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Agricultural Risk Management In A Market Oriented Economy The Challenges for Syrian Agricultural Policy

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Introduction

As the first activity of the 2007 Agricultural Policy Forum of the National Agricultural Policy Centre (NAPC) of the Ministry of Agricultural and Agrarian Reform, a seminar on the Agricultural Risk Management was delivered. This seminar was entitled "Agricultural Risk Management in a Market Oriented Economy: The challenges for Syrian Agricultural Policy" was presented by Dr. Carlo Cafiero, from University of Naples, Italy, on 23rd of January 2007 at the NAPC premises.

The seminar sought to outline theoretical aspects related to the concept of economic risk, and then to link them to the context of agricultural production in a system of incomplete markets (of which Syria is an example). Following that to present some possible private risk management strategies that might be adopted in order to combat this risk at both the private (farmer) and public (policy-making) level.

In his presentation, Dr Cafiero introduced to the audience the most relevant issues concerning economic and social risk directly linked to agricultural activity. He highlighted which challenges the Syrian economy is likely to face during the rapidly evolving process of economic and political development currently taking place in the country. He therefore attempted to indicate the positive role that the government could play to manage such risks.

Overview of the Presentation

The NAPC Director Mr Ateih El Hindi welcomed the participants and presented the FAO consultant Associate Professor Cafeiro pointing to his extensive academic background, as an associate professor at Naples University, and a recipient of two PhD degrees in Agricultural Policy and Agricultural Economics.

The Definition of Risk

Dr Cafiero opened by remarking that there has long been an academic debate about the definition of risk. Furthermore this lack of consensus extends to the measurement of risk and the assessment of its consequences on economic outcomes and the welfare of agents involved. He therefore clarified the need to outline his own definition and approach to the subject.

Before defining 'economic risk' lecturer highlighted the need to define 'risk' in general. He therefore defined risk as: the existence of an objectively measured probability of a bad event occurring. Accordingly he indicated that 'economic risk', at the individual level, is defined as anything that leads to the reduction of consumption below sufficient levels.

He acknowledged that 'economic risk' was not the only type of risk, or even necessarily the most relevant type, that societies could be exposed to. Other risks than can be experienced personally (e.g. health) or socially (e.g. freedom of speech, education) can be as or more significant. He pointed out however that he would limit his discussion to economic risk, and in particular economic risk related to agriculture.

Income Fluctuation and Risk

He asserted that any reasonable economic agent will be risk averse, and therefore that the only legitimate explanation for wealth accumulation is to provide a guarantee against possible future drops in consumption, when the ability to generate income might not be offered. Thus he highlighted the integral role of risk analysis plays in the context of the study of economics as a whole.

The lecturer clarified an important point in relation to the observation that wealth generation is a form of risk avoidance. Namely that income variability is not necessarily synonymous with economic risk. This is because there is often a trade off between the level and the variability of income. The point made was that if the overall income is high then income variation is not necessarily perceived as a risk, this however is not the case if the overall income is low. Income variability is only dangerous (i.e. risky) if it leads to a reduction in consumption. Therefore while income fluctuation is often a source of risk, it is clearly not the main source amongst all economic agents.

Those agents with an overall higher income, and therefore with some credit or savings, can balance their consumption when facing varying incomes by using these savings and credits. Though they are the key source of investment, they play a great role in reducing economic risk. People can save in good years to use their savings in bad years.

Risk, Savings and Investments

One of the advantages of developed economies is that several mechanisms for consumption balancing provided are available. The role of financial markets, in this context, is to provide citizens with a broad range of assets that can be classified according to their liquidity, and therefore can easily be converted into a means of payment for consumption.

The lecturer distinguished between two kinds of assets: savings assets and investment assets. Saving assets act as reserves of liquidity, which can be used in response to any possible emergencies. Investment assets act as a stimulus to economic activity.

In developing countries, and especially in the rural areas where financial markets are incomplete or absent, and so assets are not clearly distinguished. In this context savings and reserves are invested into productive assets, which lack the liquidity of the saving assets that are common in developed economies.

