



GLOBAL PROSPECTS

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Unknown



The weather





Food production will have to increase by 70% over the next 40 years to feed the world's growing population, the United Nations food agency predicts. The Food and Agricultural Organisation says if more land is not used for food production now, 370 million people could be facing famine by 2050. The world population is expected to increase from the current 6.7 billion to 9.1 billion by mid-century.

The FAO said net investments of \$83bn (£52.5bn) a year - an increase of 50% - had to be made in agriculture in developing countries if there was to be enough food by 2050.



Today three companies, Archer Daniels Midland (ADM), Cargill, and Bunge control 90 percent of the world's grain trade

The one certainty going forward is volatility. Daily price moves of above £10 per mt and yearly moves of £100 per mt could become the 'norm'. For the grain grower and consumer alike risk management strategies will become much more important. Margins wins for some will become a margin squeeze for others. Higher production costs will have to find their way to the ultimate consumer at some stage whether that be in the form of higher food or fuel prices.

Irish Extension Service

The Chinese Government this year distributed 15.5 billion yuan (\$2.3 billion) in subsidies for farmers to purchase agricultural machinery, compared with 70 million yuan (\$10.4 million) in 2004. It also bumped up the minimum purchase price of rice and wheat.



Sintal Agriculture is slashing wheat area for oilseeds, despite soaring global prices of the grain, citing margins a fraction of those gained from crops such as rapeseed and soybeans.

The Ukraine farm operator revealed it had halved, to 19,400 hectares, the amount of land sown to winter wheat, which last year suffered relatively high rates of losses in Ukraine to a cold winter.

Soybean delays prompt switch to cotton in Brazil

Crop prices to stay firm into 2012, says SocGen

Grain flattened in western Victoria

Wednesday, 08/12/2010

Kansas wheat growing as 'potential flashpoint'

The winter wheat crop in Kansas looks increasingly a market "flashpoint" in the making thanks to the dry start to the season, which has left its condition already well below average with a freeze on its way.



International experts debate food security

6 December 2010 | By Farming First

A major food security conference is being held in London to debate how to match food supply to demand, amongst the climate and environmental pressures faced.

Scarcity of Phosphorus Threat to Global Food Production

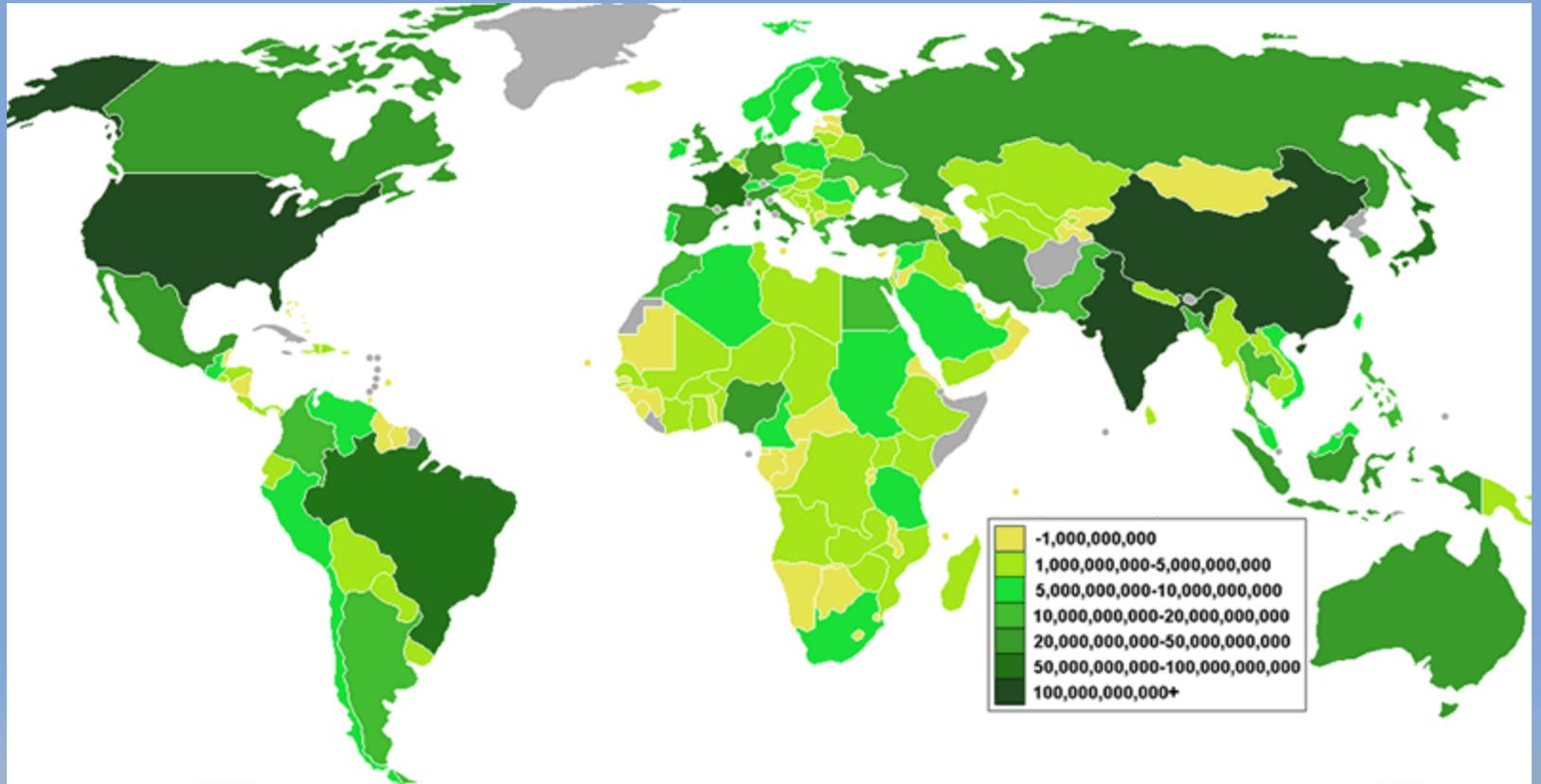
ScienceDaily (Mar. 17, 2010) — Phosphorus is just as important to agriculture as water. But a lack of availability and accessibility of phosphorus is an emerging problem that threatens our capacity to feed the global population. Like nitrogen and potassium, it is a nutrient that plants take up from the soil and it is crucial to soil fertility and crop growth.

