

1ºOIB GEOGRAPHY

THEME 1: RURAL SPACES, DIVERSIFICATION OR FRAGMENTATION?

Necessary Vocabulary:

Agricultural decline	Progressive decline of agricultural activities in a given location
Agrofuel	Fuel produced with agricultural products
Biological agriculture	Agriculture that doesn't use (or in limited quantities) pesticides, GMOs or chemical products
Conflict of use	Rivalry between space actors over the use of a resource or territory
GMO (Genetically Modified Organisms)	Organisms whose genetic structure has been altered to develop new characteristics
Intensive/extensive agriculture:	Farming system based on maximum production levels Farming system based on low production levels
Land grabbing	Globalized process of land acquisition or lease by foreign investment, mainly for agricultural purposes
Productivist agriculture	Farming system whose productivity and intensity are based on technical and scientific progress
Rural exodus	Major migration flows from the countryside to cities
Slash-and-burn agriculture	Crops grown on lands that used to be covered by forests that were slashed and burned
Subsistence agriculture	Agriculture whose purpose is to feed a family. Crops' size, workforce and technical equipment are limited
Suburbanisation	Process by which cities expand peripherally, initially by out-migration of population and economic activity from dense urban cores, to less dense contiguous settlements. Developments in transport technology—such as railways, tramways, and improved roads—have aided suburbanization

Assessment: Design a Pecha Kucha oral presentation (20 slides, 20 seconds per slide) on one of the following points:

- Rural spaces' value (or limits, it's up to you)
- Rural spaces' strategic role to feed a growing population
- conflicts, debates about rural spaces' use
- possible futures of the rural spaces (from your perspective)

You can pick any country that you want.

Work in groups of 2 or ~~3~~

Chapter 1: Fragmentation of Rural Spaces

Main question: What factors lead to the fragmentation of rural spaces?

Lesson 1: What are rural spaces?

Question: How to define rural spaces?

It is difficult to define rural areas. Statistics have often defined rural areas as the negative of the city: all non-urban areas are rural. However, since the definition of urban areas varies greatly from one State to another, the same is necessarily true for rural areas.

1. A negative definition

If the city is the combination of density and diversity, these two criteria have limits because there are also very high rural densities (in South-East Asia, in the African Great Lakes region, in the Indo-Gangetic plain, in certain peri-urban areas...). In addition, rural areas are far from being homogeneous, either socio-ethnically (for example, with the sometimes conflictual cohabitation of Orma, Wardei and Somali herders and Pokomo farmers in the Tana delta in Kenya), professionally and socially, or generationally.

2. Rural spaces as agricultural spaces

The definition of rural areas by their agricultural function has long been operational, with rural areas characterised by the production of food surpluses. But while the majority of rural people in rich countries work either in the city or in industry or rural services, and many urban people in poor countries produce food in the city (urban gardening, small livestock...), this distinction has lost its meaning. The multi-functionality of rural areas, an old characteristic (they have never been exclusively agricultural), also makes it impossible to differentiate them from the city.

3. Rural spaces as spatial practices and lifestyles

More than categories of spaces, urban and rural are nowadays more a matter of spatial practices, which leads authors to differentiate urban and rural spaces using people's different lifestyles or relationships to said spaces as a reference.

For example, a person living in the countryside but commuting everyday to the city can be defined as rural, just as a city dweller working in the countryside.

Documents:

