

Why geodiversity

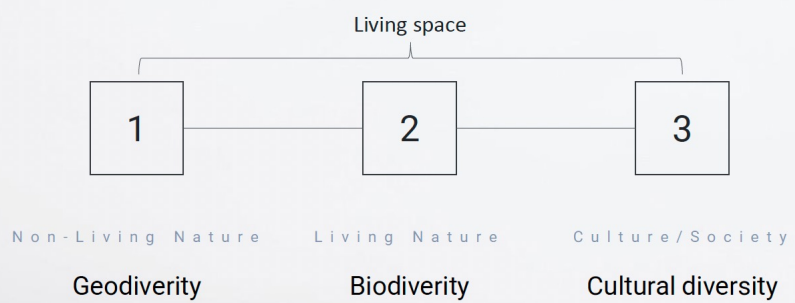
For the future

"Sustainable development has been defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

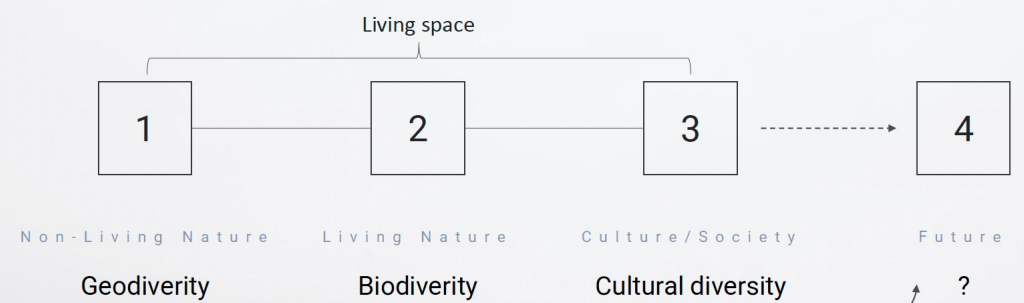
So first, we need to know what happened on our land(Living space)?
And what is the current state of our land?

"The present is the key to the past"
"The past is the key to the future"

For Future generation



For Future generation

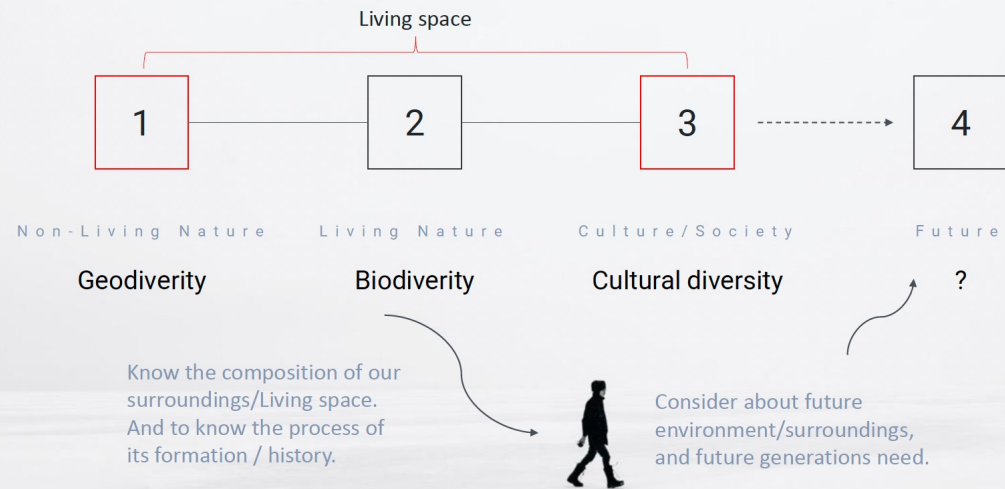


Know the composition of our surroundings/Living space.
And to know the process of its formation / history.

Consider about future environment/surroundings, and future generations need.