Productive assets are those that are instrumental to the production activity, and therefore can take the form of land, livestock, machinery, etc. In case of emergencies, these productive assets need to be sold or legally transferred to another party (to generate liquid assets), in order to satisfy basic consumption needs. The problem with this risk management solution is that it has a significant cost when compared to the risk management strategies seen in developed economies. This cost, which may be vary high, occurs because there is often a partial or total irreversibility associated with the investment. This is the situation when it is not possible to recover the total value of the investment if it is dismissed. It is also the case that insofar as productive assets influence production so their alienation (legal transfer) reduces overall production. Therefore this kind of risk management strategy itself involves a degree of risk, and therefore while it may serve to offset risk to some degree it is not an efficient risk management strategy.

The cost involved in the investment in these productive assets can, however, be reduced, by implementation of the 'option value'. 'Options' provide alternative means to face emergencies and to keep consumption at a sufficient level without the need for disinvestment, and were described in more detail later on the seminar (see page 9). This boosts economic activity because it reduces the cost of making productive investments.

The cost of risk

It is necessary to enquire about the cost that can be associated with risk, and therefore to evaluate the benefit of eliminating all or part of this risk.

The cost of risk can be defined simply in terms of consumption, and therefore measured in terms of the reduction in the value of consumption. This definition, the lecturer pointed out, is unsatisfactory, because it only takes into account the 'ex-post' view. This is insufficient because an ex-post view only takes into account of consumption that has been actually reduced, furthermore it does not account for potential risks that do not materialise. The lecturer mentioned that it is also necessary to take an 'ex-ante' view", namely to understand the risk before it materialises. This is because the very presence of risk and the feeling of "insecurity" that it generates is in itself a cause for discomfort, therefore there is a value in reducing the risk whether or not it materializes. He acknowledged, however, that it is difficult to estimate the actual cost of reducing this insecurity.

The lecturer highlighted as a pragmatic approach that risk should be identified as a topic of social agreement. Therefore a minimum level of consumption should be guaranteed to all members of society, and an "acceptable" level of risk allowable should be defined. Policies therefore should be engaged in ensuring that this agreed level of risk is never met by any of its members. This will reduce any feeling of insecurity amongst society's members and so contribute to economic growth.

One of the most common mechanisms used to combat risk is through diversification, in terms of evaluating the cost of risk it is true however that this mechanism itself has a cost. Diversification implies a reduction of the average dimension (scale and scope) of each single activity. Therefore, in case of economies of scale and economies of scope, diversification reduces the overall returns that can be earned by the resources employed. Namely, it might lead the agent to forego the potential benefits of specialization.

Finally, when no effective risk management activity has been employed, the last resort is disinvestment of assets. Then the cost of risk can be very high due to the irreversibility, as was shown above.

Sources of risk for Farmers

The lecturer pointed out that the above observations highlight the necessity of effective risk management strategies to be employed. To develop such strategies it is important to identify the source of any given risk. It is evident that the best risk management strategy will always be the one that eliminates the risk at its source.

Here the lecturer introduced the distinction between 'pure risk' from other forms of economic risk. Pure risk is sometimes described as an "act of God" (i.e. it is uncontrollable by humans). Pure risk is the only form of risk that can never be totally eliminated at its source, such is true of natural events/disasters. It is the case however that significant steps can be taken to reduce the economic impact of the 'pure risk', this is particularly significant in modern economies, for which these knock-on economic risks are invariably more prominent.

Risk in Agriculture

With reference to agricultural risk it is necessary to distinguish between the impact on farmers and the society as a whole (the consumers).

Farmers:

With reference to farmers there are two main sources of risk:

1. Natural risk (climate, pests and other natural phenomena), often described as 'production risk' owing to its affect on yield.

2. Market risk which affects the price of the agricultural product (fluctuation possible in both inputs and outputs).

An important point here is that farmers often see both of these risks as 'pure', and therefore uncontrollable, because although market risk is the result of human activity it is to a large extent exogenous to (and therefore outside the control of) the farmer.

Society as a whole (consumers):

From the point of view of the society as a whole market and natural risks can both still manifest themselves.

The impact of market risk at this level is, however, determined by the relationship of the country with the rest of the world

If a country is closed to international trade, the only relevant risks are those linked to natural events. Supply of inputs to and demand of products from agriculture are generated by internal conditions. What can be seen as a potential market risk for a producer (for example a lower price received for farmers' production) invariably implies an advantage for consumers or for the public budget.

This allows, in a centrally planned economy, for farmers to be shielded completely from market risk, by transferring it directly to consumers (through higher and more variable prices) or to the public budget and then to taxpayers (through variable losses that can be then compensated by tax revenues).

