









## Case Study Project

Design Thinking & Innovation Case Studies 2

Section: C7, Week 7



Design Thinking & Innovation (DT&I)

Section: C7

Week 7



Design Thinking & Innovation (DT&I)

Prof. Ravi Poovaiah

IDC School of Design, IIT Bombay



## **DT&I Case Study**

C7 Case Study Project:

Sustainable Housing Society + Coffee, Tea and Spice Stories
Module C7:





C7.1 Case Study Coffee, Tea, and Spice Stories





# C7.2 Case Study Coffee Story





DESIGN ISSUES

Group 16

# Coffee Drinking

Anumeha.. □ □ □ □ /day

Arunabh.. Ü Ü Ü /day 23M2267

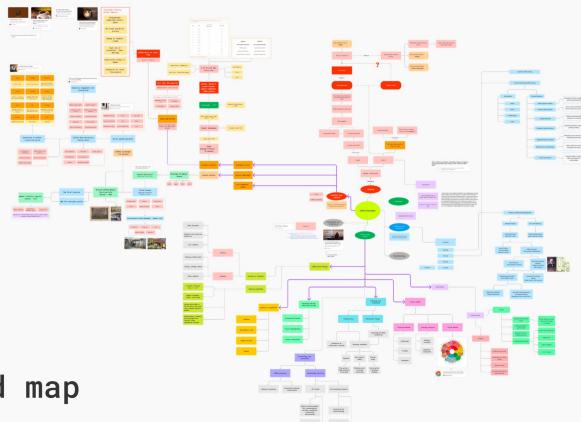
Nachiket. Ü Ü /day 23M2236

Simon.... ☐ ☐ ☐ ☐ /day 23M2261





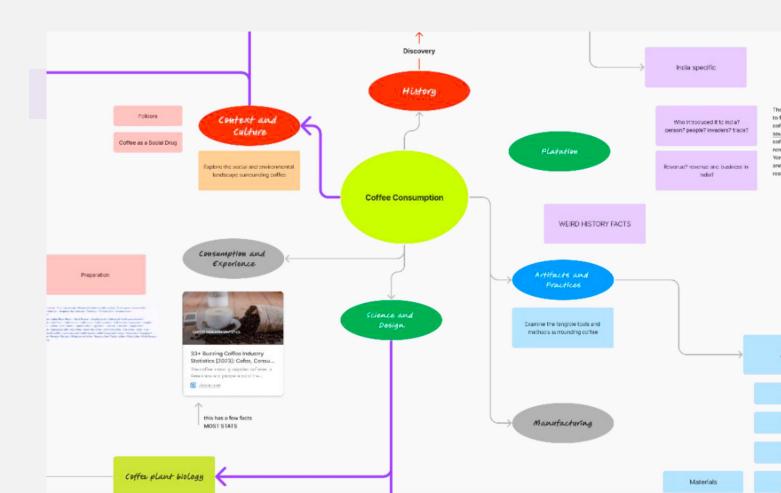




Mind map







C7.2-008







Kaldi Sufi saints Qahveh Khaneh

## Story of coffee

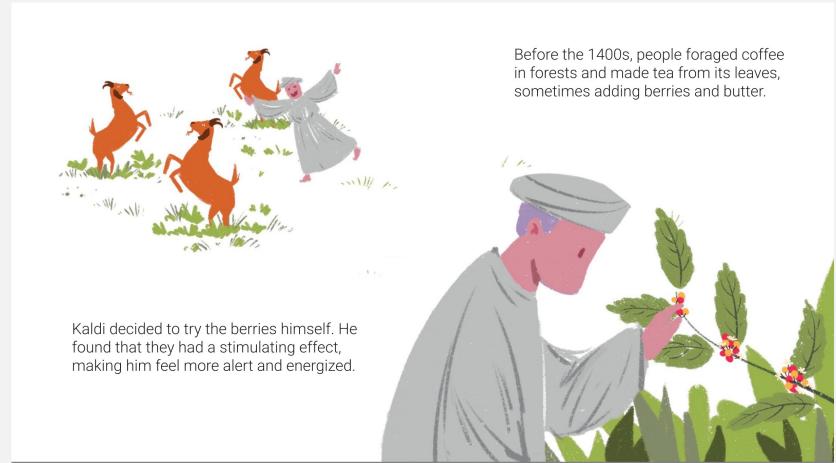






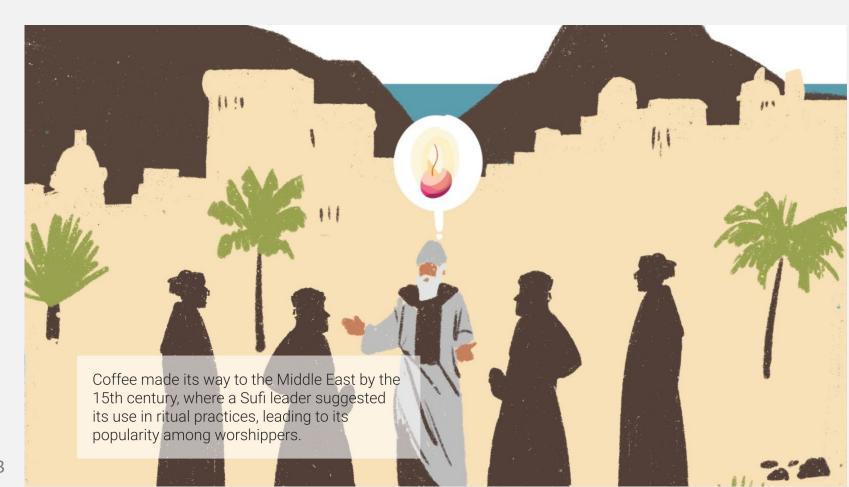






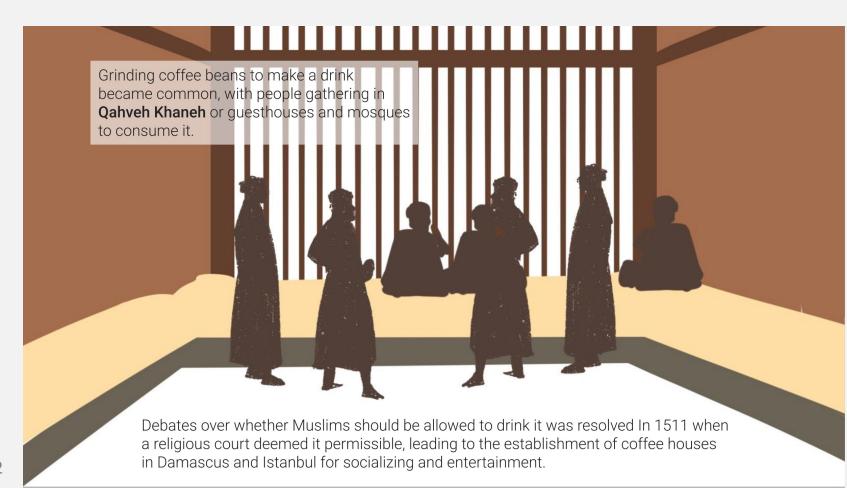


















How coffee travelled

the world





Coffee cultivation and consumption spread from Ethiopia to the Arab world, particularly in **Yemen**, by the 15th century.

Here, coffee was cultivated and roasted for the first time. Coffeehouses, called **Qahveh Khaneh**, became centers for social activity and intellectual exchange.

Monopoly of the Arab world





By the 17th century, coffee was a very valuable good. Although all of European elite was drinking coffee, the cultivation and trade was completely in the hands of the Yemeni Arabs.



