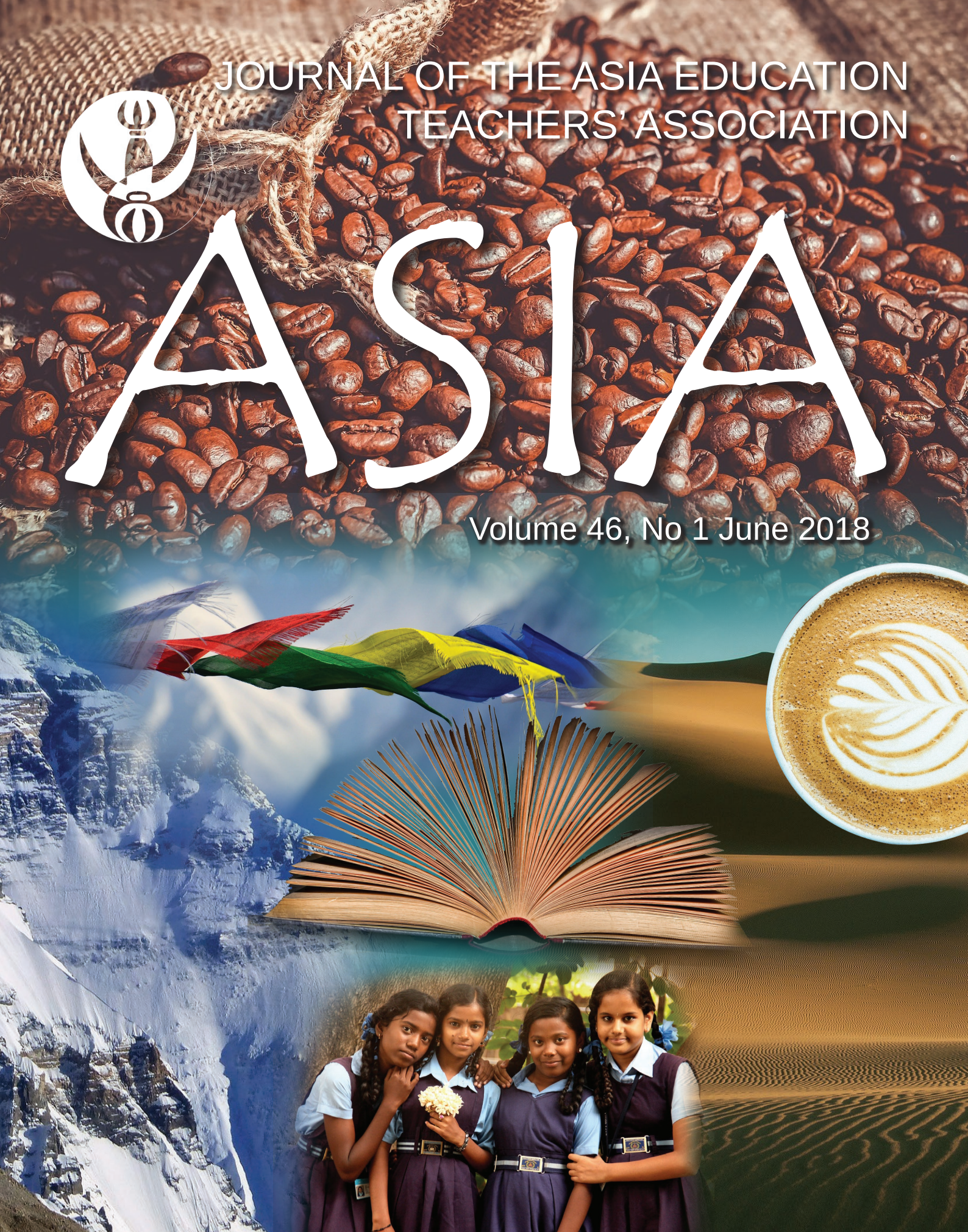




JOURNAL OF THE ASIA EDUCATION
TEACHERS' ASSOCIATION

ASIA

Volume 46, No 1 June 2018



Celebrating 40 Years – Valuing cultural diversity and promoting
intercultural understanding in a networked world



Mission Statement

AETA, a voluntary non-profit organisation, dedicates itself in this Mission Statement to endeavour to:

1. promote Asian Studies in Australian schools whether as a separate discipline, or as part of studies in other disciplines;
2. publish a journal dedicated to providing appropriate input about Asia to school teachers, as well as being a forum for the dissemination of ideas for improving Asian Studies in Australian schools;
3. publish resources which can be helpful in teaching about Asia in Australian schools;
4. promote and/or participate in conferences, seminars, or other discussions which are aimed at promoting Asian Studies or enhancing their quality
5. make representations to governmental or other bodies regarding Asian Studies courses or their content in school curricula;
6. make representations to tertiary institutions regarding Asian Studies in tertiary courses, particularly for teacher education; and
7. disseminate news about this Association's activities and its views about Asian Studies education through the media and through specialist newsletters and journals.

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Contributions to the Asia Education Teachers' Association journal are most welcome. For policy guidelines for submission of articles to the AETA journal go to – www.aeta.org.au/journals.

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ASIA

Journal of the Asia Education Teachers' Association

Volume 46, No 1 June 2018

| | |
|--|-----|
| From the Editor's Desk..... | 4 |
| Programme Outline for Landscapes and Landforms with an Asian Focus [Stage 4 Geography], by Dr. Susan Bliss..... | 5 |
| Tips for Spotting Fake News - "The Hindu", September 2017..... | 17 |
| Stage 3 Geography: Engaging with Asia, compiled by Dr. Jennifer Curtis..... | 18 |
| Environmental Change and Management/Interconnections - the Leather Industry of Bangladesh [Stages 4/5 Geography, Stage 6 Business Studies], by Dr. Susan Bliss..... | 26 |
| Why Use Picture Books in Geography Teaching and Learning, by NSW Dept Education..... | 49 |
| Primary Work Sample Portfolios for Geography [Stages K-6], by Dr. Susan Bliss..... | 56 |
| Issues in the Education of Girls in India [Stages 4-6], by John Gore - Education Consultant..... | 64 |
| Production, Consumption, Trade and Environmental Change - The Coffee Industry in Asia with a depth study of "Starbucks" [Stages 5/6 Geography, Stage 6 Business Studies, by Dr. Susan Bliss..... | 71 |
| Article Analysis - "Developing Nations to Get Help with Mercury Collection", Japan Times 06/09/17, Activities by Di Dunlop..... | 102 |
| Should We Climb Mt. Everest - Social and Environmental Impacts [Stages 5/6 Geography, Civics and Citizenship], by Dr. Susan Bliss..... | 105 |
| Geographical Activities and Puzzles [Stages 3/4], by Di Dunlop..... | 121 |



From the Editor's Desk

In this, our second Journal for the year, we focus on implementing Geography in the Curriculum from K to 12 with Asia as the centerpiece. Topics include Environmental Change, Interconnections, Production and Consumption, Social and Environmental impacts. There are programmes, study units, work samples, puzzles and activities for use in your classroom. I have included an interesting Paper, given by John Gore at the Pacific Circle Consortium Conference in Hiroshima in 2017 regarding the Education of girls in India. I would like to thank John for his thought provoking paper.

There is also a short piece on 'Spotting false News' from an Indian newspaper, very important at this time as students are bombarded with sources with varying credibility. There is also a newspaper article analysis worksheet on mercury collection. Thank you to all our contributors, especially Dr Susan Bliss, who has made a significant contribution to this Journal.

The focus of the September Journal will be teaching about Asian History. Do you have a unit or programme that you would like published? If so, the deadline for submission is 25th June.

Di Dunlop



Valuing cultural diversity and promoting intercultural understanding in a networked world



PROGRAMME OUTLINE

Landscapes and Landforms

ASIA FOCUS

By Dr. Susan Bliss

Integration of Outcomes, Key Inquiry Questions, General Capabilities (10), Geographical Concepts (7), Geographical Skills (3), Geographical Tools (5) and Sustainability

Source: Syllabus: <http://syllabus.nesa.nsw.edu.au/hsie/geography-k10/content/1185/>

| OUTCOMES | KEY INQUIRY QUESTIONS |
|---|---|
| <p>A student:</p> <ul style="list-style-type: none">• GE4-1 locates and describes the diverse features and characteristics of a range of places and environments• GE4-2 describes processes and influences that form and transform places and environments• GE4-4 examines perspectives of people and organisations on a range of geographical issues• GE4-5 discusses management of places and environments for their sustainability• GE4-7 acquires and processes geographical information by selecting and using geographical tools for inquiry• GE4-8 communicates geographical information using a variety of strategies <p>Related Life Skills outcomes: GELS-1, GELS-2, GELS-4, GELS-5, GELS-7, GELS-8</p> | <ul style="list-style-type: none">• Why is there a diversity of landscapes and landforms on Earth?• What environmental and human processes form and transform landscapes and landforms?• Why do people value landscapes and landforms?• To what extent are landscapes and landforms sustainably managed and protected? |

Photograph: Karst landforms: China: <https://i.pinimg.com/736x/9e/f1/0a/9ef10ac86a2cce79061db556cd98d61f--go-places-asia.jpg>

KNOWLEDGE AND UNDERSTANDING

A. LANDSCAPES AND LANDFORMS

Students:

- investigate different landscape and the geomorphic processes that create distinctive landforms, for example: (ACHGK048, ACHGK050)
- identification of a variety of landscapes and landforms
- explanation of geomorphic processes that create landforms e.g. weathering, erosion, deposition, tectonic activity
- examination of ONE landscape and its distinctive landforms

B. VALUE OF LANDSCAPES AND LANDFORMS

Students:

- investigate the aesthetic, cultural, spiritual and economic value of landscapes and landforms for people
- explanation of the aesthetic value of landscapes and landforms to culture and identity
- description of the cultural and spiritual value of landscapes or landforms in different places
- identification of how a landscape can have economic value for different people

C. CHANGING LANDSCAPES

Students:

- investigate the human causes and effects of land degradation, for example: (ACHGK051)
- identification of the ways people utilise and change landscapes
- description of the impact of a range of human activities on landscapes
- examination of ONE type of landscape degradation including its spatial distribution, causes and impact

D. LANDSCAPE MANAGEMENT AND PROTECTION

Students:

- investigate ways people, manage and protect landscapes, for example: (ACHGK052)
- description of the nature and extent of landscape protection across a range of scales e.g. locally protected places, national parks, world heritage listing
- examination of management and protection strategies for ONE landscape

E. GEOMORPHIC HAZARD

Students:

- investigate ONE contemporary geomorphic hazard including causes, impacts and responses, for example: (ACHGK053)
- description of the spatial distribution of the disaster
- explanation of geomorphic processes causing the disaster and its impacts
- examination of the responses of individuals, groups and government to the impact of the disaster
- discussion of management strategies to reduce the future impact of similar natural hazard events including the role of technology in monitoring and predicting geomorphic hazards

Photograph: Volcanic eruption <https://i.ytimg.com/vi/qA8D8e34I7c/maxresdefault.jpg>

BREADTH

A. LANDFORMS AND LANDSCAPES

B. VALUES OF LANDFORMS AND LANDSCAPES

A. LANDFORMS AND LANDSCAPES

Why are there a diversity of landforms and landscapes on Earth? GE4-1 locates and describes the diverse features and characteristics of a range of places and environments GE4-8 communicates geographical information using a variety of strategies

Geographical investigation - Mountains **Hindu Kush Himalayas** and present using geographical tools

OVERVIEW (BREADTH)

- **Difference between landforms and landscapes** - landforms are part of landscapes
- **Distinctive landforms** - fairy chimneys Cappadocia Turkey; coloured sandstones Danxia China
- **Emerging landforms** - South China Sea, Dubai Islands
- **Deadly landforms** - Earthquakes Nepal, Volcanic eruptions Indonesia Landslides Kelud East Java, Lidong Village China
- **Highest landforms** - Mt Everest, Nepal
- **Lowest landforms** - Marianas Trench

TYPES OF LANDFORMS

- **Plains** (types); examples Terai Nepal, Kanto Plain Japan, North China Plain, Indo-Gangetic Plain, India, Bangladesh, Pakistan
 - **Mountains** (types); examples Himalayan, Mt Fuji Japan, Zargos (Iran, Iraq), Tien Shan
 - **Plateaus** (types); examples Tibetan Plateau, Deccan Plateau India,
 - **Other landforms:** hills (China, India, Indonesia), valleys (Afghanistan, India, Vietnam, Bhutan), islands (Spratly)
- Types of landscapes** - grasslands (Mongolia), urban (China)
Geographical Tools - maps, photographs, diagrams

B. VALUES OF LANDFORMS AND LANDSCAPES

Why do people value landscapes and landforms? GE4-1 locates and describes the diverse features and characteristics of a range of places and environments

Geographical investigation - Ganges River, India - spiritual, cultural, aesthetic, economic.

VALUES

- **Aesthetic** - SE Asian coral reefs, Himalayan Mountains, South China Karst, Nohkalikai waterfalls India, Ginga Falls Japan, Phong Nha-Ke Bang National Park (Karst) Vietnam (also World Heritage Site)
- **Cultural** - UNESCO World Heritage sites, Banaue Rice Terraces Philippines, Tran An Landscape Complex Vietnam
- **Spiritual** - Ganges River, Mt Sinai, Mt Fuji and Lake Kawaguchi Japan, Monasteries Bhutan, Mt Kailash Tibet, Machapuchare, Nepal
- **Economic**
 - **Mountains** - HEP, source of water for domestic, agricultural and industrial purposes, source of glaciers, tourism (skiing, climbing), terraced for agriculture and transport of goods and services
 - **Plateaus** - growing crops and grazing animals-food security
 - **Plains** - rivers alluvium for agriculture, land easier to build for road, rail and air for movement of goods and people
 - **Beaches/coast** - tourism, recreation
- **Environmental:** Biodiversity values of mountain and river ecosystems

Geographical Tools: maps, photographs, diagrams **Controversial issue** - *Perspectives on tourism*. Double edged sword-brings awareness of aesthetically beautiful landforms and landscapes and economic development for local people and countries, but over exposure can lead to uncontrolled numbers of tourists damaging the beauty they came to see.

DEPTH

A. LANDFORMS AND LANDSCAPES

Examine ONE landscape and its distinctive landforms Integrate values, geomorphic processes and management.



Geographical Inquiry

Group work present investigation using web 2.0

Project Based Learning, Flipped Classroom or Assessment task

Photograph <https://i.pinimg.com/originals/c2/99/d0/c299d0c900f5b01a6b554c9922bf3e8d.jpg>

1. KARST

- **Processes:** 'carbon dioxide cascade' that form and transform places
- **Chemical weathering and physical erosion** - form landforms and transform places
- **Diverse Karst features linked to processes** - below and above ground:
 - caves (stalactites, stalagmites), sinkholes, disappearing streams, isolated hills, underground water, stone forests
- **Characteristics** - unique ecosystems
- **Distribution** across Asia - karst geology covers 13% of East and Southeast Asia.
 - **Caves** - Phong Nha Cave, Vietnam, Batu Caves, Selangor Malaysia
 - **Towers** - Halong Bay Vietnam, Krabi province Thailand, Guilin China, Guangxi Province China
 - **Travertine** - Afghanistan
 - **Stone** - Yunnan Province, China, Gunung Mulu National Park, Malaysia
- **Limestone towers:** geomorphic processes-combination of tectonic uplift and erosion in tropical wet climates in some Asian countries
- **Values:** spiritual, cultural, aesthetic, recreational, environmental, and scientific (rare and endemic species).
 - **Spiritual:** Asian Hindus and Buddhists used caves as places of worship. Tham Thing Buddha Cave, Louang Prabang, Laos.
 - **Economic:** resources (limestone, quarrying), tourism, recreational
 - **Cultural:** many limestone caves in Asia retain cultural values. Caves of Maros, in Sulawesi, Indonesia, home to some of world's most ancient art. Shelter by indigenous people such as the Ruc and Arem people of the Chut ethnic group, until recently lived in caves in Phong Nha-Ke Bang area of Vietnam. Some karst caves, such as the famous cave in Phong Nha Nature Reserve used to shelter Vietnamese troops and people during the Vietnam War.
 - **Environmental** - Karst biodiversity in World Heritage Areas in Asian countries. Life in the Dark. Cave of Early Man in Cuc Phuong National Park Vietnam, with greatest diversity of bats in a single cave. Diverse biodiversity- Halong Bay World Heritage.
- **Management:** World Heritage Karst sites: Malaysia Gunung Mulu National Park; Philippines Puerto-Princesa; Subterranean River National Park Vietnam Halong Bay; China-Huanglong, Jiuzhaigou Valley, Wulingyuan. Map: World Heritage sites with important karst features in East and SE Asia
<http://www.environment.gov.au/heritage/apfp/publications/books/pubs/karst-full.pdf>
- **Technology:** underground GPS into Karst world; above ground satellite imagery- Karst landscape China
<https://landsat.visibleearth.nasa.gov/view.php?id=83608>; **South China Karst**
http://world_heritage.jaxa.jp/en/search/detail.php?froml=list&id=133;
Chocolate hills in the Philippines considered one the of seven natural wonders of Asia <http://www.crystalinks.com/ChocolateHillsAsia.html>
- **Geographical Tools:** Mind maps, collage, maps, topographic maps (karst presented on a topographic map), photographs, diagrams, satellite, graphs
- **Controversial issue:** Perspectives exercise-for and against human interactions
Human interactions change karst landforms and landscapes: agriculture; urbanisation; deforestation; tourist development; quarrying/mining; water extraction, pollution-pesticides, fertilisers, sewage and landfill entering underground streams.

2. SUBMARINE

- **Main oceans/seas surrounding** - Asian countries
- **Types** of landforms - continental shelves, deep ocean trenches, undersea mountain ranges, plains, seamounts, volcanic islands, coral reefs
- **Ring of Fire** - off coast of Asian countries-tectonic activity. Deep Ocean trenches common feature of the Ring of Fire. Majority of Earth's earthquakes occur in the Ring of Fire, causing tsunamis. Approximately 90% of most powerful volcanic eruptions and about 81% of world's largest earthquakes have occurred along the Ring of Fire. Links between Plate tectonics.
- **Landforms in Pacific Ocean** – islands (Bali, Cebu Philippines), reefs (SE Asian coral reefs), submarine volcanoes (Sumatra Indonesia), hydrothermal vents (seamounts), trenches (Marianas Trench, Japan Trench)-Challenger Deep is the deepest known point in the Earth's seabed hydrosphere; submarine canyons. Underwater mountain off Japanese coast could be biggest volcano on earth (Tamu Massif)
- **Processes** - formation of an underground volcano (diagram); more active than volcanoes found on land, creates new islands, causes a warm current that becomes part of our surface weather pattern system. The elusive, mid ocean ridges form the largest volcanic systems on Earth. Hydrothermal vents and seamounts.
- **Life cycle - processes**
- **Technology:** underwater vehicle takes pictures, videos, and samples of undersea volcanoes- named, "JASON":
http://oceanexplorer.noaa.gov/explorations/06fire/background/tech/media/jason_600.htm.
Using Remote Operated Vehicles (ROV), scientists studied underwater eruptions, and marine life adapted to the deep, hot environment.
- **Topographic map:** About 15,000 seamounts, ocean-floor volcanoes too short to breach the sea surface, have been revealed in a new topographic map of the Earth's oceans.
- **Perspectives:** China's deep-sea mission to mine the wealth beneath the ocean floor- *The volcanically formed hydrothermal sulphides on the seabed contain copper, zinc and precious metals including gold and silver. They are formed in hot underground springs seeping through cracks in the seabed. Debate for and against.*
Geographical Tools - cross sections, photographs, satellite-seafloor mapping - exploring our fluid earth
Controversial Issues: marine pollution, undersea landslides causing tsunamis, deep sea mining, microbeads in ocean trenches and deep ocean species, ABC- *'Earth's deepest ocean trenches contain high levels of pollution'. 'Levels of toxic, industrial chemicals 50 times higher than a highly polluted river system in China'*

Image: https://vignette3.wikia.nocookie.net/assassinscreed/images/3/38/AC4_-_Deep_sea_trench_by_janurschel.jpg/revision/latest?cb=20131003094036

3. CORAL REEFS

- **Types** - fringing, platform, atoll, barrier (shape and origin); shallow and deep sea corals.
- **Processes - formation, environmental conditions for growth**
- Physical erosion and chemical weathering
- **Places** - Indonesia home to one-third of the world's coral reefs. SE Asia's Coral Triangle, Apo Reef Philippines.
- **Management** - Marine Protected Areas. Philippines Reef Check world's largest reef conservation organisation
- **Technology** - NOAA Coral Reef Watch <https://coralreefwatch.noaa.gov/satellite/index.php>: Exploring reefs from space <https://earthobservatory.nasa.gov/IOTD/view.php?id=86163>
- **Perspectives** - Poverty drives many poor Asian fisher men to employ destructive fishing methods that destroy coral reefs. What are the different perspectives?

Geographical Tools: diagrams, photographs, maps

Controversial Issues: SE Asian coral reefs at risk. Causes climate change, bleaching, acidification, agricultural runoff, algal blooms, crown of thorns, viruses, destructive fishing practices (cyanide and blast fishing), tourism, cyclones, mining, pollution and muroami a destructive artisan fishing method employed on coral reefs in SE Asia.

4. COASTS

- **Landforms** - beach, arch, tombolo, spit, cliff, rock platform, stacks
 - **Processes** - erosion, transportation, deposition, types of waves
 - **Natural processes** - tsunamis, storm surges and cyclones on coasts
 - **Perspectives** - Coastal urbanisation and tourist development in Asian countries. Role play-coastal management
- A large proportion of people living in Asian countries, live close to the coastline. This has impacted negatively on fishing and tourism industries. The tourism industry in the coastal regions is at risk since the industry relies heavily on coastal ecosystems to attract visitors. It is important to strike a balance between coastal development and protecting ecosystems.
- **Management** - sustainable eco-resorts, restricted construction on sand dunes and retreating sea cliffs, laws on dumping sewage and garbage in coastal areas
 - **Tourism resorts** - select an Asian beach and discuss its landforms and reasons for tourism e.g. Patnem, Goa, India, Beidaihe, China, PhraNang Cave Beach Thailand, Bentota Sri Lanka, Nusa Dua Bali Indonesia, Haeundae South Korea

Geographical Tools - topographic maps, diagrams, photographs

Controversial Issues: settlements, urbanisation, tourism and water pollution threatens coastal wetlands and coral reefs.

5. RIVERS

- **Landforms** - from source to mouth-waterfalls, floodplains, deltas, V shaped valleys
- **Processes** - erosion, transportation and deposition
- **Catchment Management**
- **Examples** - Mekong, Ganges, Indus, Yangtse, Brahmaputra, Tigris, Euphrates, Irrawaddy, Amu Darya, Chao Phraya

Geographical Tools - topographic map, cross sections

Controversial Issues: water pollution, floods, dams, mining sand (Sand Mafias in India)

6. DESERTS

- **Landforms** - erg, reg, hamada, salt lakes
- **Location** - subtropical, interior, rain shadow, coastal
- **Processes** - water and wind erosion and deposition
- **Examples** - Gobi Desert China, Thar Desert India

Geographical Tools: topographic maps, diagrams, photographs

Controversial Issues: desertification

7. GLACIAL

- **Landforms** - U shaped valleys, arête, horn, moraine
- **Location** - Khumbu Glacier Nepal, Kangshung Glacier Tibet, Carstensz Glacier, Indonesia, Carstensz Glacier Indonesia, Kakunesato Glacier, Mount Kashimayari, Japan. Glaciers of Asia https://pubs.usgs.gov/pp/p1386f/pdf/Asia_front_pgs.pdf
- **Processes** - erosion, transportation and deposition
- **Technology** - series of animations that capture 'surging' glaciers in the Karakoram mountain range in Asia over 25 years, from 1990 to 2015. <https://www.carbonbrief.org/animation-satellite-images-of-surging-glaciers-in-asia>

Geographical Tools - topographic map, diagrams, photographs

Controversial Issues: impacts of climate change

8. WETLANDS

- **Types, Formation, Functions, Natural and Human Processes**
- **Examples** - Wasur National Park, Indonesia, Kerala Backwaters, India, Sundarbans Bangladesh
- **Management** - RAMSAR, interconnections between wetlands around world Perspectives- developers versus conservationist on management of wetlands.
- **Technology** - Satellite-based Wetland Observation Service (SWOS)

Geographical Tools - diagram, photographs, map RAMSAR wetlands, satellite

Controversial Issues: food web, movement of birds globally, clearing for settlements, tourism and urban growth.

'Vast wetlands fringing Cambodia's capital Phnom Penh's have been home to thousands of people making a living from the water — fishing and harvesting vegetables for market. Now they face eviction from land speculators. '

'Kolkata's wetlands are the Indian city's free sewage works, a fertile aquatic garden and, most importantly, a flood defence – but they're under threat from developers.

9. GRASSLANDS

- **Location** - according to climate and altitude
- **Landscape biodiversity** - scattered trees, shrubs, grasses, flowers, mosses
- **Examples:** Mongolia, Central Asia China, Bhutan, India
- **Processes** - climate-seasonal variations
- **Threats:** overgrazing, agriculture, settlements, recreation, fire
- **Management:** Sustainable Grazing practices in Mongolia

Geographical Tools - satellite imagery showing changes to grassland landscapes, photographs, climate graphs, food webs

Controversial Issues: endangered indigenous people (nomadic herders), construction of infrastructure, settlements, game hunting.

*Silk Road-nomadic and semi-nomadic tribes lived in the ancient grassland environment

10. FORESTS

- **Location scale** - Region-14% in Asia, Countries- India, Japan, Indonesia, Malaysia, Nepal, South Korea, Sri Lanka, Vietnam, Cambodia, Laos
- **Types of forests differ** - climate-vegetation links (latitude, altitude)
- **Processes** - carbon and oxygen cycles, food webs
- **Perspectives:** Clearing forests in Indonesia and Malaysia for palm oil, peat fires cause air pollution that travels to Singapore, endangers lifestyle of forest dwellers.
- **Management** - Sustainable Forest Management (SFM), Indigenous management. Climate Change mitigation and adaptation
- **Satellite imagery** - shows changes over time

Geographical Tools - satellite imagery, photographs of different forest landscapes

Controversial Issues - deforestation (soil erosion, sedimentation of rivers, endangered species-orangutan), climate change, disappearing forest indigenous dwellers

Rainforest https://wonderopolis.org/_img?img=/wp-content/uploads/2012/08/Bunya-Mountains_shutterstock_67873852.jpg&transform=resizeCrop.720.450

A. E.-GEOMORPHIC PROCESSES

A. LANDSCAPES AND LANDFORMS

- investigate different landscape and the geomorphic processes that create distinctive landforms, for example:
- explain geomorphic processes that create landforms e.g. weathering, erosion, deposition, tectonic activity

E. GEOMORPHIC HAZARD

- explain geomorphic processes causing the disaster and its impacts

- **Plate tectonics**, continental drift, Ring of Fire, folding faulting, chemical weathering, physical weathering-erosion, transportation and deposition (integrated in previous topics)
- **Plates** - Pacific Plate, Philippine Plate, Indo-Chines Plate, Amur Plate, Indo-Chinese Plate
- **Volcanoes** (types), Krakatoa, Mount Pinatubo, Mount Merapi, Mt Fuji, Mt Agung
- **Earthquakes** - Philippines 2017, Nepal 2015. Earthquakes effect Asian countries-resulting in tsunamis-Ache Indonesia and Japan
- **Folding** - Himalayan Mountains
- **Seismic faults** - Great Sumatran Fault, Indonesia, Three Pagodas Fault
- **Wind erosion** (deflation, abrasion)
- **Water erosion** (rill, sheet, gully)
- **River erosion** (attrition, hydraulic action, corrosion abrasion)
- **Coasts** - tides, currents, waves-erosion, transportation, deposition; chemical weathering on rock platforms saltation); erosion rock falls, arches, stacks
- **Deposition** - rivers (deltas), coasts (beaches, spits, offshore bars), deserts (sand dunes) volcanoes (ash and lava deposits)

Geographical Tools: maps, diagram, satellite, photographs

Inquiry questions: What are the physical processes that cause geomorphic hazards? What problems do they cause people and places? Why is their impacts greater on poor people and countries? How can these unpredictable hazards be managed sustainably?

Photograph: http://ichef.bbci.co.uk/ww/features/wm/live/1280_720/images/live/p0/52/i5/p052i5kp.jpg

C. CHANGING LANDSCAPES

| | |
|---|--|
| <p>What environmental and human processes form and transform landscapes and landforms? GE4-2 describes processes and influences that transform places and environments</p> | <p>Anthropogenic landscapes</p> <ul style="list-style-type: none"> • Cultural Landscape of Honghe Hani Rice Terraces • Rock Shelters of Bhimbetka • Sacred Sites and Pilgrimage Routes in the Kii Mountain Range • Ouadi Qadisha (the Holy Valley), Forest of the Cedars of God (Horsh Arz el-Rab) • Rice Terraces of the Philippine Cordilleras • Trang An Landscape Complex <p>Others: changing natural landscapes for agricultural, urban, mining, industrial and logging activities. Building ports and dams, changing course of rivers, constructing artificial levees and artificial wetlands, building seawalls</p> <p>Geographical Tools - maps, photos, satellite</p> |
| <p>Assignment - Dubai, Rare Earth mining in China What human processes form and transform landscapes and landforms?</p> | <p>Types of changes by humans</p> <ul style="list-style-type: none"> • Land reclamation - Dubai, Bahrain, Singapore, Hong Kong, Bombay • Construct canals - Grand Canal China-UNESCO World Heritage site - longest canal or artificial river in the world • Terrace steep slopes - agriculture. Lower Himalayas, Nepal, Kabal Swat Valley Pakistan, Sa Pa Vietnam, Bali Indonesia, Longsheng Rice Terrace in Guangxi Province China, rice fields in Yunnan China • Build marinas, seawalls (Japan, Phuket, Pondicherry) • Build mega dams - Three Gorges Dam, China • Mining - Rare Earth Mining in China • Mountain removal - western Shiyuan China. China's plan to flatten 700 mountains for new cities <p>Geographical Tools - maps, photographs, diagrams, satellite</p> |
| <p>What environmental and human processes form and transform landscapes and landforms? GE4-2 describes processes and influences that transform places and environments GE4-5 discusses management of places and environments for their sustainability</p> | <p>Land degradation - causes (natural and human), impacts (on people, places and environments), management strategies</p> <ul style="list-style-type: none"> • Causes - demographic, social (poverty), economic. • Types - Overgrazing, overcropping, mining, urban, agriculture, logging and industrial activities, pollution, waste, tourism • Impacts - decline in biodiversity, salinisation, soil erosion, decline in food security, increase in poverty • Natural land degradation hazards - landslides • Management strategies - drip irrigation, reforestation, green belts <p>Geographical Tools - satellite imagery monitors landscape degradation, diagrams, before and after photographs</p> <p>Controversial Issues: large increasing populations in Asian countries resulting in land shortage. Poor people start to overexploit the land. What is the causal nexus between land, population, poverty and degradation? In other words environmental degradation perpetuates poverty, as the poorest people attempt to survive on a diminishing resources. How should this be sustainably managed?</p> |

Land degradation: <https://www.godfreyhoffman.com/hubfs/Connecticut-Land-Degradation.jpg?i=1506045983210>

D. LANDSCAPE MANAGEMENT AND PROTECTION

To what extent are landscapes and landforms sustainably managed and protected?
GE4-5 discusses management of places and environments for their sustainability

- **Sustainable Management** - environmental, social, economic
 - **Types - wilderness areas** (wetlands Sundarbans, India), national parks (Khao Yai National Park Thailand, Bokor National Park Cambodia, Cat Ba National Park, Vietnam, Jiuzhaigou National Park, China, Jigme Dorji National Park, Bhutan), World Heritage Sites-Rice terraces of the Philippine Cordilleras, Philippines, Ha Long Bay, Vietnam, tropical rainforest heritage of Sumatra, Indonesia. Geoparks (Mt Batur Bali), skywalks, boardwalks
- Perspectives** - Protecting Himalayan Mts - Perspectives of different groups to climb or not to climb Mt Everest
Geographical Tools: maps, diagrams, photographs
Controversial Issues: Conflicting management - coal seam gas in Asian countries as demand for energy escalates

Select **ONE** type of landscape degradation including its spatial distribution, causes, impacts and management e.g. deforestation in India; desertification in China; electronic waste (e-waste) in Asian countries such as China, India and Pakistan

What human processes form and transform landscapes and landforms?
GE4-5 discusses management of places and environments for their sustainability
E4-7 acquires and processes geographical information by selecting and using geographical tools for inquiry
GE4-8 communicates geographical information using a variety of strategies

- **GEOGRAPHICAL INQUIRY**
- **INVESTIGATE E-WASTE TO CHINA.** About 70% of global e-waste ends up in china.
- **Scale:** The main region where e-waste is shipped is Guangdong province, in China. Guiyu in China is a massive electronic waste processing community.
 - o What is e-waste?
 - o How does e-waste affect the environment? (processes)
 - o How is electronic waste recycled?
 - o What is the Chinese legislation on this trade?
 - o Why has effective enforcement been an obstacle to mitigating the consequences of e-waste in China?
 - o Why is it dangerous labour?
 - o In Guiyu children are employed. They are particularly vulnerable to health problems (WHO). Describe their lifestyle (**Work and Enterprise**)
- **Management - policies and conventions** e.g. Basel Action Network (BAN), World Reuse, Repair and Recycling Association.
- Present investigation by including map showing movement of e-waste to Asia. Discuss source countries, treatment, impacts (environmental, health, economic) and management.
- Suggest strategies/actions you could introduce to reduce e-waste (**Civics and Citizenship**)

Three Gorges Dam, China <https://i.ytimg.com/vi/Cuf-m4eu9m8/hqdefault.jpg>

E. GEOMORPHIC HAZARD

To what extent are landscapes and landforms sustainably managed and protected? GE4-7 acquires and processes geographical information by selecting and using geographical tools for inquiry GE4-8 communicates geographical information using a variety of strategies

General Capabilities

Work and Enterprise, Civics and Citizenship, ICT, Personal and Social Capability, Literacy, Numeracy, Critical and Creative Thinking, Ethical Understanding)

Geographical Inquiry - latest geomorphic hazard. Acquire, Process and Communicate information

- **Hazard versus a disaster - distinguish**
 - **Causes, impacts, responses, management**
 - **Natural versus human induced hazards**
 - **Natural**
 - Atmospheric
 - Biological
 - Geomorphic
 - **Deadly hazards** - impacts on people, places and environments
 - **Risks and vulnerability**
 - **'Asia is the world's most disaster-prone region, and Asia's poor, lacking in resources and more vulnerable and exposed to the elements, have borne the brunt of the region's cataclysms..... 'The region occupies 30% of the world's land mass, but 40% of the world's disasters'.. 'In China 2.7% of annual GDP is lost to disasters' (this also counts atmospheric disasters such as cyclones) <http://asiancenturyinstitute.com/environment/40-natural-disasters-in-asia>**
 - **Asian countries** experience a large proportion of the disasters around the world and poorest countries are effected the severest.
 - **Types** - causes, impacts, management, responses (individual, groups and governments) role of technology
 - **Volcanic eruptions** - Krakatoa. Indonesian volcanic country, -Lake Toba, Mt Tambora, Merapi-impacts on Australian flights. Links to movement of tectonic plates
 - **Earthquakes** - Richter scale, hypocentre, epicentre, links to Ring of Fire. Nepal 2015 - causes, impacts, management
 - **Tsunamis** - result of earthquakes-approximately 90% of tsunamis occur in the Pacific Ocean, as the Ring of Fire accounts for 75% of its volcanoes. Japan tsunami 2011, Indian Ocean tsunami 2004
 - **Landslides** - causes, impacts, management. 2002-2019 138 occurred in South Asia, 104 in East Asia, 55 in SE Asia. 2015 Badakhshan landslides Afghanistan, 2014 Indonesian landslide
 - **Avalanches** - types, causes, impacts, management, management. 2017-Afghanistan, Pakistan; Japan
 - Disaster management and technology –avalanches (fences/ barriers), earthquakes (seismometers) , volcanoes (seismographs), tsunamis (NOAA DART real time monitoring system), landslides (reafforestation)
- Geographical Tools** - topographic maps, satellite imagery-before and after the disaster, diagrams, statistics, tables, graphs, photographs, human stories
- Geographical Inquiry: Nepal earthquake 2015**
- Spatial distribution
 - Geomorphic processes that caused earthquake and its severity
 - Impacts on people, places, environments. Landslides, avalanches. Decline in tourism
 - Responses - multiple-local to global, individuals, groups, NGOs, governments/
 - Management and use of technology-predict and prevent future hazards

landslide <http://www.weatherwizkids.com/wp-content/uploads/2015/04/landslide5.jpg>



Tips for Spotting Fake News

It's possible to spot false news. As we work to limit the spread, check out a few ways to identify whether a story is genuine.

The Hindu, September 2017

1. Be sceptical of headlines.

False news stories often have catchy headlines in all ' caps with exclamation marks. If shocking claims in the headline sound unbelievable, they probably are.

2. Look closely at the URL.

A phoney or look-alike URL may be a warning sign of false news. Many false news sites mimic authentic news sources by making small changes to the URL. You can go to the site and compare the URL to established sources.

3. Investigate the source.

Ensure that the story is written by a source that you trust with a reputation for accuracy. If the story comes from an unfamiliar organisation, check their "About" section to learn more.

4. Watch for unusual formatting.

Many false news sites have misspellings or awkward layouts. Read carefully if you see these signs.

5. Consider the photos.

False news stories often contain manipulated images or videos. Sometimes the photo may be authentic, but taken out of context. You can search for the photo or image to verify where it came from.

6. Inspect the dates.

False news stories may contain timelines that make no sense, or event dates that have been altered.

7. Check the evidence.

Check the author's sources to confirm that they are accurate. Lack of evidence or reliance on unnamed experts may indicate a false news story.

8. Look at other reports.

If no other news source is reporting the same story, it may indicate that the story is false. If the story is reported by multiple sources you trust, it's more likely to be true.

9. Is the story a joke?

Sometimes false news stories can be hard to distinguish from humour or satire. Check whether the source is known for parody, and whether the story's details and tone suggest it may be just for fun.

10. Some stories are intentionally false.

Think critically about the stories you read, and only share news that you know to be credible.

Together, we can limit the spread of false news

STAGE 3 GEOGRAPHY:

Engaging with Asia

By Dr. Jennifer Curtis

<https://pixabay.com/en/agriculture-asia-cat-china-cloud-1793419/>

| Focus Area: A Diverse and Connected World | |
|---|--------------------|
| Connections shape perceptions | Global connections |
| Key inquiry questions <ul style="list-style-type: none">• How do places, people and cultures differ across the world?• How do people's connections to places affect their perception of them? | |
| Content focus <p>Students:</p> <ul style="list-style-type: none">• explore countries of the Asia region and the connections Australia has with other countries across the world• learn about the diversity of the world's people, including the indigenous peoples of other countries• explore and reflect upon similarities, differences and the importance of intercultural understanding | |
| Outcomes <p>A student:</p> <ul style="list-style-type: none">• describes the diverse features and characteristics of places and environments GE3-1• explains interactions and connections between people, places and environments GE3-2• acquires, processes and communicates geographical information using geographical tools for inquiry GE3-4 | |
| Overview <p>Students locate and identify a range of Asian countries. Students undertake a case study inquiry that compares and contrasts three Asian countries by examining the lives of three individuals or families (i.e. one from each country). At least one individual/family is to be drawn from that country's indigenous people. Students identify the natural and human features of the place where each individual/family lives and explore the similarities and differences between their lives. Students reflect on the diversity of the world's people, including its indigenous people, and consider the importance of intercultural understanding.</p> <p>Notes:</p> <p>The capacity of students to engage with the inquiries and content matter will be much greater in Year 6 than early in Year 5. Teachers will need to adjust and scaffold learning activities as appropriate.</p> <p>This learning framework develops on the work done in the Stage 2 teaching and learning framework <i>Australia's neighbours</i>.</p> | |
| Assessment <p>Many of the activities require students to demonstrate their learning. These activities can be used to assess student progress at various stages throughout the inquiry process.</p> | |

Diversity across Asia

Students:

investigate the diversity in geographical characteristics within the Asia region, for example:

(ACHGK031, ACHGK032)

- identification of countries of the Asia region in relation to Australia

The world's cultural diversity

Students:

investigate the world's cultural diversity, including the culture of indigenous peoples, for example:

(ACHGK033)

- examination of various cultures eg customs, beliefs, social organisation

Connections shape perceptions

Students:

investigate how connections influence people's perception and understanding of places, for example:

(ACHGK036)

- identification of factors that influence people's perceptions of places eg media, culture, education, travel
- discussion of the effect of generalisations and stereotypes about places

Inquiry 1 – Locating Asian countries

Students locate Asia and Asian countries.

Acquiring geographical information

Question:

- What is the extent of the continent of Asia?
- What countries are found in Asia and where are they located?

Acquire data and information:

- As a class, name as many Asian countries as possible.
- Use a range of **virtual or printed maps** to establish the extent of Asia and location of Asian countries, e.g. atlases, Google maps, Google Earth.
- Discuss knowledge and experiences of Asian countries, including news events, travel experiences and personal connections.
- Explore **travel websites** such as Lonely Planet to gain an overview of countries in the Asian region.

Processing & Communicating geographical information

- Students create a map of Asia on an A3 outline **map of the world**. Students create their own country borders and colour code each country using a legend.
- Students use cartographic conventions by adding a border, north point, legend and title to their map.
- Students can add annotations to show personal connections to various countries.

Communicating geographical information

Communicate:

Students discuss how their knowledge of and connections with various countries has affected their perceptions of them.

Student maps can be displayed and/or be scanned and included on a class website or in the school newsletter.

Respond:

Students select three Asian countries to compare in Inquiry 2.



Environments shape places

Students:

- investigate how the natural environment influences people and places, for example: (ACHGK028)
 - discussion of how climate influences the distribution of where people live
 - comparison of how landforms influence where and how people live in Australia and another country

Diversity across Asia

Students:

investigate the diversity in geographical characteristics within the Asia region, for example: (ACHGK031, ACHGK032)

- identification of countries of the Asia region in relation to Australia
- examination of economic, demographic and social differences between countries of the Asia region eg employment, population, lifestyle

The world's cultural diversity

Students:

investigate the world's cultural diversity, including the culture of indigenous peoples, for example: (ACHGK033)

- examination of various cultures eg customs, beliefs, social organisation

Inquiry 2 – Comparing Asian countries

Students work in groups to compare the lives of three individuals/families in three different Asian countries. One of these three needs to be a member of an indigenous people group. The individuals/families can be either real, a literary character or hypothesised from general information gathered about a place.

