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## INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SCIENCE AND SUSTAINABLE DEVELOPMENT

# STRENGTHENING SUSTAINABLE DEVELOPMENT GOALS IN SOUTHEAST ASIA



Jakarta, Indonesia

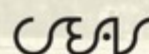
October 22-23, 2019



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ASAFAS



Center for Southeast Asian Studies  
Kyoto University



# Human Spectrum and Ecology in Southeast Asia and the Pacific for Global Sustainability



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Kyoto University, Japan



**International Conference on Environmental Science and Sustainable Development 2019**  
“Strengthening of Sustainable Development Goals (SDGs) in Southeast Asia”  
22-23 October 2019  
Sari Pacific Hotel, Jakarta

# SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD



# Climate Change in Tales



***Nước 2030***

Directed by Nghiem-Minh Nguyen-Vo  
2014



**天気の子** *Weathering With You*

Directed by Makoto Shinkai  
2019

# Climate Change in Reality

← → ↻ english.kyodonews.net/news/2019/10/3376e651615d-over-23000-hectares-of-japan-flooded-by-deadly-typhoon.html ☆

News Lifestyle Arts Sports World Japan Rugby2019 Tokyo2020

## Japan PM Abe promises special support to rebuild from Typhoon Hagibis

KYODO NEWS - Oct 17, 2019 - 21:15 | All, Japan



TOKYO – Prime Minister Shinzo Abe said Thursday the government will take steps under a special law to fully support people living in areas affected by Typhoon Hagibis.

sinks in typhoon-hit Tokyo Bay  
Oct 13, 2019 | KYODO NEWS

IN PHOTOS: Scars of Typhoon Hagibis  
Oct 13, 2019 | KYODO NEWS

Typhoon Hagibis death toll rises to 55: Kyodo tally  
Oct 14, 2019 | KYODO NEWS

Tweets by @kyodo\_english

**Kyodo News | Japan** @kyodo\_english  
While the ongoing Rugby World Cup has raised the profile of the sport in Japan, #wheelchair #rugby players also hope to earn a share of the spotlight ahead of the 2020 Tokyo Paralympics. #WWRC2019#WheelchairRugby by#RWC2019@WWRC2019 @IWRF @Paralympicsbit.ly/2iQIBao



Wheelchair rugby players look for spotlig...



# Global Policies, Local Disputes

\* REDD (Reducing emissions from deforestation and forest degradation) +

Filer, Colin. *Tropical forests of Oceania: anthropological perspectives* 53.3 (2015): 179.

## 8. How April Salumei Became the REDD Queen

COLIN FILER



<https://www.facebook.com/DisneyAlice/posts/10153931181541668:0>

REUTERS, JUNE 4, 2009 Gerard Wynn, Surianda Creagh  
**Forest carbon market already shows cracks**

“A forest carbon market is emerging in anticipation of a global, U.N. climate deal in December in Copenhagen, expected to allow rich countries to pay to protect rainforests as a cheap alternative to cutting their own greenhouse gases.”

“Officials in Papua New Guinea (PNG) have underlined how things may go awry. Reuters has uncovered evidence of a multi-million-dollar offer of assistance from carbon brokers to a government agency, and confusion over whether offset sales were from valid projects.”

“...Interpol environmental crime official Peter Younger told Reuters he expected fraudulent trading of carbon credits, as organized crime infiltrates the system of companies and countries in the developed world buying rights to the stored carbon.”

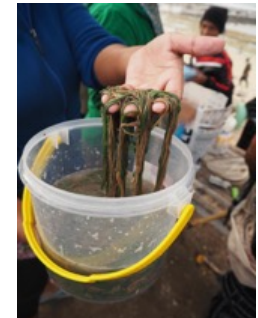
““I am not working with them until I get clarity in this landowner dispute, we cannot do REDD in those places if there is fighting between landowners, it will kill it,” Yasause told Reuters.”