Arabian coffee traders preserved their monopoly by **exporting infertile beans** through drying or boiling them. Fertile seeds or living plants were prohibited to leave Arab peninsula.





In 1616, Pieter van der Broecke, a Dutch merchant and local administrator of the VOC office in Mocha, gained dubious fame for obtaining some of the closely guarded coffee bushes from the Arab plantations.



Thief 1

The plants were taken to Amsterdam and grew well in the greenhouses. The Dutch climate was not suitable for larger commerce. So the VOC set their sight on their Eastern colonies.







In 1714, the Mayor of Amsterdam had to settle some disputes with France, and therefore presented a coffee plant as a gift to King Louis XIV. A young naval officer stationed in Martinique, Gabriel de Clieu, then asked his king for a specimen to start cultivation in the French Caribbean.

The king said not but De Clieu was determined. He sailed to Paris and obtained a seeding from the King's garden in a nightly theft. Despite a challenging voyage - including pirates, horrendous weather, and a saboteur who tried to destroy the plant -, De Clieu transported the seedling safely to Martinique.



### Thief 2





The seedlings thrived well in the Caribbean climate, and specimens were spread out over French Guiana, Jamaica and other colonies in the Caribbean. Now, the Portuguese in Brasil also wanted a part in the coffee trade. It was lieutenant Francisco de Melho Palheta who in 1727 made the third historical step.

The French were not willing to share, but De Melho found a way to the heart of the French Governor's wife. She gave him a large **bouquet of flowers** before he left. Hidden inside were enough coffee seeds to begin what is today a billion-dollar industry.

Thief 3







In 17th century, **Baba Budan** a Sufi saint who lived in the region of Chikmagalur in Karnataka, India went on a pilgrimage to Mecca. There, Baba Budan was introduced to coffee and was captivated by the rich flavor and stimulating effects of the beverage.



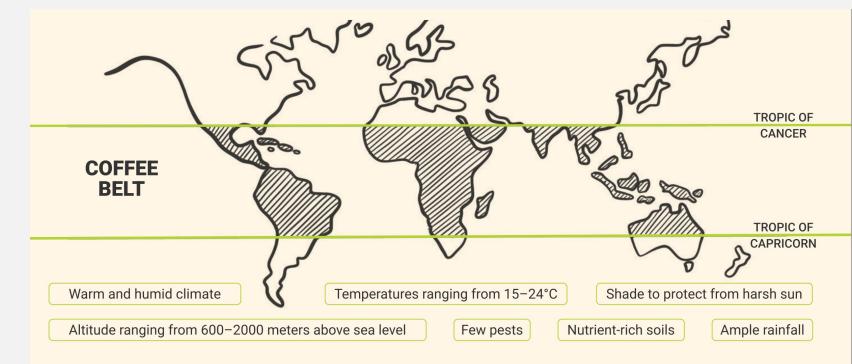
Thief 4



Baba Budan managed to **smuggle seven coffee seeds** out of Yemen and planted them on the slopes of the **Bababudangiri Hills** which now bear his name in **Chikmagalur.** Under his care, the coffee plants thrived in the fertile soil and favorable climate of the region.







## The Coffee Belt

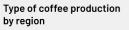
the coffee growing regions

The coffee belt is an imaginary band around the equator that runs between 25°N and 30°S, and includes the Tropics of Cancer and Capricorn. It's a region with ideal growing conditions for coffee plants.









Spatial mapping

#### Arabica Robusta Mix

#### Type of coffee production by region

- Total production
- Demand

#### Prime coffee growing nations

- Brazil 2 Vietnam
- Papua New Guinea
- Sumatra
- 5 Honduras
- 6 Peru Guatemala
- 8 Columbia 9 Ethiopia

#### Top coffee-consuming nations

- United States 26.7 ml bags
- Brazil 22 ml bags
- Germany 8.7 ml bags
- Japan 7.4 ml bags
- France 7.4 ml bags
- Italy 5.5 ml bagsIndonesia 4.8 ml bags
- Russia 4.6 ml bags
- Canada 3.9 ml bags • Ethiopia - 3.8 ml bags





Brazil, which brought the largest number of enslaved people to the New World and was the last country in the Western Hemisphere to abolish slavery in 1888, made coffee the heart of its economy, its banking system and its political and social structure.

Europe in the 17th century

Coffee's Globalization Helped Fuel Slavery







The London Stock Exchange, Lloyd's of London and the <u>East India Company</u> were started in coffee houses, which in London came to be known as "penny universities" because the price of a cup often gave patrons access to ongoing intellectual debate.

16th century, the Ottoman Turk

Coffee Houses Helped Fuel Public Debate



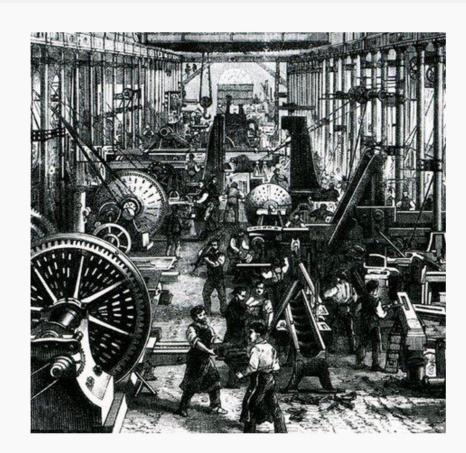




In 18th-century England, as the Industrial Revolution gained steam, workers in unrelenting new factories toiled day and night thanks to coffee. For hard-driving manufacturing industries looking to keep factories running at all hours, coffee enabled them to turn workers' natural sunlight-driven sleep and awake times to "clock time."

18th-century England

Coffee's Kick Helped Fuel Industrializa tion



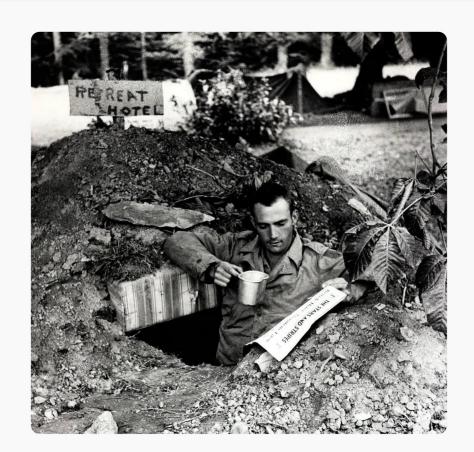




Instant coffee, made with quickly soluble coffee crystals that eliminated the drink's traditionally lengthy brewing process, took off during World War I. That's when American inventor George C.L. Washington found a way to scale production and sell to the military, to give soldiers' combat rations a boost.