Acquiring geographical information

Question:

Clearly articulate the aim or purpose of the geographical investigation, e.g. How do the lives of people living in different places and cultures differ across Asia?

Pose geographical questions to be contextualised to each individual/family, for example:

- Where does this person/family live?
- What are the main physical characteristics of this place (e.g. landforms, vegetation, climate)?
- What are the main human features of this place (e.g. built environment, population, employment, lifestyle)?
- How does this person/family interact with the place where they live?
 - o What are their daily routines?
 - o What do they wear and eat?
 - o Where do they work or go to school? How do they get there?
 - o What are their language(s), customs, beliefs and/or religion?
 - o What cultural and/or economic activities do they engage in?
 - o What social organisation characterises their lives?
- How have the lives of indigenous people been affected by other cultures?

Additional questions to assist students to compare the three individuals/families:

- What are the similarities and differences between the lives of the people examined?
- How can the similarities and differences be explained?
- To what extent do differences in the physical characteristics of where they live explain the differences in their lives?

Acquire data and information:

The first step is to identify the three individuals/families to be studied (e.g. a real person, a literary character or a hypothesised individual based on a photograph). This will provide a starting point for understanding their lives (e.g. personal knowledge, a novel, a picture).

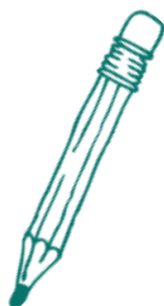
Students will then need to gather information about the place where they live, including both physical and human characteristics.

Connections shape perceptions

Students:

investigate how connections influence people's perception and understanding of places, for example: (ACHGK036)

- discussion of the effect of generalisations and stereotypes about places



Support students to access a wide range of information sources such as maps, climate graphs, visual representations including photographs, film clips and site video cams, as well as suitable internet sites.

- Reference **large-scale maps**, such as relief maps, political maps and satellite images, which show the landform and other physical features of the country.
- Source appropriate climate, population **statistics** and demographic **data** such as food production, occupations and religions.
- Examine daily life and culture, such as schooling, making a living, recreation, and special events. Use **photographs, illustrations, diagrams, picture books** and **multimedia** including apps.
- Source **contemporary information** from news events, travel brochures, images, and online travel blogs.

Processing geographical information

Students use geographical tools to represent, organise and analyse the data and information for each person/family, for example:

- Use cartographic conventions to construct a map of the place where they live. Choose the most appropriate scale for the particular case study. Plot and label the main physical characteristics and human characteristics. Annotate places on the map that are significant to this person/family.
- Construct **climate graphs** that show rainfall (precipitation) as a **column graph** and temperature overlaid as a **line graph**. Interpret the data.
- Create an illustrated **table** of the major cultural features of life in this place. In each row of the table, use annotated **photographs**, diary style entries or descriptions to present information on culture and daily life. Organise and compile images and video clips. Add media to specific places on maps.
- Use a **consequences chart** to examine how physical characteristics of this place (e.g. temperature) affect aspects of their daily life (e.g. clothing).

Use tools to compare the lives of the three individuals/families:

- Represent similarities and differences using a three-way **Venn diagram**.
- Use a **comparison table** to compare key similarities and differences in the lives of the three individuals/families.

Communicating geographical information

Communicate:

Students work in groups to create a video in which the three individuals/families meet to talk about their lives. Scripts can be created collaboratively using Google Docs. Students dress up, act and use props according to their role. One or more students can play the host for the meeting.

Respond:

Students discuss the diversity found across Asia and whether generalisations and stereotypes affect perceptions of this diversity. Students consider the effects of alternate cultures on the lives of indigenous people.

This learning is likely to uncover humanitarian or social justice issues. Teachers can consider what responses may be suitable in response (e.g. advocacy, fundraising).

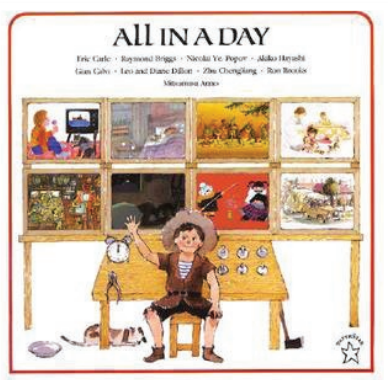
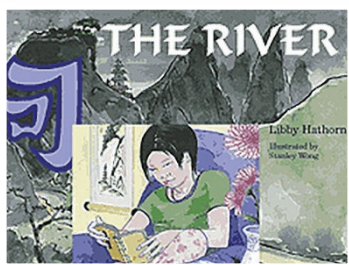
Resources


Effective online searching will provide access to a wide range of resources. Some starting points include:

- [Global Education](#) resources
- [Time for Kids](#) resources on the day in the life of a child, for example: [A day in the life: Thailand](#) and [A day in the life: Indonesia](#).
- [web-japan.org](#)
- Caritas [Home: a full and beautiful life](#) pictorial journey, which demonstrates daily life around the world. Note: Caritas is a Catholic aid & development agency.
- TEAR Australia educational resources for schools include *Kids4Kids* DVDs on children living Cambodia, an Indian village and a New Delhi slum. Note: TEAR is a Protestant aid and development agency, and portions are explicitly religious. Vimeo hosts a sample of each.

Related literary resources include:

- *The River* by Libby Hathorn and Stanley Wong
- *All in a Day* by Mitsumasa Anno
- *Dragonkeeper* by Carole Wilkinson
- *Secret Keeper* by Mitali Perkins
- *Trash* by Andy Mulligan

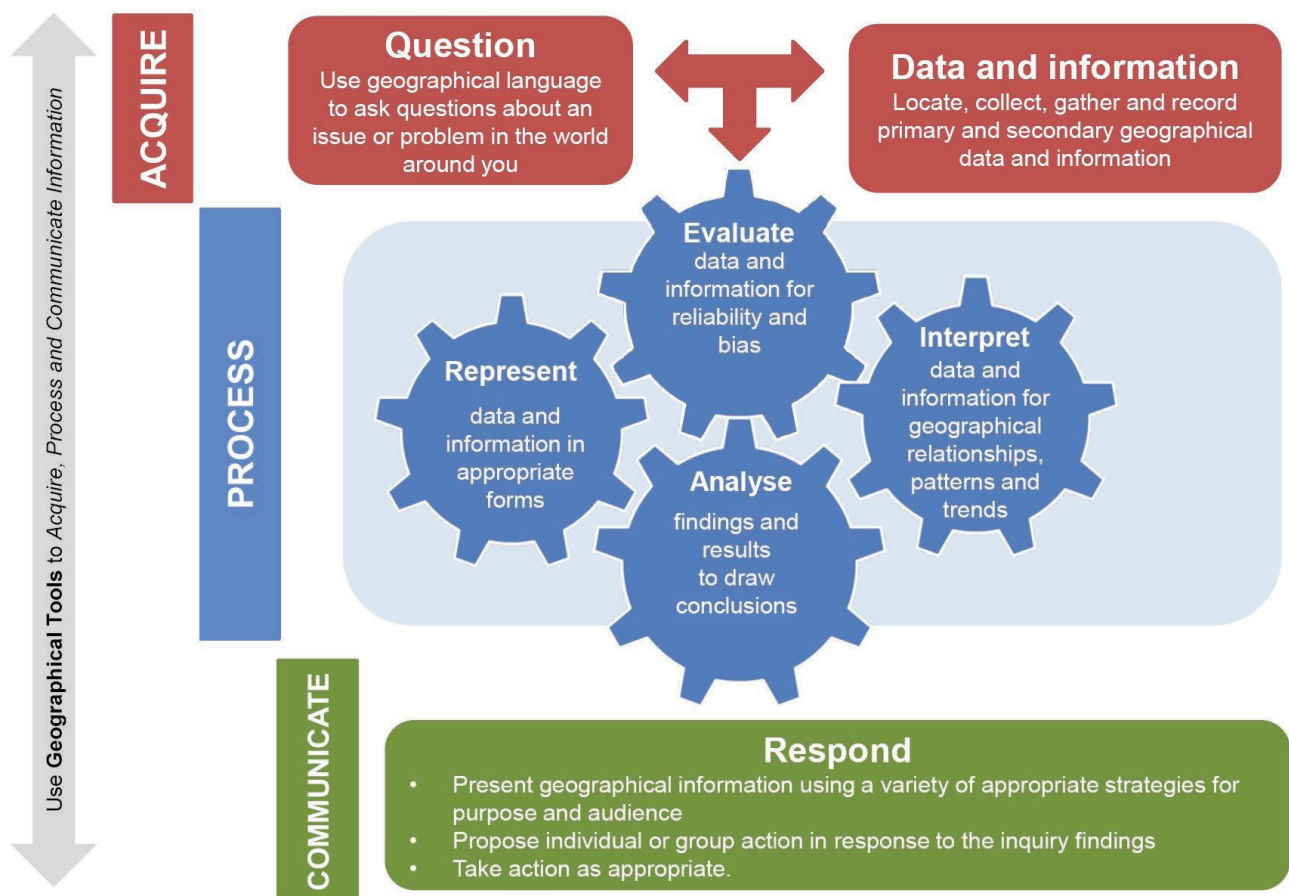


| Geographical concepts | Geographical inquiry skills | Geographical tools |
|--|--|--|
| <p>Place: <i>the significance of places and what they are like eg characteristics of places.</i></p> <p>Space: <i>the significance of location and spatial distribution, and ways people organise and manage spaces that we live in eg; how people organise and manage spaces in their local environment.</i></p> <p>Environment: <i>the significance of the environment on human life, and the important interrelationships between humans and the environment eg how the environment influences people and places; how people influence the environment; the effect of natural disasters on the environment.</i></p> <p>Interconnection: <i>no object of geographical study can be viewed in isolation eg how environments influence where people live; ways people influence the characteristics of their environments.</i></p> <p>Scale: <i>the way that geographical phenomena and problems can be examined at different spatial levels eg environmental and human characteristics of places on local and regional scales; the effect of events on people and places locally and regionally.</i></p> <p>Sustainability: <i>the capacity of the environment to continue to support our lives and the lives of other living creatures into the future eg extent of environmental change; environmental management practices; sustainability initiatives.</i></p> <p>Change: <i>explaining geographical phenomena by investigating how they have developed over time eg changes to environmental and human characteristics of places.</i></p> | <p>Acquiring geographical information</p> <ul style="list-style-type: none"> develop geographical questions to investigate and plan an inquiry (ACHGS033, ACHGS040) collect and record relevant geographical data and information, using ethical protocols, from primary data and secondary information sources, for example, by observing, by interviewing, conducting surveys, or using maps, visual representations, statistical sources and reports, the media or the internet (ACHGS034, ACHGS041) <p>Processing geographical information</p> <ul style="list-style-type: none"> evaluate sources for their usefulness (ACHGS035, ACHGS042) represent data in different forms, for example plans, graphs, tables, sketches and diagrams (ACHGS035, ACHGS042) represent different types of geographical information by constructing maps that conform to cartographic conventions using spatial technologies as appropriate (ACHGS036, ACHGS043) <ul style="list-style-type: none"> interpret geographical data and information, using digital and spatial technologies as appropriate, and identify spatial distributions, patterns and trends, and infer relationships to draw conclusions (ACHGS037, ACHGS044) | <p>Maps – MP</p> <ul style="list-style-type: none"> large-scale maps, small-scale maps, topographic maps, flowline maps maps to identify location, latitude, direction, distance, map references, spatial distributions and patterns <p>Fieldwork – F</p> <ul style="list-style-type: none"> observing, measuring, collecting and recording data, conducting surveys and interviews fieldwork instruments such as measuring devices, maps, photographs, compasses, GPS <p>Graphs and statistics – GS</p> <ul style="list-style-type: none"> pictographs, data tables, column graphs, line graphs, climate graphs multiple graphs on a geographical theme statistics to find patterns Spatial technologies – virtual maps, satellite images, global positioning systems (GPS) <p>Visual representations – VR</p> <ul style="list-style-type: none"> photographs, aerial photographs, illustrations, flow diagrams, annotated diagrams, multimedia, web tools.  |

| Geographical concepts | Geographical inquiry skills | Geographical tools |
|--|--|--|
| <p>Place: <i>the significance of places and what they are like eg characteristics of places.</i></p> <p>Space: <i>the significance of location and spatial distribution, and ways people organise and manage spaces that we live in eg; how people organise and manage spaces in their local environment.</i></p> <p>Environment: <i>the significance of the environment on human life, and the important interrelationships between humans and the environment eg how the environment influences people and places; how people influence the environment; the effect of natural disasters on the environment.</i></p> <p>Interconnection: <i>no object of geographical study can be viewed in isolation eg how environments influence where people live; ways people influence the characteristics of their environments.</i></p> <p>Scale: <i>the way that geographical phenomena and problems can be examined at different spatial levels eg environmental and human characteristics of places on local and regional scales; the effect of events on people and places locally and regionally.</i></p> <p>Sustainability: <i>the capacity of the environment to continue to support our lives and the lives of other living creatures into the future eg extent of environmental change; environmental management practices; sustainability initiatives.</i></p> <p>Change: <i>explaining geographical phenomena by investigating how they have developed over time eg changes to environmental and human characteristics of places.</i></p> | <p>Acquiring geographical information</p> <ul style="list-style-type: none"> develop geographical questions to investigate and plan an inquiry (ACHGS033, ACHGS040) collect and record relevant geographical data and information, using ethical protocols, from primary data and secondary information sources, for example, by observing, by interviewing, conducting surveys, or using maps, visual representations, statistical sources and reports, the media or the internet (ACHGS034, ACHGS041) <p>Processing geographical information</p> <ul style="list-style-type: none"> evaluate sources for their usefulness (ACHGS035, ACHGS042) represent data in different forms, for example plans, graphs, tables, sketches and diagrams (ACHGS035, ACHGS042) represent different types of geographical information by constructing maps that conform to cartographic conventions using spatial technologies as appropriate (ACHGS036, ACHGS043) interpret geographical data and information, using digital and spatial technologies as appropriate, and identify spatial distributions, patterns and trends, and infer relationships to draw conclusions (ACHGS037, ACHGS044) | <p>Maps – MP</p> <ul style="list-style-type: none"> large-scale maps, small-scale maps, topographic maps, flowline maps maps to identify location, latitude, direction, distance, map references, spatial distributions and patterns <p>Fieldwork – F</p> <ul style="list-style-type: none"> observing, measuring, collecting and recording data, conducting surveys and interviews fieldwork instruments such as measuring devices, maps, photographs, compasses, GPS <p>Graphs and statistics – GS</p> <ul style="list-style-type: none"> pictographs, data tables, column graphs, line graphs, climate graphs multiple graphs on a geographical theme statistics to find patterns Spatial technologies – virtual maps, satellite images, global positioning systems (GPS) <p>Visual representations – VR</p> <ul style="list-style-type: none"> photographs, aerial photographs, illustrations, flow diagrams, annotated diagrams, multimedia, web tools. |

| | | |
|--|--|--|
| | <p>Communicating geographical information</p> <ul style="list-style-type: none"> • present findings and ideas in a range of communication forms as appropriate (ACHGS038, ACHGS045) • reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge and describe the expected effects of their proposal on different groups of people (ACHGS039, ACHGS046) | |
|--|--|--|

A process for geographical inquiry





Environmental Change and Management/Interconnections

The Leather Industry of Bangladesh

[Stages 4/5 Geography]

By Dr. Susan Bliss

Bangladeshi boy pulls a rickshaw of leather at Hazaribagh tannery area in Dhaka, Bangladesh.

Photograph: <http://www.readingeagle.com/article/20170324/AP/303249762/1173>

Geography Syllabus

Natural resource (leather)

Environmental change and management (water, air and soil pollution)

Interconnections (production, consumption and trade)

Cross Curriculum Priority (Asia and Sustainability)

Global demand for leather, leather products and leather footwear is approximately \$215 billion a year. However, as leather is capable of being replaced by other materials such as synthetics, the industry competes by promoting luxury and quality products-both aesthetically and functionally. Every year, the global leather industry slaughters more than one billion animals. Leather products are sourced from the skins or hides of a variety of species such as the cow, pig, goat, sheep, deer, ostrich, kangaroo, crocodile, buffalo, snake, eel and stingray. Approximately 65% of leather is produced by cows, 15% sheep and 11% pigs. Some of the most expensive leather products include Louis Vuitton leather bags and Hermes matte crocodile bags.

In developing countries such as **Bangladesh**, the leather industry is a source of exports, employment and economic growth. However, deep below the skins and hides lies hidden dangers such as lax environmental laws causing water, air and soil pollution, violations of human rights and child labour.



Bangladesh's leather exports

From the 1970s Bangladesh experienced a steady growth in the leather industry. By 2015 the industry had evolved into the **second largest export sector**, playing an important role in generating foreign exchange and employment for the poor developing country. About 95% of Bangladesh's leather and leather products are sold overseas, mostly in the form of crushed leather, blue wet leather, finished leather, leather garments and footwear. At least 90% originates from the **Hazaribagh area**, located in the capital city of Dhaka.

Bangladesh exports leather and leather products to 53 countries such as China, France, USA, Germany, Italy, South Korea, Netherlands and Vietnam. By 2017 Bangladesh aims to export \$1.22 billion leather and leather goods, focusing on high-quality 'Bengali black' leather demanded by European leather manufacturers.

Bangladesh footwear and leather goods export trends

Column graph: http://lfmeab.org/images/report/Prospects_of_Bangladesh_leather_industry.pdf



Unsustainable production-decline in exports

During 2014-2015, publicity surrounding the hazardous polluting tanneries and employment of child labourers, saw a decline in leather exports from Hazaribagh and Bangladesh. The European Union warned it might discontinue sourcing leather from Bangladesh if environmental compliances were not guaranteed.

Towards sustainable production

Even though Bangladesh, exports only 0.5% of the global leather market, it has the potential to expand its market share if it adopts an eco-friendly and socially responsible production system. Quality and clean **sustainable production** of leather is no longer a choice but an essential requirement for the survival of leather manufacturing in Bangladesh. Optimistically, the leather sector aims to prosper when polluting tanneries relocate from polluted **Hazaribagh area** to the new, environmentally compliant industrial zone at **Savar**.

Overview: leather industry in Bangladesh

Bangladesh's leather industry connects poor villagers to wealthy urbanites and combines traditional practices with modern technologies. It is ideally suited to produce leather goods with its abundance of cheap labour and natural resources (animal skins).

Characteristics

Bangladesh's leather industry possesses the following characteristics:

- 110 export oriented factories manufactures leather footwear
- 3,5000 leather firms including 110 large firms
- Direct and indirect employment of 850,000 people
- 70% of the workforce are women
- 56% of the leather is sourced from cows, 30% from goats and the remaining from buffalo
- Companies that source leather from Bangladesh include Hugo Boss, Armani, Timberland and Hush Puppies
- Only 15%-18% of total leather supplies is required to meet domestic demands
- 76% of tanneries are export orientated
- Apex Footwear is the largest footwear exporting company
- Exported products include shoes, bags, wallets, belts and finished leather
- China, Vietnam and Brazil are three giant leather exporting countries. These countries are shifting away from leather production due to high labour costs e.g. labour costs in Bangladesh are 1/5th of China's labour costs and ½ of India's. This advantage opens up massive opportunities to expand Bangladesh's leather exports that is anticipated to become a \$15billion sector within a few years.

Footwear brands source leather from Bangladesh

Poster: http://lfmeab.org/images/report/CIFA_REPORT_2016_LFMEAB_Bangladesh.pdf



Challenges

Bangladesh's leather industry faces numerous challenges such as:

- Irregular power supply
- Requires modernisation of the leather production process
- Inadequate R&D facilities
- High interest rates and limited access to finance
- Vulnerability of small enterprises
- Political instability

Hazaribagh area, Bangladesh

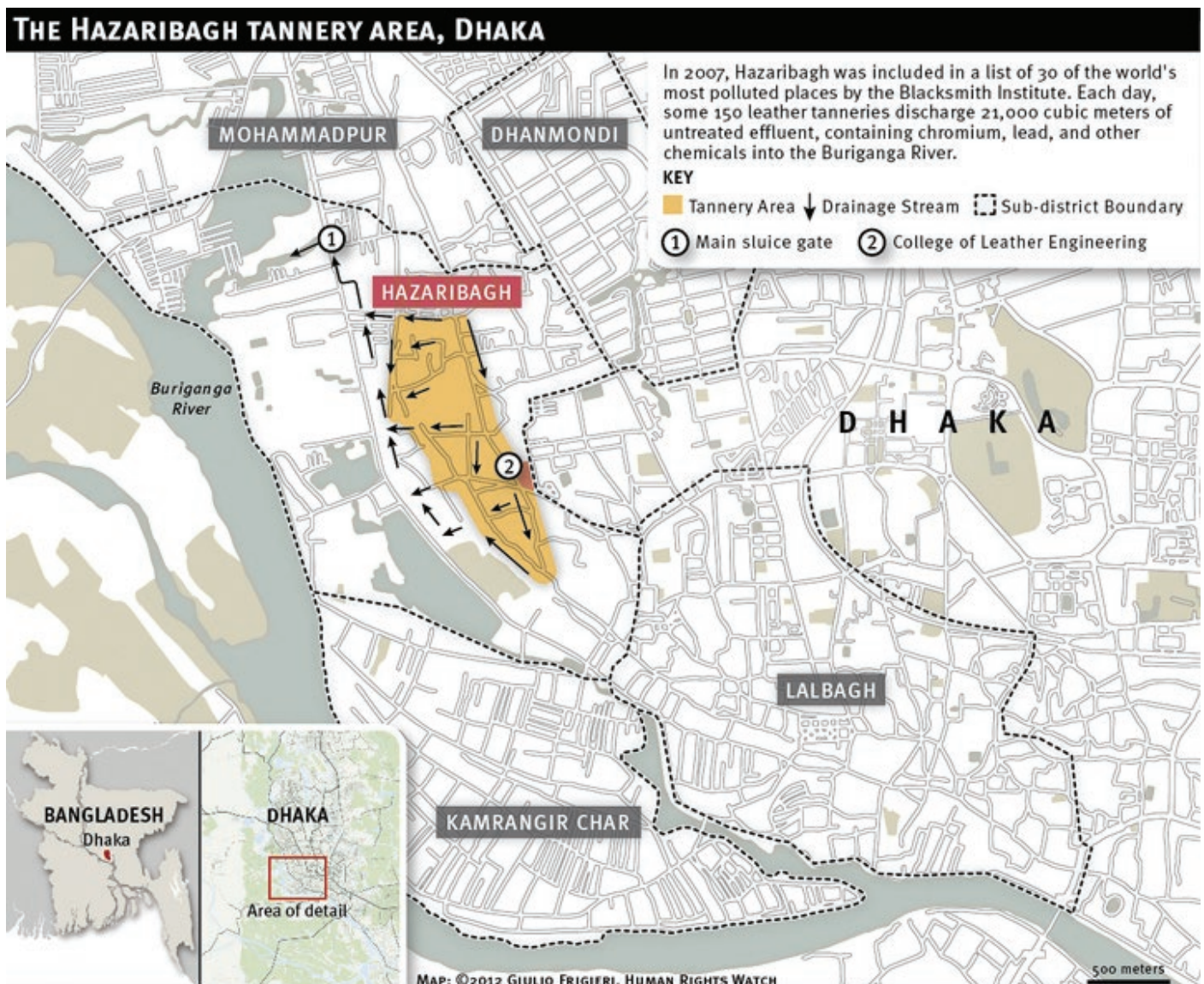
Leather a 'farm to fashion' product originated in Bangladesh in the 1940s, when the first tannery was established at Narayanganj. By the 1960s tanneries had moved to the Hazaribagh area as it was:

- Located outside the city
- Near the river
- Uninhabited
- Designated as an industrial area

However, over time the number of tanneries grew exponentially and Dhaka's population expanded and spread to Hazaribagh. Today the leather industry is heavily concentrated in the Hazaribagh area possessing 150 tanneries out of the 220 tanneries in Bangladesh. The narrow streets, limited sewage facilities and toxins generated from the leather industry have adversely affected aquatic and human lives. On the other hand, the concentration of small industries offers benefits such as shared knowledge and raw materials, and development of vertical and horizontal integration of businesses

Stream drainage from Hazaribagh tannery area-different scales of maps

Map: https://www.hrw.org/sites/default/files/media/images/photographs/image001_118.jpg



Characteristics of Hazaribagh's tanneries

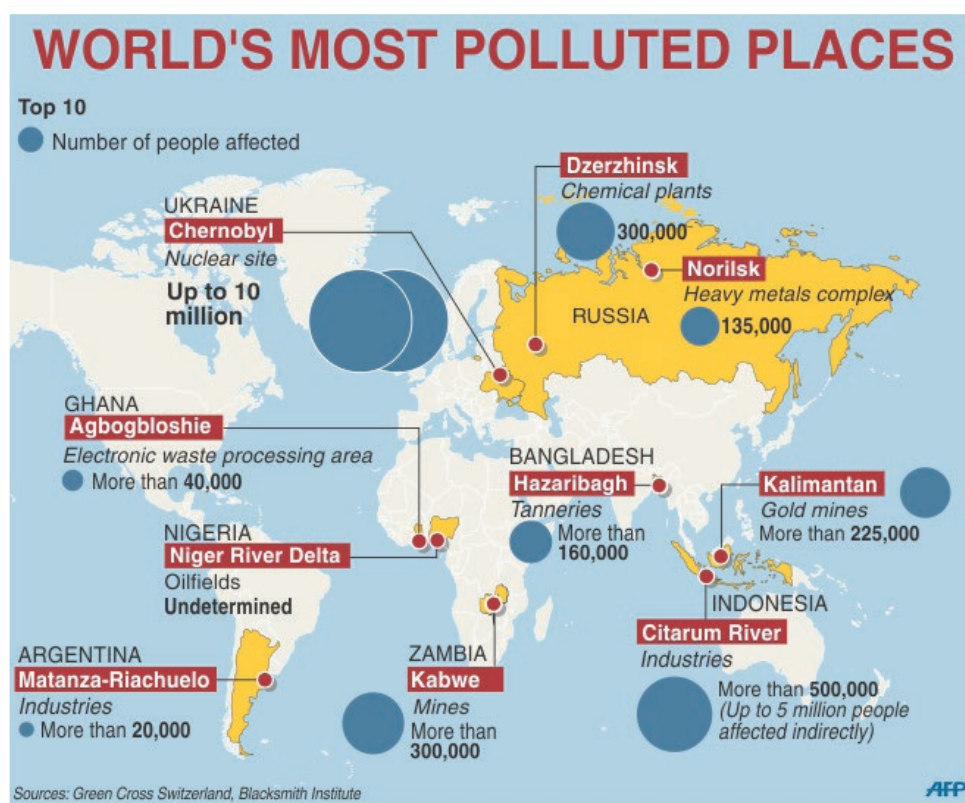


Hazaribagh one of world's most polluted places

Hazaribagh means 'a thousand gardens'. However flowers no longer survive as the city is ranked among the ten most polluted places on Earth. The city's smell is a mixture of rotten eggs and meat and acrid ammonia. In the gutters lay animal hairs and skins. Men with poles over their shoulders carry black chemical wastes in open tins through narrow alleys.

World's most polluted places

Map: <https://risebd.files.wordpress.com/2014/09/polluted-places.jpg>



Leather production process and supply chain

The **tanning process** consists of three general phases:

- **acquisition, slaughter and pre-treatment of raw animal hides.** In registered abattoirs, it is common for workers to bind the animal's legs and slit their throats, while animals are conscious. On the other hand, in illegal establishments cows and goats are slaughtered on the streets at night.

Every year, about two million cows from India are bound, flung onto trucks and transported to Bangladesh to circumvent Indian slaughter bans. When the cows arrive in Bangladesh many are emaciated, malnourished and suffer from infected wounds.

- **treatment of hides with a tanning agent**
- **drying and shining hides** before sending them to manufacturers

Different processes are carried out at tanning facilities, and some facilities provide other services such as dyeing, bleaching and weaving hides.

Global and national action groups have placed pressure on the leather industry, and as a consequence the **supply chain** is being redesigned to be shorter for traceability reasons.

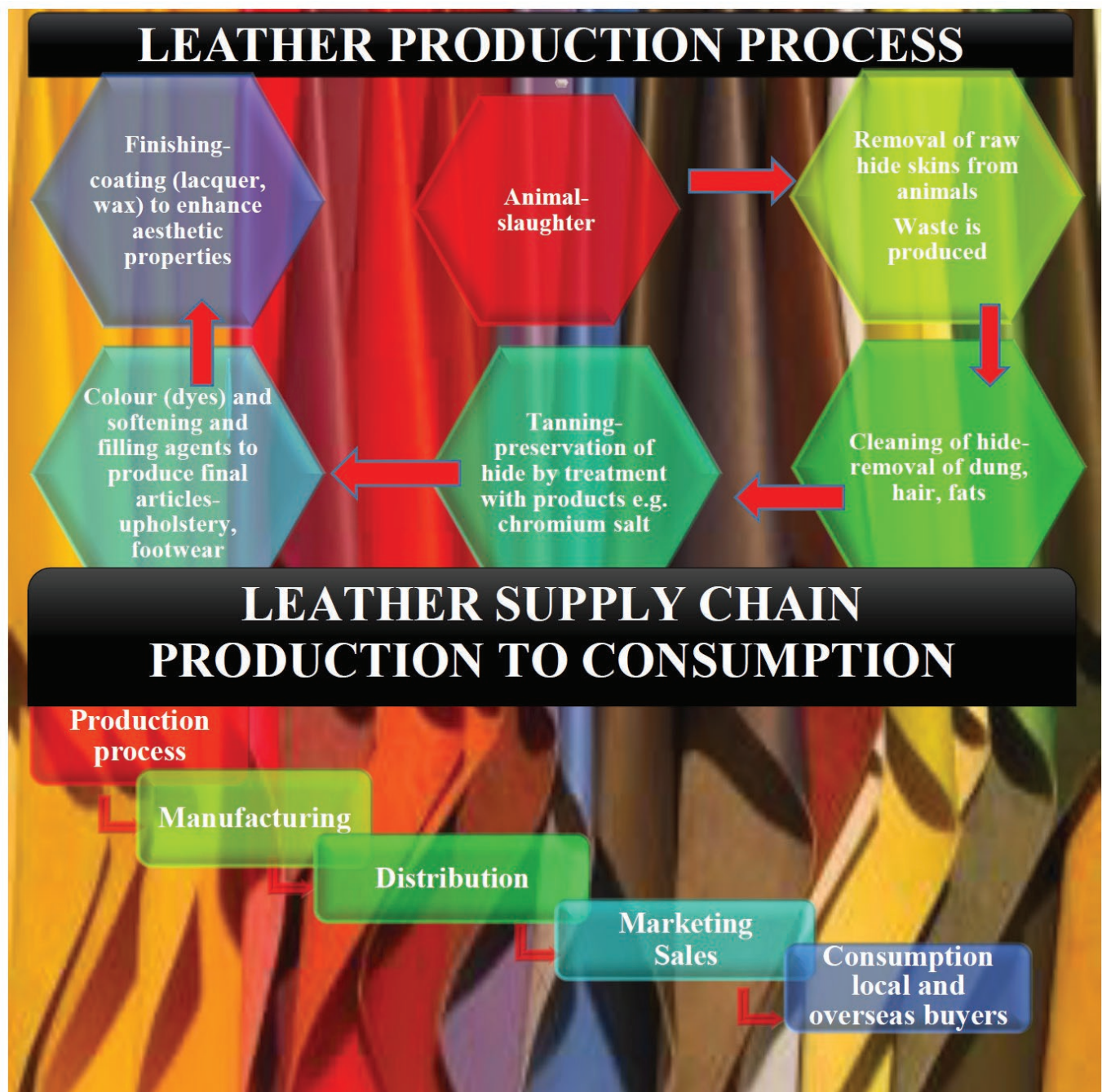


Photo story-Hazaribagh leather processes



Child jumps on leather waste used to make poultry feed at Hazaribagh

<http://sl.reutersmedia.net/resources/r/?m=02&d=20121009&t=2&i=661612658&w=&fh=545px&fw=&ll=&pl=&sq=&r=CBRE8981DUE00>



Raw hides soaked in lime and sodium sulphide to remove hair and fat.

<https://undark.org/article/leather-tanning-bangladesh-india/>



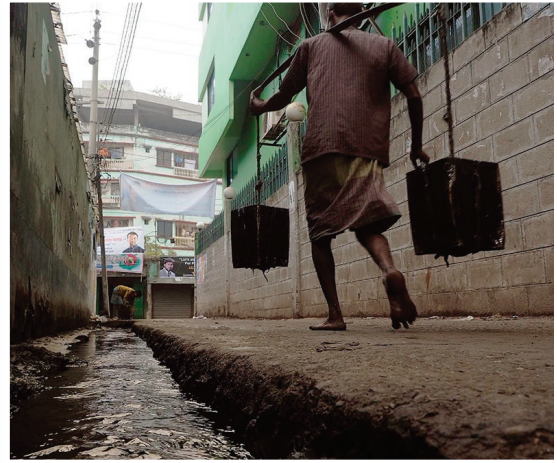
Steel drums filled with toxic chemicals like chromium, used to tan leather

<https://www.wired.com/2017/01/adib-chowdhury-a-thousand-polluted-gardens-inside-bangladeshs-polluted-billion-dollar-leather-industry/#slide-12>



Young child working around deep, open vats of tanning chemicals.

[Child stirs hides soaking in chemical bath. https://undark.org/article/leather-tanning-bangladesh-india/](https://undark.org/article/leather-tanning-bangladesh-india/)



Tanneries in Hazaribagh dump wastewater into ditches that empty into open canals. Here, a worker carries buckets of waste from a tannery.

<https://undark.org/article/leather-tanning-bangladesh-india/>



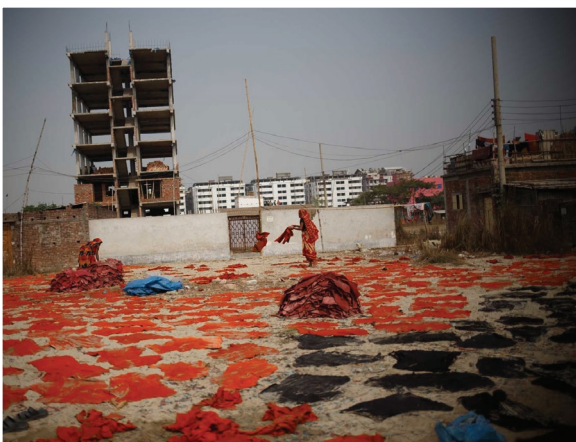
Most tannery employees face unhealthy conditions. Here, a worker stands knee-deep in a soaking solution. The hides are then hung overhead to dry.

<https://undark.org/article/leather-tanning-bangladesh-india/>



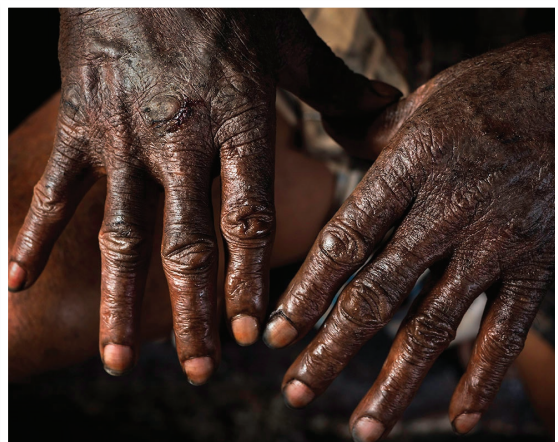
Inside Hazaribagh tanneries, child workers exposed to hazardous machinery. Here, a 10-year-old boy named Joey pulls leather from a smoothing machine.

<https://undark.org/article/leather-tanning-bangladesh-india/>



Villagers dry leather from the factories

<https://www.wired.com/2017/01/adib-chowdhury-a-thousand-polluted-gardens-inside-bangladeshs-polluted-billion-dollar-leather-industry/#slide-7>



Open sores and peeling skin are common among workers who handle tanning chemicals without gloves. Some say their hands become so stiff that they cannot open their fingers unless their skin is wet.

<https://undark.org/article/leather-tanning-bangladesh-india/>

Dark side of Bangladesh leather industry



Most workers stood barefoot in chemicals on the tannery floor, waded into tanks filled with tanning solutions, and climbed into drums to retrieve the wet blue leather, literally bathing themselves in a soup of caustic and potentially toxic chemicals. Young boys carried water and hides and operated stretching machines, while smaller children tended pieces of leather soaking in open vats.'

<https://undark.org/article/leather-tanning-bangladesh-india/>

Imagine if you worked in a poorly ventilated room, standing in a tub of toxic chemicals for 12 hours a day? These harsh conditions are what thousands of Bangladeshi locals go through every day, to earn small wages that are barely sufficient to feed their families. Yet, the world continues to consume leather products that Bangladeshi tanneries produce.

So, before you think about purchasing a leather jacket, consider the human and environmental costs.

<https://www.trustedclothes.com/blog/2016/02/23/24811/>

Tanning process-chromium

Tanning is the process of treating skins of animals to produce leather. For the past hundred years, **chrome tanning** has been the dominant method of making leather. Without water treatment plants and sustainable management policies, chromium used in leather tanning changes the hydrosphere, atmosphere, lithosphere and biodiversity.

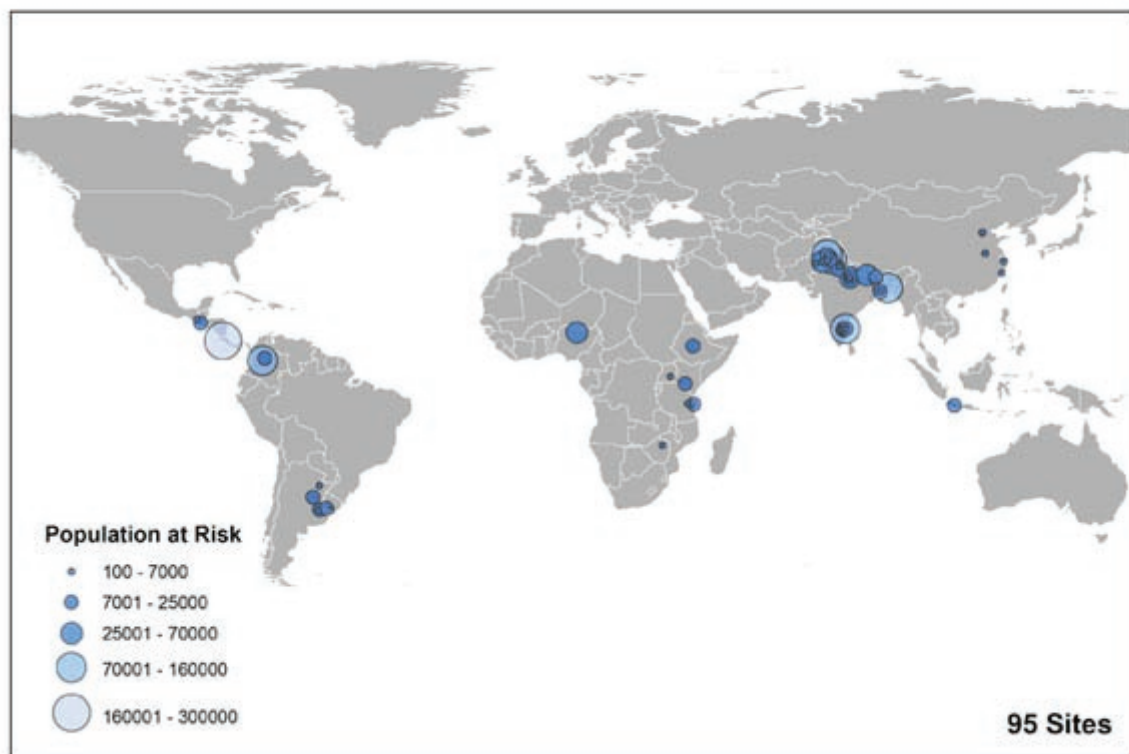
In Hazaribagh, **chromium** waste seeped into the soil and contaminated groundwater that provides drinking water to nearby communities. In addition, contaminated water has bio accumulated in aquatic species-a source of food.

In other countries, environmentally concerned tanning industries have converted to **vegetable tanning** and constructed water treatment plants.

Chromium pollution from tanneries

Map: <http://www.worstpolluted.org/files/FileUpload/pics/2011/chromium-pollution-tanneries-world-map.jpg>

Chromium Pollution from Tanneries



Compare chrome tanning with vegetable tanning

*chrome tanned skins are called wet blue

| | CHROME TANNING | VEGETABLE TANNING |
|------------------------|------------------------------|------------------------------|
| % of leathers in world | 90% | 10% |
| Ingredients in tanning | Chemicals-acids salts | Natural ingredients-bark |
| Time to produce | 1 day | 20-40 days |
| Production method | Mass produced | Hand-skilled craftsmen |
| Cost | Cheap | Expensive-high cost process |
| | Unsustainable, breaks easily | Sustainable, durable, strong |

Chromium tanning produces toxic chicken feed

This murky toxic feed chain must be stopped.

Chicken, a staple food in the Bangladeshi diet, is frequently fed tannery scraps. In Hazaribagh, tanneries generate 100 tonnes of tannery scraps a day that are processed into chicken feed, by about 60 legal factories in Gazipur and Dhaka districts. Daily, these factories produce up to 30 tonnes of feed for poultry.

The demand for tannery scraps across Bangladesh is overwhelming, because it is cheap and chickens grow faster on scraps compared to other supplements. Originally tannery scraps were dumped in the **Buriganga River** but are now sold to factories to produce poultry feed.

