



SERIES HUMANITY AND BIOSPHERE

Agriculture and Sustainable Development



Proposal papers for the 21th century

The proposal papers are a collection of short books on each decisive area of our future, which assemble those proposals that appear the most capable of bringing about the changes and transformations needed for the construction of a more just and sustainable 20th century. They aim to inspire debate over these issues at both local and global levels.

The term 'globalisation' corresponds to major transformations that represent both opportunities for progress and risks of aggravating social disparities and ecological imbalances. It is important that those with political and economic power do not alone have control over these transformations as, trapped within their own short-term logic, they can only lead us to a permanent global crisis, all too apparent since the September 11th attacks on the United States.

This is why the Alliance for a Responsible, Plural and United World (see appendix) initiated, in 2000-2001, a process of assembling and pinpointing proposals from different movements and organisations, different actors in society and regions around the world. This process began with electronic forums, followed by a series of international workshops and meetings, and resulted in some sixty proposal texts, presented at the World Citizen Assembly held in Lille (France) in December 2001.

These texts, some of which have been completed and updated, are now in the process of being published by a network of associative and institutional publishers in 6 languages (English, Spanish, Portuguese, French, Arabic and Chinese) in 7 countries (Peru, Brazil, Zimbabwe, France, Lebanon, India, China). These publishers work together in order to adapt the texts to their different cultural and geopolitical contexts. The aim is that the proposal papers stimulate the largest possible debate in each of these regions of the world and that they reach their target publics whether they be decision-makers, journalists, young people or social movements.

Presentation of the Paper « Agriculture and Sustainable Development »

The origin of this proposal booklet was a first work taken on by Bill Vorley of the IIED in London, with a view to providing a work document on the stakes and background questions posed by the social, professional, political, economic and associative actors concerning the sustainable development of agriculture. The meeting in Lisbon in January 2001 “for a transatlantic, multiple actor dialogue on sustainable agriculture”, organised by the European partners on the environment (EPE), contributed to testing a certain number of points and proposals in this document.

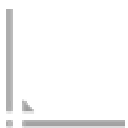
On a geopolitical level, this first work was strongly based on the northern countries, the OECD and particularly the USA and the EU. The question of sustainable agriculture in the countries of the south was not dealt with in this first version, but it has not been entirely discarded.

With respect to methodological questions concerning the choice of the problem, and particularly the articulation between a strategy of sustainable development of agriculture throughout the world in a process of globalisation and liberalisation of world trade, we commenced with a certain number of questions in their current state concerning the countries of the north, in order to evaluate, for instance, the impact of the agricultural policies of developed countries on developing countries.

Moreover, the generic, transversal nature of the notion of sustainable agriculture means we have to show caution in using the notion between different countries and different continents. In other words, all development strategies or policies may today be based on the objective of sustainability. However, there are many implications of this, such as questions of food sovereignty, alimentation, soils or world government ... The “transversal specificity” of the subject of agriculture and sustainable development must therefore be borne in mind.

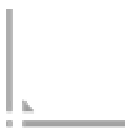
This document is a work in constant evolution and all comments and proposals are welcome in the knowledge that this version is a draft and far from being finished.

Samuel Féret.



Agriculture and sustainable development

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1. Introduction

The urgent need for dialogue between the different social actors

“ These agreements and declarations [the Earth Summit of 1992, the agreements of the WTO in 1994, the world food Summit in 1996] started a dynamic process that is not yet entirely coherent or logical in the balance between the environmental, economic and social objectives of the nations of the world. Although it is obvious that countries and groups of countries differ strongly in their interests and priorities, the international community must seek a common point in taking into account these crucial shortcomings. ”¹

We are all more or less aware of the debate on agriculture and we are all interested in it being maintained, sustained and legitimised. An alimentary perspective is a main objective of sustainable agriculture, and the responsibility of all the participants in the agro alimentary system, including farmers, workers, decision-takers, researchers, traders and consumers is fully involved.

The actors in the agricultural and agro foodstuff world must agree on objectives for agriculture and rural areas. This is a condition for developing policies and strategies that enable the sustainable character of agriculture to be improved.

Confusion between objectives can lead to confusion between policies. Without a clear understanding of what we want from agriculture, we will not reach agreement on policy and the positions of negotiation will become contradictory. In the end, agriculture is an activity that forms part of the life of humans and society, which consumes large amounts of public money in normal times (50 % of the expenditure of the EU or 1000 euros per family in Europe, 400 \$ per family household in the USA and 361 thousand million \$ or 327 US\$ per person through the OECD), and even more when things work out badly ; agriculture is responsible for managing a large part of agricultural surfaces and also public goods such as fauna, flora and water. The political decisions taken every 4-5 years in the polls or every week in the supermarket are not a strong argument as to what we expect from our farms, our food systems and our rural areas.

It is in the mid 1990s that alimentation became a sensitive debate, particularly among the European public, and questions concerning feeding led to others concerning global trade and exchange liberalisation. One question after another, from beef with hormones to the WGO, passing through BST, public opinion in Europe seems to have been hardened against the technological,

¹ In “ Environnement, Commerce et agriculture durable : Concepts, Questions et Outils [Environment, Trade and sustainable agriculture : Concepts, Questions and Tools]”. Work document number 4, “ Cultiver nos futurs [Cultivating our futures]”, Conference on the Multifunctional Nature of Agriculture and territories, September 1999, Maastricht, Holland.

commercial agenda of American agriculture. On the other hand, the position of the EU of supporting its agriculture and defending its markets in the name of sustainability or multifunctionality has caused great frustration in the American field of free exchange in the negotiations of the WTO.

The aim of this document

Rather than opening old wounds on recent international negotiations², a social dialogue between different taking parties might rather be focused on the political processes and options through which it is possible to achieve sustainable agriculture and rural areas, regardless of the discussions of the WTO. Civil society and other parties might turn back on what has already been allowed by governments and industry in favour of sustainable agriculture and rural development, and what might still be done to complete the actions along these lines.

Many groups of experts have met to discuss sustainable agriculture, or more recently, multifunctional agriculture. They usually begin in agreement on the definitions and objectives of the sustainable nature and then develop a list of reforms of public policy that are considered necessary in the performance of such objectives.

Beyond this, the aim of this document is to :

- Provide elements on the context and the background of the problem concerning the debate on sustainable agriculture;
- Review the progress made until the present time in setting up a sustainable agriculture on either side of the Atlantic, and compare it with the objectives set out in the many definitions of sustainable agriculture;
- Indicate the processes that might enhance understanding and co-operation more of the positive aspects than the negative aspects of our agricultural system, and;
- Serve as a working basis for an initiative between the EU and the USA and other continental partners in the face of the forthcoming Earth Summit in 2002.

