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COMMISSION STAFF WORKING DOCUMENT

Annex to the

Communication on risk and crisis management in agriculture

{COM(2005) 74 final}

This Commission Staff Working Document is accompanying a Communication from the Commission to the Council on risk and crisis management in agriculture. It describes the various types of risks and crises in agriculture and the instruments available to deal with them.

1. RISKS AND CRISES IN AGRICULTURE

1.1 Risks

Risk implies a situation which could have a variety of outcomes, for each of which the probability can be estimated. Although risk-taking is often a pre-requisite to making progress, a negative outcome could have serious economic consequences for a business.

1.1.1. Types of risk

The most important risks in agriculture can be classified as follows.

1.1.1.1 **Risks** related to **production factors**

– **Human** or **personal risk** refers to the death, illness or injury of the farm operator and/or its labour force and may result in interruption of business. In EU Member States, basic coverage for personal risk is provided by sector specific or general social security systems. Additional coverage is available on private insurance markets.

– **Asset risk** is typically associated with fire, storm, theft, or other causes of loss and damage to buildings, equipment, animals or other agricultural production capital. Losses can be covered by business insurance. In the case of catastrophic events, public disaster aid at regional, national and/or EU level may contribute to reduce losses and to restore investments.

– **Financial risk** refers to capital as a production factor. Rising capital interest rates or insufficient liquidity may jeopardise the financial stability of any enterprise.

– **Liability risk** is associated with any private or business activity. New technologies, e.g. genetically modified organisms, or evolving legal obligations, e.g. food safety rules, may change the liability risk and the possible requirement for insurance or other risk management instruments.

1.1.1.2 **Production risks** concerning agricultural output or yields are often related to adverse weather conditions, plant or animal diseases or pests. Livestock production is generally considered to be less affected by output variability than crop production, since in many respects the production environment is easier to control. Sanitary crises, however, may result in severe income losses.

1.1.1.3 **Price risk** is the risk of output prices falling and/or input prices rising after a production decision has been taken. In the agricultural sector, specific inelasticity of demand contributes to the increased volatility of agricultural commodity prices. Price volatility has often been used as an argument for income stabilisation measures in agricultural policies.

All these risk elements can and do affect **income,** a key variable for agricultural policy. However, the different facets of risk may also be correlated in such a way that income risk is reduced. For example, low yields may be associated with high prices and vice versa, although trade liberalisation makes this ever less sure.

1.1.2. Assessing the risk

As yield and output (value of production) are two of the main components of risk in agriculture, their variability was analysed across the European Union.

1.1.2.1 The **yield variability** for a range of agricultural products, selected on the basis of data availability for the years 1989 to 2001, was calculated using Farm Accountancy Data Network (FADN) data. Among these products, tomatoes and potatoes were characterised by the highest variation of yield. Maize, wheat and sugar beet yield followed. The lowest variation over the years was observed in milk yield per cow.

1.1.2.2 Analysing the **variability of output** (joint effect of yield and price changes on the value of production) the highest coefficients of variation were found for farms specialised in wine production, fruit and vegetables, or pigs and poultry. Mixed farms and farms specialised in dairy production were at the lower end of output variability. Output variability in general decreased with farm size.

1.1.2.3 Looking at the **regional distribution** of output variability from 1989 to 2001 the Portuguese regions experienced the highest variation, followed by other Mediterranean regions in Spain, Greece, Italy and France. Denmark was also among the regions with high output variability. The most stable output conditions were in northern and eastern France, western Germany, Austria, the Netherlands, Belgium and Luxembourg.

