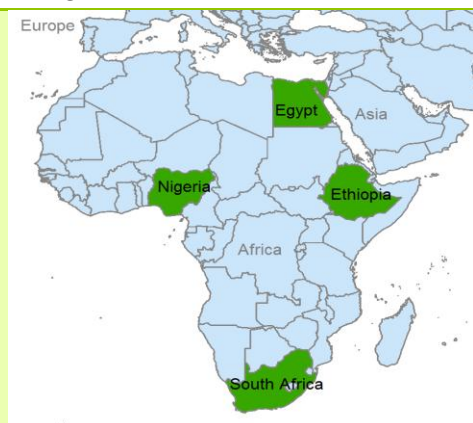


## Annex F Country Profiles

The following are brief country profiles of the 31 countries that together constitute over 80 percent of the world's production and export of crops and also are the focus of this report. Statistics are based on FAOSTAT data for 2011 (land area) and 2013 (population) (6).

### AFRICA



**Overview** The four focus countries in this region are among the five most populated in the continent. While maize is the major cereal for most of them, the crop comes only second after wheat in Egypt. Wheat is also planted in significant amounts in South Africa and in Ethiopia, where the preferred cereal after maize is teff, a local crop. None of the countries is a major soybean producer and rice maintains a subordinate role in Egypt.

#### **Egypt** Land area: 995 kkm<sup>2</sup> (3% arable land) Population: 85 million (26% agricultural population)

Wheat, maize, and rice are the major cereals in Egypt, although they rank only second after sugarcane in terms of value and production. Soybean cultivation is very limited. Virtually all crops are irrigated, which also explains why—with the exception of wheat (grown as a winter crop)—areas have been stagnating over the last 12 years. Pressured by the other countries in the Nile basin, the government has been trying to discourage the cultivation of rice and substitute it with less water demanding crops such as maize (another summer crop). Some farmers strongly resist the move and no equilibrium has been reached about the share of the main cereals. With a population of about 85 million, Egypt is the main wheat importer in the world, importing about 10 million tons, which is more than the national production. The country also imports significant amounts of maize (6000 kT) and Soybean (2000 kT).

#### **Ethiopia** Land area: 1,000 kkm<sup>2</sup> (15% arable land) Population: 88 million (76% agricultural population)

The preferred cereal in most parts of Ethiopia is teff, a crop hardly grown outside of the country. Among the “mainstream” cereals, maize comes first, followed by teff and wheat, while rice cultivation is very limited; Because of elevation, the climate is mostly temperate, particularly in the areas where water is normally available and the requirements of rice could be met. Altogether, Ethiopian agriculture and particularly the production of maize are developing fast. The country is characterized by complex terrain with uni-modal or bimodal rainfall. The main crops are harvested towards the end of the year (in October and November, sometimes in December) while planting takes place from March, sometimes with very long cycles (maize).

#### **Nigeria** Land area: 911 kkm<sup>2</sup> (40% arable land) Population: 171 million (23% agricultural population)

Nigeria is, by far, the most populated country in Africa (about 180 million people), while Egypt and Ethiopia come next with a population less than half the Nigerian population. The climate of the country is mostly “zonal” and spans very contrasting climate zones: from equatorial in the south (growing season of cereals from March to November) to semi-arid (Sahelian) in the north (growing season from May or June to October). The main maize producing areas are in the central latitudes, which combine favorable sunshine (insufficient in the south) and rainfall (low and unreliable in the north). Agriculture, especially rice and maize are developing fast, while soybean and wheat (a dry season irrigated crop in the north during winter) play a very minor part. Nigeria imports large

amounts of wheat (about 4000 kT) and rice (2000 kT, about half the national production).

