



# Mountains and Forest: Economic Resources and Quality of Life

Multi-level forest utilization – A field for international regional-cooperation?

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# Overview

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1. Japan's Forests and Mountains
2. Examples of regional and local initiatives
3. Summary and outlook



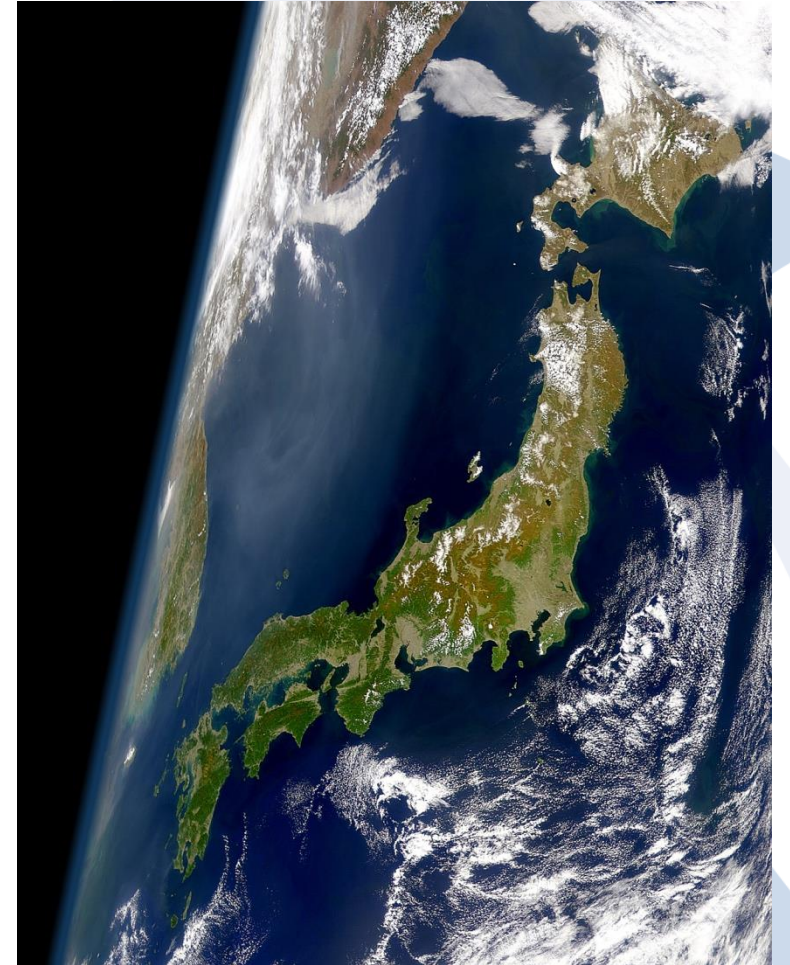
# 1. Japan's Forests and Mountains

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“About **73 percent** of Japan is forested, mountainous and unsuitable for agricultural, industrial or residential use.”

Source:

