

Development

FEATURES OF TNC

COLA - COLA

- No. 1 soft drink manufacturer in the world
- Operates in over 200 countries, & headquarters in Atlanta, Georgia
- They sell 400 diff products
- 70% sales generated outside of North America

→ Inputs

- raw materials: agricultural products (sugarcane, fruit, coffee, soybean) + water
- local sourcing :: partners in choose sugar type. Europe: beet sugar; Asia: cane sugar
- Indian fruits used in beverages under 'juice & aerated drinks' category

→ Processes

- 1st step: production of concentrate
- conc. mixed w/ H_2O , sugar, CO_2 by bottling plants
- package, market, distribute finished beverage

→ Outputs: sells 400+ products

→ Base & locations

- headquarters: Midtown Atlanta, Georgia, USA
- conc. manufactured in Atlanta & sold to bottling partners - 225

→ Transport networks

- GPS tracking of delivery trucks + route optimisation technology

→ Market

- 10000 drinks consumed globally /
- 70% sales outside North Am. sec

WHY TNCs OPERATE IN MANY COUNTRIES

COCA - COLA

Before a bottling plant is set up, thorough research & assessment of area is done.

This involves checking availability of resources (land, water, labours) + market

→ raw material availability

- local sourcing to optimise supply chain: gives choice of sugar/fruit used (eg. Europe, Asia, India)
- manufacturing plants located in countries w/ availability

→ market/profit

- market value in North Am. = \$228 billion + 320 mil consumers
- consumers in other countries:
 - Latin America: 520 mil
 - Europe, Middle East, Africa: 2 bil
 - Asia Pacific: 3.3 bil

→ Labour availability/skill/cost ^{use India stats}

- ~~• employs 700,000+ ppl globally~~
- developing countries (China, India) have more skilled + cheap labour

→ Government incentives

- to encourage investment
- Govt. of Andhra Pradesh provided subsidies to set up research & development centres for food processing.

→ Efficient/cheap

transport: strategically positions manufacturing & distribution centres to minimise transport cost.

IMPACTS OF TNCS

ADVANTAGES / IMPACTS AT NATIONAL SCALE (INDIA)

- Coca-Cola invested \$5 billion in India from 2012-2020
- Of the 200 countries where it's sold, India has fastest-growing market.
- Innovations like 'Maaza Aam Panna' & 'Fanta Apple' to expand footprint in the fast growing 'juice & aerated drinks' category

→ employment/income

- directly employs 25000+ ppl & indirectly 1,50,000+ ppl
- Indian fruits used under juice & aerated category: benefits 2 lakh farmers
- HCCB (bottling partner) announced 7-8% salary increment during Covid-19 pandemic

→ economic/infra development

- wide distrib network used for disaster relief
- Anandana (non-profit charity subsidiary of C-C): provides monetary grants for social welfare projects (education/health)
- road/transport development

→ multiplier effect

- output multiplier effect = 2.1; if output beverage increased 1x, effect on economy = 2x.
- demand for glass, plastic, refrigeration, transport & marketing/merchandising
- Shares its practices & advancement to other industries = overall improvement in quality standards

IMPACTS OF TNCS
DISADVANTAGES/IMPACTS
AT LOCAL SCALE → PLACHIMADA,
KERALA

- Bottling plant in Plachimada district opened in 2000.
- In March 2004, local officials shut down the \$16 million bottling plant.

→ Exploitation of resources

- plant produced 561,000 litres beverage every day
- 3.8 litres H_2O for each litre beverage extracted
- depletion of water sources; locals queued up near taps

→ Water pollution

- factory generated 1.5-3 lakh litres wastewater per day + solid waste.
- groundwater became brackish & unfit for drinking/cooling
- farming affected: 'rice bowl of Kerala'
- Health impact: water-borne disease, skin & eye irritation, diarrhoea, hair loss
- Fodder, milk, meat, egg samples collected from area contained copper, chromium & lead at levels considered toxic by WHO standards.

→ exploitation of workers: rights

WHY GLOBALISATION
HAS OCCURRED

GLOBAL EXAMPLES

→ Advancement in tech/internet

- exchange of info/ideas thru Google, Amazon, Facebook, Insta, Twitter.
- no. of internet users worldwide: 2bil - 5bil (2012-2022)

→ TNCs

- Apple Inc. & Samsung Electronics: key players w/ market in many country
- economic size of TNCs growing faster than countries.

→ Transport

- larger, efficient aircraft have enabled swift movement of ppl & goods
- now around 5000 airlines in world
- containerisation: companies like Maersk

→ Westernisation

- Coca-Cola & McDonalds have become symbols of Western culture & consumerism - operates in 200+ countries

→ Variation in wage rates

- MNCs benefit from wage rate disparities: set up in countries w/ cheap labour & Trans-Pacific Partnership (TPP)

→ Trade agreements: North American Free Trade Agreement (NAFTA) has removed trade barriers; range of financial services to clients across regions

→ Global Banking: Citigroup & Barclays have enabled.

