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COMMITTEE ON COMMODITY PROBLEMS

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**MEDIUM-TERM OUTLOOK FOR AGRICULTURAL COMMODITY
MARKETS: TRENDS AND EMERGING ISSUES**

I. Introduction

1. Global agricultural markets have historically demonstrated much turbulence. Crop yield variations, distortions in domestic and trade policies, and inelastic demand characteristics have resulted in wide variations in international prices, which for many years also trended downward in real terms. Even under such conditions, agriculture has responded well to the challenges it has faced in feeding a growing, urbanizing and overall richer planet, although still over 900 million people have stubbornly remained undernourished. However, since 2000, as measured by FAO's commodity price index adjusted for inflation, real prices on international markets have doubled. Links to the energy sector became much stronger, prices peaked in 2008, and again in 2011, and remained high and volatile. The key questions facing global agriculture under such conditions is how it will respond over the next decade, and what new challenges it may face.

2. Medium-term projections for agricultural commodity markets have become an enhanced service that FAO provides to all stakeholders in agricultural markets as basis for policy debate and resource planning. To evaluate and quantify market trends and emerging issues, projections are produced collaboratively by the Organisation for Economic Co-operation and Development (OECD) and FAO, and published annually in the *OECD-FAO Agricultural Outlook*. It brings together the commodity, policy and country expertise of both Organisations and input from collaborating member countries, to provide an assessment of future developments in national, regional and global agricultural commodity markets.¹

¹ The information in this document are based on the *OECD-FAO Agricultural Outlook 2011-20*, updated with recent work for the 2012 edition which will be published in late June 2012

II. Macroeconomic assumptions increasingly shape agricultural market projections

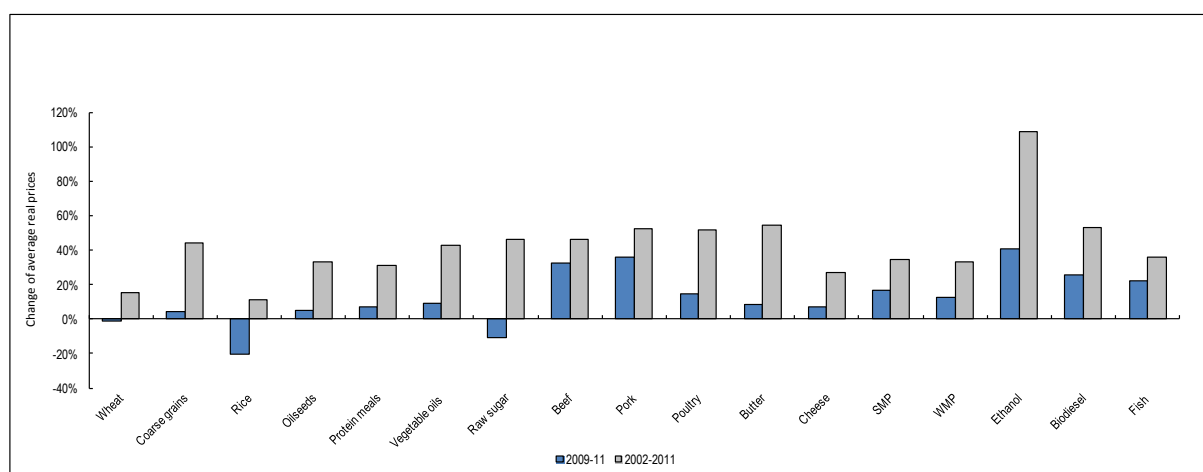
3. Economic growth prospects for industrialized countries in the medium term are expected to improve to average above 2 percent *per annum* (p.a.). Economic growth prospects for the developing world are generally more positive. Countries in the BRIC group (comprising Brazil, the Russian Federation, India and China) are anticipated to continue growing by around 8 percent p.a. After expanding by close to 7 percent p.a. in the last decade, growth in the Least Developed Countries is expected to slightly moderate to 6 percent p.a. World population growth is expected to slowdown to about 1 percent p.a. over the next decade, although still double that rate in Africa. This slowdown is manifested in all regions. Nonetheless, an additional 600 million people will inhabit the planet by 2020. Inflation in most developed countries is expected to average 2 percent p.a. in the coming decade, but around 5 percent in developing countries. In the latest medium-term projection exercise, the nominal crude oil price is projected to increase continuously over the coming years at an average annual growth rate of about 3 percent. The further depreciation of the US dollar in line with rising energy costs will support agricultural commodity prices, denominated in US dollars.

