Addressing three major gaps regarding food security in the CAP reform proposals

Position paper

Drs. Wouter J. van der Weijden
Prof. H. Udo de Haes
Dr. Carin W. Rougoor

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Summary

The Dutch Platform for Agriculture, Innovation & Society has identified three major weaknesses regarding food security in the reform proposals for the Common Agricultural Policy:

• The proposals devised to address price spikes tend to shift the burden to the world market, which disregards the needs of food-importing countries.
• The proposals take little account of the risk of reduced availability of raw materials, particularly phosphate and micronutrients such as zinc and selenium.
• The proposals take little account of geopolitical risks that could disrupt the import of raw materials and feed and thereby disrupt the production of food in the EU.

To fill these gaps the Platform suggests a number of additions to the CAP reform proposals. Regarding price spikes:

• Use public intervention not only to address very low prices, but also to address price spikes of food and feed. This policy reduces price fluctuations on the world market and thus alleviates the risks for food-importing developing countries.
• Cautiously re-allow meat-and-bone meal in feed for pigs and poultry, for the same purpose.

Regarding the risk of reduced availability of raw materials and geopolitical risks:

• To ensure food, feed and nutrient security in the EU, do not rely entirely on a free-trade scenario. Take other realistic trade scenarios into account, particularly scenarios involving more state-controlled trade.
• To reduce dependency on imported soybean meal, foster domestic cultivation of protein crops.
• To reduce dependency on imported minerals, foster efficient use and recycling of phosphate and micronutrients, and promote substitution of these materials in manufacturing.
• To improve the quality of fertiliser, soil, feed and food, implement higher quality standards for imported phosphate rock.
• To structurally reduce the risks of scarcity, foster innovation in all these fields.

These additions to the CAP reform proposals are crucial to the long-term resource, agriculture and food security of the EU as well as developing countries.
Food security in the CAP reform proposals

Food security is one of the central issues in the European Commission’s reform proposals for the Common Agricultural Policy (CAP). Proposals relevant to food security include:

- continuing income support to help farms compete in an increasingly global market;
- continuing public intervention and aid for private storage in markets of several products, to be activated in periods of low prices;
- providing a risk management toolkit: public co-financing of insurance and mutual funds by farmers to manage risks from crop failures and livestock diseases;
- ensuring cross-compliance: Good Agricultural and Environmental Conditions (GAEC), including sustainable soil management, as one of the prerequisites for pillar 1 income support;
- promoting efficient use of natural resources, especially water and energy.

Although the first three proposals appear to be primarily intended to support farm income rather than ensure food security, they may all help to secure food production in the EU, at least in situations where farmland could otherwise be abandoned. Our Platform welcomes these proposals.

However, we have identified three major gaps in the above proposals:

- Proposals devised to address price spikes tend to shift the burden to the world market, affecting food-importing countries in particular.
- The proposals take little account of risks of reduced availability of raw materials, particularly phosphate and micronutrients such as zinc and selenium.
- The proposals take little account of geopolitical risks that could affect the supply of raw materials and the production and import of food and feed in the EU.

In the following sections, we briefly discuss each of these gaps and present a number of recommendations.

1. Risks for developing countries

Although the EU is largely self-supporting in food, it is still vulnerable to internal and external shocks or calamities. Our Platform has conducted a stress test of the EU agriculture and food system in the short and medium term with respect to natural and man-made calamities.¹ We have identified four types of possible calamities:

- a severe, long-lasting and widespread drought in Europe
- a severe and long-lasting volcanic eruption
- a severe and widespread epidemic of a livestock disease in Europe
- a sudden disruption of imports of soybean meal caused for example by extreme weather in South America or by China purchasing all soybeans available on the world market.

¹ The vulnerability of the European agriculture and food system for calamities and geopolitics – A stress test. www.platformlis.nl/rapporten/StresstestEUagrfoodsystenm.pdf).
The stress test showed that such calamities can have severe consequences to the livestock industry, the agro-food chain, consumer income and the economy. Although they are not likely to threaten food security at a substantial scale within the EU, they could have a severe impact on food-importing developing countries. For example, as soon as domestic grain prices exceed world market prices, EU-based grain traders will quickly reduce grain exports and increase grain imports. This can push world market prices upward, thus threatening the food security of food-importing developing countries.

