Challenges
Population growth

• Population will reach 10 billion people by 2050
  • Most of growth in Asia and Africa / Africa is expected to reach 2.2 billion people by 2050 and more than 4 billion by 2100
  • Population increases will affect overall development prospects – limited land and water resources

• Different growth rates across Africa:
  • Niger – 3.75% population projected to grow from 20 million people to 72 million in 2050
  • In Angola, Burundi, Chad, Malawi, Mali, Zambia, Uganda population to grow by 2.5% per year
Climate change

• Climate change will have an uneven impact across regions
• Food production in low-latitude countries will be significantly affected – availability
• Reduced rural incomes – access to food
• Frequency of extreme weather events will increase – stability
• Nutritional properties of food will be affected; increase incidence of water-borne diseases – utilization
Agriculture: Triple challenge

• increase production of nutritious food to meet growing demand and ensure food security for 9.7 billion people by 2050
  • population growth, together with increasing per capita incomes and changes in diets will strengthen the demand for food and agricultural products
  • FAO research suggests that agriculture in 2050 will need to produce almost 50 percent more food, feed and biofuel than in 2012

• generate jobs, improve incomes and contribute to poverty eradication and rural economic growth
  • in many developing countries, agricultural growth is at least twice as effective in reducing poverty compared with other sectors of the economy

• adapt to climate change and play a major role in the sustainable management of natural resources
Global markets: Trade policies to promote food security
Trade and adaptation

• Agricultural trade can promote food security in the context of climate change

• It can act as an adaptation instrument, transferring food from surplus to deficit regions, and stabilizing prices
  • agricultural trade is expected to expand and moderate climate change impacts on food availability and access

• Diverse implications for different countries/regions
  • need for a range of measures to build resilience, especially for food importing countries, e.g., measures for sustainable productivity growth

Global trade structure: wheat, rice, oilseeds and coarse grains, 2015 and 2050 (+1.5C and +2.0C scenarios, Porfírio et al. 2017)
Trade policies and adaptation

• Deeper market integration and open markets strengthen the adaptation capacity of trade

• Price increases due to climate change are greater when trade is restricted across regions, compared with a hypothetical scenario when tariffs and export subsidies are removed

• Freer trade is projected to offset declines in global welfare due to climate change (the sum of gains and losses producers and consumers will experience)

• Export bans can result in price instability, rendering the world market unreliable as a source of food
Local markets: Policy innovations for agricultural development
Smallholder farmers

two thirds of 3 billion rural people live in about 500 million small farms

they produce between 60 and 80 percent of food – key to rural development

...are entrepreneurs

they raise capital, they make decisions for their business

they operate in an environment in which markets do not function well and are subject to risks

their choices are constrained
What do they produce

a wide range of foods – broader than commercialized farms

they choose to produce staples and also diversify their production for better diets

Kenya: more than half maize but also many crops

Nepal: 50% rice and maize

...and why

markets do not function – the decision of what and how much to produce cannot be separated from the decision of what and how much to consume

production diversification minimizes exposure to risk, such as price shocks – missing markets to hedge risk
What do they sell

they sell only a part of their production, often about 25% or less

sales revenue contributes little to income and does not add much to household’s liquidity

...and why

imperfect product markets – high costs of participation, infrastructure

supermarkets – stringent requirements; management, delivery and standards

missing credit markets can dictate suboptimal market behaviour
The importance of markets

not only about income, but about choices

missing markets have significant social and developmental implications

Innovative business models – ‘bundling’

fully integrating finance, production, procurement, delivery and payment processes, address the multiple constrains smallholders face

often based on PPPs and farmers’ groups, generate mutual benefits for farmers and agribusiness

- DrumNet (Kenya) – microcredit, access to inputs, price information

- 630 Degrees Farmer Connect (India) & Kilimo Salama (Kenya) – weather insurance, seeds fertilizer
Thank you

Technical Conference on Agricultural Trade, Food Security and Climate Change


FAO Smallholders’ Dataportrait