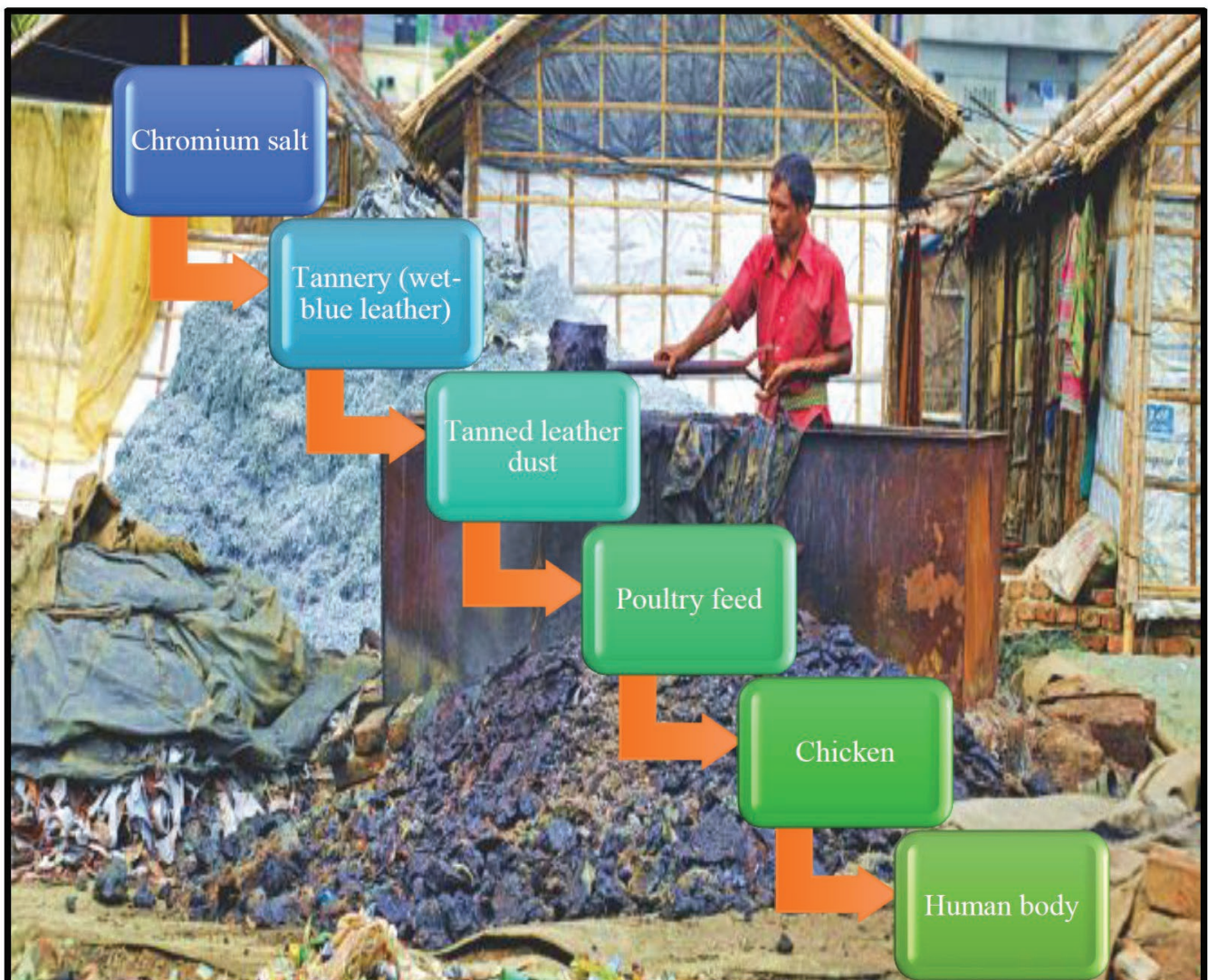
A report found high levels of chromium in the bones, brains, and muscles of chickens. The Bangladesh Council of Science and Industrial Research (BCSIR) found chromium enters the food chain when tannery scraps are fed to chickens, and then eaten by humans. Research found it led to cancers, liver cirrhosis and kidney damage.

As a result of the report, chicken-feed producers ceased using tannery scraps but unregistered and illegal factories continued to thrive on tannery scraps. Poor locals persist in boiling tannery waste to feed household poultry.

Bioaccumulation of chromium from tannery scraps to humans

Boiling tanned leather off-cuts in Hazaribagh. First step to manufacture poultry feed.

Photo: Rashed Shumon <http://www.thedailystar.net/chickens-eggs-made-risky-33389>



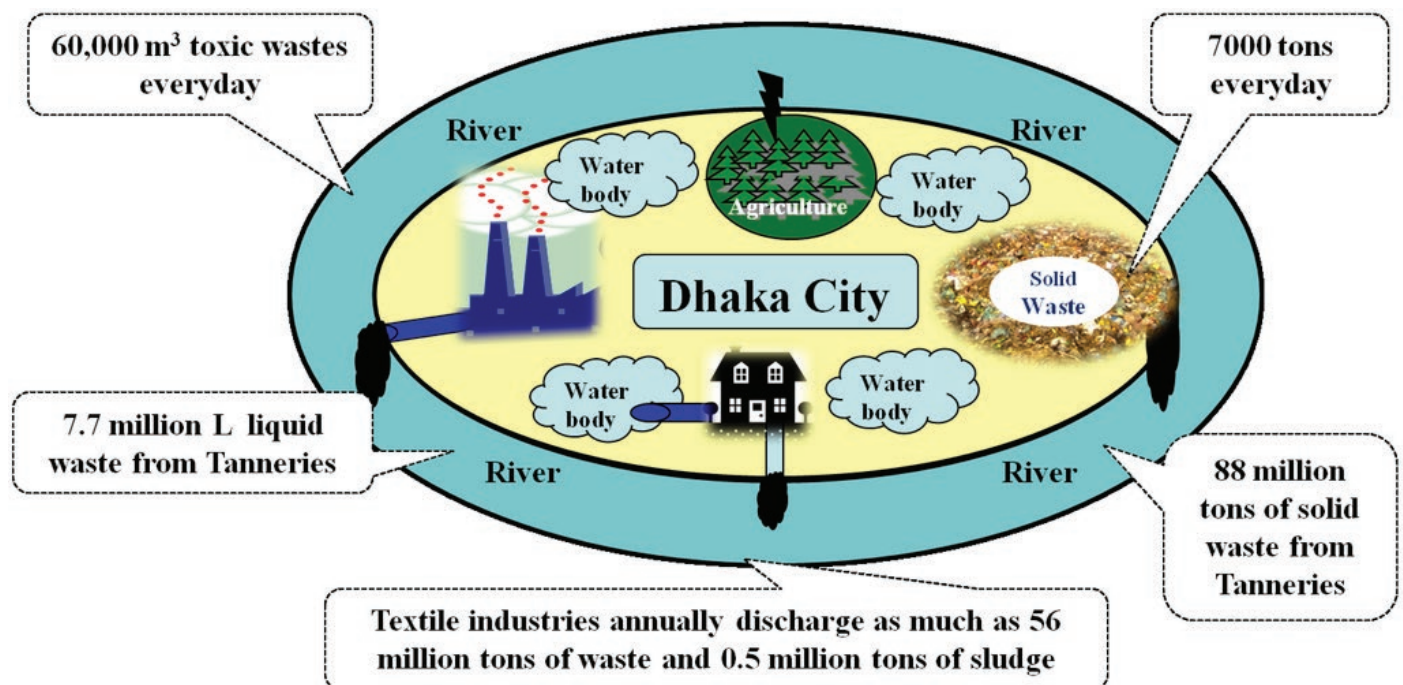
Tanneries affect water-sources and downstream communities

Globally, the majority of businesses in the tannery industry use environmentally appropriate pollution controls that do not expose local communities to health risks. However, for over half a century the Hazaribagh tannery industry has operated without a waste treatment plant. Wastewater and solid wastes from tanneries, containing sulphuric acid, **chromium**, lead and animal flesh, find their way into surface water, where toxins are carried downstream. The contaminated water is used by communities for bathing, cooking, swimming and irrigation. The pollutants then enter the Bay of Bengal where prawns are farmed for export.

A study revealed that Hazaribagh tanneries generate 7.7 million litres of liquid toxic waste and more than 88 million tons of solid waste in the form of raw hide scraps, flesh and fat, that are released into the **Buriganga River**, daily. The river, once the main source of drinking water for Dhaka, is regarded unsafe for human use, especially during the dry season.

Sources of water pollution in Buriganga River around Dhaka City

Diagram: http://www.mdpi.com/environments/environments-02-00280/article_deploy/html/images/environments-02-00280-g001-1024.png



Working in tanneries impacts on short and long term health

Studies show a causal relationship between tannery pollution and poor community health. There appears to be a higher prevalence of diarrhoea, skin, respiratory and eye problems in Hazaribagh compared to neighbourhoods with similar socio-economic characteristics

SHORT TERM

Sulfuric acid and sodium sulphide burns skin, eyes and respiratory tract
Discoloration, peeling skin
Body aches
Dizziness and nausea

LONG TERM

Cancer higher among children working with chemicals
Disfiguring and amputated limbs from chemicals
Chemicals such as formaldehyde and pentachlorophenol are carcinogens-can cause respiratory diseases after years of exposure.
Death-90% of people who work in tanneries have a life expectancy of 50 years

Child labour and its impacts

Bangladesh's three main associations involved with leather production declared that '*no child labour is employed in the leather sector*'. Despite this declaration researchers observed children working in the industry. For example:

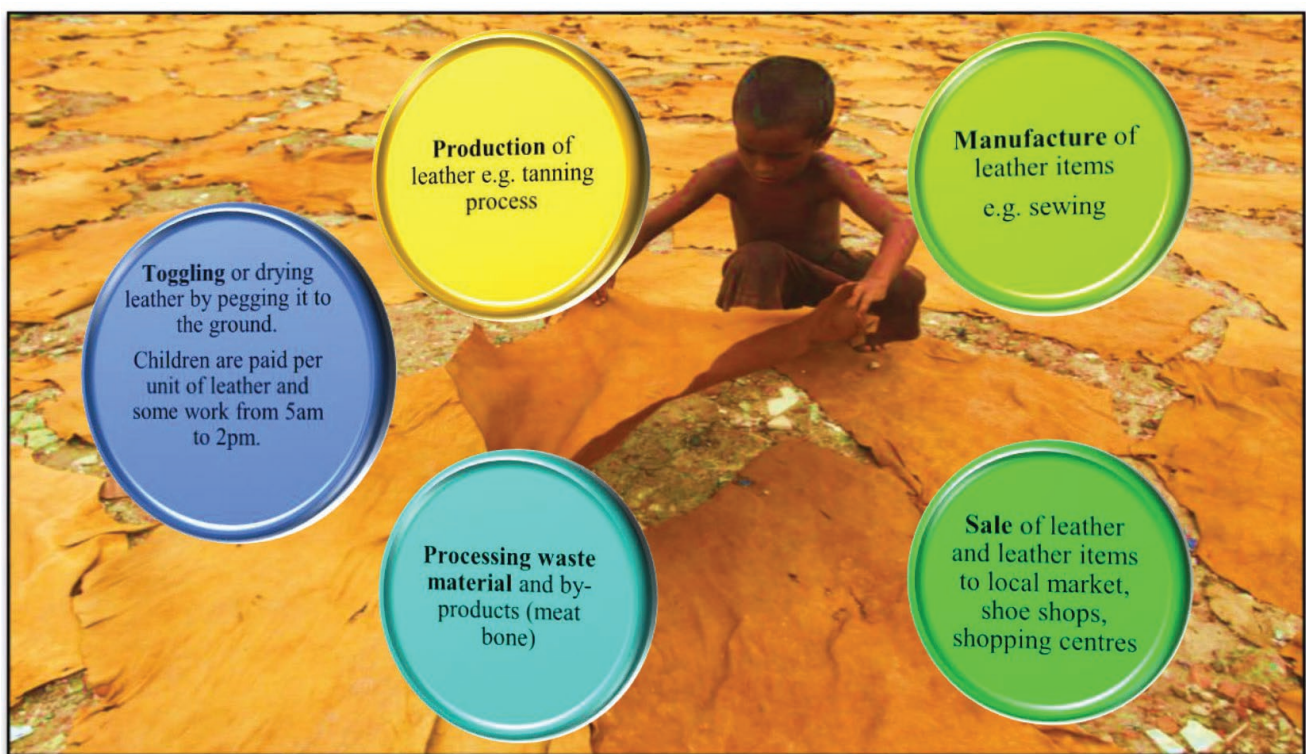
- **National Child Labour Survey** found 13,702 children between 5 and 17 years old working in the tanning and manufacturing of footwear and leather goods.
- **Human Rights Watch** '*interviewed 10 children, some as young as 11, working in tanneries. Many children work 12 or even 14 hours a day, considerably more than the five-hour limit for adolescents in factory work established by Bangladeshi law.*'

The majority of working children migrated from the countryside as a consequences of push factors such as family poverty, debt and loss of land. Most children work in small-scale and informal enterprises that generally produce low quality products for the local market. It is rarer to find children employed in large-scale enterprises that focus on exported goods. However, distinctions become blurred, as bigger factories outsource most of their work to smaller factories and home-based workers.

Role of children in leather production

Photograph: Babul is helping his mother in toggling

<http://www.dhakatribune.com/bangladesh/development/2017/03/22/hazaribagh-makeover-tanneries-residences/>



Education versus work

The majority of working children in the leather sector do not receive an education, while others try to combine the difficult task of work with school.

'Sharing a wall with one of the huge Hazaribagh factories are the crumbling rooms of the Taj Mahal Tanneries district high school. A teacher Mohammed Yusuf, says a third of the children in his class of 13-15-year-olds work in the tanning factories. "They do the night shift and then come here. They have all sorts of health problems: they don't understand things and they fall asleep in class." He thinks the government should close the factories but say they won't.

<https://www.theguardian.com/global-development/2012/dec/13/bangladesh-toxic-tanneries-intolerable-human-price>

Eid-al-Adha and child labour

Religious festivals such as **Eid-al-Adha**, generates increased demand for meat and new shoes. This evolves into employment opportunities for children such as working in slaughterhouses, transporting hides and skins, and preparing hides and skins for sale. During this period workers earn less per hide than during the rest of the year, but are able to prepare more hides per day. During Eid-al-Adha, 1-1.5 million cow hides and 2 million goat hides arrive in Bangladesh to be slaughtered. For 10-15 days, storehouses are crowded with workers, some are young children.

Eid-al-Adha 2016

In 2016 at Eid-al-Adha, rain fell in Dhaka causing the streets to turn red when rain was mixed with blood from sacrificial animals

Photographs: <http://philippinesnow.org/posts/2016/09/video-dhakas-streets-become-rivers-of-blood-after-eid-animal-sacrifices/>



Personal story-working in a tannery

Jahaj who is 17 years old, has worked in a leather factory in Hazaribagh since he was **12 years old**. He labours 10 hours day and earns US\$37 a month. Jahaj processes raw hides into the first stage of leather, known as 'wet blue,' which exposes him to hazardous chemicals. With his bare hands he takes the hides (which are inside a four-metre square tannery pit filled with chemicals) and throws the hides outside the pit. He performs this hazardous task that burns his skin but he continues to work, because he needs money to eat (*Human Rights Watch*)

Photograph: <https://www.hrw.org/report/2012/10/08/toxic-tanneries/health-repercussions-bangladeshs-hazaribagh-leather>



Government's response-relocate to Savar

2009 Relocation to Savar

Amid pressures from activists and overseas buyers, the Bangladesh government in 2009, undertook initiatives to relocate Hazaribagh factories to a new leather industrial zone in Savar. The government allotted 155 plots at the 200-acre leather estate and factory owners were financially compensated for shifting their industrial units to Savar.

Once the leather industry is established at Savar, the adverse environmental impacts from the tannery industry is expected to be minimised with the construction of:

- waste-treatment facilities
- central effluent treatment plant (CETP) for treating liquid waste
- solid waste management system
- chrome recovery unit

The government and owners of tanneries agreed to build a residential area for workers along with schools and hospitals. However, progress to transfer tanneries to Savar was slow, due to both a shortage of funds and workers who protested on the move.

Construction of new tanneries at Leather Industrial Park in Savar

Photograph: <http://www.dhakatribune.com/bangladesh/dhaka/2017/04/10/tanners-nightmare-savar/>



2017 Relocation to Savar

- By early 2017, 43 out of 155 tanneries had moved to Savar. However the government delayed enforcing the law to appease tannery owners and 30,000 people working in tanneries who staunchly opposed the transfer.
- By 6th April 2017, the Department of Environment (DoE), following a High Court order, demanded closure of tanneries in Hazaribagh. If the order was ignored repercussions would follow, such as: gas and electricity supplies suspended, roads blocked to prevent raw hides entering Hazaribagh, and licenses revoked for those who defied this order.

Relocation problems

In April 2017, numerous problems arose from the closure of the tannery industry in Hazaribagh, such as:

- **government and tanning** owners had not completed their work at Savar. Relocation of leather units, and construction of a residential area for workers, along with schools and hospitals, was yet to be completed
- **completion** of Savar was estimated to take about five months
- **factory owners** did not inform leather workers whether they would be employed in the new factories in Savar
- **employees** were given two options:
 - o 1. go to Savar when production starts or
 - o 2. leave with a few months' wages

About 45,000 workers were concerned about 'how they would survive until they moved?'

Flow on effects of tannery closures

Photo at back-workers at Hazaribagh Tannery Mor, protesting on the government move.

<http://www.thedailystar.net/frontpage/hazaribagh-tanneries-workers-face-uncertainty-1389415>



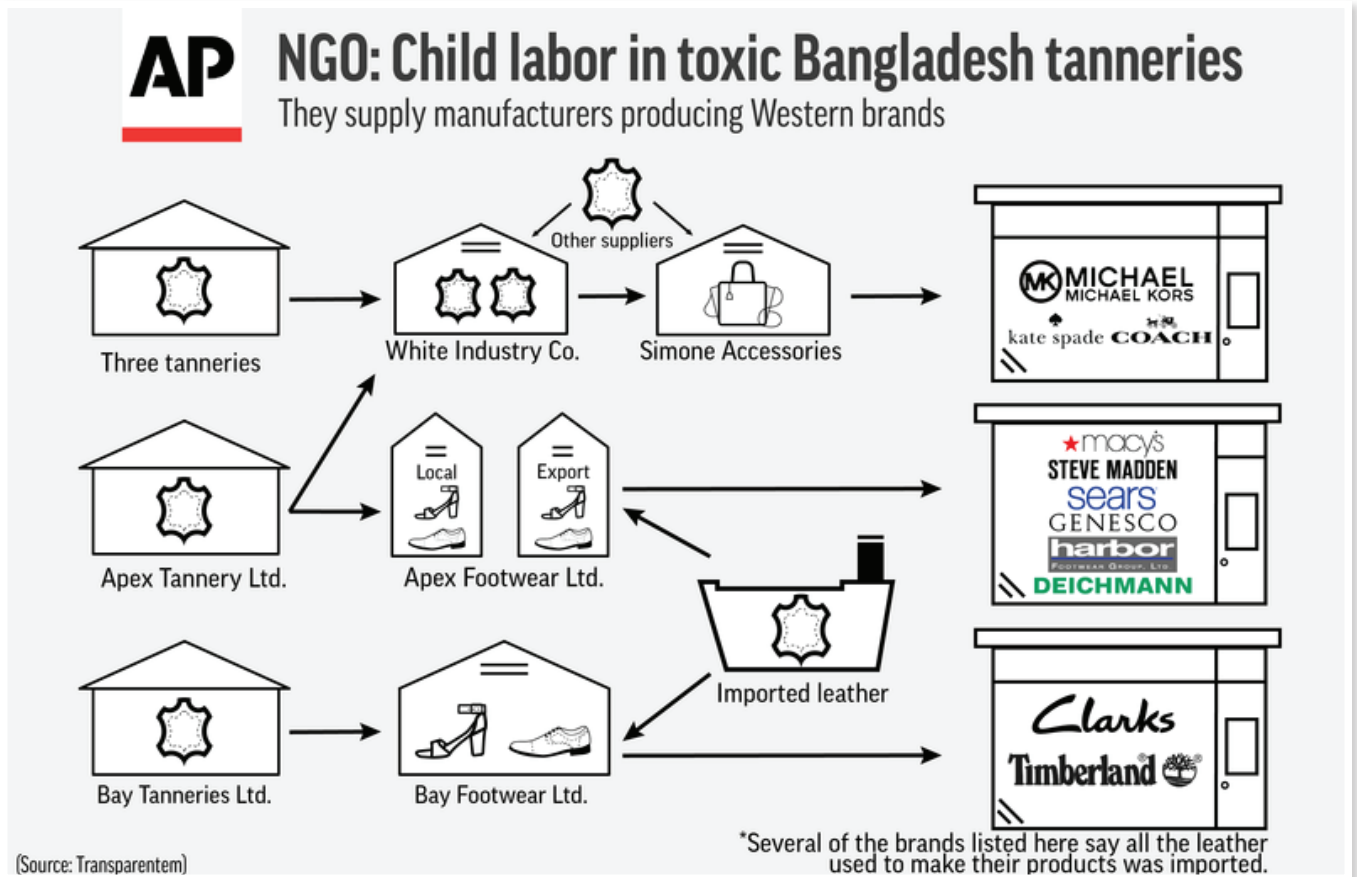
Complicated supply chain

During November 2016, a **Datamyne Report**, noted that more than a dozen fashion and shoe companies imported products made in Bangladesh. The largest of these included Michael Kors, Timberland, Hugo Boss, Puma and Gap.

Some companies and manufacturers were certain the leather used to make their products was not imported from Bangladesh. Some brands disputed the report's findings while others were unaware of the source of their leather. In response to the Report most brands reacted by either banning Bangladesh leather or demanding improvements in the leather supply chain.

Non-government group investigated Bangladesh's leather supply chain

Diagram: <https://www.apnews.com/57003bedd3ae4e3e9d1633cf50effc31>



'Syed Nasim Manzur, managing director of Apex Footwear and director at Apex Tannery, calls Hazaribagh "an environmental disaster" and said they'll soon close their plant there. But he said the report is a "smear campaign," allegations of child labour are unsubstantiated, and Hazaribagh leather doesn't end up in exported products.'

<http://bigstory.ap.org/article/57003bedd3ae4e3e9d1633cf50effc31/report-examines-grim-bangladesh-leather-trade-links-west>

'As **Undark** notes, consumers have no way of knowing where the leather in their shoes, purses or belts came from unless companies reveal their supply chains. Undark asked fashion and shoe companies, identified as importers in the Datamyne records, to reveal their supply chain.' Timberland, Hugo Boss, Puma, Clarks, and Gap each told Undark that their companies do not use leather from Hazaribagh in their products manufactured in Bangladesh.

Towards a sustainability leather industry in Bangladesh

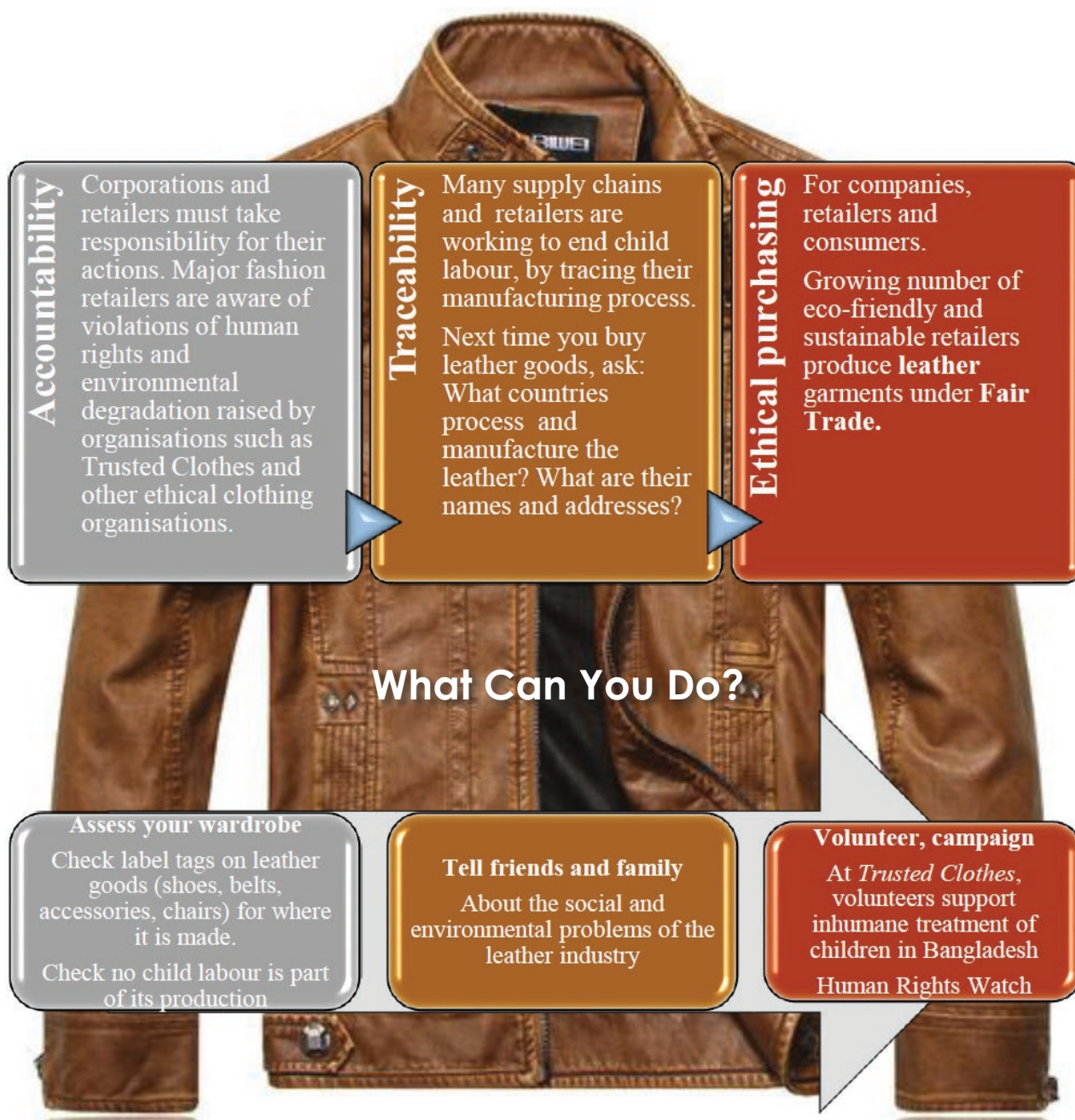
At present production of leather goods in Hazaribagh is unsustainable environmentally and socially. Foreign companies that import leather produced in Hazaribagh should ensure their suppliers are not violating labour, health and safety laws, as well as poisoning the environment. Dozens of leather companies espouse ethical sourcing, and adhere to human rights and sustainable manufacturing processes. However, few disclose information detailing their suppliers.



What is being done? Active Citizenship

Today, consumers are asking whether the leather in their boots or bags was produced by tanneries that pollute environments and exposes workers to hazardous conditions.

Accountability, Traceability, Ethical Purchasing



What about that 8-year-old child in Bangladesh making a leather purse you used only once to attend a party?

Change starts with you! So, think before you purchase a leather jacket

For decades the tanning industry, has hopped across the world, continuously fleeing stringent environmental regulations and rising labour costs. When they vacate their old location they tend to leave long-lasting toxic footprints at each stop.

The Ministry of Industries is working out the future of Hazaribagh and the popular idea is to convert the space into a modern residential area with open spaces, schools and play grounds. Firstly, the soil needs to regenerate in order to remove the toxic elements.

Activities

1. **Describe** the leather processes from animal to shoe as a TV report
2. **Leather Hunt:** What are you wearing or possess that is made of leather? Select three leather items and devise a list of questions you would ask companies that produced the products you have selected such as:
 - Where is the leather produced?
 - What are the working conditions and wages for workers?
 - Are children employed along the leather supply chain?
 Share your responses with the class.
3. Refer to the **images** in the article and describe the impacts of leather processing on Hazaribagh's environment and people.
4. **Mind map** the dangers lurking in the leather industry. Divide research into adult workers, children, communities and environment.
5. **Compare** the use of chromium tanning with an alternative tanning processes such as vegetable tanning.
6. What lines from this **article** made the biggest impact on you and why?
7. Which **photograph** made the dominant impression on you and why?
8. In **groups**, explain how visual literacy (maps, photographs, graphs, tables) contributes to a better understanding of the topic.
9. The **Bangladesh government** has been trying regulate, redevelop and relocate tanneries for many years. List the causes for the delay.
10. Research the **organisation** Human Rights Watch, and describe its criticisms of tanneries in Hazaribagh.
11. In **pairs**, investigate connections between Australian retailers and tanneries in Bangladesh. Why is this a difficult task? What did you find?
12. **Postcard:** In groups, select one image and one quote from the internet, required to design a postcard on the impacts of tanneries on the environment in Hazaribagh.
13. **Imagine** you have been hired as an advocate for the workers at the tannery in Hazaribagh. Identify three challenges workers face and how they could be resolved.
14. What is the Leather Working Group? What are its aims? How effective is the organisation?
15. What is meant by awareness, oversight and ethics in the leather industry? Why is awareness and ethics important?
16. **Human Rights Watch** advocate Richard Pearhouse said 'Consumers should be asking plenty of questions on the shop floor about what retailers are doing to guarantee they are not sourcing leather from Hazaribagh's toxic tanneries.' Explain this statement.
17. **Perspectives** - an analysis of a topic requires balanced arguments. Complete the table below noting the main points supporting and opposing closing tanneries in Hazaribagh.

| Factors impacting on tanneries | Reasons to close tanneries | Reasons to keep tanneries open |
|--------------------------------|----------------------------|--------------------------------|
| Economic | | |
| Environmental | | |
| Human/social | | |



18. Shoegazing in India

India, one of the world's leather giants, exported \$5.92 billion in leather and leather goods between 2015 and 2016. Roughly 60%-70% of the country's leather and leather goods is produced in the southern Indian state of Tamil Nadu, where many tanneries resemble those located in Hazaribagh today.

Kanpur a small city of 2.5 million inhabitants, is located in the state of Uttar Pradesh in India. The city, home to over 300 tanneries, has self-proclaimed itself as the '*Leather City of World*', as it is the country's leading leather exporter, with more than 90% of its products exported to Europe and USA.

Kanpur, resides on the banks of the holy Ganges River where an ecological and health crisis has slowly developed. Huge amounts of waste water, laced with toxic and acidic chemicals such as chromium, are channelled from tanneries onto nearby farmland on the outskirts of Kanpur once called the 'King of Roses'. Today, roses have vanished and poisonous vegetables grow.

Investigate

- In **groups** investigate leather production in Kanpur. Include: leather production process, leather exports, wages, pollution (air, water and soil), environmental laws, water treatment plants, work accidents/deaths, child labour and technology.
- Draw a **mind map** showing the impacts of the leather industry on workers, surrounding communities and the environment.
- Explain why Kanpur encountered a decline in leather production.



Saida, a tannery worker, in Kanpur. One of many workers and locals who suffer from skin conditions, believed to have been brought about by contact with toxic waste water from local tanneries. Image by Sean Gallagher. India, 2013
<http://pulitzercenter.org/reporting/india-toxic-price-leather-0>



A Reebok export surplus store in Jajmau area of Kanpur. Leather from nearby tanneries is used for making a variety of leather products including shoes, bags and clothes. Image by Sean Gallagher. India, 2013. <http://pulitzercenter.org/reporting/india-toxic-price-leather-0>

Sources:

- <https://thewire.in/25567/the-unmaking-of-kanpurs-leather-industry/>
- <http://www.hindustantimes.com/india-news/the-slow-death-of-kanpur-s-leather-economy-and-up-s-job-crisis/story-s8dCXOdHqW1tp6I27kDNAL.html>
- <http://pulitzercenter.org/reporting/india-toxic-price-leather-0>
- https://smallb.sidbi.in/sites/default/files/knowledge_base/TheIndianLeatherIndustry.pdf
- <http://www.indianmirror.com/indian-industries/leather.html>
- Top seven cities in India famous for the leather industry <http://kanigas.com/leather-industry/>
- Leather industry scheme may create Rs 1 lakh jobs in Tamil Nadu <http://timesofindia.indiatimes.com/city/chennai/leather-industry-scheme-may-create-rs-1-lakh-jobs-in-tamil-nadu/articleshow/56926203.cms>

19. Gloversville, New York, USA

Source: <https://undark.org/article/leathers-long-shadow-gloversville-new-york/>

The turmoil today in Hazaribagh is reminiscent of the situation in Kolkata, India in the 1990s and of the collapse of the century-old tannery industry in in the 1980s in Gloversville, New York.

In the past, the lucrative and polluting leather industry fled Gloversville for foreign shores. Competition from cheaper labour coupled with tougher environmental laws forced closure of tanneries. The town and surrounding area have spent decades rebuilding the economy and cleaning up pollution the factories left.

- Research the rise and fall of leather production in Gloversville that contains the ruins of the Zimmer and Son glove factory in New York. Present as an oral report.
- Could the story of Gloversville occur at Hazaribagh? Explain your answer.
- What happens to communities when the leather industry leaves?
- The parallels between Gloversville then, and Hazaribagh now, are more than ironic or coincidental-they are instructive. Explain this statement.
- Gloversville is working hard to make a comeback. Describe how this is occurring.



The Glove Theatre, which opened in 1914 as a vaudeville house and showed first-run movies until the 1970s, when it closed. Locals saved the theatre from the wrecking ball in 1995 and now it hosts live performances. <https://undark.org/article/leathers-long-shadow-gloversville-new-york/>

Resources

- Dark side of Bangladesh's leather trade
<http://www.aljazeera.com/programmes/insidestory/2013/12/dark-side-bangladesh-leather-trade-201312372825749406.html>
- Skin Deep: Feeding the Global Lust for Leather-notes and video
<https://undark.org/article/leather-tanning-bangladesh-india/>
- Hazardous child labour in the leather sector of Dhaka, Bangladesh
http://www.crin.org/en/docs/Ensing_Leather_Bangladesh_2009.pdf
- Future trends in the world leather and leather products industry and trade
https://leatherpanel.org/sites/default/files/publications-attachments/future_trends_in_the_world_leather_and_leather_products_industry_and_trade.pdf
- Toxic price of leather- notes and video
<https://www.gizmodo.com.au/2014/06/how-leather-is-slowly-killing-the-people-and-places-that-make-it/>
- Modified schematic diagram indicating type of pollutants during the tanning process (UNEP)
https://www.researchgate.net/profile/Mwinyikione_Mwinyihija/publication/215765687/figure/fig7/AS:277262298566686@1443115891894/Figure-7-Schematic-diagram-indicating-type-of-pollutants-during-tanning-process.png
- Human Rights Watch-toxic tanneries
<https://www.hrw.org/report/2012/10/08/toxic-tanneries/health-repercussions-bangladeshs-hazaribagh-leather>
- Dispatches: Bangladesh's Toxic Tanneries a Glimmer of Hope, But the Outlook is Bleak
<https://www.hrw.org/news/2015/05/17/dispatches-bangladeshs-toxic-tanneries-glimmer-hope-outlook-bleak>
- Bangladesh's leather industry exposes workers and children to toxic hazards
<http://www.pbs.org/newshour/bb/bangladeshs-leather-industry-exposes-workers-children-toxic-hazards/>
- Leather working group
<http://www.leatherworkinggroup.com/>
- Your Luxurious Bengali Leather Comes From These Pits Of Hell
<https://www.businessinsider.com.au/your-luxurious-bengali-leather-comes-from-these-pits-of-hell-2012-12?r=US&IR=T>
- Leather Panel UNIDO
<https://leatherpanel.org/publications-categories/trends>

Podcast Undark – Wear and Tear

<https://undark.org/2017/02/28/uundark-podcast-12-wear-tear/>

YouTube

- Colors of Water : Dhaka's Leather Tanneries –<https://www.youtube.com/watch?v=XL1u5aCo2r0>
- Bangladesh leather trade's toxic cost <https://www.youtube.com/watch?v=2XclGcuWwYg>
- Hell for leather: the toxic trade in leather from Bangladesh to the EU
<https://www.youtube.com/watch?v=4A6siB9B4Ak>

Video a Tannery worker poisoned by toxic chemicals <https://www.trustedclothes.com/blog/2016/02/23/24811/>

Photograph: A 10-year-old boy pulls a hide from pressing machine at a tannery in Dhaka

<https://d3i6fh83elv35t.cloudfront.net/newshour/wp-content/uploads/2017/03/TanneryBoy1-1024x653.jpg>





WHY USE PICTURE BOOKS IN GEOGRAPHY TEACHING AND LEARNING

Department of Education

<https://pixabay.com/en/narrative-history-dream-tell-794978/>

Why use picture books in geography teaching and learning

'Reading is the thing that, when you're young, can really make you see that there's another life outside your world, no matter what sort of world you're born into. And sometimes it reflects your own life - you get your own situation into perspective.' Alison Lester, author and illustrator (2012)

Stories have always been a part of human culture and have been used for thousands of years to teach and entertain, impart laws and lessons, preserve culture and beliefs, and pass on values and knowledge. Picture books add visual representations to the story and enable us to engage with a multiplicity of people and places.

In geography teaching and learning, picture books can:

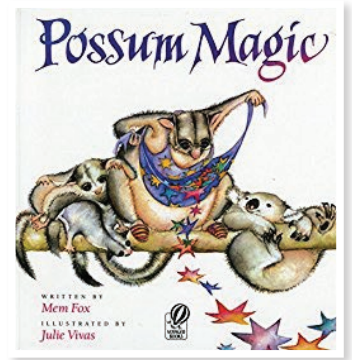
- increase engagement and stimulate interest
- open up the world and bring places to life
- engage students' imagination and provoke curiosity and inquiry
- provide a diversity of perspectives and build empathy and understanding
- make connections to students' lives and encourage reflection and comparison
- introduce geographical issues, themes and dilemmas which engage the emotions
- model visual representations and exemplify language forms and features
- inspire creative and imaginative interpretations and responses
- provoke an emotional reaction that translates to personal action
- cater for a variety of different learning styles
- bring joy to the learning.



Picture books should firstly be enjoyed in their whole, and for pleasure, rather than being geographically dissected as they are read. They can be re-read for geographical information, ideas and discussions but in doing this, care needs to be taken not to 'ruin' the book with over-dissection (Lewis 2010).

Windows to the world

The place and setting of picture books provide geographical locations enabling students to virtually visit diverse places around the globe and to develop knowledge and understandings of difference and diversity. Places can be located on globes and maps, and satellite and Google Street View images can be examined for real views of vegetation, land uses and street level surroundings. Supplementary photographs and videos of people in places can introduce a global perspective and enhance intercultural understanding.



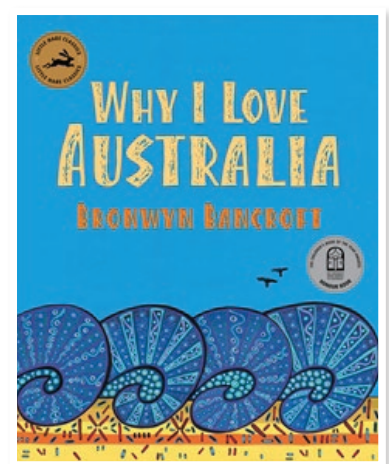
Books such as *Possum Magic* by Mem Fox and Julie Vivas give Stage 1 students a taste of the diversity across Australia; *Mirror* by Jeannie Baker immerses Stage 2 students in daily lives in a Moroccan village and Australian city as does *Sacred River: The Ganges in India* by Ted Lewin for Stage 3 students. The deeply moving book, *A Thirst for Home* by Christine Ieronimo and Eric Velasquez, engages Stage 5 students in a child's connection between her birth country of Ethiopia and her new home of America as well as the issue of inequitable distribution of resources.

Variety of perspectives

Picture books enable students to 'step into the story' to imagine and infer the experiences and perspectives of the people within, and to build empathy and understanding of their lives. Perceptions of and connections between characters and places can be expanded and explored imaginatively using process drama strategies such as role-play, conscience alley and mantle of the expert that can then lead to written work. In one Stage 1 class using *A New Year's Reunion* by Yu Li-Qiong and Zhu Cheng-Liang, the students spoke of young Maomao as if she was an extra member of the class and explored her connections to people and places through writing, music, dance and art. *Voices in the Park* by Anthony Browne enables Stage 4 students to explore varying perceptions of the liveability of places as does *Cat and Fish* by Neil Curtis and Joan Grant for Early Stage 1 students. The wordless book *Zoom* by Istvan Banya can challenge Stage 3 and 4 students' perceptions of the world.

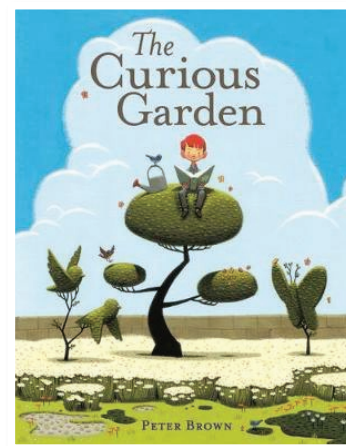
Visual representations

Illustrations in picture books are a major factor in their appeal. They are works of art in themselves and model creative representations of real and imagined worlds using a variety of media and techniques that can inspire creative responses in students (Dolan, 2013). Using visual literacy strategies and geographical processing skills, critical analysis of illustrations enables students to extract meaning, purpose, perspective and bias and generate further inquiry. In picture books places are represented from a variety of view-points including eye level, oblique angle and vertical aerial (birds' eye) view which can be deconstructed from a geographical tools approach, for example, Bronwyn Bancroft's colourfully patterned *Why I Love Australia* representing Australia's diverse features for Stage 2 students and the black and white landscape silhouettes in *Round Trip* by Anne Jonas for Stage 4 students. Demonstrating a host of symbolic visual strategies, picture book illustrations communicate peoples' emotions, experiences and perspectives in various life situations such as the challenges of homelessness in *Way Home* by Libby Hathorn and Gregory Rogers for Stage 5 students.



Communication of issues

Picture books deal with wide ranging issues as their context. These include environmental and social justice issues, natural and human-induced disasters, cultural diversity and connections between people and places. When investigating an issue, it is important that our students are left with hope for the future. *The Curious Garden* by Peter Brown does this and illustrates the impact a small curious boy, and subsequently the community, can have on greening a city, modelling how to care for a place to Stage 1 students and how to enhance sustainability in urban places for Stage 5 students. *Sparrow Girl* by Sara Pennypacker and Yoko Tanaka also demonstrates the power of one in changing biomes (Stage 5), in both creating devastation and restoring it. Whereas, *Cat on the Island* by Gary Crew and Gillian Warden provides a confronting account of environmental devastation for Stage 3 and Stage 5 students and so should be balanced with 'good news' accounts such as *Belonging* by Jeannie Baker and *The Tin Forest* by Helen Ward and Wayne Anderson.



How to use picture books in geography teaching

In geography lesson planning, picture books can be used:

- as an engaging stimulus when introducing a geographical inquiry
- as a core text for a geographical inquiry used as a reference point or springboard for inquiries
- to illustrate or explain a geographical concept or idea
- as a core text for an integrated conceptual unit of work of which a geographical inquiry is part
- to practise and apply visual literacy skills in both literary and geographical analysis
- as an additional resource for reference and research.