² Ministerial conference in Seattle, eighth United Nations Commission on sustainable development...

2. Problem and context

The different histories of agriculture

The priorities of public policies and negotiation positions in the EU and the USA reflect national or continental interests. Each nation or group of nations has its own roots in a special history of public policies and provision of natural resources.

North America, with Australasia, Uruguay, Brazil and Argentine, with favourable climates and soils, a sparse population, former colonisation and a large productive capacity far beyond their needs are considered “natural exporters”³. These countries have built their economies on the basis of agricultural exports, large scale farming on relatively vast areas, with low production costs. Agriculture has developed in the heart of these countries, in regions that do not house a large part of the population.

Western Europe with Asia and the South East are highly populated and have had repeated food crises throughout history. Western Europe was a net food importer until the 1970s. Agriculture and society developed in geographically closed areas with the proximity of a large population involved in the agricultural sector. The average surface area of the farms is small, some 15 ha.

European countryside is both a place of consumption and a place of production, and agriculture produces most intangible and public goods. The singular relationship between European agriculture and European society is clearly a special feature of the “European agricultural model”⁴.

Despite these very different heritages, the EU and the USA have had a similar tendency to protect their agriculture from the fall in the real prices of raw materials in the second half of the 20th century.

Subsidies and price support were introduced to compensate the technological transfer in agriculture to increase productivity, but were generally amortised in the value of the lands⁵ and the price of input, which excessively enriched their agriculture to the detriment of non-subsidised producers seeking a place on world markets. The export vocation of the EU is largely artificial and subsidised with a high level of chemical input in response to high price support.

However, with a change in the direction of agricultural policy in 1996, the USA sought to regain the advantage of the status as natural exporters and use their comparative advantage as the essential motor of agricultural development. The liberalisation of world trade was obviously an important stage in this strategy.

³ see Einarsson (2000)

⁴ van der Ploeg J, Werry F, Blom J and Silvis H (1998) *The European Agricultural Model: perspectives, prospects and research needs*. Wageningen University and Research Centre, work document.

⁵ The American Farm Bureau Federation estimated that the direct payments to agricultural operations had increased the value of American agricultural lands by around \$250 million.

This division between natural exporting countries and countries with a limited natural capacity was very clear in the ministerial conference of the WTO in Seattle, when two main blocks of negotiation appeared : The Cairns Group⁶, with the USA on the one hand, and the EU, Japan, Korea, Hungary, Turkey, Switzerland and Norway on the other.

Even if these groups now have similar levels of industrialisation and urbanisation, it is understandable that the policies and institutions negotiating from different positions do so around economic priorities and rights acquired by countries with very different histories concerning agricultural and rural development.

In large exporting countries, the trade and product of firms inevitably demand a place in the agricultural and trade policy and become a very powerful lobby. Hence the demand of natural exporting countries for the integration of agriculture in the general rules of the WTO by treating the sector in the same way as that of manufacturing. It is the strength of the agricultural pressure groups in the EU that has taken advantage of the agricultural preference of the Treaty of Rome, and they still resist resources being transferred from agriculture to the whole rural population, as was proposed in the Cork conference in 1996⁷.

Equally understandable are the different interpretations of sustainable agriculture and sustainable rural development⁸ in these two spheres, as well as their forms of self-justification. Under the rhetoric and acronyms, the concept of sustainable agriculture and rural development now diverges between a productivist interpretation in natural exporting countries (“ more food and more income with fewer constraints ”) and a multifunctional interpretation (“ more public goods ”) in countries with a limited natural capacity.

A non negligible point that makes this panorama more complex is the expansion of the EU towards the agricultural economies of Central and Eastern Europe, which will be dealt with in section 3.2. 2.2

The principles of a sustainable agriculture

There are as many definitions of sustainable agriculture as there are groups meeting to discuss such questions. However, almost all the definitions cover the “ environmental, social and economic triptych of sustainable development : that is, sustainable agriculture and rural development must conserve natural resources, be equitable and performing.

⁶ Especially the active members of the group: Australia, New Zealand, Canada, Argentina, Brazil, Paraguay and Uruguay. The other members of the Cairns group are : Chile, Colombia, Costa Rica, Philippines, Fiji, Guatemala, Indonesia, Malaysia, South Africa and Thailand.

⁷ The European conference in Cork on rural development, held in November 1996, proposed a better integration of rural policies, albeit spatially differentiated, which induces a transition of the community preference announced in the Treaty of Rome for the rural preference.

⁸ In English, the concept of “ Sustainable agriculture and rural development ” (SARD). For comfort in the French language, we will adopt the French translation “ agriculture durable ”.

Hence the definition of sustainable agriculture given by the FAO, which received great international approval :

*“ The approach of a sustainable agriculture is intended to enhance sustainable development in agriculture, fishing and the sectors of silviculture that preserve the land, water, plants and animal genetic, non degrading, technically appropriate, economically viable and socially acceptable resources ”.*⁹

The conservation of the productive capacity and the maintenance of natural systems is obviously a primary condition upon which the profitability and the equitable spread of profits depend. This is recognised in the definition by Gordon Conway : *“ Sustainable agriculture is one which withstands recessions and shocks, which combines productivity, stability and equity.”*¹⁰ ”.

However, under this umbrella of definitions, there is a great variety of interpretations of sustainable agriculture, “ from the most profound to the most superficial ”¹¹.. Most uses of the term sustainable agriculture in the OECD focus on the “ non ecologically degrading ” aspect; the element of the definition of the FAO¹² (that is, to produce food and income while minimising the negative impact on the environment) is reduced to its most superficial definitions that are the equivalent constructions of sustainable agriculture as “ precision agriculture ”, that is, the optimal, most targeted use of chemical inputs.

However, as the president of the International Federation of Agricultural Producers (IFAP) recently said¹³, the concept of what constitutes sustainable agriculture must be far broader. *“ Today, it includes a sustainable character not only in economic terms, but also in terms of the environment, society and ethics”*¹⁴ ”. The appearance of the term multifunctional agriculture (Multifunctionality) or the use of “ multifunctional territory ” in Europe and Japan in the past decade is partly an attempt to demand a global concept of sustainable agriculture (within an economic, social and environmental area of sustainable development) and to adhere to political reality. According to the analysis of Einarsson (2000), this is also the sign of a fundamental change in the nature of the debate on sustainable agriculture.

