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Directorate L. Economic analysis, perspectives and evaluations

IMPACT INDICATORS FOR THE CAP

WORK IN PROGRESS

FOR DISCUSSION IN THE
EXPERT GROUP ON MONITORING AND EVALUATING THE CAP
OF 2 OCTOBER 2012

IMPACT INDICATORS
[DRAFT]

1

INDICATOR N° 1	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Agricultural entrepreneurial income**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Viable food product**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The indicator a) gives the share of real net agricultural entrepreneurial income per unpaid annual work unit (AWU) over time, and b) compares the standard of living of farmers (self employed in agriculture) in to working units employed in other branches of the economy. The components of the indicator are: - The agricultural entrepreneurial income, which represents the income generated by farming activities only and which is used to reward its own production factors (work and/or enterprise, own capital and owned land) (2). Agricultural entrepreneurial income is often referred to as "family farm income" and can be seen as the income concept which is the closest to an indicator of standard of living of the farmers. **Value of agricultural production** **- variable inputs (fertilisers, pesticides, feed etc)** **- depreciation** **- total taxes (on products and production)** **+ total subsidies (on products and production)** **= Factor income** **- wages** **- rents** } **borrowed/rented production factors (1)** **- interest paid** **= Entrepreneurial income (family farm income)** **which includes own production factors (2)** - The annual working unit (AWU) which is defined as full-time equivalent employment (corresponding to a full-time equivalent job) i.e. as total hours worked divided by the average annual number of hours worked in a full-time job within the economic territory. A distinction is made between salaried and non-salaried AWU, which together make total AWU. The indicator uses in its calculation non-salaried AWU in order to show results on the standard of living of self employed in agriculture per working unit.An average of the gross wages and salaries in other branches of the economy at current prices in cash and in kind. Wages and salaries in cash include the values of any social contributions, income taxes, etc. payable by the employee, even if withheld and actually paid directly by the

	employer on behalf of the employee. - The total AWU in the rest of the economy is considered as employees in other branches of the economy measured as full time equivalents (FTE) for all activities. The index of agricultural entrepreneurial income per unpaid AWU is already available in the Eurostat Economic Accounts for Agriculture as Indicator B.
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	a) Euro/non-salaried AWU or index b) %
Methodology/formula *Identification of what is needed to transform data from the operation database into value for the indicator*	In the EUROSTAT Economic Accounts for Agriculture the share of agricultural entrepreneurial income/non-salaried AWU can be calculated in real terms or as index. 1. **In real terms**: data on agricultural entrepreneurial income in real prices (million euro) is divided by the number of non-salaried AWU in agriculture in thousand persons. Results are shown in euro/non-salaried AWU 2. The **index** of agricultural entrepreneurial income/unpaid AWU is available as Indicator B in Eurostat's Economic Accounts on Agriculture. The comparison to the rest of the economy is done in three steps: - data on agricultural entrepreneurial income in real prices (million euro) is divided by the number of non-salaried AWU in agriculture in thousand persons. Results are shown in euro/non-salaried AWU in agriculture. - data on salaries and wages in the rest of the economy (million euro) is divided by the number of employees in other branches of the economy as thousand of FTE for all activities. Results are shown in euro/ employee as FTE. - the obtained euro/non-salaried AWU in agriculture is divided by the obtained result for the rest of the economy (euro/employee as FTE for all activities)
Data required for the individual operation *Data required from the operation database in order to calculate the relevant indicator (e.g. area of solar panels, ha of trees planted per species…). The Units of measurement of these outputs should be specified*	1. For the calculation of the share of agricultural entrepreneurial income/non-salaried AWU in **real terms** the following data is needed: - agricultural entrepreneurial income in real terms (million euro) - non-salaried AWU in thousand persons 2. The **index** of the share of agricultural entrepreneurial income/unpaid AWU is available as synthetic indicator B in the Eurostat Economic Accounts for Agriculture. For the calculation of agricultural entrepreneurial income/non-salaried AWU as % of wages and salaried in total economy/AWU the following data is also needed: - the gross wages and salaries in other branches of the economy in current prices (million euro) - the number of employees (AWU) in other branches of the economy as thousand of FTE for all activities

Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	Eurostat – Economic Accounts for Agriculture Eurostat - Agricultural Labour Input Statistics Eurostat – National Accounts
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	Agricultural entrepreneurial income in real terms (million euro) is available on the Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/data/database Economic Accounts for Agriculture, Table *Economic accounts for agriculture - values at real prices (aact_eaa04)* Non-salaried AWU is available in thousand persons on the Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/data/database under Agricultural Labour Input Statistics, Table *Agricultural Labour Input Statistics: absolute figures (1 000 annual work units) (aact_ali01)* Agricultural entrepreneurial income/non-salaried AWU as index (Indicator B) is available on the Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/data/database under Economic Accounts for Agriculture, Table *Economic accounts for agriculture – agricultural income (indicators A, B, C) (aact_eaa06)* The gross wages and salaries in the total economy (million euro) is available on the Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database under National Accounts, National Accounts aggregates and employment by branch (NACE Rev1.1), Table *National Accounts by 6 branches - aggregates at current prices (nama_nace06_c)* The gross wages and salaries in the total economy (million euro) is available on the Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database under National Accounts, National Accounts aggregates and employment by branch (NACE Rev1.1), Table *National Accounts by 6 branches - employment data (nama_nace06_e)*
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	EU and Member State

Frequency *Frequency at which the indicators is collected/calculated*	annually
Delay *How old are the data when they become available*	Y+1
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	Agricultural entrepreneurial income ("family farm income") as indicator of the standard of living of the self employed in agriculture can be used to assess the impact of changes in the level of public support, i.e. direct payments, on the standard of living/ purchasing power of farmers. The indicator farm household income cannot be calculated as there is no methodology or data in Eurostat for this purpose. Data on FTE for all economy is not available for all countries in the Eurostat National Accounts. Data on FTE is available for 12 MS (CZ, EE, EL, ES, IT, CY, LI, HU, NL, AT, PL, SK) only in the National Accounts by 6 branches. Data for 2 more MS (FR and PT) is available in National Accounts by 60 branches - employment data (nama_nace60_e). Data for SK differs slightly in nama_nace06_e and nama_nace60_e. No other source of information on FTE for all economy is available in the Eurostat database. Therefore, the calculation of the percentage of income in agriculture/non-salaried AWU as % of wages and salaries/AWU in the rest of the economy uses incomplete data. To obtain averages at EU 27, EU15 and EU12 level, the average of data for available countries per group is used.

2

INDICATOR N° 2	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Agricultural factor income**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Viable food product**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The indicator represents the share of gross value added at factor cost (factor income in agriculture) per annual work unit (AWU), over time. The components of the indicator are: - The agricultural factor income, which represents income generated by farming activities (i.e. off-farm activities are not included), and is used to remunerate (1) borrowed/rented production factors (capital investment, wages for salaries and rented land), and (2) its own production factors (work and/or enterprise, own capital and owned land). **Value of agricultural production** **- variable inputs (fertilisers, pesticides, feed etc)** **- depreciation** **- total taxes (on products and production)** **+ total subsidies (on products and production)** **= Factor income** **- wages** **- rents** } **borrowed/rented production factors (1)** **- interest paid** **= Entrepreneurial income (family farm income)** **which includes own production factors (2)** - The annual working unit (AWU) which is defined as full-time equivalent employment (corresponding to a of full-time equivalent job), i.e. as total hours worked divided by the average annual number of hours worked in a full-time job within the economic territory. A distinction is drawn between non-salaried and salaried AWUs, which together make up total AWUs. One person cannot represent more than one AWU. The indicator uses total AWUs. The index of agricultural factor income per AWU is already available in the Eurostat Economic Accounts for Agriculture as Indicator A. This yardstick corresponds to the real net value added at factor cost of agriculture per total AWU.
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	Euro/AWU or index
Methodology/formula	In the EUROSTAT Economic Accounts for Agriculture the share of