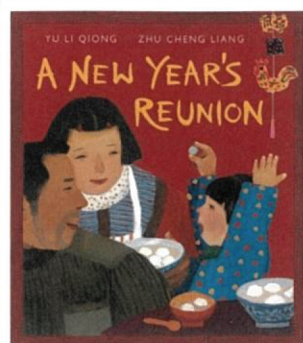
When one copy of a book is available it is preferable to sit in a comfortable relaxed space and read the picture book through first for pleasure as a shared reading. This creates the sense of story telling. The book can be re-read with interpretations and explanations many times after the initial reading. In some cases a blind first reading may be appropriate: reading the text without showing the illustrations. This enables the students to imagine the setting and features of places and to create their own visualisations of them.

Following a shared reading, having available a class set or several copies of the picture book enables students to actively engage with the book at their own pace either individually or collaboratively. Perhaps the families in your school are in a position to purchase one picture book per term or unit of work, as a core text, added to the school invoice. If copies of books are not available in your school or local libraries, there are often video readings on YouTube or Vimeo.



A New Year's Reunion by Yu Li-Qiong and Zhu Chen-Liang

Stage 1 – People and Places



Synopsis

Set in China, young Maomao's father has been working away from home for the year. He returns for a few days to join the family in celebrating Chinese New Year. Almost a stranger to her at first, Maomao and her father become closer as they get ready for the celebrations. Together they put up banners, make sticky rice balls, go New Year visiting and watch a dragon dance from the roof top. After just a few days Maomao has to farewell her father again but she gives him her fortune coin as a connection across time and distance.

Geographical concepts and ideas

Place, interconnection, scale

Natural and human features of places in the world. Chinese daily life, cultural customs and traditions. Connections and links people have with people and places.

English concepts

Culture, cultural identity, narrative voice (first person), symbol

Selected syllabus content

Local and global connections

Students investigate connections that people, including Aboriginal and Torres Strait Islander Peoples, have to local and global places, for example: (ACHGK010, ACHGK011, ACHGK012)

- description of reasons people are connected to places in Australia and/or countries across the world e.g. birthplace.

Engaging with the text

Building the field: What do you know about Chinese New Year?

Share just the illustrations and ask for predictions. Then read with words.

Making connections: Text to text – What colours are used in Chinese New Year celebrations? Text to self – Have you been a part of Chinese New Year celebrations? What cultural events does your family celebrate?

If you were with Maomao and her father watching the dragon dance, what else would you see? What noises would you hear? What have you learnt about Chinese culture from Maomao's story?

Note: This text is suitable as a core text for an in-depth conceptual unit of work.

Cross curriculum links

English – Visual literacy: framing, salience, angles, colour and symbols. Grammar: descriptive noun groups, proper nouns

Creative arts – Music and dance related to Chinese New Year

Visual arts – Chinese artworks and calligraphy. Decorate red money envelopes

Asia and Australia's Engagement with Asia – Chinese culture

Supporting texts and resource links

Fang Fang's Chinese New Year by Sally Rippon



Grandpa's Mask by Jing Jing Guo

We All Went on Safari: A Counting Journey through Tanzania by Laurie Krebs and Julia Cairns

Around the World: Geography Teaching Framework, NSW DoE

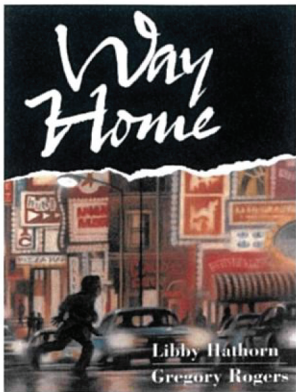
[People Live in Places: Chinese Australians](#) unit, State Library of NSW

A New Year's Reunion - Learning snapshots

| | |
|--|--|
| <p>Faraway places</p> | <p>What are some places far away from Australia?</p> <p>Why does Maomao's father build houses in places far away from his home? Define 'far away' with reference to a map of Australia and the world. Do you have grandparents or relatives that live in faraway places?</p> <p>Locate your approximate current school location on a globe. Locate China and birth countries of students and/or their families. Students use wool or string to measure distances to China and familiar countries from their current location.</p> <p>Graph and compare the distances from Australia to other places. Which are the most faraway? (Each piece of string can be pinned or pasted to form the graph.)</p> <p>Working with globes builds understandings of Australia's location in relation to other parts of the world. Provide time for exploration in addition to the set task.</p> |
| <p>Lucky fortune coin</p>  | <p>How do people connect to family and friends in faraway places?</p> <p>What activities do Maomao and her father do together during his stay? Jointly construct a diary of the activities, writing in Maomao's voice, e.g. Day 1 –put up banners, made sticky rice balls, snuggled in bed. How do her feelings change?</p> <p>Chinese fortune coins symbolise good luck and good fortune. Why was Maomao's coin so special? Why does she give it back to her father?</p> <p>What activities do you do with loved ones you see just once or twice a year? Is there a special activity that connects you together? Using a T-chart, students draw themselves with a grandparent, relative or friend that lives far away. On one side they draw and label how they stay in touch when apart, and on the other, special activities they do together when they visit.</p> <p>Image: Chinese coin. Public domain</p> |
| <p>Links between Australia and China</p> | <p>How is Chinese New Year celebrated in China and Australia?</p> <p>How is Chinese New Year is celebrated in Maomao's town? How is it celebrated in Australia? View images and videos of Chinese New Year celebrations in the students' suburb or city. Invite students with Chinese heritage to show and explain some of their family's traditions for the celebration.</p> <p>Students make banners and lanterns to create a Chinese New Year classroom display. Students could also make sticky rice balls, respond to music and participate in a dragon dance.</p> <p>Why is Chinese New Year is celebrated in Australia and other countries around the world as well as China? Students put on their 'expert hat' to explain global connections through Chinese New Year celebrations in Australia.</p> |
| <p>Chinese New Year</p>  | <p>What symbols are used in Chinese New Year celebrations?</p> <p>The making and eating of sticky rice balls is a Chinese New Year tradition in Maomao's family. They are a symbol of reunion. What other foods are eaten during Chinese New Year and what do they symbolise?</p> <p>Examine the illustrations in <i>A New Year's Reunion</i> and identify Chinese New Year symbols, e.g. red lanterns, banners, fortune coin, red envelopes, broom (cleaning).</p> <p>Students collect and label images of Chinese New Year symbols. They create a table of symbols and write or provide verbal explanations of their meanings.</p> <p>Image: Chinese New Year lanterns. Public Domain</p> |

Way Home by Libby Hathorn and Gregory Rogers

Stage 5 – Human Wellbeing



Synopsis

'The boy looks up and looks down. Then he crawls quickly, quickly through a hole in the fence.'

Shane is a youth wandering the city streets at night. He spots a young cat on a fence, tucks it into his jacket and heads for home. As he scurries along he avoids a fight with a street gang, scoffs at warmly lit windows, showrooms and restaurants and rescues the cat out of a tree after an encounter with an angry dog. Shane heads to the safety of home along, through, down and around to his place, the tiny etched out space that Shane calls home.

Geographical concepts and ideas

Place, space, interconnection

Consequences of differences in human wellbeing in Australia for young people. Homelessness.

English concepts

Characterisation, intertextuality, plot, setting, theme

Selected syllabus content

Human wellbeing in Australia

Students investigate the reasons for and consequences of spatial variations in human wellbeing in Australia, for example: (ACHGK080)

- identification of differences in human wellbeing in Australia using a range of indicators
- examination of reasons for and consequences of differences in human wellbeing for TWO groups of people in Australia e.g. cultural groups, unemployed, the aged, young people, people with disabilities
- analysis of how human wellbeing is influenced by where people live in Australia.

Engaging with the text

Share the book with the students. Start with a blind reading to enable students to visualise the places described. Then read the book with the illustrations. What do you know about homelessness in Australia?

Making connections: Text to text – texts about home and wellbeing. Text to self – personal experiences of a sense of place. Text to world – homelessness, poverty, social justice issues.

What is familiar and unfamiliar to you in the text? What visual elements communicate the theme of the text? Does it remind you of anything you know?

Cross curriculum links

English – Explore virtual and imagined worlds. How visual texts are shaped.

Creative arts – Freeze frames and role play. Dance, music

Visual arts – Body of work on human wellbeing. Intertextuality

Supporting texts and resource links

[Way Home Teachers Resource](#), Reading Australia

[Geographies of Human Wellbeing](#), Geography Teachers' Association, Victoria

Human Wellbeing: Geography Teaching Framework, NSW DoE

Way Home - Learning snapshots

Homelessness as a case study



What are the differences in human wellbeing in Australia? What factors influence homelessness?

In *Way Home*, an image of near-touching hands is used on the first and last pages. It is an intertextual reference taken from Michelangelo's *The Creation of Adam* and is universally used to represent humanity. *Way Home* is dedicated to the workers who show humanity by helping young people in need.

Of the 105,237 homeless people recorded in the 2011 census, 25% were young people aged 12-24 years ([ABS](#)). Of those, 10% were aged 12-18. View the video [Homelessness in Australia](#) (Homelessness Australia, 2014) for a summary of the statistics.

What factors influence homelessness in Australia?

Students read the following sources and complete the table:

- [Without a Home](#) interactive graphic (ABC 2015)
- [Homelessness in Australia](#) fact sheet (Homelessness Australia, 2016)

| Factor | Stats if available | Reasons |
|--------|--------------------|---------|
| | | |

Image: Homeless person's abode, Sydney, 2016. G Braiding

Spatial variations in homelessness

How is human wellbeing influenced by where people live in Australia?

View the [Homelessness in Australia](#) infographic (Homelessness Australia, 2014). Northern Territory has the highest rate of homeless with 730.7 people homeless per 10 000 population. NSW is midrange at 40.8 homeless people per 10 000 population and Tasmania has the lowest at 31.9 per 10 000.

Using the [State-based infographics](#) (Homelessness Australia, 2014), students compare the homelessness statistics for Northern Territory and one other state or territory. They represent the similarities and differences in a Venn diagram and write a paragraph accounting for the differences.

Homelessness: Reasons and consequences



What are the reasons for and consequences of homelessness in Australia?

Re-read *Way Home* and discuss the symbolism used in the illustrations, e.g. the similarity between the dog's mouth and the hole in the fence (danger), the visual and textual references to milk (comfort), the torn pages (tear away).

Students use 'see-think-wonder' to analyse the illustration of Shaun's 'home' and consider the consequences of homelessness on Shaun and on society.

View [Homeless Australia – Runner Up Documentary 2014](#) (ScreenMy Shorts, 2014). Identify the different groups represented in the video and reasons that led to their homelessness. List the ideas put forward on reducing homelessness.

Students design the landing page of a website for a new charity founded to reduce homelessness in Australia. The webpage is part of a digital campaign to raise awareness, community action and fundraising and should be strongly visual. Focusing on two groups of people, it should include: reasons for homelessness, personal consequences, consequences on society and a call to action.

Resources:

- [Homelessness in Australia](#) fact sheets
- Charitable organisations websites, e.g. [Mission Australia](#), [StreetSmart](#), [Australian Red Cross](#), [Salvation Army](#), [StreetBeat](#), [Lighthouse Foundation](#)

Image: Man on street. Public domain.

PRIMARY WORK SAMPLE PORTFOLIOS: Geography

[Stages K-6]

By Dr. Susan Bliss

Numerous work samples were developed, analysed and annotated by
Dr. Susan Bliss for ACARA

<https://www.australiancurriculum.edu.au/resources/work-samples/>

The student work sample portfolios on the ACARA website contain resources to support teachers in the planning and implementation of the Geography Curriculum from Foundation (Kindergarten) to Year 6. Integrated within work samples are: knowledge and understanding; inquiry and skills; general capabilities; geographical tools; investigative tasks; and civics and citizenship. Where relevant, annotated work samples include an **Asian perspective**.

FOUNDATION/KINDERGARTEN GEOGRAPHY

LEVEL DESCRIPTION: MY PERSONAL WORLD

ACHIEVEMENT STANDARD

The Foundation curriculum focuses on developing students' understanding of their personal worlds, including their personal and family histories and the places they and their families live in and belong to.

By the end of Foundation Year, students' describe the features of familiar places and recognise why some places are special to people. They recognise that places can be represented on maps and a globe and why places are important to people.

<https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences/hass/>

INQUIRY QUESTION

Why are some Asian places and events special (e.g. religious days and festivals)?

WORK SAMPLES

http://docs.acara.edu.au/curriculum/worksamples/Foundation_Year_Geography_Portfolio.pdf

| | |
|----------|--|
| Sample 3 | Personal response: My special place |
| Sample 4 | Spoken explanation: Direction and location |
| Sample 5 | Observation: Familiar places |
| Sample 6 | Presentation: Globe |



Audrey Hawkins, Beaumont Hills Public School

Annotations:

The student communicates her understanding that places can be represented on a globe using a model with spoken text (Literacy)

YEAR 1 GEOGRAPHY

LEVEL DESCRIPTION: HOW MY WORLD IS DIFFERENT FROM THE PAST AND CAN CHANGE IN THE FUTURE

ACHIEVEMENT STANDARD

*Students investigate their place and **other places**, their natural, managed and constructed features, and the activities located in them.*

*By the end of Year 1 students respond to questions about familiar and unfamiliar places by locating and interpreting information from **sources provided** (e.g. photographs, internet, TV). They represent the location of different places and their features on labelled maps and present findings in a range of texts and use everyday language to describe **direction** and **location**. They reflect on their learning to suggest ways that places can be cared for (**Citizenship**).*

<https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences/hass/>

INQUIRY QUESTION

How have places for Asian immigrants, changed over time?

WORK SAMPLES

http://docs.acara.edu.au/curriculum/worksamples/Year_1_Geography_Portfolio.pdf

- Sample 3** **Analysing photographs:** Opportunity to include Asian photographs (rural and urban)
What changes can I observe? (*Visual Literacy*)
- Sample 4** **Verbal response:** Seasons and change (*Literacy*)
What are the differences in seasons between Australia and Asia?



Photographs: J/S Bliss

YEAR 2 GEOGRAPHY

LEVEL DESCRIPTION: OUR PAST AND PRESENT CONNECTIONS TO PEOPLE AND PLACES

ACHIEVEMENT STANDARD

*By the end of Year 2, students identify the features that define places and recognise that places can be described at different scales. Students recognise that the world can be divided into major **geographical divisions**. They describe how people in different places are **connected** to each other and identify **factors that influence these connections**.*

<https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences/hass>

INQUIRY QUESTIONS

How are people connected to places in the Asian region, past or present?

How has technology affected connections between people to countries in the Asian region?

The connections of people to countries of the Asia region

- **Cultural links**—migration
- **Political and economic systems**—travel, trade and environmental issues
- *The student describes how people in different places are connected to each other and identifies factors, such as place of birth, that influence these connections (WS2, WS4).*
- *The student recognises that the world can be divided into major geographical divisions (WS1) and explains why places are important to people (WS4).*

http://docs.acara.edu.au/curriculum/worksamples/Year_2_Geography_Portfolio.pdf



WORK SAMPLES

http://docs.acara.edu.au/curriculum/worksamples/Year_2_Geography_Portfolio.pdf

- | | |
|-----------------|--|
| Sample 1 | Mapping: Divisions of the world: Where is Asia? |
| Sample 2 | Mapping: My connections to places in Australia and the world: What are my connections to places in Australia and Asia? |
| Sample 3 | Observation: Identifying and describing location: Where is Asia from Australia? |
| Sample 4 | Worksheet: Settlements and their connections: Asian types-main cities, rural areas What are the connections between cities and rural areas in Asia? |

Photographs: Dubai J/S Bliss

YEAR 3 GEOGRAPHY

LEVEL DESCRIPTION: DIVERSE COMMUNITIES AND PLACES AND THE CONTRIBUTION PEOPLE MAKE

ACHIEVEMENT STANDARD

Opportunities are provided to learn about **diversity within their community**, including **neighbouring countries**. Students compare **climates, settlement patterns and population characteristics of places**, and how these affect communities, past and present. Students examine how **individuals and groups celebrate and contribute to communities** in the past and present, through establishing and following rules, decision-making, participation and commemoration.

By the end of Year 3, students describe, the location of selected countries **neighbouring Australia**. They describe the characteristics of **different places** at local scales and identify and describe similarities and differences between the characteristics of these places.

<https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences/hass>

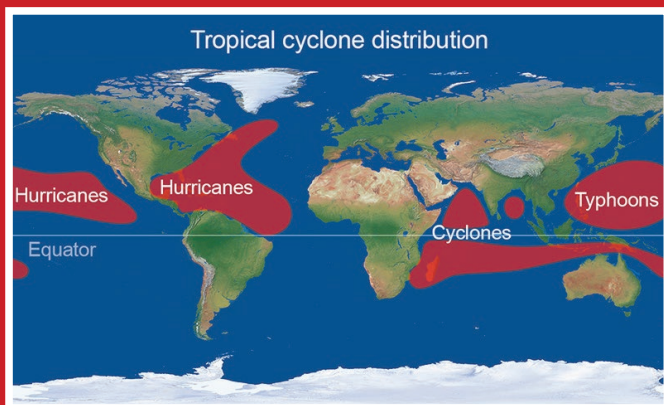
INQUIRY QUESTION

What events do different Asian people celebrate and commemorate?

WORK SAMPLES

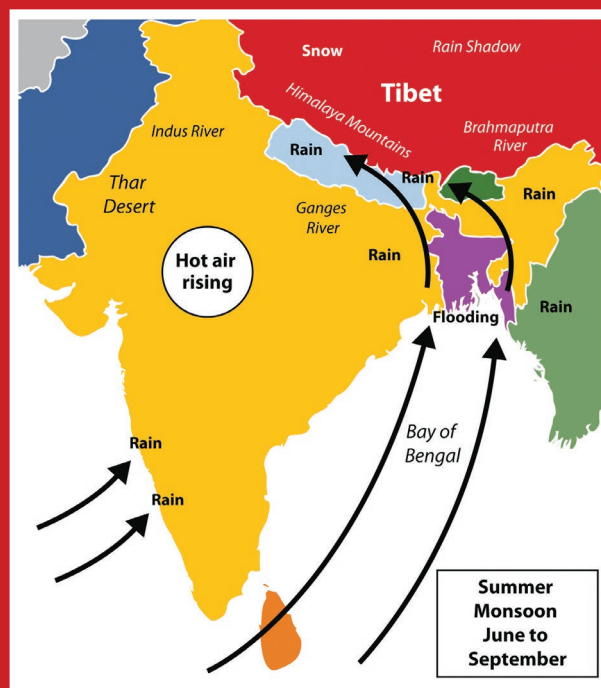
http://docs.acara.edu.au/curriculum/worksamples/Year_3_Geography_Portfolio.pdf

- Sample 1** **Mapping:** Australia and its neighbours (location of neighbouring countries)
- Sample 2** **Mapping:** Climate types/graphs of Australia (compare with Monsoon, tropical and desert climates in Asia)-different communities adapt to different climates
- Sample 3** **Guided investigation:** Similarities and differences between places-Australia and countries in the Asia region. Tables and Venn diagram. Narrative



Map: Distribution of tropical cyclones

<https://www.metoffice.gov.uk/weather/tropical-cyclone/facts>



Map: Summer monsoon

<http://roundtripicket.me/map-of-monsoon-asia.html/introducing-the-regim-at-map-of-monsoon-asia>

YEAR 4 GEOGRAPHY

LEVEL DESCRIPTION: HOW PEOPLE, PLACES AND ENVIRONMENTS INTERACT, PAST AND PRESENT

ACHIEVEMENT STANDARD

*The Year 4 curriculum focuses on interactions between people, places and environments over time and space and the effects of these interactions. Students gain opportunities to **expand their world knowledge** and learn about the **significance of environments**, examining how people's need and want of resources over time has affected peoples, societies and environments*

*By the end of Year 4, students describe the **location of selected countries** using compass direction. They describe and compare the characteristics of places in different locations at local to national scales.*

<https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences/geography/rationale/>

INQUIRY QUESTION

How have laws affected the lives of Asian immigrants to Australia, past and present?

WORK SAMPLES

http://docs.acara.edu.au/curriculum/worksamples/Year_4_Geography_Portfolio.pdf

Sample 2 **Worksheet and guided inquiry:** Rainforests and deserts of the world. Include Asian examples. Climate graphs; Maps-location

Sample 4 **Inquiry: Waste management:** Questionnaire, record and graph. Draw conclusions and responses to reduce waste. Compare with waste pickers in Asian countries

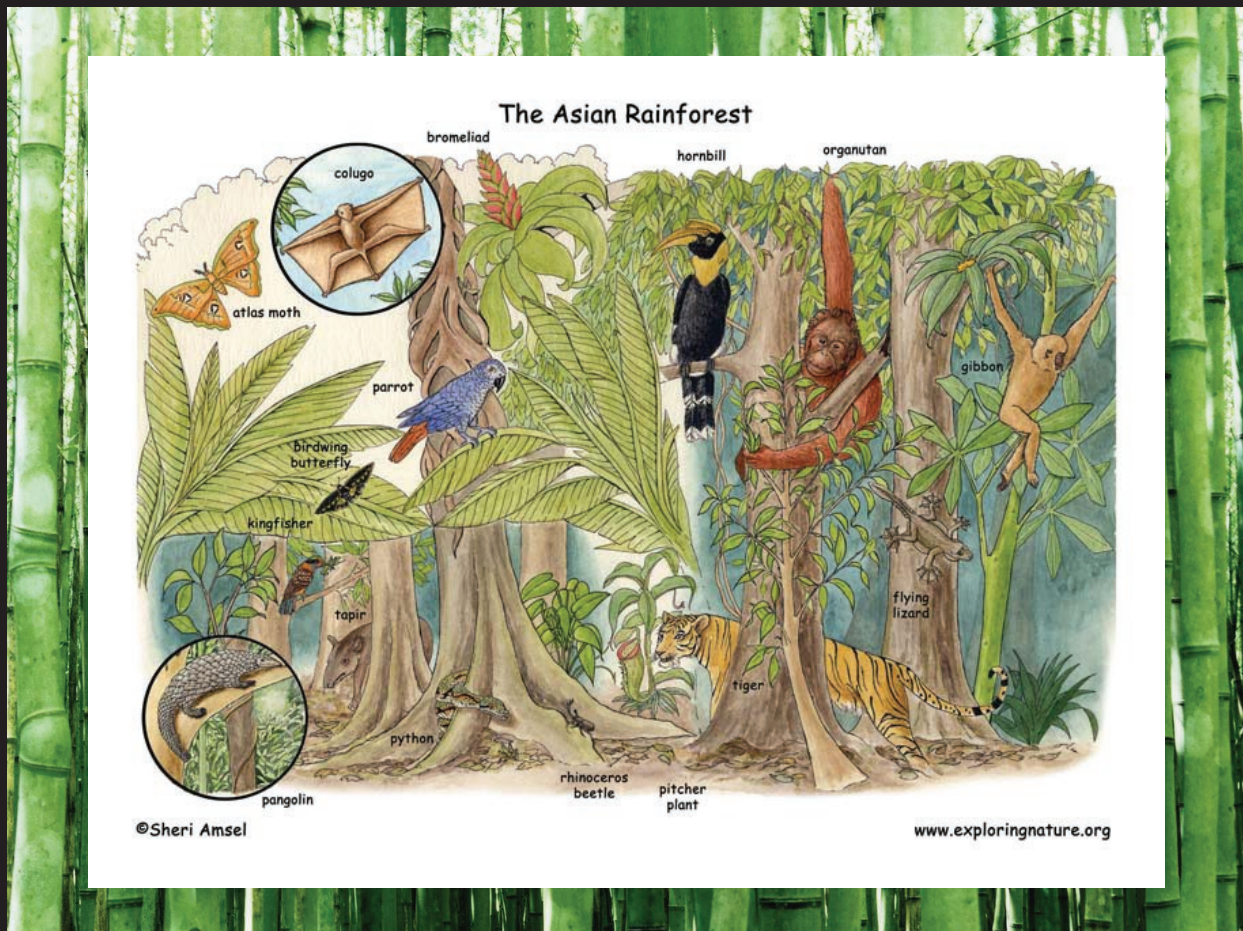


Diagram: Asian rainforest <https://www.exploringnature.org/db/view/Asian-Rainforest>

YEAR 5 GEOGRAPHY

LEVEL DESCRIPTION: AUSTRALIAN COMMUNITIES: THEIR PAST, PRESENT AND POSSIBLE FUTURES

ACHIEVEMENT STANDARD

By the end of Year 5, students describe the **location of selected countries in relative terms**. They explain the characteristics of places in different locations at local to national scales. They identify and describe the **interconnections** between people and the human and environmental characteristics of places, and between components of environments. They identify the effects of these interconnections on the characteristics of places and environments. They identify and describe different possible responses to a **geographical challenge**.

<https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences/geography/rationale/>

INQUIRY QUESTION

How have Asian individuals and groups contributed to the development of Australia?

WORK SAMPLE

http://docs.acara.edu.au/curriculum/worksamples/Year_5_Geography_Portfolio.pdf

Sample 1

Research: Asian country-interconnections between people and the environment. Diverse ecosystems in Asian countries and their interactions. Responses to mining, logging, fishing, pollution or climate change-possible futures. Map, Climate graphs

GEOGRAPHICAL CHALLENGES



River of garbage in Indonesia



Air pollution China



Endangered species- Sumatran Tiger



Forest fires in Indonesia.

Forest fires <https://uneartthed.greenpeace.org/2017/08/03/indonesia-forest-fires-begin/>

River of garbage <http://nannaleey.blogspot.com.au/2009/03/river-of-garbage-in-asia.html>

Air pollution <http://www.greenpeace.org/eastasia/campaigns/air-pollution/problems/pollutants/>

Endangered species <https://inhabitat.com/danone-xerox-boycott-app-because-illegal-logging-threatens-the-rare-sumatran-tiger/>

YEAR 6 GEOGRAPHY

LEVEL DESCRIPTION: AUSTRALIA IN THE PAST AND PRESENT AND ITS CONNECTIONS WITH A DIVERSE WORLD

ACHIEVEMENT STANDARD

By the end of Year 6, students describe the location of places in selected countries in absolute and relative terms. They describe and explain the diverse characteristics of places in different locations from local to global scales. They describe the interconnections between people in different places, identify factors that influence these interconnections and describe how interconnections change places and affect people. They identify and compare different possible responses to a geographical challenge.

<https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences/geography/rationale/>

INQUIRY QUESTION

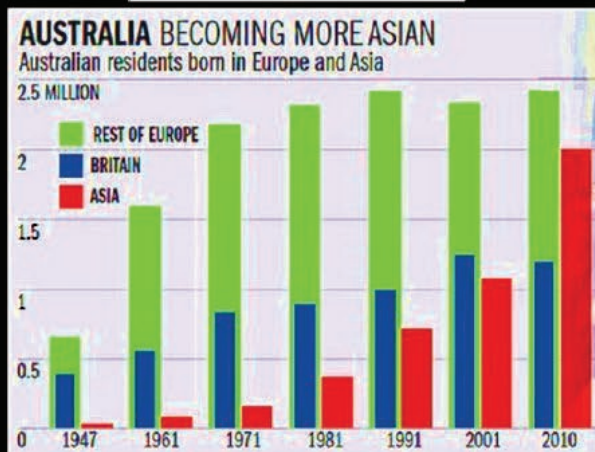
How has Asian connections contributed to the development of Australian society?
What is my role as a global citizen?

WORK SAMPLES

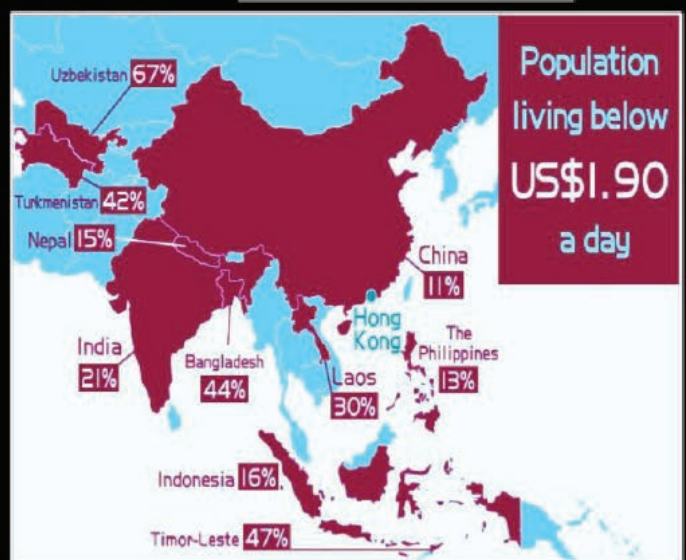
http://docs.acara.edu.au/curriculum/worksamples/Year_6_Geography_Portfolio.pdf

- Sample 1** Investigation: Where in the world did we come from?
Survey class, collate findings as a table, construct column graph and pie chart, locate countries on a map, summarise findings.
- Sample 2** Data response: Spatial distribution of global poverty. Include Asian countries. What is poverty? (Relative and absolute). Map, numeracy, empathy exercises
- Sample 3** Guided inquiry: Migration to Australia
Class survey, construct graph, flow map.
Sources and types of migration. Discuss migration patterns over time
- Sample 4** Inquiry: Why do people migrate to Australia? Push/pull forces

Complex column graph



Map



Complex column graphs <https://ozziesaffa.wordpress.com/2011/06/17/australia-asian-migration-a-tour-de-force/>

Map: pollution living below \$1.90 a day <https://www.worldvision.org.hk/en/learn/poverty-in-asia#poverty-in-asia-where>

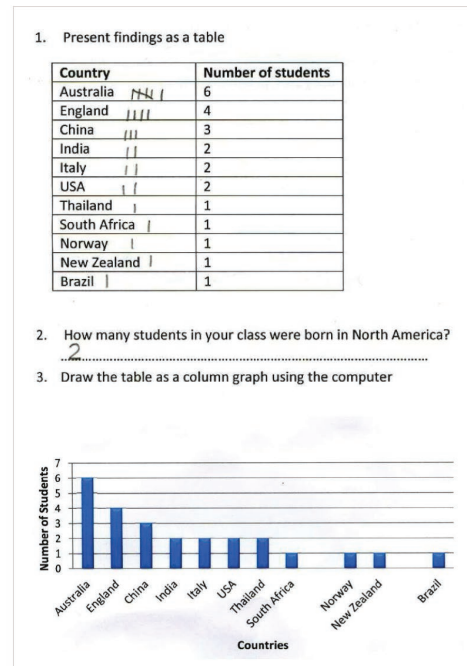
YEAR 6

SAMPLE 1: INVESTIGATION

WHERE IN THE WORLD DID WE COME FROM? (USE OF ICT)

Nicola Bliss http://docs.acara.edu.au/curriculum/worksamples/Year_6_Geography_Portfolio.pdf

Investigation – Where in the world did we come from?



Annotations

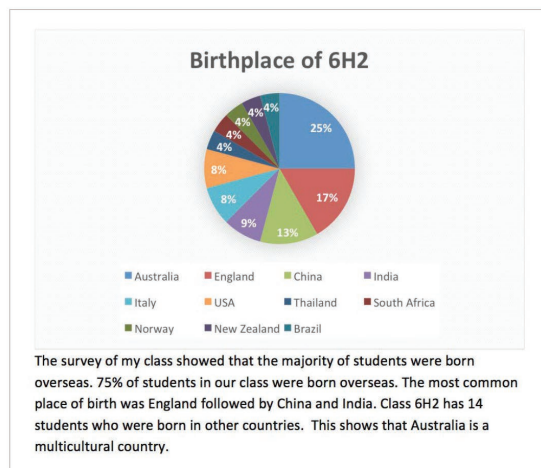
Collects primary data on where students were born.

Represents data in a table.

Interprets data from the table

Represents data in a column graph.

Investigation – Where in the world did we come from?



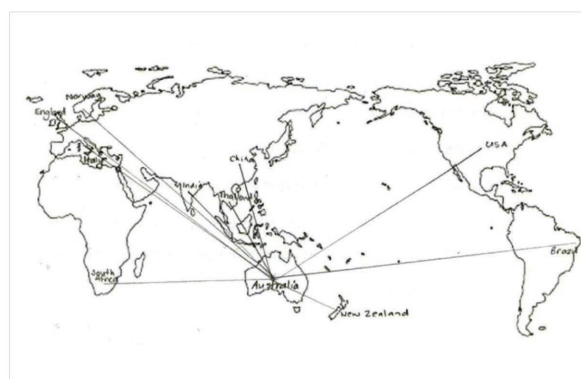
Annotations

Represents data in a pie chart.

Interprets data to identify the proportion of students who were born overseas.

Draws a conclusion about the characteristics of Australia using appropriate terminology (multicultural).

Investigation – Where in the world did we come from?



Annotations

Represents data on a small-scale map.

Locates countries on a map.

Annotations (Overview)

The student uses text and a number of graphic representations to present findings.

Acknowledgement
ACARA acknowledges the contribution of Australian teachers and students for providing the tasks and work samples. The annotations are referenced to the Australian Curriculum achievement standards.



ISSUES IN THE EDUCATION OF girls IN INDIA

[Stages 4-6]

By John Gore, Education Consultant, Australia

<https://pixabay.com/en/black-eyes-girl-india-indian-lady-1850812/>

The status of women

High media profile events in India involving the rape of a woman on a bus (December 2012) and of children as young as five (*The Hindu* 22 April 2013) have caused worldwide alarm and thrown a spotlight onto the status of women in India. The reports of women and girls being raped in all sorts of circumstances in India have galvanised not only many Indians to protest about the treatment of women, but a human rights voice has been resounding from around the world.

Most Indian women living in cities and who travel alone on public transport would claim some experience of sexual harassment. In rural India, caste hierarchies still continue and Dalit ("crushed" people formally known as "Untouchables") and Backward Caste women and girls are often the subject of sexual harassment, including rape, by usually higher caste perpetrators who often act with impunity.

India is a country with laws to deal with these situations, but enforcement is an issue. That women are now doing something about such matters is an indictment of the lack of interest by those in power and those who police justice.

The attitudes to women and their status, as displayed in these events, lie deep within Indian history, cultural and religious traditions, its exposure to western culture and in beliefs about human nature and evil in the world. However, understanding these causes is merely a prerequisite for change and the education of girls holds more hope for a long term change in the status of women in India, one that will embrace respect and true equality.



Cultural factors

One factor affecting the status of women is the historic treatment of women through the invaders and occupiers of the Indian sub-continent but more pervasive is the Hindu caste system, which has existed in India for more than 3,000 years, and has four distinct groups. The Brahmins are the highest and are the priests and arbiters of what is right and wrong in matters of religion and society. Below them are the Kshatriyas, who served traditionally as soldiers and administrators. The Vaisyas are the artisan and commercial class, while the Sudras are the farmers and the peasants. *Beneath the four main castes and outside the system is a fifth group, the Scheduled Castes (SC) known as Dalits. Scheduled means they are listed in a special "index" appended to the Constitution.*

*The Dalits generally perform the most menial and degrading jobs including dealing with the bodies of dead animals or unclaimed dead humans, tanning leather, from such dead animals, and manufacturing leather goods, and cleaning up the human and animal waste. Caste rules hold that Dalits pollute higher caste people with their presence.*¹

As indicated in the following diagram the majority of Indians are in the lowest castes and below. These religious and societal beliefs related to caste, place people of both sexes at a social

| | | | | | | | |
|-------------|-----------------------|------|--|--------------------------|-------------|------------|--------------|
| Vedic Terms | Brahmin | 3% | Priests | Political / Common Terms | } Forwards | } Bahujans | |
| | Shatriya | 0.5% | Warriors / Rulers (also spelled Kshatriya) | | | | |
| | Vaishya | 1.5% | Merchant / Farmers | | | | |
| | Shudra | 5% | Servants / Labourers | | | | |
| | Other Backward Castes | 52% | some considered part of Shudras, but OBCs are often landless and live with more discrimination | | } Backwards | | |
| | Scheduled Castes | 16% | also called Dalits, Untouchables, Outcastes, or Harijans (Panchamas in Hindu writings) | | | | } Scheduleds |
| | Scheduled Tribes | 6.5% | also called Tribals or Adivasis | | | | |

disadvantage, but especially women who are discriminated against in every caste. The entrenchment of caste is so great that only marginal change has occurred in the past twenty years in Indian cities amongst a growing middle class. Rural India remains a place where women are generally not respected in any caste and are at the mercy of those with power and position.

The missing girls

For many girls being born is just difficult enough. The 2011 census confirms an improved sex ratio for women with them living longer, but it delivered bad news on the sex ratio of children for 0-6.

| Sex ratio and Child sex ratio (0-6 years) India | | |
|---|-----------|-----------------|
| Year | Sex ratio | Child sex ratio |
| 1991 | 927 | 945 |
| 2001 | 933 | 927 |
| 2011 | 940 | 914 |

Females/1,000 males - Indian Census 2011

For every 1,000 boys under six years of age there are only 914 girls. The ratio has worsened with considerable variation across the states. Haryana has 830 female children and Punjab 846.²

Abortion and infanticide are worse today in India than ever before. The inherent desire for a male child places female fetuses and babies at great risk. Although against the law to reveal the sex of a baby, the cultural norm of ignoring the law sees such practices as carrying an ultrasound on the back of a truck to villages where for a few rupees all is revealed. It is not the law that will save female fetuses and babies but a change of mindset.

There are estimates of up to 50m missing women from the population statistics of India due to abortion, child murder and the greater death rates amongst female children supported by the statistics for operations and referrals to doctors being significantly lower for girls than boys.

Why are female children unwanted? Indian families rely on their sons and daughter-in-laws to keep them in their old age which in India can be from the mid fifties. For poor families this is a matter of great concern. For rich families there is less pressure for boy children although they are preferred.

When parents have a girl child they know that she will leave the family to be married, often in her early teens, and become part of another family. This marriage will require a gift (no longer called a dowry because it is illegal). She will contribute nothing to household income and be a drain on the resources of the family. Why would parents educate her, just so some other family can have whatever benefits that education brings? And what if that female child has a disability and is unlikely to marry. For many Indian families the birth of a girl child brings despair not joy.

Education of girls

As reported in *Government stalling secondary school reforms* (Deepa 2008), information and figures for all of India indicate that:

1. enrolment and retention of girls in city schools is much higher than rural schools
2. some schools purge their Year 9 classes to ensure that the Year 10 results for the school are high
3. only one percent of Schedule Tribal (ST) women in some states finish high school
4. that 25% of schools are private schools (including Roman Catholic) catering almost entirely for the privileged sections of society
5. in some states the curriculum after 7th Standard is set at a high standard to suit the students who will succeed at university, thus further discriminating against students from SC and ST backgrounds
6. the testing programs in states favour rote learning and not understanding
7. that teaching is geared to rote learning of state supplied textbooks
8. that distance to secondary schools in rural areas remains a problem
9. some private schools exist in name only.

It is not surprising that each student succeeding at 10th Standard has a reason to celebrate. That few of these children are SC and ST students is not surprising and in some states primary drop-out has been increasing.³

Retention is a huge problem as illustrated by some statistics⁴ for Andhra Pradesh which in terms of education, population and size is right in the middle of any state league table. There are as many states better as there are worse than Andhra Pradesh. In this state 15% of children never go to school. Of the ones who enrol the dropout rate by the end of 10th Grade is 62% and for Dalits 72% and for Tribals 84%. At the end of 10th Grade examinations the pass rate is 52%. This means that 13% of the children in the state of Andhra Pradesh can attempt to proceed to college, Grades 11 and 12.



Nationally the enrolment and retention of girls is lower than boys by between 4-18% further limiting the opportunities for girls, with ST girls facing the most difficult pathways. (Sarma 2008). These figures mask a more depressing situation for Northern India. In Southern India the number of girls in secondary school is not far behind the number of boys but as illustrated in this newspaper article the situation in the north for girls in secondary schools is alarming. *Although education is considered the most essential tool to empower girls and women, people in Jharkhand seem to underestimate its importance. As per the latest data provided by the government of India statistics of school education 2007-08, out of approximately 6.5 lakh (one lakh is 100,000)) girls in the state only 1.7 lakh girls (26%) are enrolled into the secondary level of education.*⁵

It is not uncommon to visit private schools in northern India and find just a few girls, if any, in Grades 9 and 10. The drop-out of girls accelerates after 5th Grade and continues unabated till there are just a few girls left in 10th Grade. While some are moved from private schools to government schools because of lower costs most simply leave school. The girls most disadvantaged are Dalits, tribals and those from Backward Castes - the majority of the population. Getting these students to school, keeping them there and having them graduate at Grade 10 level are all huge tasks for education providers. *Across India girls are not always educated and many have minimal understandings of their own rights. Estimates show that for every 100 girls in rural India, only 1 reaches class 12.* (Educategirls 2013)

Many of the factors causing dropout are well-known and well-established: cultural reasons such as the belief within the family that girls do not need education as they will not work outside the home; a worry about adolescent girls spending time outside the home and girls marrying early; it may be a cost-related decision where, for example, a family will choose to send a son rather than a daughter to school, and she would be expected to help out at home instead.

Other reasons for dropping out are external and could arguably be dealt with through better provision of education facilities. For instance, while primary schools are often situated close to residential areas, rich and poor, secondary schools are fewer in number and are often located further away, leaving parents worrying about the safety of girls on their way to and from school. Likewise, there are security concerns at school with girls at times facing harassment from both male students and teachers. Lastly, a major issue is the lack of separate toilets for girls in schools: in fact, 36% of schools do not have a separate toilet for girls, and that number does not include sanitary facilities that may exist but are out of order. (Stone 2012)

In one study (Mohanraj 2010) in Madhya Pradesh it was concluded that *"The social positioning of girls and women, the perceived future role of girls as mothers and home-makers, the patri-local marriage system, community pressure and the usefulness of girls at home have detrimental consequences for girls" education.*

Policy options, among others, include - elimination of poverty, improvement of school infrastructures, increased numbers of trained teachers, and adaptation of the curriculum to the present needs. (Basumatary 2012)

The importance of educating girls

Already some states like Tamil Nadu have embraced progressive policies that have girls attending school and graduating in the same numbers as boys, but these states are the exception. The reality for most Indian girls is a long hard road to get equality of opportunity, especially in education.

The evidence is that educating girls leads to higher productivity in the economy, higher earning potential and lower maternal and early child health problems. Despite the clear societal advantage of educating girls beyond primary school, there are few private or public secondary school initiatives to promote girls' education. (Stone 2012)

Educated girls have the unique ability to bring unprecedented social and economic changes to their families and communities: reducing birth rates and child mortality, improving family health, reducing political extremism and violence against women and increasing both family and national income.