The recent reform proposals of the European Commission include several good stratagems to cope not only with price volatility, but also with plant and livestock diseases and environmental disasters. Regarding prices, most of the proposals concern excessively low internal prices that can affect farms. We welcome the potential stabilising effect of these proposals. A few of the proposals concern measures to control sudden price rises (price spikes). One proposal is to improve market information by means of a food-price monitoring tool, which provides a medium-term outlook for major agricultural commodity markets. However, the proposed Council Regulation preserves a range of options in various sectors to control price spikes. Article 186 for instance states that the Commission may take necessary measures when the prices of sugar, hops, beef and veal and sheep and goat meet rise or fall significantly or when the price of pig and poultry meat, eggs and olive oil rise significantly. Article 187 states that import duties with regard to cereals, rice, sugar and milk can be suspended when the availability on the Community market is disrupted or threatens to disrupt.

In previous years, the EU applied three reactive, temporary measures in response to price spikes of cereals:

- suspending import duties (mentioned again in article 187)
- expanding tariff quotas
- implementing export tariffs.

In addition, two preventive measures were taken:

- public stockpile intervention during low prices, creating stocks that could be sold in case of price spikes
- compulsory set-aside that could be released in times of price spikes.

While all these measures can help stabilise internal markets, the three reactive measures tend to shift the burden to the world market. Essentially, the EU actually exports instability. This can have an especially severe impact on food-importing developing countries. The latter two measures do not have this disadvantage. But compulsory set-aside has been phased out. The proposed ecological focus areas of 7% of the land on each farm are not intended for market stabilisation but for conservation as a green service. The option of public intervention is preserved but it is unclear whether it is meant only to boost prices when they are low, or also to prevent price spikes.

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2 A recent plea for stockpiles can be found in Grain Reserves and the Food Price Crisis: Selected Writings from 2008–2012. Institute for Agriculture and Trade Policy. www.iatp.org
2. Risk of reduced availability of nutrients

Agriculture and food production are highly dependent on the availability of sufficient nutrients in the soil and in fertilisers. These nutrients are classified in three groups: the macronutrients nitrogen and potassium, the mesonutrients calcium, magnesium, sulphur and phosphate, and the micronutrients such as zinc, selenium, molybdenum and copper. Some of these nutrients are deficient in soil and in food, and their mineral sources are expected to become scarce in the future in varying degrees.

**Phosphate**

Phosphate reserves in the world are gradually being depleted. Based on USGS figures, our Platform stated in a recent report that phosphate reserves could be depleted in about 100 years. Recently, however, Morocco drastically upgraded its reserve figures, and the USGS database was revised accordingly. The reasons for this unusual upgrade are unclear, but it is obvious that phosphate reserves are finite. Moreover, phosphate is difficult to recover from dissipative agricultural use. Long before depletion of the reserves, phosphate prices on the world market will tend to rise and become more volatile, thereby limiting food production and pushing food prices upward.

The EU is particularly vulnerable to phosphate scarcity because it has only a tiny share of global phosphate reserves. This long-term challenge was disregarded in the CAP as well as in the reform proposals.

**Micronutrients**

Micronutrients are affected by similar problems as phosphate, but have received even less attention in policy. Micronutrients are required in much lower quantities than phosphate, but are still equally essential to crops, livestock and humans. Our Platform recently issued a report on this problem, which concluded that zinc and selenium are especially critical.

**Zinc**

Zinc shortage occurs in large parts of the agricultural soils in Africa, South America and Asia, particularly including China and India. An estimated one-third of the world population has a zinc dietary deficiency. The global mortality related to zinc deficiency is an estimated 800,000 people each year – roughly equivalent to the mortality from malaria. This problem is aggravated by excessive use of phosphate fertiliser – for instance in China and India – because phosphate in the soil tends to bind zinc, which limits its availability to crops.