Identification of what is needed to transform data from the operation database into value for the indicator	agricultural factor income/AWU can be calculated in real terms or as index. 1. **In real terms**: data on agricultural factor income in real prices (million euro) is divided by the total number of AWUs in agriculture in thousand persons. Results are shown in euro/ AWU. 2. The **index** of agricultural factor income/ AWU is available as Indicator A in Eurostat's Economic Accounts on Agriculture
Data required for the individual operation *Data required from the operation database in order to calculate the relevant indicator (e.g. area of solar panels, ha of trees planted per species…). The Units of measurement of these outputs should be specified*	1. For the calculation of the share of agricultural factor income/AWU in **real terms** the following data is needed: - agricultural factor income in real terms (million euro) - total AWU in thousand persons 2. The **index** of the share of agricultural factor income/AWU is available as synthetic indicator A in the Eurostat Economic Accounts for Agriculture.
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	Eurostat – Economic Accounts for Agriculture and Eurostat - Agricultural Labour Input Statistics
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	Agricultural factor income in real terms (million euro) is available on the Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/data/database Economic Accounts for Agriculture, Table *Economic accounts for agriculture - values at real prices (aact_eaa04)* Total AWU is available in thousand persons on the Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/data/database under Agricultural Labour Input Statistics, Table *Agricultural Labour Input Statistics: absolute figures (1 000 annual work units) (aact_ali01)* Agricultural factor entrepreneurial income/AWU as index (Indicator A) is available on the Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/data/database under Economic Accounts for Agriculture, Table *Economic accounts for agriculture - agricultural income (indicators A, B, C) (aact_eaa06)*
Data collection level *Identification of the geographical level at which the data is available and at which*	EU and Member State

level the indicator should be established	
Frequency *Frequency at which the indicators is collected/calculated*	annually or periodically
Delay *How old are the data when they become available*	Y as estimates; validated as Y+1
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	Agricultural factor income is best suited for evaluating the impact of changes in the level of public support (i.e. direct payments) on the capacity of farmers to reimburse capital, pay for wages and rented land as well as to reward its own production factors. In this context one should note that the proportion of own and external production factors varies in some cases significantly between Member States and that the remuneration of own and external production factors is often unequal at farm level. The indicator farm household income cannot be calculated as there is no methodology or data in Eurostat for this purpose.

3

INDICATOR N° 3	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Agricultural productivity**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Viable food product**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	**Total factor productivity (TFP) in agriculture compares total outputs relative to the total inputs used in production of the output (both output and inputs are expressed in term of volumes).** TFP reflects output per unit of some combined set of inputs: a change in TFP reflects the change in output that cannot be accounted for by the change in combined inputs. As a result, TFP reveals the joint effects of many factors including new technologies, economies of scale, managerial skill, and changes in the organization of production.
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	Indexes
Methodology/formula *Identification of what is needed to transform data from the operation database into value for the indicator*	TFP index is defined as the ratio between an **Output Index** (i.e. the change in production volumes over a considered period) and an **Input Index** (the corresponding change in inputs/factors used to produce them). Output and input indexes are calculated as weighted averages of changes in produced quantities and in input quantities respectively, where the weights are represented by the production value of the various products and the expenditure for each of the four considered production factors (intermediate inputs, land, labour, capital). Depending on the type of average applied and the chosen reference period for the weights, the TFP indicator assumes different analytical forms. **Laspeyres indexes** are defined as arithmetic means with weighting factors referring to the time 0 (base year), while **Paasche indexes** are harmonic means with weighting factors referring to the time t (current year). In formula, the TFP Laspeyres index is given by: $TFP_0^t\_L = \frac{O_0^t\_L}{I_0^t\_L} =$

	$$\frac{\left(\frac{q_{1t}}{q_{10}} * w_{10} + \frac{q_{2t}}{q_{20}} * w_{20} + \ldots + \frac{q_{nt}}{q_{n0}} * w_{n0}\right) / \left(w_{10} + w_{20} + \ldots + w_{n0}\right)}{\left(\frac{i_{1t}}{i_{10}} * x_{10} + \frac{i_{2t}}{i_{20}} * x_{20} + \ldots + \frac{i_{rt}}{i_{r0}} * x_{r0}\right) / \left(x_{10} + x_{20} + \ldots + x_{r0}\right)},$$ while TFP Paasche index is defined as: $$TFP_0^t\_P = \frac{O_0^t\_P}{I_0^t\_P} =$$ $$\frac{\left(\frac{q_{10}}{q_{1t}} * w_{1t} + \frac{q_{20}}{q_{2t}} * w_{2t} + \ldots + \frac{q_{n0}}{q_{nt}} * w_{nt}\right) / \left(w_{1t} + w_{2t} + \ldots + w_{nt}\right)}{\left(\frac{i_{10}}{i_{1t}} * x_{1t} + \frac{i_{20}}{i_{2t}} * x_{2t} + \ldots + \frac{i_{r0}}{i_{rt}} * x_{rt}\right) / \left(x_{1t} + x_{2t} + \ldots + x_{rt}\right)},$$ where q_{jt} and i_{kt} are respectively the quantity of product *j* and factor *k* at time *t*, while w_{jt} and x_{kt} are the weights of product *j* and factor *k* within the agricultural sector. Finally, the geometrical average of the Laspeyres and the Paasche index gives the **Fischer index**, which benefits from the most suitable statistical properties. In formula, the TFP Fisher index is computed as follows: $$TFP\_F = \sqrt{TFP\_L * TFP\_P}$$
Data required for the individual operation *Data required from the operation database in order to calculate the relevant indicator (e.g. area of solar panels, ha of trees planted per species…). The Units of measurement of these outputs should be specified*	- volume indexes and values of agricultural products at the most detailed level of disaggregation. - volume indexes and expenditure for capital, land, labour and all intermediate consumption items at detailed level. For inputs without an explicit monetary value (i.e. own factors, such as family labour or owned land), an estimate should be calculated based on the cost of corresponding rented factors.
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	Eurostat, mainly Economic Accounts for Agriculture (EAA). Complementary data come from Farm Structure Survey and Land Use statistics.
References/location	Eurostat

of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	Member States
Frequency *Frequency at which the indicators is collected/calculated*	On request
Delay *How old are the data when they become available*	Previous year
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	

4

INDICATOR N° 4	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**EU commodity price variability**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Viable food product**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	EU and world market commodity market price variability will be established for a number of selected agricultural commodities. It will be calculated on the basis of monthly commodity market prices as reported in the data sources identified below. It will be calculated as the coefficient of variation measuring the dispersion of commodity prices around the mean over the period of 3-5 years. The coefficient of variation will be calculated as standard deviation of a set of prices / mean average. The indicator will be calculated for EU and world prices of the following agricultural commodities: - Soft wheat - Maize - Barley - Sugar - Butter - Skimmed milk powder - Cheese - Beef - Pork - Poultry
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	%
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	Agriview, FAOSTAT, World Bank (Pink Sheet)

References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	1) Commodity Price Data (Pink Sheet), available at http://go.worldbank.org/2O4NGVQC00 - Wheat (US), no. 2, soft red winter, export price delivered at the US Gulf port for prompt or 30 days shipment - Maize (US), no. 2, yellow, f.o.b. US Gulf ports - Barley (Canada), feed, Western No. 1, Winnipeg Commodity Exchange, spot, wholesale farmers' price - Meat, beef (Australia/New Zealand), chucks and cow forequarters, frozen boneless, 85% chemical lean, c.i.f. U.S. port (East Coast), ex-dock, beginning November 2002; previously cow forequarters (or alternatively Brazilian price) - Meat, chicken (US), broiler/fryer, whole birds, 2-1/2 to 3 pounds, USDA grade "A", ice-packed, Georgia Dock preliminary weighted average, wholesale 2) World dairy prices: FAO compilation of average of mid-point of price ranges reported bi-weekly by Dairy Market News (USDA). Available at http://www.fao.org/es/esc/prices/PricesServlet.jsp?lang=en - Butter, Oceania, indicative export prices, f.o.b. ; Cheddar Cheese, Oceania, indicative export prices, f.o.b.; Skim Milk Powder, Oceania, indicative export prices, f.o.b.; Whole Milk Powder, Oceania, indicative export prices, f.o.b. 3) Other international sources: - Pork (US) carcass lean hogs US Iowa Minnesota (167-187 lb) at www.feedstuffs.com or pork (Brazil) at www.pecuaria.com.be/cotacoes.php - Beef (Brazil) at www.pecuaria.com.br or Argentina (Ministry of Agriculture, www.oncca.gov.ar) - Poultry (Brazil – IEA Sao Paolo, www.iea.sp.gov.br/out/ivarpre.php) or US (www.feedstuffs.com) 4) EU prices from AGRIVIEW: as recorded in http://ec.europa.eu/agriculture/markets/prices/monthly_en.pdf Product codes: BLTPAN (Breadmaking common wheat), MAI (Feed maize), ORGFOUR (Feed barley), LAI 249 (SMP),LAI 254 (Butter), LAI 259 (Cheddar), C R3 (Bœufs) or A R3 (Young bovines), POULET ALL (Poultry), REGULATED (Pork, 0203 2 E)
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	- Collection at EU level (MS level available in some cases) - Calculation at EU level
Frequency *Frequency at which the indicators is collected/calculated*	- Price data are collected on monthly basis, but calculation of the indicator will be made on a yearly basis - Comparison of indicator value should be made over 3-5 year long periods
Delay	- Monthly

How old are the data when they become available	
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	- Using a small number of observations may give misleading results - EU and world prices should be comparable - In previous calculations pork and sugar for world trade was not included, appropriate comparable prices should be identified. - The comparison of the development of coefficient of variation values for the selected agricultural commodities over a given time period will measure the level of price variability on the EU market as compared to the price variability on the world market. This comparison would indicate the extent to which the CAP instruments contribute to attaining the CAP general objective of viable food production and in particular the specific objective of maintaining market stability.