International Trade

Opening a country to international trade potentially exposes it to market risks associated with supply of imported inputs or with the demand of exported goods. In this case the beneficiaries of higher inputs and lower product prices are mostly outside of the country, and this means that their sense of obligation to assist the internal market to balance consumption is greatly reduced (although internal economic risk can be transferred to them by means of the international financial markets). This opening to trade, however, substantially limits the impacts of natural risk, for any locally experienced risk can be balanced through imports

To just look at this negative aspect of international trade however would be greatly misleading. International trade, if done properly, can be used to ensure better opportunity can be exploited through trade thanks to existing comparative advantages (as is the case in Syria). Usually this generates benefits that by far exceed the cost of additional price risk due to world price fluctuation. This is true provided that there is no competitiveness in the world market, and the consumption of Syrian products does not expose international markets to price fluctuation.

With reference to the transition from a planned to an open economy, it was noted that this is often assumed to transfer a higher market risk to the domestic farmer. However while it is true that openness can have a negative effect on the production risk, the speaker noted, that this does not necessarily expose the farmer to a greater overall risk. This is because in a planned economy, by providing the farmer a fixed price the farmer cannot be compensated, as they are in an open economy, by the high prices that a bad harvest generates (the so-called "natural hedge").

In smaller, agriculturally-orientated economies, openness to trade presents the biggest risk to farmers for price variability is often independent of production, thereby negating the 'natural hedge', and exposing the farmer to both production and market risks.

Risk characteristics

The lecturer assured the audience that knowledge of the characteristics of the risky event is paramount in the process of identifying the relevant strategies for a successful risk management.

The three most important aspects that should be taken into account when characterising risk are:

- Frequency of the event (scale: frequent to rare)
- Intensity and the scope of the damage, i.e. its geographical distribution and scale of its impact (scale: negligible to very significant)
- Correlation among the individual agents' exposure, i.e. whether the risk impacts uniformly or discretely (scale: systemic to idiosyncratic).

The Risk-Box

At this point, and in recognition of the importance of the above considerations, the lecturer introduced a tool which he himself has been instrumental in the realisation of, the 'risk-box'. This tool which is used to intimately analyse risk characteristics, and which in turn therefore helps a risk managers, and policy makers, to implement the appropriate strategy to manage or just cope with each risk.

The three aspects, frequency, intensity and scope, and correlation, are be depicted in a three-dimensional diagram, called the "risk-box", in which each vertex can be used to describe extreme forms of risky events (see slide 8). Individual risks are then plotted in correspondence with the vertices and described accordingly.

As the lecturer showed, by moving along the intensity dimension from a "negligible" towards a "significant" or serious event, so it is probable that any risk strategy will need to change from a risk 'coping' strategy to a risk 'management' one. This analysis however needs to be tempered by the understanding of the risk's character in terms of frequency and correlation. It is evident that a significant risk which is rare and idiosyncratic needs to be dealt with differently from one which is either frequent and idiosyncratic or frequent and systemic.

The lecturer provided the audience with a range of different examples, and the best approach to combat each of them, outlining the three different modes of strategy in relation to each risk: Retention, Transference, or Avoidance. Added to this he also indicated the different approaches that could be employed both prior (ex-post) and following (ex-ante) the risk for each example.

Different risks, and their individual characteristics, need to be considered individually and through this appropriate analysis to be managed effectively. Talking of systemic, frequent, but negligible risks such as minor droughts, or price swings, he advised a retaining strategy; as an ex-ante approach investment and savings and as an ex-post approach, coping. Talking of systematic, rare but significant events such as natural disasters or epidemics, he advised transference of the risk, therefore as an ex-ante action hedging on the global markets, and as ex-post action solidarity. Referring to systematic, frequent and significant risks, such as drought in the desert, he advised risk avoidance, and as an ex-ante approach public investment and as ex-post approach solidarity.

Private tools for risk management

The expert explained that actions taken by an agent in the face of any given risk can be classified as either *risk management* or *risk coping* activities, according to whether the actions is taken before or after the negative event occurs. Risk reduction, and therefore

management, requires the investment of resources to modify the environment in which the activity is conducted so that the overall risk is reduced. This can take the form of simple risk management strategies, such as of digging a well in a drought-prone region, or in extreme circumstances of complete risk avoidance.