1944. An American Soldier

## Instant Coffee Helped Fuel World Wars

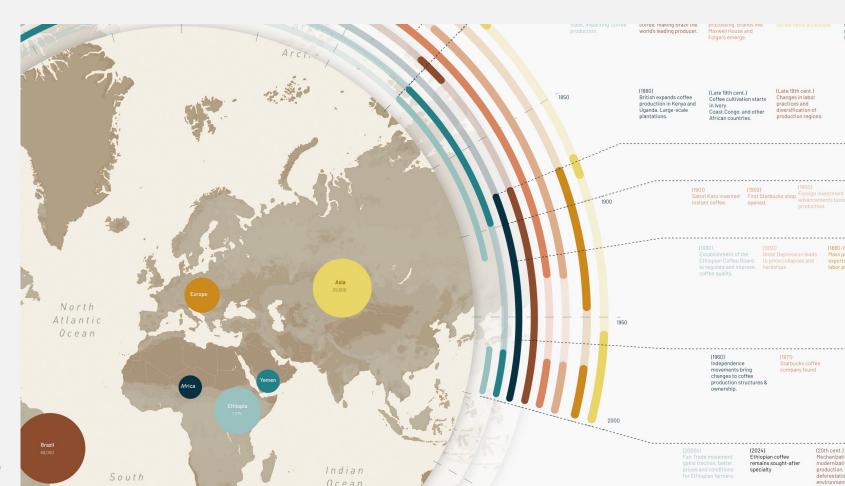






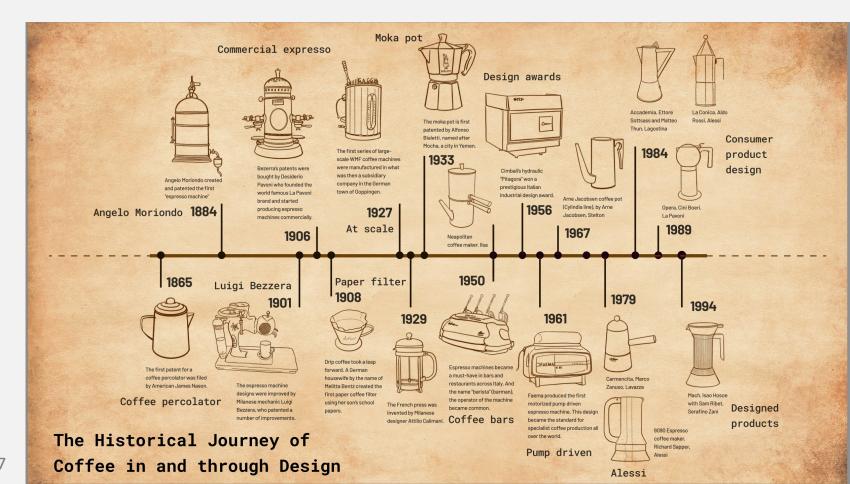


















### Third Wave







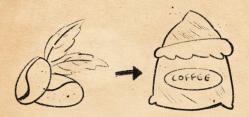


Period	1800s	1970s	2000 - now
Focus	Commonplace consumption of coffee	The proliferation of chain coffee shops	Focusing on the origins and craft of coffee
Operator type	Retail Supermarket	Coffee shops Chain Brands	Artisan roasting brands Independent cafes
Defining characteristics	Functional	Lifestyle	Craft
Defining emotion	Refueling	Enjoyment	Love





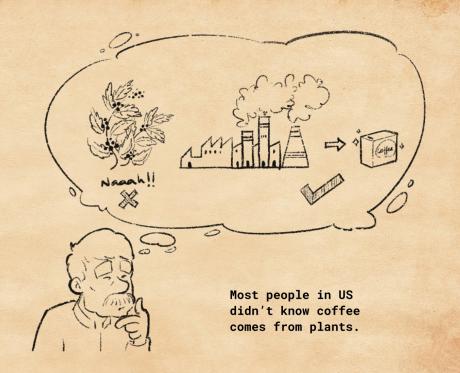
## First Wave



Lowest quality commodity coffee



No information on processing







## Second Wave



Didn't direct the customer to coffee but an experience was sold



Interest in coffee, but it was rarely because of coffee but a "Drink"!



Change flavors
Coffee with mixed
flavored syrups and
other flavored
ingredients

Creative Drink + Moodlighting + Friendly baristas





## Third Wave



Focus on beans not cafes Focus on quality +actual taste of

coffee



Transparency
when it comes to
bean's origin
farm



More emphasis on how it is made then how it is sold as a cup



Roasting is important +roast dates



Manual brewing methods -Pour over coffee -French presses



Customers want to spend on good coffee





### Context in Mumbai



More communal experience of drinking coffee. Where small cafes that focus on taste are valued over the chain sweet coffee makers

The Third Wave is led by small-batch roasters and independent coffee shops.
They focus on coffee quality and sustainability, helping to create a more sustainable and ethical coffee industry.





## Coffee and Sustainability

Why is it a big deal?



This also holds with it, ecological consequences...





## What is the environmental impact?



Starbucks made a commitment in 2008 stating that 25% of their cups will be reusable by the year 2015.

Today still, only 2% of their cups are reusable.

But It's **not just the visible waste** of disposable cups that needs to be addressed...



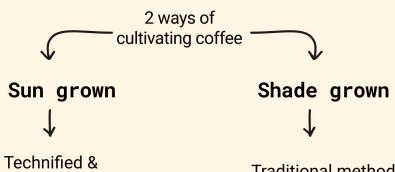


The environmental impact of coffee is centered around how it's grown.

industrial method

Increased yields

decreased prices



Traditional method
High quality coffee







#### References

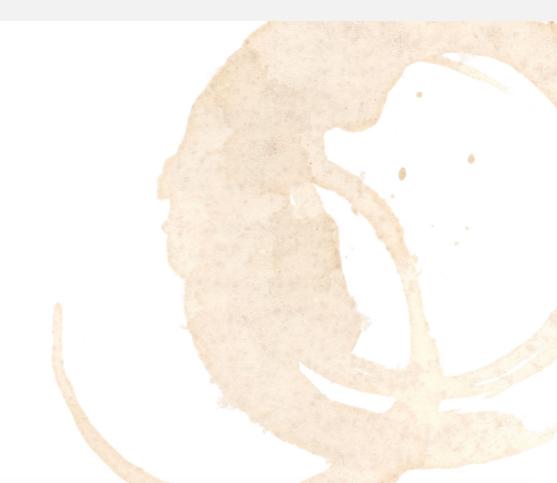
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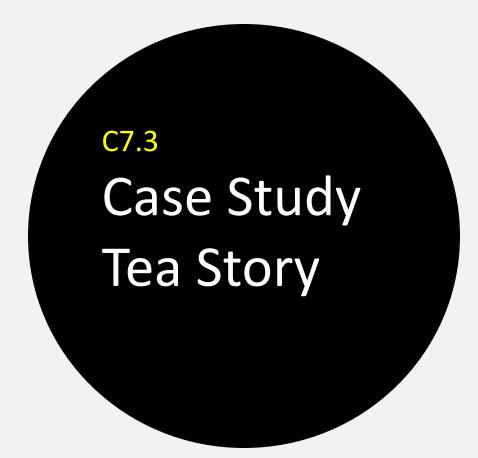


Thank you!











## THE TEA ROUTE

**COURSE PRESENTATION** 

Design Issues |

Deekshaa | Nitya | Sohan



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- 2. Mind Map



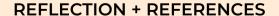
- 1. Temporal Map
- 2. Spatial Map
- 3. Artefact Map

#### **CONNECTIONS**

- 1. Sustainability
- 2. Social Design & Storytelling
- 3. Connecting Strands

#### **DESIGN ISSUES**

1. Application & Design Learnings





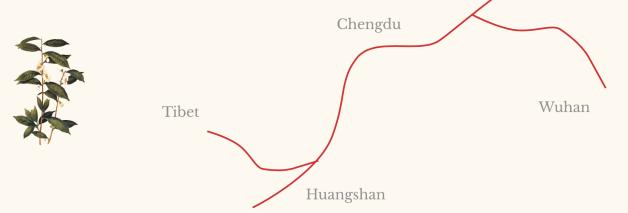
# WHAT IS 'THE TEA ROUTE'?





The Tea Route was an ancient trade route which passed through Chinese provinces all the way to Tibet, and from these Tibet to other provinces. This route was crucial for passage and transfer of tea and some other commodities.