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INDICATOR N° 5	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Consumer price evolution of food products**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Viable food product**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The consumer price index for food measures the changes in the retail prices of food products purchased by households (resident and non-resident). It covers prices paid for goods in monetary transactions and the prices measured are those actually faced by the consumer (including sales taxes on products, such as the VAT). Food is divided in sub-categories: bread and cereals, meat, milk, cheese and eggs, fish and seafood, fruits and vegetable, sugar, oils and fats, etc. Other food aggregates are also available either by type of food (unprocessed food, processed food and beverages and tobacco, etc) or by place of consumption (the food consumed in restaurants, canteens).
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	- Indices and rates of change
Methodology/formula *Identification of what is needed to transform data from the operation database into value for the indicator*	Data exists in Eurostat database; no further calculation needed
Data required for the individual operation *Data required from the operation database in order to calculate the relevant indicator (e.g. area of solar panels, ha of trees planted per species…). The Units of measurement of these outputs should be specified*	
Data source	EUROSTAT – theme "Economy and finance", Harmonised Indices for

Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)	Consumer Prices (HICP).
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/data/database - Index, monthly (prc_hicp_midx) - Index, annual (prc_hicp_aind) - Monthly change (prc_hicp_mmor) - Annual change (prc_hicp_manr)
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	- Collected at national level - Calculated at EU, Eurozone, EEA level
Frequency *Frequency at which the indicators is collected/calculated*	- Monthly. According to a calendar, in general between 17-19th of each month for the previous (reference) month. Flash estimates are available on the last day of the reference month.
Delay *How old are the data when they become available*	- 1 month
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	

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INDICATOR N° 6	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Agricultural trade balance**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Viable food product**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	Agricultural trade balance = value of EU exports of agricultural goods – value of EU imports of agricultural goods. It indicates whether the EU has a trade surplus or deficit in agricultural products and its size. The indicator may be broken down by different agricultural products, as defined by CN codes, and by different EU export/import geographical areas. The indicator is calculated by DG AGRI yearly on the basis of EUROSTAT Comext database, using the definition of agricultural products developed internally (available in the annexes of Agricultural Trade Statistics published by DG AGRI L2, http://ec.europa.eu/agriculture/statistics/trade/2010/index_en.htm)
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	€
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	EUROSTAT COMEXT database (http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:COMEXT)
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing*	COMEXT database – declarant EU27, partner – extra-EU27, trade flow: export and import; Combined Nomenclature codes as defined in AG AGRI Agricultural Trade Statistics publication (see link above); trade regime: 4

indicators, etc.	
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	- Availability at MS level - Indicator at EU level
Frequency *Frequency at which the indicators is collected/calculated*	- Data available monthly - Indicator calculation - yearly
Delay *How old are the data when they become available*	- year Y is available FEB Y+1
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	-

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INDICATOR N° 7	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**GHG emissions from agriculture**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Sustainable management of natural resources and climate action**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The indicator measures net GHG emissions from agriculture including agricultural soils: 1. Aggregated annual emissions of methane (CH_4) and nitrous oxide (N_2O) from agriculture reported by MS under the 'Agriculture' inventory to the United Nations Framework Convention on Climate Change (UNFCCC). According to UNFCCC, the following sources of greenhouse gases (GHG) from agriculture are relevant: i) enteric fermentation of ruminants (CH_4); ii) manure management (CH_4, N_2O); iii) rice cultivation (CH_4); iv) agricultural soil management (CO_2, CH_4, N_2O). 2. Aggregated annual emissions and removals of carbon dioxide (CO_2), and emissions of methane (CH_4) and nitrous oxide (N_2O) from agricultural soils (grassland and cropland), reported by MS under the 'Land Use, Land Use Change and Forestry' (LULUCF) inventory to UNFCCC. Emissions of CO_2 from the energy use of agricultural machinery, buildings and farm operations, which are included in the 'energy' inventory under UNFCCC, are not included in this indicator. The indicator is a further development of AEI 19, 'Greenhouse Gas Emissions from Agriculture', which, however, only covers CH_4 and N_2O from agricultural activities.
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	Absolute net GHG emissions are reported in tonnes CO_2 equivalents. Relative net emissions are reported as a percentage of the net emissions in the reference year 1990. All GHGs are accounted on the basis of their global warming potentials (GWP) over a 100 year time period. GWP values are taken from IPCC (2007): CO_2 = 1; CH_4 = 25; N_2O = 298.
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant*	Annual official data submitted by MS to the United Nations Framework Convention on Climate Change (UNFCCC), and the EU Monitoring Mechanism (managed and compiled by the EEA/EIONET). MS calculate sectoral emissions using standard methodologies (2006 IPCC

data set, FADN, European Environmental Agency, etc.)	guidelines) and according to a common reporting framework agreed under UNFCCC.
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	CH_4 and N_2O emissions from agriculture are provided in table EU27_TrendTable_10.xls of Annex-2.8-crf-tables-agriculture_EU27.zip (compiled each year by the EEA) which includes standard reporting table (SRT) for sector 4 (agriculture). CO_2 emissions from agricultural soils are recorded in table EU27_SRT5.xls of Annex-2.9-crf-tables-lulucf_EU27.zip (compiled each year by the EEA), which includes standard reporting table (SRT) for sector 5 (LULUCF). Only categories 5.A.B (cropland) and 5.A.C (grassland) are included. These account for emissions of cropland/grassland remaining the same type of land use, and emissions from land converted to cropland/grassland. The web-based tool EEA GHG viewer provides access and analysis of the data contained in the annual EU's GHG inventories since 1990. The EEA GHG data viewer shows emission trends for the main sectors/categories and allows for comparisons of emissions between different countries and activities. This data set can be consulted at : http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	Member State
Frequency *Frequency at which the indicators is collected/calculated*	Data collected annually
Delay *How old are the data when they become available*	Year Y in June Y+2 (for instance GHG emissions data of 2010 are provided in summer 2012)
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	IPCC guidance allows MS to report GHG emissions from agriculture and emissions and removals from agricultural soils (LULUCF) according to different level of tiers. Tier 1 is based on the use of activity data (e.g. agricultural production statistics) and global emission factors. Tier 2 follows the same approach but applies nationally defined emission factors. Tier 3 involves the use of models and higher order inventory data tailored to the national circumstances. Methodologies for GHG emission estimates are thus not harmonised within the EU. In particular when using low tier level, GHG emission estimates do not necessarily mirror the effects of all mitigation measures that are supported

	by the CAP. This would require a high level of stratification of activity data, and corresponding information on emission factors, which often is not available. As a result, GHG emission estimates have a high level of uncertainty. Comments in relation to MS' observations: This indicator differs from the Pillar I result indicator as it includes both, agricultural non-CO2 GHG emissions and emissions/removals from agricultural soils. This more comprehensive approach is followed as instruments under Pillar I and II address emissions/removals of both categories. Emission inventories will be identical to UNFCCC reporting, so no new reporting burden on MS. This reporting is already done on an annual basis. Any indicator has to be interpreted and cannot be seen in isolation. This means that the GHG indicator has to be interpreted in relation to agricultural output. We agree to the UK concern that the reduction of agricultural production would not be desirable although it would yield a reduction of GHG emissions within the EU. Leakage (i.e. increases of emission outside the EU) is not included. MS are encouraged to improve GHG inventories towards higher tier levels, which would allow demonstrating the effects of technological improvements. It is recognised that data limitations limit the level of information in some MS for this indicator. However, the situation should improve over time as inventories become better developed.