Industry

LOCATION OF INDUSTRY

BANGALORE

Industrial Zone: INTERNATIONAL INDUSTRIAL BUSINESS ZONE, BLR

- Bangalore is located in SE of India.
- 'Silicon Valley' of India
- 925 companies close around the zone.

↓
Software

→ Texas Instruments first invested in
outsourcing to Bangalore → 1980
→ chiefly responsible for IT, aerospace,
biotech

→ Land availability

- flat land: surrounded by mountains West & North
- on the rural fringe so there is enough land that allows room for expansion

→ Environmental attractions: dust-free environment attracted "garden city"

→ Power supply: BESCOM responsible for transmission, distribution & supply in Blr

→ Labour supply

- Skilled ICT staff; 80 mil speak Eng (Biocon, Infosys → labour intensive)

→ Close to universities

- 50 dedicated IT universities eg. IISC; 21 engineering colleges

→ Economies of agglomeration

- IT companies like HP & Oracle have offices here > 900 software companies
- previous heavy industries still present - eg. Toyota has a plant

→ Transport networks

- Sarjapur Outer Ring Rd. surrounds city centre in circle - 8.7 km away
- airport 50 km away; close

Energy

METHODS USED TO SUPPLY ENERGY

CHINA

- China is world's largest:
 - consumer of energy
 - producer & consumer of coal
 - emitter of CO_2

For energy supply

→ Domestic supplies: China operates on 2 grids:
the State Grid in north & Southern Power Grid.

→ Fossil fuels

- Over last 50 yrs, manufacturing industry fueled by coal.
- Since 2011, China has consumed more coal than rest of world combined.
- 2017: 59% of energy (coal)
- new extraction methods have made shale gas (nat. gas) a viable energy source.
- nat gas emits 60% less CO_2

→ Nuclear power

- 2017: 1.7% of energy
- 2020: 47 nuclear power reactors

→ Renewable energy

- largest investor in clean energy
- 2014: world leader in HEP
- 2017: ~~HEP~~ HEP was 8.1% of energy
- Three Gorges Dam is largest HEP dam in world, generates 60% more electricity than 2nd largest dam.
- 2014: largest producer of solar panel

→ Geothermal:

2017: 0.4% of energy

Tourism

EFFECTS OF TOURISM : BENEFITS ON LOCAL PEOPLE

JAMAICA

- Located, in the Northern Caribbean; 3rd largest Caribbean island.
- Tourism was responsible for 15% of GDP in 2016.
- Jamaica welcomed 4.3 mil visitors in 2019:
2.7 mil stayovers & 1.6 mil cruise passengers.
- Tourism began in late 19th century when it was viewed as a 'health spa'.

→ Employment

- accounts for 60% jobs
- employs 200,000 Jamaicans
- Benefist local farmers: Sandals

Resort Farmers Program grew from 10 farmers supplying 2 hotels → 80 farmers supplying island-wide (1996 → 2004).

→ Improvement of infrastructure

- Billion \$ invested
- Harmony Cove Project: \$7.5 bil prjct that will include luxury hotels + spas, golf courses, etc.
- 3 international airports

→ Cultural exchange

- increase in foreign exchange
- relations btwn Jamaica & Japan strengthened: Jamaica's Reggae music popular in Japan and attracts huge crowds to popular music events.
- Americanisation - improved skills, lang, etc.

EFFECTS OF TOURISM:
PROBLEMS FOR LOCALS
JAMAICA

→ Low pay / exploitation

- poor pay & abuse - national workers union lashing out
- tourism is seasonal

→ Economic leakage

- food/beverage consumed by tourists is imported
- most resorts multichained $\therefore$ profit ends up abroad

→ Loss of culture: become Americanised due to proximity to US & influx of Am. tourists (>70%)

→ Pressure on supplies: Montego Bay, Ochorios & Negril - tourist hotspots; pressure since locals also moved here for jobs.

→ Traffic congestion: esp. in last decade

→ Noise: nightclubs, parties, live music

→ Water pollution

- 200 000 pieces of plastic per km² in northeastern Caribbean.
- 36% households - no waste collection services
- dehydration, unsanitary, disease
- hotels $\rightarrow$ sewage pollution
- highest conc. of beach litter is on shores of Jamaica.