For Future generation

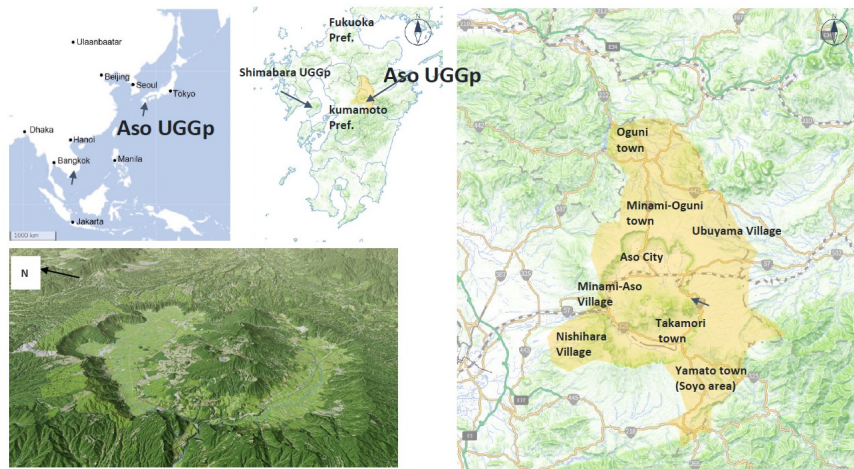


1

Case study

Our Geodiversity

Outline of Aso UGGp



Toya-Uzu UGGp, Northern part Japan

Dome collapse and pyroclastic flow at Unzen Volcano

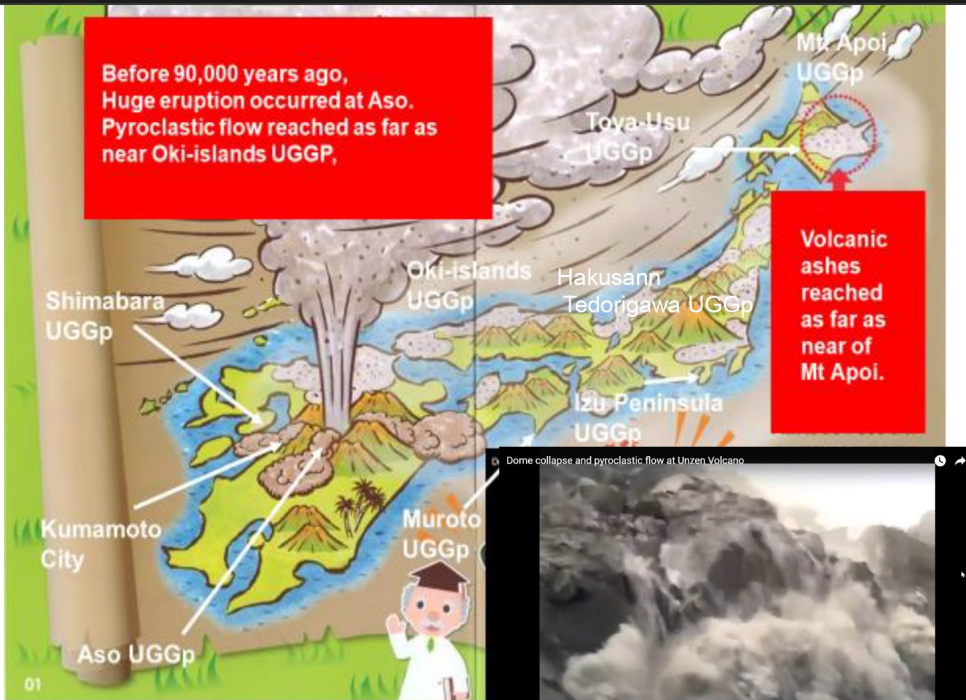


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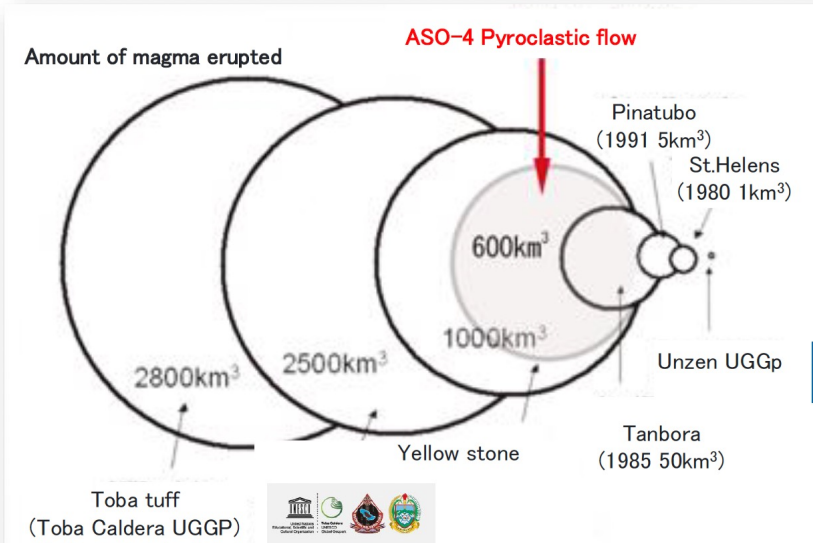
スクロールして詳細を表示