8

INDICATOR N° 8	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Farmland birds index**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Sustainable management of natural resources and climate action**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The indicator is a composite index that measures the rate of change in the occurrence of common bird species (chosen from a list of selected common species at EU level) that are dependent on farmland for feeding and nesting and are not able to thrive in other habitats. The species on the list constitute a maximum, from which the countries select the species relevant to them. No rare species are included. Assuming a close link between the selected bird species and the farmland habitat, a negative trend signals that the farm environment is becoming less favourable to birds, whereas a positive trend shows an improvement in the impact of the farming environment on biodiversity. Indices are first calculated for each species independently at the national level by producing a national population index per species. Then, the national species indices are combined into supranational ones. To do this, they are weighted by estimates of national population sizes. Weighting allows for the fact that different countries hold different proportions of the European population of each species. In a third step, the supranational indices for each species are then combined on a geometric scale to create a multi-species aggregate index at European level. The index is calculated with reference to a base year, when the index value is set at 100%. In Eurostat's database, data are presented with four different bases: 1990, 2000, the latest year available and the national base year. Trend values express the overall population change over a period of years. The indicator already exists: - Agro-environmental indicator (AEI) 25: Population trends of farmland birds: Population trends of up to 36 selected bird species that are common and characteristics of European farmland landscapes (Eurostat); - Sustainable development indicators (SDI) – Biodiversity: Common Birds Index (Eurostat). - SEBI indicator 01: abundance and distribution of selected species, which includes common farmland bird index (Pan-European Streamlining European Biodiversity Indicators (SEBI) initiative, EEA, DG ENV, etc.)

Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	Index - (base year = 100)
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	The European Bird Census Council (EBCC) and its Pan-European Common Bird Monitoring Scheme (PECBMS). Data are transmitted to Eurostat and published under on Statistics: Environment and Energy – Environment – Biodiversity. National indices are compiled by each country using common software and methodology. The supranational indices are compiled by Statistics Netherlands together with the Pan-European Common Bird Monitoring scheme (PECBM), a joint project of the European Bird Census Council, the Royal Society for the protection of Birds, BirdLife International, and Statistics Netherlands.
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	Location of the data: Eurostat – Environment statistics – Biodiversity: Table *Protection of natural resources - Common bird index* (env_bio2), data *Common farmland species*. http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database References - EBCC/PECBMS : European Birds Census Council/ Pan-European Comon Bird Monitoring Scheme http://www.ebcc.info/pecbm.html; - AEI 25 "Population trends of farmland birds", as defined in the COM (2006) 508 on "Development of agri-environmental indicators for monitoring the integration of environmental concerns into the CAP", http://epp.eurostat.ec.europa.eu/portal/page/portal/agri_environmental_indicators/introduction.
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	National and EU level aggregation (on the basis of the number of MSs which delivered data every year. In 2008 only 20 MSs delivered data; in the last EBCC/PECBMS updates data are available for 23 EU countries, up to 2010.). In the future the index could be calculated at a lower level, by bio-geographical areas (different agricultural habitats) on the basis of geo-referenced data (France already does it, but no harmonized data at EU level at the moment exist).
Frequency *Frequency at which the indicators is collected/calculated*	Annual Data are available from 1980 and cover different periods depending on data availability in each Member State. However, Eurostat considers 1990 to be the first year with sufficient geographic coverage for the EU as a whole and therefore time series should be calculated from 1990.

Delay *How old are the data when they become available*	2/3 years (e.g. in 2012, data from 2009 are the most recent available)
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	- Comparability between MSs is also possible: the index does not measure abundance or bird diversity, but only rates of change of bird species. Species are different in each MS (36 in total EU) because their relevance is different in different agricultural habitats and/or their geographical distribution is not pan-european. Northern countries generally have fewer species than southern ones. - The indicator can be further improved. As for time series, the number and type of species chosen among the selected common list of 36 (in 2009 the number of species has increased to 37) by each country, should remain stable over time. - It should also be noted that some EU countries use a slightly different selection of species to publish their own 'National farmland bird index' (e.g. the UK, France, and Norway) compared to the so-called EU list of 36 (37) species used by the PECBM and Eurostat. This should be avoided because it can generate confusion between the two datasets. - The alternative indicator "earthworm abundance" proposed by EL is not feasible at the moment; not harmonized data at EU level exists. It might be possible to get data on soil biodiversity from the LUCAS soil sample but it was taken only in 2009 and the future of the survey is still under discussion. Moreover the indicator refers only to one species linked to soil, whereas the birds indicator considers many species. As birds are high in the food chain, their presence does not only provide info on their status but also on the presence of other important species in the food chain (e.g. seeds, insect, worms, etc) for biodiversity. - Time series starts from 1990 (for the period 1980-1989 data are not representative at EU level), but may be earlier for the national time series.

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INDICATOR N° 9	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**HNV Farming**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Sustainable management of natural resources and climate action**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	This indicator is defined as the **Percentage of Utilised Agricultural Area farmed to generate High Nature Value**. The concept of HNV farming refers to the causality between certain types of farming activity and corresponding environmental outcomes, including high levels of biodiversity and the presence of environmentally valuable habitats and species. This indicator is a further development of AEI 23 "High Nature Value Farmland", and the farmland component of the 2007-2013 CMEF Baseline indicator 18 "High Nature Value farmland and forestry". The percentage of HNV farming is a common parameter, which is assessed within each individual RDP area using methods suited to the prevailing bio-physical characteristics and farming systems, and based on the highest quality and most appropriate data available. Methodological guidance for establishing values for this indicator has been provided in "The application of the High Nature Value impact indicator" Evaluation Expert Network (2009) : http://enrd.ec.europa.eu/app_templates/filedownload.cfm?id=6A6B5D2F-ADF1-0210-3AC3-AD86DFF73554
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	Percentage (%) The absolute area of UAA (hectares) is also required, to allow for aggregation to MS/EU level.
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	The data sources for estimation of HNV farming are many and varied, and currently depend on the methods selected by the Member State authorities. They include: CORINE and other land cover data, IACS/LPIS, Agricultural census data, species and habitat databases, GIS, specific sampling surveys, RDP monitoring data, designations (NATURA, national nature reserves etc). For the two default approaches, data sources are: 1) Estimation of HNV farmland from CORINE land cover data: EEA study 2) Area of UAA contained within designated NATURA 2000 sites: EEA

References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	EEA HNV estimates: EEA study (. The updated map and the underlying data will be publicly accessible via the EEA Biodiversity Data Centre once the EEA technical report High Nature Value Farmland in Europe is launched, planned for October 2012) UAA within NATURA 2000 areas: EEA (hopefully in future also EUROSTAT). UAA: EUROSTAT (*Need to add table number/link*)
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	The indicator should be established at either national or NUTS2 level (large MS may consider it more appropriate to have a regional assessment. It should correspond at least to RDP territory level). The level at which the data is available varies with the data source (see description above).
Frequency *Frequency at which the indicators is collected/calculated*	Variable. However, the minimum requirement is for a baseline assessment at the start of the 2014-2020 period (ideally for 2012 or 2013), an assessment at the end of the period (to coincide with the ex-post evaluation of the RDP territory), and for one update during the period (ideally for 2017 or 2018).
Delay *How old are the data when they become available*	Variable (depends on the data sources used, frequency of surveys/sampling etc).
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	Due to the variation in data availability, physical/ecological situation and farming systems and practices across MS, it is not appropriate to impose a common methodology for the assessment of HNV farming. Use of one single method would restrict the analysis to data available throughout the EU, which would exclude the richest and most relevant data sources, and preclude those MS which have developed more refined methods from using them, with a consequent reduction in the quality and accuracy of the assessment. A full assessment of HNV farming would consider both extent and quality/condition. The indicator definition proposed here only covers the extent of HNV areas, since in most Member States current methodology is not sufficiently developed to provide reliable indications of the condition of HNV areas. However, Member States are strongly encouraged to continue developing and refining the approaches used so that quality/condition can be incorporated into HNV assessments. Additional information on HNV farming throughout the EU is available in the recently published book “High Nature Value Farming in Europe”. The DG ENV study on "The High Nature Value farming concept throughout EU 27 and its maturity for financial support under the CAP" (starting October 2012) may also provide further information on assessment methodologies which could be a support to MS. Several Member States raised the issue of comparability and/or aggregation if different methodologies are used. Agreement on the common parameter being measured, and transparency and acceptance of the various methodologies, whilst not ideal, allows for comparability and aggregation, since in all areas the land considered to fulfil the criteria for one of the three HNV types is assessed, provided that MS have selected methodology