**South Africa** Land area: 1,213 kkm<sup>2</sup> (10% arable land ) Population: 51 million (9% agricultural population)

In the African context, South Africa has been a major producer of maize. In spite of constantly decreasing areas, production has kept increasing due to significant improvements of average yields (approximate doubling since 2000, but with large fluctuations that also affect production). Maize is grown as a summer crop during the south-African monsoon (November to May), while most wheat (a winter crop grown May to November) originates from the Mediterranean areas in Western Cape province, in the southernmost part of the country. Wheat is no longer perceived as an attractive crop by South African farmers and imports have constantly increased from the 1980s in parallel with decreasing wheat hectares, to the extent that wheat and soybean, which is picking up, currently both stay at about 700 kHa. Decreasing wheat production and a needed but repeatedly delayed land reform are two of the major issues facing South-African agriculture.

**ASIA – EAST ASIA**



**Overview** China spans 35 degrees of latitude and 60 degrees of longitude, thereby bridging a range of climatic, ecological and agricultural conditions ranging from continental central Asia to the maritime Pacific coast, and from cold to temperate and tropical. As such, China occupies a category of its own in East Asia, next to Japan and the two Koreas. The two countries are not included among the top 80 percent producers or exporters of maize, rice, soybean or wheat.

**China** Land area: 9,327 kkm<sup>2</sup> (12% arable land) Population: 1,391 million (59% agricultural population)

Due to its population of 1.4 billion people, China comes first among the producers of wheat and rice and ranks among the major producers of soybeans and maize. In terms of exports, however, the country plays a negligible role. The country feeds 22 percent of the world population with only 7 percent of arable land (108). In fact, large expanses of land are too cold or too dry for farming; agriculture is concentrated in the east. Crops are exposed to variable environmental conditions, which often result in production variability. For instance, in 2007 maize and soybean suffered from drought, while wheat yield decreased due to cold weather. Agriculture also competes with industry for land, which is the main factor behind the decrease in harvested area in 2003. The production increase of maize in China is mainly due to the expansion of areas. Soybean follows a decreasing trend observed in many countries, mainly as a result of the competition for land with maize, which is much more attractive to farmers.

**ASIA – SOUTH ASIA**



**Overview** South Asia, the southern region of the Asian continent, is located between 0° and -37° degrees northern latitude and 60° to 100° degrees eastern longitude. The area includes seven countries of which Nepal and Bhutan are landlocked; India, Pakistan and Bangladesh are coastal countries; and Sri Lanka and Maldives are island countries. Topographically, this area is dominated by the Indian Plate, which rises above sea level as the Indian subcontinent south of the Himalayas and the Hindu Kush. The region is home to about one fourth of the world's population. South Asia is also the world's second poorest region after Sub-Saharan Africa. According to the World Bank, 70 percent of the South Asian population and about 75 percent of South

Asia's poor live in rural areas and most rely on agriculture for their livelihood. (109) (6)

**Bangladesh** Land area: 130 kkm<sup>2</sup> (59% arable land ) Population: 154 million (43% agricultural population)

Bangladesh, located on the fertile Bengal delta, is the world's eighth most populous country, as well as one of the world's most densely populated countries. It is bordered by India to its north, west and east, by Myanmar to its southeast, and by the Bay of Bengal to its south (110). The main food crops planted in Bangladesh are potato, rice, sorghum and wheat. Rice is the most important crop in Bangladesh and the production of rice accounts for 7 percent of global rice production (6).

**India** Land area: 2,973 kkm<sup>2</sup> (53% arable land) Population: 1,275 million (47% agricultural population)

India is the seventh-largest country by area and the second-most populous country in the world; 64 percent of cultivated land in India is dependent on monsoons (111). The main food crops are rice, maize, sorghum, millet, groundnut, soybean, wheat and rapeseed. (112) India is the second largest producer of wheat and rice, the world's major food staples after maize. India accounts for 22 percent of the global rice production, 12 percent of wheat, 2 percent or maize, and 5 percent of soybean. (6)

**Nepal** Land area: 143 kkm<sup>2</sup> (34% arable land) Population: 31 million (93% agricultural population)

Nepal is located in the northern part of South Asia, is the world's 93<sup>rd</sup> largest country by area, and the 41<sup>st</sup> most populous country. (111) The main food crops planted in Nepal are maize, rice and wheat. Though rice is the dominant crop, the production contributes little to the global rice production.