Zinc can be supplemented as a fertiliser, based on zinc ore from mines, but scarcities of this metal also appear to be imminent. Assuming constant use levels, USGS figures indicate that currently known zinc reserves will be depleted within 21 years. This is a very short time period, also compared with other metals. However, it can be expected that new reserves will be discovered. Therefore depletion of the mineral reserves itself is not our primary concern. More worrying is that the ore grade will continue to decline, contamination levels of ores will increase and more fresh water and energy will be required for mining and processing. All these factors will drive up production costs and the price of zinc.

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3 *Phosphate – from surplus to shortage* [http://www.platformlis.nl/rapporten/phosphate.pdf](http://www.platformlis.nl/rapporten/phosphate.pdf)
Selenium
Another critical micronutrient is selenium. Although this element is not essential for crops, it is essential for humans and cattle. There are indications that 30% of women in selenium-deficient areas who give breast-feeding do not supply sufficient selenium to their babies. It should be provided at a large scale to the soil as fertiliser, or as food supplement to humans and cattle. The currently known reserves are expected to be depleted within 39 years. However, here as well, new reserves will be discovered, although production is dependent on copper mining, of which selenium is a by-product. A more urgent challenge is that the present annual global production capacity would be insufficient to remediate large-scale selenium deficiencies in agricultural soils.

Prices of zinc and selenium will rise even faster if demand from industry and agriculture increases – due to economic growth and increasing meat consumption in Asia, South America and elsewhere – and if biofuel production increases. This will limit global food production in both quantitative and qualitative terms. Low-income countries lacking mineral micronutrient reserves will be affected first.

Obviously, this is a major challenge to European agriculture and food production in the medium and long term. Although improved soil management is rightly put forward as a priority for rural development in the current CAP reform proposals, micronutrients are not mentioned at all – an obvious gap. The same holds for the EU Raw Materials Initiative (COM (2008) 699 final)\(^5\), which focuses on raw materials for manufacturing, while ignoring raw materials as ingredients for fertilisers or animal feed. One document, *Tackling the challenges in commodity markets and on raw materials* (COM (2011) 25 final)\(^6\) deals with raw materials in a wider scope, including agriculture, but largely ignores the impending scarcity of raw materials as fertilisers for agriculture.

3. Geopolitical risks

Closely associated with the above issues is a third gap in the CAP and reform proposals: geopolitical risks to EU food security. Three major imports flows are at stake:

**Soybean meal**
The bulk of these imports comes from South America. China is importing increasing amounts of soybeans from both South America and the USA in order to control its domestic prices of pig meat. In one extreme scenario, China may decide to purchase all available soybeans on the world market at any price. This would cause feed shortages in large parts of the European livestock industry, especially the pig and poultry sectors, at high costs for the industry as well as the wider economy.

**Phosphate**
Up to 85% of the global reserves are concentrated in just two countries, Morocco and China. In 2008, China unexpectedly raised phosphate export levies, creating a sudden price spike on


the world market. Although this levy was quickly dropped under pressure from trading partners, it revealed the vulnerability of the global phosphate supply. The EU is obviously heavily dependent on Morocco (and West Sahara) in the long term. However, due to geopolitical shifts, the supply from Morocco may not be secure, in any case not at moderate and stable price levels. For example, China and Morocco could establish a phosphate cartel in order to raise prices.

**Mineral micronutrients**

Based on USGS figures, the EU has less than 4% of the known global reserves of micronutrients that are essential for plants. For zinc, more than 50% of the global reserves are concentrated in only three countries, and for molybdenum and boron this is even more than 75%. Important resource countries include China, Turkey, Argentine and Peru, which do not score high on the World Governance Index. This implies a long-term risk for world trade and consequently to the nutrient supply. Formation of a molybdenum, boron or zinc cartel aiming at achieving higher prices or political goals is well conceivable. As for selenium – essential for livestock and humans, but not for crops – the EU share of production is somewhat larger, but selenium is largely a by-product of copper mining, which takes place primarily outside Europe.