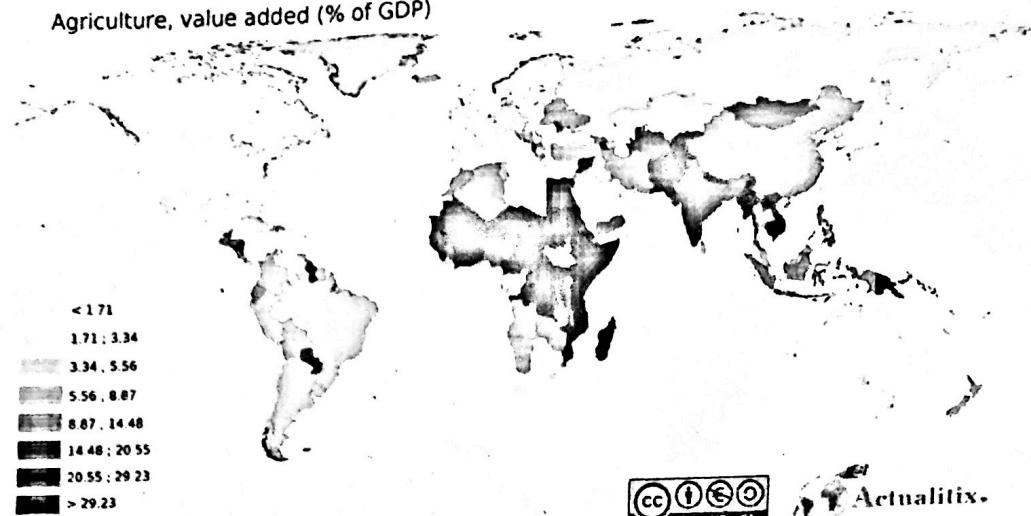


Document 1: "The Golden Bridge", Ha Long (Vietnam)



Document 2: Oil extraction facility in Alberta, Canada

Agriculture, value added (% of GDP)



Source : The World Bank - 2014
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Actualitix.

Document 3: The added value of agriculture (in % of countries' GDP)

Questions:

- 1) Explain why rural spaces are complex to define
- 2) Use documents 1 to 3 to identify some of the functions of rural spaces
- 3) Analyze the values and limits of the traditional definition of rural spaces.
- 4) Explain how geographers tend to define it today

Lesson 2: The transformation of rural spaces

Question: What factors lead to the transformation of rural spaces?

Activity: Let's go back in time!

Check the following website: <https://remonterletemps.ign.fr/>

1. Click on "Comparer", then enter the city of your choice in the research box. You can then compare what your city looked like in the 1950's-1960's with its modern aspect
2. Describe its evolution (differences and similarities) focussing on the following aspects:
 - a. its functions (residential, touristic, agricultural...)
 - b. its buildings: do they remain identical, do they disappear?
 - c. its transportation networks: what means of transportation are people likely to use?
3. Take a guess as to the consequences of these evolutions, including:
 - a. the city's demographics
 - b. its economic activity

NB: Use the looking glass option on the right panel and do not hesitate to zoom in to have a more accurate view

Example: Villeneuve d'Ascq



1. Multiple transformations

Traditionally, there is a strong opposition between rural spaces and urban spaces. It is based on very different building and population densities, on each spaces' predominant functions - industry and tertiary in the city, agriculture in the countryside. It must now be clarified.

The transformations of rural areas are functional and landscape-based. The development of functions other than agriculture modifies landscapes. The residential function is enhanced by the installation of city dwellers in residential housing estates: this is suburbanization. It leads to the development of shops and leisure facilities in small towns and villages. Industry, tourism and leisure, environmental protection and the exploitation of energy and mining resources are growing.

These transformations are disrupting rural sociology. Farmers often become a minority with the arrival of a younger population, with different working places, standard of living and habits.

2. Factors of transformation

The increase in living standards, the spread of the private car and the improvement of transport networks allow urban dwellers to live in the countryside while continuing to work in the city. As a result, the countryside has grown idealized as a quiet and natural place whereas the city is perceived as noisy and polluted.

The lower cost of housing encourages the loosening of activities from congested urban areas. It explains the development of industrial areas in rural areas close to cities. Commercial activity areas are being developed to meet the needs of neo-rural people.

Globalisation and the search for new resources also contribute to the reorganisation of rural areas

3. Uneven transformations

On a global scale, the reorganization of rural spaces mostly affects MEDCs and emerging countries.

In MEDCs, transformations are especially visible in spaces close to cities. Remote areas are affected by rural abandonment, the ageing of the population and the disappearance of basic commodities. On the other hand, rural touristic areas experience a wide range of urbanization and secondary estates developments.

