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Sustainable Use of Pesticides Directive

Policy Review

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Authors

Ruta Landgrebe, Ecologic Institute

Ana Frelih-Larsen, Ecologic Institute

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Alexandra Rossi, ACTeon (Review)

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Sustainable Use of Pesticides Directive

Policy Review
Name/Type of the Legal Act or Policy
Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides (Text with EEA relevance) (hereafter SUPD) With the Directive 2009/128/EC, the European Union established a Community's framework for the sustainable use of pesticides. It includes measures on: monitoring, training and information of users as well as specific measures for the use of pesticides. The Framework Directive on Sustainable Use of Pesticides was originally one of two legislative proposals accompanying a Thematic Strategy on the Sustainable Use of Pesticides (the 2006 Communication). The other legislative proposal led to the adoption of Regulation (EC) No 1107/2009 concerning the placing of plant protection products on the market. Implementation of the Framework Directive on Sustainable Use of Pesticides is of particular importance for the aquatic environment, protected areas and areas with organic farming as it yields benefits in all these areas. The following EU legal acts are related to the Framework Directive on Sustainable Use of Pesticides: ▸ Water Policy: The Water Framework Directive (2000/60/EC) and the Groundwater Directive (2006/118/EC) – the aquatic environment is especially sensitive to pesticides. It is therefore necessary to avoid pollution of surface water and groundwater by taking appropriate measures; ▸ Nature Conservation Policy: The Wild Birds Directive (2009/147/EC) and the Habitats Directive (92/43/EEC) – use of pesticides can be particularly dangerous in very sensitive areas, such as Natura 2000 sites protected in accordance with the Wild Birds and Habitats Directives ▸ The Food Safety Policy: Regulation on maximum residue levels of pesticides in or on food and feed of plant and animal origin (EC, No 396/2005); Regulation on the placing of plant protection products on the market (EC, No 1107/2009); The Common Agricultural Policy (CAP):The Organic Production Regulation (EC, No 834/2007) – organic farming applies low pesticide-input pest management, which gives wherever possible priority to non-chemical methods, so that professional users of pesticides switch to practices and products with the lowest risk to human health and the environment; EAFRD Regulation (EU, No 1305/2013).
Entry into force
The Sustainable Use of Pesticides Directive 2009/128/EC came into force on 25 November 2009 and had to be transposed by the Member States in two years, i.e. by 26 November 2011, as mandated in Art. 23.1). Member States had three years to adopt their National Action Plans to reduce risks and impacts of pesticide use on human health and the

environment (by December 2012), which they have to communicate to the Commission and to other Member States (Art. 4).

Departments/Units in charge

Framework Directive on Sustainable Use of Pesticides: DG for Health and Food Safety (SANTE), Dir. E Safety of the Food Chain (Michael Flueh, Acting Director), E3 – Pesticides and Biocides (Michael Flueh, Head of Unit)

Common Implementation strategy (CIS processes)

EFSA's Scientific Committee and ten Scientific Panels deliver scientific advice for Europe's decision-makers in the areas of food and feed safety, nutrition, animal health and welfare, plant protection and plant health.

The Scientific Committee has the task of supporting the work of the Panels on cross-cutting issues and scientific matters of a horizontal nature. It focuses on developing harmonised risk assessment methodologies in fields where EU-wide approaches are not yet defined.

- Scientific Committee working groups are set up to develop draft scientific opinions on specific issues. They consist of EFSA scientists and external experts with the required specialisations.

EFSA's Scientific Panels are responsible for EFSA's risk assessment work including delivering scientific opinions. Each Panel focuses on a different area of the food and feed chain.

Administrative body handling implementation in MS

German implementation (BMELV, 2012; EU, Reports, 2016):

- The Federal Ministry of Food, Agriculture and Consumer Protection: National co-ordination; funding innovation research programme in (among other themes) agriculture, both for integrated plant protection and for organic farming;
- German Federal States: The plant protection services; Laboratory facilities; Provide support to research programmes that particularly assist integrated plant protection and plant protection in organic farming;
- The Federal Ministry for Economic Cooperation and Development: Undertakes resistance research in developing countries; The Julius Kühn-Institut is responsible for scientific support and the development of IPM guidelines.
- The Federal Ministry of Food, Agriculture and Consumer Protection and the German Federal States review their respective research and study programmes regularly and inform one another on developments.
- The Federal Ministry of Food, Agriculture and Consumer Protection, the German Federal States and relevant associations provide support to the introduction of innovative integrated plant protection measures into practice.
- Producer associations provide support to the introduction of innovative integrated plant protection measures, as well as to the breeding and market introduction of resistant varieties.

