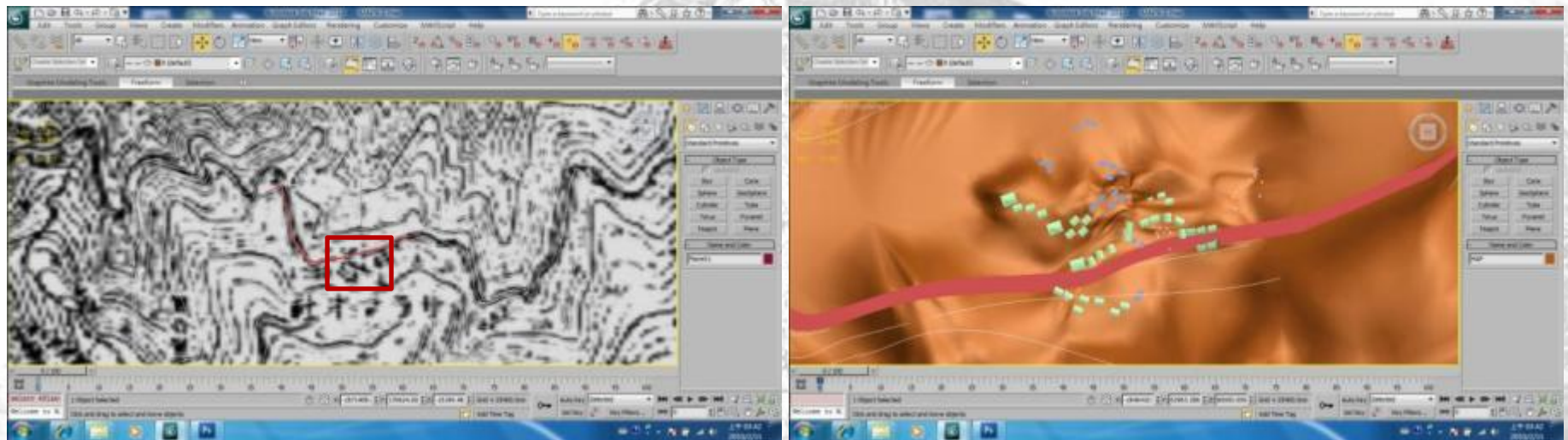
- Reconstruct the Settlement



- Construct buildings



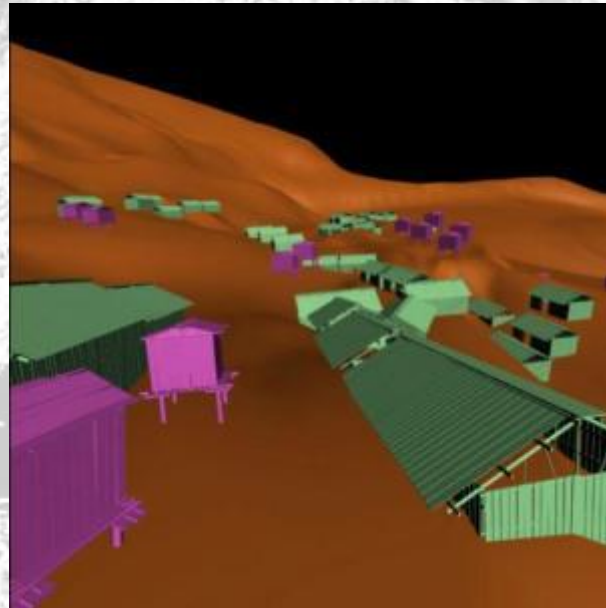
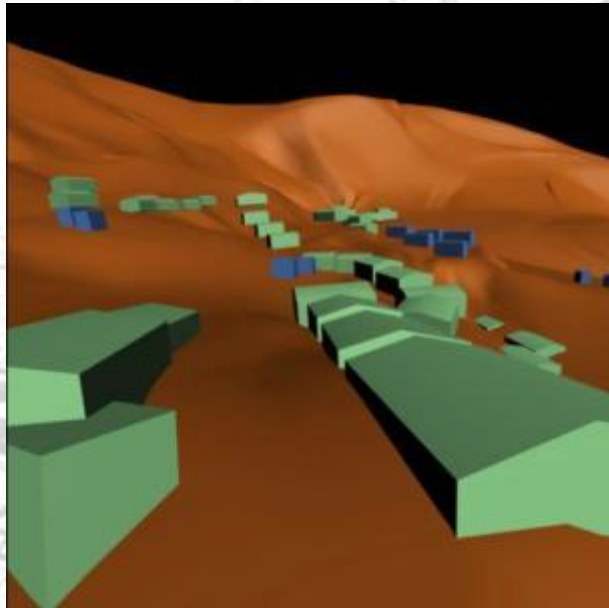
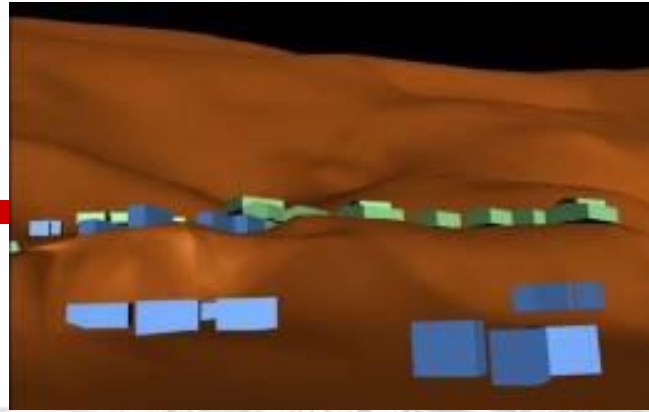
•Old Map vs. 3D Map



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3D-Virtual

Reconstruction



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A black and white photograph of a traditional thatched-roof hut, likely an Aboriginal dwelling, set in a tropical environment with several palm trees. The hut has a steep, conical roof made of thick thatch and is supported by wooden posts. The background shows more palm trees and a clear sky.

Thank you for
Your attention!