With reference to the most common and effective risk management mechanisms, specifically in agriculture, the lecturer outlined the following:

Diversification

Diversification has been always adopted by farmers throughout the world and corresponds to oft-repeat adage that one should avoid holding "all one's eggs in one basket". In reality this is achieved by engaging in agricultural production which is negatively correlated, and therefore if one is affected by risk then the other activity (ies) will not be, this is referred as the 'Portfolio Theory'. The negative impact of diversification is that benefits from specialization are foregone, particularly when any economies of scale are cancelled out by the diversification.

Transference

Transference is another mechanism that is often employed in risk management. Transference refers to the transfer of risk to another agent, or agents and thereby outsourcing the risk.

❖ Insurance

The principal mechanism for risk transferring is insurance. Insurance is a contract by which one party (the insurer) agrees to pay a compensation (the indemnity) to another party (the insured) if a certain event occurs, in exchange for a fixed payment (the premium). This can come in several forms, but in all its manifestations the basic idea remains, namely that the insurer provides the agent the possibility to transfer his/her risk.

Market based insurance depends on risk sharing mechanism through pooling uncorrelated risks, such as is the case in car insurance. There are, however, several problems with commercial insurance including asymmetric selection (arising from incomplete information it fails to take account of individual risk characteristics), moral hazard (insurance fraud) and systemic risk (the possibility that an event that has systemic impact might result in an imbalance between premiums and indemnity).

The lecturer however offered some suggestions as to how these difficulties might be reduced:

With regard to asymmetric selection the lecturer pointed out that this can be combated in various ways. The most common of which are through the development of risk classes, the establishment of a system of no-claims bonuses and by the implementation of mutual insurance (which will be described in greater detail below). The aim of these measures is to reduce the asymmetry of information and thereby the asymmetry of selection by increasing the likelihood that the individual insurance policies will reflect, as accurately as possible, the status of the insured, thereby benefiting both parties.

Regarding moral hazard, it is particularly difficult and costly to monitor insured people's behaviour. They might create the risk themselves or give false information in order to get the compensation (farmers have been known to burn their insured yields, knowing that the insured value is higher than the market one). Therefore, the insurance companies try increasingly to control and supervise the insured people to protect themselves from such

deceit and to avoid lack of accurate information. Any attempts to lessen the affects of moral hazard also therefore involve reduce the amount of asymmetric information.

The most common approach to this is to increase the amount of information which is gathered with regard to the individual agents. This could include monitoring of activity, which most likely involves the carrying out of some kind of investigative work after the insurance claim has been made. Another way of reducing this risk is by introducing deductibles into the policy, whereby the insured is required to pay a certain amount before the insurance policy is applied, which in turn discourages any fraud.

In the case of agriculture, it was highlighted that mutual insurance is often the most successful mechanism to avoid the moral hazard, and also asymmetric selection. Mutual insurance involves the formation of a secondary body to the insurance (i.e. a cooperative of producers or another form of association, of traders, or of processors, or even some public agencies). These bodies can be comprised of a group of agents all willing to form a cooperative relationship between themselves and other interested parties, this could take the form of a regional collective of farmers. Once collected into a group these mutually agreed farmers then pay regularly a certain amount monthly, and the money collected can then be used to fund and compensate the individual members in the case of emergencies. The benefits are that the mutual group is often smaller and better informed, so it has better access to individual and specifically relevant information. Furthermore a degree of honesty is ensured by the fact that the executors of the policies are both the insurers and the insured. This combination ensures that the members themselves effectively monitor and check upon the information honesty and therefore reduce the possibility of the moral hazard and asymmetric selection. The problem with mutual insurance is that it can be expensive due to limitations of scale, but furthermore it is still susceptible to a systemic risk, which is especially prevalent due to the correlation between the agents within the mutual.

Systemic Risk

Systemic risk is a serious problem that can cause insurance failure of all types. Such a risk could be realized when a bad event affects a large number of insured people at the same time. This situation makes it impossible for the insurance agencies to pay the deserved compensations for those people, unless it has enough financial resources.