# Spectrum of Southeast Asia



[https://commons.wikimedia.org/wiki/File:Indonesia\\_Ethnic\\_Groups\\_Map\\_English.svg](https://commons.wikimedia.org/wiki/File:Indonesia_Ethnic_Groups_Map_English.svg)

# Diversity of Cuisine Culture in Southeast Asia





# Ban on Meat as a Superstition in Japan

- “In April of the year 675 A.D., the Emperor Tenmu prohibited the killing and the eating of meat throughout Japan. This ban prohibited the eating of beef, horse, dog, monkey, and chicken during the busy farming period between April and September.”
- “One mythical story reports that in the 9th century, the god of the fields became angry because the people had been eating beef. The god sent a plague of locusts to destroy the crops. According to the Heian Period’s Engishiki, a person who ate the meat of a domestic animal had to fast for three days.”
- “(In the following Kamakura Period) the eating of beef or horse meat was unthinkable. Later, when Jesuit missionaries met with the famous warlord Toyotomi Hideyoshi, Hideyoshi questioned them harshly about their custom of eating beef and horse meat”



天武帝御影（大和国矢田山金剛寺蔵）

Watanabe, Z. 2005. “The End of a 1200-year-old Ban on the Eating of Meat” Food Culture 9:2-8; Harada, N. 1993 “Rekishhi no Naka no Kome to Niku”

# The End of the Ban

- “It wasn’t until the westernization of Japan during the Meiji Period (1866–1912) that the Japanese were finally able to overcome the centuries of social taboo against meat to enjoy it freely.”
- “In 1872, the fifth year of his reign, the Meiji Emperor broke the 1,200-year ban on meat eating by celebrating the new year by eating meat. The fact that the emperor ate meat of his own accord encouraged Japanese citizens of every social class to also begin eating meat. Moreover, 1872 saw a change in religious laws, as Buddhist monks were also permitted to eat meat.”

Watanabe, Z. 2005. “The End of a 1200-year-old Ban on the Eating of Meat” *Food Culture* 9:2-8; Harada, N. 1993 “*Rekishhi no Naka no Kome to Niku*”



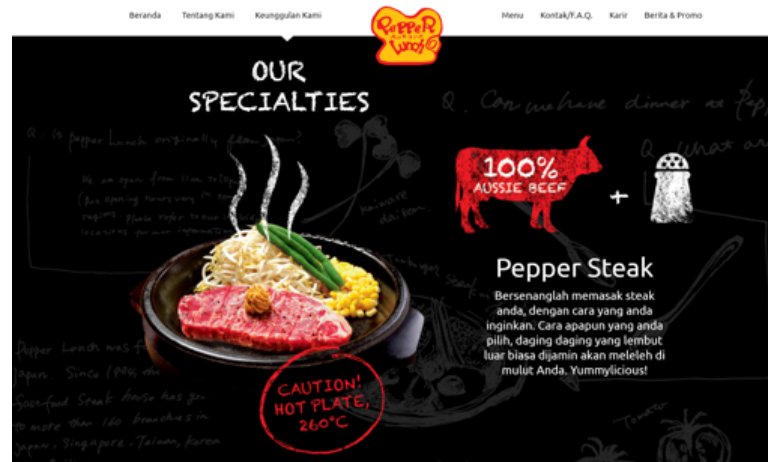
『安愚楽鍋』（仮名垣魯文 著）

# Changes in Dietary Habit of Japan

- Meiji Era 1868 – 1912: Consumption of Beef, 8 times
- Taisho Era 1912 – 1926: Pork become more consumed than Beef
- Showa Era 1926 – 1989: Rice consumption decreased from 160 kg per person per year to 71 kg (1986)