<https://en.wikipedia.org/wiki/Japan>



# 1. Japan's Forests and Mountains

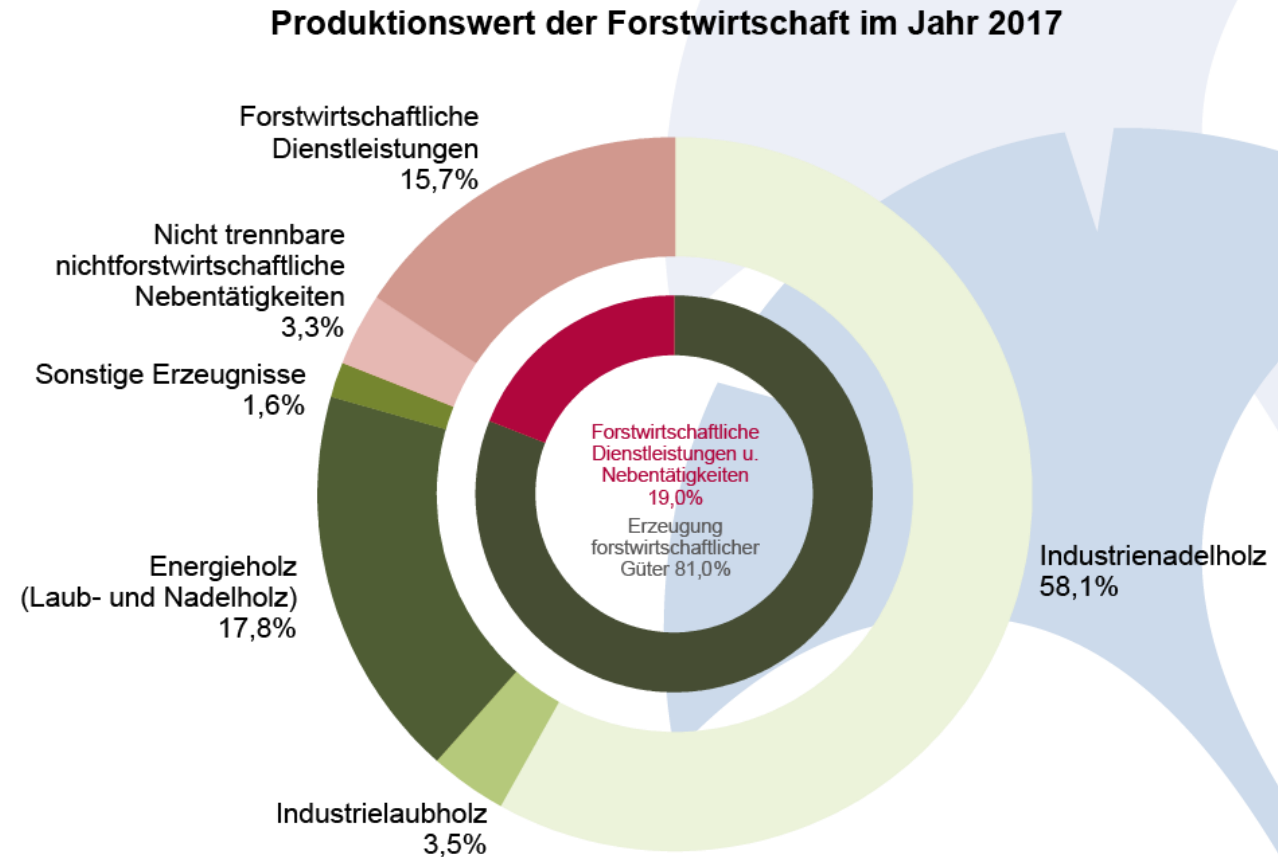
In 2007 ca. 78 % of land in **Austria** have been used for agriculture (38 %) and forestry (**40 %**).



Source:  
<https://de.wikipedia.org/wiki/Österreich>

# 1. Japan's Forests and Mountains

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Q: STATISTIK AUSTRIA, Forstwirtschaftliche Gesamtrechnung. Erstellt am 09.07.2018.