1.2. Crises

While risk may be associated with either a positive or a negative outcome, the assumption is always made that a **crisis** has significant negative consequences. In this report a crisis is understood to be an unforeseen situation that endangers the viability of agricultural holdings, either at a localised level, across a whole sector of production or at a wider geographical level. In agriculture, a crisis may be caused by

1.2.1. **Natural disasters:** drought, floods, excessive rain, frost, hail, storms, earthquakes, …

1.2.2. **Diseases** and **pests** affecting animal or plant health or **contamination** in the food chain (e.g. dioxins); hazards aggravated by the increased movement of animals, trade in goods and global travel. Crises of this kind can seriously disrupt agricultural markets; livestock farmers, in particular, may suffer severe economic hardship.

1.2.3. **Economic (conjunctural) factors** having short-term but significant effects on farm income.

1.2.4. Unforeseeable disruption of **market access** caused, for example, by the unexpected closure of important export markets.

Contrary to more long-term and often predictable **structural problems**, a crisis is characterised by an abrupt shock with high intensity negative consequences. However, a short-term crisis may result in long-term structural problems. The CAP provides specific support to restructuring under certain Common Market Organisations and general support to improve production structures under rural development measures.

2. RISK AND CRISIS MANAGEMENT – INSTRUMENTS AVAILABLE TO EU AGRICULTURE

2.1. Risk Management in EU Agriculture

Farmers have developed a wide range of strategies to cope with risk, according to their exposure and attitude towards risk (risk aversion). Risk management is primarily regarded as an individual task.

To develop risk management strategies **farmers** must have a good understanding of the causes, characteristics and consequences of risk. Access to information and training on the risk management instruments available is crucial, to enable individual farms to develop appropriate strategies. **Member States** already have the possibility of supporting training through their rural development programmes.

Public support and mutual initiatives may help encourage the development of risk management tools and further improve the competitiveness of the agricultural sector. However, government intervention, for instance by providing public disaster aid, should not prevent the future development of market solutions. The price and market stabilisation provided in many sectors prior to CAP reform partly explains why risk management tools such as futures and options, or insurance schemes, are not more widely available to EU farmers.

2.1.1. Capital and debt management

The extent of financial and liability risk depends on the financial resources available and on investment decisions taken by the **farmer**. Highly indebted businesses and households are more at risk. Adverse events may threaten their economic stability and they normally have a greater need to develop risk management strategies. The simplest strategy for a farmer is of course to save money in years of outstandingly high income and to use these savings in bad years.

In Europe, **government** schemes to encourage savings are rarely used to improve the year-to-year stability of farm income. Most **Member States** offer all business operations, not only the agricultural sector, the flexibility to deduct or delay tax assessments in the event of investment or extraordinary losses, e.g. due to natural disasters.

2.1.2. *Production techniques*

New technologies and farming methods have in general improved yield potential and helped **farmers** reduce production risk. They may, however, require more sophisticated control over production processes, and therefore create new risks through management failure. Legal obligations may also impose limitations on certain production techniques that could be used to reduce risk.

While innovative production technologies may contribute to reducing individual exposure to production risk, they may in time increase the risk other farmers have to face, e.g. intensive livestock production may increase the risk of spreading animal diseases. Sanitary crises have been considered as a special category and will be dealt with in separate section of this document.

Technological innovations often require institutional innovations by **public** authorities (EU and/or Member States) to handle potential risk, such as structured cooperation between farmers and veterinarians to set up animal health plans or rules on the coexistence of GMOs with other types of production.

2.1.3. *Diversification and other gainful activities*

The idea behind diversification is that a favourable result in one activity may help to offset a loss in another activity. **Farmers** may therefore diversify in order to reduce their production and price risk. However, evidence suggests that the trend in EU agriculture is towards specialisation rather than diversification: between 1990 and 2000 the proportion of all EU farms that were specialised[1] increased from 77.3% (EU12) to 82.8% (EU15).

Diversification may include farm-related activities. In some regions forestry can be an important source of additional income for farm households. The most important activities directly related to the farm business are the processing of farm produce, energy and other non-food crop production, contractual work and tourism. Other activities include wood processing, aquaculture and the production of renewable energy.