TOURIST ATTRACTIONS

Natural

JAMAICA

→ Beaches/mountains

- Montego Bay has some of best, scenic, tranquil beaches: Sunbathing
- has 1240 km² of coral reef, 100+ coral species: snorkelling & diving in protected waters.
- beaches are popular destination wedding locations: tropical climate + romantic atmosphere
- Blue mountains: largest range in Jamaica & offers hiking trails

→ Weather/climate: warm climate, all yr round + mod. influence of sea

→ Wildlife

- Jamaica has 5th highest no. of endemic species compared to other islands
- eg. Jamaican Boa (top predator)
- 329 bird species

→ Vegetation

- 60 types of native orchids
- natural attractions like rivers & waterfalls rich in vegetation eg. Dunn's River Falls.

TOURIST ATTRACTIONS

Human

JAMAICA

→ Historical buildings / museums / cultural attractions

- Devon House - historical landmark; home of Jamaica's 1st black millionaire (George Stiebel)
- Bob Marley Museum, Kingston: showcases home & recording studio of the reggae legend
3000+ visitors per month.
- known for Reggae music:
Reggae Catamaran tours

→ Restaurants / bars / clubs

- Montego Bay has best nightlife: beach bars, live music, bouncing clubs, Margaritaville
- one of most famous party beaches: Seven Mile Beach, Negril

→ Hotels / resorts

- large, luxurious suites, spas, private pools & golf courses
- on avg. resort in Montego Bay = \$390 per night

→ National parks: Blue & John Crow National Park; 41,198 hectare

Food production

AGRICULTURAL SYSTEM

INPUTS

Type of farm / agricultural system: Wheat cultivation (commercial)

Name of area: Canadian Prairies

- 1 of the largest cereal producing regions
- Example of extensive farming: covers 75%
Canada's farmland
- Farmers make large profits due to large farm, but yield per hectare is low.
- Wheat farming is capital intensive.

NATURAL

- Relief, Land Size (support machine
 - flat, gently undulating land
 - Alberta, Saskatchewan, Manitoba provinces: 600 hectare.
- Soil: used to be natural grassland. development of chernozem (black humus-rich soil) - fertility
- Temperature: large annual range: 18°C summer (growing season) + harsh winter (kill pests)
- Rainfall: light, 250-500 mm / yr

HUMAN / ECONOMIC

- Machinery: for ploughing, planting, spraying, harvesting eg. combine harvesters, harrows
- Workforce: small but highly skilled to handle machines.
1-2 extra during planting/harvest
- seeds: GM seeds as they have lesser water requirements.
(used in dry Northern areas).
- fertilisers (less quantity)
- govt incentives: support Manitoba & Prairie farmers → \$66 million.

AGRICULTURAL SYSTEM

PROCESSES & OUTPUTS

Type of farm / Agricultural system : wheat
cultivation (commercial)

Name of area : Canadian Prairies

PROCESSES

- May, after snow - ploughing using tractors.
 - planting seeds using machines
 - fertilised & sprayed
 - ripens btwn Aug and Sep
 - harvested before frost
 - combine harvesters to separate grain.
 - wheat transported to nearest Silo by truck.
 - 2000 railway shipment points increase accessibility to ports for export.
-

AGRICULTURAL SYSTEMS

Market / Demand

Market, demand

- 2021: Canada exported \$8.3 billion worth of wheat.
- 4th largest exporter of wheat in the world.
- Main destinations for Canadian wheat:
 - China (\$831 mil)
 - Japan (\$666 mil)
 - Peru, Columbia, USA

Has good demand from global markets.

FOOD SHORTAGES

CAUSES - NATURAL

ESWATINI (SWAZILAND)

- Around 20% of the population estimated to be facing acute food insecurity and required urgent humanitarian assistance in Sep 2023.
- May 2009: crop output = 71 000 tonnes
country's requirement = 140 000 tonnes

→ Drought

- regions w highest prevalence of food insecurity are Lubombo, Shiselweni - most drought affect
- 2015-2016: El Niño drought; worst drought since 1992.
- low crop yield + 80 000 cattle died
- after 1992 drought ppl gave up farming, dependent on aid, children didn't learn farming so output further reduced.

→ Soil erosion

- worsened over past 20 yrs
- created deep gullies in soil

→ Flooding

- Prolonged rains in Feb 2021 due to Cyclone Eloise caused flooding

→ Pests

- Stem borer larvae responsible for 88% crop yield losses;
- invasive fall armyworm pest also poses threat

FOOD SHORTAGES
OTHER CAUSES
ESWATINI (SWAZILAND)

→ More subsistence / small scale farmers now growing cash crops like cotton, sugarcane : reduced output of feed crops

→ HIV/AIDS

- highest prevalence of HIV/AIDS: 27% adult pop. w AIDS.
- as HIV spreads, adults die, leaving behind children who become vulnerable to mal-nourishment & hunger
- 50% children under 17 orphans; 59% lost parents to HIV/AIDS

→ COVID-19

- Prolonged impact; unemployment

→ War/civil unrest/political issues

- large scale protests for reforms & democratisation of govt. caused unrest in 2021 & 2022.
- unrest: destruction of businesses in urban & peri urban areas that played role in supplying food from urban → rural
- Russia/Ukraine conflict: fluctuation of prices of commodities.