In LEDCs, mobility and lower living standards limit suburbanization. Rural spaces that are close to cities are quickly absorbed by urban sprawl. Others are transformed by mining activities and productivist agriculture.

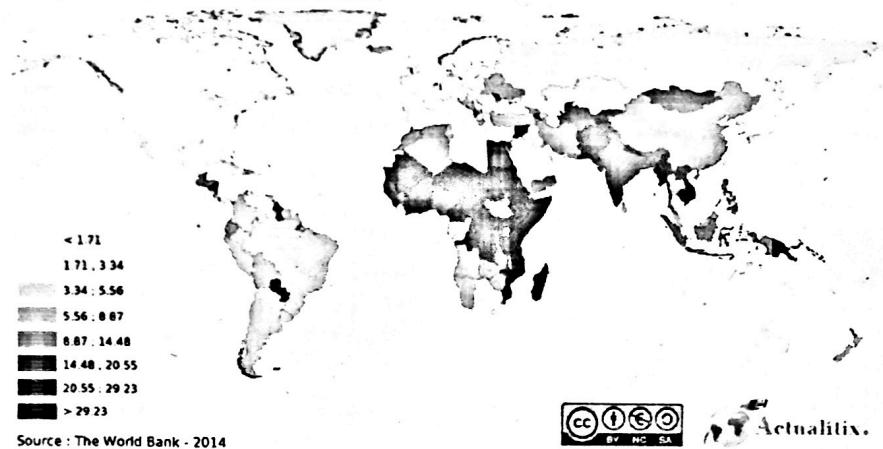
Final question: List the consequences of the transformations that affect rural spaces and determine whether they are positive and/or negative (you can create a comparative table if it helps you)

Lesson 3: The role of agriculture in rural spaces

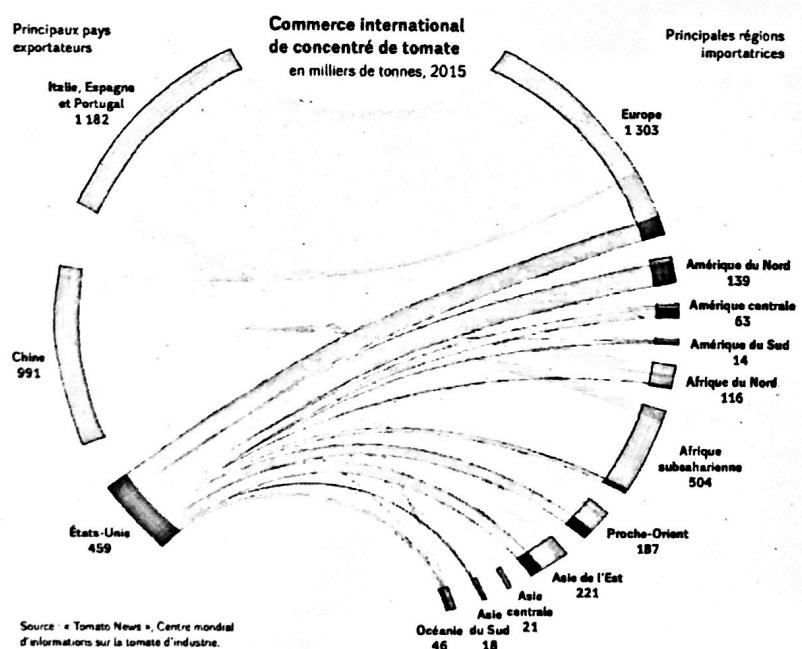
Activity: Explain why tomato paste can be considered a global product and analyze the consequences of this industry on rural spaces in MEDCs and LEDCs

Document 1: The added value of agriculture (in % of countries' GDP)

Agriculture, value added (% of GDP)



Document 2: Exporting and importing countries of processed tomato paste (2015)



Document 3: Tomato harvesting

Tomato harvest in a Californian farm (2015)

[https://bfarm.com/portfolio_page/bowles-tomato-harvest-c
alifornia/](https://bfarm.com/portfolio_page/bowles-tomato-harvest-california/)

Farm collection of tomatoes in
Kuluedor, Ghana (2007)



Document 4: "The global tomato civilisation" by Jean-Baptiste Malet, in *Le Monde diplomatique*, June 2017

In a restaurant in California's Sacramento Valley, decorated with stuffed bears and cobras, a man sat eating a hamburger. On the table was a bottle of ketchup. Chris Rufer, founder of the Morning Star Company, is the global tomato paste king. His company has only three factories, but they are the biggest in the world and produce 12% of all its paste.

