



Draft Updated Integrated Tisza River Basin Management Plan

Annex 4. Selected indicators for the evolution of agriculture and adopted measures in Tisza River Basin countries by 2015



Table 1.a

Country	Land use development assessment (% change)			Livestock units trends	Inorganic fertilisers application	Nitrogen (N) surplus (trends)	Nitrates Directive implementation		Rural Developmen t Programmes (Axis 2) (mil Euro)
	Cultivated agricultural area	Forestation	Urban area				Year	Vulnerable zones %	
Ukraine	459,9 thousands ha (2015)	723,9 thousands ha (2015)	48 thousands ha (2015)	122,2 thousands (2015)	No official data	No official data	UA is just in the process of Nitrate vulnerable zones designatio n (the relevant legal act should be adopted this year)		Oblast and national rural developmen t programs supporting organic agriculture, wine yards
	452,6 thousand ha (2010)	724,1 thousands ha (2010)	45,8 thousand ha (2010)	148, 1 thousands (2015)					

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	Cultivated agricultural area	Forestation	Urban area				Year	Vulnerable zones %	
Romania	Slightly increasing by 6.82% (based on Statistics: 2006-2015)	Slightly increasing by 1.6% (based on Statistics: 2006-2015)	Increasing by 13% (based on Statistics: 2006-2015)	Increasing by 4.36% but still far behind EU average 20- 25%	Increasing by 1- 2%, but far below the EU average (20- 30%)	It could increase, but N surplus is still very low compared with another EU member	2005-2008 (first action programm e) 2009 - 2013 (second action programm e) 2014 - 2017 (third action programm e)	8.1% (first action plan); 48.3% (second action programme); 100% (third action programme) - whole territory approach	Applied, but no available data yet.
Slovakia	2007-2015 decrease by 1.45%	2007-2015 - increase by 1.01% in TRB	increase by 4.84% in TRB	increase by 0.03 LU/ha of UAA within TRB	increase by 26.54% in TRB	decrease by 16.2% (Gross N balance) in TRB	Implement ed in year 2004;	in 2004-2017 share of vulnerable zones in TRB was 39.2% and since July 2017 it is 35.9%.	In period 2007-2015 (from APA SR): 46, 573,630 € in TRB.

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	Cultivated agricultural area	Forestation	Urban area				Year	Vulnerable zones %	
Hungary	-7,94	3,74	6,9*	stagnant	increasing	decreasing	2015	69	n.d.
Serbia	2007-2015 slightly increased by 0.12% in TRB (calculated for new TRB boundaries in RS)	2007-2015 decreased by 5% (calculated for new TRB boundaries in RS)	2007-2015 increased by 5% in TRB (calculated for new TRB boundaries in RS)	decreased by 5%	No reliable data available.	No data available	Transpositi on of Nitrate Directive is in progress.	NA	NA

*Eurostat data (2009 to 2015) – Change in built-up areas in NUTS HU3 region

Table 1b.

Country	Afforestation of agricultural land ha /year (2007-2015)	Manure storage capacity (months)	Prohibition periods for applying fertilizer and manure (months)	Limitation of N and phosphorous application		Code of Good Agricultural practices in line with ND requirements (ha)	NVZ (ha) comparison with the values from the ND implementation, respectively similar areas declared	Restrictions of some agricultural activities on slopes (slope in %)
				kg/ha on agricultural land	kg/ha on grassland			
Ukraine	No data	No data		Not controlled		No data	No data	There are legal restrictions, which are not inspected in ground
Romania	a). According to the National Afforestation Program, a surface of 11,292 ha (in average: 1027 ha/year) of degraded land was afforested (2006 – 2015); b). According to the National Program for Rural Development	According to the Action Program for Nitrates Vulnerable Zones (NVZs), the capacity of manure facilities must exceed the necessary storage with one month, considering the longest prohibition	According to the Action Program, the prohibition periods are established for whole territory of Romania. The prohibition periods vary between 4 – 5.5 months depending on crops types and organic	Maximum 170 kg of nitrogen of organic fertilizer per hectare and year for whole territory of Romania	Maximum 170 kg of nitrogen of organic fertilizer per hectare and year for whole territory of Romania	In the process of implementation of the Nitrates Directive, the Code of Good Agricultural Practices (CGAP) has been elaborated. The provisions of the CGAP are mandatory for whole territory of Romania (including TRB). Presently, the	Since December 2008, at the national level, the NVZs surface was about 137,500 km ² , which was representing 57.7 % of the total national territory. In the Tisza RB, the NVZs surface was about 35,049 2km, representing	The Action Program stipulates among others the following aspects: (1) On the arable land with slope < 8%, it is recommended the preservation of autumn crops and winter cover crops at minimum 20% from the arable land. (2) On the