Poland implementation:

- The Ministry of Agriculture and Rural Development: Coordination; implementation of integrated pest management;
- The State Plant Health and Seed Inspection Service: subordinate and supervised units of the Ministry, responsible for implementation; prevention of risks associated with trading and use of plant protection products; control of entities producing plant protection products; conducting the register of regulated activity in the field of marketing or packaging of plant protection products; certification; training; monitoring
- National research institutes (scientific results are the basis for the development and updating of the methodologies of integrated pest management, plant protection programmes): 1. Crop protection with regard to food safety and reducing yield losses and risks to human health, animals and the environment, carried out by the Institute of Plant Protection – the National Research Institute in Poznań; 2. Development of sustainable methods of horticultural production to provide high biological and nutritional quality of horticultural products and preserve biodiversity of the environment and protect its resources, implemented by the Institute of Horticulture in Skierniewice; 3. Supporting action on the development of the agricultural environment and the sustainable development of agricultural production in Poland, carried out by the Institute of Soil Science and Plant Cultivation – the National Research Institute in Puławy; 4. Improvement of plants for sustainable agro-ecosystems, high-quality food and crop production for non-food purposes, carried out by the Institute of Plant Breeding and Acclimatization – the National Research Institute in Radzików; 5. Improving domestic sources of vegetable protein, their production, trading and use in animal feed, carried out by the Institute of Soil Science and Plant Cultivation – National Research Institute in Puławy, Institute of Plant Genetics, Polish Academy of Sciences in Poznań, Poznań University of Life Sciences and Institute of Technology and Life Sciences in Falenty.
- The framework of a of agricultural public advisory structure: the Agricultural Advisory Centre (AAC) in Brwinów with 3 branches in Poznań, Radom, and Kraków (under the Minister of Agriculture and Rural Development) and 16 voivodeship agricultural advisory centres (under voivodeship self-governments). Tasks of AAC in particular focus on improving the advisory staff. In the framework of voivodeship centres operate headquarters, branch offices and local services. Local services are substantially supported by specialists at headquarters and branch offices. The basic activities of AAC are trainings for farmers and rural residents and advising, especially in the form of individual and group advisory.

UK implementation:

- Department for Environment, Food & Rural Affairs (Defra) is responsible for sustainable farming policy including IPM with regional input from Scotland/Wales/Northern Ireland administrations.
- The Chemicals Regulation Directorate also has a role in coordination of approaches under its management of the NAP for Defra and devolved administrations.

Much of the research is funded by the sectoral divisions of the Agricultural and Horticultural Development Board (AHDB). The Board also provides crop specific advice to producers at both regional and national levels based upon Government/industry R&D.
Main Objective
The overall objective of the SUPD (according to Art. 1) is to establish "… a framework to achieve a sustainable use of pesticides by reducing the risks and impacts of pesticide use on human health and the environment and promoting the use of integrated pest management and of alternative approaches or techniques such as non-chemical alternatives to pesticides".
Principles included in the legal text
'principles of integrated pest management' are laid down in Annex III of this directive (and mentioned in Art. 14, Annex I and Preamble 18 and 19), 'subsidiarity principle' (Preamble 19, 22), 'principle of proportionality' (Preamble 22), 'principle of sustainable development' (Preamble 23), 'precautionary principle' (Art. 2), 'organic farming principles' (Annex I).
Other objectives/Key concepts/key elements of the legislation
The Directive introduces a number of instruments to regulate sustainable use of pesticides: • National Action Plans (NAPs): Member States shall adapt NAPs that contain objectives, targets, measures and timetables to reduce risks of pesticide use on human health and the environment and include indicators to monitor the use of plant protection products containing active substances of particular concern. They should also foster the use of alternative ecological approaches or techniques. • Training, sales of pesticides, and information: Member States shall set up systems of training for professional users, distributors and advisors (proven by certificate). Sellers of pesticides for professional use must hold such certificate. Member States shall inform the public and promote information and awareness-raising programmes regarding the risks for human health, non-target organisms and the environment arising from pesticide use. • Inspection of pesticide application equipment: pesticide application equipment used by professionals must be inspected every five years by bodies designated by Member States. From 2020, the frequency of inspections will increase to once every three years. The purpose of these inspections is to check that equipment functions reliably and is used properly for its intended purpose, ensuring that pesticides can be accurately dosed and distributed. • Aerial spraying of pesticides: the activity is prohibited, though derogations are nevertheless possible where there is no viable alternative, or exist advantages in terms of reduced impacts on human health and the environment as compared with land-based application. In case a derogation is granted, information and protection measures must be taken. • Protection of the aquatic environment and drinking water: "Member States shall adopt specific measures to protect the aquatic environment and drinking water supplies. These