Before 90,000 years ago,
Huge eruption occurred at Aso.
Pyroclastic flow reached as far as
near Oki-islands UGGP,

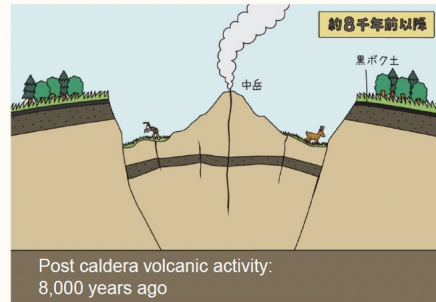
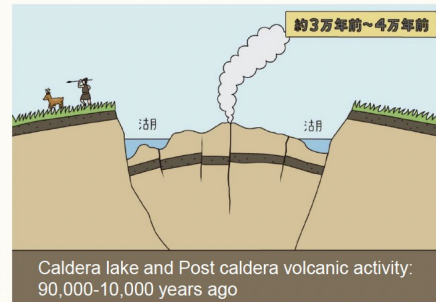
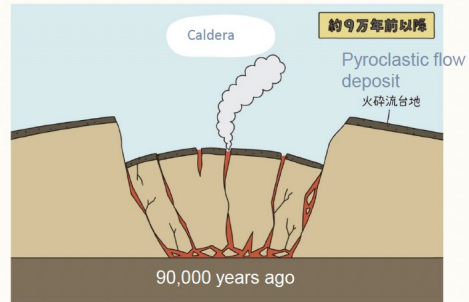
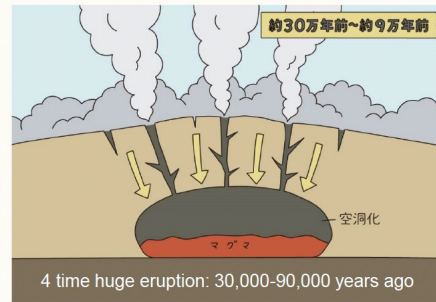
Volcanic
ashes
reached
as far as
near of
Mt. Apo.