⁹ Developed at the FAO conference in Holland, in Den Bosch in 1991, then revised in 1992.

¹⁰ Gordon Conway, President of the Rockefeller Foundation at the CSD-8

¹¹ Farquhar I and Smith A (1994) *Deep SARD/Surface SARD*. NGO work document for the CSD. Available at www.csdngo.org/csdngo/agriculture/agr_deep_SARD.htm

¹² See the OECD publication in 1995 *Sustainable Agriculture: concepts, issues and policies in OECD countries*.

¹³ Including the organisations US Farm Bureau and National Farmers Union in GB.

¹⁴ Gerard Doornbos, addressing the 2nd OECD Conference of Directors and Representatives of Agricultural Knowledge Systems, 10-13 January 2000. Available at www.ifap.org/news/sp100100.html

Multifunctional agriculture

The multifunctional character of agriculture and territories is a concept that takes root in the approach to sustainable agriculture developed in the Earth Summit in Rio in 1992. It grew in the early 1990s in Northern and Western Europe and in Japan with the question of the small enterprises in the rural sector (threatened in the countryside, culture, tradition, trade and their role in food safety and their national identity) threatened by the liberalisation of trade. There was also frustration in the common construction of the concept of sustainable agriculture and new attention given to the multiple functions of agriculture and territories in the production of ecosystems, health and human well-being.

Multifunctional agriculture " covers the economic, social and environmental functions of agriculture and is intended to reconcile these different perspectives to give populations foodstuffs and other agricultural products in the right amount and quality, to relive poverty, produce employment, protect the environment and preserve the natural resources for present and future generations. "

The concept of multifunction has been welcomed with enthusiasm by non governmental organisations (NGO), by agricultural organisations and by politicians throughout Europe. Farmers have appreciated the fact that multifunctionality is focused on " more public goods " (positive amenities), rather than on " less negative externalisms ", and encourages agriculture and production systems towards social contracts rather than sanctioning industrial regulations. Agriculture must contribute to reducing the problems of environmental pressure by preserving the ecological capital. Few governments would not agree with the fact that agriculture and the use of the associated lands can and must cause a whole range of positive externalisms (the intangible benefits), such as the maintenance of cultural scenes with a heritage value, flood prevention (with green strips), the protection of harnessing, rural employment and economic vitality, biological diversity, the conservation of cultivated lands, coal mining, the production of renewable energy, which are not taken into account in the price of agricultural products.

Little would stand if the function of competitiveness on the world market could be carried out at the expense of other functions such as the wealth of the countryside, employment and economic vitality and alimentary safety unless the state intervenes to correct the failures of the market. Nor would they argue against countries with a right to compensate their farmers exceeding good practice in the production of positive externalisms, particularly those on the edge of agricultures with a possible comparative advantage in the world, but none for any agricultural product.

However, this question becomes inoperative when it is presented in commercial talks - the negotiations of the WTO to reform the Agricultural Agreement of the Uruguay Round (AAUR) - which was toppled in the Commission for durable development (CDD)¹⁵, the process entrusted with

¹⁵ The conference on the Multifunctional Character of Agriculture and territories, September 1999 in Maastricht, Holland, organised jointly by the FAO and Holland; and the 8th CDD in April 2000 in New York.

setting up the Rio Declaration and the principles of Agenda 21. By adding considerations such as the viability of rural communities under the heading of Multifunctionality, non commercial considerations already mentioned in Article 20 of the AAUR (food safety and the need to protect the environment), and the positive externalisms and public goods produced alongside foodstuffs, fibres, an argument is built up for the treatment of agriculture as a special case, demanding more support and protection to be paid for these services.

The theme of multifunctionality therefore becomes the black sheep in the multilateral commercial negotiations between the Cairns Group (with an explicit agenda to finish it with subsidies on exports and direct aid, and to go further to liberalise market access and deal with agriculture in the same way as other industries¹⁶), developing countries and the USA on the one hand, and the EU, Japan, Korea, Switzerland and Norway on the other, to such a point that even the use of the term may lead the discussion to a non-receiving end. The concept of multifunctionality is heavy luggage to bear.

Rather than seeking to turn around the question, in the case of a proposal booklet on sustainable agriculture, it is important to recognise and break down the object in question, to explore under the angles common to as many taking parties as possible.

Multifunctionality is now an integral part of the policies of the EU, labelled as the European agricultural model, and the EU takes a very firm position despite the fierce reactions of the Cairns Group and the USA. The European Commission and the two main agricultural and agro foodstuff trade unions in Europe, COPA - COGECA remained behind the concept in 1997, and position themselves for a new WTO around multifunctionality. The agricultural trade unions realise that as traditional production support mechanisms they will be reformed in accordance with the obligations of the WTO and the budgetary constraints in the EU, and agriculture and the less favoured regions will immediately find it difficult to survive.

The commissary for agriculture Franz Fischler has declared that “ *the European model of agriculture based on multifunctional agriculture poses new questions (concerns from public opinion about globalisation) and thus offers a better directed future perspective for agriculture that the call of sirens for the total liberalisation of agricultural exchanges. Multifunctionality is the word we found in Europe to describe the basic link between sustainable agriculture, health safety, territorial equilibrium, the maintenance of the countryside and the environment and, very important for developing countries, food safety.* ” “ *For the Union* ” he continued, “ *it will be essential to be sure that progress in trade does not harm the multifunctional role of agriculture and the legitimate concerns related to food safety and quality* ”. These declarations firmly connect the concept of Multifunctionality with the permanence of the regional economic development.

The position of the USA and the other main agricultural exporters is not contrary to multifunctionality, but they interpret its current use as the

¹⁶ This group would also state that, in the end, there are thousands of economic sectors that supply positive externalities and multiple functions, protection for shipbuilders passing through steel works, which have been given up in the brutal winds of economic change.

corruption of the commercial debate. Developing countries, following their initial interest in the food safety aspect of multifunctionality¹⁷, also saw the evolving product not taking much account of their considerations concerning the excessive subsidies to the north, which introduced competitive distortions and prevented the capacities of the developing countries from achieving particularly multiple functions of their agriculture, and especially economic development and food safety. The working document prepared for the conference of the FAO on multifunctionality in Holland in 1999 confirms the rather uncomfortable position of the matter of multifunctionality before the questions raised by developing countries (FAO, 1999).