# 1. Japan's Forests and Mountains

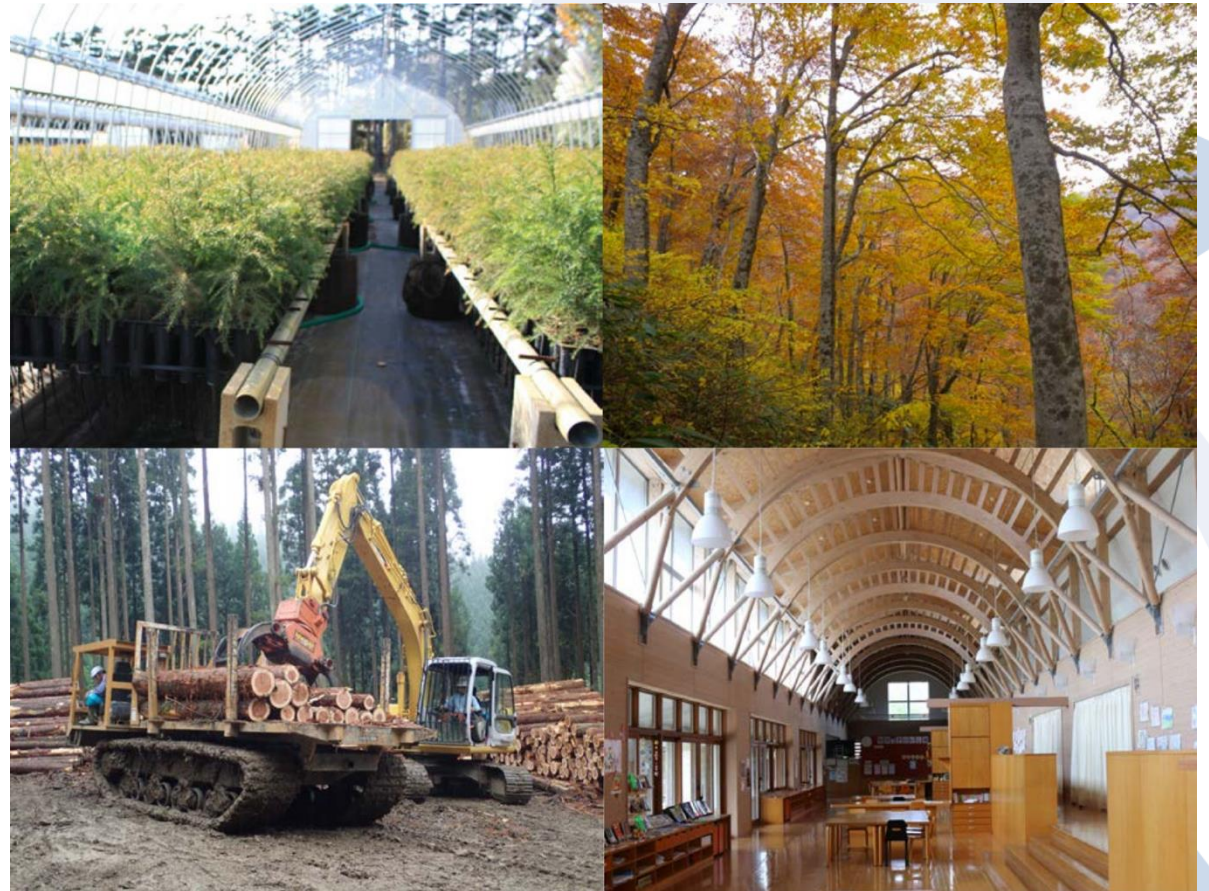
## Forestry 2015

20.05 million m<sup>3</sup> of wood  
436.3 billion yen,  
half of it is mushroom  
production (*hodagi*).

**Forestry = 0.04% of GDP**

Source:

MAFF 2016



# 1. Japan's Forests and Mountains

Problems:

1. Degradation and natural disasters.



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2. Economic and technological underdevelopment.



<https://www.komatsuforest.com/>

<http://www.komatsu-kenki.co.jp/products/forestry/>

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# 1. Japan's Forests and Mountains

## Problems:

1. Degradation and natural disasters.
2. Economic and technological underdevelopment.
3. Loss of employment and quality of life in rural areas.



[http://yamanashi-kbh.sakura.ne.jp/sblo\\_files/yamanashi-kbh-wine/image/E4B8ADE5BF83E8A197E381AEE382B7E383A3E38383E382BFE383BCE9809AE3828A.JPG](http://yamanashi-kbh.sakura.ne.jp/sblo_files/yamanashi-kbh-wine/image/E4B8ADE5BF83E8A197E381AEE382B7E383A3E38383E382BFE383BCE9809AE3828A.JPG)

## 2. Examples of regional and local initiatives

### Yusuhara Chō, Kōchi Ken, Energetic and Raw Material Forest Use



## 2. Examples of regional and local initiatives

Surface: 236.5 km<sup>2</sup> (91 % forest)

Elevation: 220-1,456m

Aver. temp.: 13.4°C

Precip.: 2,683mm/a

Pop.: 3,984 (2010 – ca.5% of average)

Age.: 40.8 % 65+

Dens.: 15.2 / km<sup>2</sup>

Industries: forestry, tourism,  
manufacturing public sector

Electricity cons.: ca. 16,028 Mwh/a  
(1998)