III. Projection highlights

Prices

4. Agricultural commodity prices are expected to remain on a high plateau in the medium term, underpinned by a number of market-influencing factors. Crucial drivers of commodity supply include higher input costs (fertilizer, chemicals) reflecting increasing oil prices, which will tend to slow yield and productivity growth. This, in combination with resource pressures on water and land availability for agricultural expansion, will cut the pace of production increases. Weakening supply growth is expected to be faced by a robust demand based on projections of strengthening global economic growth resulting in firm food, feed and industrial demand for agricultural products, including biofuel. While the risks of high price volatility are expected to abate somewhat in the near term, any unforeseen production shortfalls particularly in major producing countries could quickly change the situation and lead to further bouts of high volatility and price surges.

Figure 1: All agricultural commodity prices to average higher in 2012-2020 relative to the previous decade (Percent change of average nominal prices relative to different base periods)

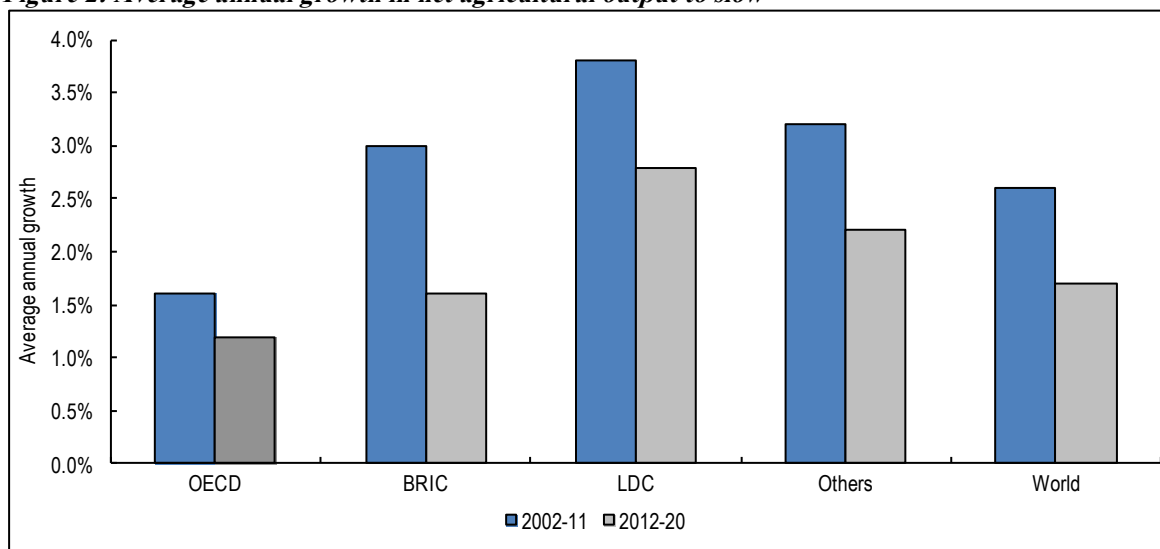


Source: OECD and FAO Secretariats

Production

5. In the last decade, aggregate growth in output for the main temperate commodities and animal products was 2.6 percent p.a., latest FAO assessments anticipate that growth would slow in the coming years to 1.7 percent p.a., with notably slower growth in the BRIC group as well as in other developing and industrialized countries. Output growth per person is anticipated to slow down to about 0.7 percent p.a. Aggregate production growth in developing and emerging economies has exceeded that in the developed world during recent decades as countries have invested in their agricultural sectors. This trend is projected to continue in the coming years.