The hidden agenda not sufficiently understood by multifunctional agriculture would be a kind of “old protectionism dressed in new clothes”. As it was presented, multifunctionality was a political project. For large exporting countries, sustainable agriculture is replaced around the non food functions of agriculture, depending on the priorities of countries with a smaller comparative advantage that wish to protect the programs of agricultural support concerning production and justify the special treatment or the exemption of commercial agricultural agreements.

According to the WTO, multifunctionality is liable (1) to increase the dumping of the EU on developing countries with aid from the blue box¹⁸ and (2) the opening and extension of the definition of the green box without a wider range of support measures and reduction obligations, at a time when the USA, the Cairns Group and developing countries were seeking to reduce the load and restrict the subsidies of the green box in order to minimise their distortion effect on production and trade and to eliminate the Blue Box category. In short, multifunctionality is perceived as a poor commercial argument : subjective, ambiguous, arbitrary and also capable of having the subtle forms of protectionism. The USA state that the agreements of the WTO allow much national autonomy in the remuneration of public goods and that countries can not achieve multifunctionality by closing their markets (“a multifunctional fortress”), or by taking payments from the Blue Box. These adversaries of multifunctionality stress that the social and environmental objectives may be achieved in ways other than by subsidies.

It is the very understanding and the integrated nature of multifunctionality that make it so difficult to code for WTO transparency. It would be highly reductive

¹⁷. Just as India and the Asiatic group supported the concept during the negotiations of the world food summit in 1996.

¹⁸ A classification system adopted under the AAUR and subject to the agricultural aid policy on various levels of discipline. The system of boxes is characterised by colours, orange, green, blue, or the policy is assigned in a box according to its degree of commercial alteration. Interior support aids that have not had or have had little effect in distorting competition in trade or production may be extended without limit through the green box. Countries may use the green box for non commercial considerations. The green box includes specific provisions for non commercial considerations and public stockage measures to ensure food safety and agro-environmental payments. The use of policies that affect production (the orange box) is restricted and the policy of this box is subject to reduction at some time. The policy of the blue box is recognised as deforming trade, but is still allowed more as a contingency than a stimulation to production, and is considered a transition policy towards new later reforms.

for instance, to reduce multifunctionality to agro-environmental criteria, for instance (maybe based on indicators developed by the OECD). The cultural and social aspects (and food safety aspects for highly marginal agricultures such as in Finland) are the integral components of the approach of multifunctionality. The homogenisation of agriculture by the imposition of unsuitable harmonised standards and uniform technologies might undermine the sustainable character and the local influence of the orientations of multifunctionality.

3. Public policies in favour of sustainable agriculture in the USA and the EU

USA

Directive principles of sustainability

The United States Department of Agriculture (USDA) has established directive principles in support of sustainable agriculture, silviculture and development in the country. The USDA has planned “to start work on the economic, environmental and social sustainability of different systems of food production, fibres in agriculture and for the forests”, and has agreed “to balance the objectives of improved production and profitability, the management of natural resources and ecological systems, and the improvement of the vitality of rural communities” and “to integrate these objectives in their policy and programs and especially through collaboration, association and mediation”.

The USA do not have a global policy for sustainable agriculture; there are resource protection policies, policies for rural development and others that contribute to sustainable agriculture. This explains the slight explicit link between sustainable agriculture and rural development in American politics. The programs of rural development of the USDA concentrating on farming units, the means of subsistence and the relief of poverty. There is frank acceptance in the USDA to consider that agriculture is no longer the main economic activity in rural America and that the stabilisation of the non rural part of the population (nearly 20%) is due to employment in factories and services rather than agriculture. There are counties that are still dependent on agriculture in the less populated regions of the centre of the USA and many of these regions have pursued strategies to develop the added value that encouraged agriculture for business, such as the transformation of food products and marketing. However, the economic research service of the USDA (ERS) has announced that the food industry “no longer seems to be a universal driving force for the growth of employment in rural areas, as the food industries set up close to urban areas, their customers and suppliers and their distribution networks.” The future perspectives for these regions of the centre of the USA for participating in the service economy are not as promising, “because the services and commercial industries have a more growing tendency than other activities to concentrate in towns where there is access to larger consumer markets, transport networks, under treating industries, and business and service companies.”

Programs

Programs concerning the environment consume approximately 7 % of aid to agricultural operations (Table 1). The main AMERICAN centre of SARD is "the conducted land resource " and water conservation, with the largest amount of expenses allocated to the Conservation Reserve Program (CRP), which has a parallel provision management function (Table 2).

Table 1 The budget of direct payments of the USDA for the agricultural sector - 2000

Sectors	Expenses in thousands of millions of dollars	Percentage of expenses
Markets, by which :		
Loan deficiency payments	~\$3	
FAIR direct payments	>\$5	
Insurance compensation	~\$2	
Environment	\$2	7%
Emergency aid	\$7.14	25-40%
Total	\$28	

The Program to encourage Environmental quality (EQIP) works mainly in priority regions where there are significant problems of natural resources (particularly the land and the water). The EQIP program is part of the Farm Bill of 1996 to provide a voluntary conservation program addressed at farmers and ranch owners facing serious threats from the land, the water and the related natural resources. On the national level, it provides technical and financial aid and training mainly in half the regions designated as priority, targeting problems of natural resources caused by grazing and the rest of the other significant conservation problems. In general, the priority regions addressed by the EQIP program are defined by sloped basins or regions with particular environmental sensitivity or with serious problems concerning the land, water and natural resources. These concerns could include land erosion, the quality and quantity of water, the habitats of the fauna and flora, wetlands, forests and pastures. The objectives of the program are performed by setting up a conservation plan including structural, vegetative and land management practices in the eligible area. Contracts from five to ten years are established with eligible producers and partial aid may be given depending on whether one or several structural or vegetative practices are eligible, such as the management of effluents, terraces, filtering strips, tree plantations and permanent habitats for fauna and flora. Development aid is given to start one or several land management practices, such as nutritive management, parasite control and pasture development.

The Wetlands Reserve Program (WRP) is a voluntary program to restore and protect swamps on private properties. This is a chance for proprietors to receive development aid to increase the area of wetlands in exchange for the withdrawal of marginal agricultural lands. The program offers proprietors three options in exchange for “long term servitude” : permanent annual income or over 30 years, or partial acceptance of the cost of restoration for a minimum 10 years.

The program to encourage habitats for fauna and flora (WHIP) is a shared cost voluntary program for people who wish to develop and improve the habitats of fauna and flora, mainly on private lands. It gives technical aid and financial compensation to help to re-establish and improve the habitats of fish, fauna and flora.