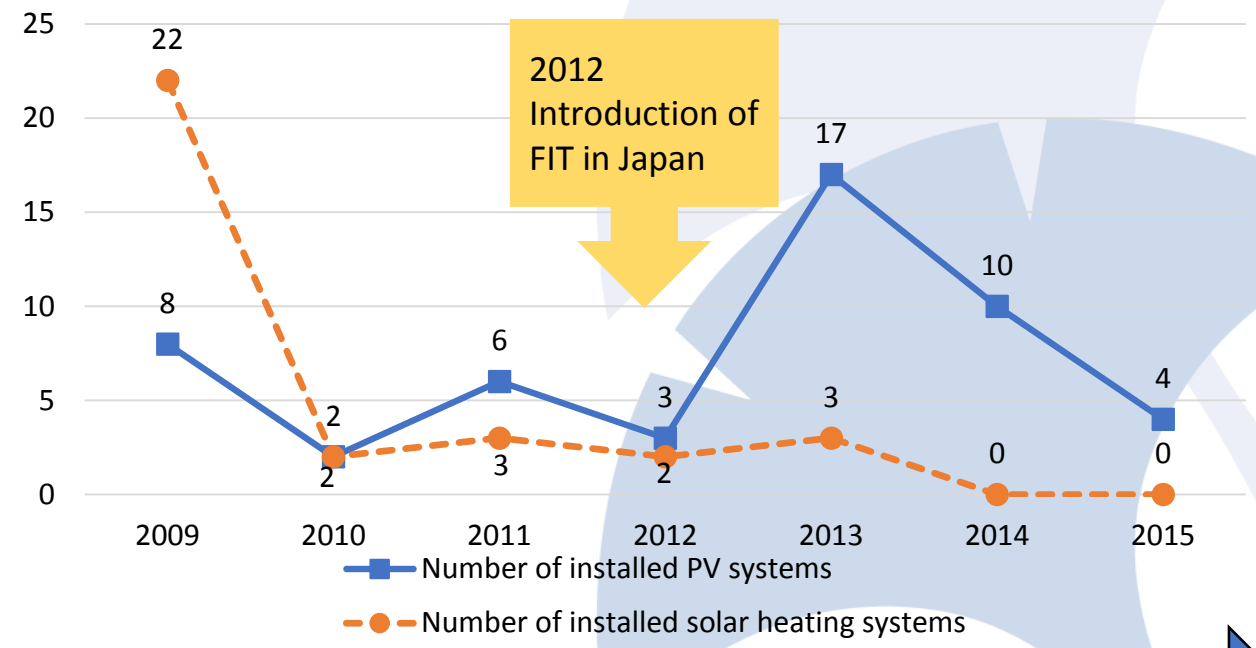
Energy gen.: hydro, solar, wind

Fuel prod.: wood pellets



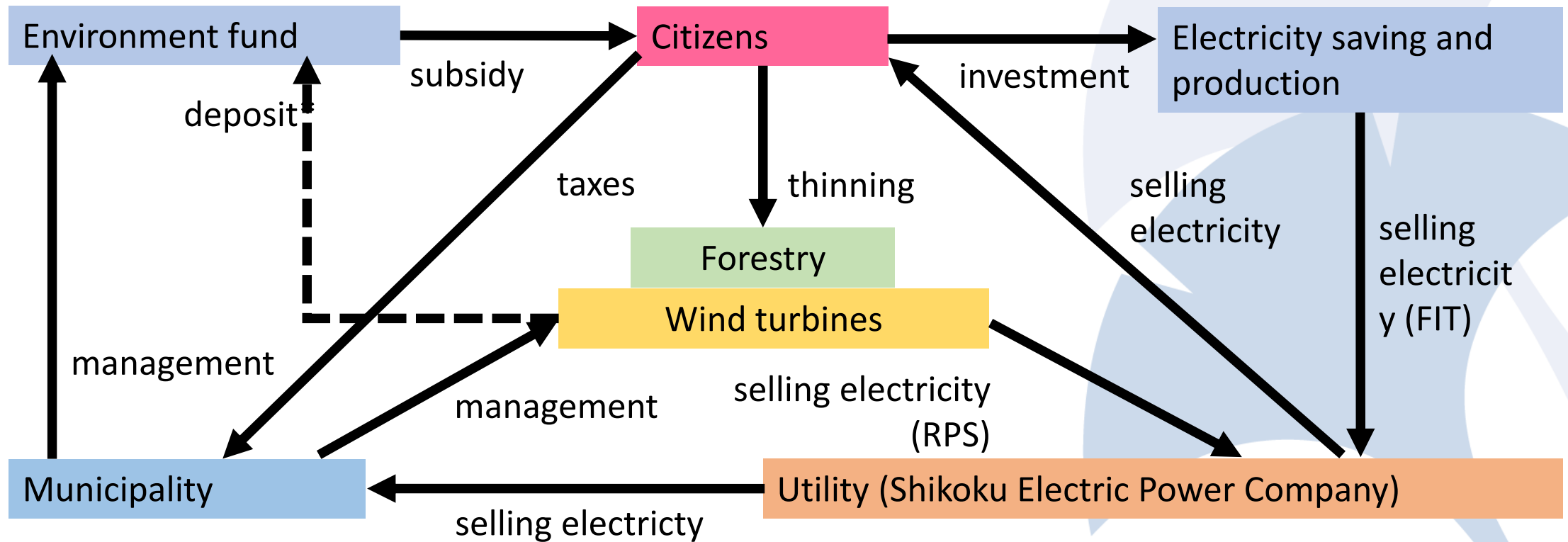
## 2. Examples of regional and local initiatives