**Sri Lanka** Land area: 63 kkm<sup>2</sup> (19% arable land ) Population: 21 million (42% agricultural population)

The main cereal cultivated in Sri Lanka is rice, like in most other countries in the region. The second cereal is maize, the production of which represents only a fraction of that of rice (the maize/rice production ratio is approx. 20). While wheat is not cultivated, it comes second in terms of consumption (a rice/wheat consumption ratio of 3), resulting in heavy dependence on imports (net wheat imports about 1 million tons [2]). Although yields did usually increase over the last ten years, agriculture mostly stagnates, as exemplified by the number of tractors or the area equipped for irrigation [2]. According to the World Bank the main factors negatively affecting the agricultural sector include weak planning, heavy public sector interventions, and weak delivery of services in rural areas [1].

**ASIA – SOUTHEAST ASIA**



**Overview** The Southeast Asian countries can be divided into the “mainland” or “continental” and “maritime” or “island” areas although, strictly speaking, none of the areas comes close to continental climatic conditions. All are characterized by the proximity of the ocean, i.e., relative low annual and daily thermal amplitudes and mostly abundant monsoon rainfall, especially in the equatorial areas. Elevation is the major factor modifying the above-mentioned patterns.

**Cambodia** Land area: 177 kkm<sup>2</sup> (23% arable land ) Population: 15 million (65% agricultural population)

The climate of Cambodia is dominated by the monsoon winds. It consists of two major seasons: mid-May to early October and early November to mid-March. Rice cultivation dominates the agricultural landscape and makes up around 85 per cent of the total cultivated area. The Mekong River and the Tonle Sap (Great Lake) are the major rice cultivation regions. Traditionally two or three rice crops are grown during the year. Around 80 percent of rice production occurs in the monsoon season, while 20 percent is produced under irrigation during the dry season.

**Indonesia** Land area: 1,812 kkm<sup>2</sup> (13% arable land ) Population: 247 million (35% agricultural population)

Indonesia is the world's largest archipelago nation, consisting of approximately 17,508 islands. Indonesia has a tropical climate with a dry season and a rainy season with mostly heavy precipitation, and high temperature and humidity throughout the year (equatorial climate). Palm oil is one of the most important agricultural export products. Additionally, Indonesia is the world's third largest rice producer and consumer. The rice cultivation regions are around 30 percent of total cropland.

**Laos** Land area: 231 kkm<sup>2</sup> (6% arable land ) Population: 6 million (75% agricultural population)

The only landlocked country in Southeast Asia is Laos and only about six percent of the land is suitable for subsistence agriculture. There are two main seasons: the rainy season (May to November) and the dry season (December to April). Laos is characterized by a very large biodiversity of rice, one of the largest in the world. The second cereal is maize, which is about four times less abundant than rice. Roughly 80 percent of the arable land area is used for rice cultivation. The glutinous rice is the most popular type of rice. Most of the rice cultivation area in Laos is rain-fed (lowland rice). The only crop produced for export is coffee.

**Malaysia** Land area: 329 kkm<sup>2</sup> (5% arable land) Population: 29 million (12% agricultural population)

Malaysia is located near the equator. It is separated by the South China Sea into two regions: Peninsular Malaysia and Malaysian Borneo. The weather stays hot and humid all year round, and the country is a major producer of the main equatorial plantation crops (rubber, oil palm, and cocoa) which dominate agricultural exports. Malaysia is the world's second largest producer of palm oil next to Indonesia. Rice, the main food crop, is cultivated on small farm. Of the total rice plantation area, 85 percent is under wetland.