Figure 2: Average annual growth in net agricultural output to slow

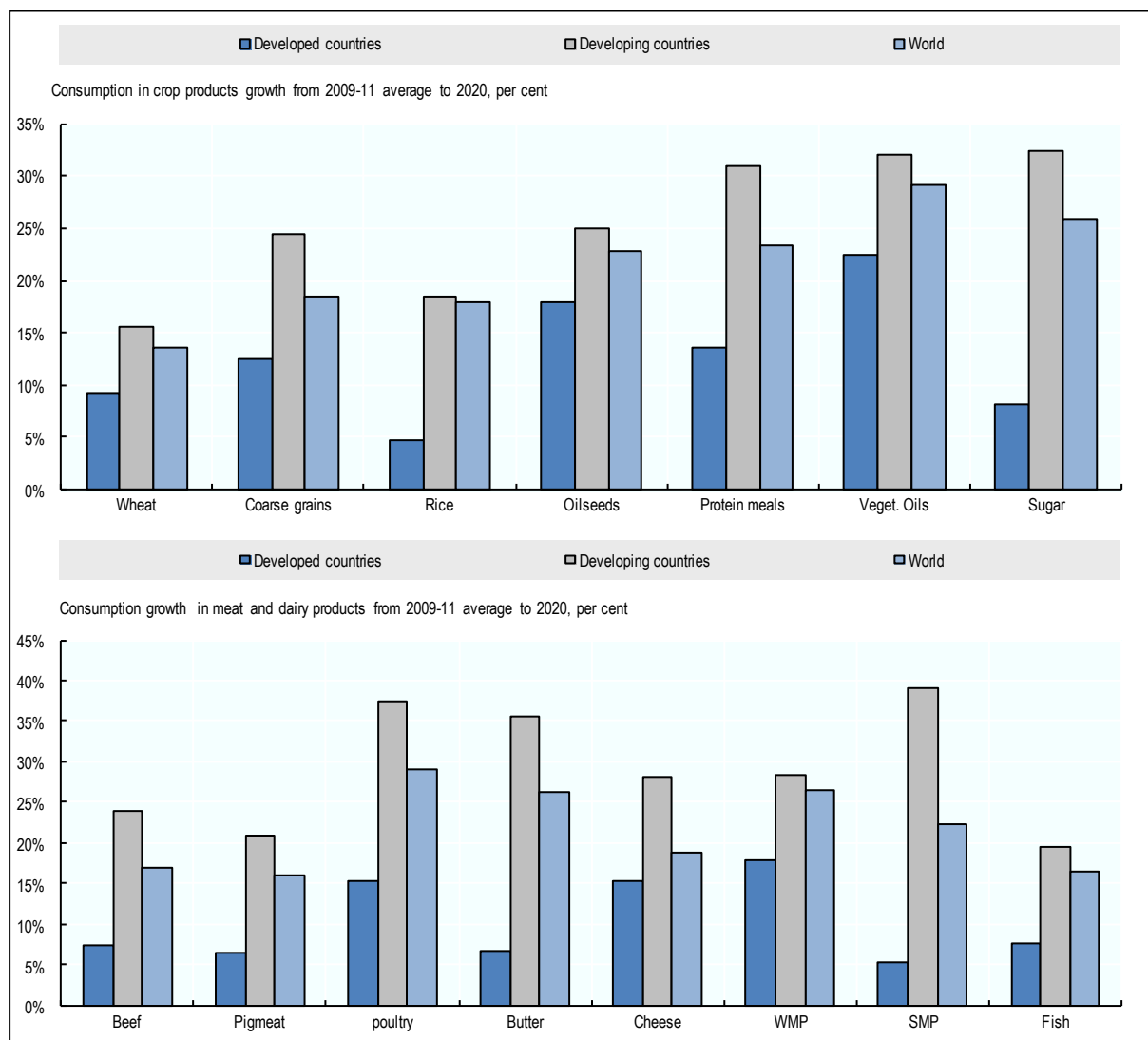


Note: Net output is valued at 2004-06 prices for production of primary commodities in this Outlook, as production less seed and feed. Growth is computed using least squares method. Source: OECD and FAO Secretariats

Consumption

6. The main drivers of increasing consumption are population growth, rising per capita incomes and the growing affluence of large middle classes in emerging economies, which along with continuing urbanisation lead to a shift in the diets and consumption patterns. Consumption changes from staple foods towards more fats and oils and more livestock-based foodstuffs, and thus higher intake of animal protein and fats in diets. These trends increase the demand for vegetable oils, meats, sugar and dairy products including indirect demand for coarse grains and oilseeds in animal feed. The products which are expected to experience the most significant increases in consumption are poultry meat, sugar, vegetable oils and selected dairy products, all with annual average growth rates of around 3 percent. Considerable differences in per capita consumption levels exists between countries in both the developed and developing world, and these differences will persist in the coming years, despite ongoing tendency towards increased diet harmonization.