9

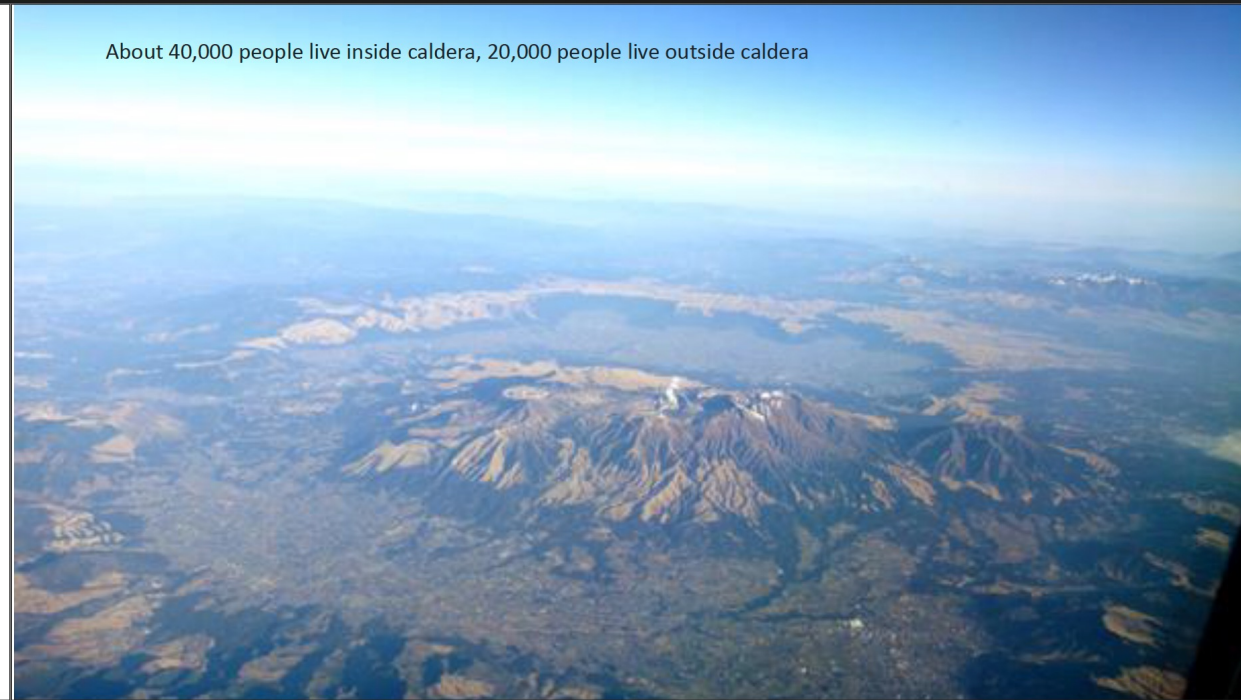


10



11

About 40,000 people live inside caldera, 20,000 people live outside caldera



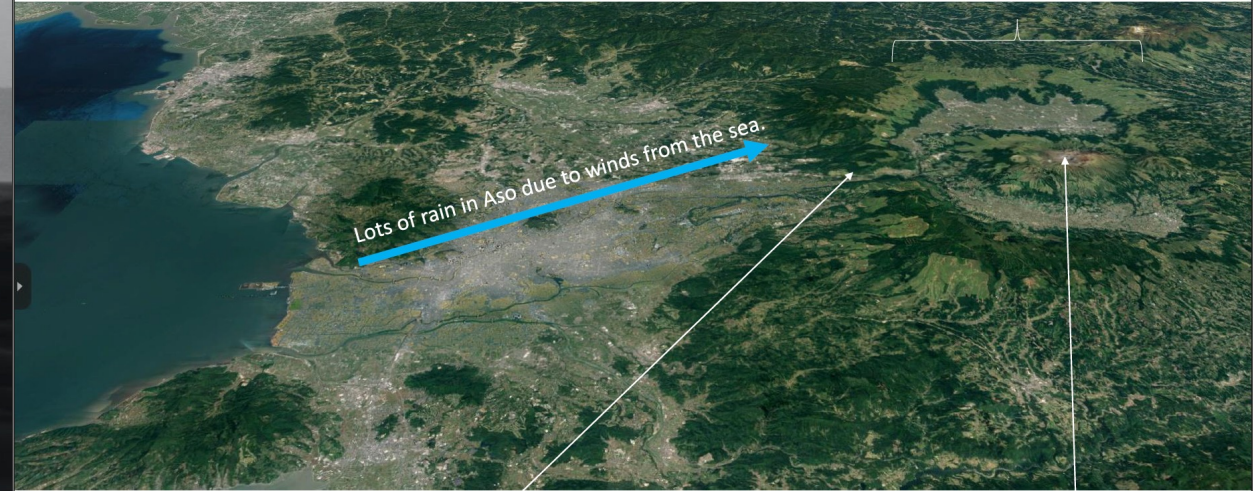
2

Case study

Geohazard

Landslide/Flood risk

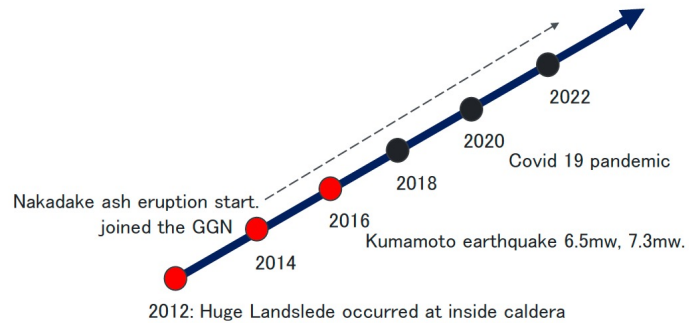
14



Calderas usually become lakes. However, there is no lake at present because the caldera wall has been broken off. Why is the caldera wall broken off?
It is believed that there is a large active fault line and that it was broken because of an earthquake.