Despite being a topological feature, the Tea Route holds political, social and cultural layers.



\*path is only for visualisation of prominent locations

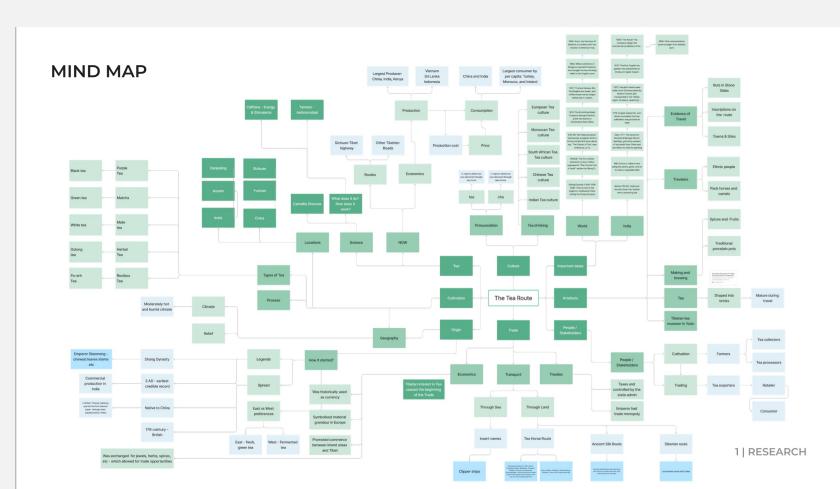
1 | RESEARCH

Conception: ~ 6th Century AD

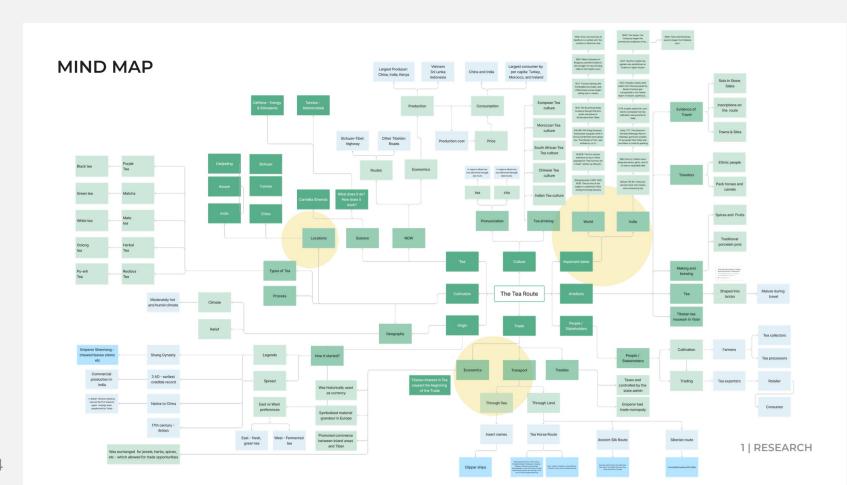
Yunnan province













## SPATIAL MAP



2 | MAPPINGS











#### **ARTEFACT** MAP



TEA BRICKS Before 19th century packed into bricks for transport.



141 BC Some of the oldest tea



BREWED TEA RELICS 475BC- 221BC Soaked and brewed tea relics.

for transport.

#### LEAVES

To make transport easy, leaves were packed into bricks. cakes, packets or even sacks. Over the course of travel, freshly packed green leaves would start oxidisingproviding the black, green, red and other ranges of teas we now know to love.



OLD TEA SAMPLES

samples found in a tomb.



TEA CAKES Pressed into cakes





YIXING CLAY TEAPOTS

over the years.

MING TEAPOT Today's round teapot is based on the 'ming' teapot design.



HANDPAINTED TEAPOT Chinese porcelain blue and white painted teapot.

Teapots held significance in Chinese, Japanese, and

**GEAPOGS** 

English rituals. Porters on tea routes used them to

brew tea during stops. Yixing's manufacturing in

China contributed to their enduring popularity

TEAPOT Handmade with cold red copper and decorated with tibetian silver.

Tea chests, vital for transit, evolved from ornate, unlabeled to labeled wood and paper boxes, especially at sea. In the 1800s, adorned trunks were favored for transporting tea and silks, occasionally featuring rare intricate carvings as valuable additions.

#### CDESGS



YOKOHAMA TEA CHEST 1862-1897

A chest from Japan with wood, inlay and lacquer mainly used in trading.



LEAVES IN A BOTTLE

17th dec. 1773 Tea Leaves in a glass bottle found at dorchester neck.



WOOD & LEATHER TRUNK 9th Century LABELLED TEA CHEST

loosely packed leaves were wrapped in foil, or in such chests from India or other producers.



Chinese Wood and Hand Painted Leather Trunk with Nail Head Accents

Storage jars and cups were relevant to chinese culture especially during matcha season. Every spring, the stroage jars



#### would be taken to a field and filled with new leaves for the coming year. Concotions were made in the cups, leaves were steeped and matcha powders were mixed with brushes. STORAGE & CUPS



PORCELAIN CUP Found with 2400 years old tea residue



1350 - 1450 storage jar from china





12th century



JAPANESE TEA JAR Hare's fur glaze 14th - 15th century Tea storage jar



KOREAN TEA VESSELS Rustic Ceramic vessels from Korea



CLEANING TEA workers washing tea leaves in a stream of fresh water.



#### PAINGINGS

SORTING & MEASURING

Several paintngs were found pertaining to tea cultivation, sorting and manufacturing of tea in China, They depicted scenes of transport, cleaning and often of groups of people with exporters. These paintings give deep insights and act as doors to the past.



PORTERS RESTING ON THE WAY

each porter carried 60 kg' - 125 kgs'

Traders employed mules, vaks, horses, and animals for cross-border tea transport. Some, relying on resilience, carried massive loads barefoot on perilous paths. Exhausting and hazardous, these journeys saw groups of porters providing mutual support as they navigated the challenging terrain.

#### PORGERS & GRAVEL



ANIMALS AS TRANSPORT Horses and yaks with porters along with handwoven boxes and baskets of teas strapped on them.





