

## **Pulses: past trends and future prospects<sup>1</sup>**

This article summarizes the main findings of a paper contributed by FAO to the 4<sup>th</sup> International Food Legumes Research Conference (IFLRC-IV) held in New Delhi, India, on 18-22 October 2005. The theme of the conference was “*Food Legumes for Nutritional Security and Sustainable Agriculture*”.

The main objectives of the paper were twofold. The first objective was to analyze the trends and outlook of the global supply, demand and trade of pulses and the second was to attempt to identify the major challenges and issues that are facing this important food sector in the future. The major findings of the study are listed in the following bullet points:

- Pulses play an important role in the nutritional security of a large number of people. They represent a major source of protein in many developing countries, especially among the poorer sections of the population who rely on vegetable sources for their protein and energy requirements. Moreover, in recent years there has been a change in the consumption of pulses in several developed countries where they are increasingly considered as health foods.
- Total volume of world pulse production has almost increased by half during the past 25 years (1980-2004), surpassing for the first time in history the 60 million tonne line in 2004. Although global production showed an overall upward trend over this period, there was a variation in growth. While it grew relatively fast between 1980 and 1990 (3.6% p.a.), production stayed almost stagnant afterwards. Growth in the 1980s was driven by the developed countries, expanding their output by 8% annually from 10.7 million tonnes in 1980 to 20.8 million tonnes in 1990.
- Further analysis shows that production growth in the developed countries over the period 1980-2004 would have been much higher had it not been for the declines in the transition economies. Aggregate pulse production in these countries contracted by 12% annually during the 1990s, in line with the general trend in their agricultural production following the reforms in their economies. The data shows that industrialized countries have doubled their share in world pulse production, up from 13% in 1980-82 to 26% in 2002-2004.
- The fast growth of pulse production in the developed relative to the developing countries, as a whole, can be partly explained by the large yield differential between the two country groups. While yields in the developed countries grew by 2% annually during 1980-2004, yield growth in the developing countries was substantially smaller (0.4% p.a.). As a result, the yield gap between the two country groups has widened, rising from 0.5 tonne/ha in 1980-82 to 1.1 tonne/ha in 2002-2004. The lagging of pulse productivity in developing countries can be explained by several factors, including: (i) production in the developing countries is largely of subsistence nature, while in developed countries it is commercial; (ii) lack of investment because pulse cultivation is generally a small-scale activity that is not viewed as a sector capable of generating economic returns; (iii) the expansion of irrigated land has pushed pulses into marginal zones with the better land used to grow cereals; (iv) an agricultural policy focussing on cereals for food security purposes and (v) limited research and lack of technology and improved-cultivar availability to farmers.
- Per capita consumption of pulses in the developing countries stagnated overall and registered drastic declines in some regions, especially in Asia and sub-Saharan Africa.