**Myanmar** Land area: 653 kkm<sup>2</sup> (17% arable land ) Population: 49 million ( 66% agricultural population)

Myanmar functions as a land bridge between East Asia, Southeast Asia, and South Asia. It is a country rich in oil, natural gas, and other mineral resources. Rice is the principal agricultural product that covers around 60 percent of the total cropland. The main rice producing regions are in the delta zone (Ayeyarwady, Pegu, Yangon, and Mon states). Myanmar's principal rice ecosystems include rain-fed lowland rice, submerged deep-water rice, irrigated lowland rice, and rain-fed upland rice.

**Philippines** Land area: 298 kkm<sup>2</sup> (18% arable land ) Population: 98 million (32% agricultural population)

The Philippines is one of the largest island groups in the world. The islands are divided into three groups: Luzon, Visayas, and Mindanao. The country benefits from a tropical and usually hot and humid climate. The major four crops cultivated are coconut, rice, maize, and sugarcane. Sugar is the most important agricultural export of the Philippines. Around one-fourth of the total cropland is used for rice cultivation, which is grown especially in central and north-central Luzon, south-central Mindanao, western Negros, and eastern and central Panay.

**Thailand** Land area: 511 kkm<sup>2</sup> (31% arable land ) Population: 70 million (39% agricultural population)

Thailand has a tropical monsoon climate with high temperatures and humidity. The Mekong River and the Chao Phraya River are the main sources of water for agriculture. Rice is the most important crop and the central plains are known as the rice bowl of the country. Thailand has long been the world's major rice exporter.

**Vietnam** Land area: 310 kkm<sup>2</sup> ( 21% arable land ) Population: 91 million (62% agricultural population)

Vietnam is an elongated S-shaped country with tropical lowlands, hills, and densely forested highlands. It has a humid subtropical climate in the north with humidity averaging around 84 percent throughout the year, and a tropical savanna climate in the south region. Vietnam is divided into two extensive alluvial deltas by the Red River in the north and the Mekong River in the south. Main products of Vietnam agriculture are rice, coffee, tea, and rubber. Rice is the most important

crop and cultivated on about 82 percent of the arable land.

### ASIA – WESTERN AND CENTRAL ASIA



**Overview** Western and Central Asia consists of 25 countries. About 75 percent of the region is arid. It is the least forested region in the world with only four percent forest cover. (113)

#### **Turkey** Land area: 770 kkm<sup>2</sup> (27% arable land) Population: 75 million (18% agricultural population)

Turkey is a transcontinental country located in South-Eastern Europe and South-Western Asia bordering the Black Sea (114). The country's arable land (of which about one quarter is irrigated) accounts for 27 percent of the total land area. The main crops include tobacco, cotton, grain, dried fruits and fresh fruits; the major grain crops are wheat, barley, and maize. Turkey is one of the world's biggest wheat and barley producers. According to FAO statistical data, wheat area and yield have been steadily and significantly increasing over the last twelve years.

#### **Iran** Land area: 1,629 kkm<sup>2</sup> (11% arable land) Population: 76 million (20% agricultural population)

Iran is a country located in the Middle East bordering the Gulf of Oman, the Persian Gulf, and the Caspian Sea. (115) Most land area is arid and semi-arid. The arable land accounts for 11 percent of the total land area. The main crops include grain, potatoes, cotton, sugarcane, tea, and tobacco. Wheat, rice, and barley are the major grain crops. Over the last twelve years, rice area has significantly decreased, according to FAO statistical data.

#### **Pakistan** Land area: 771 kkm<sup>2</sup> (27% arable land) Population: 183 million (41% agricultural population)

Pakistan is a populous country with an ethnically and linguistically diverse population; about 41 percent of the population engages in agriculture. Important crops include wheat, cotton, rice, and sugarcane, and the country exports significant amounts of wheat and especially rice. For both wheat and rice area, yield, and production, increasing trends have been observed for the last twelve years (FAO statistical data).