Active volcano's risk

-Disaster-



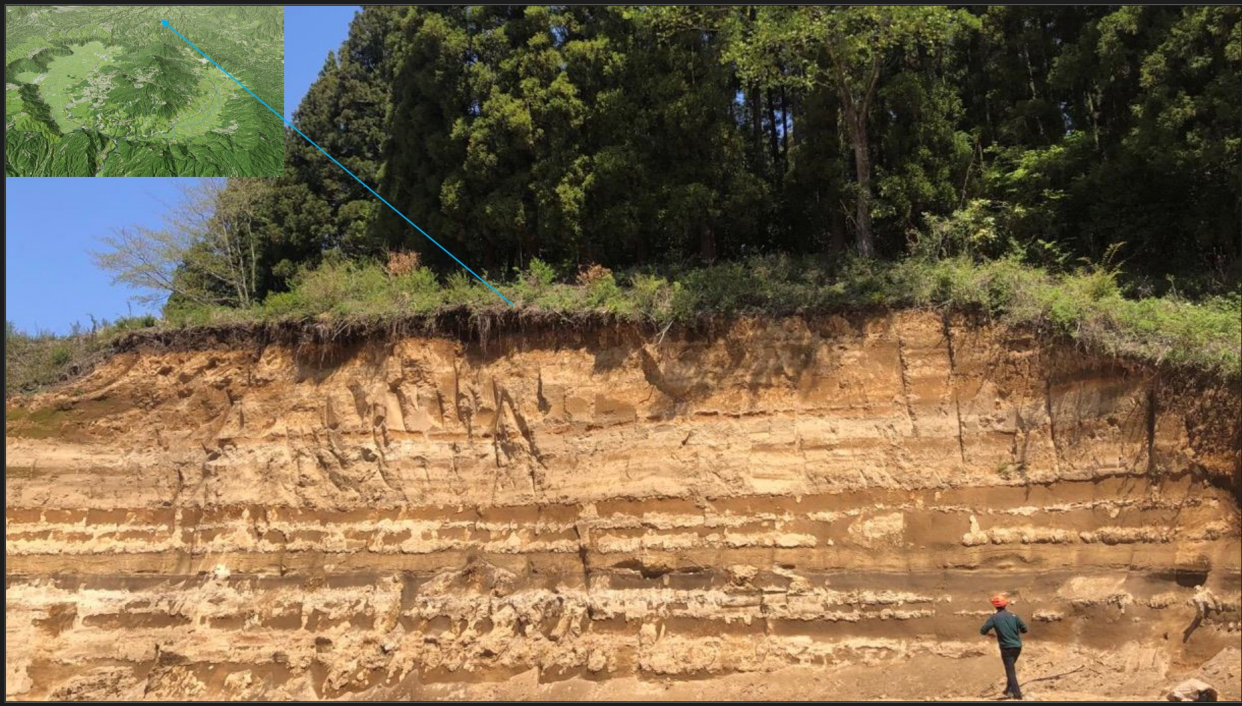
Aso has suffered disasters many times, and every time it recovers, it suffers another disaster. Aso UGGp was a stage of reconstruction, not only from Covid-19 but also from the Huge Kumamoto earthquake 2016.

15

Northern Kyushu Torrential Rain (12 July, 2012)

16





Nakadake eruption (ash eruption, 20 Oct, 2021)

19



20



新着情報

MT.Nakadake trekking regulation map

MT.Nakadake trekking regulation map [08 OCT 2016]



The 2016 Kumamoto Earthquakes: 14 April (Fore shock) / 16 April (Main shock)



2016 Kumamoto Earthquake features

- Two major tremors (Mm6.2 / Mm7.0) occurred in 28 hours
- Many landslides occurred in mountainous areas
- 273 dead, about 200,000 buildings damaged
- Major roads, bridge, tunnel and railroads cut off