<http://www.yoshinoya.co.id/>

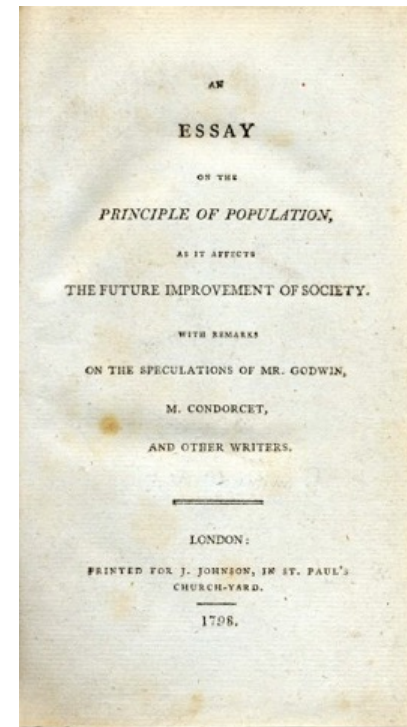


<http://pepperlunch.id/#specialty>

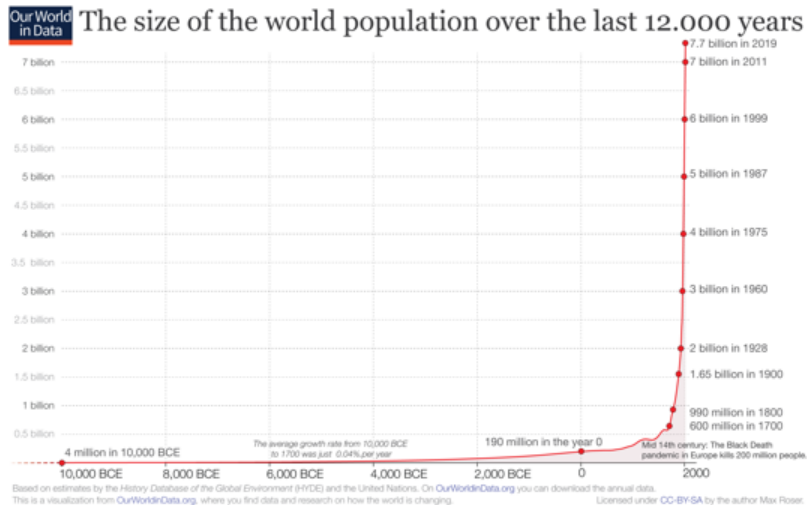
# Food Security and Carrying Capacity of the Planet

## Malthusian Population Theory

- “Population multiplies geometrically and food arithmetically”
- 1798, *An Essay on the Principle of Population*
- Thomas Robert Malthus



# Malthus was correct



<https://ourworldindata.org/uploads/2018/11/Annual-World-Population-since-10-thousand-BCE-for-OWID.png>

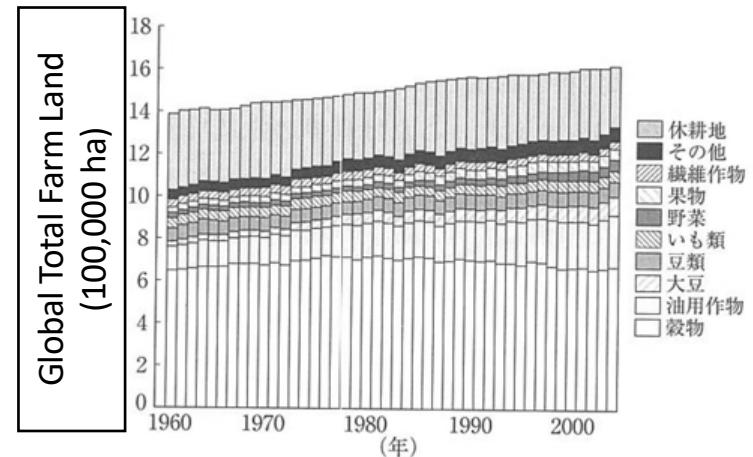
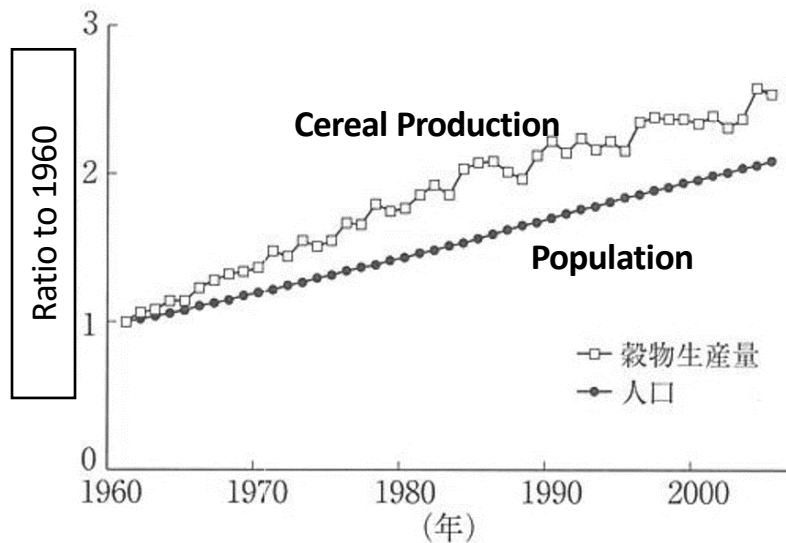