	appropriate to identifying HNV in their biophysical situation. It is however important that in each territory the same methodology is used for each of the successive assessments, to estimate trends correctly. Two potential alternative indicators were proposed, Simpson's Diversity Index and Vegetation cover. The Simpson's Diversity Index can be used to provide an indication of biodiversity, and could be used singly, or in combination with other methods to assess HNV farming and farmland. MS may wish to use this indicator, and are free to do so. However, it relies on sampling and extensive species data, and so can only be used where detailed data sets exist, or where specific surveys are to be conducted. It could not therefore be imposed across the EU as this would constitute a significant additional burden on MS. Assessment of vegetation cover does not give any indication in the diversity of vegetation present – maize monoculture has high vegetative cover, but low biodiversity. This would therefore not be a suitable proxy indicator for HNV farming and farmland. It would be more relevant in relation to prevention of soil erosion. If an appropriate specific method is not identified and used by the Member State authorities, there are two default approaches which could be used, although both have considerable limitations as described below. This is a second-best alternative compared to use of a more accurate method. These are: 1) Estimation of HNV farmland from CORINE land cover data (EEA study) Limitations: This approach does not take account of farming systems. Land cover assessments do not always distinguish well between abandoned land with encroaching scrub, and extensive semi-natural grassland with patches of bushes or scattered trees. The scale used may mean that smaller areas, such as agricultural parcels within wooded areas are missed completely. The area of agricultural land estimated from CORINE land cover data does not correspond to EUROSTAT's UAA data. The EEA exercise is not updated regularly, so does not provide a dynamic picture. 2) Area of UAA contained within designated NATURA 2000 sites. Limitations: This approach does not take account of farming systems. This is static rather than dynamic, and underestimates the extent of HNV since it primarily addresses only Type 3 HNV farmland rather than all 3 types.

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INDICATOR N° 10	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Water abstraction in agriculture**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Sustainable management of natural resources and climate action**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The indicator refers to the volume of water which is applied to soils for irrigation purposes. Data concern water abstraction from total surface and ground water. In addition, the information on the share of water abstraction in agriculture (for irrigation purposes) as a percentage of the total gross (freshwater) abstraction can also be used to complement the indicator. Agriculture is a major user of water primarily for irrigation in order to enhance the yield and quality of crops. It is therefore an essential driving force in the management of water use. The indicator already exists: - Agro-environmental indicator (AEI) 20: Water abstraction: Agricultural contribution (irrigation) to total freshwater abstraction (Eurostat)
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	m^3
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	Two possible sources of data exists: 1) Eurostat – Statistics on agricultural production methods: in 2010, estimations of the volume of water used for irrigation have been collected in the Survey on agricultural production method (SAPM). The Commission proposal to maintain this information in the new System of Farm Surveys post 2016 is under discussion. 2) Eurostat via the Joint OECD/Eurostat Questionnaire, Section Inland Water; data on water abstraction by agriculture for irrigation purposes are provided voluntarily by MSs.
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying*	Location of the data: 1) Eurostat – statistics on the Structure of agricultural holdings - Survey on Agricultural production methods (SAPM) 2010– Table *Irrigation - number of farms, areas and equipment by size of irrigated area and NUTS 2 regions* (ef_poirrig), data *volume of water used for irrigation per year, m^3.*

exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.	2) Eurostat – environment statistics - Table *annual water abstraction by source and by sector* (env_ env_watq2*),* data *water abstraction for irrigation purposes.* Information on the share of water abstraction in agriculture (for irrigation purposes) as a percentage of the total gross (freshwater) abstraction, is also available. References - Commission Regulation No 1200/2009, Implementing Regulation (EC) No 1166/2008 on farm structure surveys (FSS) and survey on agricultural production methods (SAPM), as regards livestock unit coefficients and definitions of the characteristics; - OECD/Eurostat Joint Questionnaire on inland waters – Metadata; - Agro-environmental indicator (AEI) 20: Water abstraction, as defined in the COM (2006) 508 on "Development of agri-environmental indicators for monitoring the integration of environmental concerns into the CAP".
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	1) National (NUTS 0) and regional level (NUTS2) (Eurostat – Statistics on the structure of agricultural holdings - Survey on Agricultural production methods (SAPM) 2010). 2) National (OECD/Eurostat Joint Questionnaire) and regional level (NUTS2) (Eurostat – Voluntary Questionnaire to MSs, Water abstraction by NUTS 2 regions).
Frequency *Frequency at which the indicators is collected/calculated*	1) for the time being, data are available only for 2010 (Eurostat, Survey on Agricultural production methods). (Full set of data for 2010 will be available at the end of 2012). 2) Annual data available for the period 1970-2009 depending on availability for each MSs (In 2007, 2008, 2009 data are available for 19, 11, 10 MSs respectively) (Eurostat/OECD Joint Questionnaire)
Delay *How old are the data when they become available*	1) 2/3 years (Eurostat, Survey on Agricultural production methods) 2) In general, the time lag between the period covered by the data and publication amounts to 12-24 months (OECD/Estat Joint Questionnaire).
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	- The indicator on water abstraction could be ideally calculated at NUTS 2 level (and River Basin level); an analysis at regional level is more appropriate to capture the effects and impacts of the CAP on the environment. - The most appropriate source so far is the Survey on agricultural production methods (SAPM) and the future new System of Farm Surveys post 2016 (data are available for all MSs, the survey is specific for the agricultural sector, data are more complete both at regional and national level). However data from the SAPM are available only for 2010. The Commission proposal to maintain this information in modules in the new System of Farm Surveys post 2016 is under discussion.

	- Several Member States set up models for estimating the volume of water used in agriculture for the Survey on Agricultural Production Methods (to avoid burden to farmers who alternatively had to report directly the volume of water used). Therefore it would be also worthwhile to further study these models and verify whether they could be used annually to estimate the water abstraction for irrigation, on the basis of FSS data, annual crop statistics and meteorological data. - The quality of information collected via the Eurostat/OECD Joint Questionnaire is expected to improve in the future. From this source, information on the share of water abstraction in agriculture (for irrigation purposes) as a percentage of the total gross water abstraction is also available; it would also allow comparing the use of water in different sectors. - A questionnaire on water quantities (including water used for irrigation) at NUTS 2 level has also been established by Eurostat; the quality of data at the moment is quite poor but improvements are expected in the future.

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INDICATOR N° 11	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Water quality**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Sustainable management of natural resources and climate action**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The water quality indicator gives indication of 2 different type of potential impacts on water quality by agriculture: 1) pollution by nitrates and phosphates; 2) pollution by pesticides. 1) Two options are proposed for measuring the pollution by nitrates (a,b): a) Gross Nutrient Balance which consists of: - Gross Nitrogen Balance (GNB-N): Potential surplus of nitrogen (GNS) and phosphorus on agricultural land, and - Gross Phosphorus Balance (GNB-P): Potential surplus of phosphorus (GPS) on agricultural on agricultural land (kg P/ha/year). The gross nutrient balances provide an estimate of the potential water pollution. They represent the total potential threat of nitrogen and phosphorus surplus or deficits of agricultural soils to the environment. When N and P are however persistently applied in excess, they can cause surface and groundwater (including drinking water) pollution and eutrophication. or b) Nitrates in freshwater: - % of groundwater bodies/monitoring sites in each concentration class (4 classes[1]), for groundwater and rivers; - % of monitoring sites/water bodies with decreasing trend, for groundwater and rivers. 2) Pesticides in freshwater: - % of groundwater bodies exceeding the EU quality standards[2] for pesticides; - % of river monitoring stations exceeding the EQS (Environmental Quality Standards for pesticides[3].

[1] 4 concentration classes: <=10; >10<=25mg/l; >25<=50mg/l; >50mg/l (50mg/l is the limit set in the Nitrate Directive)

[2] EU quality standard for the most hazardous pesticides in surface and groundwater are set in the Directive on Priority Substances (2008/105/EC) and the Groundwater Directive (2006/118/EC).