The program for reserving lands for conservation purposes (CRP). In the CRP, producers voluntarily withdraw agricultural lands subject to soil erosion in order to improve the environment and reduce structural surpluses in a time from 10 to 15 years. In exchange, the USDA gives the contractors annual payments in cash or in the form of exchangeable certificates in cereals or other agricultural products via the CCC (Commodity Credit Corporation), the public agency responsible for loans in the country. The eligible lands must be strongly erodible, contribute to a serious problems concerning water quality or give substantial environmental benefits if they are devoted to certain specific conservation practices.

The program for reserving lands for increased conservation (CREP), which complements the CRP, is a federal co-operation plan with the States that offers non distorting bonuses in priority regions and which concentrates on problems identified by the States.

The Program of Protection of Cultivated Lands (FPP) was set up inside the Farm Act of 1996 and gives States and local authorities financing for extending “the long term servitudes”, and maintaining productive agricultural lands. The aim of this program is to protect between 68 680 and 137 760 ha of cultivated lands with priority for long term servitudes.

Program or research and popularisation of sustainable agriculture (SARE)

The SARE is an aid program first financed by Congress in 1988.

The program consists of raising awareness on the practices that are economically viable, ecologically healthy and socially responsible, and to help farmers and owners to adopt them. Regional administrative councils indicate the projects that might possibly receive financing following a technical mention. The delegations of the regional councils of the north west, the south, the central north and the west have been legally constituted and pilot different councils with producers, agricultural advisors, university entities, administrators, the state and federal administration and representatives of non profit making organisations. The regional councils also indicate the policy line and identify the needs for information on the SARE program.

The diverse composition of the members of the regional administrative councils reflects the obligation of the SARE to serve farmers as much as it can. The SARE Professional Development Program offers a large number of opportunities for studying and agricultural popularisation through personnel in federal agencies in the country. The Sustainable Agricultural Network of the

SARE (SAN) gives suitable information on sustainable agriculture within the framework of the SARE program, through publications and over the Internet.

The conservation programs financed by the USDA do not receive all American public aid for sustainable agriculture. At the Environmental Preservation Agency (USEPA), there are programs that have a direct impact on agriculture, such as the measures presented to set up the Drinking Water Act, on the lake cleaning program and the National Estuary Plan. Federal subsidies for the production of ethanol, despite their size, might also be considered as aid to renewable energy production in agriculture.

Table 2. Budget for agro environmental programs of the USDA, 2000

Program	Expenditure in millions	Percentage
a. Land withdrawal		48%
Conservation Reserve Programme (CRP)	\$2,096 million (1998)	
Conservation Reserve Enhancement Programme (CREP)	\$13 million?	
Wetlands Reserve Programme (WRP)	\$38 million (1998)	
Farmland Protection Programme (FPP)	[?]	
b. Shared costs, technical assistance and popularisation		11%
Environmental Quality Incentives Programme (EQIP)	\$174 million	
Conservation Farm Option (CFO)	Performed but not financed	
Wildlife Habitat Incentives Programme (WHIP)	\$8 million (1998)	
Emergency Conservation Programme (ECP)		
Conservation of Private Grazing Land Initiative		
National Conservation Buffer Initiative	[Financed by private firms]	
c. Training, research, statistics		28%
Extension education; Research		
Sustainable Agriculture Research and Extension Programme (SARE)	\$13 million	
Total (USDA only)	\$3.3 thousand million	

Sources: USDA-ERS

European Union

Principles of sustainability

The European Act of 1986 has asked for environmental protection demands to be integrated in another policy; in 1987 the Commission published a green paper "Agriculture and the Environment". In the Fifth Program of Environmental Action, adopted by the European Commission in 1992 and the Maastricht Treaty, which came into force in 1993, the principle of sustainability was integrated and the environmental policy was reinforced by the declaration of the obligation to include environmental demands in all policies of the EU. A

significant step towards integrating environmental demands in agricultural policy was taken in the reform of the CAP in 1992 (the Mac Sharry reform), which promised considerable innovation in accompanying the measures of the agro-environmental sector, reforestation and long term land withdrawal measures.

These programs took the form of development bonuses to encourage farmers to use less intensive production methods in order to reduce the impact on the environment and the reduction of agricultural surpluses. Furthermore, the agro-environmental measures were the first positive step towards the full integration of environmental considerations in the agricultural policy.

A larger stage was recently undertaken towards the full integration of the environment in the European agricultural policy in line with the reform of the CAP in the context of Agenda 2000. The new reform is intended to benefit farmers, consumers, the agricultural industry, the environment and the economy of the EU in general. The European Commission proposes the performance of its environmental objectives by a large selection of instruments to promote environmentally friendly agriculture.

The new policy of rural development¹⁹ is now called “ the second pillar ” of the CAP as an essential part of the European agricultural model, and aspires to set up “ a coherent, sustainable structure to guarantee the future of rural sectors and to promote the maintenance and creation of employment.”

The principles of the European agricultural model are as follows:

- The multifunctionality of agriculture, that is, its diversified role over and above food commodities. This implies the identification and encouragement of the range of services provided by farmers.
- A multisectorial approach integrated in the rural economy in order to diversify its activities, create new strains of income and employment and protect the rural heritage.
- Flexible aid for rural development, based on subsidiarity and the promotion of decentralisation, regional consultation and associationism on the local level.
- Transparency in the preparation and management of programs based on simplified, more accessible legislation.

One of the main innovations expected by this policy is the method used to enhance the integration of different types of intervention to “ help to ensure harmonious, balanced development in all rural regions in Europe ”. The main features of this development are defined as follows :

- Reinforcement of agricultural, silvicultural and forestry sectors
- Improvement of the competitiveness of rural areas
- Conservation of the environment and the rural heritage

Animal well-being has become an explicit element of the CAP through the Protocol of Animal Well-being approved in the Treaty of Amsterdam.²⁰ One first result was the introduction of some references with respect to animal well-

¹⁹ Not part of Agenda 2000, but adopted in the Berlin Council in 1999.

²⁰ Also the alimentary safety that is an essential component of the agricultural policies in the Maastricht Treaty.

being in Agenda 2000, concerning investment in agricultural operations and particularly within the “ second pillar ”.

Programs

The agro-environmental programs now form part of the rural development plans in the member states of the EU, according to the following programs :

- Biological agriculture
- Extensive breeding
- Breeding of local threatened races
- Maintenance of fallow lands
- Long term withdrawals (20 years)
- Protection of genetic diversity
- training

Furthermore, direct payments to farmers are now subject to an environmental condition (horizontal regulation) applied through the country. The member States will also set up more targeted environmental measures to reinforce voluntary environmental measures concerning cultivated arable lands.