Additionally, educating girls accelerates overall literacy: mothers with a primary school education are five times more likely to send their children to school. (Educategirls 2013)

Making a difference

Indian governments, national and state, recognise many of these advantages and problems and want to provide education for all students to at least Grade 8.² Recent (2009) national legislation for compulsory education to Grade 8 has been enacted and faces enormous implementation and resource issues -school buildings, trained teachers and government intent. *After three years Statistics show that a shortage of 12 lakh teachers in primary schools, 20 per cent of the teachers employed are untrained, and the student-teacher ratio falls short of the prescribed norms.* (The Hindu Even after three years, RTE fails to deliver 1 April 2013)

Community perceptions of government schools paint a depressing picture of the standard of education, the dedication of teachers and the success of girls. The Government has required non-government schools to take 25% enrolments of students from Backward Castes and Dalit and tribal backgrounds. However, legislation is unlikely to help as many of these schools talk about complying, if necessary, by having these students separated and taught in isolation from the rest of the school.

In addition, a growing non-government school sector is cashing in on community distrust of government schools and on the enormous desire of parents to have their children educated in private schools, by creating a range of high and low fee private schools that are reaching beyond the growing middle class. Some of these schools are targeting directly the Dalits in the

slums of cities and in poor remote rural villages and accessing considerable overseas funding to resource these schools. One such organisation is Operation Mercy India Foundation (OMIF).

Raising the status of women will be accelerated most by raising the status of the Backward Castes, Dalit and tribal women. Their numbers are politically significant and as seen recently in the demonstrations against rape, women can force change. The education of these girls is of fundamental importance to the future of India.

Educating girls from disadvantaged backgrounds

In the front of the students' textbooks in Andhra Pradesh is written *Untouchability is a sin. Untouchability is irrational. Untouchability is a crime. Untouchability is anti-national*. Then why does it continue?

Hinduism in its many forms remains the dominant religion of India and most of its priests continue to teach about and uphold caste and therefore by implication untouchability. People are born into their caste or into untouchability because of the bad or good karma of their previous life. If they manage to live a good life and please their gods during this life then they will be born into a higher caste. So people deserve the caste they are born into and they can not expect to change it in this life. But it is not only within Hinduism that caste discrimination prevails. Sikh, Muslim and Christian communities and social institutions also exhibit caste discrimination.⁶

One of the greatest difficulties in working with disadvantaged people in India is that they believe they don't deserve better and so discrimination on the basis of caste permeates all the social structures of India. Even marriage outside of caste is difficult and the dowry (gift) is expected in marriages in most states.

The huge disadvantages facing Dalit girls are related to endemic problems within Indian society and the school system. But the Dalits are not without political leaders who in 2001 invited all religions to educate their children by establishing English medium schools of high quality. In response, the All India Christian Council set a target of 1,000 schools and to date OMIF has contributed 104 to this target.

English medium education is the gateway to tertiary education, but it has been inaccessible to most Dalits. Government schools teach mostly in the local language, but higher caste Indians who can afford private schools have their children educated in English medium schools and support them further with tutoring. Few Dalits have had access to this education. By establishing English medium schools, OMIF is bringing high quality English medium education to Dalits and opening up tertiary education to them.

OMIF schools face the same retention problems that all schools in India face when educating people from disadvantaged backgrounds. In the south, girls outnumber boys at some schools but in the north retaining girls remains a major issue. For success these schools will have to seek much closer cooperation with their communities to break down the prejudice against educating girls and to change the mind set of the parents about the benefits of girls completing school to at least 10th Grade. There was a time in most western countries when there were affirmative action programs to improve the retention of girls. That time has now come to India. Educating girls from only the higher castes will further entrench caste differences, delay the education of girls from disadvantaged communities and continue the disempowerment of women. Programs that support the education of girls from disadvantaged communities must be the priority. In this regard, the 104 schools of OMIF are to be commended and so to the efforts of all those organisations that are targeting girls from disadvantaged communities.

Conclusion

The improved education of girls, especially the education of girls from disadvantaged groups, will change India. As documented in the case of the state of Kerala, educated girls become educated workers, mothers and citizens. They bring unprecedented social and economic changes to their families and communities. Additionally, girl's education will produce women who demand respect when none is given, who will use their social and political power to change the long embedded customs and beliefs that make the lives of many Indian women one of suffering and discrimination and will eventually make it safe to travel alone on buses.

End notes

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5. Ammi Kumari, Ranchi: Girls' dropout rate soars in high school
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6. *India Untouched* DVD, DRISHTI Media, Arts and Human Rights,
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PRODUCTION, CONSUMPTION, TRADE AND ENVIRONMENTAL CHANGE

The Coffee in Asia

with an in-depth study of 'Starbucks'

[Stages 5/6 Geography, Stage 6 Business Studies]

By Dr. Susan Bliss

Image: <http://www.foodnavigator-asia.com/Markets/Asia-leads-the-way-in-global-coffee-growth>

The global coffee industry continues to experience growth driven mostly by Asian markets. Four out of the five fastest growing retail coffee markets are located in countries in the Asia region. The global leader is Indonesia growing a 17.5% followed by Asian countries, such as Turkey (17.5%), India (15.1%) and Vietnam (14.9%). This growth is attributed to an increase in the number of new coffee products on the market, many traditional tea drinking consumers converting to coffee, and the emerging middle class.

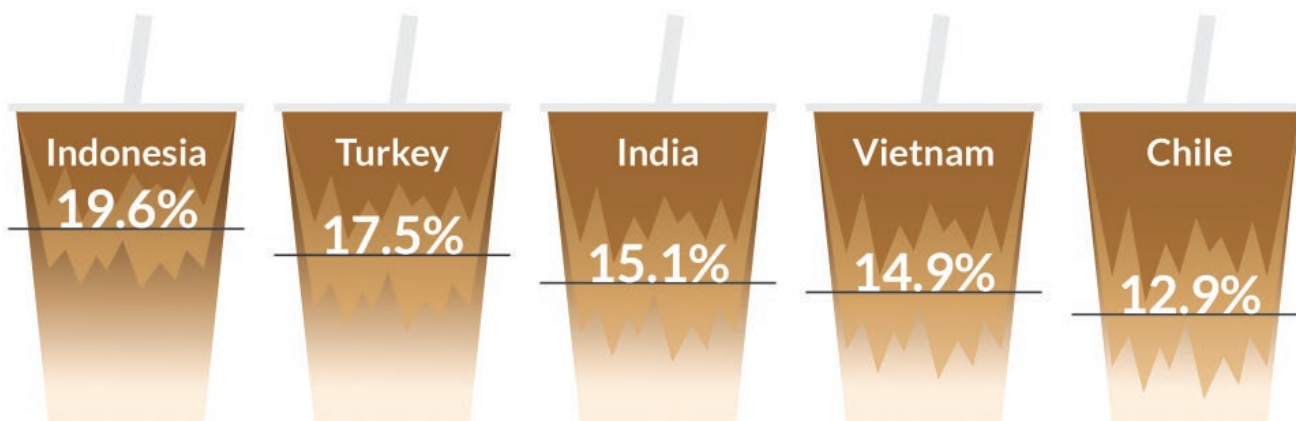
Top five fastest coffee growing markets

Image: <http://e.vnexpress.net/news/business/vietnam-s-caffeine-thirst-puts-it-in-world-s-top-growing-coffee-markets-3549858.html>

COFFEE, TOP 5 FASTEST GROWING MARKETS BY RETAIL VALUE (CAGR%), 2012-2016

Compound annual growth rate
(average value growth over past 5 years, %)

MINTEL



SOURCE: MINTEL

WAVES OF COFFEE: PAST, PRESENT AND FUTURE

Coffee waves identify trends within the coffee industry and assists future company developments and planning. For example most **emerging Asian countries** such as China and Thailand are moving from 'first wave' to 'second wave' coffee as they change from instant coffee, to higher quality fresh beans. While more **developed Asian countries** such as Japan, South Korea and Singapore are moving towards 'third wave' coffee focusing on where beans are sourced, how beans are roasted, and different brewing methods.

The 'fourth wave' is driven by millennials and the emerging Asian middle class seeking gourmet style coffee and artisanal coffee delivered to their door. Asian 'coffee snobs' drink nitro cold brew and draft lattes, served in speciality cafes-similar to the growth of micro-breweries.

Whatever the future trend in coffee consumption in Asian countries, the present coffee craze has sparked the growth of new professions such as baristas, start-up businesses selling ground and roasted beans, coffee grinders, espresso machines and brewing tools. However, continuing innovation is essential in Asian markets for **sustainable** growth.

WAVES OF COFFEE

Image background: <https://s-media-cache-ak0.pinimg.com/236x/ea/83/9f/ea839f560ecb68aec83a584b1bae6b51.jpg>

Notes/table S. Bliss

| 1 ST WAVE | 2 ND WAVE | 3 RD WAVE | 4 TH WAVE? |
|---|---|---|---|
| Escalating coffee consumption. | Enjoyment of specialty coffee. | Purchasing coffee based on source (farms not countries) and roasting to bring out different flavours. | Consumers interested in brewing methods and nuances of flavours. Rise of specialty coffees and 'roast to order' businesses. |
| After WW2- growth of instant and vacuum coffee. | Late 1960s- espresso and latte coffees, cafes become BIG BUSINESS e.g. Development of coffee shops chains e.g. Starbucks | From 2002- focus on taste, sustainable business practices. | No longer does ' BIG COFFEE ' influence the market. |

ACTIVITIES

- Refer to Drips and Draughts Episode 008 that discusses the four waves of coffee <http://www.dripsanddraughts.com/the-waves-of-coffee-first-second-third-and-fourth-waves-of-coffee-episode-008/>. Describe the four waves of coffee.
- Asian countries are experiencing a mixture of waves. Discuss this statement.
- Explain why an understanding of the waves is important to plan the future direction of the coffee industry.
- List the Asian countries experiencing the largest percentage growth in coffee consumption.



<https://www.worldcoffeepress.com/tag/tanzania/>

COFFEE TRAVELS TO ASIA

The earliest coffee drinking appeared in mid 15th century, in Sufi monasteries in Yemen. The Sufi's or Whirling Dervishes drank coffee as a stimulant, to help them stay awake during meditation and prayers.

Sufi's spin in repetitive circles aimed to unify their mind, emotion and spirit. Today, it is practiced by the Sufi Dervishes of the Mevlevi order in Turkey.

Whirling Dervishes in Turkey and the four stages Image: Cappadocia, whirling dervish, (J. Bliss). Notes S. Bliss

Pilgrims and traders spread coffee drinking throughout the **Islamic world**. From the Muslim world it spread to Italy, rest of Europe, Indonesia and the Americas.

Around 1600, Baba Budan smuggled coffee seeds from Arabia into **India** during his pilgrimage to Mecca. By 1699, the Dutch had planted coffee plants on Java (Indonesia) and by 1719 the **Dutch East India Company** supplied Europe with 'Java coffee'. The company then established coffee plantations in Sri Lanka and Sumatra.



TURKEY'S COFFEE CULTURE

In Turkey, the formation of **culture** around coffeehouses dates back to 14th century. As coffee was a powerful aid to intellectual discussions, people met and conversed in coffeehouses. The coffee was brewed in large cauldrons, flavoured with saffron, cardamom, opium, hashish and/or ambergris.

The Sultan's coffee service consisted of golden braziers to heat the coffee. Golden pots were held on gold chains by slave girls. They gracefully passed the coffee to the Sultan's lips using the finest porcelain cup.

In 2013, Turkish coffee, was inscribed on the **Intangible Cultural Heritage of Humanity** (UNESCO)

Woman in the Sultan's court drinking coffee during the Ottoman Period in Turkey

<https://s-media-cache-ak0.pinimg.com/564x/45/85/cc/4585cc1909cc65c3ba9c4c1b2fd80ec4.jpg>

ACTIVITIES

- Investigate how coffee moved from Ethiopia to Asia.
- Explain why the Sufi's drink coffee.
- Research the growth of coffee culture in Turkey. Present as an oral report.

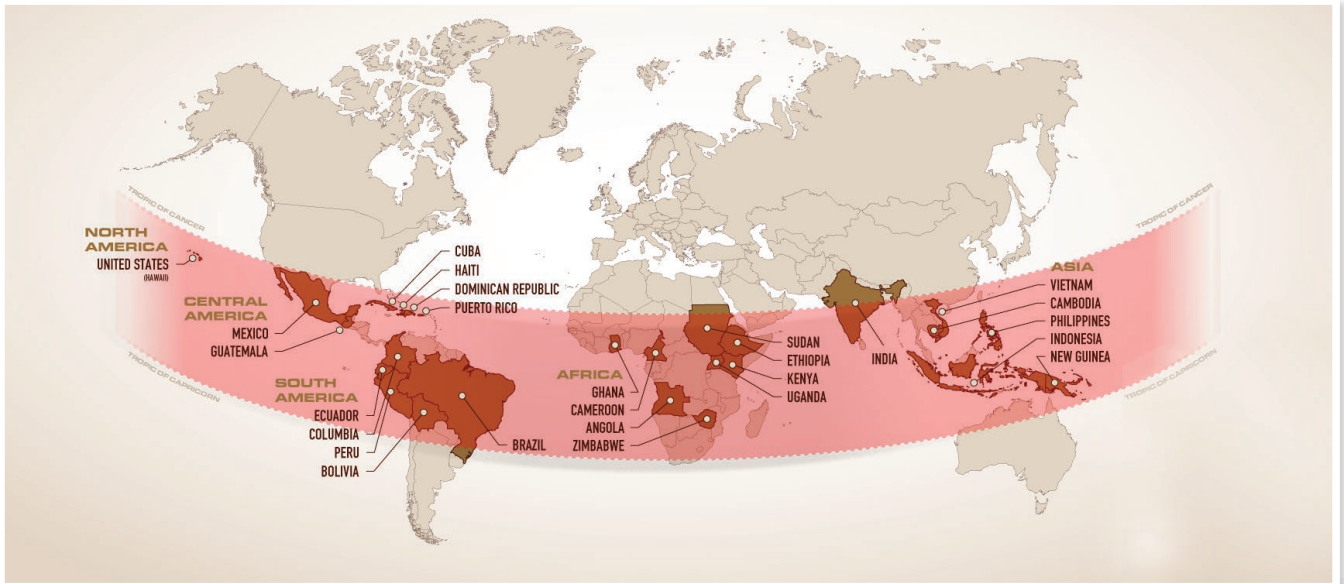


OPTIMAL COFFEE ENVIRONMENT

The ideal environment for growing coffee shrubs is between the Tropic of Cancer and Tropic of Capricorn called the '**Bean Belt.**' It includes Asian countries such as Indonesia, Vietnam, India, Sri Lanka and the Philippines.

Coffee Belt

Map: <http://knowyourgrinder.com/wp-content/uploads/2015/01/coffee-bean-growing-belt.png>



ARABICA VERSUS ROBUSTA COFFEE SPECIES

The taste of coffee you finally drink is complex. Just like wine, the taste is a mixture of plant species, soil, climate (temperature, precipitation, sunshine), and altitude at which the coffee grows.

Out of 6,000 coffee species the two most commonly grown species cultivated today are:

- *Arabica coffee*, 75%-80% of world production
- *Robusta coffee*, about 20% of world production

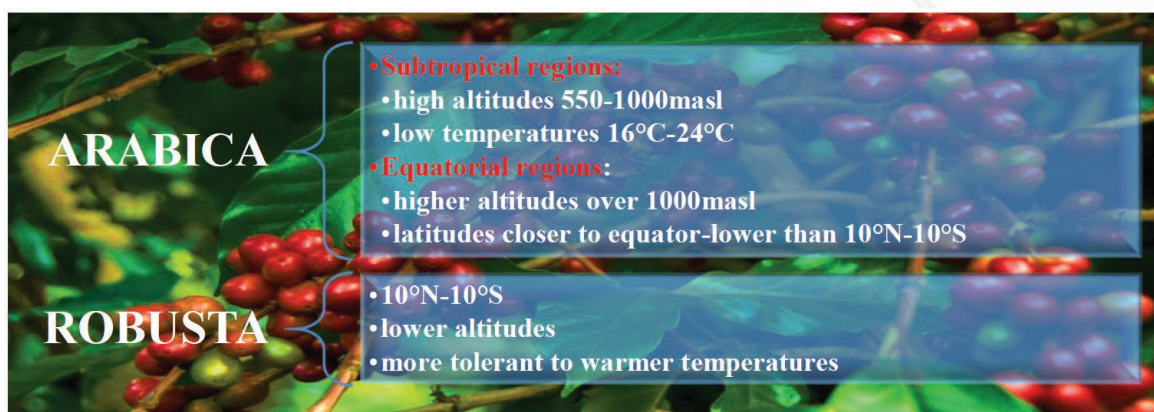
Finicky *Arabica* grows best at high altitudes with lower temperatures compared to *Robusta* that thrives at lower altitudes with higher temperatures.

Robusta trees are easier to grow, less vulnerable to pests and weather variations, and produce fruit more quickly than *Arabica*. *Robusta* beans are generally lower-quality beans and are primarily used in instant coffees.

In Asia, the main *Arabica* producing countries are Indonesia and India, and the main *Robusta* producing countries are Vietnam and India.

Comparing environments-Arabica and Robusta coffee species

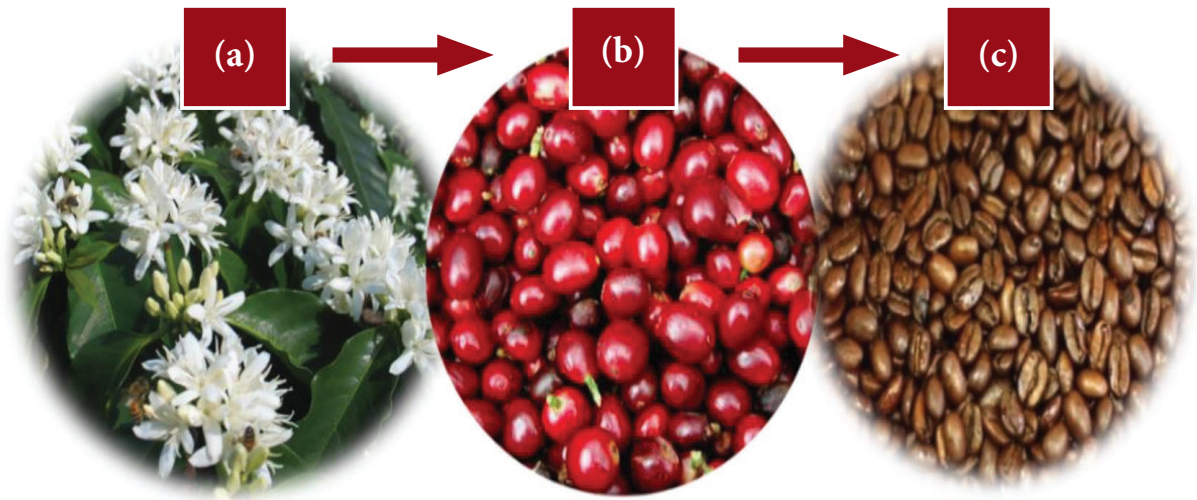
Image background: <http://www.foodevolution.com.ph/wp-content/uploads/2016/01/FoodEvolution-coffee.jpg>. Table S. Bliss



PROCESS: FROM COFFEE FLOWER, TO CHERRY TO BEAN

The **coffee plant** is an evergreen shrub. The white flowering plants **(a)** produce fruits called ‘cherries’ **(b)** which contain two seeds called coffee beans **(c)**.

Flavours of coffee beans are complex as they depend not only on the environment but also processing procedures.



PROCESS: FROM ‘SHRUB TO MUG’



Background image: <http://stylesatlife.com/wp-content/uploads/2016/08/Veinna-coffee.jpg>. Notes/diagram S. Bliss

ACTIVITY: COFFEE GROWS ON TREES

Students research the coffee production process. Photocopy this page, then cut out statements and sequence the cards in order of the process 1-12.

Adapted from <http://www.dep.org.uk/activities/ge-activities/13/ge13activities.htm>



| | | | |
|--|--|---|--|
| <p>Thousands of carefully selected beans are planted close together in the nursery and are covered with rich soil.</p> | <p>Machine removes pulp from the two seeds (or beans) that are inside the fruit.</p> | <p>Beans soak in tanks of cold water for 24 hours and are then washed in fresh water.</p> | <p>After eight weeks seeds sprout and roots develop. Best plants are selected, transplanted and looked after</p> |
| <p>When the plants are 0.6 metres tall they are transplanted outside in the coffee plantation.</p> | <p>Beans are scooped up into baskets and spread out to dry in the open-air</p> | <p>When dry the beans are taken to mill where machines remove the husk and skin.</p> | <p>Takes about three to four years for a coffee tree to grow to full size. First fruit appears six months later.</p> |
| <p>When the fruits are a rich red colour they are ready for harvesting and are generally picked by hand.</p> | <p>The olive green beans are tested for quality.</p> | <p>The beans are packed for the journey to factories often in other countries where they will be roasted, ground and packed for sale.</p> | <p>The fruits are packed into bags, loaded onto mules, donkeys, bicycles or trucks, and taken to the de-pulping machine.</p> |

OVERVIEW: COFFEE PRODUCTION AND CONSUMPTION

Coffee is the world's most **traded** product, second in value to oil. Approximately 90% of world's coffee **production** takes place in developing countries, and coffee farms are the economic livelihood of over 25 million people.

Coffee **production** is thriving in **Asia**. About one third of coffee is produced in Asia, with Vietnam second largest and Indonesia fourth largest coffee producers in the world. Between Vietnam, Indonesia, Thailand and the Philippines these countries **produce** 18% of the world's coffee and account for 22% of global coffee **exports**.



PRODUCTION

- **Grown in 70 countries, most in developing countries located around tropics such as INDONESIA**
- **About 33% of world's coffee beans are produced in Brazil**
- **INDIA is the world's sixth largest coffee producing country. Coffee production is mainly located in Karnataka (53%), Kerala (28%) and Tamil Nadu (11%). There are 250,000 coffee growers of which 98% are small growers.**



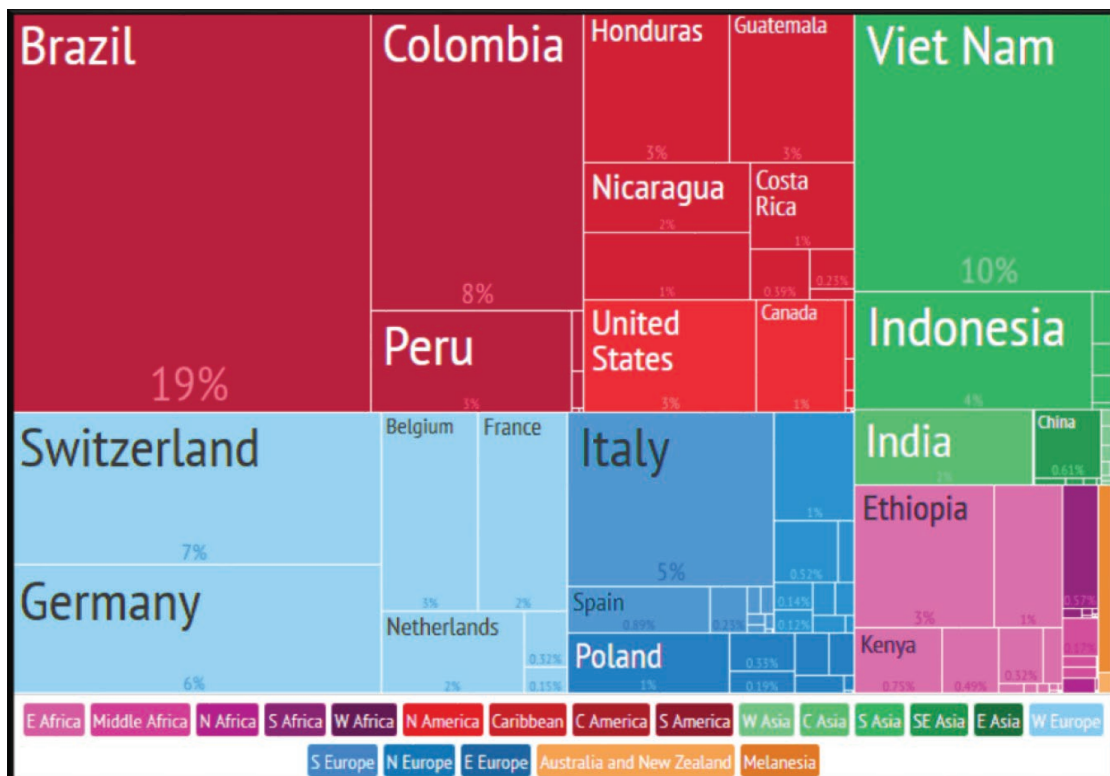
CONSUMPTION

- **USA world's largest coffee consumers.**
- **Finland highest per-capita coffee consumers in world**
- **JAPAN produces little coffee, but despite its ancient tea culture, is one of the highest per capita coffee consumers in Asia and largest coffee importer in Asia**

LARGEST EXPORTERS OF COFFEE (NOT ROASTED).

Tree map: Asia: Vietnam, Indonesia, India and China

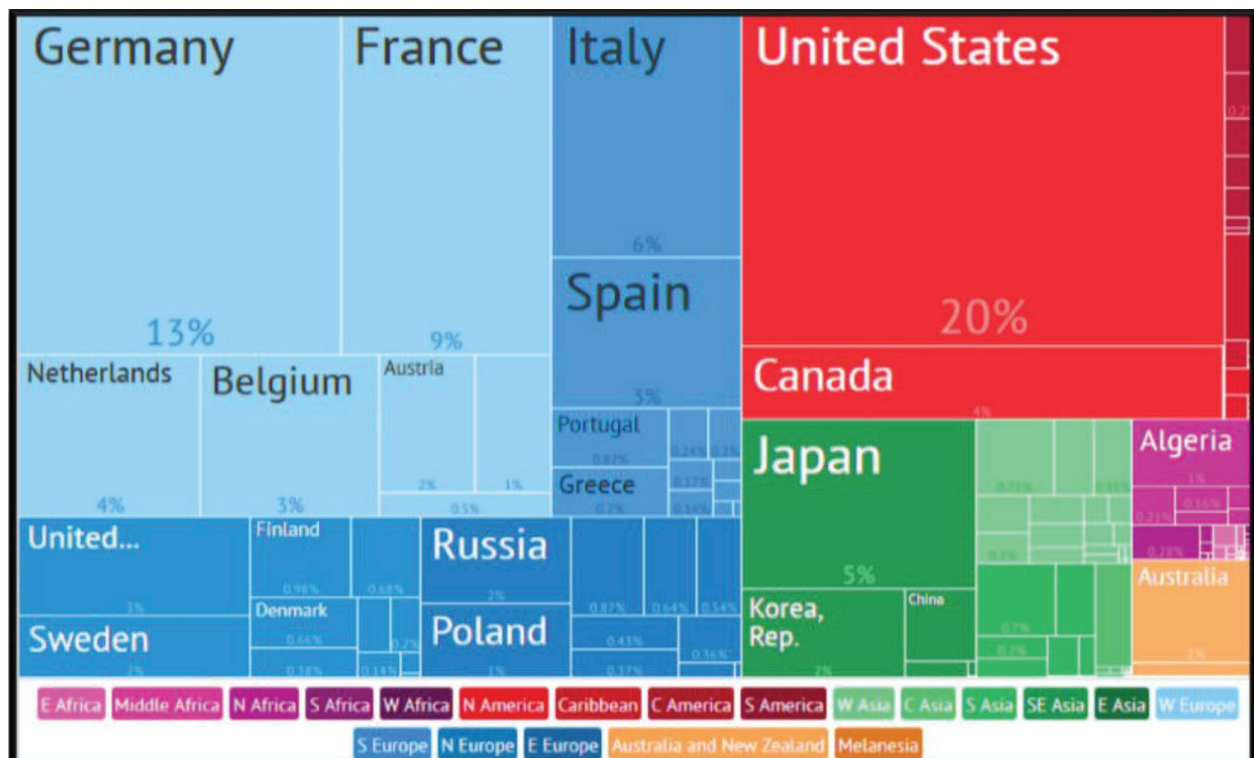
Source: http://atlas.cid.harvard.edu/explore/tree_map/export/show/all/0901/2014/



MAIN IMPORTERS OF COFFEE (NOT ROASTED)

Tree map: Asia-Japan, South Korea, China, Malaysia, Saudi Arabia and Turkey

Source: http://atlas.cid.harvard.edu/explore/tree_map/import/show/all/0901/2014/



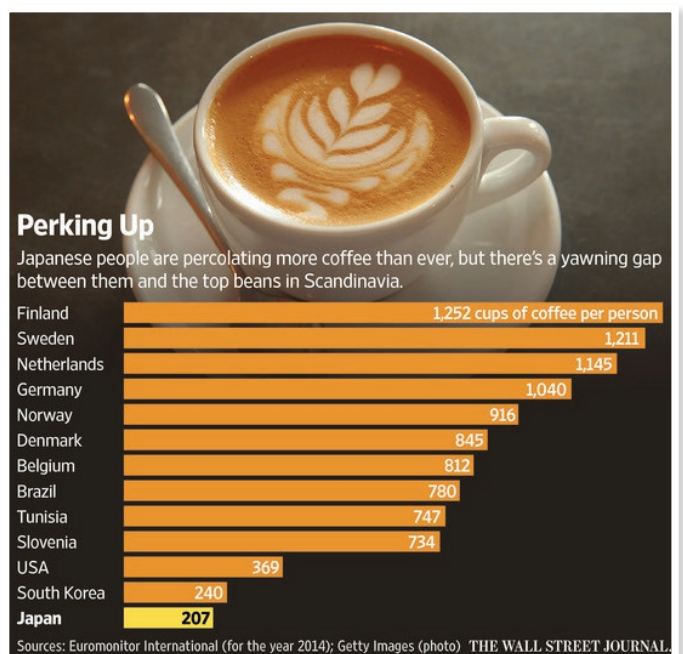
COFFEE CONSUMPTION-ASIA

Countless cafes and mobile trucks serve coffee around the world. Globally, people drink more than 2.5 billion cups of coffee each day coffee, ranging from instant, strong Turkish, Italian espresso, specialist gourmet, organic and no caffeine varieties. Aside from the satisfying ‘buzz’ first thing in the morning, coffees greatest power is how it connects people, places and environments across the world in a complex network of **international trade**.

COFFEE CUPS PER PERSON-LOW BUT INCREASING IN ASIA

Image: http://si.wsj.net/public/resources/images/AI-CQ252_ICOFFE_G_20150610033609.jpg

Asians generally drink less coffee per person compared to Europeans. However consumption is increasing especially among the emerging middle class. Instant coffee and ready-to-drink cold coffee dominates the Asian market. In 2016, 29% of coffee launches in the Asia Pacific region were ready-to-drink cold coffee products, compared to 10% in Europe. Recently coffee pods are on the rise. In 2016, 13% of coffee products launched were coffee pods-up from 4% in 2011.





INDIA

PRODUCTION AND CONSUMPTION

COFFEE-PRODUCTION AND CONSUMPTION IN INDIA

- first variety introduced in Baba Budan Giri hill ranges of Karnataka in 17th century
- production mainly located in the hills of South Indian states-Karnataka 71%,Kerala 21% and Tamil Nadu 5%
- best coffee grown is in the shade rather than direct sunlight
- 250,000 coffee growers-98% are small growers
- 80% of country's coffee production is exported
- grown under monsoon rainfall conditions-termed as 'Indian monsoon coffee'
- Arabica and Robusta species grown
- processing using two methods-dry and wet
- regional research stations covering different agro-climatic conditions
- over last 50 years, coffee production in India grown by over 15%
- Café Coffee Day is the country's largest coffee bar chain
- production affected by climate change, pests and diseases

Since the Indian government changed its policies and allowed farmers to take control of their own sales in the mid-'90s, India's coffee industry has seen a boost in quality and profits, and has taken a seat in gourmet coffee circles. Even Starbucks has noticed. After years of buying very little Indian coffee, the chain is using it exclusively in espresso drinks at its recently opened shops in India.

http://old.seattletimes.com/html/specialreportspages/2020216578_coffee-in-india-part-two.html





INDIA

ENVIRONMENTAL CONDITIONS FOR GROWING COFFEE IN INDIA

Table <https://www.indiacoffee.org/coffee-regions-india.html>

| FACTORS | ARABICA | ROBUSTA |
|-------------------|--|---|
| Soils | Deep, fertile, rich in organic matter, well drained, slightly acidic (pH6.0-6.5) | Same as Arabica |
| Slopes | Gentle to moderate slopes | Gentle slopes to level fields |
| Elevation | 1000-1500masl | 500-1000masl |
| Aspect | North, East and North- East | Same as Arabica |
| Temperature | 15 ⁰ C – 25 ⁰ C ; cool, equable | 20 ⁰ C – 30 ⁰ C; hot, humid |
| Relative humidity | 70-80% | 80-90% |
| Annual rainfall | 1600-2500 mm | 1000-2000 mm |
| Blossom showers | March- April (25-40mm) | February – March (25-40 mm) |
| Backing showers | April-May (50-75 mm) well distributed | March-April (50-75 mm) well distributed |



Hindu priest Shivashankar, in orange, at a temple high in the **Bababudan Giris**. According to legend, the 17th-century Muslim pilgrim Baba Budan smuggled coffee from Yemen, introducing the crop to India. Coffee fields are now visible in all directions.

http://old.seattletimes.com/html/specialreportspages/2020216578_coffee-in-india-part-two.html



Workers bring down bags of freshly picked Arabica at Badra Estates' Bettadakhn Estate in India. The forested plantation is located in a mountain range called **Bababudan Giris**

http://old.seattletimes.com/html/specialreportspages/2020216578_coffee-in-india-part-two.html



Red cherries: Karnataka

Adapted: http://socialdocumentary.net/exhibit/REZA_/2245

This plantation has been operated by the Rodrigues family for four generations. Seasonal workers are paid by quality and quantity of coffee cherries gathered and sorted. An inspector passes by the mounds of red cherries before the next process.



Kumbrikhan plantation, Karnataka

Adapted: http://socialdocumentary.net/exhibit/REZA_/2245

After coffee beans are separated from their red skin, they are fermented for several hours. The men fill large baskets with wet coffee beans, and pour them onto the terrace, creating perfect domes of coffee beans.

Women spread the moist coffee beans allowing them to dry under the sun. For 24 hours, they are constantly turned. Once dried they are placed in bags, ready for sale.

CHINA: EXPANDING COFFEE PRODUCTION AND CONSUMPTION

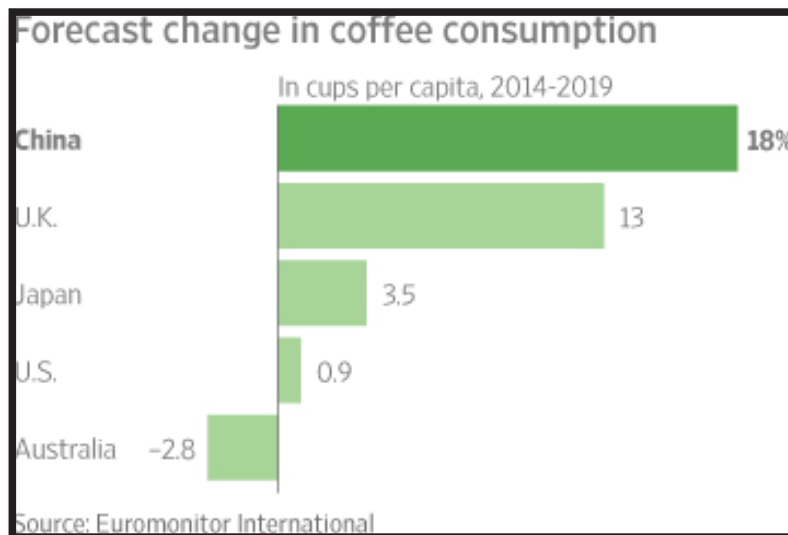
In China, over the past few years coffee production and consumption have grown at double-digit rates.

- **Exports:** China exports coffee to 97 countries with Germany (71%) its biggest destination.
- **Imports:** Vietnam (49%) is the largest supplier of coffee to China, followed by Indonesia (14%) and Malaysia (7%).

Despite the Chinese overwhelming preference for tea, **coffee consumption** has tripled over the past four years. Instant coffee makes up 99% of sales but fresh roasted coffee is growing rapidly. Coffee shops have become a fixture in urban landscapes and specialist coffee shops are appearing.

FORECAST CHANGE IN COFFEE CONSUMPTION

https://static.seekingalpha.com/uploads/2017/4/6915901_14921187992089_rId9.png



Arabica coffee is predominantly grown in **Yunnan Province** as it possesses the optimal environment—mountainous landscape and mild climate bordering the Coffee Belt. In fact the Province accounts for 98% of China's coffee output. Coffee giants such as Nestle and **Starbucks** have been purchasing **Puer coffee**, from Yunnan Province. A hectare of coffee in Puer earns more than \$10,000 a year, triple the amount for tea, and five times more than rice.

China compared to world production and consumption

<http://europe.chinadaily.com.cn/business/images/attachement/jpg/site241/20130109/0023ae606e8412570f7e08.jpg>



ANNUAL COFFEE BEAN OUTPUT

Puer
36,500 metric tons

China
40,000-45,000 metric tons

World
9-10 million metric tons

ANNUAL PER CAPITA COFFEE CONSUMPTION

China
3-4 cups

World
240 cups



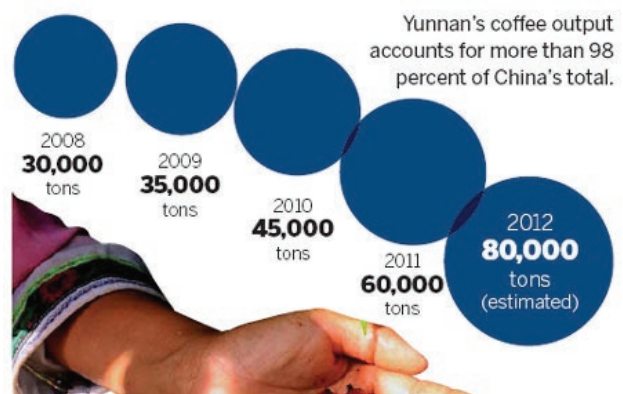
Source: Beijing Coffee Association

LI YI / CHINA DAILY

Coffee production in Yunnan Province growing

<http://europe.chinadaily.com.cn/epaper/images/attachement/jpg/site241/20121130/0013729e4771122264eb0c.jpg>

COFFEE OUTPUT IN YUNNAN PROVINCE



INDONESIA: MAJOR PRODUCER AND EXPORTER OF COFFEE

Indonesia located in the coffee belt, provides the ideal climate for coffee production. In 2014, Indonesia was the fourth largest producer and exporter of coffee in the world. The main exported bean is lower quality Robusta beans (75%) mostly used in instant coffee. Sumatra is the largest producer of Robusta with 90% grown on small farms.

Commercial **Robusta** and the **instant 3-in-1 coffee variety** remain the king of coffee in Indonesia. The **Indonesian Coffee Exporters Association**, plans to expand Indonesia's coffee plantations, and rejuvenate old plantations as coffee production per hectare is low (800kg per ha) compared to Vietnam (1500kg) and Brazil (2000kg).

With 10% of the population living below the poverty line, the artisanal coffee aficionados (4th wave) are still a minority. However, quality beans from local farms sold to specialty coffee shops are starting to expand.

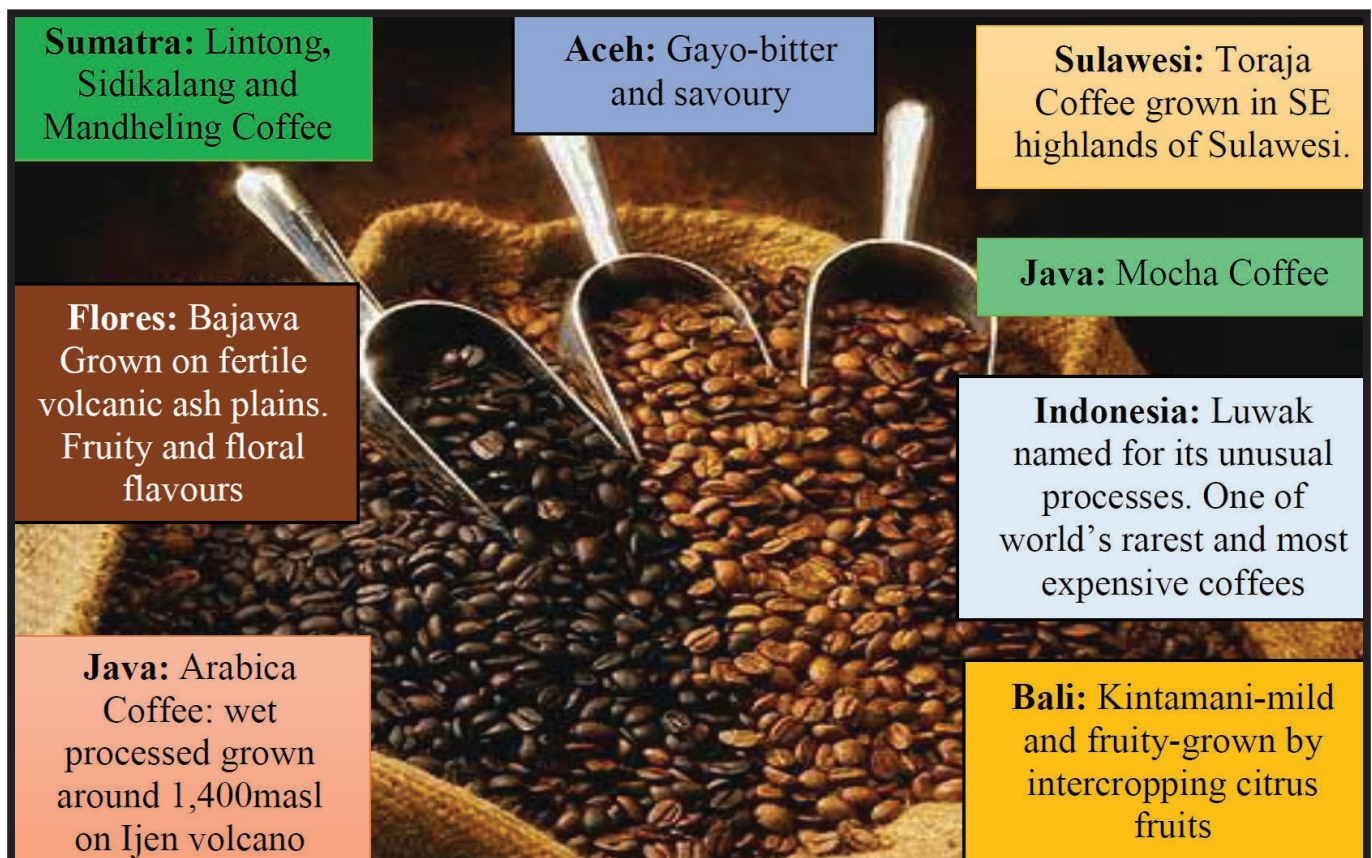
MAIN COFFEE PRODUCING AREAS IN INDONESIA

The three main areas in Indonesia that grow coffee are Java, Sulawesi and Sumatra:

- **Java** is renowned for its gourmet Arabica most suited to altitudes above 1500masl.
- **Sulawesi** grows coffee in the mountainous area of Toraja, above 1500masl using traditional practices by privately owned smallholders.
- **Sumatra** produces famous Mandheling and Ankola coffee brands. The beans are dryprocessed and are renowned for their rich flavour.