#### **Kazakhstan** Land area: 2700 kkm<sup>2</sup> (9% arable land) Population: 17 million (15% agricultural population)

Kazakhstan is one of the largest countries in the world. It has a strong economy supported by vast natural resources. The main grain crop is wheat, which accounts for about 56 percent of the arable land area. Over the last twelve years, wheat yield, production, and in particular area have been increasing, according to FAO statistical data.

#### **Uzbekistan** Land area: 425 kkm<sup>2</sup> (10% arable land) Population: 28 million (20% agricultural population)

Due to rich natural resources, including oil, gas and gold, economic prospects of Uzbekistan look promising. The important crops are wheat and cotton, of which the country is one of the world's largest producers; its agricultural success story, however, is coupled with serious ecological problems affecting the Aral Sea. (116) Wheat is cultivated in the east and accounts for about one third of the cultivated land. According to FAO statistical data, wheat yield and production have increased significantly over the last twelve years.

## EUROPE



**Overview** This report covers the United Kingdom, France, Germany, Poland, Romania, Ukraine, Belarus, and Russia. Of those eight countries, five (Germany, France, UK, Poland, and Romania) have joined the European Union (EU) and share the same rules and regulations for agriculture. Wheat is the dominant crop grown in Europe, followed by maize, and rice. Soybean plays only a minor role.

### **Belarus** Land area: 203 kkm<sup>2</sup> (27% arable land) Population: 9 million (8% agricultural population)

In Belarus, sugar beet, potatoes, wheat, barley, and maize are the five most produced commodities. According to FAOSTAT statistics from 2001 to 2012, the acreage, yield, and production of both wheat and maize present a significant increasing trend. However, less than one percent of total cereal production is available for export due to the expansion of the country's livestock and the high demand for feed. (117) In 2013 Belarus plans to increase the share of feed crop cultivation aiming for self-sufficiency in feed production. (118)

### **France** Land area: 548 kkm<sup>2</sup> (34% arable land) Population: 64 million (2% agricultural population)

France is the third largest economy in the EU. It is the world's fifth wheat producer and ranks second and fourth respectively in global wheat and maize export. Wheat, sugar beet, maize, barley, and grapes are the five most produced commodities. According to FAOSTAT statistics, soybean acreage and production have been decreasing significantly between 2001 and 2012, while the planting area and production for wheat have significantly increased.

### **Germany** Land area: 349 kkm<sup>2</sup> (34% arable land) Population: 82 million (1% agricultural population)

Germany is the largest economy and second most populous nation (after Russia) in Europe. In the second half of the 20<sup>th</sup> century, the number of farms in Germany decreased dramatically, but the production actually increased due to the employed technologies and more efficient production methods. Sugar beet, wheat, barley, potatoes, and rapeseed are the most produced agricultural products. According to FAOSTAT statistics, the planting areas of both wheat and maize have significantly increased from 2001 to 2012.

### **Poland** Land area: 304 kkm<sup>2</sup> (36% arable land) Population: 38 million (14% agricultural population)

Poland generally has a temperate climate with warm summers and cold winters and is one of the driest (continental) countries in Europe. A mixed type of farming prevails in most parts due to soil and climatic conditions. Potatoes, sugar beet, wheat, rye, and mixed grains are the five most produced commodities, of which wheat is mainly grown in the south of the country where the soil is richer. No significant trend has been observed for either wheat or maize production from 2001 to 2012. Drought occasionally affects summer crops, as happened in 2006, resulting in decreased wheat and maize production.

### **Romania** Land area: 230 kkm<sup>2</sup> (39% arable land) Population: 21 million (7% agricultural population)

In Romania, maize, wheat, potatoes, sugar beet, and barley are the five most produced commodities. A large problem faced by the country's agricultural sector is the lack of major investments, which has led to its current relatively poor mechanization compared with other European countries. Besides, Romanian products often fail to meet EU quality standards and 64 percent of Romanian farms produce mainly for national consumption. (119). According to the FAOSTAT statistics from 2001 to 2012, significant decreasing trends are observed for the Romanian maize acreage, while rice acreage, yield, and production have significantly increased.