図 2.1 主要農作物の栽培面積

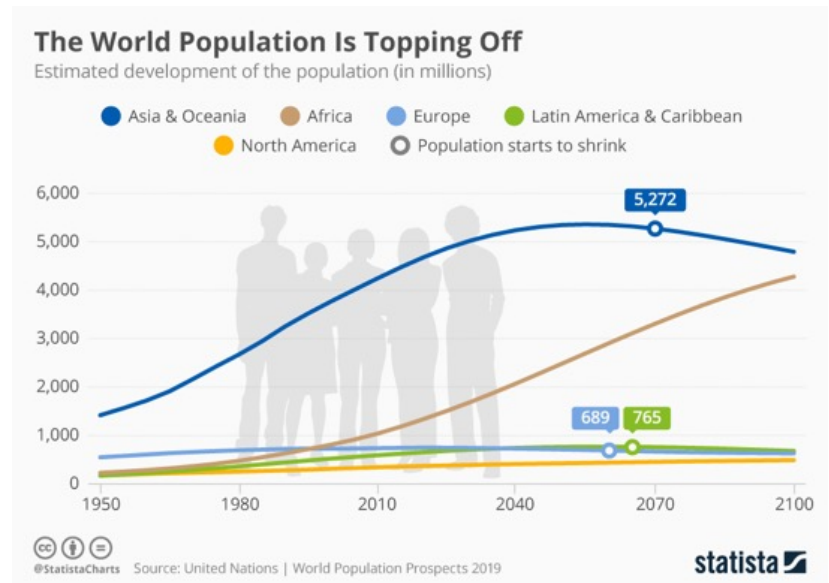
(出典：川島博之 (2009) 『世界の食料生産とバイオマスエネルギー：2050年の展望』東京大学出版会)



# But Malthus could not predict the real future



Ratio of changes in population and cereal products (1.0 for population/product in 1960)  
(川島2009の図2.2より)



<https://www.statista.com/chart/18672/world-population-over-the-next-century/>

WE RECOMMEND



Huawei CEO slashes impact of US blacklisting to \$10bn from \$30bn



Taiwan president woos Japanese tourists to counter Chinese boycott



Sony CEO swats down Third Point pitch, calling chips 'core' unit



Asian sporting unicorn One Championship plots global domination

Recommended by @futbrain

ASIA INSIGHT

## Asian biofuel policies produce a volatile political cocktail

Governments seek to drum up rural support but risk driving up food prices

APORNIRATH PHOONPHONGPHAT and SHOTARO TANI, Nikkei staff writers  
JUNE 21, 2019 09:37 JST



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<https://asia.nikkei.com/Spotlight/Asia-Insight/Asian-biofuel-policies-produce-a-volatile-political-cocktail>

## Biofuel promotion measures in Asia

### CHINA

All fuel for vehicles will be required to contain minimum of 10% ethanol

### INDIA

Government to grant soft loans totaling \$660 million to help companies expand ethanol output capacity

### THAILAND

Government aims to raise ratio of biological content in fuel to 10% from current 7%

### VIETNAM

Government plans to implement 5% ethanol blending mandate for higher-octane gasoline

### INDONESIA

Government plans to increase mandatory biological content ratio in biofuels to 25% from current 20%

Palm oil, corn and sugar cane -- the main sources of ethanol for biofuels -- are known as "political commodities" in countries like Indonesia and Thailand, both of which are headed for general elections early next year. Growers form crucial voting blocs.