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				kg/ha on agricultural land	kg/ha on grassland			
	(Measure 221: first afforestation of agricultural land) a surface of 265.7 ha (in average: 38 ha/year) agricultural land was afforested, for the period 2007-2015. c). In general, the authorities' statistics show that between 2006– 2015 the forest surface increased by 1.6%, respectively by 32,680 ha.	period for applying fertilizers (for example: if the prohibition period is of 5.5 months, the manure facility must have a capacity to store the quality of manure collected for 6.5 months).	fertilizer types.			process of revision of the Code of Good Agricultural Practices (CGAP) is ongoing.	about 48.3 % of the Tisza RB. Starting from June 2013 whole territory approach is applied, meaning that the AP and CGAP are applied throughout whole Romania's territory.	arable land with slope between 8 and 12 %, it is recommended the preservation of autumn crops and winter cover crops at minimum 25% from the arable land. On the arable land with slope > 12 %, it is recommended the preservation of autumn crops and winter cover crops at minimum 30% from the arable land. On these sloping lands, fertilizer application is only permitted by

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				kg/ha on agricultural land	kg/ha on grassland			
								incorporation into the soil immediately after application (no later than 24 hours). When intense precipitation is predicted, no fertilizers are allowed to be applied, especially liquid effluents.
Slovakia	2 853 ha (estimation for TRB)	Storage capacity for animal manure should be at least for 6 months. In the case the storage capacity is lower, farmer	This period is specified according to land category (arable land; permanent grasslands), category of farming restriction as well as	In the case of nitrogen, it is: 1) ND limit (170 kg N/ha in animal manure) valid for whole agricultural land in defined vulnerable zones, 2) Maximum N rates for individual crops with regard to yield level in defined vulnerable zones, and		Existing Code of Good Agricultural Practice was elaborated in 2001 and via AP was/is obligatory for farmers in ND VZs	Indicator is not clear	Fields with slope over 21.26% (12°) cannot be used as arable land. Application of N fertilizers and animal manure cannot be applied on fields with slope over 17.63% (10°) in

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		can store liquid or solid animal manure in storage facility of another subject or pass it for another use but up to maximum volume corresponding to three months storage capacity. Temporary storage of FYM on land is also possible under certain conditions.	manure type (liquid animal manure, poultry manure, plus N fertilizers; solid animal manure), and ranges from 2.5 to 4.5 months. Moreover, the farmer, under certain weather conditions, can ask responsible state authority for authorization to apply fertilizer 14 days after the ban fertilizer	3) Maximum single N rate which (according to last AP, incorporated into national Fertilizer Act, it is usually between 40-80 kg N/ha with respect to uptake capacity of given crop). What concerns the P application, P rates in fertilizers are not directly limited – only corrected with regard to available P supply in the soil			the case of arable land and fields with slope over 21.26% on permanent grasslands. On fields of arable land over 8.75% (5°) animal manure and N fertilizes should be applied to sub-surface or incorporate them into soil at latest to 24 hours after application. On permanent grasslands with slope over 12.28% (7°) liquid manure can be applied on to sub-surface. On the agricultural	

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				kg/ha on agricultural land	kg/ha on grassland			
			application (in the fall) and 14 days before the ban fertilizer application (in the spring).					land near water resources, the use nitrogenous fertilization substances on fields with slope lower than 7° is not allowed in distance from bank line of the watercourse or flood line of the water reservoir (10 m on sites in low and medium level of farming restriction or 20 m on sites in high level of farming restriction). On arable with slope over 7° land is obliged to apply nitrogenous fertilization