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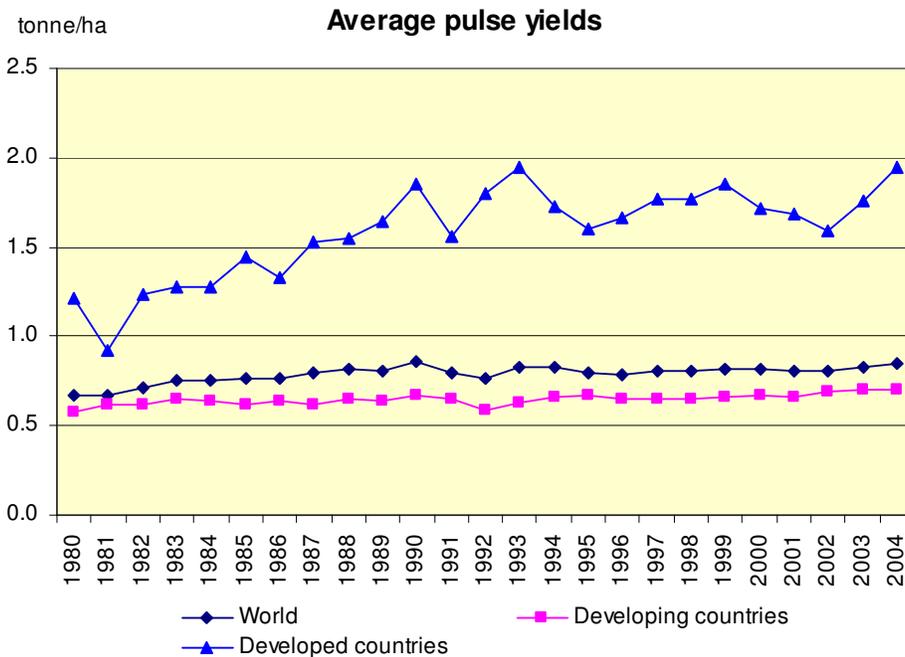
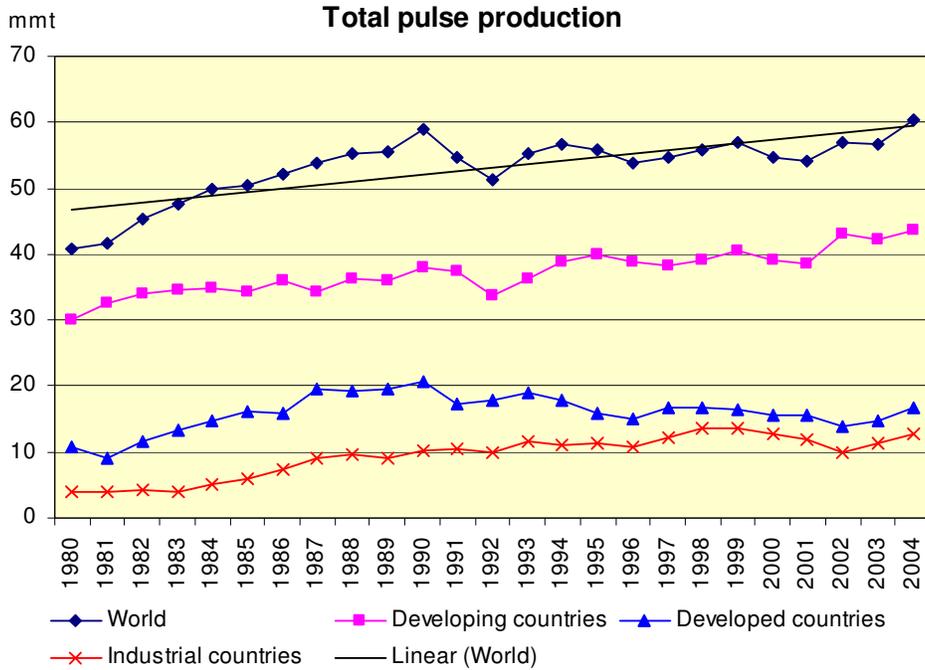
<sup>1</sup> The views expressed in this document are the author's and do not necessarily represent those of FAO or its member governments.

These trends reflect changing dietary patterns and consumer preferences but, in several countries, also the failure of domestic production to keep pace with population growth. Often this was the result of government preference for increasing production and self-sufficiency in cereals. As a result, per capita pulse production, reflecting availability from domestic sources, has declined. Simple graphical analysis shows that pulse consumption in the developing countries follows very closely movements in domestic production.