POPULAR INDONESIAN COFFEES

Notes/diagram S. Bliss



Coffee introduced into the islands by the Dutch, is today dominated by 2 million smallholder farmers. They mostly live in remote villages, produce low yields as few farmers possess modern cultivation methods. They travel to markets along poorly maintained mountain roads, and unreliable weather hampers coffee production.

INDONESIA: SPECIALTY COFFEE-CAT 'SHIT' COFFEE

Civet coffee or **Kopi Luwak** is one of the most expensive coffees in the world, with some places charging \$100 per cup of coffee. The short supply of this coffee and the unusual production method explains its high cost. Kopi Luwak is produced in Indonesia (Sumatra, Java, Bali and Sulawesi), Vietnam and the Philippines, where an Asian cat-like animal called a **palm civet** or **civet cat** eats ripe coffee cherries. After the Civet has partly digested the cherry (about 24 hours), they are defecated. The faeces are collected, washed, roasted, and sold as Kopi Luwak. The Civet's digestive process is supposed to improve the flavour of the beans.

CIVET PROCESS AND PRICES



| Cost | Kopi Luwak | Average coffee |
|----------------|-------------|----------------|
| Cup in shop | \$35-\$100 | \$2-\$5 |
| Price per 500g | \$100-\$600 | \$3-\$10 |



Despite the coffee considered a luxury 'sip,' the following problems developed in the Civet industry:

- high profits led to intensive farming of civets in battery cages
- trade in civets threatened wild civet populations
- producers labelled coffee from caged civets as 'wild sourced'
- 50% of civet coffee is counterfeit.

So, your coffee may not be the 'real deal'!

CONSUMPTION OF COFFEE IN INDONESIA

Coffee consumption in Indonesia continues to grow. Roadside hawkers selling coffee are still a common sight at traditional markets and bus terminals. However specialist coffee and coffee chain stores have doubled in recent years to cater for the expanding urban middle class. Indonesian consumers have embraced the coffee craze with Starbucks (USA), Coffee Bean (Singapore) and Segafredo (Italy) sold in major cities.

ACTIVITY:

Describe the disturbing story behind one of world's most expensive coffees

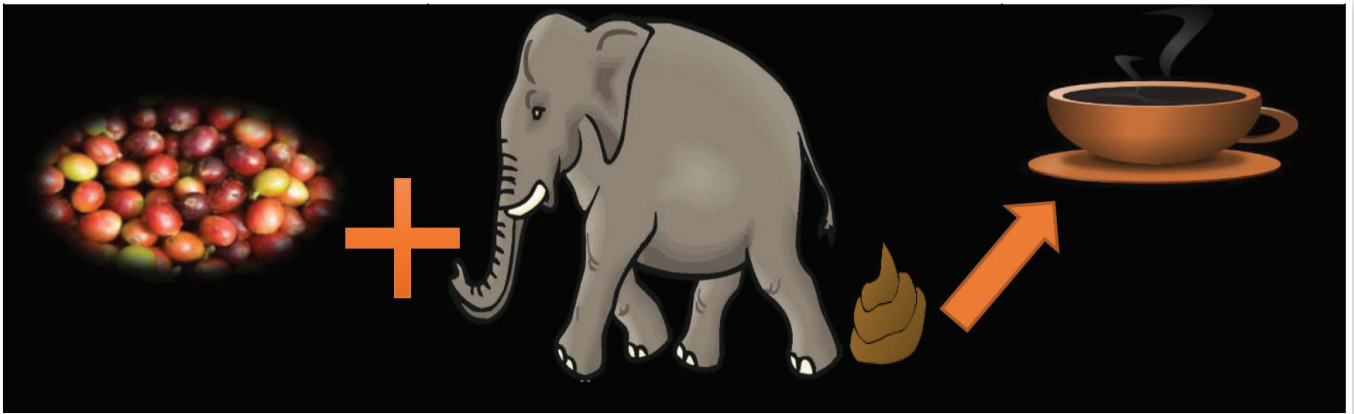
<http://news.nationalgeographic.com/2016/04/160429-kopi-luwak-captive-civet-coffee-Indonesia/>



THAILAND: SPECIALTY COFFE-ELEPHANT DUNG

Black Ivory Coffee is produced by the Black Ivory Coffee Company in northern Thailand. The coffee has been described as very smooth without the bitterness of regular coffee. It is among the world's most expensive coffees, at US\$1,100 per kilogram.

Process- making Black Ivory Coffee



The **Golden Triangle Elephant Foundation** selects the best 100% Thai Arabica beans picked from an altitude as high as 1500masl. The elephants are then fed 33 kilograms of Arabica coffee cherries to produce one kilogram of coffee. The Arabica coffee beans are digested by the elephants for around 24 hours. Once the elephants have defecated the wives of elephant mahouts (*mahouts work, ride and tend elephants), collect the dung, break it open and pick out the coffee. The defecated beans are sundried and roasted.

The elephants' digestive enzymes breaks down the coffee's protein that contributes to the coffee's bitterness. Interestingly, the elephants do not get 'over active' from the coffee, as caffeine is only released when the beans are heated.

Contributes to improved human and elephant wellbeing:

- Provides valuable income for the wives of mahouts. The income contributes to school fees, health expenses, food and clothing
- Women earn a legal day's wage in 45 minutes
- About 8% of Black Ivory coffee sales funds veterinarians and medicine to treat sick elephants

Elephants at Black Ivory coffee

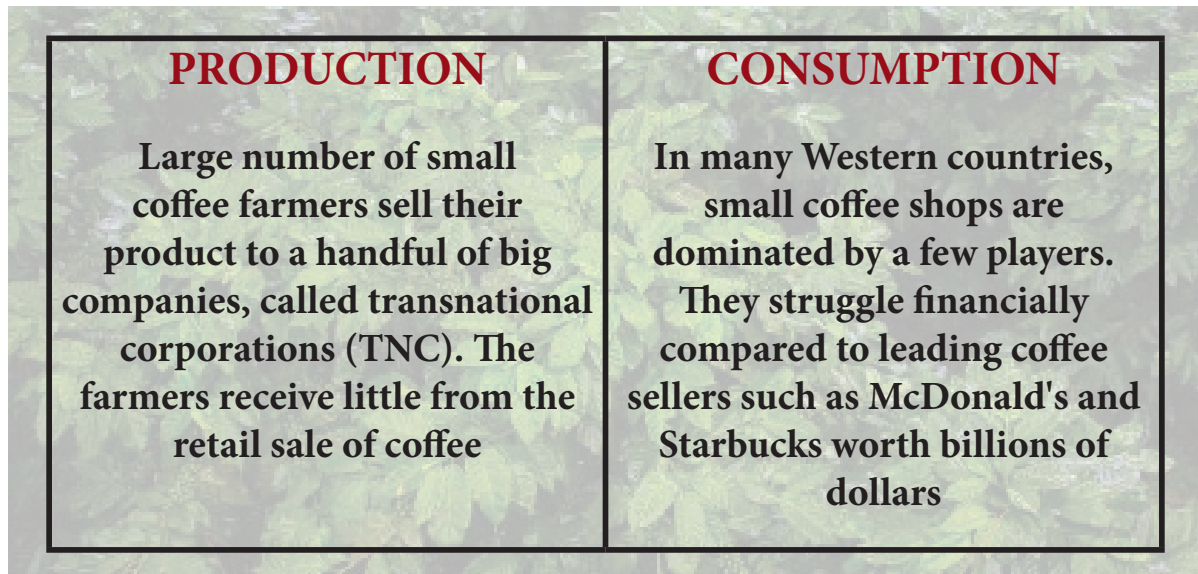
Photo: http://m5.paperblog.com/i/37/376635/the-black-ivory-coffee-L-DGIl_w.jpeg



INEQUALITY IN BILLION DOLLAR COFFEE INDUSTRY

The coffee industry worth over \$100 billion a year, produces large profits for **transnational organisations** (TNC) such as Nestle and Starbucks. Unfortunately not all stakeholders in the coffee industry benefit equally from its profits. When we pay for luxury lattes the price paid exceeds half the daily income of many small-scale coffee farmers.

Wealth versus poverty



WIDENING INEQUALITY GAP IN COFFEE INDUSTRY

The world coffee market, referred to as the 'coffee paradox', has resulted in a widening gap between producers and consumers:

- **coffee 'crisis' in producing countries:** trend toward lower prices; declining producer incomes; reduced export revenues; and lower living standards for millions of people in developing countries dependent on coffee
- **coffee 'boom' in consuming countries:** rising retail sales and profits for coffee retailers

As consumers in developed countries enjoy affordable coffee many noted a wide gap between **consumer** and **producer prices**. One response has been **Fairtrade** labelling where producers are guaranteed a negotiated price before the harvest begins.

Gap between rich and poor in coffee industry

Cartoon <https://s3.amazonaws.com/blog.oxfamamerica.org/politicsofpoverty/2016/01/o-INCOME-INEQUALITY-facebook.jpg>.

Notes S. Bliss

Small coffee farmers, traders, processors and retail outlets operate in a global competitive market where there are severe inequalities in wealth and power. **Consumers** also have little negotiating power when it comes to purchasing coffee from large retailers such as supermarkets (Woolworths) and corporate coffee chains (Starbucks).



By contrast large TNCs controlling trading, roasting and retailing of coffee, earn huge profits. These organisations push prices for coffee produced down and push prices consumers pay for coffee up. They can then capture the **financial gap** and make billions of dollars

Poor farmer provides wealthy Starbucks with coffee

Cartoon: <http://s3.amazonaws.com/corppwatch.org/img/original/ethiopiastarbucks.jpg>



BITTER AFTER TASTE-HOW MUCH DOES THE FARMER GET?

If coffee is such a valuable commodity, why are coffee farmers so poor?

Despite billions of dollars received by large coffee companies, coffee producing economies only receive about \$7bn out of the \$100bn yearly global coffee sales. According to Oxfam, farmers only receive 2.5% of the final price that coffee sells in the UK market. This has repercussions for poor farmers.

IMPACTS OF LOW COFFEE PRICES ON SMALL FARMERS

Image in middle <https://www.oxfamamerica.org/publications/mugged-poverty-in-your-coffee-cup/>. Notes/diagram S. Bliss



FAIRTRADE

The multi-billion dollar coffee business has a supply chain from 'crop to cup' that shows how coffee is especially unfair for the person behind every bean – the farmer.

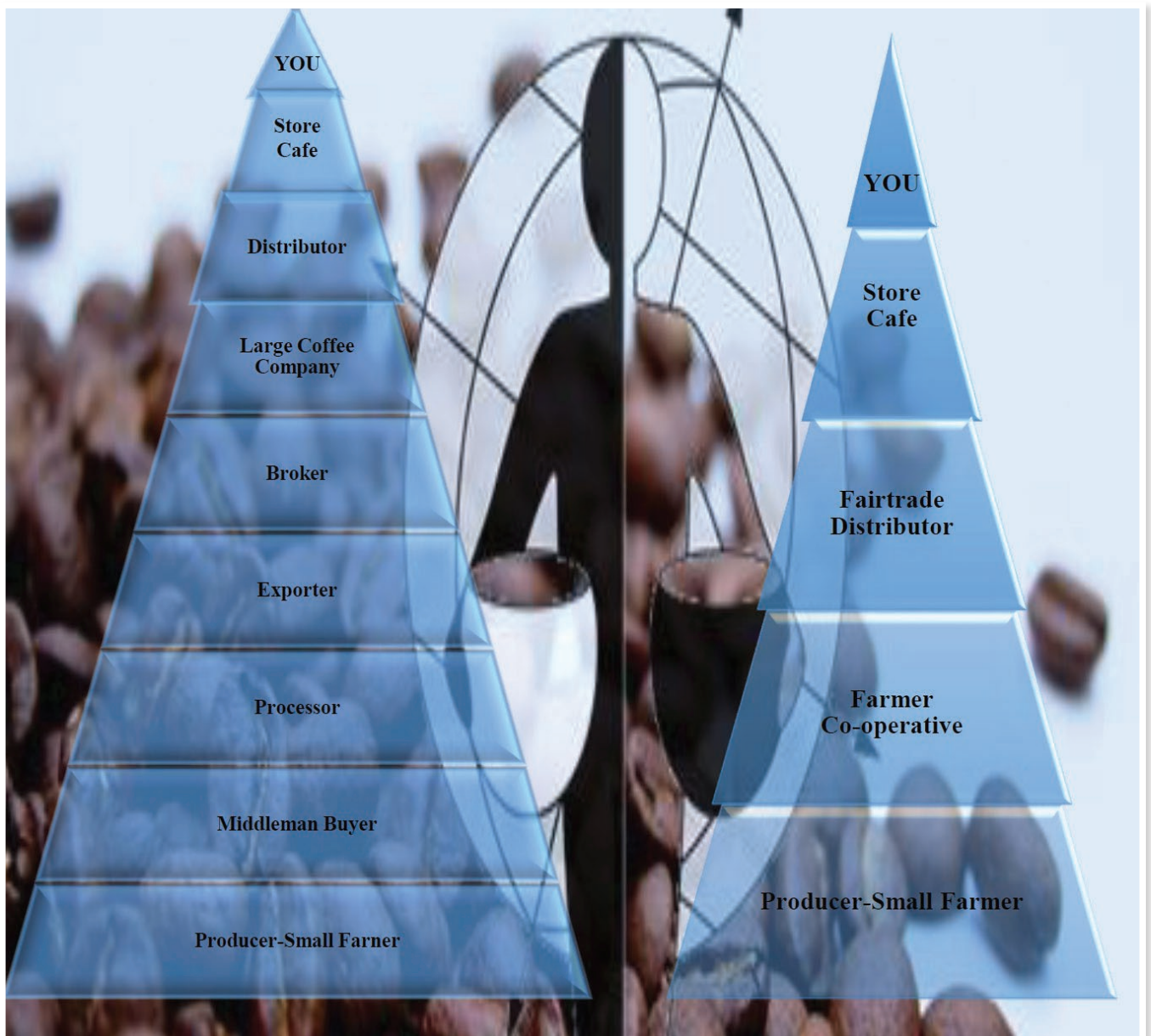
Instead, **Fairtrade** coffee:

- guarantees farmers a fixed minimum price for their coffee, seeks greater equity in international trade and prohibits forced and child labour
- eliminates middlemen exporters who often pay farmers below market rates and then sell at higher rates set by the New York Coffee Exchange—pocketing excess money for themselves
- is committed to **meet several criteria** e.g. growers must be organised into democratically run cooperatives, agree to independent inspections, and use sustainable agricultural methods

As a result Fairtrade certified coffee products have won awards, and coffee is a leader in '**ethical consumer**' habits. Individuals are beginning to build empathetic attitudes towards poverty suffered by coffee farmers. Today, coffee farmers spend at least 25% of the **Fairtrade Premium** to enhance productivity and quality.

CONVENTIONAL TRADE VERSUS FAIRTRADE-REDUCED STAGES

Background: https://media.licdn.com/mpr/mpr/shrinknp_800_800/p/6/005/081/1fb/3f51e5f.jpg Notes and diagram S. Bliss



FAIRTRADE: ASIA-PACIFIC REGION

In 1988 Fairtrade certification for coffee was introduced, and in 2014 was established in Asia. Now coffee comprises of 41% of Fairtrade activities in the Asia-Pacific region.

In Vietnam, Fairtrade-certified coffee producers are expanding to local markets to supplement income such as **Locavore Coffee**. The **Ea Kiet Fair Agricultural Cooperative**, consists of smallholder farmers, located in the Central Highlands of Vietnam. The cooperative owns and operates their own Fairtrade-certified coffee washing machine.

Farmers' returns before and after Fairtrade-3 cents versus 15 cents a cup of coffee

Diagram: <https://s-media-cache-ak0.pinimg.com/originals/73/60/d1/7360d1e5f5828570776de0c8258082ab.jpg>



What can you do?

- Write to coffee companies for improved conditions and returns for coffee farmers
- Certify that coffee consumed is not tainted with labour exploitation
- Ensure local shops and schools ethically source their coffee
- Consume a sustainable sip!

Consume a sustainable sip

Diagram S. Bliss



Activity

In groups, research Fairtrade coffee producers in Sumatra and Vietnam

<http://www.fairtradenapp.org/producers/meet-the-producers/>



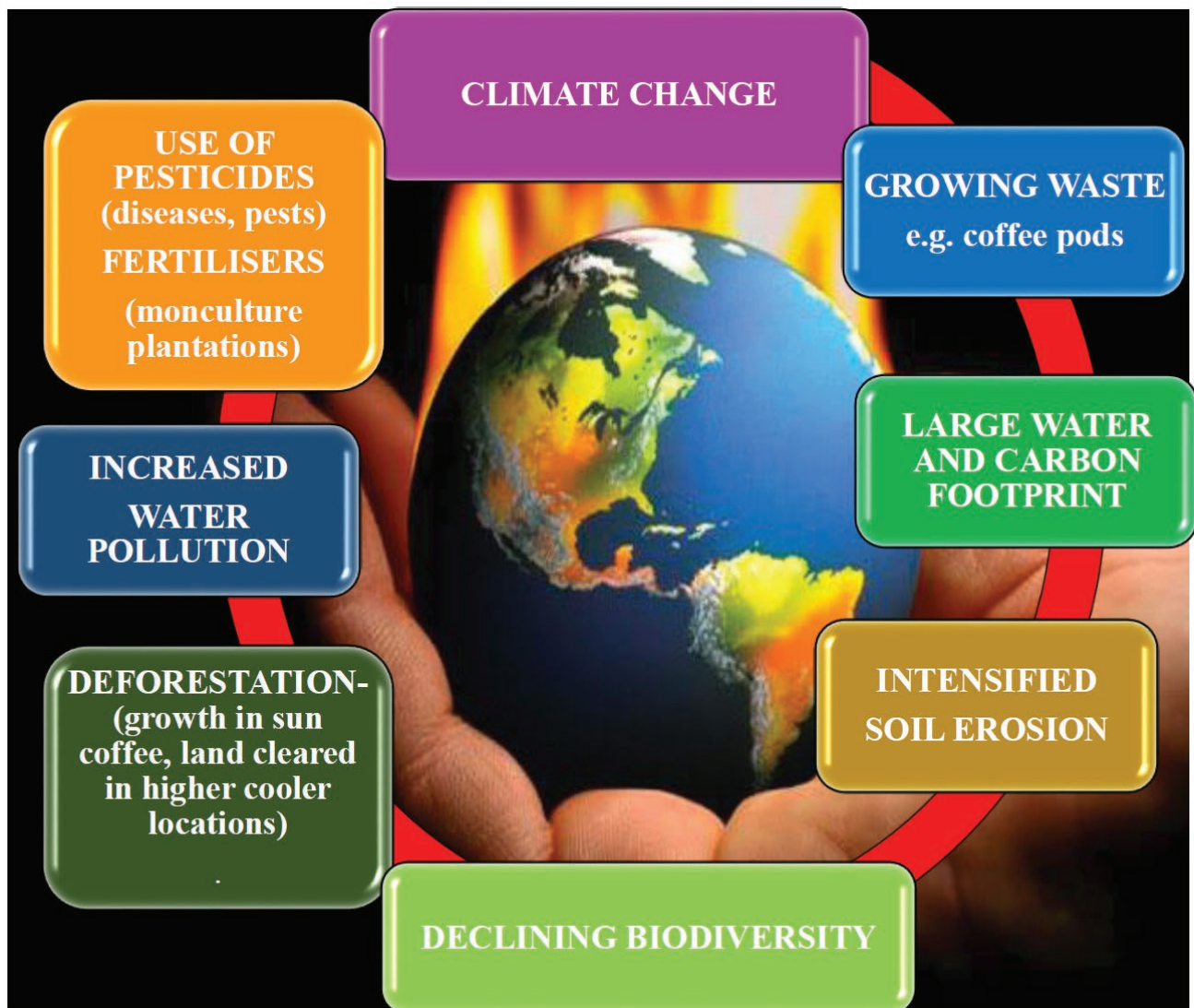
ENVIRONMENTAL COFFEE ISSUES

Coffee trees are highly sensitive to temperature and rainfall patterns. Already rising temperatures and altered rainfall patterns are having a negative impact on global coffee production such as: reduced coffee yields and coffee quality; increased pests and diseases; and growing economic insecurity in many coffee growing regions.

By 2050, the **impacts of climate change**, is anticipated to result in a decline of 50% in land suitable for growing coffee. This could have serious implications for the coffee industry with the risk of coffee becoming a rare commodity in the future. Could coffee be driven to extinction by 2100?

MULTIPLE ENVIRONMENTAL COFFEE ISSUES

Notes/diagram S. Bliss



'Consumption of coffee is increasing and farmers are struggling to keep up with demand. Unsustainable practices have created loss of biodiversity, deforestation, pesticide pollution, habitat destruction, and soil and water degradation. Hopefully more people mindful of their coffee consumption habits will purchase Fair Trade Coffee (fair salary/treatment of farmers) and shade-grown coffee (natural and environmentally friendly method of growing coffee).'

(Adapted <https://saman3230.wordpress.com/2012/09/>)

***Coffee pods** are contributing to an environmental disaster, with billions of aluminium and plastic capsules ending up in landfill or in the ocean-pods take up to 500 years to breakdown!

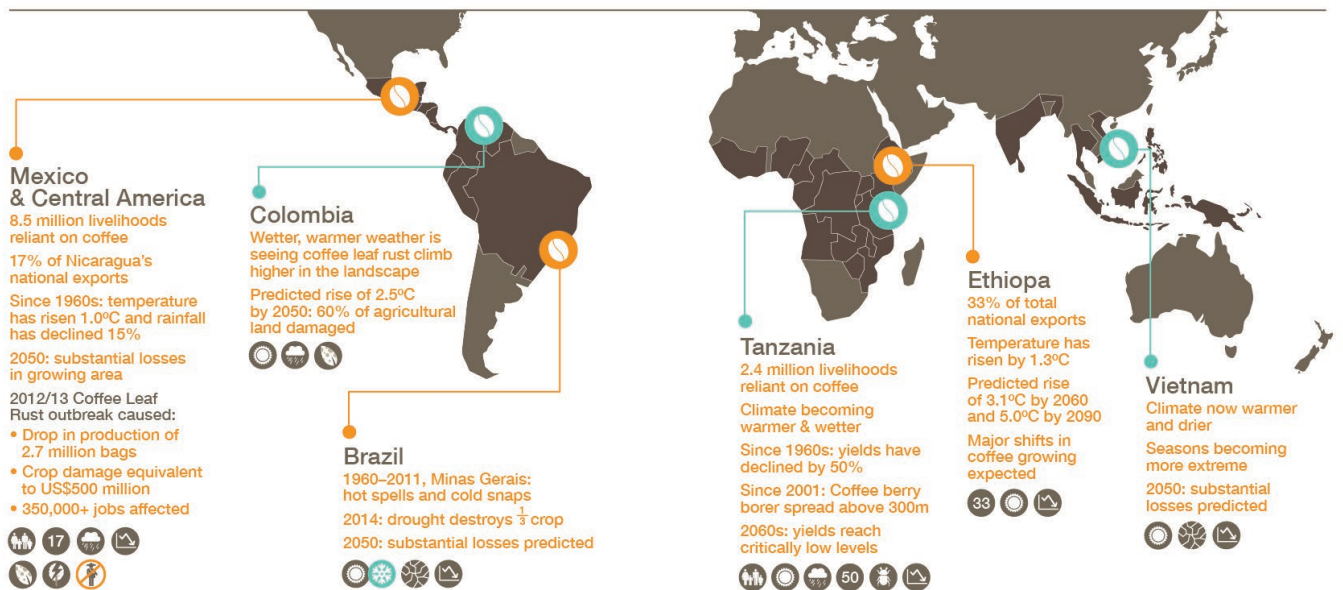
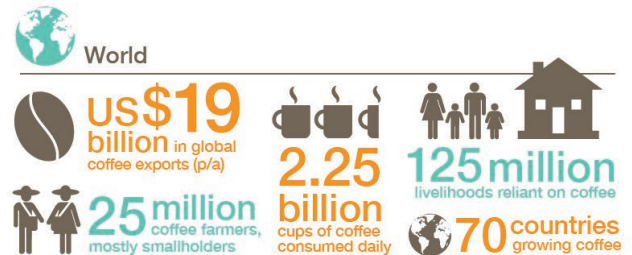
CLIMATE CHANGE AFFECTS BEAN BELT

'Around the Bean Belt, rising minimum growing temperatures, changes in rainfall patterns, and rising pest and disease incidence, are already making life harder for coffee farmers.

Map: http://www.climateinstitute.org.au/verve/resources/TCI_infographic_Bean_Belt_Map_standalone-01.jpg

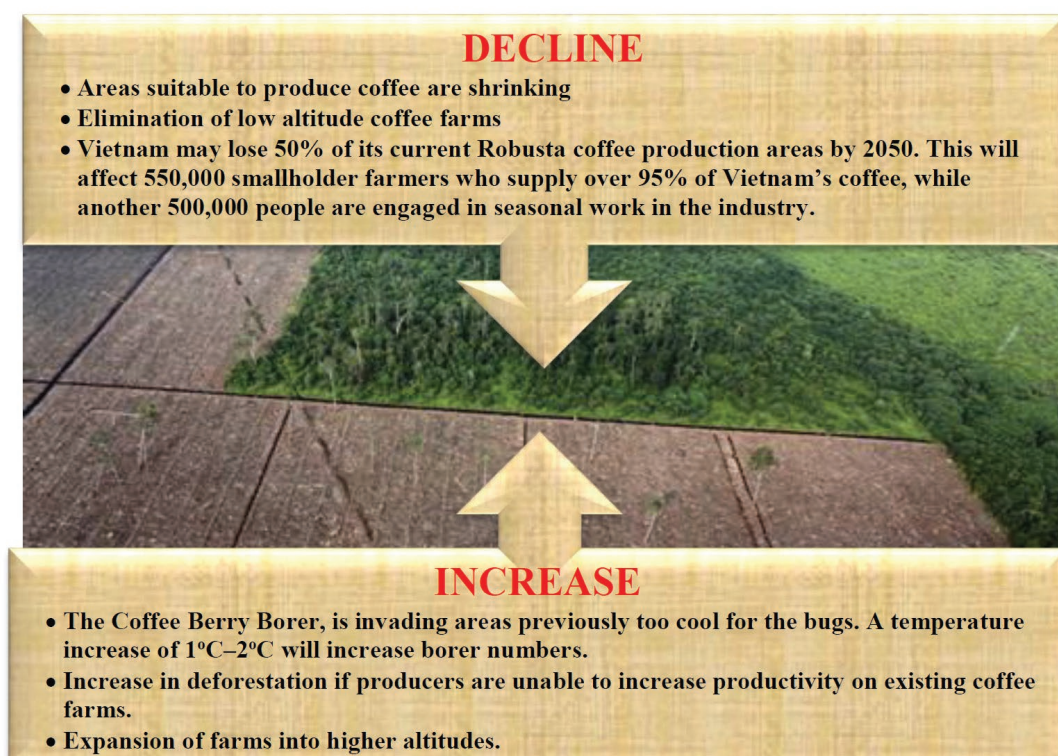
Climate change around the Bean Belt

Distribution of coffee production across the world. Highlighting worldwide and regional/country based impacts.



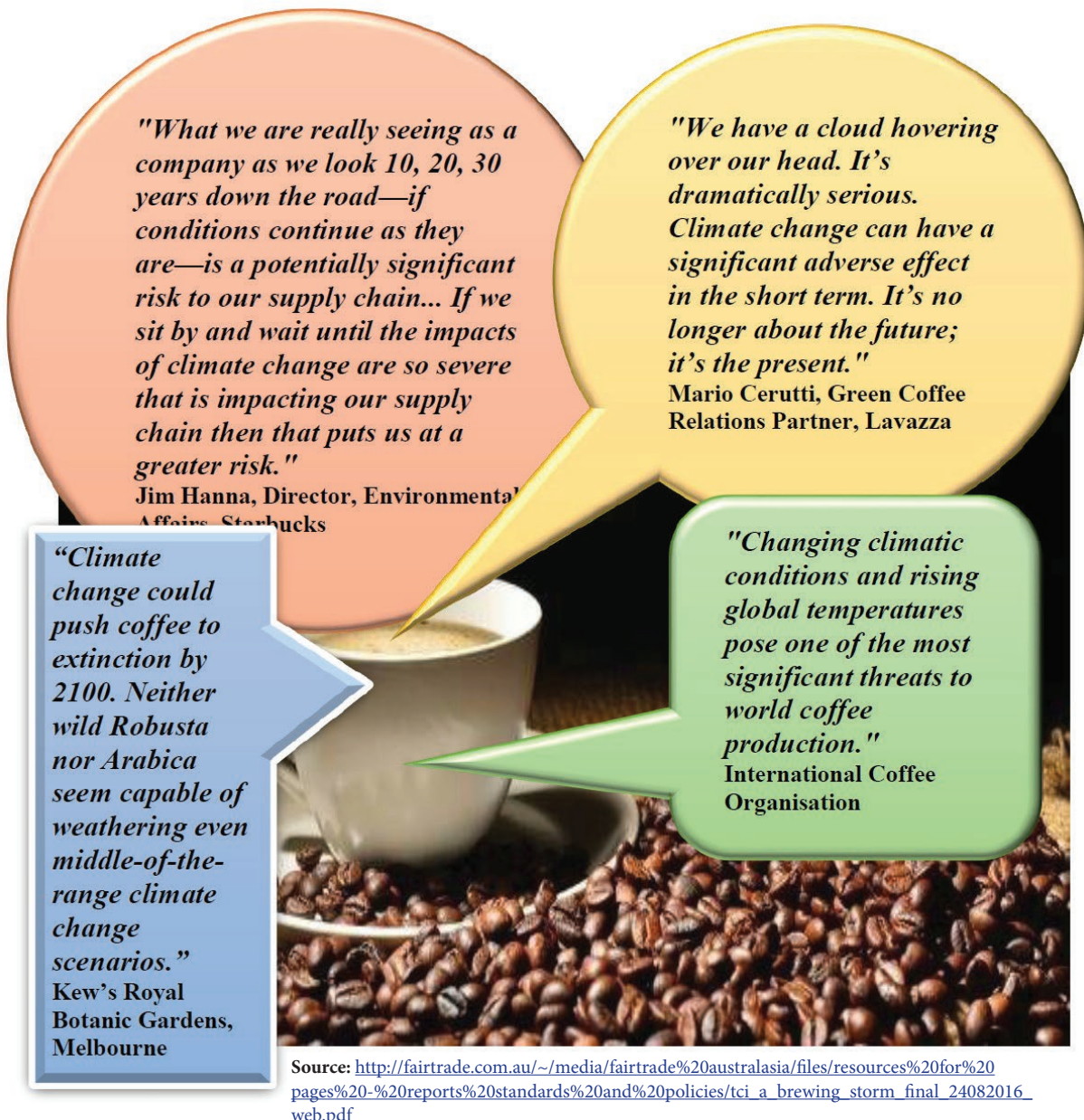
IMPACTS OF CLIMATE CHANGE ON COFFEE

Deforestation for coffee plantations in Indonesia <http://images.huffingtonpost.com/2015-01-19->



COFFEE INDUSTRY LEADERS' COMMENTS ON CLIMATE CHANGE

Notes/diagram S. Bliss



WHO HAS THE ANSWER?

AVOID CATASTROPHIC SCENARIOS-IMPLEMENT STRATEGIES

- increase the longevity of each coffee planting, so owners will not move to other areas and clear more land (decrease deforestation)
- grow organic coffee—reduces use of pesticides and fertilisers
- reduce sun-grown coffee by reviving shade-grown coffee, to protect plants from the heat and evaporation and reduce deforestation
- diversify crops grown e.g. converting to other crops
- develop more resilient production systems
- move coffee farms up-slope, to benefit from a cooler climate
- open up new areas to grow coffee
- promote sustainable farming—economically, socially and environmentally
- re-establish wild coffee plants, a storehouse of genetic resources, that could be vital in development of new, drought and disease-tolerant Arabica varieties

ACTIVITY: WATER FOOTPRINT-LARGE CAFÉ LATTE



When you hand over \$3 for a cup of coffee have you wondered about its water footprint?

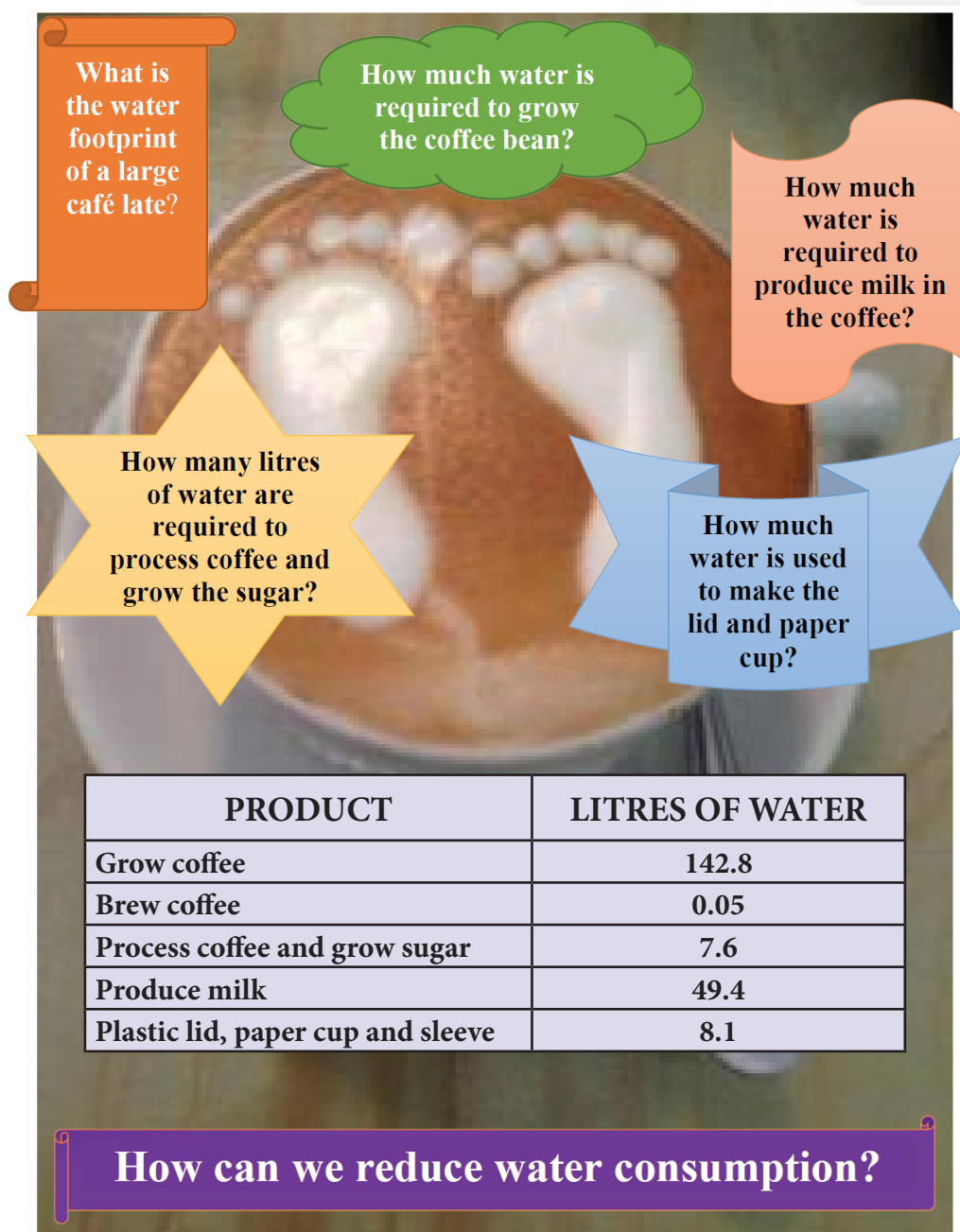
In fact more than 200 litres of water is required to make one large café latte from the coffee plant to the restaurant. This is only an average figure as some coffee, milk and sugar farms would use more water than others.

In general the least amount of water is used in the coffee shop to brew the coffee and the largest quantity of water is required to grow the coffee bean. Most of the world's coffee requires a water source to ferment and wash the coffee prior to drying the beans.

On a finite planet, every product needs to be sustainably managed and if you cared about the environment you could begin by answering these questions:

Adapted from <http://www.guardian.co.uk/sustainable-business/key-questions-finite-planet>; <https://s-media-cache-ak0.pinimg.com/736x/67/04/aa/6704aaf9741421edd99eadf95b12ab16.jpg>

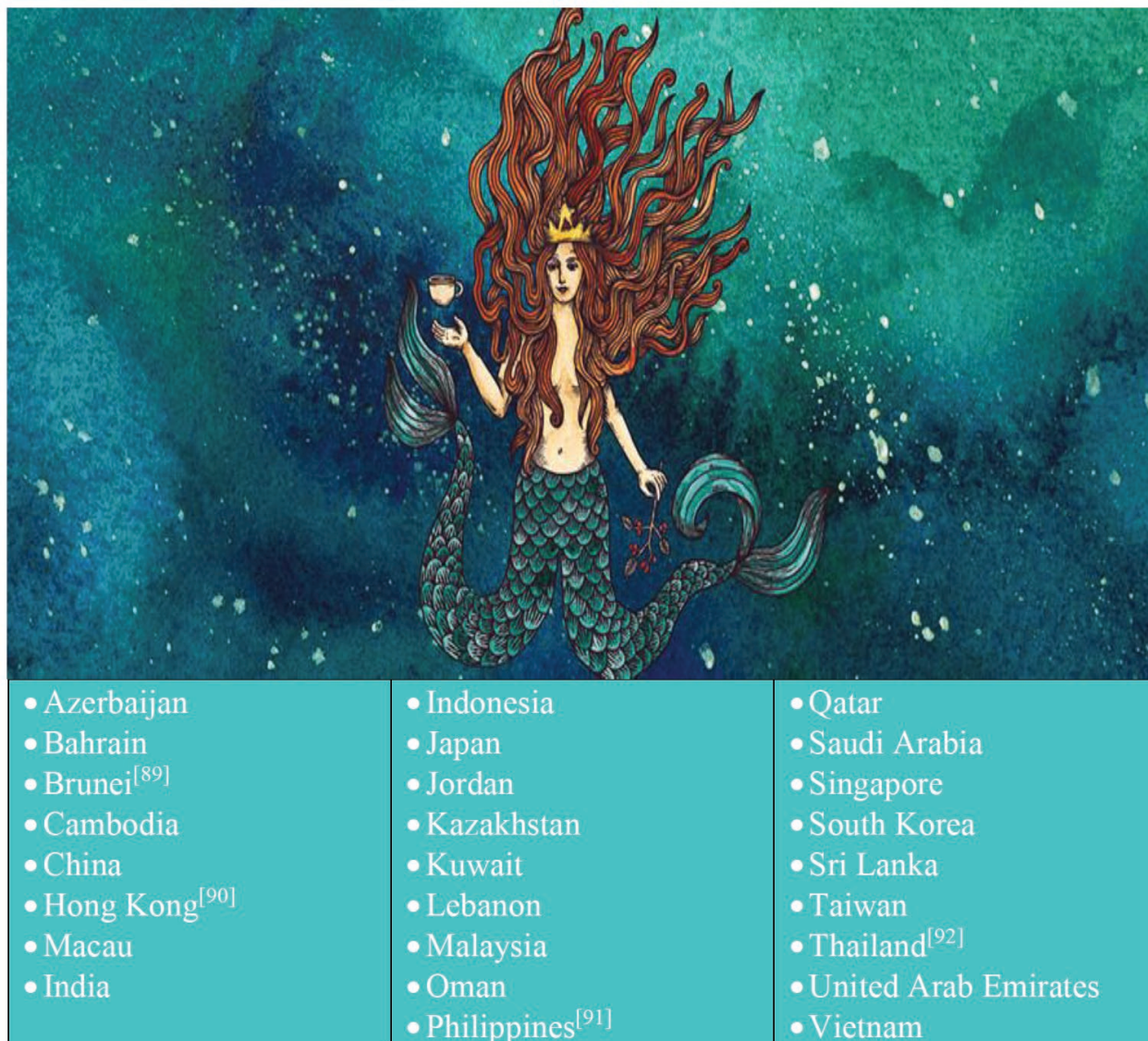
Note/diagram S. Bliss



STARBUCKS-FOCUS ASIA

Starbucks is the largest coffee chain in the world. Originally an American company founded in 1971, it now located in over 72 countries, and operates in more than 23,768 locations. The company sells 30 coffee blends and single premium Arabica coffee. It also offers food, roasted beans, coffee accessories and teas.