At its plant in Williams, Morning Star turns 1,350 tonnes of fresh tomatoes into paste every hour. Washing, breaking and pressure evaporation are fully automated. This 'primary processing' operation produces big boxes and drums of different grades of paste, which are shipped around the world in containers. They can be found, beside drums of paste from China, in the huge canneries of Naples, which produce most of the little tins sold in European supermarkets.

'Secondary processing' plants in Scandinavia, eastern Europe, UK or France's Provence region use imported paste in industrial food: ready-made ratatouille, frozen pizzas or lasagne. Mixed with semolina or rice, the paste finds its way into popular recipes and traditional dishes around the world, from paella to maafe (a West African peanut sauce) to chorba (a North African soup). Tomato paste is the most accessible industrial food product of the capitalist era: it is found in smart restaurants in San Francisco and on market stalls in the poorest African villages. The whole world eats industrial tomatoes. In 2016 some 38m tonnes of the fruit, roughly a quarter of global production, were processed, and in 2015 average per capita consumption of processed tomatoes worldwide was 5.2kg. Tomatoes are key both to junk food and to the Mediterranean diet, transcending cultural and culinary

divides. Nowhere are they banned. The 'civilisations of wheat, rice and maize' described by French historian Fernand Braudel have given way to a single, global, tomato civilisation.

When Rufer squeezed the Heinz bottle to squirt more ketchup over his fries (with the distinctive sound that billions of ears learn to recognise from childhood), he probably wasn't thinking about what goes into the sauce, nor about its turbulent history. Ketchup doesn't taste much of tomatoes because the percentage of tomato it contains varies between 30% and as little as 6%, compared to an average 25% sugar. In the US, it is sweetened with corn syrup, usually from GMO maize. Cheaper than cane or beet sugar, this glucose-fructose syrup is found in nearly all industrial food in the US and has been blamed for the obesity epidemic. The worst ketchups, thickened with modified starch, xanthan gum (E415) or guar gum (E412), are the culmination of a century of progress in the agrifood industry.

Science is involved not only in the processing but in the tomatoes themselves. The introduction of a particular gene has helped to speed up manual harvesting, and made mechanical harvesting possible. All industrial tomatoes can be detached from the stem simply by shaking. Though most industrial tomatoes on the market are hybrid varieties, tomato paste was the first GMO food to be produced commercially in Europe. The industrial tomato, with its thick crunchy skin, is able to withstand transport by road and rough handling by machinery. Even buried under a pile of tomatoes, at the bottom of a trailer, it will not split. The big growers make sure it contains the least water possible, unlike the supermarket varieties, which are watery and unsuited to the production of paste.

Document 5: China's tomato paste colonialism in *Le Monde diplomatique*, by J-B. Malet, June 2017

A hundred workers were picking tomatoes in a field near Wusu, a town in northern Xinjiang province, China, half way between the provincial capital, Ürümqi, and the border with Kazakhstan. Most were migrants from Sichuan province, with a few Uyghurs. A teenage girl raised her cleaver above her head and cut off a leafy stem loaded with ripe fruit. Another worker picked up the stem and shook it, and the tomatoes fell to the ground with a thud; gradually, the field was covered with red and green stripes. Men and women crouched down to fill big plasticised canvas sacks. They were earning 2.2 renminbi for each 25-kg sack, just over 1 US cent per kilo. 'Me and my wife can sometimes fill 170 sacks in a day,' said one worker. That works out at around \$28 each, 10 times more than they earned in the early 2000s. But now they compete with machines imported from Italy.