One method which has been used to combat this problem, as the lecturer pointed out, is through reinsurance. This is the underwriting of the insurance company by a reinsurer which will typically reinsure in uncorrelated international markets. Another method has been in the development of Catastrophe Bonds (CAT Bonds), which are risk-linked securities that give a high-return to their (globally sourced) investors and in so doing transfer part of the risk to these investors. This is because when triggered by specifically defined circumstances – "catastrophe" – the money that has been invested is used to manage this catastrophic risk. This was shown as particularly effective in the wake of the earthquakes in the US, the CAT-bonds allowed the US Government to significantly compensate the affected parties.

❖ Hedging, Price Risk Management Mechanisms

Price risk is systemic by definition, for this reason insurance, at least in its traditional form, cannot be used. Other mechanisms have therefore been developed to combat this risk. Specifically, these mechanisms seek to "hedge" price risk exposure through combination of mutual insurance and utilization of financial instruments (contracts). "Hedging" loosely refers to the process of identification of those economic agents "who might benefit from your misfortune".

The most common such tools at the financial market are: forward contracts, futures contracts and options.

A forward contract is an obligation to sell (“short” position) or to buy (“long” position) a given amount of the product at a certain future date, at a given price. The contract is binding, in that at expiration, it must be honoured with the transfer of the good among the parties.

A futures contract by contrast is a binding contract to buy (“long” position) or sell (“short”) a given amount of a certain product at a given price to a commodity exchange. At any time up to the expiration date, the contract can be offset by acquiring an equivalent opposite position, and therefore it needs not to end with the actual delivery of the good.

An *option* is a contract that gives the holder the right (but not the obligation) to buy (“call” option) or to sell (“put” option) a financial asset (usually a specific futures contract, or a share of a company) at a given moment in the future at a specific price level (the “strike” price). By this way the price risk would be avoided providing that both partners have mutual advantage.

The possibility of using such tools depends on some characteristics of the good and on the economic dimension of the agent. For an active market to develop, the commodity must be fairly standard, easily storable, and there must be different economic agents interested in opposite positions. Fortunately this is the case for most agricultural commodities such as grains (wheat, corn, barley), oilseeds (soybeans, rapeseed), dairy products (butter, milk, cheese), meats (pork bellies, frozen hogs) and even live animals (live cattle). Also, there are many processed products whose price is usually highly correlated with the price of fresh agricultural product, for which there exist active futures and option trade (orange juice, ethanol, etc) that can be used by farmers to hedge their price risk.

Also, use of financial derivatives requires some initial fixed cost and some transaction cost linked to the acquisition of the needed skills, which makes it unlikely that an individual small farmer could ever find it profitable to operate on such markets directly.

What is likely to be more common, is that some other agent (a cooperative of producers or another form of association, a trader, a processor, or even some public agency) might operate on the exchange and then transfer the benefits to individual farmers through other contractual arrangement.

The key point is that the potential for price risk management for many products exists, although some non trivial organizational effort is required to take advantage of it.

As a matter of fact, the role of financial markets as an instrument for transferring risk is become more and more important throughout the world. Even the financial exposure to risks, which were considered uninsurable, such as catastrophic risks, are now started to be hedged by using global financial arrangements, such as the CAT-bond..

Risk and agriculture

Starting with a caveat the speaker pointed out some considerations that needed to be made before discussing the risk in agriculture directly. Referring to the multifaceted role in economy that agriculture has; its intense use of natural resources (especially true in developing countries) and the fact that it is the direct and indirect source of most food products. Agricultural activity may be in itself the source of risk to the general population, linked to the quality of the environment (natural resource depletion or

degradation) and to food safety (chemical pollution). For this reason, one risk related objective of the public policy may actually impose costs on agriculture for the sake of protecting the general population. Also, in many developing countries food security may be a relevant issue which involves a role for agriculture. Subsidy to farmers may be seen as a kind of risk management policy, intended to protect consumers from the risk of not having an adequate supply of food.

Agricultural policy and risk

With regards to the risk exposure of farmers, Dr Cafiero addressed that the role played by agricultural policy is different depending upon the type of policy a country is involved in. He pointed out, however, that policy is invariably the most effective way of dealing with risk in agriculture.

In an economy where production is planned and prices are fixed (no market risk), farmers would bear the entire burden of natural risk and hold entirely the production risk, in being less than average because of natural conditions. The possible option here could be diversification of crops, as well as adopting new improved species and modern technologies to reduce the burden of climatic risk.