SICHUAN TEA PORTER

Porters carried large sacks

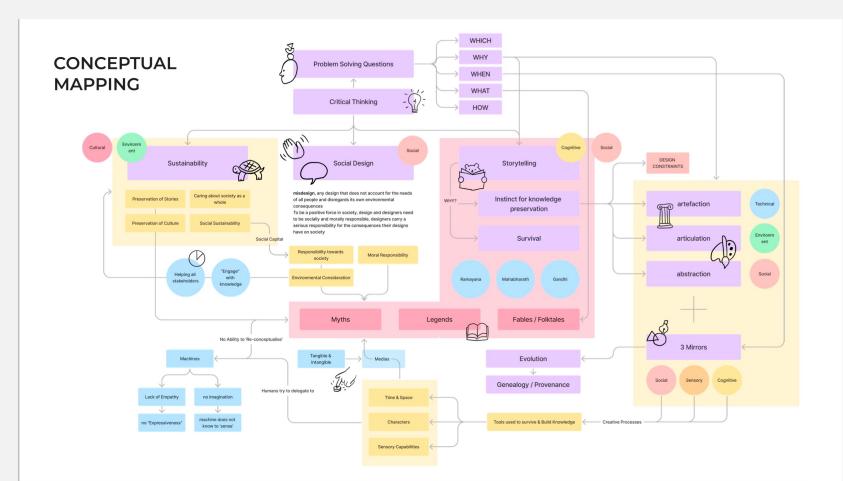
2 | MAPPINGS



## SUSTAINABILITY, SOCIAL DESIGN & STORYTELLING

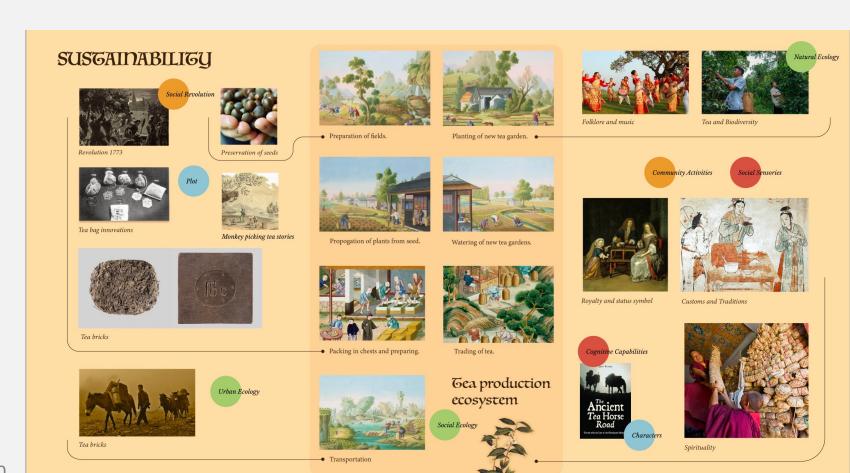






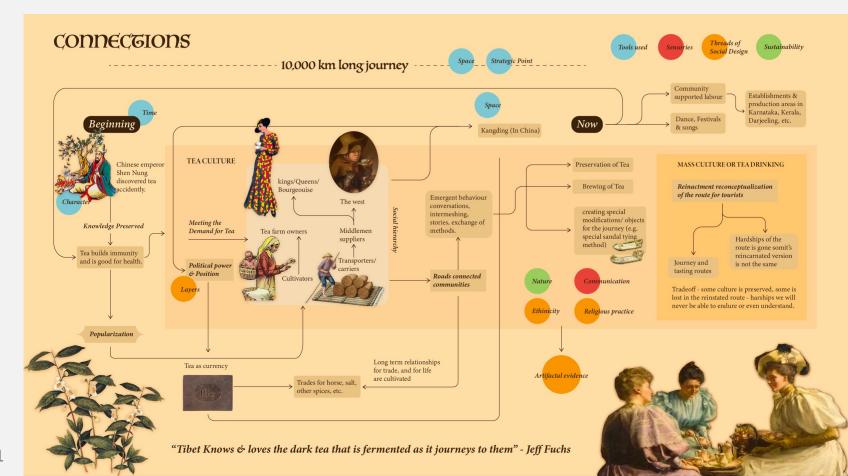
















#### **KEY TAKEAWAYS - CONNECTING LEARNINGS TO DESIGN PROCESS**

Sensories, modalities and human capabilities specific to us - such as reconceptualisation important in ideation Importance of history, historical context and hence - in depth background of subject and 'SUBJECTS'

Critical thinking, examining problems from personal and social contexts (sustainability + society)

Building narratives, personas, characters and plot

Identifying problems & breaking them down - What, when, how, etc,

Approach towards culture, protection and learnings from surroundings - not just books/internet

System based approach to the context & problem

Lateral thinking is being practiced for conducting analysis

Challenging the set notion of a subject & breaking it to have fresh approach to it for building new connections





#### **REFLECTIONS**

Design is holistic and has trickle down effects on different levels - be it to the 'product' or the effect of it on the environment

----->

Solutions have to be non- egoistic and have to account not just humans but also include nature. Stories are an integral part of any design process and can help in conveying of complex information. We already use this in storyboarding & comics.

Cultures are living form and are product of active systems - these systems should be preserved and can be used to take inspiration

Design frameworks have to be liberal, and allow for free thinking and space - to accomodate users and think ecologically.

No solution can be successful without the stakeholders having active participation - these approaches have been pushed in design in the past few years - the rise of 'codesign' & participatory design, etc.





#### **REFERENCES**

#### **Spatial Map References:**

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#### **Artefact Map References:**

https://www.chinahighlights.com/travelguide/special-report/tea-horse-road/ - hoofs, communities, religious altars

#### **Timeline References**

Combined References for Tea Route & Storytelling, Social Design & Sustainability:

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Tibet, Fuchs writes, knows and loves the dark tea that is fermented as it journeys to them—it has never been exposed to any other type of tea. It is not a specialty, or single estate or a first flush, it's more earthy and hearty, a cup that offers sustenance. As winds raged and blizzards blew, tea and fire held households

together, and where tea was shared, there was kinship, says Fuchs.

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What is Social Design?

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Traditional tea ceremony: Gong Fu Cha. In other words: the art of preparing tea, using ancestral techniques and methods.

https://www.worldnomads.com/explore/eastern-asia/china/travel-chinas-ancient-tea-horse-route

Making of tea



## Thank you







# C7.4 Case Study Spice Story







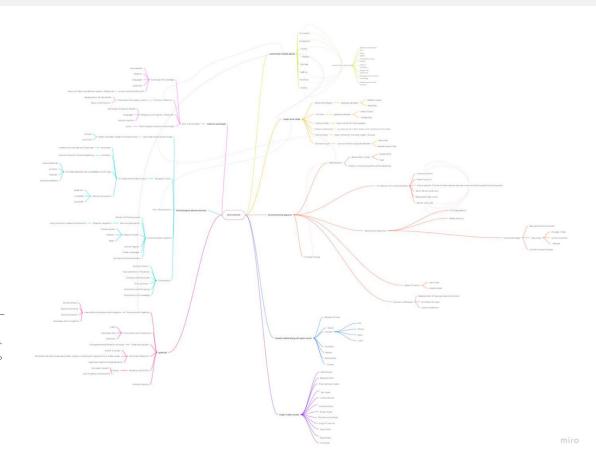




## The Mind Map

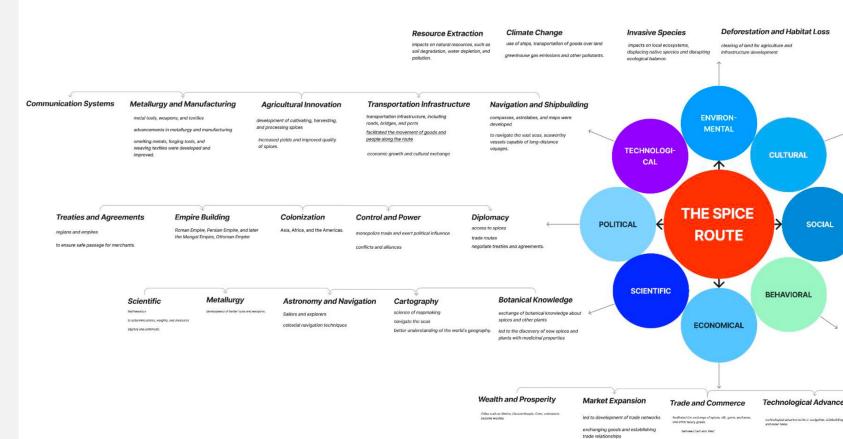
Mind maps are effective for studying, planning projects, and enhancing memory, as they engage both visual and spatial thinking. They're versatile tools that can improve productivity and foster innovation in various contexts.

Our aim here was to map view the Spice Route through various lens and map the Scientific, Technological, Political, Environmental, Social, Cultural & Behavioural implications.