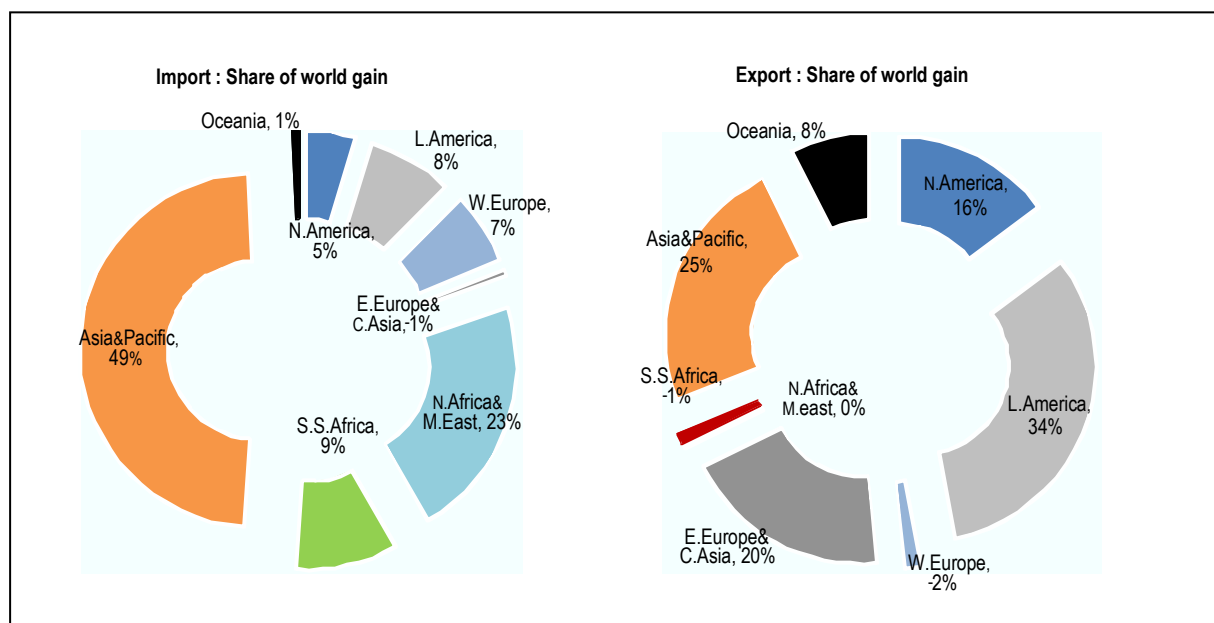
**Figure 3: Change in consumption in developed, developing countries and world
(Percentage change in consumption: 2020 relative to average 2009-11)**



Source: OECD and FAO Secretariats

Trade

7. Traditional exporters of a wide range of agricultural products, such as Australia, Argentina, Canada, the European Union (EU), New Zealand and the United States of America (USA), will remain important players in global trade in the medium term. But countries that have made significant investments in their agricultural sectors and which have sought to exploit their advantages in agricultural production, including Brazil, Paraguay, the Russian Federation, Thailand and Ukraine are expected to have an increasing presence on world markets.

Figure 4: Regional shares of the change in value of agricultural imports and exports

IV. Commodity overview

Per-capita cereals consumption stagnates, traditional exporters account for bulk of trade growth

8. Global cereals production over the medium term is expected to grow only by about 1 percent p.a., down from 2.5 percent p.a. in recent years. This implies very small growth in per capita terms. Both slower yield growth and reduced area expansion are expected to be responsible for the deceleration. The growth in global production of cereals is expected to be marginally less rapid than the projected growth in annual consumption, implying a general tightening of the cereal market supply situation. Despite slower growth, the production of wheat is set to expand strongly in traditional producing regions within the developed countries that will account for 60 percent of the additional output. Increasing production will be also a feature of the Russian Federation, Ukraine and Kazakhstan, in regions centred on Black sea ports. For coarse grains, the USA will continue to dominate the global industry, especially for maize, but with strong growth in output anticipated in Argentina, Brazil, Canada, China, the EU, India and Mexico. Asian countries will continue to dominate rice production, led by Bangladesh, China, India and Indonesia.