2

Case study

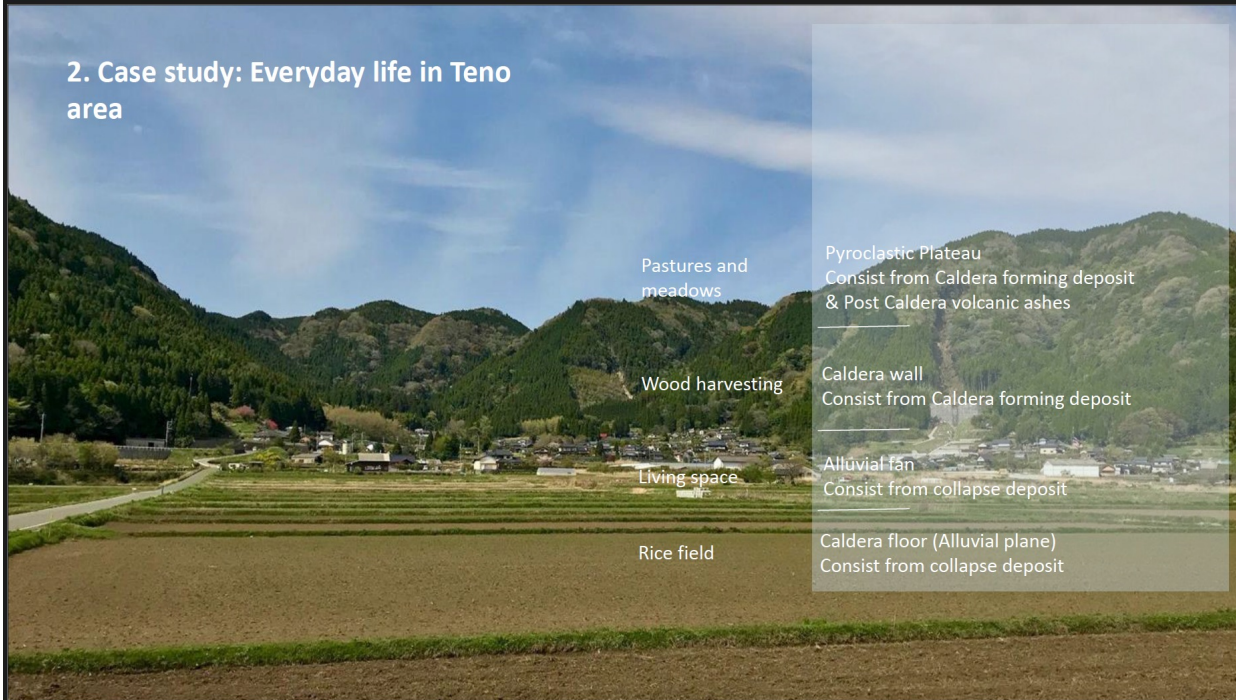
Our culture

Koki Nagata, Johannes Wilhelm





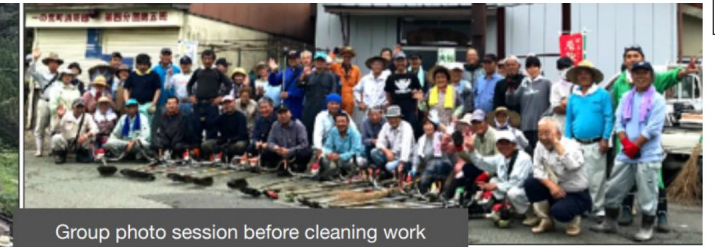
2. Case study: Everyday life in Teno area



2. Case study: Everyday life in Teno area



Residents at cleaning work



Group photo session before cleaning work

Kuyaku (common group work) some examples



Tea break in-between cleaning work



The ashes of the soaring silver grass and bamboo grass.

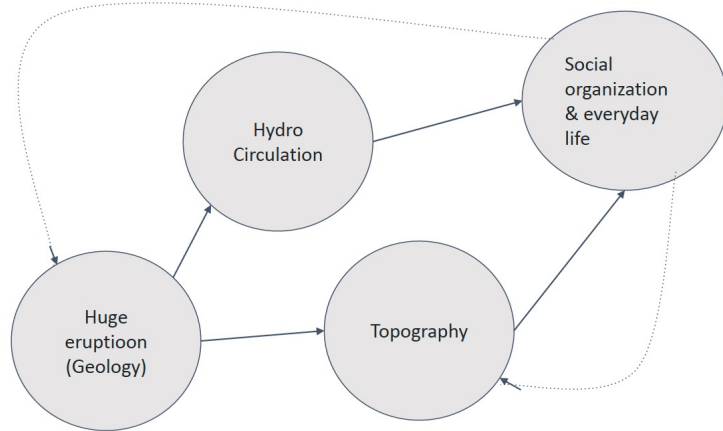


37

Geodiversity of Aso UGGp Teno area						
Geology				Topogaphy (geomorphology)	Geological Process	Hydrological Process
	Stratigraphic Name / Rock Name	Element/ Feature	Age			
Post caldera Volcanic ashes	Nakadake Volcano Ashes (Kuroboku)	Phytolith Microscopic Chacoal Weathered volcanic glass Clay minerals	Present - 30,000 B. P.	Surface of Pyroclastic plateau	Wethering Land Slide Transport of soils Noyaki (slash and burn)	Water penetration Aquifer
	Nakadake Volcano Ashes (Akaboku)	Weathered volcanic glass Clay minerals			Wethering Land Slide Transport of soils	
	Kikai-Akahoya Tephra	bubble-wall-rich vitric ash	7,300 B.P Kikai Caldera, Kagoshima Prefecture			
Collapse Deposits	Debris Flow Deposits Debris Avalanche Deposit	Poor sorting Conglomerate		Alluvial fan		
Caldera Lake Deposits	Uchinokmaki Formation Asodani Formation	Sand, Silt, Mud	12,000 B.P 80,000 B.P.	Caldera floor (Alluvial plane)		
Caldera Forming deposits	Aso Pyroclastic Flow Deposit	Welded Tuff Non-Welded Tuff Columnar Joint Paleo soil (Ground surface during eruption dormancy)	Aso-4 90,000 B.P. Aso-3 120,000 B.P. Aso-2 140,000 B.P. Aso-1 270,000 B.P.	Pyroclastic Plateau	Wethering Land Slide Transport of soils toppling of a long columnar of welded tuff	Water penetration Aquifer ImpermeableLayer (Aso-1: paleo soil)
Pre Caldera Volcanic Rocks	Pre-Aso Volcanic Rocks	Basalt Andesite Dacite		Caldera Wall Caldera Floor (Alluvial plane)		