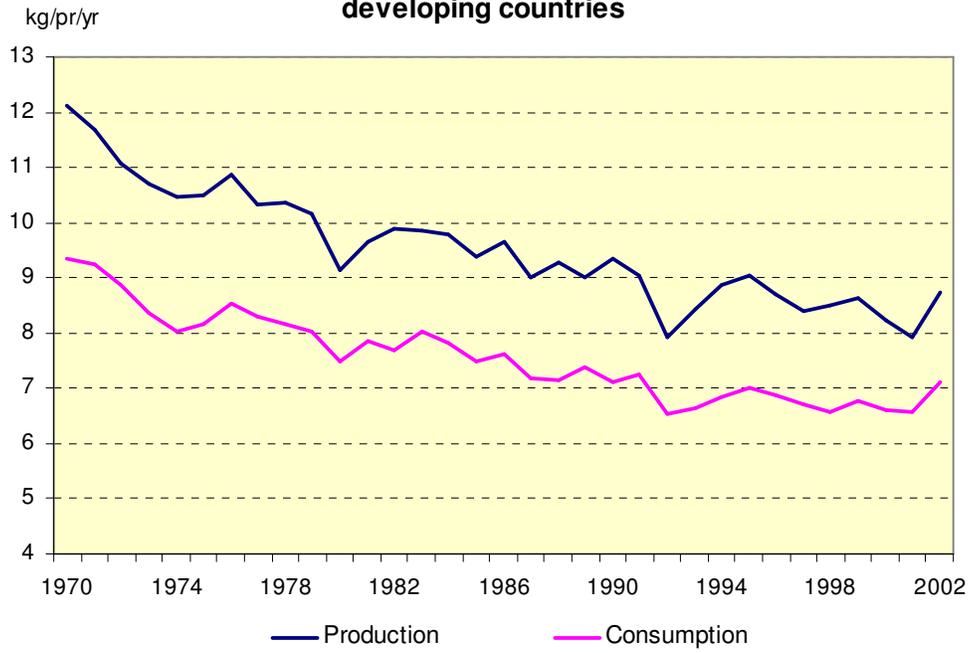
- In the industrialized countries, by contrast, per capita food consumption of pulses has increased. A plausible explanation for this is the increased consumer awareness about the health benefits of dry legumes. High levels of animal protein in the diets of industrialized countries stimulated consumers to look for alternative sources, and with good levels of protein and fibre, along with low fat content, pulses represented an excellent alternative. Another factor that may have contributed to this is international migration, which has accelerated during the period of the study.
- Developing countries have often met their growing pulse requirements through increased imports, reflected in a growing overall trade deficit. A large portion of this, however, was due to larger imports by India, the world's largest producer and consumer of pulses. Rising disposable incomes in this country, especially among the poorer segments of the population, are spurring demand. Another important market is the Near East/North Africa region, where imports are sustained by population growth.
- Global trade in pulses in 2001-2003 averaged about 9 million tonnes per year, with a total value of some US\$ 3 billion. Trade in pulses grew rapidly between 1980 and 2003 (5% p.a.), much faster than output, as a result the proportion of pulse production that gets traded increased significantly from 7% in the early 1980s to 16% in 2001-2003. Nevertheless, pulse trade remains a relatively thin market, especially when compared to other food commodities, namely grains.
- The expansion in international trade of pulses has provided a good opportunity for several countries to expand their exports. It is noteworthy that despite their growing trade deficit, the developing countries, as a group, increased their pulse shipments by 150% between 1980 and 2003 and more than doubled their export earnings from pulse sales.
- As regards the outlook, per capita pulse consumption in the Near East/North Africa and Latin America and Caribbean regions is projected to stay at current levels, while it is likely to fall further in South Asia because of a shift to consumption of higher value livestock products and fruits and vegetables. By contrast, an increase is expected in sun-Saharan Africa, reversing the decline experienced in recent years. It is also expected that net imports by developing countries to grow in order to meet their growing demand.
- On the supply side, constraints to productivity growth and production in the developing countries are expected to persist, unless corrective measures are taken. As such, production growth is expected to lag behind demand. Consequently, the recent trend in pulse imports by this group of countries will most probably continue.
- Since pulses play an important role in the food security of a relatively large proportion of population in the developing countries, it is recommended that the development of new pulse varieties and cultivation technologies be reinforced by adequate policies, support programmes in education and training of farmers, supply of input and credit and the development of appropriate marketing channels. In other words, governments are recommended to create an enabling environment in order for this sector to develop.

The full version of the paper is planned for publication in 2006.

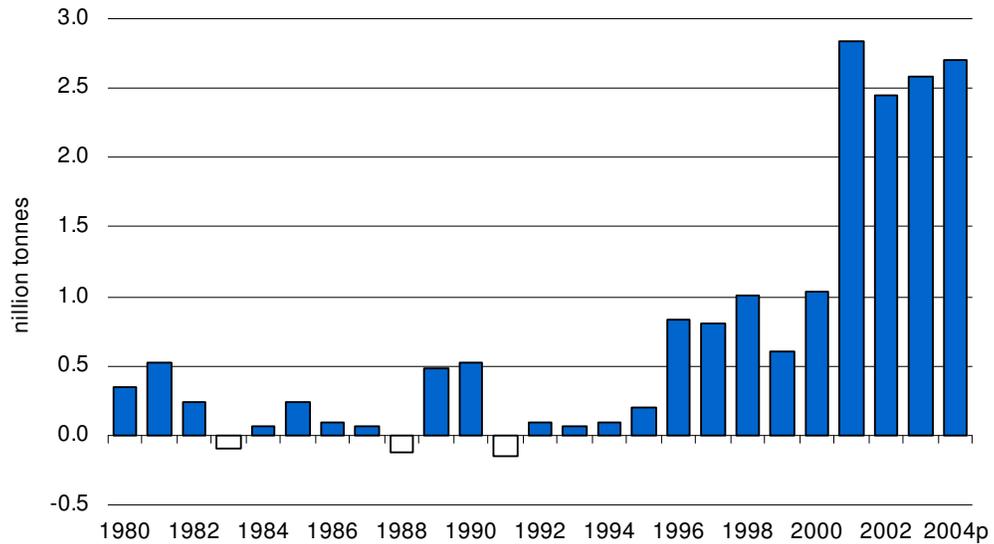
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### Per capita pulse production and consumption in developing countries



### Net imports of pulses in the developing countries



2004p: preliminary estimate for 2004