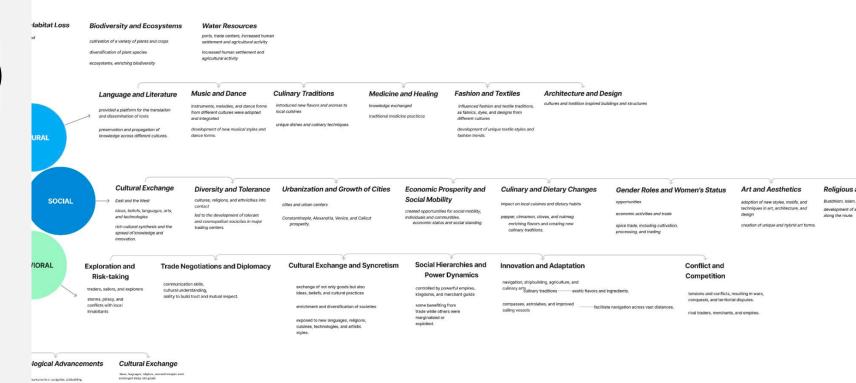
















Global Trade and Commerce: The Spice Route facilitated the trade of valuable spices such as pepper, cinnamon, cloves, and nutmeg between Asia, Africa, and Europe. This trade network played a crucial role in the development of global commerce, stimulating economic growth and prosperity in participating regions.

**Cultural Exchange and Fusion:** The Spice Route served as a conduit for the exchange of ideas, religions, languages, and artistic traditions. It fostered cultural diffusion and syncretism, leading to the blending of diverse cultural elements and the emergence of new culinary, artistic, and religious practices.

Geopolitical Competition and Exploration: Control over the Spice Route became a key objective for European powers seeking to dominate global trade and expand their empires. This competition drove exploration, colonization, and the establishment of maritime empires in Asia and beyond.

Technological Innovation: The Spice Route facilitated the transfer of technologies and innovations, including navigation techniques, shipbuilding methods, and agricultural practices. These advancements contributed to scientific and technological progress in both Eastern and Western civilizations.

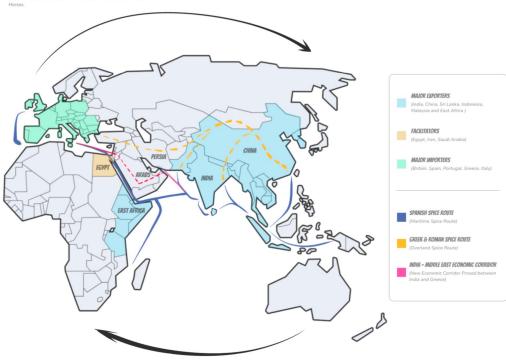
Economic Impact: The trade of spices along the Spice Route generated immense wealth for merchants, traders, and participating states. It stimulated the growth of port cities, the development of banking and financial systems, and the establishment of trade networks spanning continents.

Cultural Influence on Cuisine: The introduction of spices from Asia had a profound impact on the cuisines of Europe, Africa, and the Middle East. Spices became highly sought-after ingredients, leading to the development of new culinary techniques, dishes, and flavor profiles.

#### WEST - EAST

#### GOODS AND COMMODITIES

Metals, Wine, Olive oil, Wool & Textiles, Glassware, Metalwork,



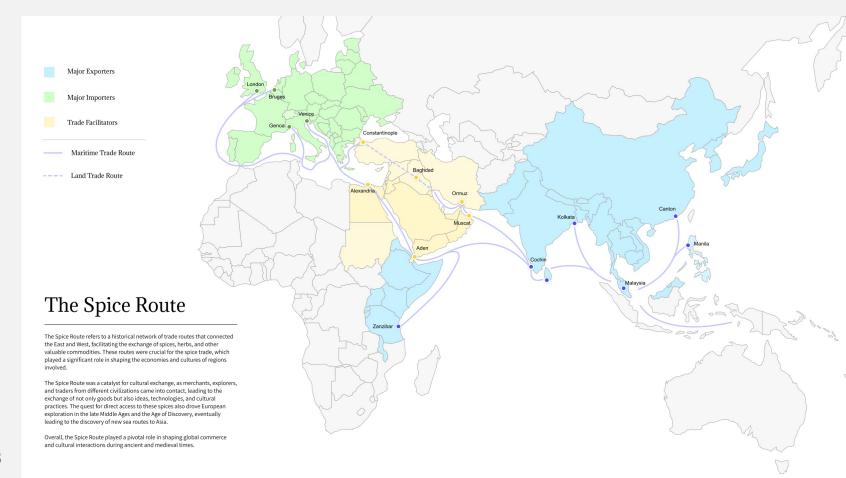
#### EAST - WEST

#### GOODS AND COMMODITIES

Black Pepper, Cinnamon, Turmeric, Ginger, Nutmeg, Cloves, Cardamom, Silk, Ivory, Incense, Resin, Porcelain

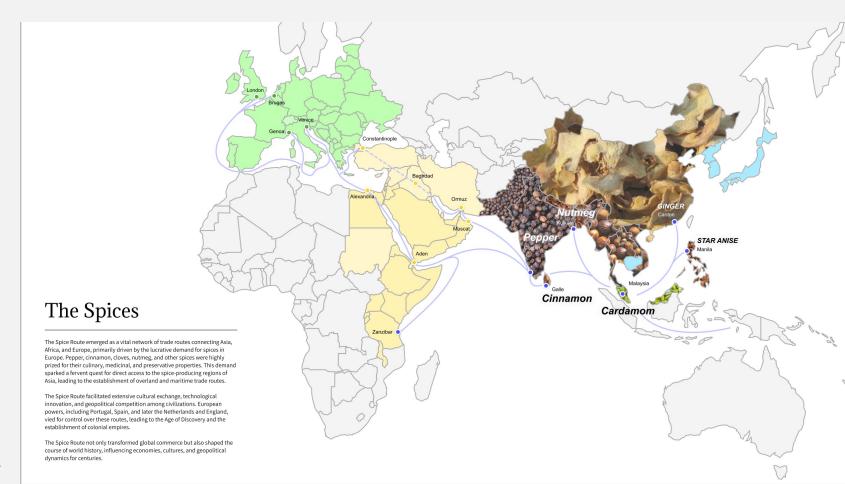


















#### **Curry Sauce**

It is a thick, savory sauce with a rich and aromatic flavor, typically made with a blend of spices, onions, garlic, tomatoes, and cream or coconut milk.



#### Risotto

While rice is not native to Italy, it became a staple ingredient in certain regions, particularly in northern Italy where risotto is popular.



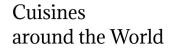
#### Samosa

Originating in the Middle East (possibly Persia), the samosa was introduced to the Indian subcontinent by traders along the Spice Route.



#### Biryani

Biryani reflects the fusion of Indian, Persian, and Arab culinary influences, with variations found across the Middle East and South Asia.



#### // Global Culinary Cuisine

The Spice Route laid the foundation for global cuisine by introducing a vast array of exotic spices and ingredients to different cultures, fostering a rich tapestry of culturary traditions and cultural fusion.

Spices such as pepper, cinnamon, cloves, nutmeg, and cardamom transformed the culinary landscapes of regions along the trade routes, infusing dishes with unique flavors and aromas. For example, in India, spices like cumin, coriander, and turmeric were incorporated into curries and masalas, creating complex and flavorful dishes. Similarly, in Europe, spices imported along the Spice Route enriched cuisines, leading to the creation of iconic dishes such as Moroccan tagine, Spanish paella, and Italian pasta sauces.