38

Creation and maintenance of a **new organic** layer (strata) by Noyaki (slash and burn) and active volcano eruption.

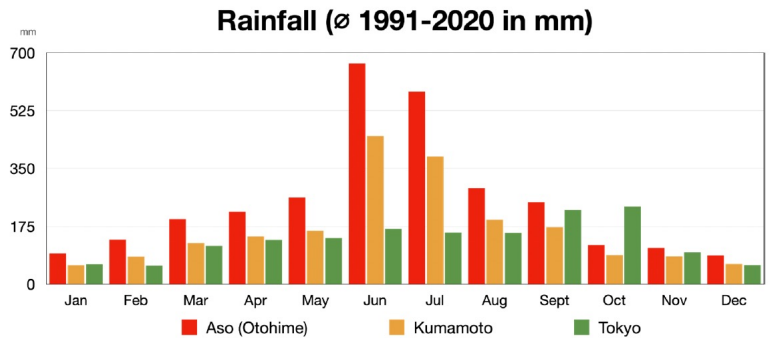


39

A changing culture

Culture of Teno

everyday life routine, agriculture, feed cattle and horses, maintenance of the grassland, management of the roads, spring water (irrigation) , meetings in the community, celebration of nature and culture (*matsuri*)

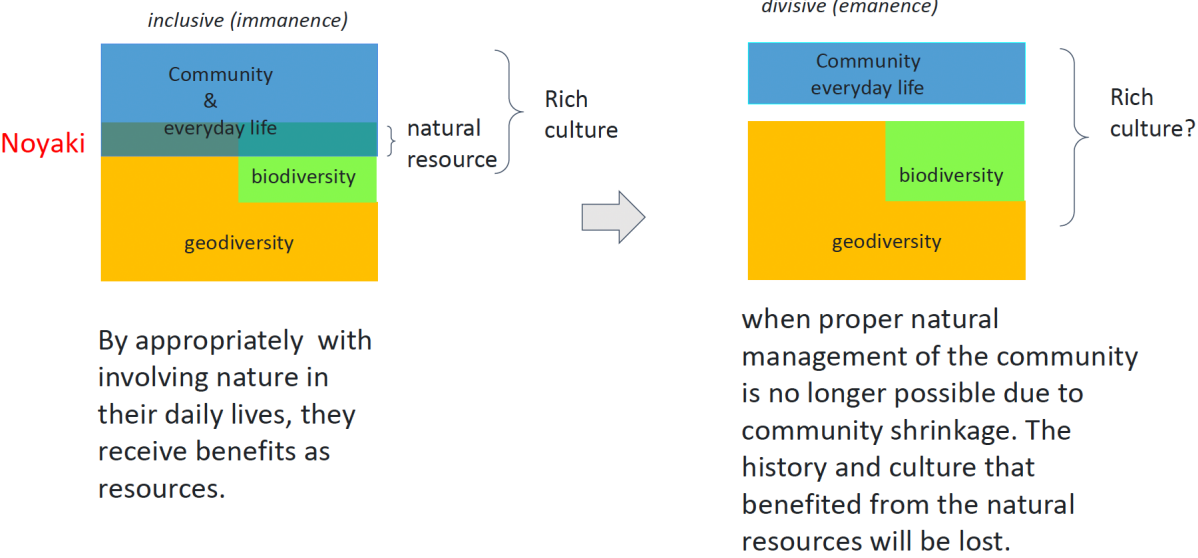


Source: JMA

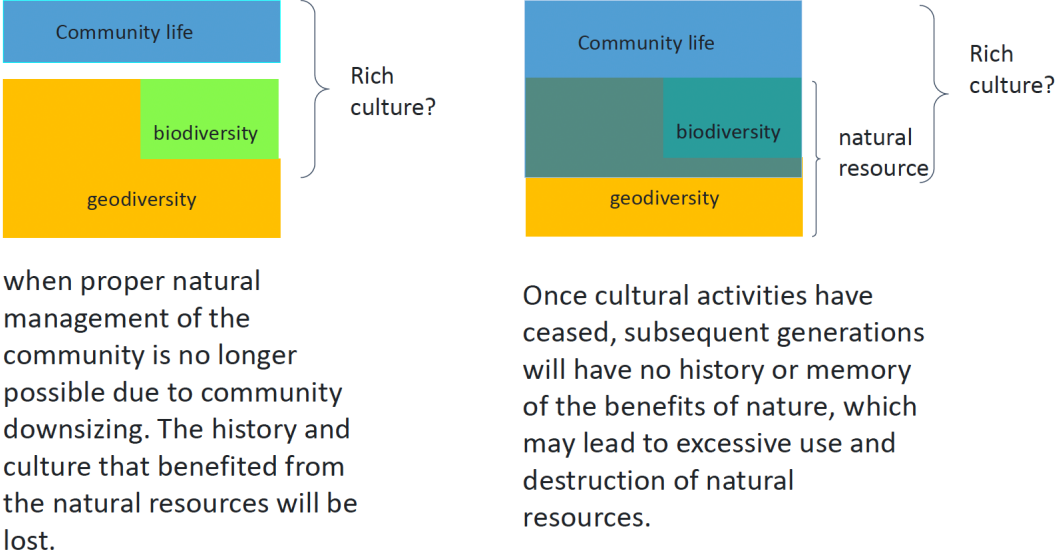
40

How to connect geodiversity Teno

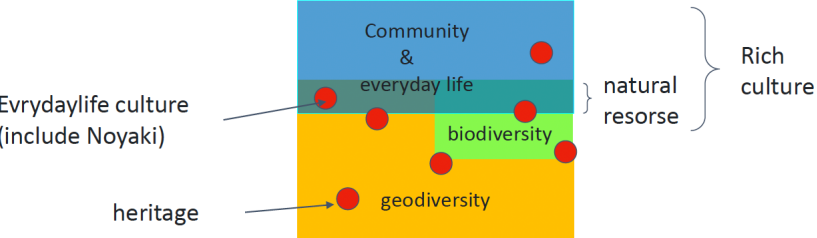
41



42

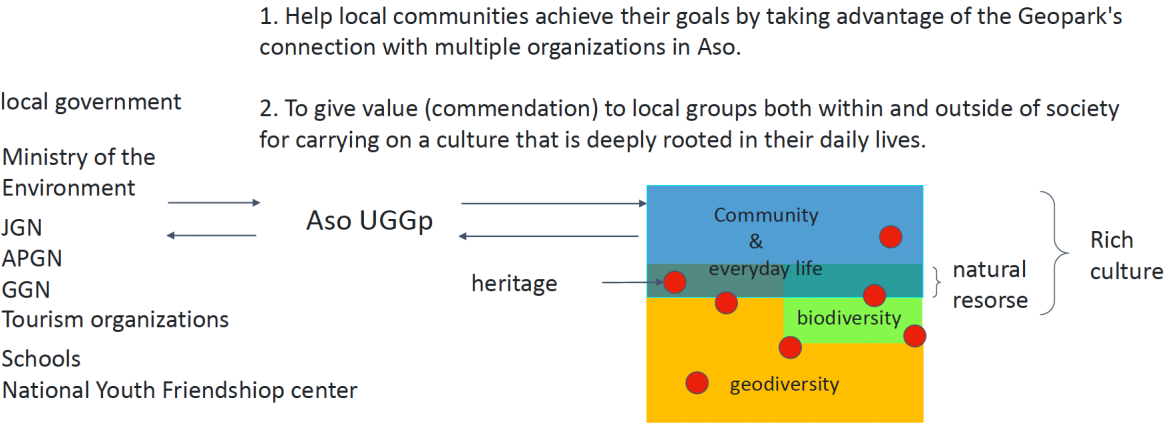


43



Therefore, heritage in Geoparks should be set aside for the purpose of living on the land, not merely for tourism, and Heritagization process should be promoted with the expectation that it will act to maintain the autonomy of the community.

44





We have same caldera! Witout lake!

Same grassland, same active volcano, same agriculture (rice field), and same geohazard

INTERNATIONAL COLLABORATION THROUGH RESEARCH, MITIGATION, AND JOINT PROGRAMS



In order to enhance international geopark collaboration, Ijen and Aso Geopark are in the process of compiling an international cooperation program which includes Research Collaboration, Joint Programs, Mitigation and Exploring Ijen Coffee Exports.