measures give priority to the use of the least toxic products, the most effective techniques, equipment limiting drift of products, and the establishment of buffer zones along surface waters. These measures also aim at reducing or prohibiting spraying near roads or railways, or surfaces likely to be contaminated by the seepage or run-off of surface water or groundwater."

- Protection of sensitive areas: "in certain sensitive areas, the use of pesticides is prohibited or strictly limited. This measure aims at protecting areas covered by the "Birds" and "Habitats" Directives, and areas used by the general public or by sensitive groups of the population (parks, public gardens, sports grounds, recreation grounds, etc.)."
- Integrated pest management: "integrated pest management prioritises the least dangerous solutions for health and the environment. Professionals must therefore take into consideration all plant protection methods in order to eradicate pests. They must in particular give priority to those which cause the least disruption to agricultural ecosystems and encourage natural pest control mechanisms."

Risk indicators: "The Commission establishes harmonised indicators according to statistics collected by the Member States. These indicators allow trends in risks from pesticide use to be estimated. Member States may use their own national indicators in addition to the indicators harmonised at Community level."

Terminology

Art. 3 'Definitions' of this Directive introduces the following key terms/definitions that apply in this Directive: 1. 'professional user' means any person who uses pesticides in the course of their professional activities, including operators, technicians, employers and self-employed people, both in the farming and other sectors; 2. 'distributor' means any natural or legal person who makes a pesticide available on the market, including wholesalers, retailers, vendors and suppliers; 3. 'advisor' means any person who has acquired adequate knowledge and advises on pest management and the safe use of pesticides, in the context of a professional capacity or commercial service, including private self-employed and public advisory services, commercial agents, food producers and retailers where applicable; 4. 'pesticide application equipment' means any apparatus specifically intended for the application of pesticides, including accessories that are essential for the effective operation of such equipment, such as nozzles, manometers, filters, strainers and cleaning devices for tanks; 5. 'aerial spraying' means application of pesticides from an aircraft (plane or helicopter); 6. 'integrated pest management' means careful consideration of all available plant protection methods and subsequent integration of appropriate measures that discourage the development of populations of harmful organisms and keep the use of plant protection products and other forms of intervention to levels that are economically and ecologically justified and reduce or minimise risks to human health and the environment. 'Integrated pest management' emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms; 7. 'risk indicator' means the result of a method of calculation that is used to evaluate risks of pesticides on human health and/or the environment; 8. 'non-chemical methods' means alternative methods to chemical pesticides for plant protection and pest management, based on agronomic techniques such as those referred to in point 1 of Annex III, or physical,

mechanical or biological pest control methods; 9. the terms 'surface water' and 'groundwater' have the same meaning as in Directive 2000/60/EC; 10. 'pesticide' means: (a) a plant protection product as defined in Regulation (EC) No 1107/2009; (b) a biocidal product as defined in Directive 98/8/EC of the European Parliament and of the Council of 16 February 1998 concerning the placing on the market of biocidal products (OJ L 123, 24.4.1998, p. 1.).