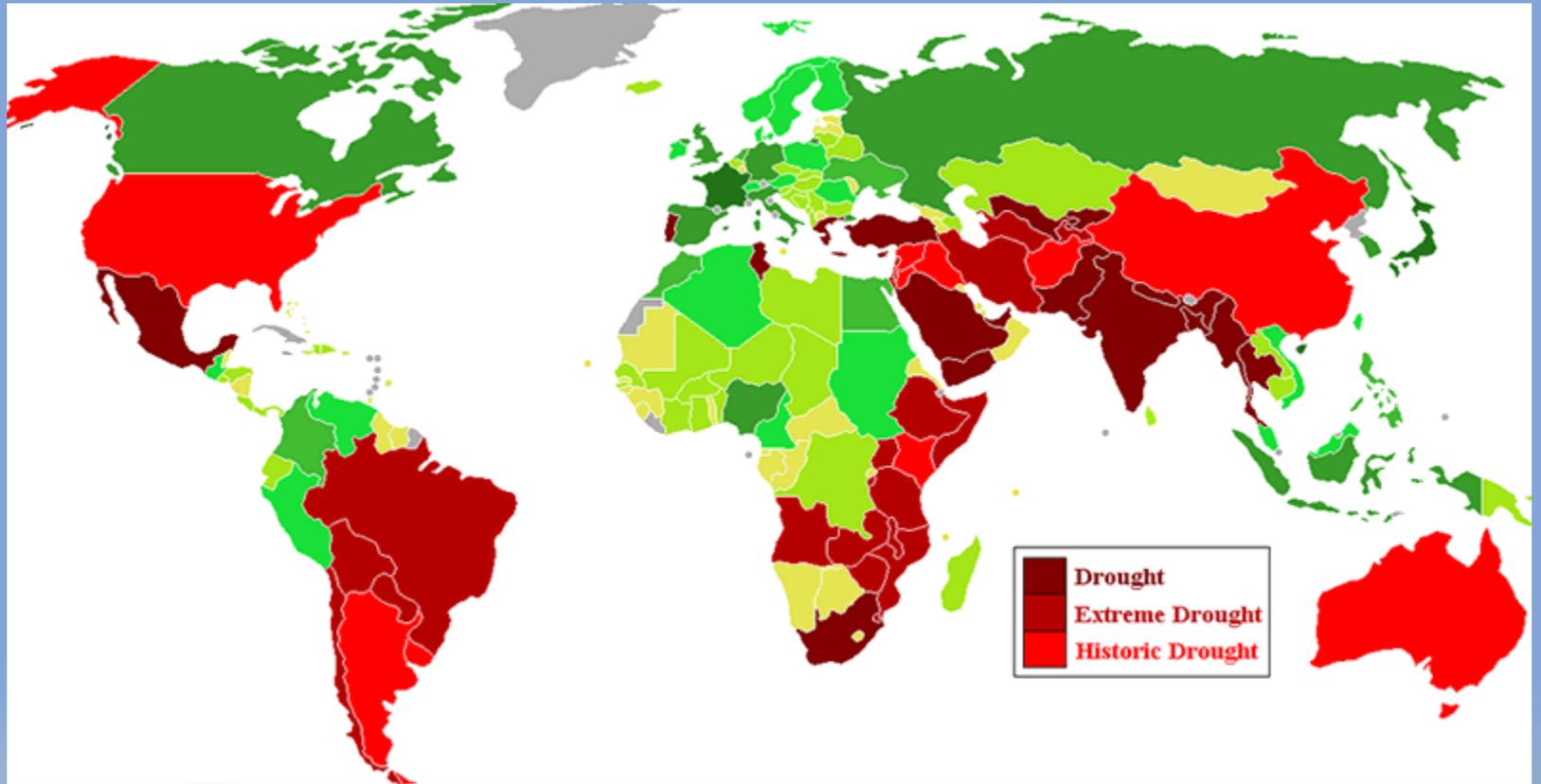
Biophysical limits to global food production

Global food production, so far, has increased continuously because cropped area has expanded and productivity per unit area has increased. In some regions of the world, however, there is little scope for further spatial expansion of agriculture. In other areas, crop yields are stagnating.