1990 Yazaki Group establishes Shikoku Parts factory in Yusuvara	2006 completion of town hall from ca. 360 m3 local cedar (sugi).
2000 Forest Cooperative gets FSC	2007 wood pellet factory starts operation
	2008 production of wood pellet fueled „Aroace“



1999 two 600 kw wind turbines	2010 production of pellet fueled air heaters
1930-1939 installation of three hydro power plants	2009 installation of 53 kw small hydro power
	2010 completion of civic center ( <i>machi no eki</i> ) with ca. 1,100 m <sup>2</sup> of space, build mainly from local organic material

## 2. Examples of regional and local initiatives



\*Average: 45 mio. JPY/a (ca. 380,000 Euro)  
 2006: ca. 300,000 Euro (low earning year)  
 2013: ca. 500,000 Euro (high earning year)  
 2015: ca. 380,000 Euro

## 2. Examples of regional and local initiatives

Year	Item	Cost JPY	Cost Euro	kW (t/h)
1999	Wind turbines	445,000,000	3,857,000	1,200
2006	Town hall (PV)	1,221,803,000	10,589,000	80
2007	Pellet factory	247,486,000	2,145,000	(1)
2009	Small hydro power	201,600,000	1,747,000	53
2010	Civic center (PV)	398,059,200	3,440,000	31
2012	LCCM model houses (PV)	55,005,000	477,000	9
	<b>Total</b>	<b>2,568,953,200</b>	<b>22,257,136</b>	<b>1,373</b>



## 2. Examples of regional and local initiatives

Bentonville, Arkansas, Recreational Forest  
Use in the NWA “metropolitan” region



## 2. Examples of regional and local initiatives

### Area

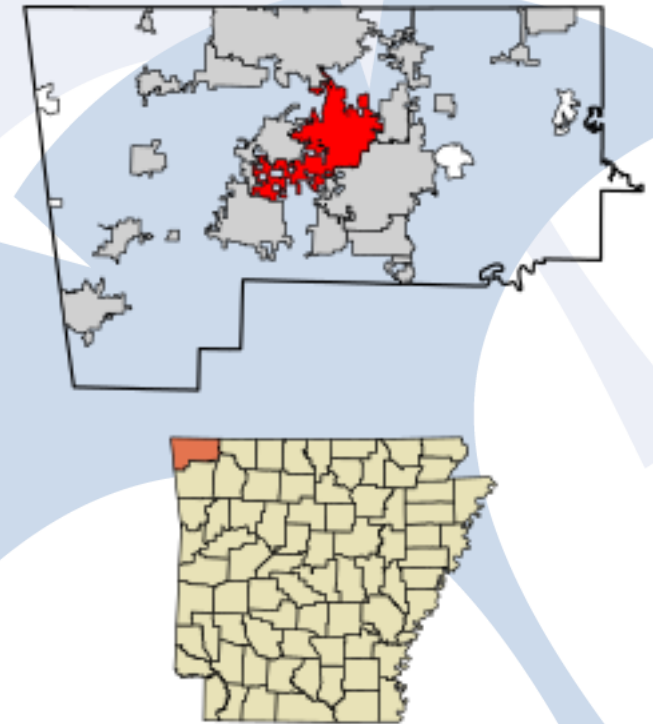
- Total 33.39 sq mi (86.49 km<sup>2</sup>)
- Land 33.22 sq mi (86.05 km<sup>2</sup>)
- Water 0.17 sq mi (0.44 km<sup>2</sup>)

### Population

- Total (2010) 35,301
- Estimate (2017) 49,298

### Main Employer

- Walmart (Walton Family)



## 2. Examples of regional and local initiatives

### Coler Mountain Bike Preserve

- 250 miles of natural-surface trails
- nearly 300-acre site
- premiere mountain biking and public recreation destination
- 70,000,000 USD of investments total
- 120,000,000 USD of economic impact annually

*“Coler offers visitors the opportunity to engage in active recreational experiences while reconnecting with themselves, others and the natural world”*