In a market economy, where prices are left free to adjust to the conditions of demand and supply, part of the production risk is transferred from the producer to the consumer to the so-called “natural hedge” phenomenon. When production is low the price will be higher, thus in part compensating farmers for the lower production.

The residual part of the market risk, which is due to changes in the demand characteristics that may affect the price, can be hedged by adequate institutions, through risk sharing mechanisms such as future contracts and options.

What is ahead for Syria?

At the end of his presentation, Dr Cafiero addressed to possible strategies that would be of great help to Syria to cope with agricultural risks.

The first element of a successful policy strategy oriented to assist farmers in risk management should be to create required institutions for private risk transfer mechanisms. This necessitates the to establishment of the conditions for enabling domestic production to access larger markets, especially for those products that do not have strong competition from international production (i.e., typical products). In this way, the natural hedge might be exploited to a larger extent because price of these commodities will be strictly linked to the domestic production.

Insurance may play a key role, especially for production risk. In order to activate effectively the insurance sector, however, there are several actions that the government needs to take to ensure:

- the adequate legal framework for many private insurance companies to operate
- monitor and guarantee that the insurance companies be liable for the money they collect
- Ensure a constant flow of relevant and reliable information, to reduce the problems of moral hazard and asymmetric selection.

For those risks which are highly correlated (such as price risk), insurance is not likely to work. A greater role might be played by markets of financial instruments such as future contracts and options. In this respect, the role of the government, apart from providing

the legal framework for operating, can be that of ensuring an adequate supply of education opportunities to enable the people to successfully participate in these futures markets.

Finally, problem of those risks which are uninsurable and difficult to deal with by the private agricultural sector alone prevails. These are risks of large natural disasters such as floods or extended drought. In such cases and in the condition of a country like Syria, the only option for farmers is still to rely on some form of emergency funds with clearly defined triggers and compensation procedures. They could be granted for example via a “public solidarity fund” in case of high emergencies.

Care must be taken, however, to ensure that the presence of the fund is only limited to provide guarantee against the truly uninsurable risks. Otherwise it might become an obstacle to the development of private insurance and financial markets, as the situation in some European countries.

One very interesting opportunity that is provided to a Government that runs a solidarity fund in agriculture is that the exposure of the emergency funds might be hedged on the global financial markets. that could be done through emission of financial bonds, whose returns are linked to the possibility of the catastrophic events occurring (CAT-Bond).

Summary of Discussion:

The audience actively participated in the forum by adding information and offering cues for debate. The summary of this discussion was as follows:

State of risk management in Syria

The Director of the Centre Mr El Hindi made an intervention clarifying the state of agricultural risk management in Syria. He pointed out that agriculture in Syria is encountering several types of risk. In general, there are no significant natural disasters, but some limited incidents. The existed natural risk is the climatic conditions changes including hot, frost, drought, and rain scarcity or overfull. Taking into account that 75% of the overall farming land is rain fed (not irrigated) therefore Syrian agriculture is strongly affected by these natural conditions that leading to production and price fluctuation and risk.

The other factor impacts the Syrian agriculture is limitation of external and internal marketing. In addition, prices are left free to adjust to the conditions of demand and supply that makes both producers and consumers suffering of the price instability.

As for example the “black cumin” crop risk in few years ago. When unexpectedly the demand highly increased presenting very high prices for the production, for which the farmer were attracted to widely grow this crop the second year. Unfortunately, the demand fell in that year and so did the prices. Another example of risk is in olive production. Generally, olive trees are characterized by the “alternate bearing phenomenon”, which determines the prices of the fruit and oil yearly upon to the yield. In addition, the demand for export increases to a large extent the local prices of olive oil.

About the methods adopted to deal with agriculture risk, Mr El Hindi mentioned that the only way applied to help farmers, in case of emergencies, is reschedule or respite the credits they get. Also, the only agricultural insurance system used in Syria is “the livestock funds”.

To improve the situation of agricultural risk management in Syria, Mr El Hindi proposed some recommendations: development of private, public or corporate insurance system; setting appropriate compensation mechanisms for farmers; establishing social safety nets; rationalization of natural resources’ usage; training the producers to be well acquainted to face the potential risk of agriculture.

Livestock Services Fund in Syria

Upon to the information¹ given by the Director of the Federation of Syrian Agricultural Chambers, Dr Cafiero stressed on the importance of this experience as a necessary step for managing the risk of livestock breeding. As also it is a good sign of farmers’ recognition for risk management. However, this experience might be not convenient to other sectors.