LOCATION OF STARBUCKS IN ASIAN COUNTRIES



Store count

As of 2015, 4,962 Starbucks licensed locations in Asia.

| | | |
|--|---|---|
|  China: 2,500 |  Hong Kong: 147 |  Bahrain: 17 |
|  Japan: 1,060 |  United Arab Emirates: 115 |  Qatar: 13 |
|  South Korea: 985 |  Singapore: 106 |  Jordan: 10 |
|  Taiwan: 398 |  India: 73 |  Cyprus: 9 |
|  Philippines: 300 |  Kuwait: 72 |  Kazakhstan: 8 |
|  Thailand: 203 |  Saudi Arabia: 67 |  Oman: 6 |
|  Indonesia: 186 |  Lebanon: 25 |  Azerbaijan: 4 |
|  Malaysia: 175 |  Vietnam: 24 |  Cambodia: 4 |
| | |  Brunei: 2 |

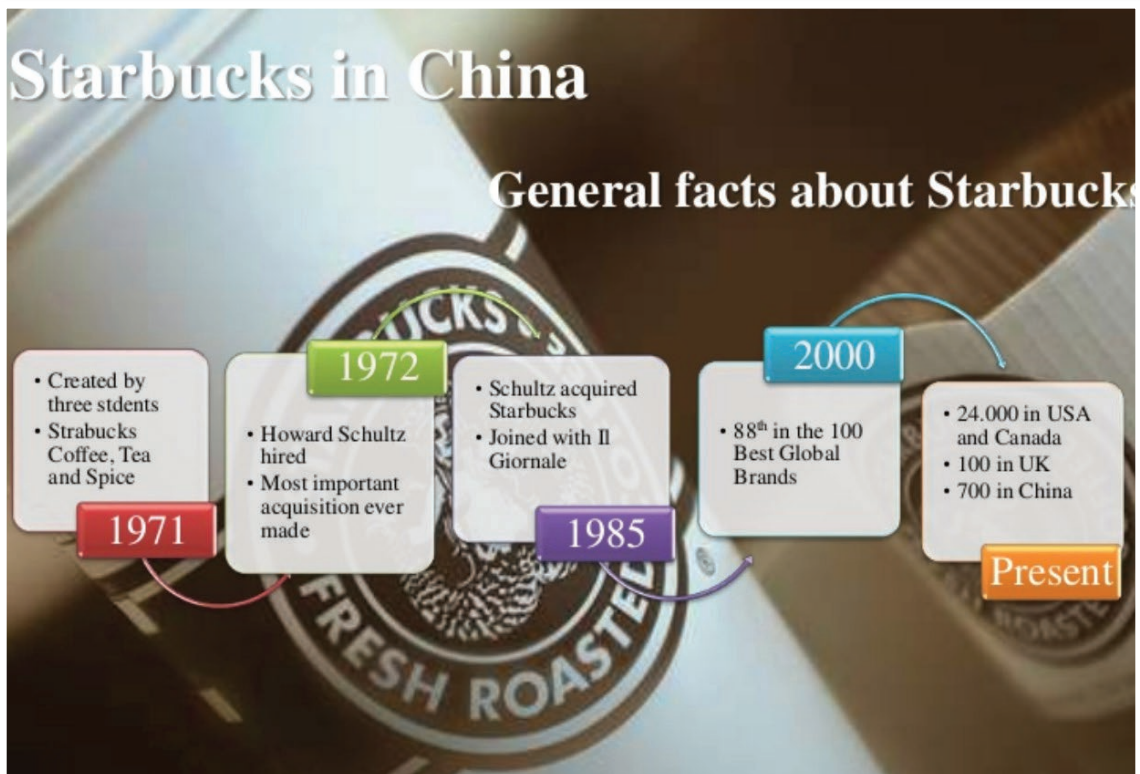
STARBUCKS-CHINESE EXPANSION

Starbucks operates 2,000 stores in China and its goal is 3,400 stores by 2019. The company's 2,000 stores serves a population of 1.34 billion people compared to USA with about 12,700 stores for a population of about 300 million. In other words China has the potential to be Starbucks biggest market.

In 2016 Starbucks opened a store in Shanghai Disneyland China that is predicted to become the highest grossing retail store in the world. In 2017 Starbucks introduced its first international **Roastery and Reserve Tasting Room** in Shanghai. Starbucks aims to capitalise on the growth of the Chinese middle class, estimated to grow from 300 million to 600 million within the next ten years.

CHINA IS FASTEST GROWING MARKET FOR STARBUCKS

Time line: <https://www.slideshare.net/alexadima/starbucks-product-strategy-in-the-chinese-market>

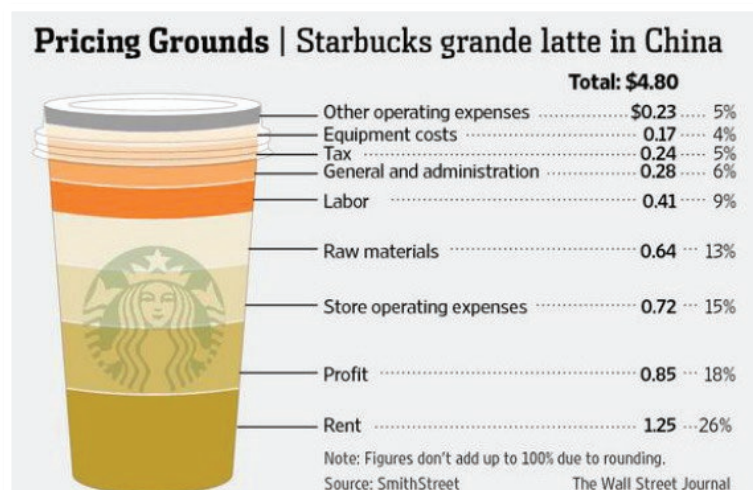


Price: Starbucks grande latte in China

Image <https://cdn.theatlantic.com/assets/media/img/posts/wsjstarbucks.jpg>

'Imagine walking into Starbucks and discovering that your grande latte cost \$27.

China's per capita income, at about \$7,200, is around five and a half times less than the American figure. Yet at a Starbucks in Beijing, a grande latte costs about \$4.80—or a dollar more than what it costs in the United States. A simple beverage of espresso and steamed milk is pretty damned expensive in China.'



SWOT ANALYSIS OF STARBUCKS

Note/diagrams S. Bliss



In 2007 Starbucks was forced to close a coffeehouse in China's Forbidden City in Beijing. It highlighted Chinese sensitivity about cultural symbols and its uneasiness over an influx of foreign popular culture. Despite this hiccup Starbucks has a 70% market share of coffee in China

Photograph: Starbucks in Forbidden City Beijing <http://practicalglobalrelations.wordpress.com/2010/02/01/starbucks-banned-from-forbidden-city/>



LOCAL ASIAN COFFEE CHAINS CHALLENGE GLOBAL COFFEE GIANTS

Table: <https://www.ft.com/content/189c23bc-055b-11e6-9b51-0fb5e65703ce>

Starbucks and Nestle companies are now located in Asia, and European coffee companies compete for the Chinese market, including Illy and Lavazza.

Global giant coffee companies such as Starbucks, dominate the Asian markets. However, a surge in independent cafés across SE Asia's capital cities present a challenge to the bigger, better-known brands. Indonesian chains are multiplying such as Coffee Toffee and Anomali Coffee.

Independent chains are expanding including Dao Coffee Shop in Laos, Brown Coffee in Cambodia, and Coffee Circles in Myanmar.

Southeast Asia's most visited coffee chains

Quarterly survey of 1,000 consumers in each country* (Q4, 2015)

Philippines

| | |
|--------------------------|-----|
| Starbucks | 45% |
| Dunkin' Donuts | 17% |
| McCafe (McDonald's) | 14% |
| The Coffee Bean | 11% |
| Bo's Coffee | 10% |
| Other | 5% |
| Does not regularly visit | 25% |

Indonesia

| | |
|--------------------------|-----|
| Starbucks | 32% |
| J.CO Donuts & Coffee | 30% |
| Dunkin' Donuts | 13% |
| The Coffee Bean | 10% |
| Kopitiam | 10% |
| Other | 15% |
| Does not regularly visit | 22% |

Malaysia

| | |
|--------------------------|-----|
| Starbucks | 38% |
| Old Town White Coffee | 20% |
| McCafe (McDonald's) | 19% |
| The Coffee Bean | 17% |
| Dunkin' Donuts | 4% |
| Other | 9% |
| Does not regularly visit | 30% |

Thailand

| | |
|--------------------------|-----|
| Starbucks | 32% |
| McCafe (McDonald's) | 11% |
| Coffee World | 7% |
| The Coffee Bean | 4% |
| Dunkin' Donuts | 4% |
| Other | 25% |
| Does not regularly visit | 37% |

Vietnam

| | |
|--------------------------|-----|
| Trung Nguyen | 49% |
| Highlands Coffee | 26% |
| The Coffee Bean | 7% |
| Starbucks | 6% |
| McCafe (McDonald's) | 3% |
| Other | 14% |
| Does not regularly visit | 22% |

* Respondents may choose more than one option
Source: FT Confidential Research

FT

VIETNAM

'Ho Chi Minh in Vietnam, contains one of Asia's most diverse café scenes. There is an abundance of independent cafés and domestic chains serving sophisticated varieties of fresh roasted coffees. There is potential for more growth.'

<https://www.ft.com/content/189c23bc-055b-11e6-9b51-0fb5e65703ce>

Trung Nguyên is the largest domestic coffee brand in **Vietnam**. It operates over 1,000 coffee shops in Vietnam and exports its products to more than 60 countries such as United States. It is also an important producer and distributor of **Kopi Luwak (civet coffee)**

Trung Nguyen Vietnamese coffee

Photograph: [http://www.trungnguyen.eu/images/clanky/coffeshop \(1\).jpg](http://www.trungnguyen.eu/images/clanky/coffeshop (1).jpg)



ACTIVITIES

1. Answer the following



What are the differences between free and Fairtrade?

What are the main types of coffee grown in Asia?

Why are many small coffee farmers in Asia poor?

Name large companies involved in the Asia coffee industry

How does low prices for coffee impact on small coffee farmers?

What are the environmental problems surrounding the growing of coffee beans?

What are the four waves of coffee?

Name some specialty coffee brands grown in Asia?

Where are coffee beans grown in Asia?

Why do coffee farmers only receive a small percentage of coffee sales?

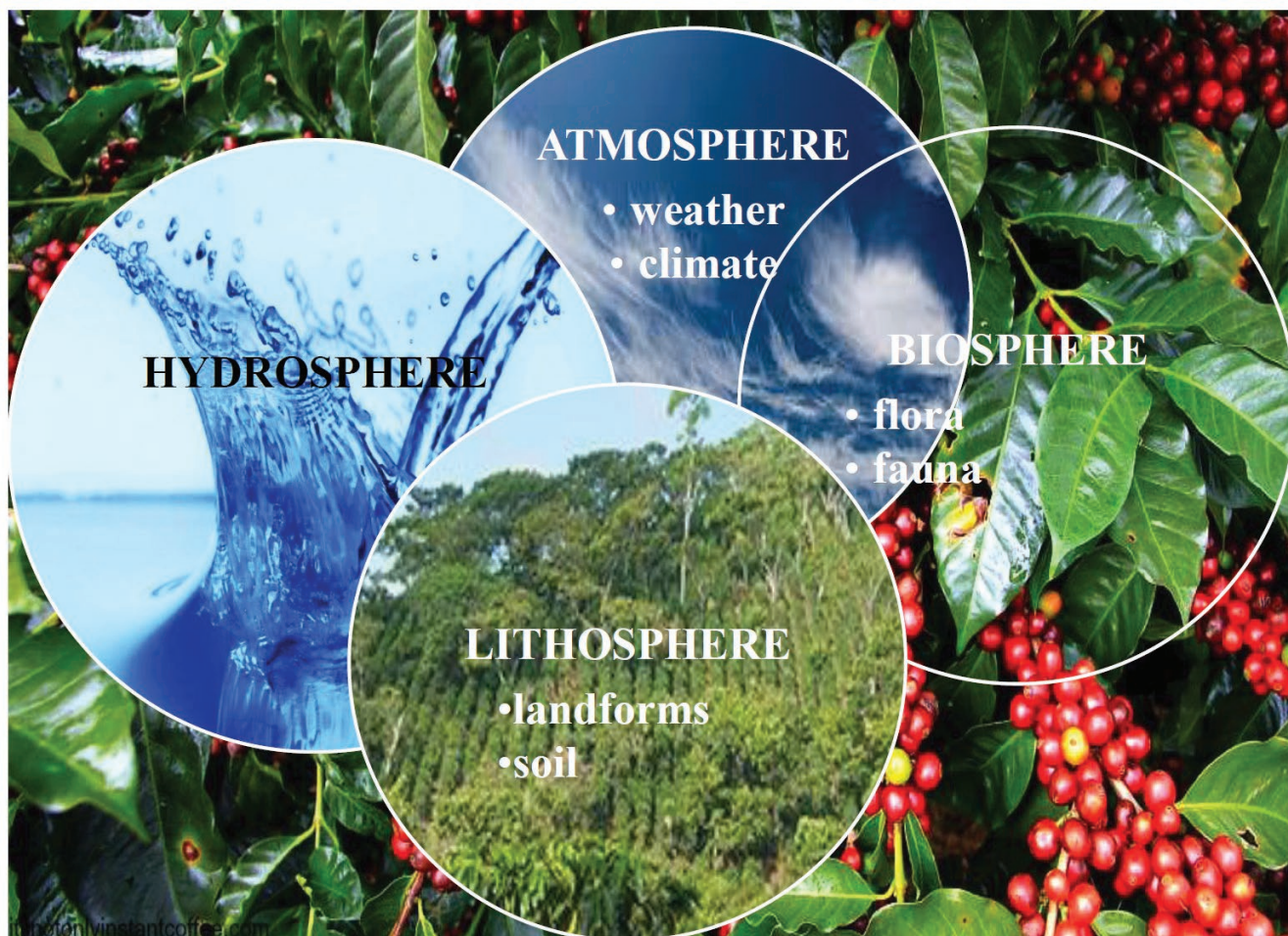
List the process from bean to cup

After reading the SWOT analysis for Starbucks, do you think you should drink their coffee? Provide reasons

Why do you think the Asian market is important to Starbucks?

Background https://www.bristolnicaragua.com/Content/Images/uploaded/ta_coffee102412d_8col.jpg. Notes/diagram S. Bliss.

2. Refer to the diagram and explain the importance of the natural environment in the production of coffee
Notes/diagram S. Bliss



3. Coffee has long stood for both privilege and poverty. Explain this statement.
4. 'Our taste for coffee has hit forests and biodiversity, but efforts are afoot to make production more sustainable'.
- In groups discuss how green is your coffee.
<https://www.theguardian.com/environment/2011/oct/04/green-coffee>
 - Explain the following diagram
<https://static1.squarespace.com/static/569419d3d8af10cf1a8b3b47/t/5733e07820c647c55c589388/1454730137678/>

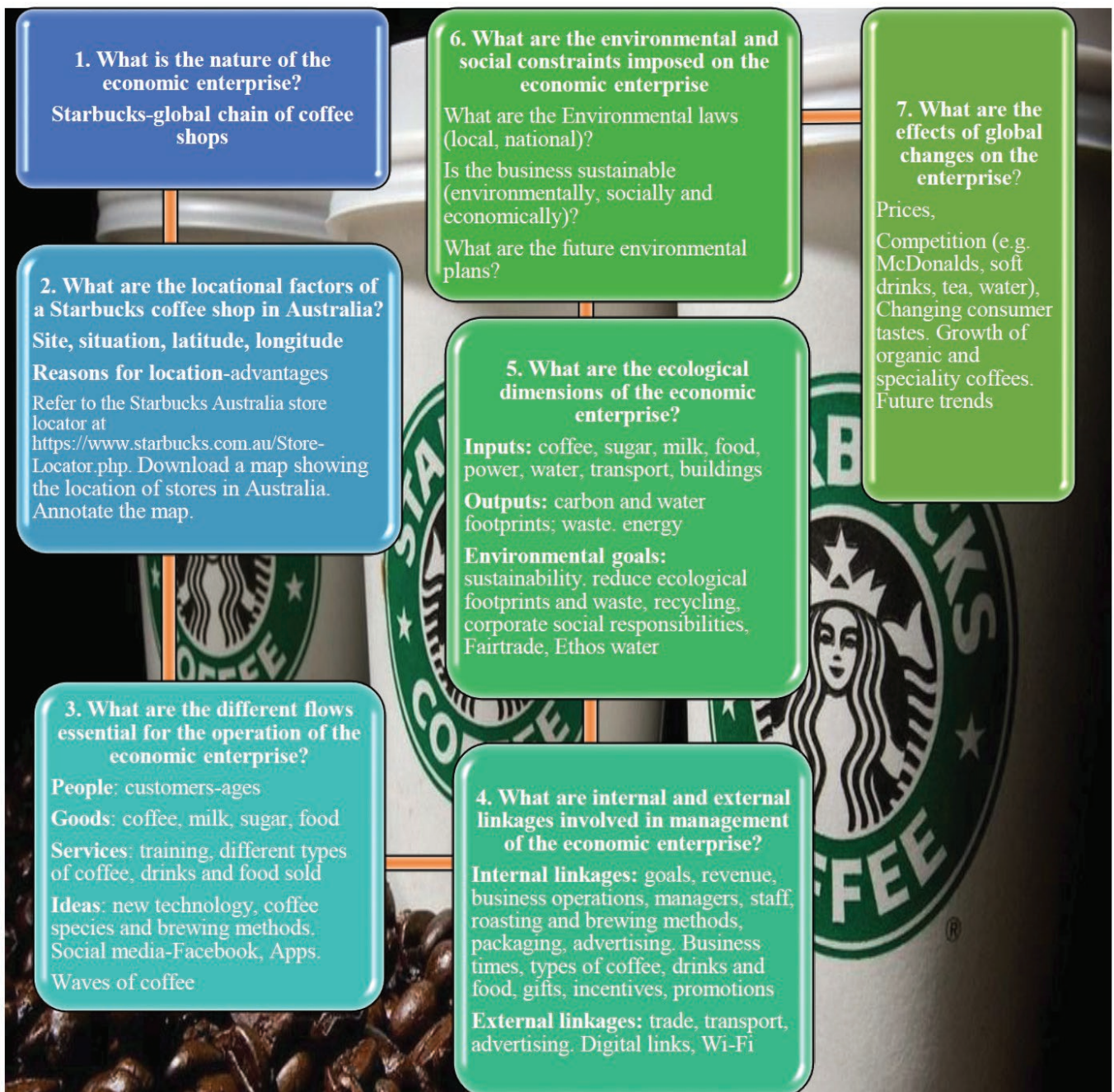
5. Video: Coffee Production in Asia

View the video and summarise - *Southeast Asia is now producing high quality Arabica coffee at*
https://www.youtube.com/watch?v=1P_18o8rK6w



Extended response

Discuss the operation of an economic enterprise such as Starbucks and include the following questions



Cartoon: <https://runningintherealworld.files.wordpress.com/2011/05/barista.gif>





ARTICLE ANALYSIS

<https://pixabay.com/en/celsius-centigrade-gauge-glass-2125/>

Developing Nations to get help with Mercury Collection

Japan Times: 6/9/17

In response to the Minamata Convention on Mercury (see ★) coming in to effect last month, the Environment Ministry will begin disseminating to developing countries Japan's know-how on collecting mercury products, such as thermometers and blood pressure gauges.

The convention regulates the mining and use of mercury. As early as the end of this year, the ministry plans to begin research into the storage of mercury products at medical institutions in Southeast Asian countries. By spreading the Japanese system for collecting mercury, the ministry aims to help prevent health damage and environmental pollution in these countries.

The system that the ministry aims to share with developing countries is a "concentrated collection" scheme at hospitals, schools, homes and other places, in cooperation mainly with local governments, doctors associations and pharmacies. By setting collection periods and calling for collection in a concentrated manner, the scheme can dispose of mercury more effectively and minimize the cost of the work.

In general, a single

thermometer using mercury contains 1.2 grams of the element, while blood pressure gauges with mercury contain 48 grams per unit.

In Japan, the amount of mercury in use peaked at about 2,500 tons in 1964. But it has fallen to less than 10 tons in recent years partly because thermometers and similar medical devices have been replaced by electronic ones.

However, there are still a large number of products containing mercury that are not being used and are kept in storage. The quantities of mercury in such products are estimated at 21 tons in hospitals, seven tons in schools and 18 to 21 tons in homes.

There is a risk that mercury products could get lost or mixed up with other kinds of garbage. If they are burned together with other kinds of garbage, mercury could be discharged into the air.

For hospitals, the ministry created a manual for collecting mercury in 2015, and undertook collections in cooperation with local doctors associations across the nation.

Since 2016, the ministry has called for the collection of mercury in schools via boards of education and other authorities.

Regarding products for home use, the ministry implemented a project to place collection boxes for mercury products in places like pharmacies from fiscal 2014 to fiscal 2016. As a result, a total of 360 kilograms of mercury was collected in 78 municipalities.

The Yokohama city government began using the same method to collect mercury in July. It collected about 1,400 thermometers and 80 blood pressure gauges from city government facilities alone in that month.

A city government official said, "More mercury products than we had anticipated are being stored as unused items."

Serious pollution overseas

The quantity of mercury in use globally has reached about 3,800 tons.

In developing countries in Southeast Asia and Africa, pollution caused by improper disposal of waste containing mercury has become a serious problem.

The U.N. Environment Programme conducted surveys on how mercury waste has been disposed of in 33 countries and territories, including Japan, Europe, the United States, African

countries and Southeast Asian nations.

According to a UNEP draft report, there have been many cases in developing countries of mercury products, such as fluorescent light tubes and thermometers, being disposed of together with other kinds of garbage.

In Cambodia, mercury is collected in such a way that it is mixed with other waste and buried without being separated. In Kenya, waste items including those with mercury are left out in the open or burned outdoors.

The draft report proposes that the proper collection and storage of mercury be implemented in developing countries, and that developed countries with the technology to solidify mercury conduct final-stage disposal on behalf of these countries. In response to this, the ministry will dispatch experts to entities overseas, including the Asian Institute of Technology in Bangkok, as early as the

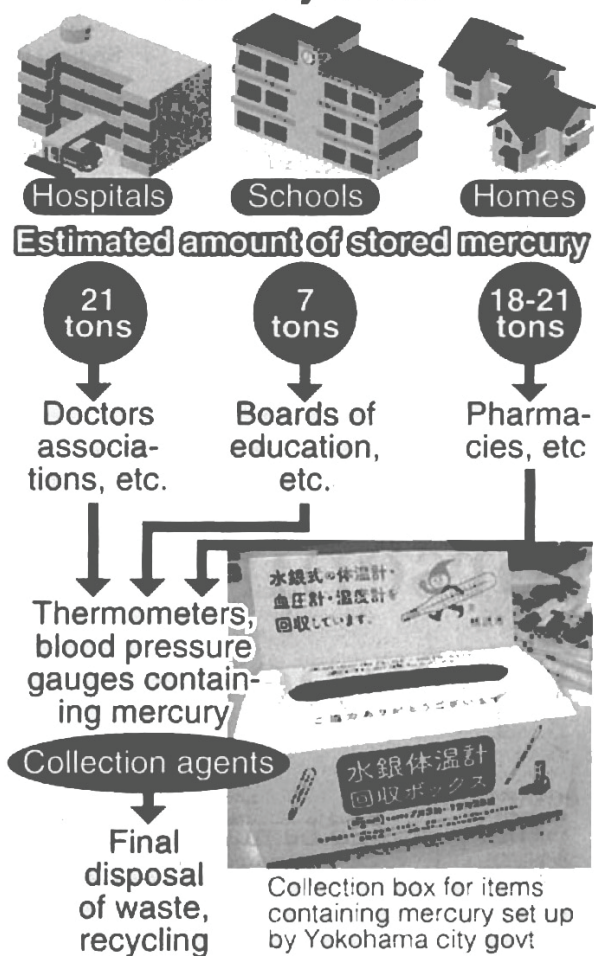
end of this year.

The Japanese experts will conduct research on storage conditions for mercury products at hospitals in the Philippines and Indonesia, in cooperation with local researchers. They will then help these countries compile plans to effectively collect mercury.

The Japan-ASEAN Integration Fund, which provides assistance to member countries of the Association of Southeast Asian Nations, will finance the cost. If the assistance scheme progresses smoothly in these two countries, the ministry will implement the scheme in other nations.

A ministry official said, "To utilize the lessons we learned from the serious damage caused by Minamata disease, we want to share our efforts, which are more advanced than those stipulated in the convention, with developing countries, and reduce the use of mercury worldwide."

Japanese system for collecting mercury waste



Minamata Convention on Mercury

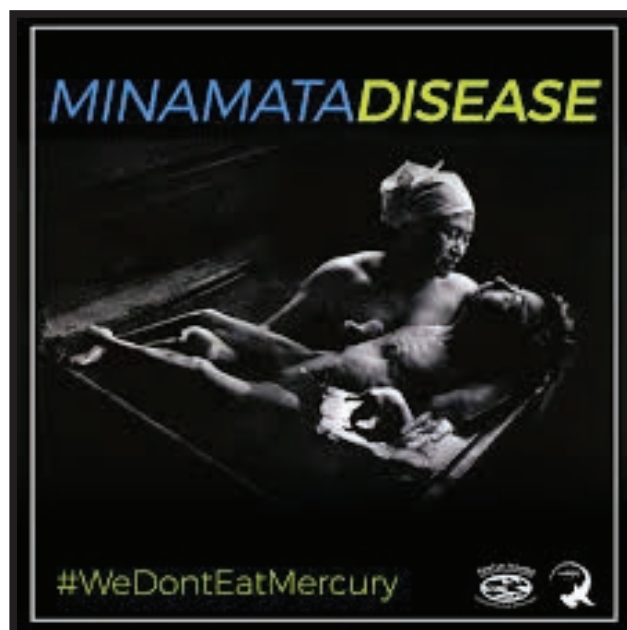
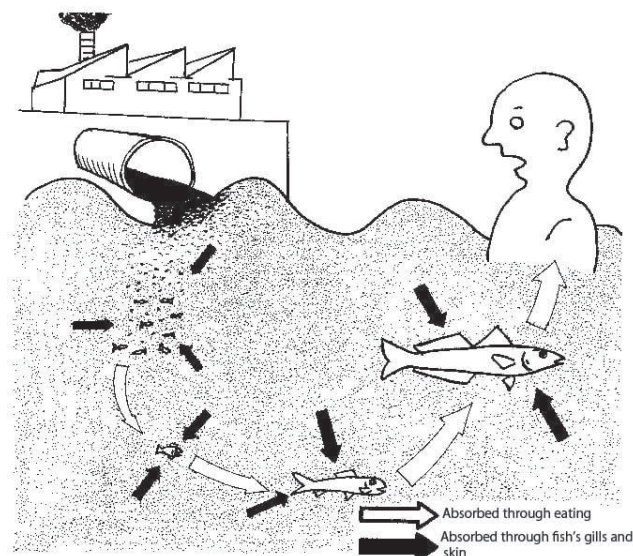
Adopted at an international conference held in Kumamoto Prefecture in 2013, the convention went into effect on Aug 16 this year. Based on lessons learned from the damage caused by Minamata disease, the convention set a goal of reducing the quantity of mercury

used and emitted, so as to prevent environmental pollution and hard to people's health. The convention also stipulates that the production, import and export of mercury products will be prohibited in principle by 2020, and mining mercury will also be banned 15 years after the enforcement of the convention.

ACTIVITIES

BY DI DUNLOP

1. What is the **MINAMATA** Convention?
2. Research Minamata disease and present your findings in 150 words.
3. Why has Japan taken steps to develop infrastructure to deal with mercury pollution?
4. List the major uses of mercury.
5. Explain why the amount of mercury used in Japan has fallen so dramatically in the last fifty years.
6. What are the dangers of mercury being released into the atmosphere?
7. What is the total amount of mercury in global use annually?
8. What has been the role of U.N.E.P. in dealing with mercury?
9. How has lack of knowledge of the dangers of mercury been a problem in developing nations? Give examples.
10. Outline the role of the Japan-A.S.E.A.N. Integration fund.
11. What is A.S.E.A.N.?
12. What is U.N.E.P.?
13. Explain the Precautionary Principle.



SHOULD WE CLIMB MT. EVEREST

Social and Environmental Impacts

[Stages 5/6 Geography, Civics and Citizenship]

By Dr. Susan Bliss

Photo 1: Nepal-Tibet (China) border at Mount Everest

<http://www.f-covers.com/cover/mount-everest-nepal-and-china-border-facebook-cover-timeline-banner-for-fb.jpg>

Mount Everest, captures the media's attention like no other mountain, as it is the highest mountain on Earth reaching 8,848 metres above sea level. This iconic landform is located in the Himalayan Mountains encompassing the countries of **Nepal** and **China (Tibet)**. In Nepal, Mount Everest is known as Sagarmatha, 'Head of the Earth Touching the Heaven', and in Tibet as Chomolungma, 'Goddess Mother of the World'.

Recently, adventure tourism to Mount Everest has created many **controversial dilemmas**, such as:
'While tourism is a valuable source of economic growth and income for some of the world's poorest people living in Nepal and Tibet, its popularity could lead to environmental degradation and socio-economic inequality.'

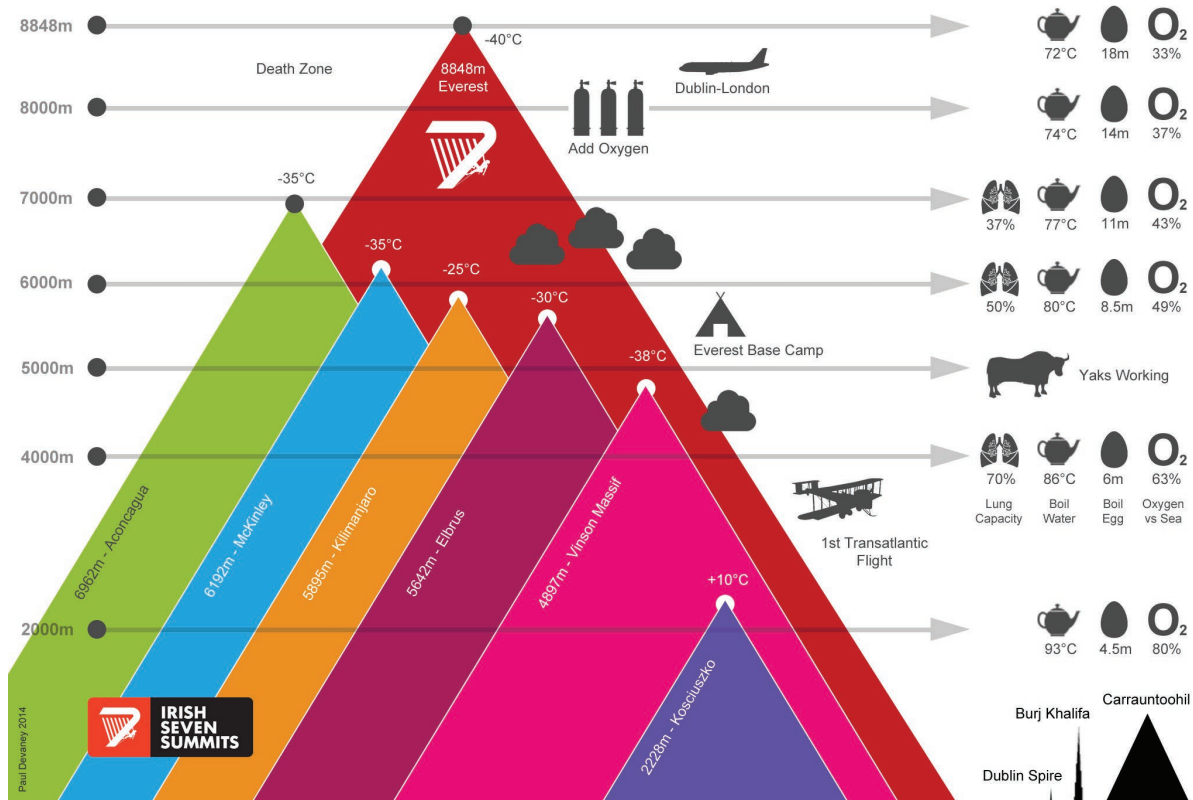


Photo: Trekkers <http://www.glacierfamilytreks.com/wp-content/uploads/2014/05/DSCN0695.jpg>

High altitude risks-life versus adventure

Climbing the tallest peak on Earth is a formidable challenge for even the most experienced mountaineer. It is exceptionally dangerous due to avalanches, crevasses, ferocious winds reaching 200kph, extremely cold temperatures of -40°C and lack of oxygen (available oxygen is only 33% of that at sea level). The 'death zone', approximately above 8,000masl is dangerous to human health with higher risks of suffering hypothermia, frost-bite, pulmonary and cerebral oedema.

Altitudinal changes Mount Everest compared to other mountains. Death zone and oxygen deprivation.



Valuing mountains and Sherpas

International Mountain Day promotes **sustainable** mountains by creating awareness about the importance of mountains as water reservoirs, source of biodiversity, production of food and the location of the majority of the world's indigenous people. For example the indigenous Nepalese and Tibetans living at high altitudes in the Himalayan Mountains, value the natural environment for their survival (e.g. land, soil, water, air, flora and fauna) and aim to manage these resources sustainably.

The Mount Everest region, locally known as **Khumbu**, is home to the ethnic **Sherpa**. Their spiritual and cultural identities are connected with the mountain environment. Most of the Sherpas are

Buddhists and in addition many believe gods and demons inhabit the mountains. As a result monasteries or gompas are scattered throughout these mountains.

The Sherpas are of Tibetan origin, and their main occupations were originally subsistence agriculture and high-altitude animal herding. Today Sherpas are highly regarded as elite mountaineers and their climbing ability is the result of their genetic adaptation to living in high altitudes. Some of these adaptations include unique haemoglobin-binding capacity.



Photo: <https://innewcountry.files.wordpress.com/2014/05/tibetan-prayer-flags.jpg>

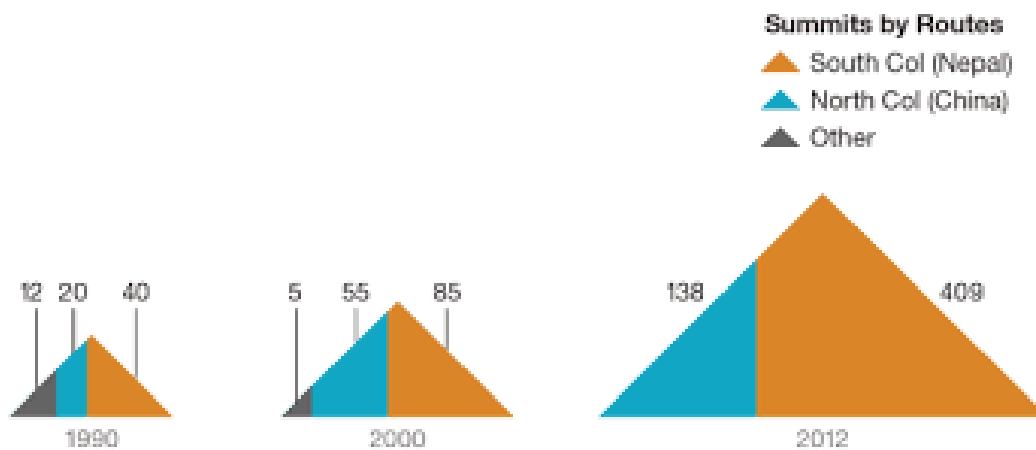
Mountain stress from climbers

The mountain has two main climbing routes, the **south ridge from Nepal** and the **north ridge from Tibet**. In 1953 Edmund Hillary and Tenzing Norgay, taking the south route, stood alone on top of Mount Everest. Since this date, more than 5,000 climbers from over 80 countries have reached the summit as a result in improvements in the following: climbing technology; equipment; communications; medical knowledge, understanding the terrain; weather forecasting; and a reduction in the cost of expeditions. As a result the mountain has become virtually gridlocked with climbers during the climbing season. For example on a single day in 1983 there were 8 climbers who reached the peak, in 1993 (40 climbers), and 2012 (234 climbers).

Each spring, hundreds of climbers hope that they will get the opportunity to stand at the top of the world for a few fleeting moments. Annually, just under 1000 people attempt to climb Everest with about 500 reaching the summit. According to *National Geographic*, in 1990 18% of summit attempts were successful but by 2012 that figure had reached 56%. However, this has come at a cost to human lives and the environment.

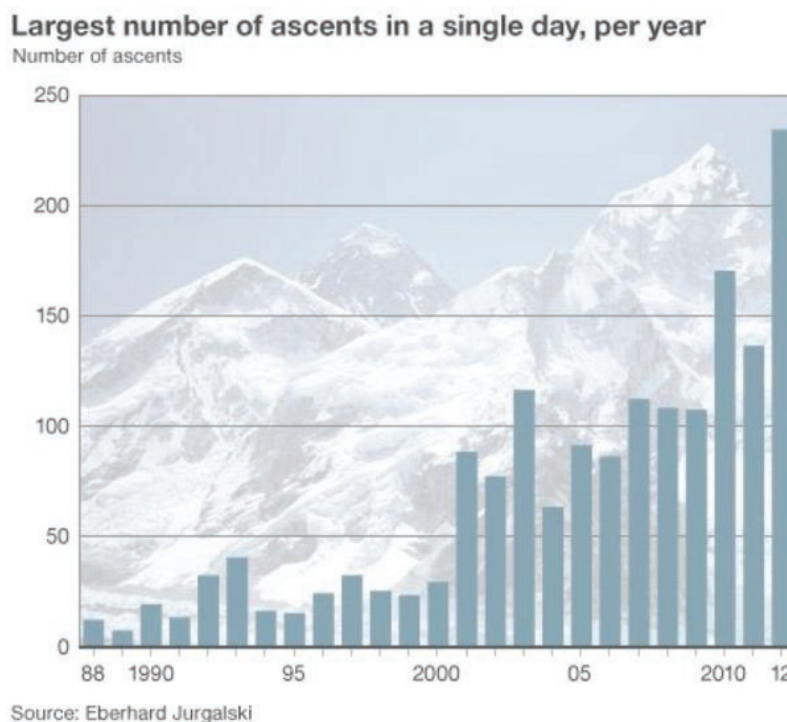
Fewer routes and more climbers cause traffic jam in 2012

Graphs: <http://ngm.nationalgeographic.com/2013/06/125-everest-maxed-out/jenkins-text>



Largest number of ascents in a single day, per year

Graph: http://ichef-1.bbci.co.uk/news/624/media/images/67845000/jpg/_67845319_everest_climb_464.jpg



Crowds on Mount Everest May 2012

Conga line of climbers moving up the Lhotse Face on the South side of the mountain during the climbing season.

<http://eightsummits.com/wp-content/uploads/2013/01/Conga-Line-2012-1.jpeg>



Crowds on Mount Everest May 2012

This was the chaotic scene on Everest the day four climbers lost their lives in a 'stop-start traffic jam'. A total of 234 people ascended the summit that day.

<http://i2.mirror.co.uk/incoming/article1904539.ece/ALTERNATES/s1200/Climbing-Everest.jpg>



Economic and social advantages of adventure tourism to Nepal

Mountain tourism accounts for 15%-20% of the world's tourism industry or \$90 billion a year. The Himalayan Mountains is a popular trekking, climbing and tourist site. Each year 527,000 visitors, including over 100,000 trekkers and mountaineers visit Nepal. In Nepal, most trekkers head to Annapurna (60,237) and Mt Everest (26,511). Interestingly, trekking brings more money to Nepal's economy than climbing!

Advantages of tourism to Nepal



- Generates about \$15 million a year
- In 2014, tourism accounted for 8.9% of Nepal's GDP and 7.5% of employment.
- The Nepalese government earns around \$3.25 million from **royalty/permit fees** from climbers every climbing season.
- In 2015, after the earthquake, avalanche and landslides, permit royalties were reduced to \$1.6m. There were 40% less trekkers than in the previous year reducing income to hotels, restaurants, and transport in Kathmandu. Teahouses, guides and porters throughout the trekking areas of Nepal saw a dramatic decline in business.
- **Khumbu region** is economically dependent on developed countries to sustain tourism activities
- Hundreds of Nepalese men from rural Nepal swarm into Khumbu to obtain work as porters on expeditions. They haul trekking equipment up Everest slopes on their backs.
- Buddhist monasteries, tea houses and restaurants receive income from passing tourists.

Economic benefits

- Sherpas, or mountain guides make up to \$2,000 per expedition and those involved in higher altitude work, earn about \$7000 annually. When the annual per capita income for Nepal was \$229, most people living in the Khumbu area received \$1400.

Social-cultural benefits

- **Education:** Sherpas are able to send their children to school through tourism earnings or philanthropic donations from foreign visitors.
- **Health:** Sherpas have greater access to health facilities due to establishment of hospitals and philanthropic donations.
- New wealth has been used for restoration of temples, building new shrines, and expansion of monasteries which have strengthened Sherpa's cultural ties.

Economic and social disadvantages of adventure tourism in Nepal

Photo: <http://images.wisegeek.com/freezing-homeless-man-in-cold-temperatures.jpg>

ECONOMIC

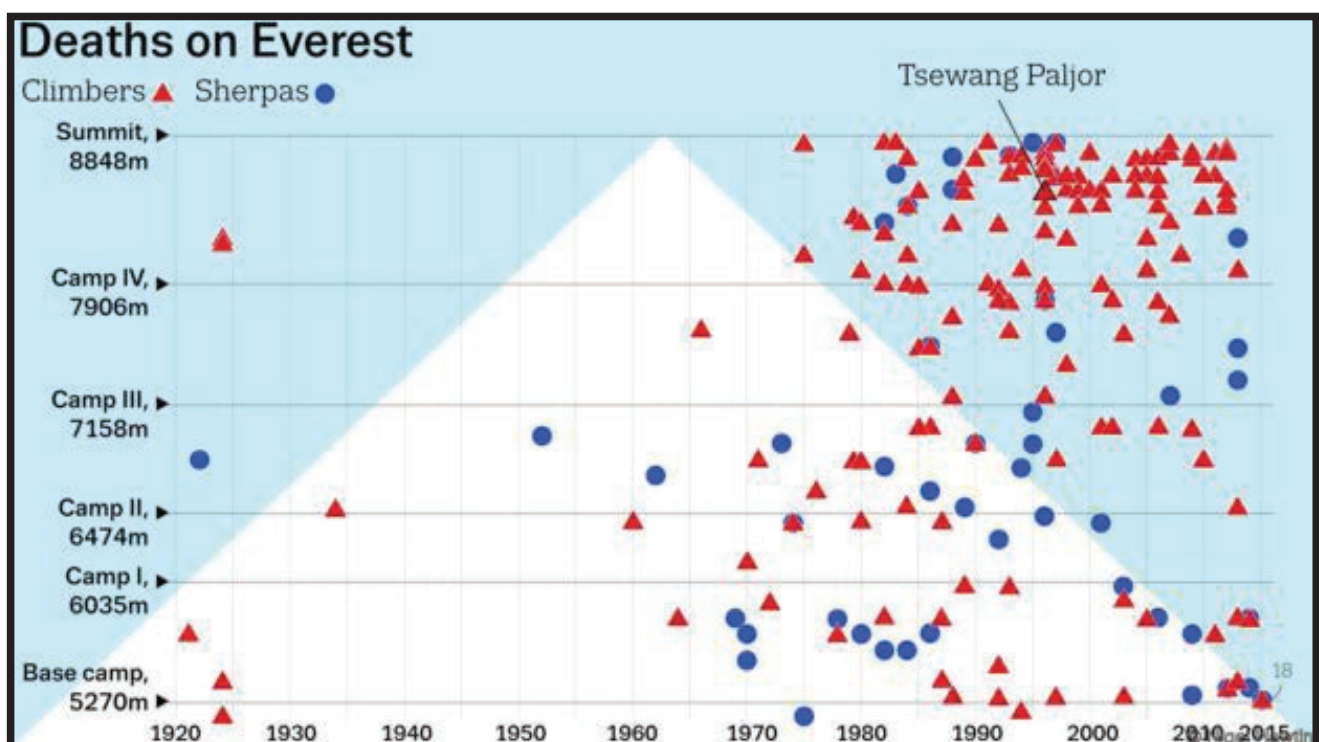
- **Income inequality:** some households and villages missed out on high paying trekking or mountaineering employment or other tourism based businesses. Sherpas, Tamangs and Rais living in lower altitude areas had to resort to low paid jobs like hauling water, collecting firewood, cooking and cleaning. These Nepalese have less money to educate children and less access to good health facilities. They have a poorer quality of life, with higher infant mortality rates and death rates.