Derogations

The Directive allows derogations for two issues:

- Art. 8: 'Inspection of equipment in use': Member States shall ensure that pesticide application equipment in professional use is a subject to inspections at regular intervals. By way of derogation, Member States may apply different timetables and inspection intervals. Article provides a list of equipment for which this derogation does not apply.
- Art. 9: 'Aerial spraying': aerial spraying should generally be prohibited with derogations possible where it represents clear advantages in terms of reduced impacts on human health and the environment in comparison with other spraying methods, or where there are no viable alternatives, provided that the best available technology to reduce drift is used.

Types of management measures

The National Action Plans (NAPs) of the Member States shall define objectives, targets, measures and timetables to reduce risks of pesticide use on human health and the environment and include indicators to monitor the use of plant protection products containing active substances of particular concern. They should also foster the use of alternative ecological approaches or techniques. The following measures aims for environmental objectives:

- Protection of the aquatic environment and drinking water: "Member States shall adopt specific measures to protect the aquatic environment and drinking water supplies. These measures give priority to the use of the least toxic products, the most effective techniques, equipment limiting drift of products, and the establishment of buffer zones along surface waters. These measures also aim at reducing or prohibiting spraying near roads or railways, or surfaces likely to be contaminated by the seepage or run-off of surface water or groundwater."
- Protection of sensitive areas: "in certain sensitive areas, the use of pesticides is prohibited or strictly limited. This measure aims at protecting areas covered by the "Birds" and "Habitats" Directives, and areas used by the general public or by sensitive groups of the population (parks, public gardens, sports grounds, recreation grounds, etc.)."
- Integrated pest management: "integrated pest management prioritises the least dangerous solutions for health and the environment. Professionals must therefore take into consideration all plant protection methods in order to eradicate pests. They must in particular give priority to those which cause the least disruption to agricultural ecosystems and encourage natural pest control mechanisms."

Spatial coverage
The SUPD applies on the national level for 'professional users', 'distributors' and 'advisors' (as defined in the Directive) of pesticides that are plant protection products.
Reporting units – what are the specific transposition requirements
National Action Plans (required by Art. 4) is the key instrument of the Directive, consisting of all measures prescribed in the Directive (Art. 5-15), and describing how these measure will be implemented to achieve the objectives set in the NAPs. A reporting unit of the NAP is a national level. According to Art. 4.2, Member States shall communicate their NAPs to the Commission and to other Member States by 14 December 2012, and afterward (at least) every five years, after obligatory review of the NAPs or earlier in case of any substantial changes to the NAPs. In 2011, the Commission issued a report (EC, 2011) that collated information on the state of the art with respect to the implementation of the main measures foreseen by the Directive at MS level. This report deemed also to facilitate the exchange of information among MS.
Management unit
The SUPD does not refer to any 'operational management unit' as such. The Directive applies to 'professional users', 'distributors' and 'advisors' (as defined in the Directive) of pesticides (that are plant protection products) at the national level. The National Action Plan must contain quantitative objectives, targets, measures of risk-reduction and timetables for the reduction of risks and adverse impacts of the use of plant protection products on human and animal health and also on the environment. The target requirements relate to the area of plant protection, operator protection, consumer protection and protection of the environment. In Germany, for example, the plant protection products may be used if they are approved and in the respective valid areas of application stated in the approval. Pesticide application areas can be agricultural and non-agricultural, i.e. public use areas, for example, parks. For example, the targets set in the German NAP include: • Increase in the proportion of agricultural area on which work is performed according to the directive on organic farming (National Sustainability Strategy); • Increasing the proportion of agricultural and horticultural farms working according to guidelines of integrated plant protection that are specific to crops or to sectors; • Reduction of use of chemical plant protection products that significantly deviate from the necessary minimum value (data set: network of reference farms) • No exceedings of the limit of 0.1 µg/l (single active substance; asset to be protected: drinking water) or respectively 0.5 µg/l (total of all individual active substances; asset to be protected: drinking water) for all active substances in plant protection products and relevant metabolites in the groundwater • Creation of buffer zones, permanently covered with vegetation and at least 5 m in width, at all surface waters, particularly in protected areas for drinking water, nature reserves and in sensitive areas identified by hot-spot analyses

- Increasing the utilized agricultural area on which, within the framework of various support programs (agri-environmental programs, contract-based nature protection services, production-integrated compensation measures, fields designated for special protection, etc.), adapted farming measures are carried out (including activities to protect the diversity of wildflowers in the peripheral field area)
- Creation of ecological focus areas not using plant protection products (coordinated with the resolutions related to the CAP reform)

