Agroforestry in Poland
- the current state and policy perspectives

Robert Borek
POLAND
Institute of Soil Science and Plant Cultivation – State Research Institute, Puławy
Plan of Presentation

1. Basic conditions of Poland in terms of sustainable management of agricultural landscape.

2. Policies and tools for the management of agricultural and forestry space.

3. Forestry Policy in Poland.

4. Role of Trees Outside Forest in the management of rural space of Poland.

5. Integrated management of agricultural and forestry space for development of bioeconomy in Poland – examples.

Montpellier, 25-06-2016
Water erosion and Nitrate leaching

Areas of agricultural pressure on nitrate pollution of ground waters by fertilizers

(Wawer et al.)

(Jadczyszyn et al.)

Montpellier, 25-06-2016
Change in 2001-2010 temperature from Average 1971-2000 (°C)

(Source: Górski, Kozyra)
On 25 April 2012, the Council of Ministers adopted the **Strategy for the sustainable development of rural areas, agriculture and fisheries**

One of nine integrated development strategies that will provide the basic instruments for the updated Medium Term Development Strategy 2020, and Long Term National Development Strategy to 2030

- **Strategy for Innovation and Efficiency of the Economy** (Ministry of Economy)
- **Human Capital Development Strategy** (Ministry of Labour and Social Policy)
- **Transport Development Strategy** (Ministry of Transport, Construction and Maritime Economy)
- **Strategy for Energy Security and the Environment** (Ministry of Economy)
- **Efficient State Strategy** (Ministry of Administration and Digitalisation)
- **Social Capital Development Strategy** (Ministry of Culture and National Heritage)
- **National Strategy of Regional Development 2010-2020. Regions, cities, rural areas** (Ministry of Regional Development)
- **Strategy for Sustainable Development of Rural Areas, Agriculture and Fisheries** (Ministry of Agriculture and Rural Development)
- **Strategy for Development of the National Security System** (Ministry of National Defence)

Montpellier, 25-06-2016
Spatial planning system for implementation of regionalization and integration policies

- Local spatial management plans of communes/ local spatial development frameworks
- Spatial management plans of voivodeships
- Ideas of the spatial management policy

Montpellier, 25-06-2016
Polish National Strategy for Adaptation to Climate Change by 2020 with a Perspective to 2030 (2013) – selected aspects

The strategy highlights the need to support on-farm investment and technological advisory services, including aspects of the adaptation of methods of agricultural production to climate change and support for them. Among the planned actions in agriculture, three (a change in farming systems, the prevention of soil degradation and crop diversification) are consistent with integrated management of forestry and agricultural areas.

Preservation of the richness of biodiversity, including multifunctional forest management, protection of the natural environment in the agricultural sector and of biodiversity in rural areas.

Increasing the forestation rate, both in case of artificial afforestation and natural succession and rationalization of land use, reduction in the fragmentation of forest complexes.

Montpellier, 25-06-2016
New cross-compliance rules of CAP 2014-2020 enabled parcels with maximum number of trees at 100 per hectar to be eligible for direct subsidies. This is for the first time in Poland, that financial support shall be extended to farmers who keep trees on their fields.

Cross-compliance

GAEC-7 (Retention of landscape features, including where appropriate, hedges, ponds, ditches, trees in line, in groups or isolated, field margins and terraces, and including a ban on cutting hedges and trees during the bird breeding and rearing season).

Hedges and strips of trees within an agricultural parcel are embraced by the measure (except willows, fruit trees and short-rotation coppice). These may not be cut between 15th April and 21st July. Trees enjoying Monument of Nature status must not be damaged.

Montpellier, 25-06-2016
Common Agriculture Policy Greening

List of ecological focus areas (EFAs) for farms with AL >15 ha:

1. Fallows — *(between 1st of January and 31st of June)*;
2. Mixtures of crop species for catch crops or green cover;
3. Nitrogen fixing crops;
4. Strips along forest border *(between 1 and 10 m)*;
5. Buffer strips;
6. Landscape features;
7. Forest areas *(only established after 2008)*;
8. Short rotation coppice *(willow, poplar and birch)*.