SOCIAL

- **Deaths:**
 - In 2014, 16 Sherpas killed in the Khumbu Icefall on Everest
 - In 2015 earthquake killed 9,000 Nepalis, most living in poor rural areas. 19 deaths after the earthquake triggered an avalanche onto Everest Base Camp.
- **Frost bite**
- **Altitude sickness**
- **Traffic jams** on climbs causing deaths
- **Climbers, large expedition companies and guides** should promote ethical practices and stop unfair and deceptive treatment of Sherpa and porters, that exist in some situations.

Deaths on Everest

Graph: http://ichef.bbci.co.uk/wwfeatures/wm/live/624_351/images/live/p0/34/s0/p034s06h.jpg



Financial costs-‘some’ trickledown effects

Climbing Everest is neither easy nor cheap. There is intense competition from low cost Nepali companies quoting about \$30,000 or your own personal western guide for \$114,000. The cost varies as it depends on factors such as desired comforts, amount of bottled oxygen required and the number of Sherpas.

Fortunately, a proportion of the money trickles down to the Nepalese that contributes to improvements in their wellbeing.

Huge cost to attempting Everest's summit

| | |
|--|---------------------------------|
| Training: 12-18 months before the climb. Must be physically and mentally fit. | Varies! Personal trainer? |
| Climbing permit: from the government of Nepal or Tibet. Although you can trek more than a hundred smaller peaks for free. | \$11,000-Nepal \$7,000-Tibet |
| Travel to base camp: porters and yaks carry the gear on the week-long trek. Climbers need to eat and stay in tea houses along the way. An Everest climb requires a two-month commitment to complete. | \$4,000 |
| Sherpas: ensure climber is safe on the mountain. | \$5,000 each |
| Bottle oxygen: used by their Sherpas | Up to \$3,000 per Sherpa |
| Maintaining campsites: keeping camps stocked with supplies and support staff. Climbers pay about \$800 each for six weeks' worth of food. | \$2,000 |
| Bottled oxygen: climbers use about five bottles to reach the summit (at \$550 per bottle). They also require an oxygen mask and regulator, which costs about \$500 each. | \$3,700 |
| Gear: high-altitude gear, including a down suit, sleeping bag, boots and other equipment. | \$7,000 |
| Miscellaneous: travel/transport costs to Kathmandu, emergency-rescue insurance, visas, immunisations and tips for the cooks and Sherpas. Climbers are required to pay a number of other related fees such as hiring a liaison officer to join them in base camp, a basic medical-support fee, and a refundable deposit for the removal of trash and human waste. | \$10,000-varies |

Himalayan mountains under stress

The Himalayan Mountains, encompass countries such as Nepal and China (Tibet), have experienced rapid changes over the last 50 years, such as: population growth; development of cities such as Kathmandu in Nepal; village settlements; infrastructure such as roads, bridges and railways; agriculture; hydroelectricity and tourists. Additionally earthquakes, landslides, avalanches and climate change are affecting these mountains.

The **International Centre for Integrated Mountain Development** (ICIMOD) found that increases in global temperatures caused Nepali glaciers to decrease by 25% between 1977 and 2010. This has caused avalanches and downstream flooding.

Trekking and climbing tourism has contributed to **environmental degradation**. Garbage and medical waste have created the 'highest junkyard in the world'.



Garbage left on Mt Everest

Buddhist prayer flags flutter in the wind in front of the Everest base camp (Laurence Tan/Reuters)

<http://www.cbc.ca/news/world/story/2012/05/25/f-everest-risks.html>

Environmental costs

Tourism carries its own price in the form of environmental degradation

LITTER AND WASTE

- Climbers leave items, such as tents, water bottles, equipment, oxygen canisters, batteries, cans and food. Because of the cold weather, litter and bodies do not decompose fast. To deal with litter the following strategies have been implemented:
- The **Nepalese government** requires a deposit of \$4,000 per climbing team for trash management. They lose the deposit if each climber does not bring down 8 kilograms of trash to base camp—the amount is estimated to be what a climber discards along the route
- **Clean-up expeditions** have improved the environmental situation. Tons of trash have been cleared from the Everest Base Camp

DEFORESTATION

- The Khumbu region has faced deforestation caused by the consumption of firewood and demand for timber. **Energy sources** to feed and house the thousands of tourists are growing scarce. **Environmental groups** have urged villagers, businesses and climbers to use kerosene instead of firewood, but the conversion is a slow process

SOIL EROSION AND LANDSLIDES

- Clearing forests have caused soil erosion and landslides. Additionally there is trampling of vegetation and soil erosion in trekking areas.

SEWAGE

- About 700 climbers and guides who spend nearly two months on Everest's slopes each climbing season leave behind large amounts of **faeces** and **urine**. This has become a health hazard that requires urgent management

http://images1.wikia.nocookie.net/cb20090126204940/solarcooking/images/c/c2/Nepal_wood_carrying_-_McArdle_2008.jpg

The mountain resources should not to be exploited as the population depends on the **sustainable** management of natural resources. The establishment of local, national and global organisations such as national parks, wilderness areas and World Heritage sites aim to protect these mountains for future generations to enjoy.

Trekking Annapurnas versus climbing Mount Everest

Adapted from: <http://www.geckosadventures.com/tales/annapurna-vs-everest-hike-will-like/Annapurna-region>

Trekking to Everest Base Camp is an aspirational adventure however trekking in the Annapurna's, provides more diverse scenery and more intimate experiences with local villagers at lower altitudes – all against a miraculous mountain backdrop.



Boats at Pokhara, on the Annapurna Circuit | Image c/o Sharada Prasad, Flickr

<http://www.geckosadventures.com/tales/annapurna-vs-everest-hike-will-like/Annapurna-region>

The gateway to the Annapurnas is Pokhara, situated on the shores of Phewa Lake. A trek starts in the fertile lower foothills of the Himalayas, moves through terraced rice fields, villages and farming communities, and then ascends through rhododendron and oak forests. Trekking, up, down, up, down, and up, interested tourists follow the foothills of the Himalayas with the aid of Sherpas. The trek runs through villages that are home to the famous Gurkha soldiers and provides insights into Hinduism and Animism. Additionally, the sacred mountain Machapuchare, or 'Fish Tail' at 6,993masl, is the iconic image of the region, and Dhaulagiri is impressive at 8,167masl.

While the Everest area, funnels trekkers up the Khumbu Valley, the Annapurna region offers a wider array of trekking routes. These treks add to the economic and social development of the people living in this region.

Views of diverse groups trekking in the Himalayan Mountains

Mountaineers, trekkers and tourists: recreational activities such as climbing and trekking. Tourists visit the region to view the beautiful scenery and different communities

Hill communities: trekkers spend money enabling poor communities to construct homes with modern facilities. Has contributed to improved human wellbeing and lifestyles

Government: money received from tourist fees levied by the Immigration Office helped to:

- establish micro hydro-power plants and bottled gas, thereby reducing the use of fuel wood. This reduced the felling of trees, soil erosion and indoor air pollution.
- construct latrines and establish rubbish collection systems that improved the population's health.
- improve infrastructure such as roads, bridges, airports and hospitals.

Sherpas: ethnic group from high in the mountains employed as trekking guides. Trekking improved their income that contributed to a better lifestyle. Some are employed in the tourist sector-running lodges, tea shops and trekking services.

Khumbu Sherpa:

- Mt Everest is called Chomolangma, meaning *Goddess Mother of Snows*.
- the mountain has spiritual value. There are sacred valleys and mountain protector deities.
- these people are kind and compassionate towards animals that live on the mountain.
- some believe that felling a live tree would loss them merit in the afterlife

Tour guides: increased businesses and their wealth

Businesses: trekkers facilitated an increase in the wealth of businesses such as hotels, restaurants, craft shops, mountain gear shops and cyber cafes.

Conservationists: Concerns:

- declining forests leading to soil erosion and flooding downstream.
- firewood used for camp fires and lodges – used to cook, heat and construct tourist accommodation.
- the regenerative capacity of trees are weaker in higher altitudes.
- the restriction on the use of forest resources by local people – as most use it for fuelwood

Photo: <http://www.apihimal.com/wp-content/uploads/2016/06/trekking-in-nepal.jpg>

Future stresses: Tibet

China aims to develop the tourist industry on the Tibetan side of Mount Everest. In 2016 it opened a road that winds up 4,200masl to base camp. It plans to build an international mountaineering centre with ski resorts, hotels, restaurants, training facilities, and search-and-rescue services. China anticipates that this development will increase the economic growth of Tibet, stimulate tourism and promote winter sports ahead of the 2022 Beijing Winter Olympics. The Chinese amenities are appalling to climbing purists, who prefer Nepal's rugged and largely undeveloped landscape.

This controversial issue leaves many questions to be answered:

- *How could this route become the world's new gateway to the Himalayas?*
- *What is the multiplier effect of this type of tourism to the Tibetan economy? Will the benefits trickle down to the poor people?*
- *Is the competition bad news for Nepal, already struggling to rebuild its tourism industry after the devastating earthquake, avalanche and landslides in 2015? How can Nepal retaliate?*
- *'China is approaching the Himalayas as the Europeans have the Alps. Anyone can take a train to the foot of the Matterhorn, then climb in safety along fixed routes overseen by rangers. How can what's lost in naturalism is gained in accessibility?'*

<https://skift.com/2016/11/11/china-wants-to-commercialize-the-other-side-of-mount-everest-in-tibet/>

Himalayan Mountains from the Tibetan side

Traditional nomadic herder (S. Bliss)



Tong La Pass, 5150masl,
Himalayan Mountains,
prayer flags (J. Bliss)



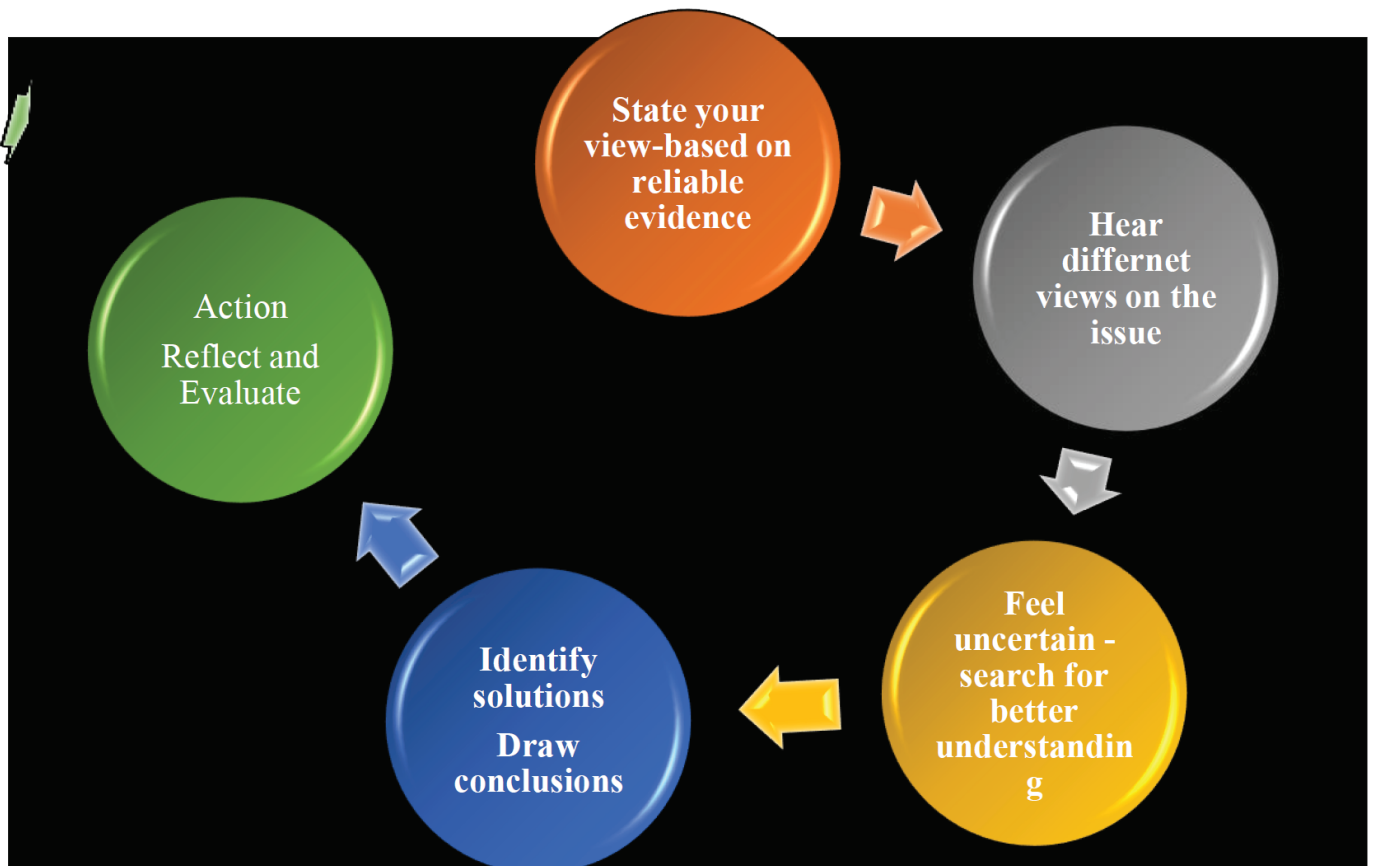
Making Sense of It



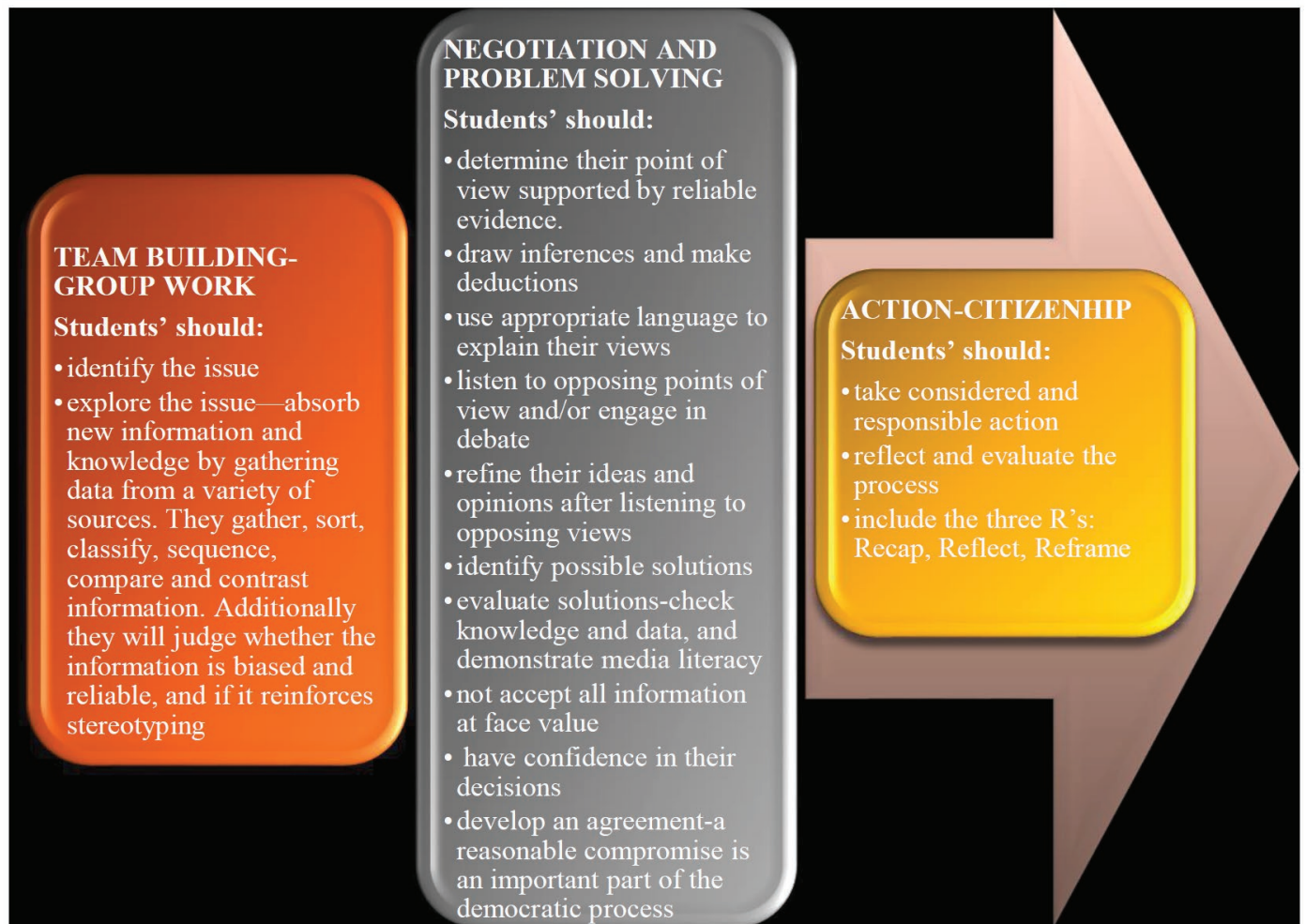
Cartoon: http://cdnfiles.umc.org/Website_Properties/mycom/sep_2012_images/_pm-cache/preach-controversy-468-690x386.JPG

Controversial issues such as the impacts of tourism on the Himalayan Mountains are in the Australian and NSW curriculum, such as Geography. Whether or not to climb Mount Everest or trek in the surrounding area, divides opinions as the issue has political, social and personal impacts.

Controversial issues cycle

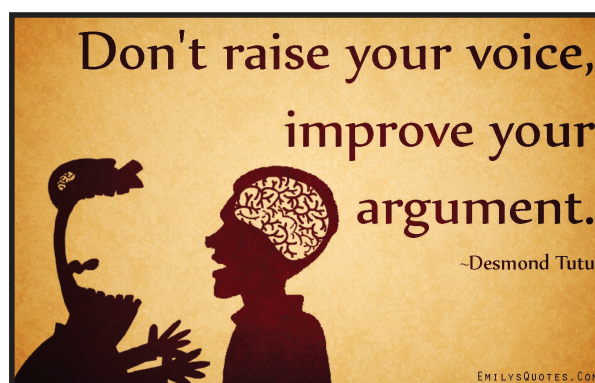


Student outcomes when studying a controversial issue



Quote from Desmond Tutu

Desmond Tutu is a Nobel Peace Prize awardee, known for his opposition to apartheid and his support of human rights in South Africa.



Quote: <http://emilysquotes.com/wp-content/uploads/2015/03/EmilysQuotes.Com-raise-voice-improve-argument-advice-intelligent-Desmond-Tutu.jpg>

ICT Activities

- Use this interactive image of Everest and the surrounding area to see the trail, camps, people and the wonderful sights when climbing Mt Everest.
https://s3.amazonaws.com/Gigapixel_Trees/Pumori_Spring2012_EBC_Full/EBC_Pumori_050112_8bit_FLAT.html
- Watch a 3D visualisation of the route on Mount Everest <https://www.thebmc.co.uk/everest-facts-and-figures>
- Refer to website on controversial issues in schools
https://www.det.nsw.edu.au/policies/curriculum/schools/cont_issue/PD20020045.shtml

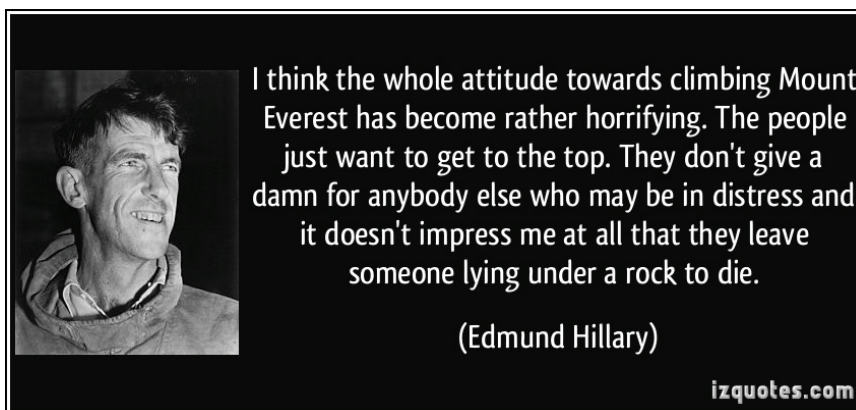
Activities



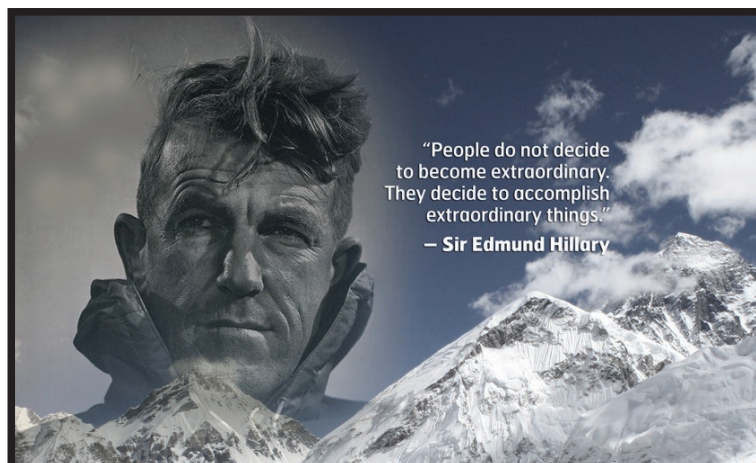
Cartoon: http://www.toonpool.com/user/589/files/take_a_number_283135.jpg

With an abundance of controversial issues involving climbing Mount Everest and trekking in the lower hills of Nepal, there are many questions that can be debated in the classroom.

Quotes: Sir Edmund Hillary the first person to climb Mount Everest



Quote: <http://izquotes.com/quotes-pictures/quote-i-think-the-whole-attitude-towards-climbing-mount-everest-has-become-rather-horrifying-the-people-edmund-hillary-237469.jpg>



Quote: <http://sonnymelendrez.com/wp-content/uploads/2015/01/Ed-Hillary-extraordinary-quote.jpg>

1. Refer to the two quotes by Sir Edmund Hillary. Summarise his different thoughts.
2. Six decades after Mount Everest was conquered, mountaineers complain that the summit has become virtually gridlocked with climbers. More people are now able to experience standing on the roof of the world, and as a result this landmark once believed impossible to climb is now referred to as the world's highest traffic jam and rubbish dump. Nepalese authorities face calls to take action but proposals to remedy Everest's congestion have sharply divided people and organisations that support the climbs, and those who oppose them? What are some solutions?

Some diverse thoughts:

- *Until 1985, the Nepalese authorities allowed only one expedition on each route to the summit at any one time. Could this practice be revived? Should the number of climbers be limited? Will this reduce traffic gridlocks, causing deaths, during the climbing season?*
 - *Imposing quotas sits uneasily with many climbers in the free-spirited world of mountaineering.*
 - *Restricting the number of visitors will have a major impact on those communities wholly on tourism for their income. More routes should be opened to reduce pressure on the environment.*
 - *One expedition company suggested installing a ladder at the Hillary Step. This is a rocky outcrop just before the summit, where only one person can go up or down at any one time. However, purists complain this would lessen the challenge of scaling the mountain.*
 - *Some Nepalese have condemned requests for Mount Everest to be restricted to trekkers and climbers due to environmental damage, as many people rely on tourism to provide their income.*
3. While tourism is a valuable source of economic growth and income for some of the world's poorest people living in Nepal and Tibet, its popularity could lead to environmental degradation and socio-economic inequality. Should economics have a higher priority than the environment or vice versa? List the different arguments.
 4. Depending on your point of view, trekking in Nepal has both positive and negative impacts on the environment, places and people. What are your thoughts? How does it differ to your classmates?
 5. Everest is no longer a wilderness experience but a McDonald's experience. In pairs explain this statement.
 6. Trekking compared to mountaineering has had more adverse economic and social impacts. What are your views? Support your views with reliable facts and figures.
 7. How much money are people paying for a climb up Mount Everest? Should the money be better spent on aid to poor communities in Nepal and Tibet? Should valuable Nepalese and Tibetan resources be directed to wealthy people who risk their lives for adventure?
 8. Increasing tourist activities have transformed the lifestyle of Sherpas. What are the advantages and disadvantages of this transformation?
 9. The Khumbu region in Nepal has undergone massive transformation due to mountaineering and trekking activities. The economic, social, ecological, cultural and political systems have been modernised due to exposure to greater regional, national and international interconnections. Do the gains outweigh environmental degradation? Is this a sustainable growth path?
 10. Nepalese sell its mountain summits through a permit system which brings revenue into the country. Is this ethical? Is it sustainable?



Geographical Activities & Puzzles

[Stages 3/4]
By Di Dunlop

ASIA QUIZ

1. The country that owns Manchuria
2. One of the highest cities in the world, Lhasa is found in this country.....
3. This country has the second largest population on Earth.....
4. This was a Portuguese colony on the China coast.....
5. Has a feature called the Inland Sea
6. Its modern name means.free land.....
7. Its capital is Bandar Seri Begawan.....
8. Hainan belongs to the country
9. This country was called Ceylon
10. This colony returned to China in 1997
11. A landlocked country in South East Asia
12. This country has India as its major border
13. This country's capital city used to be called Batavia
14. Mindanao is an island in this country
15. This country is believed by many to be a province of China
16. This country begins to the north of the 38th parallel
17. The old Portuguese colony of Goa is in this country
18. Pagan is an old city in this country
19. This country once had another province on the eastern side of India
20. Ninety percent of this country's population is Buddhist
21. This country used to be called Burma
22. This landlocked country was part of French Indo-China
23. This country has a city called Karachi
24. This country has four main islands now linked by railroad
25. This country is on a delta and suffers many physical hazards
26. The State religion of this country is Shinto

Asian countries WONDERWORD

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | I | K | K | I | M | J | S | N | A | T | U | H | B |
| C | A | M | B | O | D | I | A | E | O | V | W | U | X |
| H | O | N | G | K | O | N | G | P | P | L | R | Z | X |
| I | N | D | O | N | E | S | I | A | M | M | J | K | S |
| N | N | L | N | S | R | S | N | L | A | A | H | Q | E |
| A | A | D | S | K | O | R | E | A | C | N | S | A | N |
| P | K | A | I | V | P | A | J | O | A | T | E | R | I |
| A | N | P | C | A | A | X | L | R | U | E | D | I | P |
| J | A | A | Q | B | G | S | O | L | B | I | A | E | P |
| S | L | D | P | C | N | M | O | N | X | V | L | N | I |
| X | I | T | H | A | I | L | A | N | D | U | G | U | L |
| I | R | N | O | T | S | E | I | R | A | N | N | R | I |
| V | S | M | A | I | S | Y | A | L | A | M | A | B | H |
| N | A | T | S | I | K | A | P | F | O | S | B | B | P |

1. Find these countries on the Wonderword:

| | | | |
|-----------|-----------|----------|-------------|
| Indonesia | Bhutan | Nepal | Japan |
| China | Singapore | India | Korea |
| Hong Kong | Burma | Thailand | Philippines |
| Vietnam | Laos | Cambodia | Malaysia |
| Brunei | Timor | Pakistan | Bangladesh |
| Sikkim | Sri Lanka | Macau | Iran |

- Find the capital city for each of these countries.
- Draw the flag for each of these countries.
- What is the major language of each of these countries?
- What is the major religion of each of these countries?
- Who is the leader of each of these countries?
- On a map, mark in and name each of the countries and capital cities.

Monsoon Asia WONDERWORD



1. The following words relating to Monsoon Asia can be found in the maze above.
They appear upwards, downwards, across, or diagonally.

agriculture
alluvium
Asia
bamboo
buffalo
bund
communes
cultivation
monsoon
threshing

fragmented
grain
harvest
irrigation
kampong
klong
'lows'
markets
terraces

plains
plantation
population pressure
poverty
rice
season
seasonal
subsistence
five-year plan

tools
typhoon
variation
village
wet
winds
yield
drainage
padi

2. Starting in the top left-hand corner and moving left to right, write down the spare letters in the space below and you'll learn something about Monsoon Asia.

ASIA MAP QUIZ



1. Name the leaders of countries:

A B
C D

2. Name the countries:

A
B C
D E

3. Which colonial power ruled:

A B
D G

4. Mark in the following countries:

SINGAPORE, SRI LANKA, BANGLA-DESH, NEPAL, PAKISTAN.

5. What is the major religion of:

E
F G

6. Name the body of water separating:

India and Myanmar

China and the Philippines

7. Name the capital cities of:

A
B C
D E
F G

Rice Growing in Asia

WORDSEARCH

O M K E I P G S N F B T E X F P W K C B Z W V Z K
 O A S O D Z E U V N U F U D L L E G E C J S J T P
 A C P S I V R I P E N I N G G J O N V R Q V G Y A
 V H U D P S M P R O D U C T I O N I J E L A S I Q
 D I W Z E Q I T A X F P A G H J G W R S U J R P A
 E N Y R X C N Q K V D B W C W N B O L I O W O P G
 R E Y Y R W A P I D M F V T I K X N H L X X E C N
 E S G R O W T H N L U H S H N C D N Z I U T O H I
 T S F N Y H E H G B F A S Y D O X I B T D T P U Y
 T E I O L F I I P H R E V C S L B W Z R S F L S R
 A C Y I Q O O L Q O R D D U D L F S J E T A R K D
 C A Y T C H A F F H X Y G L L U B D F F A J N S H
 S R N A N N W X T R C C N T E B U N X W P A O A U
 N R X G T I S A D E M C I I I C F U B X L G R A E
 J E W I T A G P R V C H D V F N F B S J E V I P Y
 S T N R R O Y G O T C F E A I Z A G F O E F N B E
 R G C R I A M C G R S V E T Q C L D N S I I N C P
 Y Q K I C S L B N W C P W I Q N O E T A A L A C N
 B E W P E D M P I X T R T O B R M I T R R N S Q G
 R C S D S E Y W H J J E U N N O N L G B A M M W H
 M E N R A E I G G N H P V G W G X O A L X R V O E
 Q L W I N S F E U T R A N S P L A N T I N G V L U
 V W S D X C E E O O L R S A W X D I U D L F N L G
 Y A T L H C G E L B T E J J Q G L B R A B X A A N
 N X H R V A M S P S C Y T H E H Q J T P M W N F U

rice
 cultivation
 fields
 irrigation
 fertiliser
 husks

scattered
 ripening
 winnowing
 drying
 chaff
 staple

padi
 prepare
 buffalo
 nursery
 germinate
 women

grain
 straw
 raking
 wind
 canal
 production

growth
 bullock
 transplanting
 plants
 weeding
 harvesting

fallow
 scythe
 Asia
 terraces
 ploughing
 bunds

seeds
 soil
 machines
 threshing
 crops
 sale

EXERCISE:

Imagine you are visiting a country in South-East Asia, and during your journey you see the people of a village harvesting rice.

Write an account of what you see using as many of the words from the Wordsearch as you can.

Finding your way around Asia

WONDERWORD

1. The country north of Pakistan.
2. The country between India and Burma.
3. A small country north of Bangladesh.
4. The country between Bangladesh and Thailand.
5. The largest country in Asia.
6. A small country off the Chinese coast.
7. The country with birth control problems.
8. The country on the Equator with many thousands of islands.
9. The most advanced country in Asia.
10. The new name for Cambodia.
11. The country surrounding Thailand to the north and east.
12. Sounds like a cow.
13. The islands north of Indonesia.
14. The country between the USSR and China.
15. Kathmandu is the capital of this country.
16. Pyongyang is the capital of this country (north of South Korea).
17. The country west of India.
18. Manila is one of this country's largest cities.
19. A small city and country south of West Malaysia.
20. The country that hosted the 1988 Olympics.
21. An island off the Indian coast.
22. An island off the Chinese coast.
23. Bangkok is the capital city.
24. The country east of Thailand and Kampuchea.

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | E | R | O | K | H | T | R | O | N | A | A | E | H | C | U | P | M | A | K |
| F | S | I | S | I | N | G | A | P | O | R | E | A | I | S | A | C | O | E | N |
| G | T | I | N | E | N | V | H | S | E | D | A | L | G | N | A | B | T | R | C |
| H | O | M | P | R | I | S | I | I | N | H | G | M | A | N | Y | D | I | O | F |
| A | F | E | R | E | N | T | C | E | O | U | O | N | T | R | I | E | S | K | A |
| N | L | L | H | A | V | I | N | G | T | V | A | N | R | Y | I | P | N | H | G |
| I | C | U | C | L | T | U | R | E | A | N | S | A | G | N | A | D | L | T | I |
| S | F | E | H | S | T | Y | L | I | E | S | A | N | O | K | T | O | N | U | L |
| T | H | A | I | L | A | N | D | Y | D | O | T | M | I | H | O | E | P | O | E |
| A | O | P | N | L | E | N | T | H | E | I | R | S | B | E | L | N | I | S | S |
| N | T | E | A | F | I | S | R | E | L | I | T | G | I | O | A | N | G | A | E |
| N | A | T | U | H | B | N | D | D | A | A | I | L | Y | E | I | X | P | E | N |
| N | I | R | I | E | N | C | A | E | N | S | D | I | F | F | S | E | R | E | I |
| A | W | B | U | T | S | K | O | D | O | E | S | T | H | E | Y | A | P | G | P |
| P | A | R | I | C | N | U | M | O | N | G | O | L | I | A | A | A | L | T | P |
| A | N | U | R | A | A | L | A | N | D | U | B | R | B | A | L | N | W | A | I |
| J | Y | O | L | A | O | S | F | L | I | F | U | E | R | E | A | L | I | G | L |
| I | O | I | N | I | N | F | L | U | E | N | R | C | E | T | M | H | E | L | I |
| I | R | V | E | S | O | F | M | A | N | Y | M | O | F | T | H | E | P | E | H |
| S | O | P | I | N | D | O | N | E | S | I | A | L | U | A | C | A | M | E | P |



Starting at the top left, write down all the letters which haven't been used, moving from left to right down the page. This will tell you about Asia.

.....

.....

.....

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.....

Asian Climatic Statistics WORKSHEET

| Town (Country) | Jan T R | Feb T R | Mar T R | Apr T R | May T R | Jun T R | Jul T R | Aug T R | Sep T R | Oct T R | Nov T R | Dec T R | Year T R |
|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Bali (Indonesia) | 26.0 317 | 26.0 272.8 | 27.0 187.3 | 27.0 77.8 | 27.0 90.2 | 27.0 68.4 | 27.0 54 | 27.0 28.6 | 27.0 75.2 | 27.0 102.7 | 27.0 183.6 | 26.0 276.5 | 27.0 1725.1 |
| Bangkok (Thailand) | 26.1 9 | 27.6 29 | 29.2 34 | 30.3 89 | 29.8 166 | 28.9 171 | 28.4 178 | 28.2 191 | 27.9 306 | 27.6 255 | 26.7 57 | 25.5 7 | 28.0 1492 |
| Bombay (India) | 24.3 2 | 24.9 1 | 26.9 0 | 28.7 3 | 29.9 16 | 29.1 520 | 27.5 709 | 27.1 419 | 27.4 297 | 28.3 88 | 27.5 21 | 25.9 2 | 27.3 2078 |
| Delhi (India) | 14.3 25 | 17.3 22 | 22.9 17 | 29.1 7 | 33.5 8 | 34.5 65 | 31.2 211 | 29.9 173 | 29.3 150 | 25.9 31 | 20.2 1 | 15.7 5 | 25.3 715 |
| Honk Kong | 15.4 30 | 15.8 60 | 18.2 70 | 21.8 133 | 25.6 332 | 27.5 479 | 28.4 286 | 27.9 415 | 27.3 364 | 24.7 33 | 21.2 46 | 17.4 17 | 22.6 2265 |
| Kuala Lumpur (Malaysia) | 26.2 176.6 | 26.6 112.6 | 26.9 206.9 | 26.9 308.7 | 27.3 218.1 | 26.8 145.5 | 26.5 156.7 | 26.4 156.7 | 26.3 186.0 | 26.1 292.9 | 26.1 290.7 | 26.0 251.4 | 26.5 2502.8 |
| Manilla (Philippines) | 25.4 18 | 26.1 7 | 27.2 6 | 28.9 24 | 29.4 110 | 28.5 236 | 27.9 253 | 27.4 480 | 27.4 271 | 27.2 201 | 26.4 129 | 25.4 56 | 27.3 1791 |
| Singapore | 26.1 285 | 26.7 164 | 27.2 154 | 27.6 160 | 27.8 131 | 28.0 177 | 27.4 163 | 27.3 200 | 27.3 122 | 27.2 184 | 26.7 236 | 26.3 306 | 27.1 2282 |
| Taipei (Taiwan) | 15.2 91 | 15.4 147 | 17.5 164 | 20.9 182 | 24.5 205 | 26.8 322 | 28.4 269 | 28.3 266 | 26.9 189 | 23.3 17 | 20.5 71 | 17.2 77 | 22.1 2100 |
| Tokyo (Japan) | 3.7 48 | 4.3 73 | 7.6 101 | 13.1 135 | 17.6 131 | 21.1 182 | 25.1 146 | 26.4 147 | 22.8 217 | 16.7 220 | 11.3 101 | 6.1 61 | 14.7 1563 |

Key: T = main daily temperature
R = mean monthly rainfall

EXERCISES

- On the graphs provided, mark in the temperature and rainfall graphs for the following locations:
 - Bali (Indonesia)
 - Delhi (India)
 - Tokyo (Japan)
 - Singapore
 - Hong Kong
- In a paragraph, *account* for the differences that you find.
- For each location,
 - work out the total rainfall;
 - the average annual temperature; and
 - the annual temperature range.
- On a map of Asia, mark in the cities and countries named.
- Write a paragraph describing the climate in each of the above places.
- Plan a holiday throughout this area of Asia, making sure you arrive in each place at the best time for weather (e.g. not during the Monsoons).

A Game of Travel in Asia

1. Leave Sydney by plane for a **COUNTRY** in South East Asia which was a Dutch colony and whose capital city was called Batavia
2. From this city go to an old **CITY** on the island and visit two temples called Borobudur and Prambanam
3. From here, go to an **ISLAND** where racing bulls are part of a special festival
4. Your next stop is an **ISLAND** which is a very popular Australian tourist destination and has a temple called Tanah Lot
5. From this island you will fly to a **SMALL ISLAND** nation which has the lion as its symbol
6. After visiting a famous **PRISON** you drive across the causeway into a **COUNTRY** called This Moslem country was once a colony. As you drive through this country you see many rubber plantations.
7. You reach the **CAPITAL CITY** and fly from here to a **COUNTRY** which used to be called Siam The name of the **KING** of this country is and the main **RELIGION** is
8. From this country's **CAPITAL CITY**,, you fly to a **SMALL COUNTRY** which has a red flag with a yellow building on it
9. From this country's **CAPITAL CITY** you go to visit the **BUILDING** on the flag called The **WEATHER** in this country is
10. You leave this country and fly to a **COUNTRY** with a flag which is two triangles - one on top of the other From this country's **CAPITAL CITY** it is possible to see the world's highest **MOUNTAIN**
11. From here you fly to a **COUNTRY** with a population of 780 million whose National Day is the same as Australia's
12. You visit a very famous white **TOMB** - the which is outside the **CAPITAL CITY** of this country
13. You travel by boat along the most famous **RIVER** in this country until you reach the **COUNTRY** which was called East Pakistan until 1972. The **CAPITAL CITY** of this country used to be an important trading city. This country is one of the poorest in the world and has suffered many **DISASTERS** in its recent history such as and
14. From here you fly to a **COUNTRY** which until recently was called Burma Its **CAPITAL CITY** is on the **RIVER** and its major **RELIGION** is This country's West Coast fronts onto the of
15. From here you fly to a small **ISLAND NATION** whose capital is Columbo It used to be called and was once a **COLONY**. Its most famous product is
16. After a short visit, you fly to the most populous **NATION** on earth It has a **GOVERNMENT** and its **CAPITAL CITY** is Its flag is with stars.
17. It is a short trip from this city to a **STRUCTURE** along which twenty horses could ride abreast
18. From here we travel to the southern part of a divided **COUNTRY** We visit the **CAPITAL CITY** The **LANGUAGE** spoken in this country is
19. It is time to fly to our last stop - a **NATION** made up of many islands, one of which is called Luzon Its **CAPITAL CITY** is and its language is
20. We now fly home to Sydney.

EXERCISE: On a map mark in the route that your journey took around Asia.

INDIVIDUAL COUNTRY STUDY

This nation/country is _____. It is part of the continent of _____, and is surrounded by the _____ ocean(s).

It's capital city is _____.

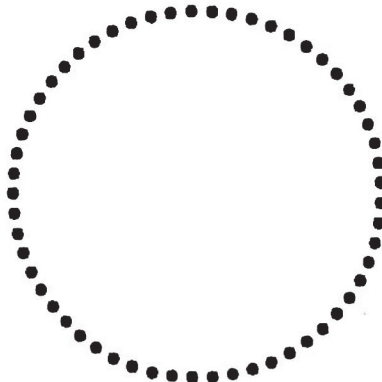
Once I arrived in this nation, I would travel by _____.

I would eat _____

because it tastes _____

_____ and looks like this.

Here's me on a _____.



I would need to wear _____

because the weather is _____

There are so many exciting and spectacular places to visit, but I would take a photo of _____

_____ to remember this place!

Here's me wearing a traditional costume.

I would buy these souvenirs:

Here's me visiting _____

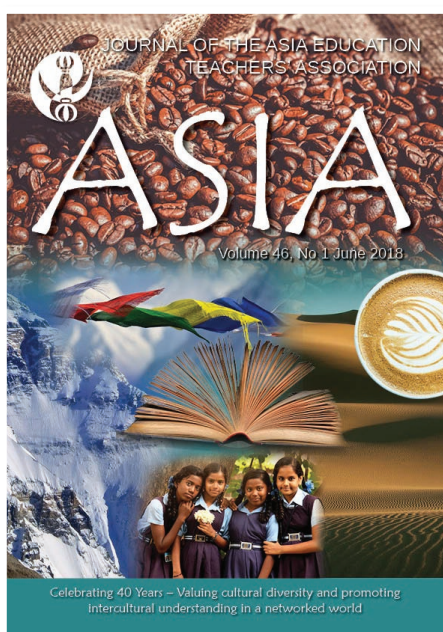
I would recommend a visit to _____

because _____



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- The authorship of all articles is acknowledged in the Journal.
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