### **United Kingdom** Land area: 242 kkm<sup>2</sup> (25% arable land) Population: 63million (1% agricultural population)

The temperate climate of the United Kingdom is too cool for some crops (e.g., maize) to reach

maturity, but the summer warmth is sufficient for wheat production. As a result, wheat is the dominant crop in UK, followed by sugar beet, potatoes, barley, and rapeseed. Due to the climate, autumn sown crops outyield spring sowings. Aging of the farmer population is often listed as an issue for the country's agriculture. According to FAOSTAT data (table G.1), no significant trend has been observed in the area, yield, and production of wheat in the UK between 2001 and 2012.

**Ukraine** Land area: 579 kkm<sup>2</sup> (56% arable land) Population: 45 million (10% agricultural population)

Ukraine ranks fifth in global maize production and sixth in global maize export. Sugar beet, potatoes, wheat, barley, and maize are the five most produced commodities in this country. According to FAOSTAT statistics from 2001 to 2012, a significant increasing trend can be seen in the acreage, yield, and production of maize, rice, and soybean, but not of wheat. This may be attributed to the drop in wheat production in 2003, caused by severe winter weather with persistent snow crusts that smothered the crop. (120) (121).

**Russia** Land area: 16,377kkm<sup>2</sup> (7% arable land) Population: 143 million (7% agricultural population)

Russia is the largest country on earth in terms of surface area and it globally ranks third in wheat production. Agriculture in Russia suffered a severe decline in the early 1990s as it struggled to transform from a centralized economy to a market-oriented system. (122) The five most produced commodities are wheat, potatoes, sugar beet, barley, and oats. Between 2001 and 2012, acreage, yield, and production of maize, soybean, and rice, but not wheat, have shown a significant increasing trend (FAO statistical data).

## NORTH AMERICA



**Overview** The center of the continent is occupied by a large plain with abundant water resources, fertilized soil, and favorable climate. At the same time, agriculture largely benefits from scientific and technological innovations. North America has become the most important cereal producer and exporter in the world.

**United States of America** Land area: 9,147 kkm<sup>2</sup> (18% arable land ) Population: 318 million (2% agricultural population)

For the last 12 years, the United States has been the largest cereal producer and exporter in the world, a position achieved mostly as a result of a rapid increase in yields. Although the harvested areas of soybean have shown significant decreasing trends over the same time period, the country remains the major producer of the crop. The U.S. is also the third wheat producer in the world. Grain exports are the main source of the country's trade surplus.

**Canada** Land area: 9,094 kkm<sup>2</sup> (5% arable land ) Population: 35 million (2% agricultural population)

Due to the country's cold climate, only about 5 percent of Canada's land area consists of arable land. Thanks to a sparse population and advanced technology, Canada has become another cereal producer and exporter in North America. In the last 12 years, the production of maize, wheat, and soybean all increased greatly as a result of yield increases. Canada has become the third major wheat exporter in the world. Similar to the situation in the United States, Canada's large trade surplus is derived from cereal exports.

**Mexico`** Land area: 1,944 kkm<sup>2</sup> (13% arable land ) Population: 117 million (16% agricultural population)

Mexico is a mountainous country and arable land only occupies 13 percent of the land area. Local wheat demand deriving from the large population is the main driver of cereal production. Although Mexico is a main maize producer, despite greatly increasing yields, production hasn't grown due the decrease in cultivated area over the last 12 years. A similar trend is observed for rice Mexico complements its insufficient domestic food production by importing maize and wheat from the

United States and Canada; the country has become the third largest maize importer in the world.

## OCEANIA



**Overview** Oceania is situated in the southern Pacific Ocean sub-tropics. It consists of 14 countries, among which Australia is the largest. Oceania has vast areas of semi-arid land and a limited population. Hence, stockbreeding in Australia and New Zealand is well developed. Australia is the world's leading wool producer and exporter and New Zealand ranks as the first exporter of mutton in the world.