The Thai government is on the biofuel bandwagon. The current standard in the country is 7% biofuel mixed with 93% fossil-based diesel, but the junta intends to raise the biofuel ratio to 10% by the end of this year and 20% over the next few years.

The Thai government also decided to reduce sugar exports by 500,000 tons this year, diverting the crop into ethanol production. The policy was aimed at

increasing sugar cane consumption within Thailand -- the No. 2 sugar exporter after Brazil -- to shore up prices.

# Low Dependency on Cereals in Asia

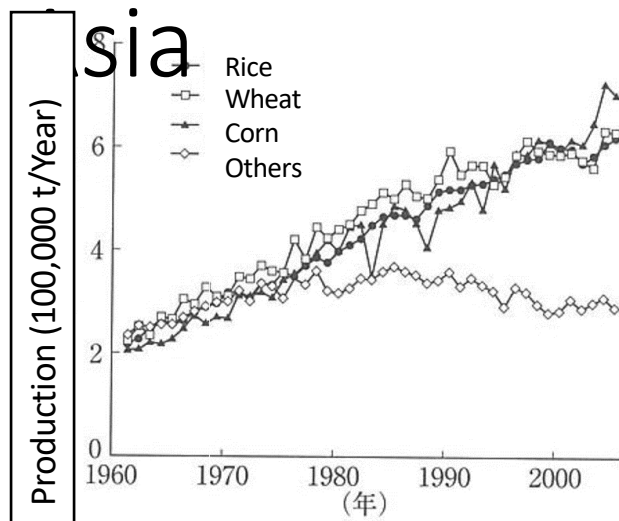


図 2.5 穀物種類別生産量

(出典：川島博之 (2009) 『世界の食料生産とバイオマスエネルギー：2050年の展望』 東京大学出版会)

Cereal Consumption Per Person Per Year (kg; in 2003)

	Human	Livestock	Total
East Asia	214	70	284
Southeast Asia	313	38	352
South Asia	214	6	220
West Asia	242	107	349
Oceania	942	353	1,295
Pacific Islands	82	0	82
North Europe	179	538	717
West Europe	131	266	397
South Europe	177	349	526
East Europe	194	354	548
CIS/USSR – Europe	177	231	408
CIS/USSR – Asia	250	101	352
North Africa	298	83	382
East Africa	135	5	140
West Africa	192	10	202
Central Africa	69	1	70
South Africa	156	33	189
North America	376	583	958
Central America	227	127	353
South America	181	147	328
World	224	108	332

# Asian Cuisine Culture

- Compared to European cuisine culture which prefer to consume beef, East Asian prefer to eat pork and fishes, Muslim chicken, and South Asian vegetables. Pork and chicken require smaller amount of cereal feed than beef (e.g., 8 kg cereal feed for 1 kg Beef, but 4 kg for pork, 2 kg for chicken)
- 0.4 ha farm land necessary for feeding one European, while 0.1 ha for one Japanese, and 0.07 ha for vegetarians
- Asian cuisine culture includes insects, wild plants/animals etc as foodstuffs which do not require farm land.
- Asian traditional diet have contributed to avoid global food-security risk during the global population expansion so far...
- **But remember the globalization of cuisine culture of Japan...**