Diversification can also describe off-farm employment (other gainful activities) which reduces the household's dependency on a fluctuating income from agriculture. In the EU, the share of farm holders with a gainful activity outside agriculture reached 30% in 2000 with some considerable differences between Member States. In addition, other members of the farm household may be active in off-farm employment.

The **EU** and the **Member States** provide support for the diversification of economic activities through r**ural development** measures addressing the structural adjustment of agricultural holdings and the diversification of the rural economy. The Commission's proposal for a European Agricultural Fund for Rural Development continues to encourage this policy.

With **CAP reform**, direct income support will continue to provide a significant and stable contribution to farm income, although with noteworthy differences according to the historic distribution of support between different sectors of agricultural

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1 Holdings earning more than two-thirds of their total revenue from a single type of production.

production. With decoupling, farmers will gain more flexibility to react to unfavourable market developments, without reducing the amount of direct aid they receive.

2.1.4. Marketing techniques

Farmers can reduce the price risk for agricultural products and production inputs by individually spreading sales over the year, by pooling risk through cooperative selling and buying, or by transferring at least part of the risk along the food chain. This last option can be accomplished through marketing contracts, production contracts and other forms of vertical integration.

Besides reducing risk, a contract may offer the farmer the opportunity to differentiate his product and gain a quality premium. Intermediate and final consumers may be willing to pay a higher price for a contractual guarantee of a certain quality, trait or production process. On the other hand, specific agreements on quality or the production process may also reduce the farmer's scope for using production techniques that reduce yield risk, for instance by limiting pesticide use.

Although the **EU** common agricultural policy is not directly involved in contracting, certain common market organisations provide a framework for producer organisations or contractual arrangements between producers and processors. On certain markets, in particular with a double outlet (fresh and processed) flexible contracts might play an important role in stabilising prices.

2.1.5. Hedging (futures and options)

For some agricultural commodities, **farmers** can use futures and options to considerably reduce price risk. But whereas they have significant advantages, futures and options also have certain limitations. They only deal with price risks over a period of some months and require investments in know-how and infrastructure.

A futures market contract is a legally binding agreement, made through a futures exchange, to buy or sell a specified amount of a commodity of a particular quality, at a specified place and on a given day in the future. Thus, the terms of a futures contract are standardised, making them easily tradable in organised exchanges. While production and marketing contracts normally involve the physical delivery of goods at maturity, on futures markets this is, in practice, the exception.

An important additional service offered to the agricultural sector by futures exchanges is to forecast spot market prices. Futures prices normally incorporate all available information and so increase transparency on the market. The information lead of traders over producers is reduced and market efficiency increases.

In recent years **the private sector** (farmers associations, financial institutions, …) has made considerable efforts to develop agricultural futures and derivatives markets in Europe. New commodity exchanges have been established and new futures and options products for trading have been created. Consistent with the increased market orientation of EU agriculture, most new contracts have been designed to reflect the value of agricultural commodities produced and consumed in Europe.

Although the European exchange boards have been very active in providing the necessary information to the agricultural community and explaining the use of their risk management instruments, know-how about the use of futures and options in the farming sector is limited. Additional information and training in this field seem essential.

Innovative products such as weather derivatives have recently been developed and made available not only to agricultural clients but also to other sectors like the tourism industry. Outside the EU they have been used as a basis to build up easily understandable insurance systems for agricultural producers.

2.1.6. Mutual stabilisation funds

Mutual funds enable **farmers** to pool risk. Organised mostly within a single sector, they can be regarded as a specific insurance scheme, although with a limited financial capacity. In the event of a member suffering damage, the loss will be mitigated or even fully offset from the money available in the fund, according to pre-defined rules.

Mutual stabilisation funds are often faced with the problem of limited resources, especially in the fund's early years. In some **Member States** the capital collected from the participants is supplemented by a **public** financial contribution. The limited financial resources of regional organisations can also be overcome by teaming up with mutual funds in other regions or by buying reinsurance, access to which could be improved by public action.