Key planning steps

Main actions for sustainable use of pesticides:

- National Action Plans (NAPs): EU countries adopt them setting objectives and timetables to reduce risks and impacts of pesticide use; review every five years.
- Training: professional pesticide users, distributors and advisors get proper training;
- EU countries establish competent authorities and certification systems;
- Information and awareness raising: Member States shall take measures to inform the general public and put in place systems to gather information on acute poisoning incidents and chronic poisoning developments;
- Aerial spraying: Aerial spraying is prohibited. Member States may allow it under strict conditions after warning people;
- Minimising or banning – Member States minimise or ban the use of pesticides in critical areas for environmental and health reasons;
- Inspection of equipment in use – all pesticides application equipment will have to be inspected at least once by 2016 to grant a proper efficient use of any plant protection product;
- Integrated pest management – Member States prepare general principles of IPM to promote low pesticide-input management including non-chemical methods, which is obligatory for professional users starting on 1 January 2014.
- Establishment of risk indicators
- Handling and storage of pesticides and treatment of their packaging and remnants
- Reporting on implementation

Timelines

1. The SUPD follows a five-year cycle. National Action Plans (required by Art. 4) is the key instrument of the Directive, consisting of all measures prescribed in the Directive (Art. 5-15), and describing how these measure will be implemented to achieve the objectives set in the NAPs. Member States shall communicate their NAPs to the Commission and to other Member States by 14 December 2012, and afterward (at least) every five years, after obligatory review of the NAPs or earlier in case of any substantial changes to the NAPs.

2. According to Art. 8.2, starting on 14 December 2016, only pesticide application equipment having successfully passed inspection is allowed to be used professionally. New equipment shall be inspected at least once within a period of five years after purchase.

3. According to Art. 14.4, professional users will have to apply general principles of integrated pest management (IPM) from 1 January 2014. The country reports on IPM are available on EU website.

4. Reporting: Reporting on NAP in 2012 and every five years afterward. The first NAPs of the MSs are available on the EU Website. In addition, in 2011, the Commission issued a report (EC, 2011) that collated information on the state of the art with respect to the implementation of the main measures foreseen by the Directive at MS level. This report deemed also to facilitate the exchange of information among MSs.

Integration/coordination issues with other related pieces of legislation

The SUPD interacts with water, nature conservation and agriculture (organic farming) polices. It refers explicitly in its text to the WFD (2000/60/EC); the Birds Directive 79/409/EEC, the Habitats Directive (92/43/EEC) and Council Regulation (EC) No 834/2007 on organic production and labelling of organic products. The SUPD requires accordingly:

- For the water policy: the NAPs to take into account plans under other Community legislation on the use of pesticides, and refers in this regard to the planned measures under the WFD (Art. 4). Member States to ensure appropriate measures to protect the aquatic environment and drinking water supplies from the impact of pesticides which support and are compatible with the WFD (Art. 11). For example: giving preference to pesticides that are not classified as dangerous for aquatic environment; giving preference to most efficient application techniques such as the use of low-drift pesticide application equipment; or using buffer zones which minimise the risk of off-site pollution caused by pesticides spraying (drift, drain-flow or run-off). Furthermore, the directive requires Member States to minimise or prohibit the use of pesticides in certain specific areas, including protected areas as defined in the WFD (Art. 12).
- For nature conservation policy: the directive requires Member States to minimise or prohibit the use of pesticides in certain specific areas, including areas identified for the purposes of establishing the necessary conservation measures in accordance with the provisions of the Birds and Habitats Directives (Art. 12).
- For agriculture policy: Member States shall take all necessary measures to promote low pesticide-input pest management. Low pesticide-input pest management includes integrated pest management and organic farming according to Regulation on organic production and labelling of organic products (Art. 14).