# Changing Asian Dietary Habits May Risk Global Food Security

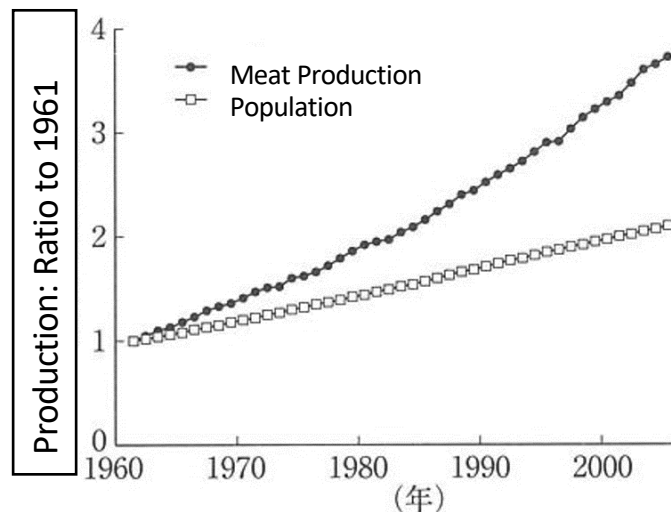


図 3.1 (a) 世界の食肉生産量と人口の増加

(出典：川島博之 (2009) 『世界の食料生産とバイオマスエネルギー：2050年の展望』東京大学出版会)

Meat Consumption Per Person Per Year (kg)

	1961 年	2004 年
East Asia	4.5	54.4
Southeast Asia	8.1	21.7
South Asia	4.1	5.9
West Asia	14.7	26.0
Oceania	108.4	125.7
Pacific Islands	52.9	63.9
North Europe	48.7	79.6
West Europe	67.0	86.2
South Europe	26.2	94.8
East Europe	46.2	68.1
CIS/USSR – Europe	*39.9	48.9
CIS/USSR – Asia	*39.9	30.6
North Africa	11.7	21.5
East Africa	17.3	12.0
West Africa	9.1	10.5
Central Africa	10.5	9.5
South Africa	19.8	23.7
North America	87.8	123.1
Central America	22.8	48.6
South America	39.4	70.0
World	21.6	40.4



# Humans on a Spectrum

- “Both men and women should feel free to be sensitive. Both men and women should feel free to be strong... It is time that we all perceive gender on a spectrum not as two opposing sets of ideals.”
  - Speech by UN Women Goodwill Ambassador Emma Watson at a special event for the HeForShe campaign, United Nations Headquarters, New York, 20 September 2014