The exchange of culinary techniques and ingredients among different cultures along the Spice Route gave rise to a diverse array of fusion dishes that continue to delight palates worldwide, highlighting the enduring legacy of cultural exchange and culinary innovation fostered by the Spice Route.



#### Tagine

This dish reflects the fusion of Berber, Arab, and Mediterranean culinary traditions, with influences from the Spice Route.



#### Nasi Goreng

This dish reflects the fusion of Berber, Arab, and Mediterranean culinary traditions, with influences from the Spice Route.







prominence.

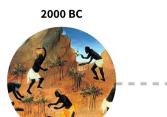
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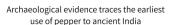
city-states

regions.











Egyptian Pharaoh Ramses was mummified with peppers stuffed in his nose



Pliny the Elder's study show that trade between Rome & India was thriving on pepper



Vasco Da Gama became the first man to sail from Europe to India around Africa ■

### Pepper & Spice Trade

#### // Black Gold

Pepper earned the nickname "black gold" or "gold" due to its scarcity, high demand, and immense value in ancient trade networks. Prized for its pungent flavor and perceived medicinal benefits, pepper was considered a luxury item and a symbol of wealth and prestige. Its role in trade routes like the Spice Route, where it was exchanged for other valuable commodities, contributed to its reputation as one of the most valuable commodities in the ancient world.



Dutch settlements on the Malabar Coast were handed over to the British



Dutch establish their first trading port on the Malabar coast





## **ARTIFACTS**

Design Of Products

## **SPICED TEXTILES**



Ottoman Silks Ottoman Empire/Turkey 16th And 17th Centuries



Velvet Egypt 2000 BC



Cashmere Kashmir, India 13th Century



Calico
Calicut, India
In The 11th Century



Mughal Textiles

Mughal Empire

16th Century



Paisley Indo-European 2,000 Years Ago



CHINA

RUSSIA

Songket Indonesia 7th To 13th-Century



Kainpanjang Java, Indonesia 19th-Century

SOUTH ATLANTIC



## **ARTIFACTS**

Design Of Products

## **SPICE CONTAINERS**



#### Chinese Porcelain Jars

China Shang Dynasty (1600–1046 BC) 13th Century Used To Store Spices Such As Salt, Ginger, Wine, And Oil



#### Islamic Metalwork Spice Box

Calicut, India
19th Century
Cinnamon, Ginger,
And Turmeric.
These Are Believed To
Have Healing
Properties



RUSSIA

#### Indian Lacquered Spice Box

Cumin Seeds, Turmeric Powder, And Red Chili Powder



#### Iznik Fritware

Turkey 15th Century Turmeric, Coriander, Cumin, Etc.



## **ARTIFACTS**

Design Of Products

## **Shipbuilding Techniques**



#### **Dhows**

(Arabia And East Africa) 13th Century

These Thin Hulled Ships Are
Used To Carry Heavy Items, Like
Fruit, Fresh Water, Dates, Fish
And Often Pearls, With Only
Wind And Sails As A Means Of
Propulsion.



#### Junks (China)

Junks Were Used As Warfare Ships. But They Served Other Purposes As Well, Including Trading, Fishing, Housing, Recreation And Exploring The World.



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#### Indiamen

East Indiamen Were Built To Carry As
Much Cargo As Possible, Rather Than
For Speed Of Sailing.
Used For The India-China Trade And
Were Relied Upon Almost Exclusively By
The British In The Eastern Seas Until
The Coming Of Steamships.



#### **Borobudur Ships**

Borobudur Ships Are Wooden Double Outrigger Sailing Vessels Transported People, Provisions, And Cargo.





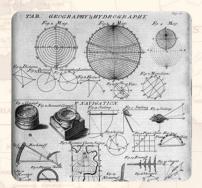
Design Of Services

### **Logistics And Transportation**



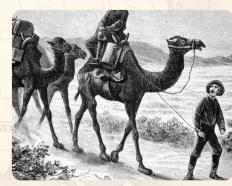
#### Caravanserai

The Spice Trade Involved Long And Arduous Journeys By Land. Caravanserais Provided Essential Resting Spots For Traveling Merchants, Their Camels Or Horses, And Guards. These Fortified Structures Offered Shelter, Food, Water, And Sometimes Stabling For Animals.



#### **Maritime Navigation**

Maritime Navigation Was A Game-Changer
For The Spice Trade. It Opened New Routes,
Improved Efficiency, And Ultimately
Transformed Global Trade, Exploration, And
Colonization.



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#### Pack Animals And Transportation Networks

The Reliance On Pack Animals Contributed To The High Cost Of Spices In Europe. The Time And Effort Involved In Transportation Drove Up The Price, Making Spices Luxury Goods.



Design Of Services

VADA



#### **Translators And Interpreters**

Translators And Interpreters Streamlined Trade Processes And Built Trust Between Parties Involved. This Facilitated Smoother Transactions And Reduced The Risk Of Misunderstandings.

### **Trade Facilitation**



#### Money Changers And Financing

By Providing Financial Services Like Currency Exchange, Loans, And Risk Management, Money Changers And Financiers Enabled More Merchants To Participate In The Spice Trade. This Fueled The Growth And Expansion Of The Trade Network.



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#### **Security Services**

They Protected Valuable Cargo From Theft,
Deterred Attacks, And Provided Merchants With A
Sense Of Security During Their Journeys. Despite
The Challenges, Security Services Played A
Crucial Role In Ensuring The Smooth Flow Of
Spices Across Vast Distances, Shaping The
Economic And Political Landscape Of The Era.



Design Of Services

### **Processing And Expertise**



#### Spice Blending

Skilled Spice Blenders Could Combine Lesser-Quality Or More Common Spices With High-Value Ones To Create Unique Blends. This Allowed Them To Maximize Profits And Cater To A Wider Range Of Customers Who Might Not Be



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#### **Quality Control And Assaying**

Quality Control And Assaying Were Essential
Practices Within The Spice Trade. They Protected
Consumers, Ensured Fair Trade Practices, And
Contributed To The Development Of Standards For
Spice Quality. While The Methods Have Evolved
With Technology, The Core Principles Remain
Relevant in Ensuring The Quality And Safety Of The
Spices We Enjoy Today.



Design Of Services

### **Information Services**



Cartographers And Mapmakers

Cartographers And Mapmakers Were Vital Contributors To
The Success Of The Spice Trade. Their Maps Provided
Essential Tools For Exploration, Navigation, And Trade
Planning. While Early Maps Had Limitations, Their Role In
Shaping The Course Of The Spice Trade And The Global
Exchange Of Goods Remains Significant.



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**Travelogue Writers And News Carriers** 

Travelogue Writers And News Carriers Served As Vital Information Conduits Within The Spice Trade. They Disseminated Knowledge About Spices, Fueled Public Interest, And Contributed To A Broader Understanding Of The World Beyond Europe.



Design Of Visuals

CANADA

### **Maps And Charts**



Kangnian World Map (China, 1378 AD)

The Map Might Depict Regions Or Countries China Traded Spices With, Providing Insights Into The Network Of Exchange.

DRLD MAP



Catalan Atlas (Majorca, 1375 AD)

It Serves As A Valuable Historical
Document For Understanding The
Geographic Context And Trade
Network That Facilitated The
Movement Of Spices For Centuries.



Fra Mauro Map (Italy, 1450 AD)

The Map Is Known For Its Remarkable Accuracy For The Time Period, Providing A Detailed Picture Of The Geographical Extent Of The Spice Route Network.