Environmental legislation also is of great importance in the sustainable nature of agriculture in the EU. The most significant legislation is that of the Habitat Directives and on wild birds, the legislation on the protection of waters and the Nitrate Directive.

Measures concerning the rural development regulations (RDR) are now available throughout the EU. They are included as key elements in the new generation of rural development programs, and are also elements with a bearing on natural areas and the social environment. These programs include measures to sustain all forms of environmental management in rural areas:

- investment in agricultural operations
- the installation of young farmers
- Early retirement
- Training
- Less favoured areas and areas subject to environmental constraints
- The agro environment
- The enhancement of the transformation and commercialisation of agricultural products
- Sylviculture
- Encouragement to adapt and develop rural areas²¹

The European structural funds, conceived to help poorer regions to catch up with the richer ones, represents one third of the new fund of the EU and often benefits rural sectors by more than 40 thousand million of the expenditure of the CAP.

Even after its recent reform, the CAP still takes up more than 40 % of the expenditure of the EU. European farmers receive around 1.7 thousand million euros and agro-environmental credits from the EU and the member States. They receive a total public tender of around 47 thousand million euros. Moreover, the expenditure on rural development amount to 4 thousand million since the 1999 reform (Table 3).

²¹ Including the commercialisation of quality products, the diversification of agriculture, infrastructures linked to agriculture, etc.

The essential part of the CAP will be vulnerable to the WTO once the “ Peace Clause ” expires in 2003. The EU will face considerable, growing pressure to replace the price supports with direct payments conditioned by environmental performance and rural development. The fact of having aid for rural development in the Green Box is the main political reason for increasing the part of rural development in Agenda 2000 and we can expect this part to increase still further in the agricultural policy.

The second challenge for the CAP, apart from the conformity with the WTO, is the expansion of the EU. This expansion will create severe budgetary problems under the hostile criticism of Agenda 2000. With a budget set at 40.5 thousand million euros until 2006, the CAP must be reformed again if such an extension is confirmed. Some believe that the increase in the budget for rural development in Agenda 2000 already included the expansion, as the measures of rural development are joint financed by the member States. The deeper reforms might lead to a separation of the direct payments of the CAP and may cause price supports throughout the world to fall, thus eliminating export subsidies.

It must be noted that the policy of rural development in the EU appeared in the European debate partly to withstand the devastating impact of the CAP, such as the rural exodus, unemployment and the disparity between regions. However, a large part of the financing of the Rural development and even some agro-environmental financing does not take into account sustainable agriculture and sustainable rural development in itself. “ The second pillar ” is still in fact very marginal and certain measures are still linked to production. It almost seems new packaging for former programs, and only agro environment is a compulsory article within the measures (Bryden, 2000). The spirit of the modernisation of the CAP has been in vain and the main policies remain unchanging and sectorial, even following Agenda 2000. Only the Leader Plus mechanism is a true territorial policy of integrated rural development, which illustrates the great commitment of the EU to finance other actions and not be concerned only with the farmers.

Table 3. Budget of aid to farmers in the EU -2000

Sector	Expenditure (million EUR)	Percentage of total expenditure
Total market aid (arable cultivation, milk, meat...)	36,620	87%
Rural Development (agro-environment)	4,084-4,300	10% 3%
Total expenditure of the CAP	40,920- 41,469	100%

[Not including the expenditure of the member States]

Summary

A large part of agricultural support in the EU and the USA still comes in the form of direct aid or emergency measures to farmers, most of which goes to large operations in a configuration where 80 % of the subsidies go to 20 % of the producers. There are few examples in the EU or the USA of public programs with a global, integrated view of sustainable agriculture. There is a tendency to legislate only on the ecological management of the land, with ecological sustainability as a simple corner stone. In this rather narrow sector, the USA have shown strong leadership through a greater targeting of their agro environmental programs.

There is actually strong divergence between the European and American policies, with an important centre of interest in the EU, at least on the level of political rhetoric, concerning the social and economic objectives of the agricultural policy, such as the improvement of social and economic conditions for the inhabitants of rural areas. Objectives such as social cohesion, the decentralised occupation of the territory, regional diversity, especially in France and in the rural policies of the EU, do not have the same profile in the debate on rural development in the United States.

Whereas the USA underestimate the importance of agriculture in the rural economy and rural culture, the EU is probably guilty, for political reasons, of overestimating its importance. Agriculture and rural development in the EU are still closely related, even following the reforms of Agenda 2000, with too much direct aid (> 90 %) for the farmers. For instance, in Scotland around 80 % of European financing aimed at rural areas come from the CAP. While considering that the weak link between agriculture and rural development might be fruitful, it is probably not honest to pass off multifunctional agriculture as an alternative to correctly integrated territorial rural development (more than sectorial).

4. Successes in setting up sustainable agriculture

A far from exhaustive summary is presented on the different dimensions of sustainable agriculture that have set up, on the terrain in the EU and the USA according to four generally accepted criteria in the definitions of sustainable agriculture : (1) the sustainable ecological management of the territories, (2) dynamic rural economies, (3) social equity and (4) public legitimacy.

Sustainability and the sustainable ecological development of territories

“ The approach of a sustainable agriculture is intended to enhance sustainable development in agriculture, fishing and the sectors of silviculture concerned with conserving the land, the water, plants and animal genetic resources, not affecting the environment, which is technically suitable, economically viable and socially acceptable ” (FAO)

The efforts undertaken with respect to agro environmental programs in the USA and by the EU have improved the habitats of fauna and flora. Furthermore, the CRP and the WRP have significantly reduced the erosion of cultivated lands, and have reconstituted more than 2 million hectares of wetlands previously used for cereal production. Considerable improvements have been made in the Corn belt region, where the lands and nutritive losses of the oil producing plants and the production of seed crop cereals have undergone little improvement. However, most indicators of environmental performance (nutritive cycles, the quality of the waters in the rivers and sources of drinking water, populations of prairie bird life and conservation of water retention in the countryside) are still in massive need of improvement on both sides of the Atlantic.