	The following indicators already exist: Pollution by nitrates and phosphates: - Agro-environmental indicator (AEI) 27.1 Water quality – Nitrates in freshwater: nitrate pollution is indicated by current values and trends in nitrate concentrations in groundwater and rivers (at river district level/water body and not at MSs level). The indicator shows nationally (at river basin for groundwaters) averaged nitrate concentrations aggregated by European regions/river basin district and the proportion of water bodies/monitoring sites in each concentration classes, as well as national proportion of water bodies/monitoring sites in various trend categories. - CSI 020 Nutrients in freshwater (European Environment Agency). Concentrations of nitrate in rivers and groundwaters. The indicator can be used to illustrate geographical variations in current nutrient concentrations and temporal trends. - Agro-environmental indicators (AEI 15) Gross Nitrogen Balance: Potential surplus of nitrogen on agricultural land; - Agro-environmental indicators (AEI 16) Risk of pollution by phosphorus (Gross Phosphorus Balance): Potential surplus of phosphorus on agricultural land. Pollution by pesticides - Agro-environmental indicator (AEI) 27.2 Water quality – Pesticides in freshwater: Pesticides in water are indicated by the concentrations (ug/l) of selected pesticides in groundwater and surface water.
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	1) Pollution by nitrates and phosphates: a) Gross nutrient balance: Surplus of nutrients, kg (P and N)/ha. b) Nitrates in freshwater: % (The concentration of nitrate is expressed as mg nitrate (NO_3)/l for groundwater and mg nitrate-nitrogen (mg NO_3-N/l) for rivers; Trends are expressed as index, base year =100 (mg/l)). 2) Pollution by pesticides: Pesticides in freshwater: % (The concentration of pesticide is expressed as µg/l for selected pesticides for groundwater).
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	1) Pollution by nitrates and phosphates a) Gross nutrient balance: - Eurostat, Agri-environmental indicators (AEIs) b) Nitrates in freshwater: - European Environmental Agency – Nitrates in freshwater: Data voluntarily reported by MSs (EEA Member Countries) via the WISE/SOE (State of Environment) data flow annually. - DG Environment, Nitrate Directive: data on nitrate concentration are

[3] See footnote 2

	reported by MSs to the Commission within the Nitrate Directive (Council Directive 91/676/EEC) reporting requirements, every 4 years. 2) Pesticides in freshwater: European Environmental Agency: Hazardous substances in rivers and pesticides in groundwater: data are voluntarily reported by MSs (EEA Member Countries) via the WISE/SOE (State of Environment) data flow annually.
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	Location of the data: 1) Pollution by nitrates a) Gross Nutrient Balance: Eurostat, Agro-environmental indicators, Pressure and Risks, Table *Gross Nutrient Balance* (aei_pr_gnb and aei_pr_gpb); http://epp.eurostat.ec.europa.eu/portal/page/portal/agri_environmental_indicators/data/database b) Nitrates in freshwater - EEA website : Waterbase_rivers, Waterbase_grounwaters, CSI020 , http://www.eea.europa.eu/data-and-maps/indicators/nutrients-in-freshwater; http://www.eea.europa.eu/data-and-maps/indicators/pesticides-in-groundwater - DG ENV (on request) – Nitrate Directive: Unit B1 (no publicly available). 2) Pollution by pesticides - EEA website : Waterbase_rivers, Waterbase_grounwaters, CSI020 , http://www.eea.europa.eu/data-and-maps/indicators/nutrients-in-freshwater; http://www.eea.europa.eu/data-and-maps/indicators/pesticides-in-groundwater - ESTAT – AEIs statistics: data should be available in Eurostat database on AEIs: Tables *agro-environmental indicators* (aei), in the near future. References - European Environment Agency (EEA): WISE-SoE Water Information System for Europe – State of Environment - Agro-environmental indicator (AEI) 27.1 and 27.2 Water quality, nitrate and pesticides pollution, as defined in the COM (2006) 508 on "Development of agri-environmental indicators for monitoring the integration of environmental concerns into the CAP" - Council Directive 91/676/EEC concerning the protection of waters against pollution by nitrates from agricultural sources.
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	1) Pollution by nitrates a) Gross Nutrient Balance: national (in the future, data should also be available at regional level (NUTS 2)). b) Nitrates in freshwater: - data from European Environment Agency: national and regional (NUTS 2) and river basin level/water body

	- data from the Nitrate Directive reporting system (DG environment): national and regional (NUTS 2) and river basin level 2) Pollution by pesticides: Pesticides in freshwater: national, regional (NUTS 2) and river basin/water body level.
Frequency *Frequency at which the indicators is collected/calculated*	1) Pollution by nitrates: a) Gross nutrient balance, data from Eurostat, Agri-environmental indicators (AEIs): annual; a) Nitrates in freshwater: - data from European Environment Agency: annual; - data from DG Environment, Nitrate Directive: every 4 years according to the reporting requirements. (Last reporting in 2012 (first time with EU 27 coverage): data cover the period 2008-2012. Next reporting in 2016 which will cover the period 2012-2015). 2) Pesticides in freshwater: - data from European Environment Agency: annual
Delay *How old are the data when they become available*	Nitrates and pesticides in freshwater: 1) Pollution by nitrates and phosphates: a) Eurostat data: not defined; b) for EEA data: data become available 1 ½ year later; for DG Environment, Nitrate Directive data: they are reported/published by DG ENV one year after 4-years period (e.g. 2008-2011 data are reported/published by DG ENV in 2012) 2) EEA data: data become available 1 ½ year later;
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	- the AEI 15 on Gross Nutrient Balance "Potential surplus of nitrogen and phosphorus on agricultural land (kg N and P/ha/year)" is at the moment considered the most appropriate indicator for water quality, pollution by nitrates. It must be noted that this indicator is only indirect, it only shows the potential risk, not the actual water quality trends, depending on local soil conditions and farm management practises. - for the future: DG Environment and the European Environment Agency are working closely with MSs on streamlining data on water quality from different sources: the WISE-SOE, the Water Directive and the Nitrate Directive Reporting. - data on pesticides are currently less robust than those for nitrates. National sources often have a more detailed assessment (e.g. French State of Environment; or Germany) - for the interpretation of Nitrates in fresh water, it should be kept in mind that it is hardly feasible to distinguish the contribution of agriculture or the role of a policy to this status compared to other influencing factors, even though it is acknowledged that agriculture is a main contributor.

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INDICATOR N° 12	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Soil quality**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Sustainable management of natural resources and climate action**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The indicator measures the organic carbon content in soils. Soil organic carbon, the major component of soil organic matter, is extremely important in all soil processes. Organic material in the soil is essentially derived from residual plant and animal material, synthesised by microbes and decomposed under the influence of temperature, moisture and ambient soil conditions. The annual rate of loss of organic matter can vary greatly, depending on cultivation practices, the type of plant/crop cover, drainage status of the soil and weather conditions. There are two groups of factors that influence inherent organic matter content: natural factors (climate, soil parent material, land cover and/or vegetation and topography), and human-induced factors (land use, management and degradation). (Joint Research Center, European Soil Portal). The following indicators on soil quality also exist: - Agro-environmental indicator (AEI 26) Soil Quality Index (JRC). The indicator provides an account of the ability of soil to provide agri-environmental services through its capacities to perform its functions and respond to external influences. In the agri-environmental context, soil quality describes: -The capacity of soil to biomass production -The input-need to attain optimal productivity -The soil-response to climatic variability -Carbon storage; filtering; buffering capacity Methodology: The AEI on Soil quality index is elaborated by the Joint Research Center (EC) and is based on modelling, estimations from different sources and parameters. It cannot be measured directly and therefore a model is provided to indicate its status across the EU. It is composed by 4 sub-indicators: Productivity index, Fertilizer response rate, Production stability index, Soil environmental services index. - The Map of Organic Carbon Content In Topsoils In Europe, 2003, JRC European Soil Portal.

Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	- tonnes/ha of carbon stock (unit to record the average value at NUTS0 or NUTS2 level); (g/kg - concentration of organic carbon in topsoils – 30 cm).
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	- Eurostat – Lucas Survey - Soil Component. The Land Use/Land Cover Area Frame Survey (LUCAS) is a pilot project to monitor changes in the management and nature of the land surface of the European Union. Soil samples (ca 21 000) have been analysed for basic soil properties, including particle size distribution, pH, organic carbon, carbonates, NPK and CEC, and multispectral properties. - Potential sources available at national level (studies, surveys, reports).
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	Location of the data: Joint Research Centre (http://eusoils.jrc.ec.europa.eu) and Eurostat-LUCAS Land use survey: should be available in the next months. References - Agro-environmental indicator(AEI) 26 - Agri-environmental Soil Quality (JRC), as defined in the COM (2006) 508 on "Development of agri-environmental indicators for monitoring the integration of environmental concerns into the CAP"; - LUCAS (Land Use/Cover Area frame statistical Survey) is a European field survey program. http://epp.eurostat.ec.europa.eu/portal/page/portal/lucas/introduction
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	National (NUTS 0) and regional (NUTS 2). The Soil Component in the LUCAS Survey: The total number of soil samples collected in the frame of the LUCAS 2009 Topsoil survey for 25 MSs (EU-27 except BG and RO (for which the survey is in 2012)) is approximately 21,000.
Frequency *Frequency at which the indicators is collected/calculated*	It depends on the future of the LUCAS survey. The LUCAS module on soil (Topsoil survey) was taken for the first time in 2009 (one-off survey) for the EU-25 (in 2012 the module is being completed with RO and BG - data will be available in 2014).
Delay *How old are the data when they become available*	It depends on the future of the LUCAS Survey
Comments/caveats *Comments concerning interpretation of the*	- Future of the LUCAS survey: the survey, or certain components of it, might be repeated as a monitoring exercise in the future. There is an ongoing discussion on the future of the LUCAS survey. In principle it

indicator for monitoring and evaluation purposes and its caveats, if appropriate	should be repeated every 3 years but considering resources constraints and the fact that for example changes in soil are not relevant in the short period, the current proposal is to set up soil module in the LUCAS survey every 9/10 years. Eurostat is at the moment planning to define a long term plan for the survey also on the basis of users need (Commission DGs). DG AGRI and DG ENV are involved in the definition of the future LUCAS Survey. - The Lucas Module on Soil should have a reasonable frequency to be used as source for the soil impact indicator and should also cover soil biodiversity. - The indicator on soil quality (as it is proposed now: carbon organic content in soils), should be ideally complemented by a measurement/parameter of soil biodiversity. - The Agri-environmental indicator (AEI) 26 - Soil quality Indicator, elaborated by the Joint Research Centre of the European Commission is not directly measurable since is based on modelling and estimations are based on different sources and parameters. It will not be updated regularly. - Potential additional existing sources of data at national level should be explored with Member States.

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INDICATOR N° 13	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Soil erosion**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Sustainable management of natural resources and climate action**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The indicator is defined as: a) Estimated rate of soil loss by water erosion; The indicator estimates soil loss by water erosion in Europe in t/ha /yr for cells of 1km x 1km for EU 27; b) Estimated agricultural area or share of estimated agricultural areas affected by a certain rate of soil erosion. The indicator represents estimated soil erosion levels for NUTS 3 areas that range from very low values (< 0.5 t/ha/yr) to very high values (> 50 t/ha/yr) for the EU-27. It gives indications of the agricultural areas affected by a certain rate of soil erosion. Both indicators are the outputs of a modelling exercise; they have been produced by the JRC on the basis of an empirical computer model (RUSLE model) which was developed to evaluate soil erosion rates by water at regional scale. The model provides an estimates of possible erosion rates and estimates sediment delivery, on the basis of accepted scientific knowledge, technical judgement and input datasets. The model considers seven main factors controlling soil erosion: the rainfall erosivity, the erodibility of the soil, the slope steepness and the slope length of the land, the land cover, the stoniness and the human practices designed to control erosion. Only soil erosion resulting from rainsplash, overland flow (also know as sheetwash) and rill formation are considered. These are some of the most effective processes to detach and remove soil by water. In most situations, erosion by concentrated flow is the main agent of erosion by water. Estimated data on soil erosion are published following a qualitative assessment, showing that the model output matches general erosion patterns across Europe. However also quantitative validation is foreseen to be completed. Therefore at the moment data have to be taken with caution. No harmonized measure of soil erosion rates exists for the European continent. The total area of agricultural land has been defined on the basis of Corine Land Cover (CLC) 2006 classes and includes the area of arable and permanent crops, pastures and permanent grasslands

	The following indicators already exist: - Agro-environmental indicator (AEI) 21 Soil Erosion. (JRC); a) and b) above are the supporting and main indicator of the AEI 21, respectively. - Soil erosion datasets of 9 European Union Countries have been collected through the EIONET-SOIL network during 2010.
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	a) t/ha /yr b) ha, %
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	Joint Research Centre: Agro-environmental indicator (AEI) 21 factsheet and data on demand. (Input data sources for the model: European Soil Database, Corine Land Cover 2006, E-OBS Grided Climate data)
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	Location of the data: Joint Research Centre: Agro-environmental indicator (AEI) 21 factsheet and data on demand. Data should be also soon available in Eurostat, Agro-environment statistics, tables *agri-environmental indicators* (aei). References - AEI 21 Agri-environmental Soil erosion (JRC), as defined in the COM (2006) 508 on "Development of agri-environmental indicators for monitoring the integration of environmental concerns into the CAP"; - European Commission: Thematic Strategy for Soil Protection: COM(2006) 231.
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	National (NUTS 0) and regional (NUTS2-3) level (based on 1 km cell – model output). (The rates of soil loss by water erosion (t/ha/yr) at Member States level represent national average values and therefore may mask higher erosion rates in many areas even for those countries that have a low mean) .
Frequency *Frequency at which the indicators is collected/calculated*	Data are at the moment available for 2000 and 2006. The model will be updated when new data are available and not regularly. (The differences between 2000 and 2006 are primarily due to changes in land cover as noted by Corine Land Cover data for both dates. The time interval of 6 years is limited; therefore any conclusion must be made with caution. To understand better the real trend, an analysis over a time period of at least 15-20 years would be necessary (e.g. comparing the current

	situation to the 1990s.)) (Updates of the indicator would be possible as improved datasets of input factors such as Rainfall erosivity or Management practices are becoming available).
Delay *How old are the data when they become available*	Not defined.
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	- The soil erosion indicator could be improved (e.g. depending on data availability) to better measure the link between agriculture and soil erosion. As it is now, the indicator can only give indication of the erosion of soil in particular contexts. The erosion rates estimated cannot be directly linked to agricultural practices and therefore the indicator does not reflect and capture the effects of measures to prevent erosion by agriculture. Moreover the indicator gives only estimations and it is not directly measurable since is based on modelling and estimations from different sources and parameters. It will not be updated regularly (depending on availability of resources). - There is the need to explore alternative sources (also within Member States) to calculate the soil erosion indicator to better measure impacts.

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INDICATOR N° 14	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Rural employment rate**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Balanced territorial development**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	The rural employment rate for the predominantly rural regions of each MS can be compared with the employment rate in intermediate and predominantly urban regions or the employment rate for the whole country. **Source:** Labour Force Survey (LFS). LFS data is disseminated by Eurostat. **Definition**: Employed persons aged 20-64[4] as a share of the total population of the same age group in predominantly rural regions: - Employed persons are all persons aged 15 and over who, during the reference week, worked at least one hour for pay or profit or were temporarily absent from such work. Employed persons comprise employees, self-employed and family workers. - Population covers persons aged 15 and over living in private households. This comprises all persons living in the households surveyed during the reference week. This definition also includes persons absent from the households for short periods (but having retained a link with the private household) owing to studies, holidays, illness, business trips, etc. Persons on compulsory military service are not included. **Methodology**: LFS data is disseminated by Eurostat at NUTS 2 level. As there is no obligation for the Member States to provide employment data at NUTS 3 level (only some countries send the data to Eurostat), in order to calculate the rural employment rate (ie the employment rates by typology of regions) the employment data and population covered at NUTS 3 level need to be estimated. DG AGRI uses DG REGIO methodology to estimate the employment at NUTS 3 level for all Member States. This methodology is based in the following steps: 1) LFS database includes a variable which indicates the level of urbanisation of the local administrative unit (LAU2) where the respondent lives, measured by the population density:

[4] In the current programming period 2007-2013, the employment rate is calculated for the age group of 15-64. In the Europe 2020 strategy, reaching an employment rate of 75% of the population aged 20-64 is one of the five headline targets to be achieved. The new CMEF should be aligned with the Europe 2020 strategy, so the employment indicators should be changed to cover the same age group.