Financial support from the **Community** is currently not available. In 2000, the Commission proposed setting up a "regulatory fund" to stabilise the income of pig farmers. The voluntary fund would have been financed by pig farmers themselves, by means of levies to be paid when the economic situation was good. Member States would have been allowed to help cover launching costs and provide bridging loans when necessary. The Commission proposal did not find sufficient support in the Council.

2.1.7. Insurance

Insurance covering limited climatic risks, such as hail, is available to most EU **farmers**. Two main problems may hold back the development of commercial insurance products covering a wider range of yield, price or revenue risks. First, production and, in particular, price risk can be systemic, i.e. many farmers are affected at the same time. Second, asymmetric information limits insurance companies in calculating the probability of losses and may lead to adverse selection (only farmers at high risk buy insurance) and moral hazard (clients of insurance reduce their efforts to avoid damage). As a result, the availability of insurance to the agricultural sector is limited, which is the principle argument used by some public authorities to justify intervention.

For the **insurance industry**, reinsurance is a further obstacle to setting up agricultural insurance products, since the capacity of the world-wide reinsurance market is limited. Co-insurance between private companies is used in some Member States to alleviate this problem in the agricultural sector. In other sectors, for specific risks that might exceed the reinsurance capacity, e.g. nuclear risks or aviation accidents, the industry has created insurance pools to achieve acceptable levels of reinsurance.

In terms of public involvement in agricultural insurance, available information distinguishes three main groups of **Member States.** In Greece and Cyprus, agricultural insurance is obligatory and has a broad coverage. A second group of Member States has established public-private partnerships and various types of public support to insurance (Spain, Portugal, Italy, France, Austria, Luxembourg, the Czech and Slovak Republics, Latvia and Estonia). In all other Member States insurance is available but without public support and only covers some climatic risks, such as hail, or specific animal diseases. Farmers in most of the new Member States were used to subsidised and sometimes compulsory yield insurance systems before the economic transformation process.

At **EU** level the Commission, in its guidelines for state aids in the agricultural sector[2], fixed rules for Member States supporting agricultural insurance. Aid up to 80% of the cost of premiums is possible for insurance against losses from natural disasters such as earthquakes, avalanches, landslides and floods, as well as other exceptional occurrences. Losses caused by adverse climatic events (frost, hail, ice, rain, drought) or animal and plant disease will be assimilated to natural disaster only if the damage exceeds a threshold percentage of normal production, fixed at 20% in less-favoured areas and 30% in other areas.

Insurance that in addition to natural disasters also covers losses caused by adverse climatic events or animal and plant disease below these thresholds may benefit from state aids up to a limit of 50% of the premium cost. The guidelines do not allow state aids for insurance premiums where the insurance only covers damage caused by adverse climatic events not assimilated with a natural disaster. Other aid measures in connection with insurance, in particular reinsurance schemes, are examined on a case-by-case basis for their compatibility with competition rules.

2.2. Crisis management in EU Agriculture

Crises are by definition unforeseen and may exceed the capacity of the **individual** to cope. More widely, they may have a significant negative impact on the economic situation of whole communities or sectors. Thus, in the event of crisis, public solidarity at **regional**, **national** or **EU** level is broadly expected and accepted. The geographical level should be determined according to the gravity of the problem and the subsidiarity principle.

2.2.1. Natural disasters and catastrophic events

In the event of a natural disaster or major catastrophe, local, regional or national authorities in the **Member States** may intervene with appropriate emergency aid. Compensation of losses not covered by insurance, or restorative measures, may also be financed at this level, according to the subsidiarity principle. Member States must notify the European Commission of measures that contain a state aid component.

At **EU** level, the Commission has the role of assessing these **state aids** to ensure that they do not distort competition. The Commission guidelines[3] for state aids in the agricultural sector summarise the rules applicable to state aids to compensate for disaster damage.