From a corner of the field, Li Songmin watched his tomatoes being harvested. Li rents the field, and didn't know the pickers, who were all recruited through an agent. That evening, a truck would deliver the tomatoes to a factory run by Cofco Tunhe; that was all he knew. Cofco Tunhe is China's largest tomato processor and a *Fortune* global 500 corporation. Its subsidiary Tunhe, which specialises in sugar and industrial tomatoes, has 15 tomato processing plants, 11 in Xinjiang, producing drums of paste that it sells to agrifood giants such as Kraft Heinz, Unilever, Nestlé, Kagome, Del Monte, PepsiCo, and McCormick, the world leader in seasonings and spices.

[They also ship to Africa massively].

Hundreds of farmers in Techiman, in the Brong Ahafo region of Ghana, grow tomatoes. Tomatoes were introduced to Africa during the colonial era, and are now part of many popular Ghanaian dishes, accounting for 38% of household spending on vegetables. Ghana has 90,000 small growers, and official figures put production in 2014 at 366,772 tonnes of fresh tomatoes. They don't sell well on the markets in Techiman, where shoppers scramble for cans of cheap concentrate made in China. 'Even my wife buys Chinese tomato paste, because it's more convenient and cheaper than fresh Ghanaian tomatoes,' said Kwasi Fosu, a grower in Techiman. 'Many of us are reducing the area we plant from year to year.'

Questions:

- 1) Explain the following expression : "a global, tomato civilization"
- 2) Identify : a) the main geographical origins of tomatoes used in paste industry and b) the main tomato paste exporting and importing countries. How important is agriculture for these countries? (documents 1 and 2)
- 3) Describe the transformations that affected tomatoes from their conception to their processing into ketchup (document 4 and 5)
- 4) Compare tomato harvesting in USA and in Ghana and explain why this situation creates global inequalities between MEDCs and LEDCs (document 1 to 3)
- 5) Analyze the consequences of the tomato paste industry on field workers in China and local growers in Ghana (document 4 and 5)
- 6) Write 2 distinct paragraphs answering the lesson's main activity
 - a) 1st paragraph: why has tomato paste become a global product (produced and consumed on a global scale)
 - b) 2nd paragraph: what are the consequences (economic, social, cultural) of this situation for rural spaces in MEDCs and LEDCs

1. Agriculture still matters

Due to humanity's need to feed itself, human activities have long been structured by agriculture and had to adapt to political, economic and more importantly geographic conditions (climate, water resources etc.). Nowadays, agricultural spaces and pasture lands still represent 25% of the earth's surface (whereas urban spaces represent 1%). 1 billion people still work in the primary sector around the world. Agriculture remains a source of income for 80% of people in developing countries and in LEDCs. For example, 76% of people in Niger directly depend on it.

2. Limits and challenges

On a global scale, there are enormous inequalities from one agricultural system to another. Exporting economies generate considerable revenues: intensive cereal production in Western Europe, USA and Brazil; tropical plantations in South America. But subsistence agricultures remain prominent in South-East Asia, Amazonia or in Central Africa. These areas are also much more affected by extreme poverty

Today however, rural spaces are facing numerous challenges both in MEDCs and LEDCs: rural exodus and agricultural decline, standardized landscapes in Europe, the decline of suburban farmlands due to urban sprawl, the growing imposition to GMOs, pesticides and deforestation (at local and international levels). The case of Brazil and the Amazon rainforest is particularly enlightening.

3. The futures of agriculture

Rural spaces are key to meet the challenging food requirements of an ever growing population (10 billion in 2050). Unfortunately, the lack of available space limits the development of farmlands and encourages the intensification of agriculture (Green revolution in India, GMOs in the American continent). On the other hand, there is an increasing number of local initiatives to promote alternative food systems (such as short circuits, urban farming, collective gardens) especially in cities.

Agriculture has also found new purposes: textile production, horticulture and agrofuel.