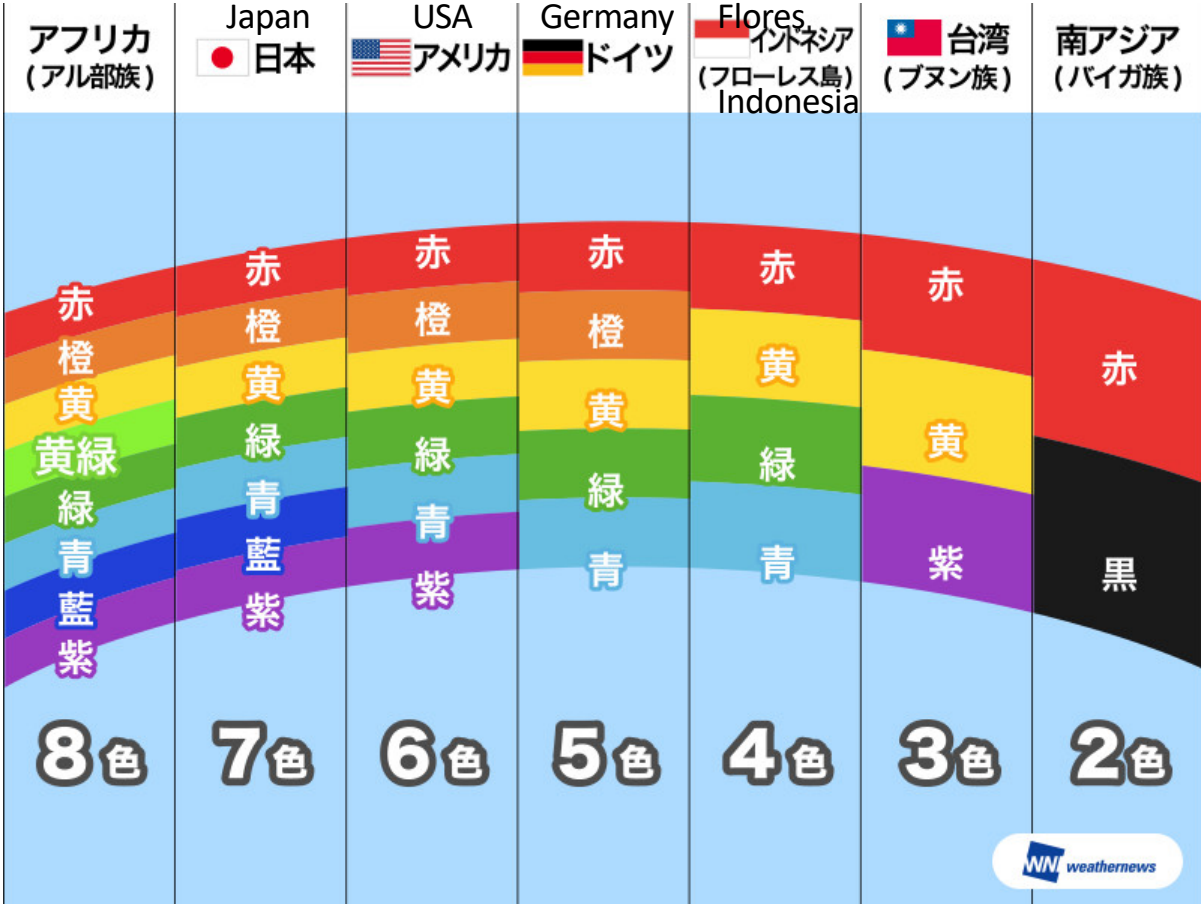


UN Photo/Mark Garten

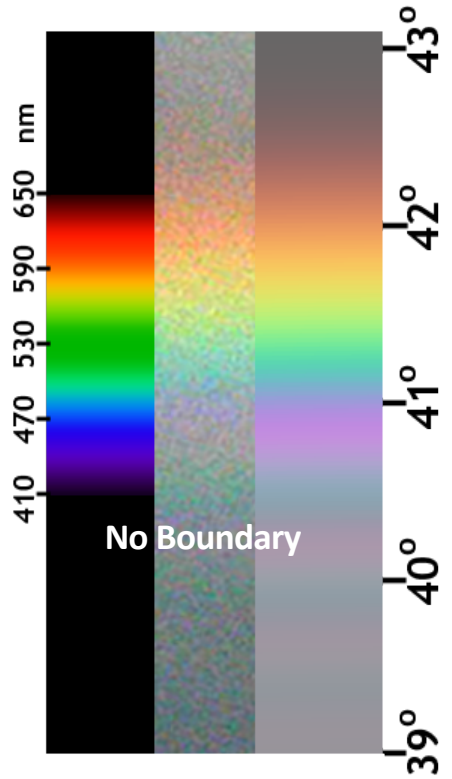
# Spectrum



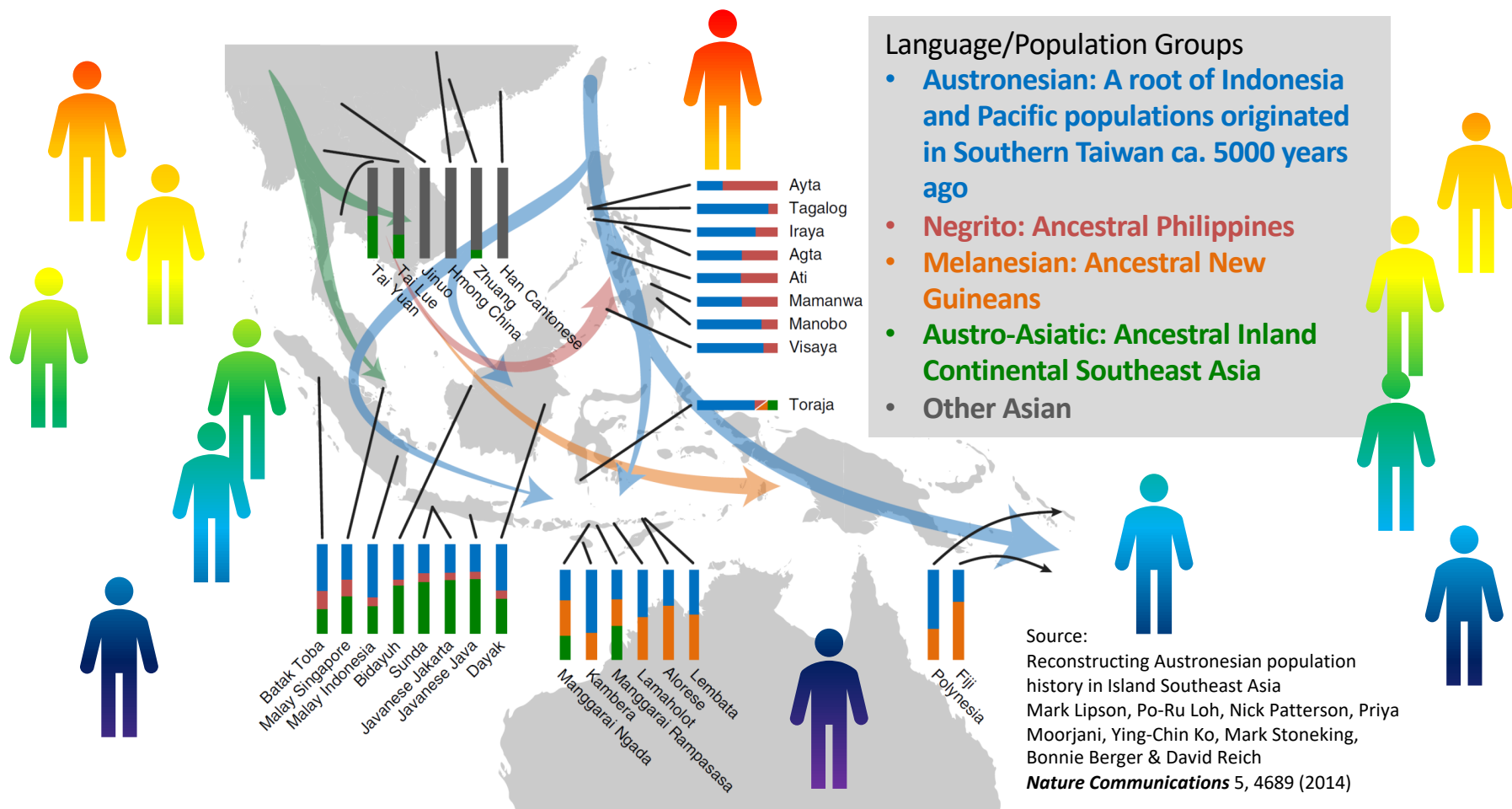
Source: [Eric Rolph](#) at English Wikipedia - [English Wikipedia](#)  
Full featured double rainbow in Wrangell-St. Elias National Park, Alaska.



Source:  
<https://weathernews.jp/s/topics/201807/240205/>  
 7色の光が織りなす「虹」国によって見え方が違う？



Source: [Andys](#) - Wikipedia  
 White light dispersed by a prism into the colors of the optical spectrum (above stripe) compared to a calculated rainbow (below) and its interference between rays of light following slightly different paths with slightly varying lengths within the raindrop ( $\phi$ : 0.7mm). The middle stripe is from a real observation of a rainbow.



**Figure 2 | Locations and best-fit mixture proportions for Austronesian-speaking and other populations, with possible directions of human migrations supported by our analyses.** For Toraja, we could not distinguish between Negrito and Melanesian ancestry and show this component as red/orange.