A 1995 evaluation based on the calculation of models indicated that 87 % of agricultural regions in Europe had nitrate concentrates in the phreatic layers of over 25 mg/l (the guideline value), and 22 % concentrations above the maximum admissible level of 50 mg/l. The changes in the nitrogen cycle and the nitrogen saturation caused by intensive agriculture have an impact on the atmosphere (trapping heat, smog, acid rain), on the working of the ecosystem (soil acidification and loss of nutrients), on biological diversity, both on land and in the sea. The great littoral regions of the North Sea and parts of the Mediterranean have been identified as suffering from the phenomenon of eutrophication. The loss of nitrogen from agricultural lands is still the main source of eutrophication in the rivers and lakes of the USA and the main cause of the fall in oxygen levels in the estuaries.

Not only are we doubling the natural annual rate at which the fixed nitrogen returns to the land nitrogen cycle, but we are also building up this nitrogen in regions such as Brittany, North Carolina and Utah, where livestock is widespread with imported cereals. The separation between arable cultivations and livestock and therefore the break in the nutritive cycle for the fertility of the soil, reigns, as it does in the concentration of livestock in geographically limited regions.

Concerning biodiversity, a survey carried out by the RSPB and Bird Life International in 31 European countries has shown that 6 of the 10 most significant falls in the size of bird populations occurred in the EU, with the United Kingdom as the worst example, with a drop of 35 % in cultivated agricultural areas housing bird populations since 1970.

Sustainability : dynamic regional rural economies

“ The approach of sustainable agriculture is intended to enhance sustainable development in agriculture, fishing and the sectors of silviculture that conserve the soil, water, plants and animal genetic resources, which does not affect the environment and is technically suitable, economically viable and socially acceptable ” (FAO)

On both sides of the Atlantic, the agriculture responsible for most agricultural public goods such as the countryside, drinking water, the use and vitality of the country, has fallen into clear decline. Regions remaining on the sidelines of world changes in food products are threatened by the fall in world markets. Agriculture has come to a turning point with the disappearance of medium sized operations, despite the large amount of subsidies that have obscured the real cost of production and the economic bases of agriculture for decades. Cereal producers and livestock breeders live essentially thanks to direct payments. If such payments were suppressed, most farmers in the EU and the USA would be in the red and a little over half of the 1.6 million American farmers would be bankrupt ²².

Farmers have either increased their production to remain viable or increased their part of profits, or simply given up farming completely. These three strategies are in play on both sides of the Atlantic.

A powerful force behind the extension of farming operations but also marginalisation is incarnated by the agro foodstuff network that guides demand, with the farmers posing their decision-taking ability. The agricultural population is ever more integrated with contracts on rented lands to supply laboured lands or livestock breeders subject to brand established genetics. These production contracts serve to protect the small profit margins from price fluctuations. Added value is not a concern to the country but rather affects the demands of external shareholders, more than circulating in local exchanges : 85 % of agricultural added value is made outside the agricultural sphere.

After four years, the income from farming operations in the United Kingdom is falling sharply and agriculture is suffering its worst depression since the 1930s. The CAP has failed in one of its main objectives : the maintenance of a decent lifestyle for farmers. For example, a recent survey carried out in Northern Ireland has shown that only 14 % of agricultural operations made enough income to cover consumption and maintain the capital of the operation, even with external income. There is a tendency towards indebtedness and a fall in lifestyle ; families of farmers have to turn to other sources of income, but such occasions are falling alongside the rationalisation of rural public services and the contracting of the offer in the building and transport sectors. For instance, the average subsidy for a farm in the United Kingdom is 300,000 FF (Hillfarm), but the average farm income is 60,000 FF

²² *New York Times*, 24 December 2000.

(45 000 FF from agriculture). In other words, the government is repurchasing the losses. Rural regions : loss of services and infrastructures. The average age of farmers is 58 and 22,000 farmers and farm workers left the sector in 1999. There is a tendency towards an increase in the number of agro-managers; in the United Kingdom, a country with around 180,000 farming operations, only 8,000 have been quoted as directing cereal production. In France and Germany, the agricultural populations have plummeted by almost half since 1978.

Family farming is attracted to the centre of the American prairies and an economic structure that has been compared with a mining economy. The price of grain and oil seed in the USA is at its lowest real level since the depression in the 1930s. The number of pig producers in the USA has fallen by half in only ten years as a result of the restructuring of the industry. Between one fifth and a third of all farmers in the states of the Middle West of Nebraska and Iowa are expected to fall into bankruptcy in the coming two years, if the merchandising prices remain low, as is expected.

Sustainability and social equity

“Sustainable agriculture is one that overcomes crises and associates productivity, stability and equity.”²³

The social sustainability of agriculture may be measured insofar as it respects social equity and social justice, that is, how the profits of agriculture are distributed through the whole of society. The impact of the European and American agricultural policies on developing countries is a test, but there is not necessarily a dichotomy between the developed countries and developing countries. Instead, there is a break between types of rural world, particularly classified by Bill Reimer and R Davila Villers as Rural World 1 (a minority rural world) and Rural World 3 (a majority, marginalised rural world).

In exporting countries such as Brazil or South Africa, it is the impact of the American and European policies on Rural World 3 that is as important as their impacts on their great export agro industries. Closer to home, our own Rural World 3, especially emigrant farm workers (Case no. 1) or other poorly integrated social groups, may give an indication of the quality of social justice reigning in agriculture. The angle of social equity in comparison with the agro foodstuff system, reveals a phenomenon of marginalisation and “denationalising” here and abroad, partly due to the agricultural policies of northern countries. Developing countries do not have the necessary budgetary resources nor the room for manoeuvre within structural adjustment programs to approach the support levels of the countries of the OECD, or to give subsidies and other market withdrawal measures to maintain their competitiveness. This has been very bad for certain countries, which have obtained preferential commercial mechanisms with rich importing countries.

Peasants in developing countries try to gain some advantage from their access to foreign markets by turning part of their resources and labour to bring in harvests, often in reply to the loss of value of local goods in the face of the imports of well priced raw materials. However, the integration of small peasants in the world market may be a blade with a double edge. Under

²³ Gordon Conway op. cit.

equipped and under productive, most of these peasants are incapable of investing and progressing sufficiently to withstand the general fall in real agricultural prices. In such circumstances, hundreds of millions of peasants living in the poorest regions founder in a triple recession of economy, environment and food. The means of subsistence break up into seasonal migration, the agricultural payroll and subsistence agriculture, marked by the struggle for food and survival.

There is obviously more marginalisation of small peasants than market liberalisation, but the FAO declares that "It is the basic economic and environmental mechanisms that explain why the peasant populations in poor agricultural regions represent three quarters of the more than 800 million people suffering from underfeeding in the world today." The result of 50 years of agricultural modernisation is a divergence of appreciation on the one hand, " the modern agricultural revolution, the green revolution, the rapid expansion of irrigation, the separation of land available and the development of multiple crop systems making better use of the available biomass " and, on the other hand, " stagnation and impoverishment ".

