Risk Indicator selection and Quantitative Targets to meet Sustainable Use Directive objectives

OPERA Guidelines for implementation
Developed by: OPERA Working Group on Risk Indicators

Executive Summary

The full version of the document, in english, is available for download at:
www.opera-indicators.eu

or you can require it by mail to:
prof. Ettore Capri, Director of OPERA Research Center
ettore.capri@unicatt.it

or

Alexandru Marchis, Policy Team Coordinator OPERA
alexandru.marchis@opera-indicators.eu

UNIVERSITÀ CATTOLICA DEL SACRO CUORE

OPERA
RESEARCH CENTER

OPERA is a young, growing think tank and a research centre of the Università Cattolica del Sacro Cuore, a major European private university.

It is an independent, non-profit scientific organization, committed in supporting the successful implementation of the agri-environmental measures within the European legislation.

Within this context OPERA reviews, advises and promotes the sharing of knowledge in the implementation and measurement of risk reduction methodologies, which are crucial for the successful implementation of the Directive on Sustainable Use of Pesticides. The fundamental contribution of OPERA is to use the potential of existing scientific researches as well as the existing expertise and knowledge to support the stakeholders in their political and technical decisions concerning agriculture, and particularly the management of agricultural risks relating to pesticides and the environment. One objective is to provide a series of pragmatic recommendations to policy makers to bridge the interest and objectives of agriculture and environment as well as to ensure efficient implementation of the agriculture related policies in the EU.

The issue of this document by OPERA is part of our contribution to the process of implementation of the Directive 128/2009 establishing a framework for Community action to achieve the sustainable use of pesticides. This is one step in our activity to promote the development of a sustainable agricultural production system in Europe.

We would like to stimulate a push and pull process where the farmers are stimulated to take action towards sustainability, on one side through the guidance and regulatory framework provided by the national authorities and on the other side through the guidance received through the market and the food chain actors. In this way, the society would understand the value added of the measures taken by the farmers and the limits of their production process and markets will be available to reward these efforts. Because of this concept, we are aiming to develop simple and pragmatic recommendations which are harmoniously perceived and interpreted by all the actors involved.

BACKGROUND

The EU Sustainable Use of Pesticides Directive (Directive 128/2009) requires Member States to develop a legislative framework and National Action Plan (NAP) that includes the aim of reducing the potential risk associated with pesticide use. This national legislation is required to be in place by the end of 2011.

METHODOLOGY

Over the past year, the OPERA Research Centre has initiated an EU-wide consultation, drawing on experts from the fields of agriculture, industry, trade, academia, environment and consumer protection, to produce a document that supports the transposition process of the Directive and the drafting of NAPs. It focuses on the proposal of a package of national indicators of risk, practical measures and the potential benefit they have in meeting the objectives of the SUD.

The toolbox of practical risk indicators proposed by OPERA facilitates positive pragmatic measures to address:

- Environment – water; soil and biodiversity
- People – consumers; bystanders and operators
- Social factors
- Economic costs

RISK INDICATOR SELECTION

In implementing the SUD, it is important to clearly define goals in the National Action Plan, and instigate measures to reach these goals.

Risk Indicators are expected to help national regulatory bodies to assess trends in pesticide risk reduction and to judge the effectiveness of their programmes.

The choice of mitigation measures, approaches and possible solutions is inextricably linked to the risk indicators selected. Therefore, the two topics - risk indicators and mitigating measures - have to be addressed in parallel.

Any set of indicators selected should reflect a minimum number of economic, social and environmental aspects, to cover all implications and effects of the measures. In many instances selected risk indicators can evaluate the relative success of a number of proposed measures. Risk Indicators can, in turn, highlight Environmental, Social and Economic factors of a sustainable strategy.

In the development of indicators it was a priori assumed that under the current regulatory scheme in the EU the use of any pesticide following the recommendations in the label is considered safe. Due to the fact that products are approved after an exhaustive risk assessment procedure, any risky situation may come from accidents, strong unexpected situations and over all misuse of the product. For this reason it is critical to be sure that the indicators allow to measure how products are used.

However, regardless of the number of measures covered by the results of one indicator used, for the evaluation of the efficiency of the NAP, the relevance lies in the total progress achieved in risk reduction.

ESTABLISHING QUANTITATIVE TARGETS FOR THE NATIONAL ACTION PLANS

Art.4 of the Directive 128/2009 requires that: "Member States shall adopt National Action Plans to set up their quantitative objectives, targets, measures and timetables to reduce risks and impacts of pesticide use ...".