**Australia** Land area: 7,682 kkm<sup>2</sup> (6% arable land) Population: 23 million (4% agricultural population)

Australia is one of the key wheat producers and exporters in the world. Wheat and barley are the two major crops in Australia, while maize, soybean, and rice are very limited. Water scarcity is the main limiting factor for agriculture, although more than 70 percent of available water is used for agriculture. As a result, irrigation plays an important role. Over the last two decades, Australia has seen expanded wheat cultivation while maize, soybean, and rice planting areas either decreased or kept stable. Australia also produces considerable amounts of cotton based on irrigation.

## SOUTH AMERICA



**Overview** The expansion of planting areas for soybean and other crops in four major agriculture countries in South American has resulted in the conversion of pasture to arable land as well as deforestation. The situation varies among countries.

**Argentina** Land area: 2,737 kkm<sup>2</sup> (14% arable land) Population: 41 million (7% agricultural population)

Argentina now ranks as the second largest maize exporter and the third largest soybean exporter and producer in the world. Maize produced in Argentina is exported around the world to more than two thirds of all countries. To the contrary, rice cultivation is very limited. Since the mid-1970s, cultivation areas for soybean have grown strongly compared with those of other field crops. Large expanses of pasture and forest have been replaced by cultivated lands as a result of agricultural development. In 1991, the government implemented structural reforms, which reduced both export taxes on agricultural commodities and tariffs on imported inputs. As a result, imports of agricultural inputs (e.g., pesticide, fertilizer, and machinery) have accelerated (123). This has led to a sudden boom in soybean cultivation, a stable cultivation area in maize, and a decrease in wheat plantation because of higher incomes for soybean cultivation.

**Brazil** Land area: 8,459 kkm<sup>2</sup> (9% arable land) Population: 200 million (10% agricultural population)

Agriculture plays an important role in Brazil's economy as this country has vast agricultural lands.



Brazil is one of the most significant producers and exporters of maize and soybean, not to mention sugarcane and coffee. Brazil's farming systems display great latitudinal diversity. The central states produce most of the country's grain and oilseeds crops. The production of maize, rice, soybean, as well as wheat increased during the past 12 years. While areas for rice decreased, increases in planting area as well as yield were observed for maize, soybean, and wheat. Since the early 1970s, planting areas for soybean have grown strongly with soybean production increasing more than thirty-fold in the past 35 years. (123). In parallel, the volume of soybean exports shot up after the 1990s to make a substantial contribution to Brazil's GDP.

**Paraguay** Land area: 397 kkm<sup>2</sup> (10% arable land ) Population: 7 million ( 29 % agricultural population)

Agriculture in Paraguay has been the mainstay of the economy. The gross value of agricultural products accounts for about 20 percent of GDP according to FAO data (6). Soybean areas and exports have increased since the 1980s and soybean has replaced cotton as the country's most important crop. Planting areas have also increased, even if yields of different crops are very variable due to predominantly rain-fed farming systems. According to FAOSTAT data (6), the production of both grain crops and oilseeds crops has increased. In contrast, the prevalence of undernourishment has also increased in the country. Paraguay is the only country in South America whose food security problem is getting worse. One of the reasons seems to be that public policy is biased toward the large-scale farmers who buy large areas of lands to expand soy monoculture. (124)

**Uruguay** Land area: 175 kkm<sup>2</sup> (10% arable land ) Population: 3 million ( 10% agricultural population)

Unlike other countries in the region, Uruguay has no mountains. Potentially, most of the land can be used for agriculture. However, only 10 percent of the land is used for crop cultivation. Large areas of grasslands are used for livestock activity. From the 1950s to the 1990s, cultivation areas of both maize and wheat decreased, while the planting area of rice increased. Until 2000, rice was even the most important export grain crop. Uruguay's soybean sector did not emerge until 2000, lagging other South American agricultural countries by more than two decades. Since 2003, Uruguay's has been economy recovering and the planted area, production and soybean exports exploded.