Chapter 2: Diversification of rural spaces' functions and the conflicts of use that it generates

Lesson 1: The Amazon Rainforest

Question: How does the situation in the Amazon rainforest reflect conflicts of use in rural spaces?

Introduction:

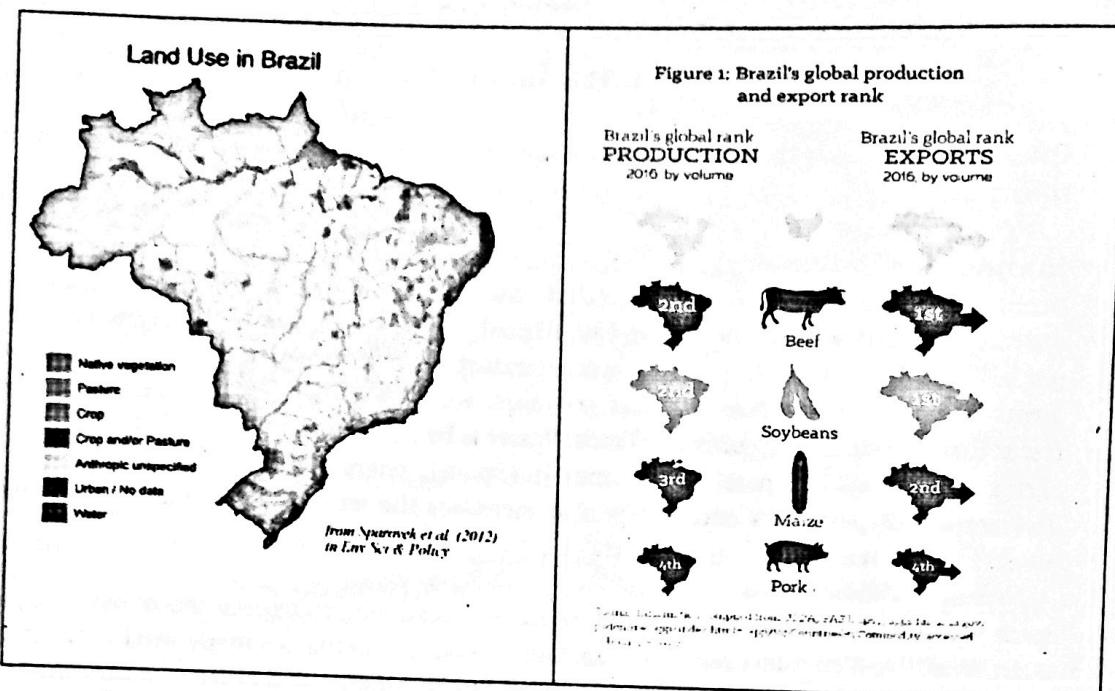
Access to land can be a source of conflict. Some societies still suffer from unequal land distributions that were made in the past (Brazil, South Africa). Sometimes, the situation is made worse by land grabbing or the mining industry. It's a real problem since the amount of farmland is shrinking. Over the past 50 years, world population has increased ten times faster than the surface of cultivable lands. Water is by itself a source of conflict. Irrigation for agricultural needs compete with domestic (Spain), energetic and industrial uses. The massive use of pesticides and GMOs also increases the level of pollution of underground waters (China, Western Europe).

Some actors try to protect rural spaces. Some States advocate the creation of national parks as an asset like Venezuela and Slovenia. Others create sanctuaries while leaving them open for some forms of human activities (Canada). Public officers and citizens contribute to the sustenance of agriculture or of "green belts" around cities (Paris) and attempt to find a compromise between environmental concerns and economic development.

Although these tensions aren't new in Brazil, they were put in a much more dramatic light with the record number of fires breaking in the forest during summer 2019.

Activity: analyze the tensions regarding the future of the Amazon rainforest (actors, their arguments and how they can evolve), emphasizing the difference between domestic actors and international actors.