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				kg/ha on agricultural land	kg/ha on grassland			
								substances in distance greater than 25 m from water resource.
Hungary	5335,4	6	3,5*	170 kg N/ha	170 kg N/ha	2.829.500	2.829.500	17,15,12,6**
Serbia	Information not provided							

- ***Prohibition period 31st October – 15th February**
- ****above 17% - fertiliser application is prohibited, above 15% - plantation allowed only with erosion control, above 12% - slurry application is prohibited, fertilizers should be processed immediately, above 6% - slurry application is allowed only by injection or sliding pipes**

Table 1.c

Country	Area with organic production (ha)	Measures against erosion: buffer stripes (river in km, of width)	Erosion-minimizing cultivation systems (catch crops) (ha of arable land)	Establishment of wetlands (ha of new wetlands or rehabilitated ones)	Nutrient Balances (% of farmers obliged to do the nutrient balances)	On Farm Advice/Extension Services (no of farmers trained)
Ukraine	No data	There are legal requirements to take measures against erosion, but its application is not measured	No data	2010 - 161,29 thousands ha, 2015 – 163,4 thousands ha	No data	No data
Romania	Area of organic production covers 56,227 ha (2015), representing around 1.5 % of the agricultural area (source: Ministry of Agriculture	The administration of chemical and organic fertilisers and pesticides on agricultural land located near surface waters is forbidden, the buffer strips have a width	Applicable, but no available data yet.	There are measures and research and pre-feasibility studies proposed in the Program of Measures of the National River Basin Management Plan, which will be implemented	All farms with more than 100 animal equivalent units (A.E. = 500 kg) are obliged to elaborate the manure management plans. All farms with more than 8 animal equivalent units should have a Nutrient Register.	In the frame of the project “Integrated Nutrients Pollution Control”, during period 2011-2015, training sessions on implementation of the Nitrates Directive were organized in each River Basin Administration, including those belonging to TRB. The

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	and Rural Development)	of: a) 1 m for land with slope < 12%; b) 3 m for land with slope > 12%. To these areas, the protection areas stipulated in the Water Law with a width of 2 - 50 m (depending on the water category, size and uses), are added		particularly in the second and the third planning cycle.		training sessions, workshops, conference, farm-level demonstrations and information and awareness campaigns were addressed to the stakeholders (farmers and their associations, staff of the national, regional and county authorities) involved in the application of the Action Program and the Code of Good Agriculture Practices according to the requirements of Nitrates Directive. Thus, a number of 11,742 participants have been trained in the TRB. Under Measures 111 "Knowledge training, information and dissemination"" of the

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						National Programme for Rural development, in the Tisza river basin there were assured farm advisory services for around 4850 young farmers and 13447 farmers from uneconomic farms (small individual farms), mainly regarding on Code of Good Agricultural Practices, cross compliance, Code of Good Agricultural and Environmental practices (GAEC), practices for reduction of the soil erosion, rural development measures, etc.
Slovakia	Area of organic agriculture in 2015 was	On arable with slope over 7° land farmer is	No information for TRB is available	No information for TRB is available	Farmers are not obliged to do farm nutrient balance, till now it is voluntary	No information for TRB is available

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	59038 ha what represents 6.7% of UAA in TRB	obliged to apply nitrogenous fertilization substances in distance greater than 25 m from water resource; if on these sites are cropped wide-row crops, especially sugar beet, potatoes or maize, he is required keep the anti-erosion measures as follows: 1. to divide arable land sloping to the water resource by				

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		transversely stitched belts and create on it anti-erosion boundaries with canopy or other measures with similar effect, 2. between water resource and fertilized field establish the vegetative strip at least 20 m wide with crop which has higher anti-erosion effect, 3. to apply nitrogenous fertilization substances in distance from				

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		water resource at least 50 m, or 4. to cover the field outside the vegetation period by vegetation cover.				
Hungary	Data available only on national level	n.d.	n.d.	29.278	0	n.d.
Serbia	Information not provided					

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