

Appendix 6.3: Agriculture (Chapter 6, Section 6.5.1)

Highlights for Table 6.6 on state and trends of nature's contributions to people (NCP) delivery in Western and Central Europe

Food

In the period between Dec. 2015 and Nov. 2016, the value of EU agri-food exports reached EUR 130.7 billion, an increase of 2% compared to the previous year. In the same period EU imported agri-food for a value of EUR 112 billion, with a decrease of 0.9% compared to the previous year. In this period, the EU agri-food export surplus reached the value of EUR 19 billion (European Commission, 2017).

Despite the greater value of agri-food exports compared to that of imports, according to UNEP & UNECE (2016) around 40% of food and food products consumed in the EU-28 are imported (UNEP & UNECE, 2016; Chapter 2).

Out of a total CAP budget of EUR 362.787 billion (at 2011 prices) for the period 2014-2020, the funds available for Pillar 1 amounts to EUR 277.851 billion (direct payments and market-related expenditure) compared to EUR 84.936 billion for Pillar 2 (rural development) (European Commission, 2013a).

Energy (Biomass-based)

Production of energy crops increased since 2000 and after ten years was 10% higher (Maes et al., 2015). In 2010 Agriculture supplied 2.1 % of the total primary energy produced and 10.6 % of the total renewable energy produced in EU-27 (retrieved from: http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Agri-environmental_indicator_-_renewable_energy_production).

Directorate General for agriculture and rural development has estimated that in 2011 direct production of biomass and energy crops, was covering 6.1 million ha of agricultural land in the EU-27, around 3.4 % of the total UAA; (retrieved from: http://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Agri-environmental_indicator_-_renewable_energy_production).

Regulating Fresh Water quality

Nitrogen surplus¹ decreased by 15.6% between 2000 and 2011 in the EU-28, from an estimated average of 55 kg N/ha in the period "2000-2004" to 47 kg N/ha in the period "2008-2011", while the average phosphorus surplus decreased by 76.2% between 2000 and 2011 in the EU-28, from 4.2 kg P/ha in the period 2000-2004 to 1 kg P/ha in 2008-2011² (European Commission, 2014a);

More than 40% of rivers and coastal water bodies are polluted by agriculture activities and only 53% of surface water bodies are estimated to reach the good ecological status by 2015 in Europe (EEA, 2015b).

Climate regulation

¹ The gross nitrogen and phosphorus surplus, estimated by the Gross Nitrogen and Phosphorus Balances, are calculated as the balance between inputs and outputs of nutrients to the agricultural soil. Reference Area: The area (agricultural soils) to which the balance refers is the Utilized Agricultural Area (UAA) as reported in the Crop Production Statistics (land use). Extensive areas should be excluded.

Agriculture accounted for a total 471 million tons of CO₂ equivalents in 2012. This represented 10.3% of total EU-28 GHG emissions in 2012. In the period 1990-2012 Agriculture greenhouse gas emissions decreased of around 24%, from 618 million tons CO₂ equivalents in 1990 to about 471 million tons CO₂ equivalents in 2012 (EEA, 2015b).

Pollination

According to the IUCN Red List assessments “in Europe, 9% of bees and butterfly species are threatened and populations are declining for 37% of bees and 31% of butterflies (excluding data deficient species, which includes 57% of bees)”. (IPBES, 2016).

The presence of hedgerows and semi-natural elements in cropland is fundamental for enhancing pollination. According to (Schulp, Lautenbach, & Verburg, 2014) green linear elements, covering only 0.5% of agricultural area, increase the probability of visitation of crops by pollinators by 15/20%.

Habitat & Biodiversity

Around 76% of habitats and at least 70% of species listed in the Habitat and Birds Directives and associated to agriculture show an unfavourable conservation status (European Commission, 2014b). Permanent grassland decreased by 6.4% between 1993 and 2011 in the EU and by 11.8% in new member states (Pe’er et al., 2014). Only around 15-25% of total “utilised agricultural area” in EU is high nature value farmland (Keenleyside, Beaufoy, Tucker, & Jones, 2014).

Since 1990 till 2011 European grassland butterfly populations have declined by around 50 % in 19 European Countries (EEA, 2013); Since 1990 population of common farmland birds declined of around 30% in 27 European Countries. This decline has been associated with increasing agricultural specialisation in some areas and farm abandonment in others (EEA, 2015a).

According to Pe’er and co-authors (Pe’er et al., 2014) greening requirements are too loose in order to have a clear positive impact given that at least 88% of farms and 48% of farmland would be exempted from establishing 5% “ecological focus areas” because of the farm size threshold set at more than 15 ha of arable land. Moreover, farms with less than 10 ha of arable land, representing 13% of arable land across the European Union, will be exempted also from 2 different crops cultivation requirement, which in many member states is a lower diversification threshold than current average at farm level.

Physical & Psychological experience

Until the first decades of last century all agricultural systems in Europe were high nature value farmland (Keenleyside et al., 2014). High nature value farmland land cover estimates vary extremely from country to country ranging from around 15% of agricultural land in Germany and Netherlands to around 46% in Switzerland and Turkey and up to around 80% in Albania and around 90% in Croatia (EEA, 2012). At EU level the high nature value farmland total extent is estimated to be around between 15-25% (European Commission, 2014b) and 30% of agricultural land (EEA, 2012; Keenleyside et al., 2014).

In 2010, about one third of all EU farmers (34%) were engaged in other gainful activities than their farm work, such as those related to tourists accommodation (European Commission, 2013b).

EuroGites, the European rural tourism umbrella group, estimated in 2008 that rural tourism supports 900,000 direct and indirect jobs in Europe, and generates €150 billion in gross income each year (European Parliament, 2013).