2 OJ C232, 12.8.2000, p. 17-41.
3 OJ C232, 12.8.2000, p. 17-41.

To supplement regional and national measures **EU rural development policy** may provide support, both for restoring agricultural and forestry production potential damaged by natural disaster and for appropriate preventive actions. The current regulation, however, excludes Community financial participation in insurance and payments for income or yield losses, since insurance is not regarded as a preventive action. The new rural development regulation, now under discussion in the Council, maintains this approach.

In the event of natural disasters, the Community may also apply *ad hoc* derogations to **common market organisations**. Past examples have included the use of set-aside land for animal feed production, the advanced transfer of direct payments and the sale of intervention stocks at reduced prices to improve supplies of animal feed.

Following the floods which hit central Europe in August 2002 the **European Union Solidarity Fund** (EUSF) was created, mainly to assist Member States and countries negotiating accession, in the event of major natural disasters where the cost of the damage exceeds € 3 billion or 0.6% of the gross domestic product of the Member State in question.

The EUSF does not compensate for individual losses. It is designed to provide effective and flexible emergency financial aid for measures such as temporary accommodation or the provisional repair of vital infrastructures permitting the resumption of everyday life. With an annual budget of € 1 billion, the EUSF was not set up with the aim of meeting all the costs linked to natural disasters. Also, long-term action – lasting reconstruction, economic redevelopment, disaster prevention – is not covered by the EUSF.

2.2.2. Sanitary crises

The negative effect of a sanitary crisis due to infectious agents may concern the whole Community, given the possibility of disease spreading to several Member States and the subsequent disruption of markets. Even an outbreak confined to a single Member State can provoke a ban of all EU exports to some markets.

The measures to be taken to manage these crises are harmonised at EU level by detailed animal health and feed/food safety legislation. Community legislation clearly establishes that the **Member State** concerned is primarily responsible for implementing the legislation, controlling the outbreak and thus moderating the scale of a crisis. In the event of emergency measures to eradicate epizootic diseases in livestock, Member States may compensate farmers for their capital losses and loss of profit linked to animals slaughtered or crops destroyed, within the limits specified by Community instruments and state aid rules.

To ensure appropriate financial support to the affected farmers, the **EU** Veterinary Fund has been established to grant solidarity to the Member States facing this kind of crisis. The Fund reimburses up to 50% of Member States' compensation payments to farmers for measures applied in compliance with Community legislation, such as culling and the destruction of animals and animal feed. For measures to eradicate Foot and Mouth Disease EU coverage may increase to up to 60% of Member States' expenditure. Member States' vaccination schemes can also be co-financed. The Veterinary Fund does not however compensate farmers who suffer from economic losses due to limitations imposed on the movement of livestock for sanitary reasons.

Under specific conditions this kind of loss can be dealt with under the CAP or by the use of state aids.

A debate about the prevention of and response to sanitary crises is now underway. The Commission has already produced a preliminary study[4] on a risk financing model for livestock epidemics in the EU and a complementary study is programmed for 2005.

The Commission has also launched an evaluation of Community animal health policy, which will include questions on the cost effectiveness of the current financial instruments to cope with animal disease surveillance, control and eradication, and on ways in which producers should be induced to take all appropriate measures to reduce the risk of disease introduction onto their farms. Based on the outcome of these studies and the evaluation, alternatives to the current approach might be proposed.

In the framework of European research policy a European Technology Platform on Global Animal Health has recently been launched by the Commission, to address these issues on an international scale. Interventions against the main contagious animal diseases in regions of the world where they are endemic could significantly reduce the risk to Member States and would have the added benefit of contributing to poverty reduction in developing countries.

2.2.3. Economic crises

Economic crises affecting the EU internal market for agricultural products are addressed at **Community level**. Although CAP reform has substantially reduced the relevance of supply control and price stabilisation instruments, safety net provisions in the event of crisis remain available in several CMOs.