Coordination issues with the EU Biodiversity Strategy

In order to comply with the requirements of the SUPD to minimise or prohibit the use of pesticides in certain specific areas (including protected areas as defined in the WFD or the areas identified for the purposes of establishing the necessary conservation measures in accordance with the provisions of the Birds and Habitats Directives) or promoting low

pesticide-input pest management, including integrated pest management and organic farming, MSs take the following measures (examples from the German NAP) that contribute to the implementation of the SUPD and directly affect the target 2 of the EU biodiversity strategy, thus maintaining and enhancing ecosystems and their services:

- Increase in the proportion of organic agricultural area; of agricultural and horticultural farms working according to guidelines of integrated plant protection;
- Not exceedings of the limit of 0.1 µg/l (of single active substance in drinking water) or respectively 0.5 µg/l (of total of all individual active substances in drinking water) for all active substances in plant protection products and relevant metabolites in the groundwater;
- Creation of buffer zones, permanently covered with vegetation and at least 5 m in width, at all surface waters, particularly in protected areas for drinking water, nature reserves and in sensitive areas;
- Increasing the utilized agricultural area on which, within the framework of various support programs (agri-environmental programs, contract-based nature protection services, production-integrated compensation measures, fields designated for special protection, etc.), adapted farming measures are carried out (including activities to protect the diversity of wildflowers in the peripheral field area)
- Creation of ecological focus areas not using plant protection products.

Relevance to ecosystems/habitats?

'Agro-ecosystems' are explicitly addressed by the SUPD (Art. 3).

A 'habitats' term is not mentioned, the 'biodiversity' in general terms is addressed in Art. 12 on 'Reduction of pesticide use or risks in specific areas' and in Annex I. Aquatic (freshwater) and terrestrial ecosystems can be impacted by the SUPD, though this is not explicitly stated in the SUPD. The requirements of the Directive (Art. 12) – to minimise or prohibit the use of pesticides in certain specific areas, including protected areas as defined in the WFD or the areas identified for the purposes of establishing the necessary conservation measures in accordance with the provisions of the Birds and Habitats Directives – show the Directive considers a possible impact on the two ecosystem groups (out of the three major ecosystem groups – terrestrial, freshwater, and marine). Links to Aquatic Biodiversity and Ecosystem Services: There is definitely a link to Aquatic Biodiversity and Ecosystem Services. The Directive mentions explicitly 'Aquatic environment' in Art. 11 on 'Specific measures to protect the aquatic environment and drinking water' and in Preamble 15; as 'biodiversity' is an integral part of the 'aquatic environment'. Biodiversity is important in all ecosystems, including "natural" such as nature conservation areas and also in those that are managed by humans, such as farms or even urban parks. Therefore, the directive addressing agricultural and non-agricultural areas as well as protected areas also addresses biodiversity. The term 'ecosystem services' is not mentioned in the Directive, though, biodiversity is the basis of the multiple benefits provided by ecosystems to humans and in this way ecosystems services are also addressed.

Drivers

There is no specific definition of 'drivers' provided. The Directive applies to professional use of pesticides (plant protection products) on agricultural and non-agricultural areas. Therefore, agriculture sector (intensive agriculture) is the key driver.

Drivers which the legal act/policy address: Agriculture, forestry, horticulture sectors and non-agricultural activities (parks). Driver indicators would be an amount (kg, tonne) of pesticide applied on specific agricultural area (ha). According to Art. 4.1, the NAPs shall include indicators to monitor the use of plant protection products containing active substances of particular concern. On the basis of such indicators, timetables and targets for the reduction of use shall also be established. The report of the Commission (EC, 2011) indicates that indicators to monitor the use of plant protection products were used in 8 out of 20 MS. For example, the German NAP reviews the Progress made with the National Action Plan with the help of a comprehensive set of indicators and targets. These indicators follow the OECD/EEA concept: "Driving Force – Pressure – State – Impact – Response". However, the indicators do not have a direct reference to plant protection, as plant protection is merely one of a whole range of factors that can influence the value of such indicators. The driver indicators defined in the German NAP include, e.g.:

- Extent of infestation that retrospectively describes the annual level of infestation of important crops/sectors by typical harmful organisms or groups of harmful organisms;
- Agricultural area indicates the area used for agriculture, divided into arable land, grassland, special crops, and set-aside areas;
- Domestic issue of active substances states the total quantity of active substances, divided according to their areas of operation and chemical classes, sold in professional and non-professional (home gardens and allotments) areas of application in one year in Germany.