The present CAP and reform proposals disregard such geopolitical risks, implicitly relying on the invisible hand of a free world market. However, this market is increasingly being dominated by state-controlled companies based in countries such as China, India and Russia, and these companies may well have a political agenda. This could lead to price shocks and reduced availability. In view of these anticipated geopolitical limitations to the nutrient supply, the present CAP and reform proposals seem to be somewhat naïve regarding long-term food security of the EU.

### 4. Recommendations

To address these issues and fill the policy gaps, our Platform recommends the following additions to the CAP reform:

**Scope, goals and context of the CAP**

1. Consider widening the scope of the CAP to become a Common Food and Agriculture Policy (CFAP), analogous to the FAO.
2. Add two sub-goals to the larger food security objective of this policy:
   - enhancing the resilience of the EU agriculture and food system to physical and geopolitical shocks;
   - enhancing long-term nutrient security.
3. Do not entirely rely on a free-trade scenario for food, feed and nutrient security in the EU. Take other realistic trade scenarios into account, particularly scenarios involving more state-controlled trade.
Preventing risks to developing countries

4. Enhance the resilience of the EU agriculture and food system to shortages of feed caused by disruption of soybean meal imports, severe droughts or severe volcanic eruptions, but without harming the interests of food-importing developing countries. This can be accomplished by:
   • using public intervention not only to prevent very low prices, but also to prevent price spikes of food and feed;
   • considering a certain degree of flexibility in the blending obligation for biofuels.

5. Foster substitution of a substantial proportion of imported soybean meal by:
   • fostering domestic cultivation of protein crops7;
   • cautiously re-allowing meat-and-bone meal in feedstuffs for pigs and poultry, as already anticipated by the Commission. This can potentially replace 4 to 11% of soybean meal imports.8

Preventing nutrient scarcity

6. Enhance the resilience of the agriculture and food system to reduced or disrupted phosphate and micronutrient imports by:
   • fostering efficient use and recycling of phosphate and micronutrients. See appendix for specific additions to the pillar 2, Rural Development, proposals.
   • implementing higher quality standards for imported phosphate rock to improve the quality of fertiliser, soil, feed and food. This policy could lead to slightly higher phosphate prices, but this will also foster more efficient use and recycling of phosphate.

Research and innovation for securing nutrient supply

7. Facilitate a comprehensive and periodic inventory of micronutrients:
   • in agricultural soils in the EU;
   • in flows of imported and exported industrial raw materials (including raw materials for biofuels) and products;
   • in soils in developing countries.

8. Foster innovation in phosphate and micronutrient use, specifically:
   • using phosphate and micronutrients in agriculture and manufacturing more efficiently;
   • recycling phosphate and micronutrient residues from industry, urban waste and sewage, and from energy plants (including biofuel plants) for re-use in fertiliser and feed;
   • using substitutes for phosphate, zinc, selenium and other relevant micronutrients in industrial products;
   • enhancing the availability of phosphate and micronutrients present in soils for crops, for example by applying beneficial fungi or breeding nutrient-rich varieties.

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7 This corresponds with the opinion of the Committee on Development of the European Parliament, which recommended promoting the cultivation of leguminous crops in Europe. The Committee states that the EU’s dependence on protein plant imports has negative environmental and social impacts in exporting and developing countries and that promoting leguminous crops in Europe could also mitigate climate change and could positively contribute to biodiversity and soil fertility. See: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2f%2fEP%2f%2fNONSGML%2bCOMPARL%2bPE-485.891%2b02%2bDOC%2bPDF%2bV0%2f%2fEN

8 Page 76 stress test report.
See Appendix 2 for specific proposals.

These proposals pertain to the CAP reform as well as the EU Raw Material Initiative. All the proposals are crucial to long-term resource, agriculture and food security, not only for the EU but also for developing countries.
Appendix 1  A proposed addition to the reform of pillar 1, Single Market Regulation, of the CAP

Recital 75, page 9

The customs duty system makes it possible to dispense with all other protective measures at the external frontiers of the Community. The internal market and duty mechanism could, in exceptional circumstances, prove to be inadequate. In such cases, in order not to leave the Community market without defence against disturbances that might ensue, the Community should be able to take all necessary measures without delay. Such measures should comply with the international commitments of the Community, specifically taking into account the needs of food-importing developing countries.