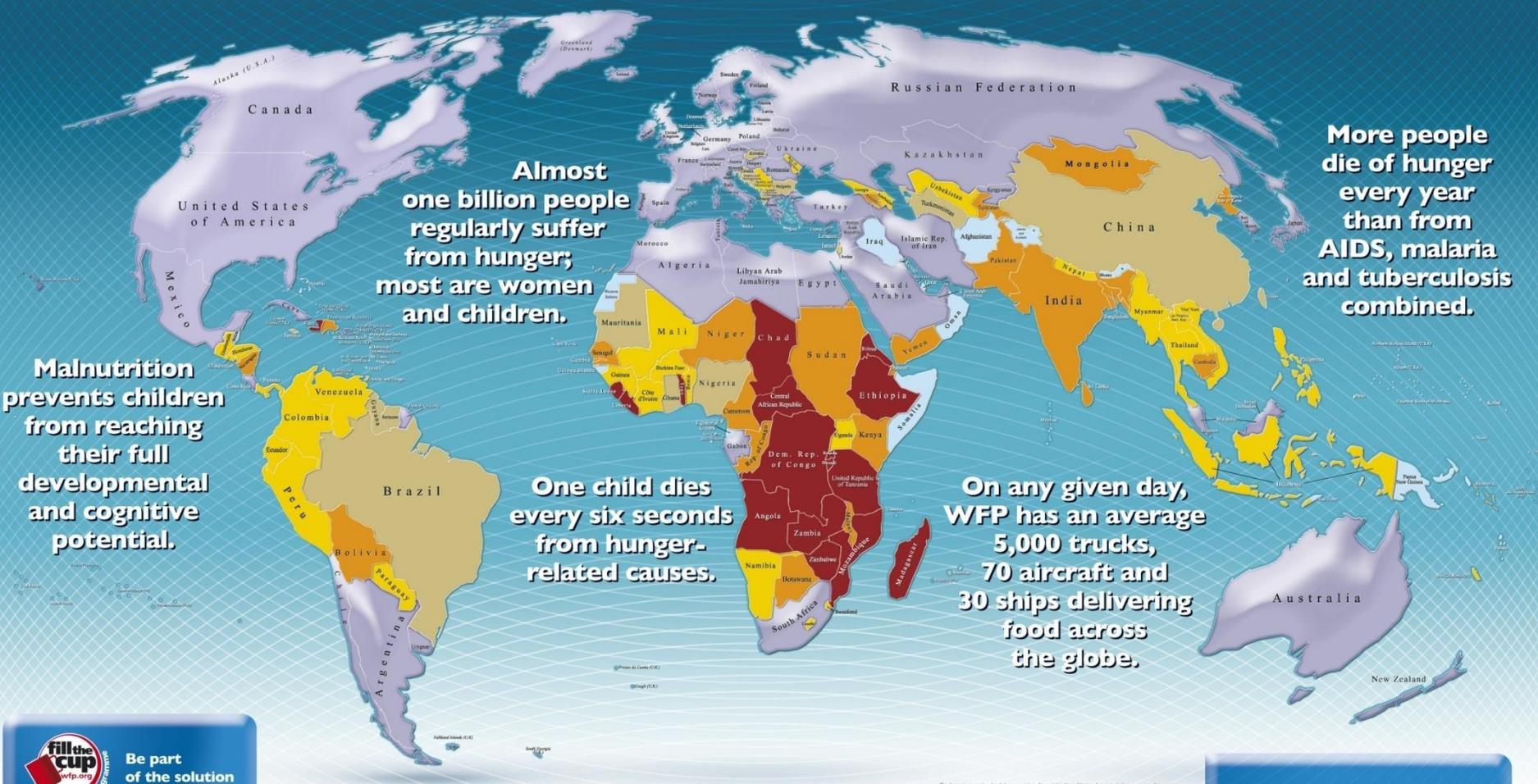
World set for new food crisis in 2010, UN warns