¹ The Fund aims at providing services for the cattle breeders, who are members of the Chambers of Agriculture, depending on the kind of their subscription to the Fund. The Fund mainly covers compensation in case of sudden death or urgent slaughter of their animals, except for death in diseases, outbreaks and natural disasters. The death compensation is 75 % of the real value of each cattle head. In addition, the Fund services provides: regular veterinary doctors supervision of the breeder’s animals during the period of his subscription; extension services on breeding, milking, fattening, milk feeding, feeding and other activities.

Unlike other risks, the cattle breeding' risk are identifiable, predictable and able to be managed through regular provision of veterinary services to avoid epidemics, diseases and then death.

Water-related risk issues

As it is the most critical problem in Syria, the lecturer reaffirmed what he mentioned in his lecture, namely that natural risks, such as low rain-fall, are not predictable or easy to change. He underlined several key procedures could be taken to effectively manage water utilization and maintaining. Chiefly, they consist of adoption of appropriate modern methods and technologies in irrigation and water use rationalization; as well as enhancement of peoples' (producers and consumers) awareness of the necessity to protect and save this vital resource. He addressed that NAPC conducted several significant studies about water that would help in this subject.

Financial markets in Syria

Dr Cafiero stated as an example a joke about a shoemaker who wanted to transfer his business to another country. He sent two agents to that country to research and analyze the market there. The responses that they returned with were seemingly contradictory and compatible: the first claimed, there is no market as nobody wears shoes. The second, there is a huge market and nobody *yet* wears shoes.

From that joke the lecturer sought to explain that it makes difference the approach you have to understanding or analyzing any issue. Hence, he assured that the point is not necessarily about whether or not to establish complicated financial markets in Syria, but about our understanding of the scope of the advantages of such institutions for Syria.

Trade agreements in planned and market economy

In both types of economy there are differences in the nature of the markets and commodities, which are essential for trade agreements and often exposed to be monopolized.

Such agreements are more convenient to rich countries, because the number of the beneficiaries is higher and it is easier to follow through. He remarked, however that even the USA government is not able to benefit from the expected outcomes and gains.

As for example, internet is becoming the most easier and effective way across the world for trading and exchanging in the world markets, but is it available to the majority of small investors and consumers in most of the countries? Or can they effectively exploit this way? Having accessibility to internet would permit any one to invest, for instance, in buying some of producers' risks in any part of the world. This possibility has been used only by grand investors, while the agricultural producers and consumers don't benefit completely yet from this opportunity. Here more emphasis should be put on the need to educate and train people to be able to exploit such technological market.

In this regard, Dr Cafiero pointed out to Mr Alexander Saris' study, conducted by the NAPC. He concluded that countries with a food deficit could import food from international markets, and smoothing the risk of price volatility by diversifying their production. Taking into account, targeting groups of producers and consumers, perhaps as associations, is better for attaining good results.

The role of the intermediary sector

In Reference to the comment of Dr N Rashid, Deputy Minister of Agriculture and Agrarian Reforms, about the relevant role of intermediary sector with producers and consumers. The expert clarified that middlemen are not affected by risk due to lack of competition in this sector, they really act like monopolies and so impose the prices they want for agricultural production. Intermediaries might actually play a role in sharing part of the commodity chain risk, provided that there should be other players to create sufficient competition. In that case the farmers would benefit from the situation to transfer the price risk of their production.

Financial support as a tool to face risk

In the discussion of financial support role as a tool to deal with risk, the lecturer indicated that in 1971 a “Public Fund for Risk Management” was established in Europe to support the development of the insurance sector. Presently, the insurance markets haven’t reached yet the goal of alleviating risk and the sector development. Whereas many of insurance’ agencies get advantages of the financial support of the government without making any improvement in their functional services. That is to say, targets of the support given to the insurance markets in the European Union haven’t being accomplished yet.

Not to advertise the insurance sector, the lecturer addressed, but the development of such system is really needed to help and support farmers, so they can relatively hedge the agricultural risk they encounter. As regards, most of them don’t have adequate financial resources that empowering them to deal themselves with such risk.