Pressures

There is no specific definition of 'pressure' provided. The SUPD considers chemical pressure, i.e. the water or terrestrial ecosystems pollution with pesticides. The directive notes in its preamble (15) that the aquatic environment is especially sensitive to pesticides and particular attention should be paid to avoid surface and groundwater pollution by taking appropriate measures, "such as the establishment of buffer and safeguard zones or planting hedges along surface waters to reduce exposure of water bodies to spray drift, drain flow and run-off".

For example, the German NAP reviews the Progress made with the National Action Plan with the help of a comprehensive set of indicators and targets. These indicators follow the OECD/EEA concept: "Driving Force – Pressure – State – Impact – Response". However, the indicators do not have a direct reference to plant protection, as plant protection is merely one of a whole range of factors that can influence the value of such indicators. The pressure indicators defined in the German NAP include, e.g.:"Plant protection products in surface waters: the pollution of surface waters by plant protection products is recorded by means of assessing the instances that exceed the environmental quality standards (EQS) relating to plant protection products; these standards were introduced with regard to the chemical and ecological status of water bodies as defined in the Water Framework Directive; note that when abstracting drinking water, the drinking-water threshold value is also assessed."

"Residues of plant protection products in small water bodies Compilation of the measurement results obtained from small water bodies."
Assessment of Environmental State
As it is seen from the overall objective of the SUPD (according to Art. 1, see below) – chemical parameters are of relevance, i.e. pollution with pesticides. The overall objective of the SUPD (according to Art. 1) is to establish "… a framework to achieve a sustainable use of pesticides by reducing the risks and impacts of pesticide use on human health and the environment and promoting the use of integrated pest management and of alternative approaches or techniques such as non-chemical alternatives to pesticides". The Directive requires (in Art. 15) to establish harmonised risk indicators as referred to in Annex IV; however, Member States may continue to use existing national indicators or adopt other appropriate indicators in addition to the harmonised ones. According to Art. 3 'risk indicator' is used to evaluate risk of pesticides on human health and the environment. For example, the German NAP sets an indicator on 'plant protection products in the groundwater' that present the pollution of the groundwater by means of plant protection products by assessing the instances of exceeding the threshold value for groundwater, namely 0.1 µg/l. According to Eurostat on Pesticide Risk: "The progress achieved in the reduction of risks and adverse impacts from pesticide use for human health and the environment should be measured using harmonised risk indicators that should be established at Community level (according to Art. 15 and Annex IV)). Member States should use those risk management indicators at national level and for reporting purposes, while the Commission should calculate indicators to evaluate progress at Community level. Statistical data collected on plant protection products (as required by relevant legislation) should be used for this. However, a set of harmonised risk indicators have not yet been agreed on the EU level."
Assessment of Status
The Directive requires MS to measure risk indicators used to evaluate risk of pesticides on human health and the environment. Harmonised risk indicators should be developed on the EU level (in accordance to Art. 15 and Annex IV of the Directive on the Sustainable Use of Pesticides). As for today, a set of harmonised risk indicators have not yet been agreed on the EU level. Currently (status of 2013) the European Commission measure the only risk indicator – pesticides pollution of water – that are indicated by current values, exceedances and trends in the concentrations (µg/l) of selected pesticides in groundwater and rivers. A set of harmonised risk indicators have not yet been agreed on the EU level. The EU, Eurostat collects the data, i.e. agri-environmental indicator for: • water quality: on pesticide pollution of water that consists of an overview of recent data (2013). Pesticides in water are indicated by current values, exceedances and trends in the concentrations (µg/l) of selected pesticides in groundwater and rivers. (Though this indicator is still in the process of development). Two main indicators include: "groundwater with pesticide concentrations above Environmental Quality Standards

(EQS)" and "rivers with annual average pesticide concentrations above Environmental Quality Standards (EQS)"

- consumption of pesticides: (here plant protection products, excluding biocides and disinfectant products) in agriculture is indicated by both the applied rates by the farmers and the amounts sold and is measured by the main indicator "application rates of different pesticide categories" and two supporting indicators "used quantities of different pesticide categories" and "sold quantities of different pesticide categories"

Data

1. National Action Plans – Member States adopt them setting objectives and timetables to reduce risks and impacts of pesticide use,

2. Integrated pest management –Member States reports on promotion of low pesticide-input management including non-chemical methods. Professional users have to apply general principles of IPM from 1 January 2014,

3. Survey on Status of Implementation (2011) of the Directive in the Member States,

4. Information and awareness raising, the relevant national links on sustainable use of pesticides,

5. The use of plant protection products in the European Union

Funding

The Directive does not have a fund attached to it; instead the CAP and national funds are used to support its implementation indirectly.