2009 Hunger Map



fill the cup
wfp.org
World Food Programme

Be part of the solution

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WFP

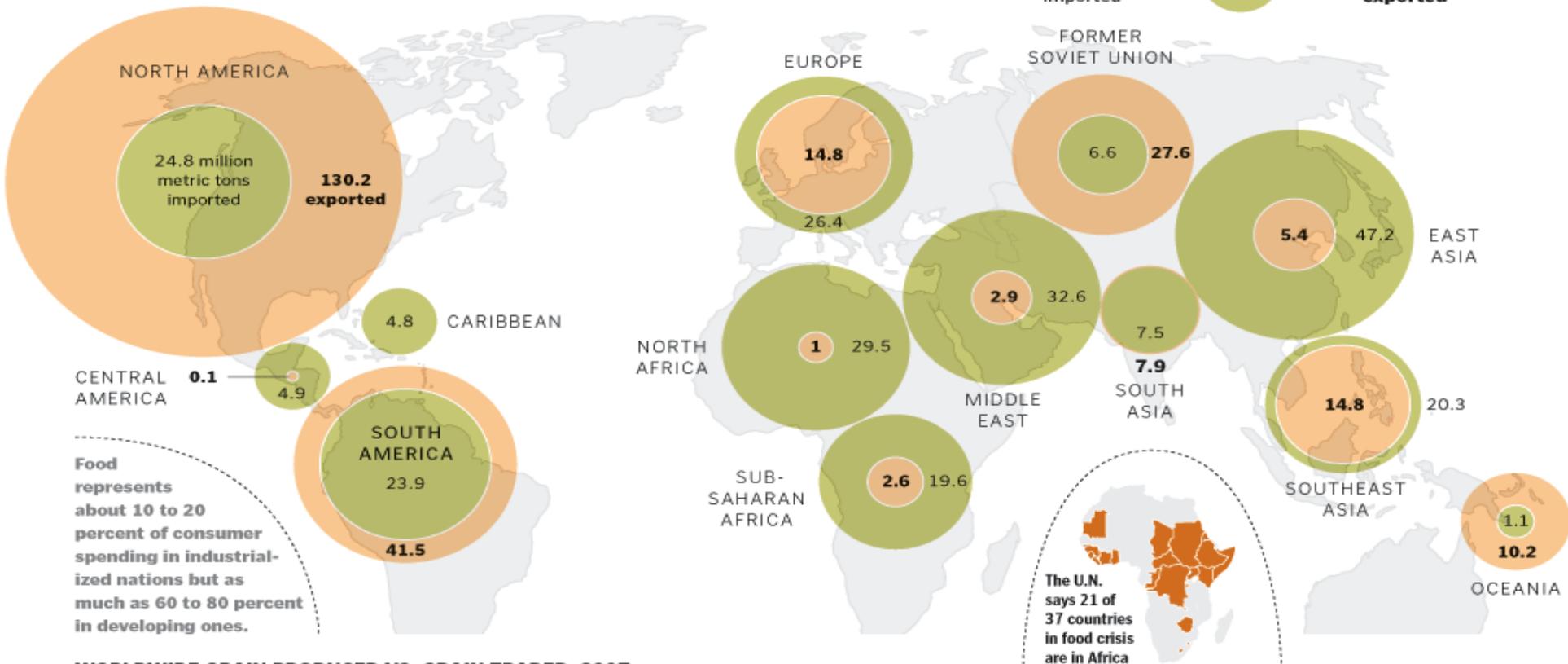
World Food Programme

| Category | 1 | 2 | 3 | 4 | 5 | Insufficient data |
|----------------|---------------|----------|----------------|-----------------|-----------|-------------------|
| Undernourished | <5% | 5-9% | 10-19% | 20-34% | ≥35% | |
| Description | Extremely low | Very low | Moderately low | Moderately high | Very high | |

Sources: The State of Food Insecurity in the World 2008, Food and Agriculture Organization of the United Nations and FAO/STAT.
© 2009 United Nations World Food Programme

GLOBAL TRADE

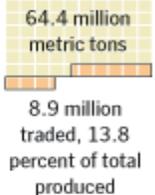
Metric tons of grain imported and exported by region, in millions, 2007



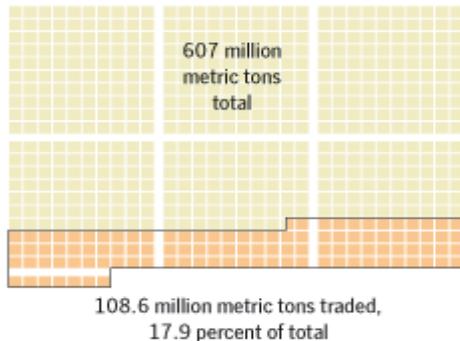
WORLDWIDE GRAIN PRODUCED VS. GRAIN TRADED, 2007

The amount of grain traded on the global market is a small percentage of the total produced because countries keep most of their crop for domestic needs.