This is the case, for example, for the main cereals and skimmed milk powder, where the role of the intervention mechanism has been limited to that of a genuine safety net. In the event of a market crisis in the beef sector, the Commission has the possibility of introducing exceptional measures. Under certain conditions producer organisations in the fruit and vegetables sector may apply withdrawal measures. The common market organisation for wine provides producer organisations with the option of applying crisis distillation measures if the market is seriously unbalanced. In some other sectors, private storage can be supported by public funds.

Thus, the instruments available differ significantly between market organisations, according to their historic coverage by the CAP and the recent changes introduced by the reform process.

2.3. Recent measures

As a first initiative in support of its declaration on risk and crisis management, incorporated in the Council conclusions on CAP reform, and responding to the conclusions of the Agricultural Council of December 2003 on these issues, the Commission has recently introduced two measures. The first gives Member States more flexibility in the use of state aids to respond to crises, at regional or local level. The second proposes to establish a legal basis for co-financing between the EU and

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4 http://europa.eu.int/comm/food/animal/diseases/financial/risk_financing_model_10-04_en.pdf

Member States to alleviate some of the consequences of crises caused by animal diseases.

2.3.1. *Localised crises:* de minimis *rule for state aids*

Until recently, the Commission took the view that any national or regional aid given to support agriculture, however small, had the potential to distort competition and affect trade between Member States. All state aids in the agricultural sector were therefore subject to Commission authorisation; the *de minimis* rule applied in other sectors was not applied to agriculture.

However, the procedure for notifying state aids was criticised for being too heavy, in particular for small amounts of aid intended for delivery without delay. Member States needed more flexibility, in particular concerning these small amounts.

The Commission's experience suggests that very small amounts of aid granted in the agricultural and fisheries sector do not have to be regarded as distortive to the internal market, provided certain conditions are met. Agricultural commodities in the European Community are normally produced by a large number of mainly small production units. A ceiling for *de minimis* aids linked to agricultural production levels in each Member State would provide an objective economic reference value to avoid distortion in trade between Member States.

For these reasons, the **Commission recently adopted**[5] **a regulation on *de minimis* aid** in the agricultural and fisheries sector, allowing a maximum of € 3 000 per farmer to be paid over any three-year period. The total amount of *de minimis* aid granted to all farming enterprises in a Member State over three years must remain below a ceiling set by the Commission of about 0.3% of the value of its total agricultural output, in order not to affect trade between Member States or distort competition. Export aids and aid conditional upon the use of domestic over foreign products, as well as any aid fixed on the basis of the price or quantity of the product placed on the market, are excluded from the new *de minimis* exemption. Within these limitations, Member States may spend the money in any way they consider appropriate and without any delay.

2.3.2. *Sanitary crises: exceptional market support*

The Agenda 2000 reform of the beef meat CMO introduced a specific veterinary crisis provision[6], allowing exceptional market support measures to be taken in the event of animal disease, to react to market distortions caused by transport restrictions imposed to combat the spread of disease. Similar provisions exist in the Common Market Organisations for beef and veal, milk and milk products, sheep and goatmeat, pigmeat, poultrymeat and eggs.

Since it is the Member States that are primarily responsible for preventing the outbreak and spread of disease, the cost of these exceptional market measures should not be borne by the Community budget alone, but should be shared between the Community and the Member State concerned. In order to provide a clear legal

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[5] OJ L 325, 28.10.2004, p. 4-9.

[6] Article 39 of Council Regulation (EC) No 1254/1999 (OJ L 160, 26.6.1999)

provision for this financial arrangement the **Commission has recently proposed**[7] **a regulation** to the Council fixing a co-financing rate of 50%, which corresponds to the general reimbursement rate provided by the Veterinary Fund.

[7] COM (2004) 712 final of 26 October 2004