Avian -flu crisis

Europe has exposed to this epidemic and the European producers have suffered from the great damage brought by this crisis. This is because consumers lose trust in poultry products (chicken meat and eggs). Therefore, an important role could be played by Syrian agricultural policies to provide the European consumers with information assuring that Syria is clean of this disease, and it is safe to buy poultry products from Syrian markets.

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Agricultural Risk Management in a Market Oriented Economy

The challenges for the Syrian Agricultural Policy

by Carlo Cafiero

The University of Naples Federico II and FAO Consultant

19/04/2007

NAPC - Damascus

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Outline

- Definition of “risk”
- The cost of risk
- Sources of risk for farmers
- Risk characteristics
- Private tools for risk management and the role of global financial markets
- Policies for risk management
- What is ahead for Syria?

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Definition of risk (1)

- Economic risk
 - At the individual (household) level, economic risk is the probability of not being able to achieve sufficient levels of consumption
- Other risks
 - Personal (illness, disability, death)
 - Social (lack of freedom, education)

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Definition of risk (2)

- Is downward income fluctuation a source of economic risk?
 - There is often a trade off between level and variability of income
 - Income variability is dangerous only if it leads to consumption reductions
 - The role of savings and credit
 - Liquidity, irreversibility and option value

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Sources of risk

- Understanding the “fundamental” source of variation
 - Climate and other natural conditions (atmospheric events, natural disasters)
 - Technological progress, investments
 - External demand/supply (output price falling, input price rising)
 - The more open to trade is a Country, the more relevant is this source of risk
 - Opening to trade transfers part of the natural risk

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The cost of risk

- Opportunity cost of resources employed to sustain current consumption rather than future production
- Foregone benefits from specialization/economies of scale
- Irreversibility and the cost of disinvesting

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Characteristics of risky event and strategies

■ Characteristics

- Frequency
- Intensity of the damage
- Correlation

■ Strategies

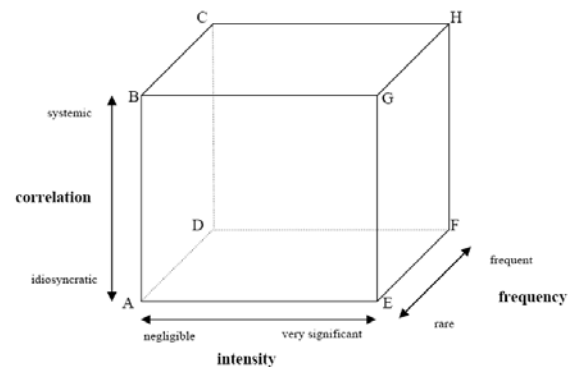
- Risk management (before the event occurs)
- Risk management (after the event occurs)

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The “risk-box”



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Tools for risk management (1)

- Diversification (“do not hold all your eggs in one basket” – “do not keep all your money in one pocket”)
 - Portfolio theory: mixing activities whose returns are negatively correlated
- Self insurance
 - Save in the good years, use your savings in bad years.

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Tools for risk management (2)

- Market based insurance
 - Risk sharing mechanism through pooling uncorrelated risks
 - Problems with insurance
 - Asymmetric and incomplete information
 - Systemic risk

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Tools for risk management

- Hedging
 - “Find somebody who might benefit from your misfortune”
 - Contracts for future delivery
 - Options and other derivatives

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Risk and agriculture

- Private risk
 - Farmers' standard of living
- Social risk
 - Impact of farming activities on the general population standard of living
 - Pollution
 - Food safety
 - Natural resources degradation

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Agricultural Policies and risk

- **Planned production and fixed prices**
 - Farmers hold entirely the production risk linked to climatic conditions
 - No market risk
 - Diversification of crops can reduce the burden due to climatic risk

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Agricultural Policy and risk

- **Market economy**
 - Part of the climatic risk is transferred to consumers through the natural hedge phenomenon (price is higher when production is lower)
 - Market risk can be hedged if the institutions are adequate

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A possible policy strategy (I)

- **Create institutions for private risk transfer mechanisms to work**
 - Trade
 - access to foreign markets
 - Insurance
 - legal framework, liability of insurance companies, Information flow
 - Futures and options
 - legal framework, education

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A possible policy strategy (II)

- **Guarantee public solidarity for truly uninsurable risks**
 - emergency funds with clearly defined triggers and compensation procedures
- **Use global financial markets to hedge the exposure of the emergency funds**

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