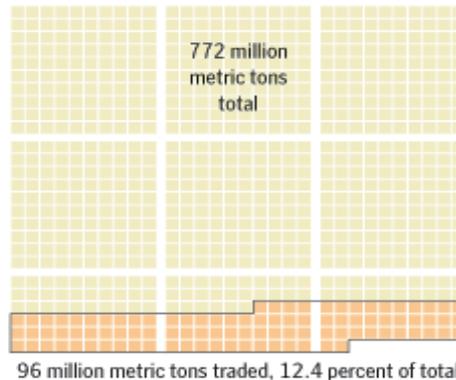
SORGHUM



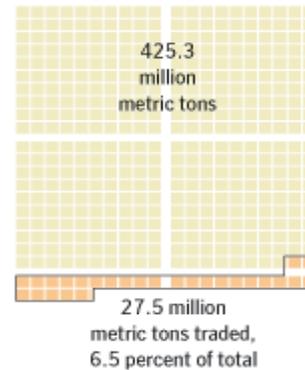
WHEAT



CORN



RICE

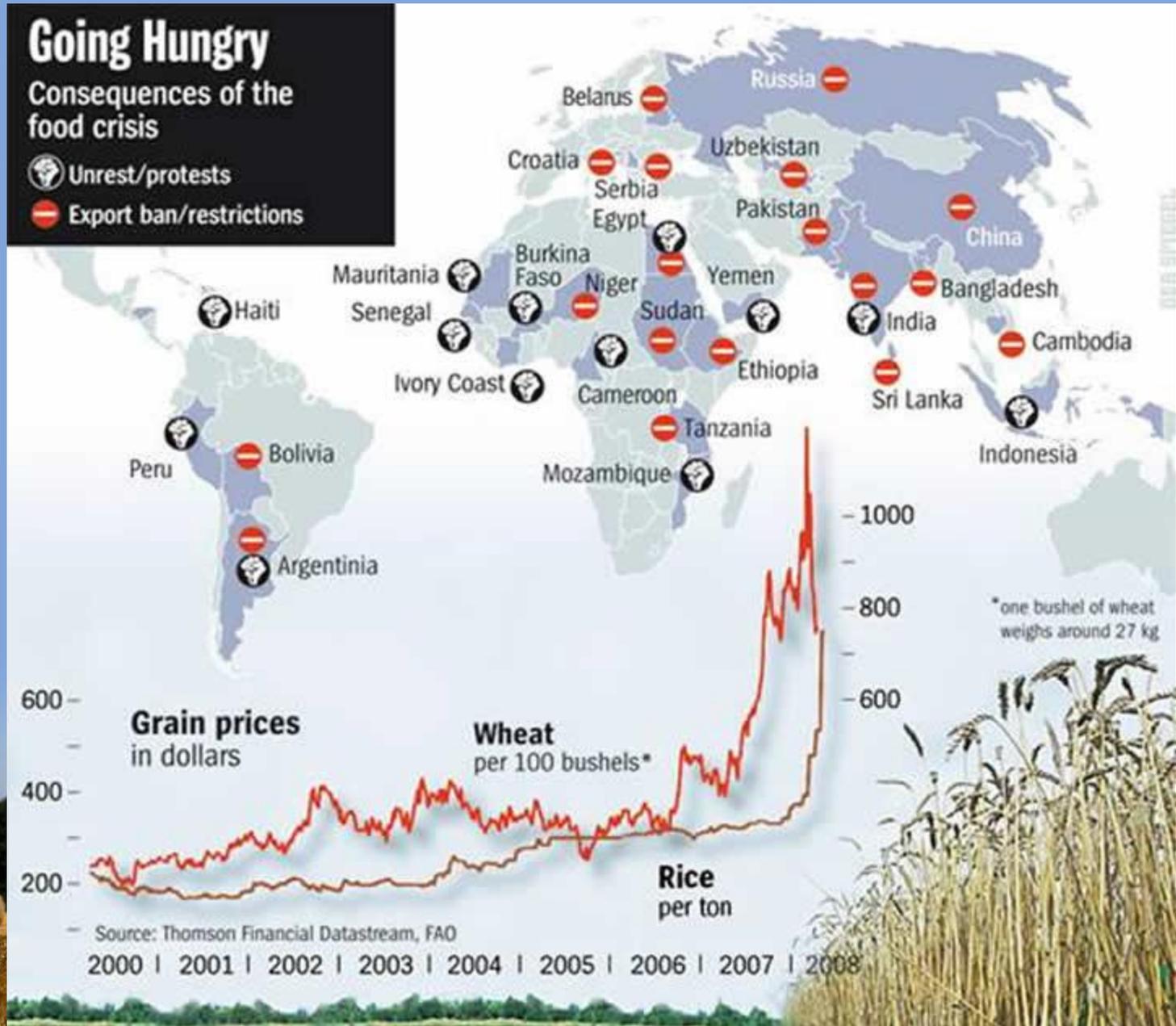


Going Hungry

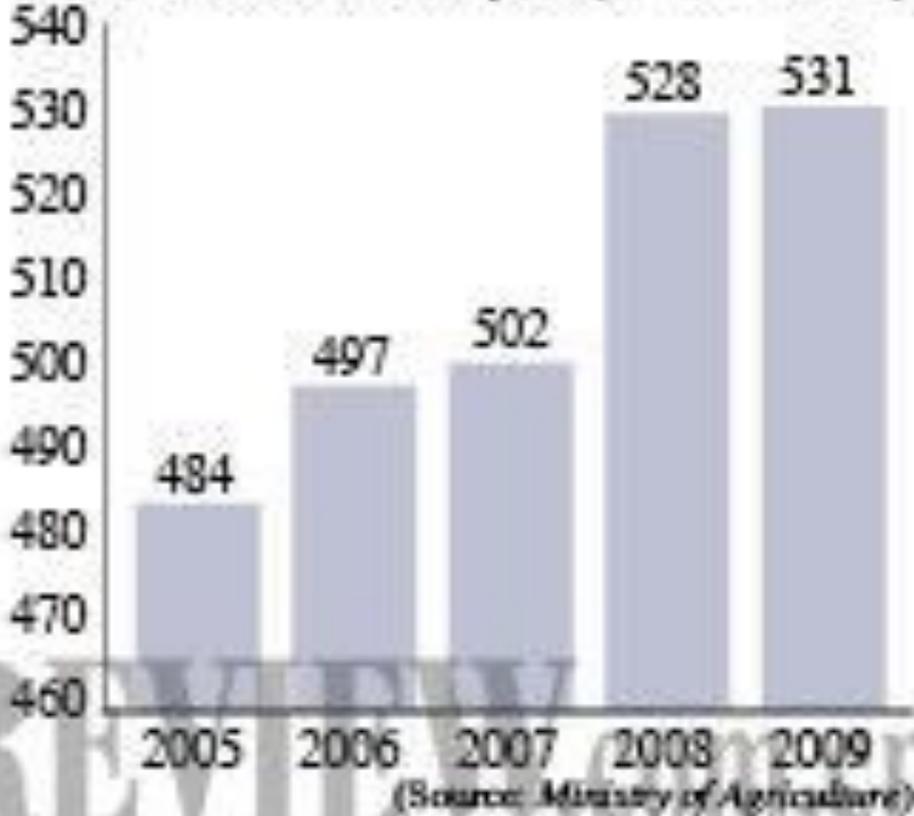
Consequences of the food crisis

 Unrest/protests

 Export ban/restrictions



China's Grain Output (million tons)



In 1999 the Chinese Ministry of Agriculture stated that they needed a minimum of 