Montpellier, 25-06-2016
Types of landscape features (8)

- Landscape features protected within GAP standards:
  - trees as natural monuments;
  - small ponds (to 100m² area)
  - ditches (maximally 2 m width);
- hedges or wooded strips (maximally 10 m width);
- isolated trees;
- trees in line;
- trees in group (to 0,3 ha area);
- small ponds (to 0,3 ha area)
- ditches (maximally 6 m width);
- field margins (from 1 to 20 m width).

Montpellier, 25-06-2016
Percentage of agricultural area of farms with more than 15 ha of arable lands in voivodeships (with an obligation to implement EFA)

Average for Poland - 39%

Montpellier, 25-06-2016
Forestry in Poland


Montpellier, 25-06-2016
Ownership structure of forests

Source: State Forests (2014)

- Administered by the State Forests: 77.3%
- Other privately-owned: 1.1%
- Individual ownership: 17.7%
- Commune-owned: 0.9%
- Other state-owned: 1.0%
- National parks: 2.0%

Montpellier, 25-06-2016
The State Forests National Forest Holding is a Polish governmental organization that manages state-owned Polish forests on behalf of the Polish State Treasury (established in 1924).

Montpellier, 25-06-2016
SF assets (2014):
Land - 7.6 mln ha
Forest – 7.3 ha
Trees and bushes outside forest – 12 thous. ha
Resources of standing large logs – 1.95 bln m³

Income (2014) – 8 bln Zł (~4,4) = 1.81 bln Euro

Montpellier, 25-06-2016
The SF is supervised by the Minister of the Environment

Montpellier, 25-06-2016

Source:
State Forests (2014)
What does ’forest’ mean in Poland?

.. Act on Forests (1991) states that forest means “the land covered with forest vegetation, of area above 0.1 ha; it includes forest grounds temporarily deprived of forest vegetation”.

Photo:

Kazimierz Zajączkowski
Jacek Zajączkowski

Montpellier, 25-06-2016
The National Programme for the Augmentation of Forest Cover (KPZL)

Increase of forest cover up to:
30% in 2020 - ca. 700 thousand hectares
33% in 2050 - ca. 1,5 million hectares

At present 29% (2014).

Montpellier, 25-06-2016
Rural areas designated for afforestation in Poland:

- arable land of Soil Class VI, classified as Land Capability Class 7;
- arable lands of Soil Class V which are not able to sustain effective crop production, classified as Land Capability Class 6;
- pastures of Soil Class VI, located where the water table is low and adjacent to forest complexes.
- In justified cases, lands to be afforested is wasteland suitable for afforestation; agricultural enclaves < 2 ha; steep slopes; seepage spring areas; land along the banks or shores of rivers, lakes and ponds, if they are not protected; and degraded land.
- Forest area should be increased close to forest core areas, forest eco-corridors, lakes and rivers (here as patches on 50-60% of banks or shores), in order to create ecotonal zones that are as wide as possible.

26% and 30% of arable soils in Poland are reported to be very acid or acidic, respectively (Stuczyński et al. 2007).

Most Polish soils (61%) are of inherently low fertility, given the nutrient-pool parent materials (Stuczyński et al. 2006).

Montpellier, 25-06-2016
Who pays for afforestation?

Rural Development Programs
Special-purpose subsidies from the state budget-> **costs of afforestation plans**
(the plans are performed by State Forests on a proposal of land owner - based on Act on Forests)

Photo: www.strefabiznesu.dzienniklodzki.pl
Afforestations of land in the years 1945-2014 (in thous. hectares)

Arable areas under afforestation schemes:
Parcel >0.1 ha (0.4 ha within the farm) (2002-2003, governmental support)
>0.3 ha at min. 20 m width or > 3 ha for group of farmers (2004-2006, RDP)
>0.5 ha at min. 20 m width (2007-2013, RDP)
->0.1 ha (2014-2020, RDP)
Why the rate of afforestation has been decreasing?