It is the opinion of the OPERA panel of experts that the most coherent procedure to establish quantitative risk reduction targets is to give benchmark values over time to the most significant of the indicators selected to monitor risk reduction. These values can also represent percentages which reflect the modifications over time for the selected indicators.

This approach allows also a dynamic change of the quantitative targets based on the results of the monitoring activity and the efficiency at a certain point in time of different mitigation measures to address risk reduction.

THE RISK INDICATOR AND MEASURES TOOLBOX

Following the consultation process, OPERA has sought to prioritise strategies and Risk Indicators that can be pragmatically implemented and achievable by all stakeholders.

The focus for policymakers and stakeholders using the Toolbox should be on the most appropriate measure that will deliver the greatest benefit, along with selecting the Risk Indicator measures that can quickly and clearly identify which tools are working most effectively, and are best capable of achieving the desired effects for each individual Member State.

ENVIRONMENT

The potential risk of contamination of a water body can often be significantly reduced by appropriate prevention and mitigation measures that in turn lead to the reduction of diffuse sources (e.g. run-off from fields, spray drift, drainage, soil movement or leaching) and point source pollution (e.g. spillage during filling a sprayer or from containers).

SOIL AND WATER

Measures that could be taken up in the NAP by MS could refer to: specialised training and advice on spray preparation, application and maintenance; spray drift reduction technology (SDRT); field margin buffer zones; training on Integrated Pest Management programmes.

Pesticides are just one of the factors that could affect the status of aquatic ecosystems. The effect of pesticide is often difficult to isolate from other stressors and to establish a cause-effect relationship.

However, the implementation of adequate monitoring programs is fundamental in order to have an insight of the evolution of the overall water quality, as a part of the Water Framework Directive.

BIODIVERSITY

Measures that could be taken up in the NAP by MS could refer to: Multi-functional field margin buffer zones; Training on Integrated Pest Management programmes; Spray drift reduction technologies.

PEOPLE

Residue monitoring in accordance with MRL testing is already extremely well established and covered under existing legislation. Data generated in this process, along with extensive residue testing by retailers and other stakeholders, could be used in identifying trends.

The OPERA consultation group acknowledged that bystander exposure to the risk of pesticides is frequently perceived rather than factual. An effective Risk Indicator measure may play an important role in reassuring the public.

OPERATORS

The indicators for operator exposure proposed by the OPERA expert consultation again primarily focus on indirect indicators, linked to training of farmers. These include training to advise the operators on both acute and long term risks, better application techniques that can avoid incident during the use phase and the % increase in PPE sold to farmers.

Measures that could be taken up in the NAP by MS could refer to: Provision of safe application training courses; Testing of operators in safe spray handling; Use of Personal Protective Equipment (PPE); procedures for preparing pesticide handling operations. For these measures corresponding indicators are laid out.

SOCIAL FACTORS

The OPERA expert consultation clearly identified training and education as one of the key issues for the implementation of SUD. Training courses and the provision of appropriate support advice are integral to the successful uptake of most proposed mitigating measures.

Furthermore, the provision and take-up of training has been seen as a key indirect indicator of potential success of mitigating measures. It provides a key indication potentially years ahead of direct measures of pesticide risk reductions identified in the environment.

ECONOMIC COSTS

A series of economic goals have been proposed as a test platform to assure the retention of profitable businesses and the continued production of affordable food with a sustainable system.

CONCLUSIONS

Key objective of the Sustainable Use Directive is to measure step-by-step improvements made from an initial assessment, towards the final objective. The success of the measures and other mitigation strategies identified to reach the objectives, and their direct impact in reducing risk to human health and the environment, should be assessed by selecting appropriate Risk Indicators

The Risk Indicators presently available in Europe all have their specific purpose and methodologies. However, at present there is no universal ideal indicator which can be used for pesticide and environmental policy monitoring and evaluation.

As stated in the directive, waiting for the harmonised indicators, MS's may continue to report information based on their existing risk indicators or establish new indicators. Therefore, there is a need for Pesticide Risk Indicators that capture information and trends not directly related to the volume of pesticide used, but that have a significant impact in reducing the risk from pesticide use.

This means we have to take into account both habitats protections considerations (e.g buffer strips), technical aspects (drift reduction equipment, drift deposition modelling, ...) and non-legislative activities, such as educational level of farmers and continued involvement with training, age of farmers and their attitude to risk and adoption of *"best practice techniques"*.