9. Developed countries will continue to dominate world wheat and coarse grains trade, accounting for most of the expected increase in coarse grain shipments, even though their production shares are declining. However, developing countries dominate rice trade and are responsible for most of the projected expansion in rice and wheat trade over the outlook period. While a number of traditional wheat exporters in the developed world face diminished trade prospects, Kazakhstan, the Russian Federation and Ukraine continue to gain prominence. Imports of coarse grains are projected to grow strongly in a number of countries driven by growth in feed demand, especially in China, Egypt, the EU, Mexico and Saudi Arabia. A diverse group of Southeast Asian least developed countries, including Cambodia and Myanmar, together with Pakistan and the USA, will account for a large part of the projected increase in rice exports. Viet Nam is anticipated to displace Thailand as the world largest rice exporter within the next few years.

Oilseed production slows considerably, emerging players in exports

10. World oilseed production is also projected to slow following strong growth in the previous decade as additional land was drawn into production in response to high prices. Nonetheless, global

production is projected to increase by around 2 percent annually, with additional oilseed area contributing about half the increase. Global vegetable oil production, which has previously been growing more than 5 percent annually in response to strong demand, is now projected to increase by only about 2 percent p.a. The market will remain concentrated, with seven countries (Argentina, Brazil, China, India, Indonesia, Malaysia and USA), accounting for 75 percent of the expansion. Palm oil production in Indonesia and Malaysia is projected to grow more slowly in the future, as government controls are applied to allow a more orderly expansion, but will still represent about 40 percent of the expected increase in global vegetable oil production. The global increase in production of oilseed meals is projected at about 20 percent by 2020, with developing countries responsible for 70 percent of the additional output.

11. World trade in oilseeds, which grew at over 6 percent p.a. in the last decade, is projected to slow in the medium term as exports tend to grow slower in Argentina, Brazil and the USA. Meantime, emerging exporters like Paraguay and Ukraine are expected to increasingly contribute to global export growth. Oilseed imports in China are still expected to increase substantially based on rising demand for vegetable oil and livestock feed. Global vegetable oil export should grow by an average of nearly 2 percent p.a., with most trade occurring on a south-south basis between developing countries.

Sugar production is accelerating growth in coming years

12. Sugar is one of the few products where world production is expected to post superior growth rates in the coming years relative to the recent past. Production is expected to grow slightly faster at about 2 percent p.a. This slight acceleration reflects continuing strong output growth in developing countries which are projected to account for more than 90 percent of the additional global production. Brazil will maintain its position as the leading sugar producer followed by India, China and Thailand. Relatively slow growth in sugar production is anticipated in developed countries. Production cycles will continue to characterize sugar markets in Asia, leading to occasional large trade fluctuations and price volatility.

Biofuel production and use expected to grow fast, largely driven by government policies and mandates

13. World ethanol and biodiesel production are both projected to show growth rates of about 5 percent p.a. Production is based mainly on coarse grains, sugar crops and vegetable oil. Biofuel feedstocks are expected to consume some 16 percent of global vegetable oil, 14 percent of global coarse grains and 34 percent of global sugarcane production by 2020. The leading world ethanol producer is the USA which is projected to account for 44 percent of the increase in world production, with half coming from maize and the other half from cellulosic material. Brazil with its highly integrated sugar cane-based ethanol production will be responsible for 29 percent of the increase and the EU, using a mixture of feedstocks, for 12 percent of the additional output. Apart from these three countries/trading blocs, China, India and Thailand are expected to expand production. In the case of biodiesel, the EU is by far the major producer accounting for a projected 47 percent of the increase in world production in 2021. Other producers with smaller shares of global output are the USA, Argentina, Brazil and Indonesia.

Meat production expected to increase strongly despite slowing productivity

14. Higher meat prices relative to feed costs are projected to improve livestock sector returns and increase incentives for an expansion in animal inventories and increased meat production. The quantity of meat produced per animal has shown a rapid increase over time along with growing animal numbers. The projections indicate, however, that the rate of productivity would slow in most countries. Nonetheless, meat production is expected to increase strongly led by the poultry sector boosting output by about 30 percent followed by beef and pigmeat production.