180 million hectares of land to feed the country. They currently have 121 million hectares cultivated

China expects its annual grain consumption to reach 572.5 million tons by 2020, and to maintain a food self-sufficiency rate of 95 percent, at least 540 million tons of grain output will be needed, said Zhang Ping, Chairman of the NDRC.



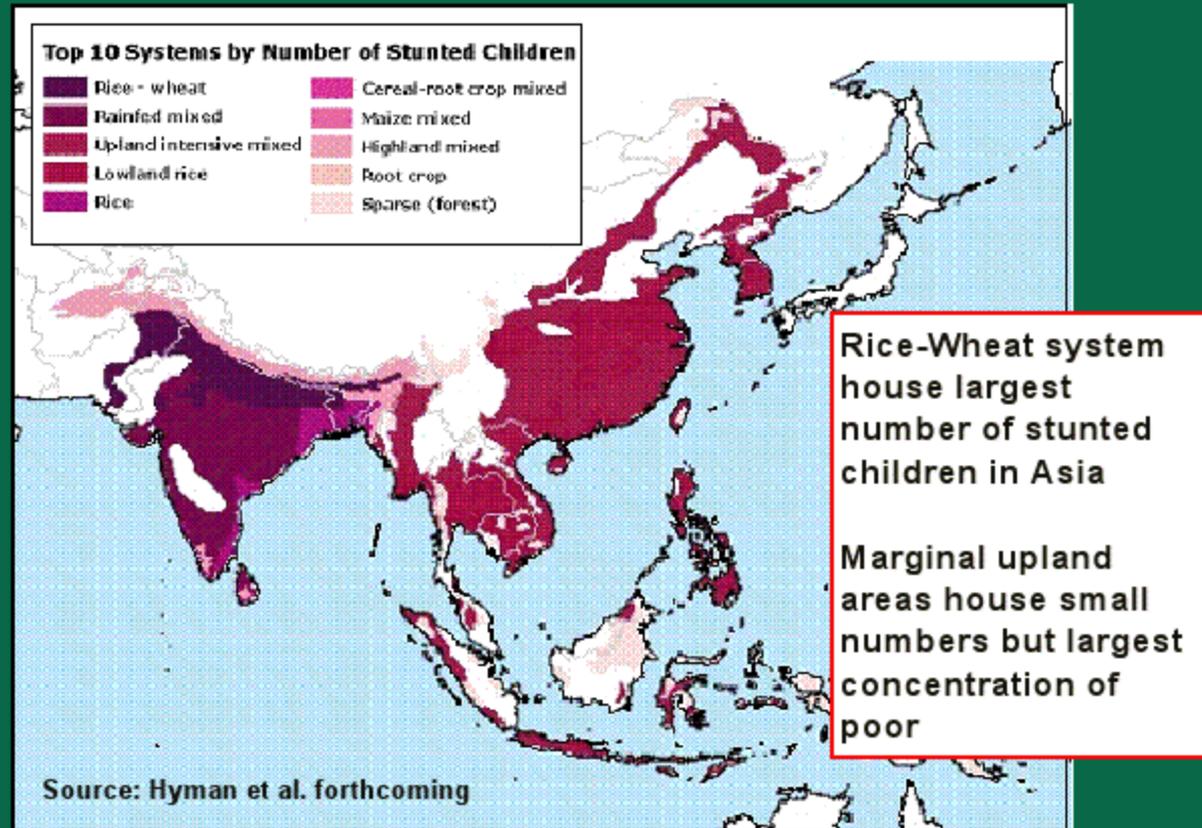
Main Crops in China (2009)