→ Poverty: 59% of rural pop. below poverty line; 20% extremely poor

FOOD SHORTAGES
IMPACTS
ESWATINI (SWAZILAND)

→ Malnutrition

- 31% children <5 stunted growth
- wasting (low weight-for-height) prevalence was 2.5% in 2017.
- Hhohho region: most affected by wasting

→ Infant mortality: under 5 mortality rate = 83 deaths per 1000 live births (2008)

→ Lack of education

- maln. affects edu. dev. & econ.
- children constantly ill so can't keep up w studies
- rising food prices so parents can't keep up w school fees
- ppl unproductive: can't work

→ Dependence on intl. food aid

- WFP present since 1960s in Swaz.
- provides emergency assistance to 70000 ppl in drought-affected
- provides monthly household ration of cereals, beans, oil.

→ Inc. food prices: food inflation grew by 15.7% in May 2023.

Water

WATER SUPPLY

SWITZERLAND

- Country w cleanest water in world.
- Has 6% of Europe's freshwater reserves.
- 20%: agriculture
- 25%: domestic/household
- 55%: industry

→ Water treatment plants:

- approx. 800 wastewater treatment plants.
- wastewater. treat plant in Zurich: cleans 150 000 - 500 000 m³ sewage water daily

→ Reservoirs/dams

- Federal govt responsible for 220 major dams + 1000 small-scale dams.
- Grande Dixence Dam (285 m): tallest in Europe; concrete gravity dam
- 4 power stations that pump H_2O from 33 glaciers.

→ Groundwater: wells, aquifer

- 80% drinking water from g.w.
- 40% g.w fed directly into drinking water supply system
- Geneva aquifer: supplies drinking H_2O harnessed from 10 wells on Swiss side, 4 on French

→ Rainwater harvesting: Int. Rainwater Harvesting Alliance (IRHA): Swiss based NGO promotes r.h.

→ Pipelines: Drinking water distributed throughout Switzerland via 53000 km of piping - length on circle the country 28 x.

~~water~~

→ Use of high prices to reduce demand (esp. of bottled H_2O)

Environmental risks of economic development

IMPACT OF ECONOMIC ACTIVITY ON NATURAL ENVIRONMENT

Economic Activity: Manufacturing
Industry

Named area: Pearl River Delta

- Pearl River Delta is the low-lying area surrounding Pearl River Estuary: where Pearl River flows into South China Sea.
- It's a major manufacturing base of electronic products (watches / phones), toys, textiles, etc.

→ Atmospheric pollution / climate change

- energy for industry from burning fossil fuels
- emissions lead to high quantity of particulate matter, oxides of N_2 , greenhouse gases & SO_2 : smog, respiratory disease, infant mortality
- China has largest CO_2 emission in world: climate change + G. warming

→ Acid rain

- 2/3rd of cities affected in 2007
- 8/10 rainfalls in Guangzhou, 2007

→ Water pollution / disruption to food chain

- half of wastewater in urban areas of Guangdong not treated before dumping into river
- ~~waste water~~ has 39% of rivers in PRD considered 'unfit for touch'
- fish species like tilapia found to contain halogenated compounds which disrupts food chains

→ Destruction of vegetation / soil erosion

- to clear land
- Mangrove forest wetlands once common in Guangdong; now under severe threat.
- has increased erosion

IMPACTS OF GLOBAL WARMING

GLOBAL EXAMPLES

IMPACTS ON HUMANS

→ Heat Stroke

- more frequent heat waves in Qatar, Belgium, UK
- no. of ppl exposed to heat waves inc. by 125 mil btwn 2000 - 2016
- 2010: 56000 deaths during 44-day heatwave in Russia.

→ Spread of diseases

- warm temp increases transmission of vector-borne diseases.
- mosquitoes likely to spread malaria, dengue, chikungunya in other regions.

→ Changing rainfall patterns

- climate change alters air & ocean currents
- precipitation expected to inc. in higher latitudes & dec. ~~in lower~~ closer to Equator: 5% inc in Pensylv & decline in Hawaii

→ Drought/desertification // lack of H₂O supplies

- high temp = more evap ∴ drought
- Jordan facing worst drought in 900 yrs: its water reserves can support 2mil, but current pop. approaching 10mil.

→ Melting of ice caps/glaciers

- Polar ice caps melting 6x faster than 1990s
- melting of Greenland ice sheets contributes to 20% sea level rise
- rising sea level could expose 400mil ppl to flooding by century end.

→ Impacts on species

- inc CO₂ conc. makes oceans acidic
- rapid decline of corals
- Arctic ocean ice melt & acidification reduces krill population: threatens whales, penguins, seals.

NATURAL ↑