- **Competitiveness** of direct payments for agricultural production compared with the afforestation premium

- **Complicated procedures** on which grants of financial support depend,

- **The enlargement of minimal plot areas** supported by the afforestation premium from 0.1 ha to 0.3 ha in 2004, and up to 0.5 ha in 2007,

- The exclusion of permanent grasslands from afforestation,

- A lack of financial support for afforestation of land within *Natura 2000* areas not yet covered by protection plans,

- A lack of promotion of financial support for afforestation among farmers and a lack of training as regards implementation and up-to-date local spatial management plans

(Based on work of Kaliszewski, 2012).

New RDP 2014-2020 – afforested parcels > 0.1 ha

Montpellier, 25-06-2016
Private forests in Poland

- 20% (2014)
- Considerably fragmented, being only part of farm and located on different parcels
- Do not constitute significant source of income for farmers (1.53 mln m³ of wood in 2014)
- Forest management based on simplified forestry management plans or on a decision of a District Head according to the Forestry Inventory (the latter for these fragmented ones, up to 10 ha)
- 71% of private forests in Poland have documentation
- Oversight over forestry management in private forests is provided by head of a district, often in cooperation with local inspectors of State Forests

Montpellier, 25-06-2016
State Forestry Policy (1997)
State Ecological Policy (2000)
Program of the Conservation and Sustainable Use of Biodiversity along with the Roadmap for the period 2015-2020 (2015) recommends creating favourable conditions for the regeneration of ecological corridors and an increase in the area of wooded land (including land planted with trees and bushes) in farming areas. Areas of afforestation on farmland are protected often within the borders of NATURA 2000 areas, National Parks, Landscape Parks, Protected Landscape Areas as well as within borders of ecolands (Nature Protection Act, 2004). Cutting down mature trees (except forests) is prohibited in most cases by the Nature Protection Act.

Montpellier, 25-06-2016
It should be emphasized that shelterbelt networks control diffuse pollution spreading more significantly than an individual biogeochemical barrier.

Max. vertical crown density 70%

Photo:
Jacek Zajączkowski

Optimum spatial orientation and distances for tree barrier systems designed to mitigate wind-induced evapotranspiration on crop fields

Montpellier, 25-06-2016
At the beginning of XIX century general Dezydery Chłapowski started to introduce the nets of shelterbelts as a kind of agroforestry system in Poland, Wielkopolska region, within his farm of 10 000 ha.
Field road in shelterbelt

Photos: Krzysztof Kujawa

Net of shelterbelts
Area under organic farming 2004-2014 in Poland

RDP instruments for traditional orchard conservation and organic farming support, especially the latter, when combined with support for local cultivars and traditional breeds.

1454 Traditional Polish Products (2015) -> local development could be realized on Less Favored Areas (LFA), of which considerable part of space in Poland is not covered by conservation or economically supported and therefore, are at high risk.

Montpellier, 25-06-2016
Conclusions:

1. Agricultural and forestry systems in Poland are strongly varied, depending on local natural, economic and organizational conditions and farmers perception of the functionality of trees.

2. Although rate of afforestation is decreasing, new RDP regulations might improve using this sort of funds by farmers.

3. Current legislation does not support planting trees on farms, both high value timber as well as bioenergy species (e.g. SRC).

4. Environmental aspects of forests and Trees outside Forests are highlighted in legal documents and some possibilities to use support from RDP funds.

5. Inclusion of agroforestry ideas into regional activities of producer groups, NGO and into ecological networks could help in adopting innovative and integrated systems across Poland. Particularly important is collaboration between agronomists and forestry experts.

Montpellier, 25-06-2016
Agroforestry farms in Poland

Questions: rborek@iung.pulawy.pl

Thank you very much for your attention