	- Thinly populated or less than 100 inhabitants/km^2; - Intermediate or from 100 to 500 inhabitants/km^2; - Densely populated or more than 500 inhabitants/km^2. This variable is not disseminated by Eurostat (due to representativeness of the samples and/or confidentiality of the data) but can be requested to Eurostat and used to calculate aggregates. The first step is then to calculate, for each NUTS 2 region, the number of persons employed and the population covered in each type of LAU2. *For example, for region A we could have the following results for the employment data:* *Region A (NUTS 2 level) has 745 persons employed, of which 0 living in thinly populated areas, 295 living in intermediate areas and 450 living in densely populated areas.* 2) The same information on level of urbanisation is included in the Census of population (latest available Census is 2001, but 2011 data should be used when available), and by aggregating the Census data it is possible to know how many people live in thinly, intermediate and densely populated area within a NUTS 2 region and how this population is distributed between its NUTS 3 regions. *Region A has 3 regions at NUTS 3 level, and the distribution of population between this 3 regions is as follows:* *Thinly* *Intermediate* *Densely* *A1* *0%* *21%* *75%* *A2* *0%* *22%* *17%* *A3* *0%* *57%* *8%* *Total A* *0%* *100%* *100%* 3) The same shares obtained from the Census can then be applied to the LFS data to distribute the data of the NUTS 2 region between its NUTS 3 regions and calculate the totals per region. *For region A, the 0, 295 and 450 employed persons obtained in step 1 would be distributed between the NUTS 3 regions as follows:* *Thinly* *Intermediate* *Densely* ***Total*** *A1* *0* *62* *338* *400* *A2* *0* *65* *76* *141* *A3* *0* *168* *36* *204* *Total A* *0* *295* *450* *745* 4) Every region at NUTS 3 level is classified as predominantly rural, intermediate or predominantly urban[5]. Once the data for all EU NUTS 3 regions has been calculated, the results for each country can be aggregated by type of region to obtain the number of employed persons and the number of population covered. Using both aggregates the employment rates for each type of region can be calculated.[6]
Unit of measurement	%

[5] See http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Urban-rural_typology

[6] The results for each NUTS 3 region (either totals or percentages) are never presented individually. Only the aggregates by type of region for each Member State can be presented.

Unit used to record the value (e.g. ha, tonnes, €, %)	
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	**Eurostat** series from the Labour Force Survey: - Employment by sex, age and NUTS 2 regions (1 000), for the age group 20-64 [**lfst_r_lfe2emp**] – the data including the variable LAU2 has to be requested to Eurostat as this variable is not included in Eurostat's website database - Population aged 15 and over by sex, age and NUTS 2 regions, for the age group 20-64 [**lfst_r_lfsd2pop**] – the data including the variable LAU2 has to be requested to Eurostat as this variable is not included in Eurostat's website database - Employment rate by sex, age group 20-64 [**t2020_10**] – at MS level, this is one of the Europe 2020 indicators and can be downloaded from Eurostat website Eurostat also publishes data and estimations of employment, population and employment rates by type of region (predominantly rural areas, intermediate regions and predominantly urban areas) in the following databases: - Employment by sex and age (1 000) [urt_lfe3emp] - Population by sex and age (1 000) [urt_lfsd3pop] - Employment rates by sex and age (%) [urt_lfe3emprt] Currently, Eurostat publishes its estimates for the employment rates for 18-19 EU MS (latest data: 2010). Eurostat results are quite similar to DG AGRI results for the countries with data, so there is also the possibility of using existing Eurostat database [urt_lfe3emprt] and complete the missing data with DG AGRI estimates *(to be discussed)*.
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	Labour Force Survey (LFS) data is collected at NUTS 2 level. Rural areas are defined at NUTS 3 level, thus the employment data for each NUTS 3 has to be estimated and the results aggregated by type of region.
Frequency *Frequency at which the indicator is collected/calculated*	Annually, in the second half of the year
Delay	Previous year (i.e. in the second half of 2012, latest available data in the

How old are the data when they become available	LFS is 2011)
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	

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INDICATOR N° 15	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Degree of rural poverty**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Balanced territorial development**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	Share of persons aged 0+ in thinly populated (=rural) regions with equivalised[7] disposable income[8] below the risk-of-poverty threshold. It is set at 60% of the national median equivalised disposable income (after social transfers). Degree of rural poverty= Number of persons in thinly populated areas with equivalised disposable income below 60%of the national equivalised median income Number of persons in thinly populated areas The degree of rural poverty can be compared to the overall EU-27 average, to the respective national average and/or to the average for intermediate and/or urban areas in a Member State or in the EU-27.
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	%
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental*	EUROSTAT, EU-SILC (European Union Statistics on Income and Living Conditions)

[7] To take into account the impact of differences in household size and composition, the total disposable household income is "equivalised". The equivalised income attributed to each member of the household is calculated by dividing the total disposable income of the household by the equivalisation factor. Equivalisation factors can be determined in various ways. Eurostat applies an equivalisation factor calculated according to the OECD-modified scale first proposed in 1994 - which gives a weight of 1.0 to the first person aged 14 or more, a weight of 0.5 to other persons aged 14 or more and a weight of 0.3 to persons aged 0-13.

[8] Disposable household income includes:
- all income from work (employee wages and self-employment earnings)
- private income from investment and property
- transfers between households
- all social transfers received in cash including old-age pensions

Agency, etc.)	
References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	EUROSTAT Indicator name: *People at risk of poverty or social exclusion by degree of urbanization* http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/data/database Table: People at risk of poverty or social exclusion by degree of urbanisation [ilc_peps13], Unit – percentage of total population, DEG_URB - Thinly populated area (less than 100 inhabitants/km^2)
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	• Data is available at Member State level. • The indicator should be established at Member State level.
Frequency *Frequency at which the indicators is collected/calculated*	Annual
Delay *How old are the data when they become available*	1-2 year but there is no release calendar.
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	The indicator is available at degree of urbanisation (not by typology of the rural areas): 1. Densely populated area (at least 500 inhabitants/km^2) 2. Intermediate urbanized area (between 100 and 499 inhabitants/km^2) 3. Thinly populated area (less than 100 inhabitants/km^2). To calculate the indicator, it can be assumed that thinly populated areas roughly correspond to rural areas.

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INDICATOR N° 16	
Indicator Name *Title of the indicator which will be used in implementing regulation/guidance documents*	**Rural GDP per capita**
Related general objective(s) *Identification of the general objective(s) as defined in the CAP intervention logic*	**Balanced territorial development**
Definition *Concise definition of the concept, including if the indicator already exists, e.g. AEI, EUROSTAT indicator. If appropriate, include the methodology/formula for establishment of the indicator*	GDP per capita in predominantly rural regions, in PPS[9] The PPS per inhabitant in rural areas can be compared to the PPS per inhabitant at national level (without distinction by type of region) or to other aggregations (EU-15, EU-12). Table urt_e3gdp in the Eurostat database provides national aggregates of relevant data by urban/rural typology (for a description of the typology, see http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Urban-rural_typology; the typology is applied at the level of NUTS 3). In particular, the following indicators are calculated by Eurostat: • PPS per inhabitant in rural, intermediate and urban areas • PPS per inhabitant in percent of the EU average for rural, intermediate and urban areas.
Unit of measurement *Unit used to record the value (e.g. ha, tonnes, €, %)*	PPS (for the simple reporting of absolute values) % (for comparison of values from rural areas to those of other areas or to the EU average)
Data source *Identification of existing data sources (e.g. EUROSTAT identifying relevant data set, FADN, European Environmental Agency, etc.)*	Eurostat Table urt_e3gdp For national averages (without distinction by type of region): table nama_gdp_c

[9] The **purchasing power standard**, abbreviated as **PPS**, is an artificial currency unit. Theoretically, one PPS can buy the same amount of goods and services in each country. However, price differences across borders mean that different amounts of national currency units are needed for the same goods and services depending on the country. PPS are derived by dividing any economic aggregate of a country in national currency by its respective Purchasing power parities.

References/location of the data *Links (other references) to data sources (e.g. in EUROSTAT specifying exact tables, FAO, World bank) AEI definitions, regulations establishing indicators, etc.*	Eurostat Table urt_e3gdp For national averages (without distinction by type of region): table nama_gdp_c
Data collection level *Identification of the geographical level at which the data is available and at which level the indicator should be established*	- national
Frequency *Frequency at which the indicators is collected/calculated*	- annual
Delay *How old are the data when they become available*	- 3 years (in 2012, data from 2009 are the most recent available)
Comments/caveats *Comments concerning interpretation of the indicator for monitoring and evaluation purposes and its caveats, if appropriate*	As an average, this indicator does not measure the distribution of income in a geographical area. Furthermore, non-monetary exchanges (production for self- consumption; public goods and externalities; barter; unpaid family labour) are not taken into account but can be substantial in some sectors (especially in agriculture) and regions.
Policy relevance / interpretation	Under the objective of balanced territorial development, the CAP aims to reduce the gap in standard of living between rural and other areas in the EU. GDP per capita, corrected for purchasing power, can be used to compare the aggregate standard of living between different geographical entities. Related info: Note on standard of living and economic growth in rural areas and their main determinants by type of regions; November 2010 (http://ec.europa.eu/agriculture/analysis/markets/gdp-rural-areas-2010_en.pdf)