The European Agricultural Fund for Rural Development to support relevant rural development measures:

- through the agro-environmental and organic farming measures: organic and integrated plant protection measures (IPM); Consolation on plant protection matters in organic farms; Non-chemical plant protection measures in organic farming; Creation of buffer zones for protection of water bodies that are permanently covered with vegetation or in agricultural use without the application of plant protection products (this applies solely to farming measures that are classified as being eligible for funding in the context of agri-environmental measures)
- "Effective integrated plant protection measures are often not used in practise because the costs exceed the economic benefit of the measures. Within the framework of funding programmes (e.g. agri-environmental measures) the possibility exists to create a certain financial indemnification, thereby providing support to the introduction of guidelines for integrated plant protection or of individual measures, or the introduction of plant protection measures in organic farming."
- Through other rural development measures aid to buy new pesticide application equipment

National funding: for innovative integrated plant protection and organic farming measures; research

About AQUACROSS

Knowledge, Assessment, and Management for AQUAtic Biodiversity and Ecosystem Services aCROSS EU policies (AQUACROSS) aims to support EU efforts to protect aquatic biodiversity and ensure the provision of aquatic ecosystem services. Funded by Europe's Horizon 2020 research programme, AQUACROSS seeks to advance knowledge and application of ecosystem-based management (EBM) for aquatic ecosystems to support the timely achievement of the EU 2020 Biodiversity Strategy targets.

Aquatic ecosystems are rich in biodiversity and home to a diverse array of species and habitats, providing numerous economic and societal benefits to Europe. Many of these valuable ecosystems are at risk of being irreversibly damaged by human activities and pressures, including pollution, contamination, invasive species, overfishing and climate change. These pressures threaten the sustainability of these ecosystems, their provision of ecosystem services and ultimately human well-being.

AQUACROSS responds to pressing societal and economic needs, tackling policy challenges from an integrated perspective and adding value to the use of available knowledge. Through advancing science and knowledge; connecting science, policy and business; and supporting the achievement of EU and international biodiversity targets, AQUACROSS aims to improve ecosystem-based management of aquatic ecosystems across Europe.

The project consortium is made up of sixteen partners from across Europe and led by Ecologic Institute in Berlin, Germany.

AQUACROSS PARTNERS

Ecologic Institute (ECOLOGIC) | Germany

Leibniz Institute of Freshwater Ecology and Inland Fisheries (FVB-IGB) | Germany

Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO) | France

Wageningen Marine Research (WMR) | Netherlands

University of Natural Resources & Life Sciences, Institute of Hydrobiology and Aquatic Ecosystem Management Austria

Fundación IMDEA Agua (IMDEA) | Spain

Universidade de Aveiro (UAVR) | Portugal

ACTeon – Innovation, Policy, Environment (ACTeon) | France

University of Liverpool (ULIV) | United Kingdom

University College Cork, National University of Ireland (UCC) | Ireland

Royal Belgian Institute of Natural Sciences (RBINS) | Belgium

Stockholm University, Stockholm Resilience Centre (SU-SRC) | Sweden

Danube Delta National Institute for Research & Development (INCDDD) | Romania

Eawag – Swiss Federal Institute of Aquatic Science and Technology (EAWAG) | Switzerland

International Union for Conservation of Nature (IUCN) | Belgium

BC3 Basque Centre for Climate Change (BC3) | Spain

Contact Coordinator	aquacross@ecologic.eu
Duration	Dr. Manuel Lago, Ecologic Institute 1 June 2015 to 30 November 2018
Website	http://aquacross.eu/
Twitter	@AquaBiodiv
LinkedIn	www.linkedin.com/groups/AQUACROSS-8355424/about
ResearchGate	https://goo.gl/IcdtZC