| Crop | Area (ha) | Yield (t) |
|------------|------------|-------------|
| rice | 29 627 000 | 195 103 000 |
| wheat | 24 291 000 | 115 115 000 |
| corn | 31 183 000 | 163 974 000 |
| rape | 7 278 000 | 13 657 000 |
| cotton | 4 952 000 | 6 377 000 |
| Vegetables | 18 414 000 | 444 000 000 |
| apple | 2 667 000 | 31 681 000 |
| citrus | 2 067 000 | 25 211 000 |
| tea | 1 849 000 | 1 359 000 |



Types of Asian Farming System



Directly related to malnutrition outcomes



Important Pests on Crops in China



Important crop pests: > 1600 species



Insects 830

Pathogens 720

Weeds 60

Rodents 20



Invasive species from abroad: > 40



Pesticide Registration, Production and Sale in China

Pesticide Registration

Pesticide ingredients: about 600
Pesticide products: about 22,000

Pesticide Production

Companies: over 2700
Annual production--million tons
pesticide technical materials--1.3
pesticide formulation--over 2.0

Pesticide Production

Annual sales: 72.9 billion RMB (2006)



Agricultural R&D System in Brazil

- Ministry of Agriculture, Livestock & Food Supply (MAPA)
 - ✓ Brazilian Agricultural Research Corporation (EMBRAPA)
 - ✓ Several MAPA's National Laboratories
 - + 17 State-based Public Organizations of Agricultural Research
 - + Public Research Institutes, Science & Technology Ministry
 - + Public Universities
 - + Private Universities
 - + Private Companies
- 
- ~ 5500 researchers in Agriculture