Piri Reis Map (Ottoman Empire, 1519 AD)

Piri Reis Compiled His Map From Various Sources, Including Arabic Maps, Portuguese Charts, And Possibly Even Christopher Columbus's Findings. This Could Make The Piri Reis Map A Valuable Source For Understanding The Extent Of Knowledge About The Spice Route At The Time.



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#### Cantino World Map (Portugal, 1502 AD)

It Serves As A Historical Document
That Sheds Light On The Motivations,
Knowledge, And Rivalries
Surrounding The Spice Trade During
The Early 16th Century. It Highlights
The Importance Of Exploration,
Navigation, And Strategic Control Of
Trade Routes For Securing Access To
These Valuable Commodities.



Design Of Visuals

### **Trade Paintings**



"Arnolfini Portrait"
Netherlands-1434
By Jan Van Eyck
It Reflects The Wealth
Generated By Trade
And The Cultural Exchange
And Economic Prosperity
That Boomed During The

15th Century



Seaport At Sunset
By Claude Lorrain,
Completed In 1639
These Paintings Often
Including Merchants,
Traders, And Port Activities.



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The Vegetable Seller
(Italy, 1590) By Giuseppe Arcimboldo
These Paintings Often
Showcased A Variety Of
Fruits, Vegetables, And
Spices, Some Of Which Were
Introduced Through The
Spice Route.

C7.4-078







The Spice Route facilitated cultural exchange and interaction among diverse civilizations. It brought together people from different regions, fostering a rich tapestry of cultural exchange, including language, religion, art, and cuisine.

Cultural Exchange: The Spice Route facilitated the exchange of cultures, languages, and traditions. For example, Indian spices like curry powder became popular in British cuisine after British colonization of India, while European culinary techniques and ingredients influenced cooking in Asia

#### Cultural exchange



The Spice Route relied heavily on partnerships and alliances among traders, merchants, and civilizations. Fostering diplomatic relations and cooperation between regions, as well as the establishment of trade networks and agreements.

Trade Alliances: The Spice Route relied on partnerships and alliances between traders, merchants, and civilizations. For example, the Silk Road, which intersected with the Spice Route in Central Asia, facilitated trade between the Roman Empire and Han Dynasty China. These trade alliances promoted diplomatic relations and cultural exchange between distant civilizations.



The Spice Route played a pivotal role in driving economic prosperity for regions involved in the trade. It stimulated economic growth, created employment opportunities, and generated wealth for merchants, traders, and local economies.

**Diplomatic Relations**: Trade along the Spice Route often fostered diplomatic relations and peaceful interactions between nations. For example, the Pax Mongolica, a period of relative peace and stability facilitated by the Mongol Empire, promoted trade and cultural exchange along the Silk Road and Spice Route, connecting Europe and Asia

### Global Impact of The Spice Route

#### // The 5 P's of Sustainability

The Spice Route, a network of trade routes that connected Asia, Africa, and Europe, had a profound impact on the world. It facilitated the exchange of goods, cultures, and ideas, shaping global trade, economics, and cultural exchange. The demand for spices such as pepper, cinnamon, and cloves drove exploration, colonization, and the establishment of empires. It stimulated economic growth, spurred technological innovation, and influenced culinary traditions worldwide. However, it also led to environmental changes, social inequalities, and cultural diffusion. Overall, the Spice Route played a pivotal role in shaping the course of world history, contributing to the interconnectedness of civilizations and the development of global trade networks.

#### Peaceful interactions



The Spice Route played a pivotal role in driving economic prosperity for regions involved in the trade. It stimulated economic growth, created employment opportunities, and generated wealth for merchants, traders, and local economies. **Economic Growth**: The Spice Route fueled economic growth by creating employment opportunities, generating wealth for merchants, and stimulating commerce in port cities like Venice, Alexandria, and Malacca. For example, Venice became a wealthy trading hub due to its dominance in the spice trade, which contributed to the city's cultural and artistic flourishing during the Renaissance

Economic growth



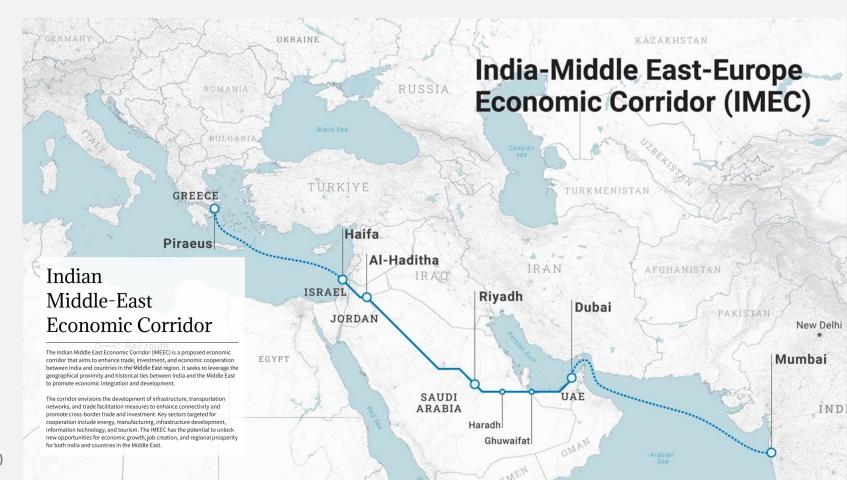
The Spice Route had significant environmental impacts, both positive and negative. On the positive side, it spurred exploration and discovery, leading to the mapping of new territories and the exchange of botanical knowledge. However, the quest for spices also drove environmental exploitation, such as deforestation and overharvesting of certain plant species.

**Botanical Discoveries:** Exploration along the Spice Route led to botanical discoveries and the exchange of plant species. For instance, Christopher Columbus's voyages to the Americas were driven in part by the desire to find a new route to Asia for spices. While he didn't find a direct route, his expeditions led to the discovery of new spices like chili peppers and vanilla, which were later integrated into global cuisines

C7.4-079











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**DT&I Case Study** 

Section: C7

Week 7



### **DT&I** Course – Week 7:



DT&I Process

- > Analysis Part 1
- > Information/Data Analysis



Tools (20%)

> Artifact,Activity, andSpatial Mappings



DT&I Project (50%)

> Analysis> Use of Artifact /Activity / SpatialMappings



DT&I Cast Study

Case StudyProject:SustainableHousing Society +Coffee, Tea andSpice Stories



### DT&I Course – Week 8:



DT&I

**Process** 

(20%)

- > Data Analysis Part 2
- > Persona
- > Inferences to

Recommendations



DT&I

Tools

(20%)

- > Personas
- > OIOR Table



DT&I

Project

(50%)

- > Data Analysis
- > Creating Personas
- > Making OIOR Table



DT&I

Cast Study

(10%)

> Case Study

Project:

Indian Medicine

System



# **Supporting Organizations:**

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# **Questionnaires Steps:**



### Steps in:



1. Identify the data/information that you would like to collect through Questionnaire



2. Identify the users group that you want to administer the questionnaire



3. Write down the Questions in a clear manner



4. Figure out the type of Question and the related response answers



**5. Administer the Questionnaire and get the responses** (online or offline)



6. Analyze the responses and represent the quantifiable ones as Charts and Diagrams

7. Make a list of inferences from this study





Spatial
Mapping
Visualizing
Coffe
Production
and
Consumption
Example 12:

From: dsource.in, IDC, IIT Bombay







Spatial
Mapping
Visualizing
Coffe
Production
and
Consumption
Example 12:

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