Source: <https://www.waltonfamilyfoundation.org/coler-mountain-bike-preserve>



## 2. Examples of regional and local initiatives

### IMBA Trail Labs

- IMBA organizes regional exchange between Bentonville and other regions
- Coler serves as a case study for positive social and economic impact of recreational forest use
  - Increased value of land
  - Increased public health and quality of live
  - Attracts jobs and job seeker
  - Attracts regional tourism



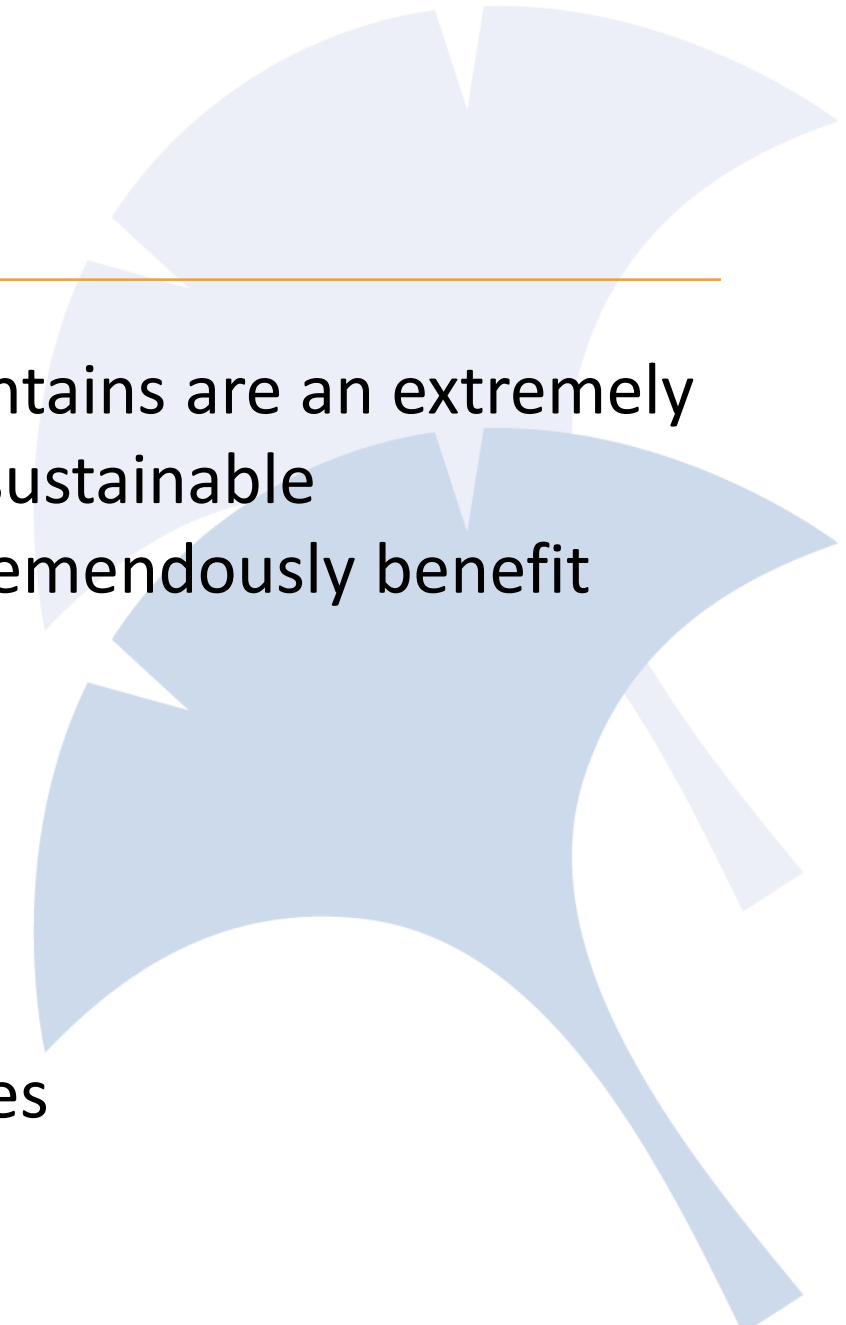
<https://www.imba.com/trails-for-all/trail-labs>

### 3. Summary and outlook

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Rather than being “unsuitable” forests and mountains are an extremely valuable resource for local economic and social sustainable development, where Japan’s rural regions can tremendously benefit from international cooperation.

1. Identify common challenges
2. Identify compatible solutions
3. Overcome the language barrier
4. Learn from each other’s mistakes and successes



### 3. Summary and outlook

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