15. World meat trade is expected to rise by 1.5 percent p.a. over the next decade, stimulated by strong demand from rising incomes in the developing countries and firmer demand in developed countries. World meat exports are projected to increase by around 20 percent to 2020, led mainly by higher poultry and beef shipments. Developing countries are expected to respond to higher meat prices

and strengthen their position as exporters. Japan will remain the leading destination for meat imports, followed by increasing importance of China, Mexico, and Saudi Arabia. In contrast, lower meat imports are projected for the Russian Federation.

Dairy product consumption growth concentrated in developing countries

16. Similar to developments for other agricultural products, world milk production is expected to grow by 2 percent p.a., only slightly below the previous decade. This slight reduction reflects slower growing global dairy animal inventories which are not fully compensated by the expected higher growth in milk yields. Developing countries are projected to account for 80 percent of the expected future increase, led by China and India and to a lesser extent by Argentina and Brazil. Existing regional differences in milk production growth are expected to persist over the projection period in response to the different milk production technologies in operation. Dairy products are expected to exhibit some of the highest production growth rates in the coming years as considerable investments in processing capacity in the developing countries have resulted in large productivity gains.

17. World trade in dairy products continues to represent a small share of world milk production, and remains dominated by developed countries including, Australia, the EU, New Zealand and the USA. Exports from emerging countries in the developing world and most notably Argentina, Ukraine, Uruguay and some Eastern European countries are expected to continue to grow steadily and gain market share.

Fish production is one of the fastest growing sources of animal protein

18. Aquaculture is expected to record strong growth over the next years and become a larger source of supply of fish products for human consumption than capture fisheries. Current high rates of growth in aquaculture have resulted from rapid development of fresh water aquaculture in Asia, in particular in Viet Nam. China is the largest producer of aquaculture products. The expansion of aquaculture turns it into an increasingly significant demand factor for feedstuffs in many countries.

19. Fisheries products are highly traded and are expected to become even more so, with one third of production being exported by 2020. Trade flows have traditionally been from developing to developed countries, though this is expected to moderate as demand in developing countries grows. Exports are expected to continue to come mainly from developing countries, with the centre of gravity moving towards Asian producers due to increased availability of aquaculture products.

V. Summary and uncertainties

20. Underpinned by rising demand in most developing countries, and high input costs, agricultural commodity prices have risen to a higher plateau in both real and nominal terms compared with the previous decade. High commodity prices have been transmitted to consumer prices, although the impact varies substantially by country. Commodity stocks are projected to remain low keeping price volatility a global concern.

21. Global agricultural production in per capita terms is projected to grow, but more slowly. Limiting conditions are high input costs, specifically for fertilizer and other energy related inputs, but also increasing constraints on land and water. Productivity growth is expected to slow, stressing the need for more investment in agricultural innovation systems

22. The biofuel sector is expected to continue to grow rapidly, and will increasingly affect agricultural markets. Future development of biofuel on a global scale will depend critically on the evolution of energy markets, including alternative sources of supply. However, biofuel markets, including those for biofuel feedstocks, are heavily distorted by mandates and tariffs.

23. The outcomes described in this paper are conditioned by a specific set of assumptions on the environment affecting agriculture, which are subject to large uncertainties. The key assumptions pertain to future crop yields, crude oil prices, developments in biofuel markets, policy settings for the main commodities in leading countries and macroeconomic assumptions such as income growth and

exchange rates. Differences in the outcomes of these factors would change the projection values, especially for prices, but also for the supply, demand and trade in agricultural and food commodities.

VI. Further work and collaboration with member countries

24. FAO's projection work is embedded in its wider efforts to build consensus on markets and emerging issues in agriculture. This work benefits from exchanges with adjacent disciplines within FAO and with national partners. Broad dialog is encouraged and critical input from all stakeholders is welcome as it will help to identify the relevant problems, analyse options and advance solutions.

25. The OECD-FAO Agricultural Outlook is benefitting greatly from the input of a number of national collaborators who provide national market data, policy updates and guidance on the projections. Greater involvement is sought from Members, and capacity development and technical assistance can be provided by FAO, to any Member who would like to join the OECD-FAO collaboration.

26. The FAO modelling platform currently covers mostly temperate climate basic food commodities. Further extension into additional commodities of interest to countries and regions is envisaged in collaboration with national partners. FAO is interested to engage international organizations and national institutions in an open discussion about potential solutions for an integration of existing or new modelling tools into its simulation system in order to broaden the commodity coverage and analytical capacity.