Agribusiness Sustainable Intensification



Ministério da
Agricultura, Pecuária
e Abastecimento



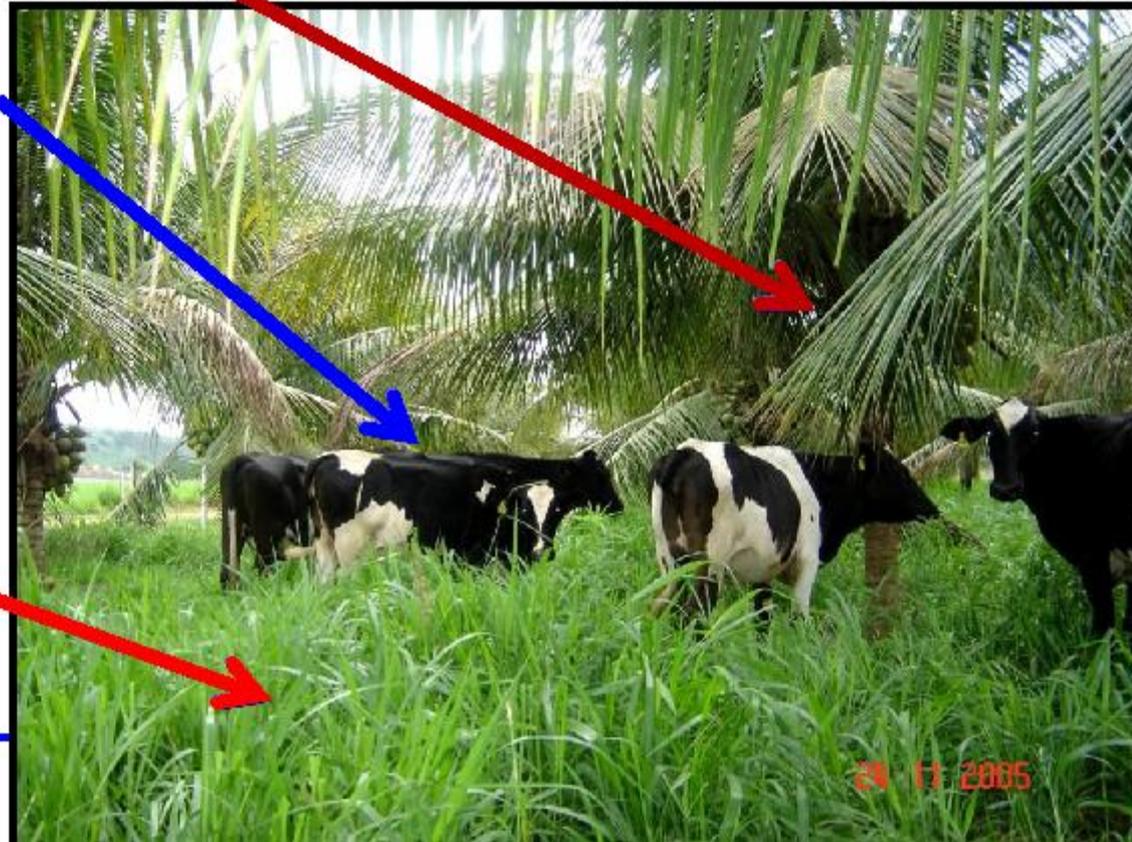
25/03/10

Integrated Crop-Livestock Intensive Systems

Perennial crop, for example, coconut, palm oil, eucalyptus, fruits, etc

Cross bred
Holstein X
Zebu, heat
tolerant

Improved
African
Brachiaria grass
+ potential: N₂
fixing + P
releasing
microbes





The CGIAR Centers



IPM Hessian fly

In collaboration with INRA-Morocco, 3 bread wheat and 6 durum wheat Hessian fly resistant varieties released



Water framework directive



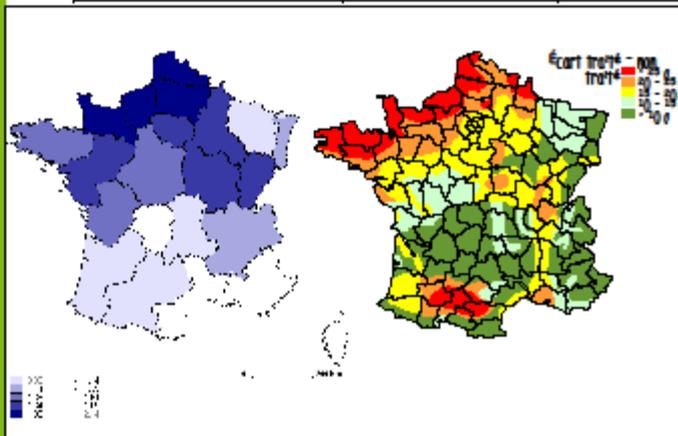
What price an argument?



Wheat case study

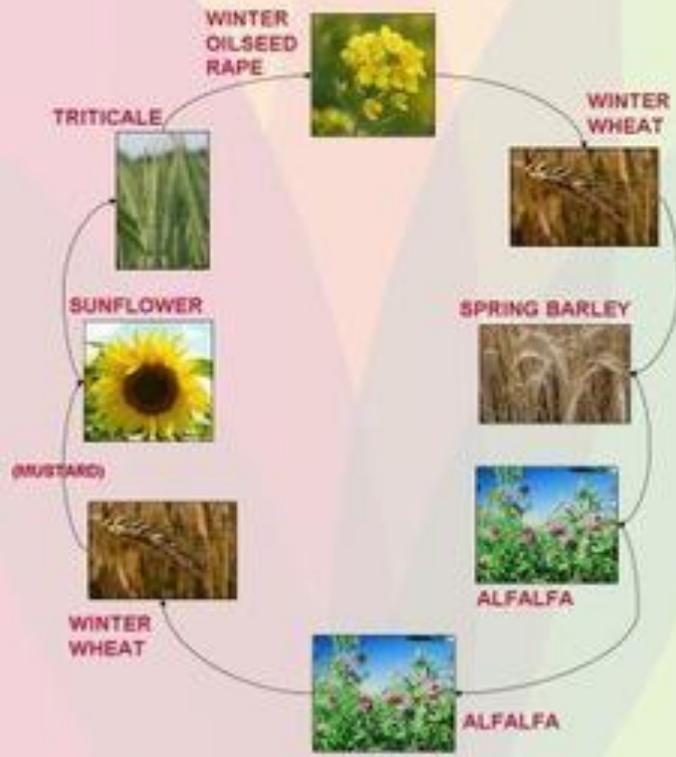
Pesticide use on winter wheat in 4 countries

| | UK (2006) | France (2006) | Germany (2007) | Denmark (2007) |
|----------------|--------------|---------------|-------------------|-------------------|
| Herbicides | 2.43 | 1.5 | 1.9 | 1.71 |
| Fungicides | 2.26 | 1.6 | 1.9 | 0.56 |
| Insecticides | 1.08 | 0.3 | 1.2 | 0.15 |
| PGRs | 0.97 | 0.7 | 0.8 | 0.2 |
| Total | 6.74 | 4.1 | 5.8 | 2.62 |
| Yield (ton/ha) | 8.0 | 6.9 | 7.3 | 7.3 |



Fungicide use versus
disease pressure/
yield response

CROP SEQUENCE



Future of European Agriculture?



Global Alliance of Independent Agricultural Consultants

We make a living by what we get, we make a life by what we give.

Winston Churchill



Headquarters