The number of bed places in tourist accommodations in EU rural areas has increased by 4.7% in the period 2007-2012 (European Commission, 2013b).

Heritage

A study on the economic data of 2,768 protected designations of origin (PDO) and protected geographical indications (PGI) products registered in the EU-27 in the period 2005-2010, estimated their worldwide sales value at €54.3 billion in 2010 at wholesale stage in the region of production, that it was increased by 12% between 2005-2010, and showed a value premium of 2.23 times higher compared to non-PDO/PGI products (Chever, Renault, Renault, & Romieu, 2012).

See also highlight on high nature value farmland in physical & psychological experience above.

REFERENCES TO APPENDIX 6.3

- Chever, T., Renault, C., Renault, S., & Romieu, V. (2012). *Value of production of agricultural products and foodstuffs, wines, aromatised wines and spirits protected by a geographical indication (GI). Final report to the European Commission, TENDER N° AGRI-2011-EVAL-04*. Brussels: AND International. Retrieved from http://ec.europa.eu/agriculture/external-studies/2012/value-gi/final-report_en.pdf
- EEA. (2012). *Updated High Nature Value Farmland in Europe An estimate of the distribution patterns on the basis of CORINE Land Cover 2006 and biodiversity data*. Copenhagen: European Environment Agency. Retrieved from <http://www.eea.europa.eu/data-and-maps/data/high-nature-value-farmland>
- EEA. (2013). *The European Grassland Butterfly Indicator: 1990–2011*. Copenhagen: European Environment Agency. <https://doi.org/10.2800/89760>
- EEA. (2015a). *Abundance and distribution of selected species* (Indicator Assessment. Data and maps). Copenhagen: European Environment Agency. Retrieved from <http://www.eea.europa.eu/data-and-maps/indicators/abundance-and-distribution-of-selected-species/abundance-and-distribution-of-selected-2>
- EEA. (2015b). *The European environment — state and outlook 2015: synthesis report*. Copenhagen: European Environment Agency. <https://doi.org/10.2800/944899>
- European Commission. (2013a). *Overview of CAP Reform 2014-2020. Agricultural Policy Perspectives Brief. No.5 / December*. Brussels: DG Agriculture and Rural Development, Unit for Agricultural Policy Analysis and Perspectives. Retrieved from http://ec.europa.eu/agriculture/policy-perspectives/policy-briefs/05_en.pdf
- European Commission. (2013b). *Rural Development in the EU. Statistical and Economic Information: Report 2013*. Retrieved from http://ec.europa.eu/agriculture/sites/agriculture/files/statistics/rural-development/2013/full-text_en.pdf
- European Commission. (2014a). *CAP Context Indicators 2014-2020, 40. Water Quality*. Retrieved from https://ec.europa.eu/agriculture/sites/agriculture/files/cap-indicators/context/2014/full-text_en.pdf
- European Commission. (2014b). *Farming for Natura 2000. Guidance on how to support Natura 2000 farming systems to achieve conservation objectives, based on Member States good practice experiences*. Brussels. Retrieved from http://www.ieep.eu/assets/1412/FARMING_FOR_NATURA_2000-final_guidance.pdf
- European Commission. (2017). *Monitoring EU Agri-Food Trade: Development until November 2016 November 2016 – EU agri-food exports again at record level*. Retrieved from https://ec.europa.eu/agriculture/sites/agriculture/files/trade-analysis/monitoring-agri-food-trade/2016-11_en.pdf

- European Parliament. (2013). *Industrial Heritage and Agri/Rural Tourism in Europe, Study*. Brussels.
<https://doi.org/10.2861/13312>
- IPBES. (2016). *IPBES/4/INF/1/Rev.1: Individual chapters and their executive summaries of the thematic assessment on pollinators, pollination and food production (deliverable 3(a))*. Retrieved from
http://www.ipbes.net/sites/default/files/downloads/pdf/3a_pollination_individual_chapters_20161124.pdf
- Keenleyside, C., Beaufoy, G., Tucker, G., & Jones, G. (2014). *High Nature Value farming throughout EU-27 and its financial support under the CAP. Report Prepared for DG Environment, Contract No ENV B.1/ETU/2012/0035*. London: Institute for European Environmental Policy.
<https://doi.org/10.2779/91086>
- Maes, J., Fabrega, N., Zulian, G., Barbosa, A., Vizcaino, P., Ivits, E., ... Lavalle, C. (2015). *Mapping and Assessment of Ecosystems and their Services: Trends in ecosystems and ecosystem services in the European Union between 2000 and 2010* (JRC Science and Policy Report). Luxembourg: European Commission, Joint Research Centre. <https://doi.org/10.2788/341839>
- Pe'er, G., Dicks, L. V., Visconti, P., Arlettaz, R., Báldi, A., Benton, T. G., ... Scott, A. V. (2014). EU agricultural reform fails on biodiversity. *Science*, *344*(6188), 1090–1092.
<https://doi.org/10.1126/science.1252254>
- Schulp, C. J. E., Lautenbach, S., & Verburg, P. H. (2014). Quantifying and mapping ecosystem services: Demand and supply of pollination in the European Union. *Ecological Indicators*, *36*, 131–141.
<https://doi.org/10.1016/j.ecolind.2013.07.014>
- Simonov, E. A., & Egidarev, E. (2017). Intergovernmental cooperation on the Amur River basin management in the twenty-first century. *International Journal of Water Resources Development*, 1–21. <https://doi.org/10.1080/07900627.2017.1344122>
- UNEP & UNECE. (2016). *GEO-6 Assessment for the pan-European region*. Nairobi, Kenya: United Nations Environment Programme. Retrieved from
<http://www.ccacoalition.org/en/resources/geo-6-assessment-pan-european-region>