Appendix 2  Five proposed minor yet key additions to the reform of pillar 2, Rural Development, of the CAP

Recital 5, page 11

To ensure the sustainable development of rural areas, it is necessary to focus on a limited number of core priorities relating to knowledge transfer and innovation in agriculture, forestry and rural areas, the competitiveness of all types of agriculture and farm viability, food chain organisation and risk management in agriculture, restoring, preserving and enhancing ecosystems dependant on agriculture and forestry, resource efficiency of resource use (including water, energy, macronutrients and micronutrients) and the shift towards a low carbon economy in the agricultural, food and forestry sectors, and promoting social inclusion, poverty reduction and the economic development of rural areas. (..)

Recital 28, page 17

Agri-environment-climate payments should continue to play a prominent role in supporting the sustainable development of rural areas and in responding to society's increasing demands for environmental services. They should further encourage farmers and other land managers to serve society as a whole by introducing or continuing to apply agricultural practices contributing to climate change mitigation and adaptation and compatible with the protection and improvement of the environment, the landscape and its features, natural resources (including macronutrients and micronutrients), the soil and genetic diversity. In this context the conservation of genetic resources in agriculture and the additional needs of farming systems that are of high nature value should be given specific attention. (…)

Recital 29, page 17

In order to ensure that agri-environment-climate commitments are defined in line with the Union's overall environmental objectives, the power to adopt acts in accordance with Article 290 of the Treaty should be delegated to the Commission in respect of laying down the conditions applicable to the annual extension of commitments after the initial period,
commitments to extensify or manage differently livestock farming, to limit and recycle macronutrients and micronutrients, plant protection products or other inputs, to rear local breeds in danger of being lost to farming or to preserve plant genetic resources and the eligible operations in relation to conservation of genetic resources in agriculture.

Article 5

(5) promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors, with a focus on the following areas:

(a) increasing efficiency in water use by agriculture;
(b) increasing efficiency in energy use in agriculture and food processing;
(c) increasing efficiency in the use of essential mineral nutrients by agriculture, focusing on finite macronutrients (mainly phosphate) and micronutrients (mainly zinc and selenium);
(d) facilitating the supply and use of renewable sources of energy, of by-products, wastes, residues and other non food raw material for purposes of the bio-economy;
(e) facilitating recycling of finite nutrients from industries for re-use in agriculture;
(f) reducing nitrous oxide and methane emissions from agriculture;
(g) fostering carbon sequestration in agriculture and forestry;

Article 61

1. The EIP for agricultural productivity and sustainability shall:

(a) promote a resource efficient, productive, low emission, climate friendly and resilient agricultural sector, working in harmony with the essential natural resources on which farming depends;
(b) help deliver a steady supply of raw materials (including mineral nutrients), food, feed and biomaterials, both existing and new ones;
(c) improve processes to save and recycle mineral nutrients, preserve the environment, adapt to climate change and mitigate it;
(d) build bridges between cutting-edge research knowledge and technology and farmers, businesses and advisory services.
Appendix 3 On the Platform Agriculture, Innovation & Society

The work of the Dutch Platform for Agriculture, Innovation and Society contributes to the knowledge policy of the Ministry of Economic Affairs, Agriculture and Innovation through:
1. Exploring the consequences of possible technological developments and considering alternatives and/or;
2. Exploring possible technological contributions to the solution of societal problems relevant to the policy fields of the Ministry and/or;
3. Exploring and making explicit the standards and values that are involved with specific developments, as well as the differences in standards and values between various groups in society.

Contact information

Platform Agriculture, Innovation & Society
Executive Secretary: Dr Carin Rougoor
c/o CLM Research and Advice
P.O. Box 62
4100 AB Culemborg
The Netherlands
T: +31 (0) 345 470769
E: crougoor@clm.nl
I: www.platformlis.nl