Document 1: "The Farm of the World"



Document 2: "Land grab in Amazon jungle threatens dispossession, violence and murder" by Alan Tormaid Campbell in *The Guardian*, September 10, 2017

On 23 August it emerged that the president of Brazil, Michel Temer, had issued a decree abolishing the protected status of an immense area of the Amazon forest. The area is in the north of the country, beyond the Amazon river, going up to the frontiers with French Guiana and Suriname (formerly Dutch Guiana). The estimated size is 4.5 million hectares, the size of Denmark or Switzerland.

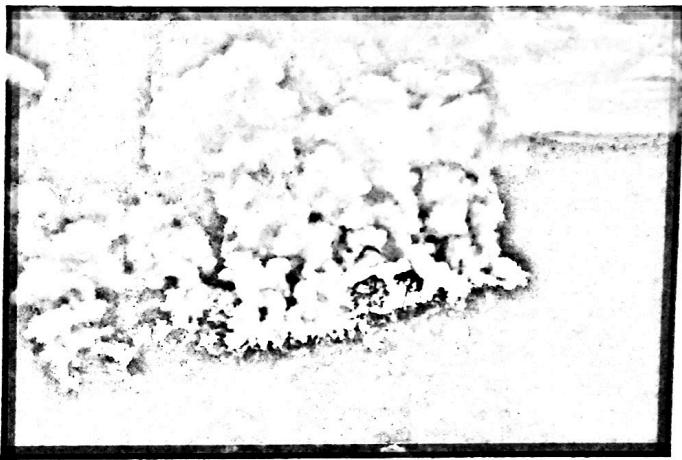
The decree was shocking, but not entirely unexpected. Temer is in political difficulties, facing corruption charges and needing political allies. There are more than 30 registered political parties in Brazil, and to get anything done in Congress they form *bancadas* ("benches" or coalitions). One of the most powerful is the *bancada ruralista*, consisting of powerful, wealthy agribusiness interests (mostly cattle and soya) together with those who represent mining and other extractive industries. And, making things gloomier, the evangelicals attach themselves to this *bancada*.

For years now the *ruralistas* have loudly condemned environmental laws that protect the Amazon forest. The national parks protect biodiversity and the "áreas indígenas" (Indian reservations) protect the indigenous peoples. The *ruralistas* want rid of the lot. Specifically, they want to abolish Funai (the Indian Protection Service, a government department) and get rid of, as they put it, "NGOs and anthropologists". Temer needs the support of this *bancada* and is seeing to their desires.

Muita terra, pouco índio ("much land, few Indians") is the grumble you hear on the streets of local towns from frustrated prospectors. But it's not just Indian land that's involved in the crisis. For a number of years organisations at all levels, municipal, state, and national, have shown remarkable initiative in creating (with legal protection, it should be emphasised) a network of "conservation units" under various headings: national parks, areas of ambiental protection, biological reserves, sustainable development reserves, and so on. These now form a continuous block from the Guiana frontier southwards, enveloping the reservations of the Wayapí and the Wayana-Apalai further to the west, giving these two reserves extra protection.

Document 3: Tweet by French president E. Macron about the Amazon Fires

"Our house is burning! Literally. The Amazon rainforest - the lungs which produces 20% of our planet's oxygen - is on fire. It is an international crisis. Members of the G7 Summit, let's discuss this emergency first order in two days! [#ActForTheAmazon](#)



Document 4: Extract from Tim Marshall, *Prisoners of Geography*, London, 2016

"The River Amazon may be navigable but its banks are muddy and surrounding lands makes it difficult to build on. This problem, too, seriously limits the amount of profitable land available. Just below the Amazon region in the highlands is the savannah and by contrast, it is a success story. Twenty five years ago this area was considered unfit for agriculture but Brazilian technology has turned it into one of the world's largest producer of soybeans, which - together with the growth in grain production - means the country is becoming a major agricultural producer. The southern agricultural heartland is about the size of Spain, Portugal and Italy combined and is much flatter than the rest of the country. It is relatively well-watered but most of it is in the interior of the region and lacks properly developed transport routes. [...] Therefore, Brazil lacks the volume of trade it would like and equally importantly, most of its goods are moved along its inadequate roads rather than by river, thus increasing the costs."