We must admit that the current constructions of "sustainable" and "multifunctional" agriculture in Europe offer little space to developing countries, and this despite the evidence that the small holdings in developing countries fulfil a large number of functions. There is a broad idea that sustainability in favour of farmers in the North is achieved at the expense of the sustainability of others. Dependant agricultural developing countries are marginalised because of an overvaluation of agriculture in the countries of the OECD (with the resulting price crisis on world markets), dumping on agricultural surpluses below production levels and the use of a return to exports. The EU still makes considerable use of customs barriers to prevent imports from coming in, and does like the USA for the supply of managed raw materials such as sugar. The management of supplies is not a bad thing, unless it serves the dumping.

The developing countries need enough flexibility in commercial rules to increase their capacity to entirely develop their agriculture and invest their small part in world trade. In other words, they need flexibility to choose to what extent and for which products they are going to participate in the agricultural free exchange. This would require consideration in a number of sectors, including flexibility in internal support measures and setting suitable levels of protection on the borders.

However, it is important to distinguish Rural World 1 and 3 when discussing flexibility and concessions for the developing countries. There is an enormous difference between improving access to the market for the new beneficiaries of the agrarian reform in South Africa and, for instance, the huge soy operations in Central Brazil or poultry exporters in Thailand.

It is important to ensure that the developing countries increase their part of agricultural exports, which have long stagnated at around 30 % of world agricultural trade. Further improvements concerning market access for the main developing countries might contribute to this process. Another demand arises when we talk about agricultural exports intended to "feed the world", which is to establish a charter of the destination of the exports and volumes exported, and compare it with alimentary insecurity or child malnutrition.

An important test of the policy of the EU in terms of social equity is the future of the countries that are candidates to come into the EU. With large proportions of their populations working in agriculture (24 % in Poland and 36 % in Romania, for instance) the function of employment in agriculture will continue to suffer. Campaigns have already been returned in a painful process of restructuring that causes poverty and social exclusion. This has been set off by the disengagement of the state, the foundering of the economy and agrarian reforms that have reproduced the structures of the small peasant production of the 1930s. " Villages in Eastern Europe have become the source of clandestine immigration to eastern Europe " ²⁴, which shows a movement similar to that recorded in Mexico and Central America. In Poland, 1.8 million farms (90 %) could disappear²⁵. The Baltic republics count on a large number of small peasants (most could be classified as Rural World 3). Lithuania, with a population of only 5 million, has more farms (280,000) than the whole of the United Kingdom, a figure that will probably have to be reduced to 30,000 restructured family farms. Here the idea takes root that the agriculture of the PECO's is relieved of many of its multiple functions in order to access the EU, and that the very objectives of development in candidate countries are taken into those of the EU, as well as the demands for entry.

Farm workers have only one level of emancipation in industrial economies (table 1). Agricultural work in Europe is also a poorly paid sector, dependant on a sub-proletarian immigrant class. At a recent conference, a Norwegian family farmer explained how his strawberry production had to compete with Belgian strawberries picked by Polish workers and that Polish strawberries fare even better on the market, picked by Albanians. As the signs of cost reduction are given by the agro foodstuff network, the working costs are revised down by the use of poorly paid farm workers, deprived of their civil rights and often immigrants. We are faced with the irony biological fruits and vegetables picked and packed by an invisible, marginalised sub-proletarian class.

Durability: public legitimacy

" The approach of sustainable agriculture is intended to enhance sustainable development in agriculture, fishing and the sectors of silviculture that conserve the soil, water, plants and animal genetic resources, which does not affect the environment and is technically suitable, economically viable and socially acceptable " (FAO)

Agriculture and foodstuffs have gained enormous importance in public awareness, particularly in Europe and Japan. However, the legitimacy of agriculture in the eyes of the public, and particularly among the European middle classes, fell into decline in the 1980s. It is becoming more and more difficult for governments to justify such considerable expenditure for such a small percentage of the population (2-4 % in the EU and USA).

²⁴ poverty in Eastern Europe, *The Economist*, 23 September 2000.

²⁵ See the recent publications of the Bruges Group.

Summary

It would be quite a mistake to measure the success of policies in favour of sustainable agriculture in the EU and the USA as the fact of a situation that lasts. Change has always been imposed on agricultural regions and the country has always had to adapt. Change is hard to apprehend when the country tends to hold on to the past to determine their future. Farmers have shown their capacity to change and innovate when economic occasions have appeared with sufficient clarity.

A more and more impressive board of agro-environmental programs on either side of the Atlantic (with better targeted provision management mechanisms and tools) improves the environmental performance of conventional agriculture. There have been great, potentially reversible, improvements in the conservation of land and the protection of water resources, particularly concerning pure cereals. The great question mark lies on whether the current framework of the policies and commercial agreements is able to accomplish the systemic changes required to completely invert the downwards trend in the inventory of natural resources and human resource that sustains all discussions about sustainable agriculture.

There is a clear risk of pleasing oneself among such pleasant discussions concerning the whys and wherefores of sustainability or multifunctionality, but they hide a hard reality, which is the following :

- Massive changes in the geographical spread of agricultural production in response to world supply, technological innovation and transport
- A global recession in agriculture and rural economies dependent on agriculture
- A divergence between visions of the rural world in the EU, in the USA and in the developing countries where virtually three quarters of the population experience alimentary insecurity and contain most of the peasants in the world.

The expectation of the farmers concerning diversification when they reduce their operative capital is false. The fall in prices actually comes from the incitation of farmers to produce more and simplify their production systems. The construction of an agriculture based on a comparative national and regional advantage or self-sufficiency without considering natural cycles may undermine elasticity in the long term. A policy of sustainable agriculture must provide public and private opportunities for the market, with a more sustainable agriculture and a use of lands in line with current reality. We are dealing with a system that is unstable by definition and is not sustainable in terms of the sustainability of rural economies, by providing economic opportunities for small peasant in developing countries in terms of public support and legitimacy, and even in terms of the basis of agricultural resources.

While the EU and the USA still have much to do on the road to sustainable agriculture, the liberalisation of trade exposes other countries to highly subsidised agricultural models that might potentially sustainably undermine local intensive farming models. The recurrent exclusion of small and medium

family peasantry and the crisis in the means of subsistence in rural media in developed and developing countries is an affront to the principles of the Rio Declaration, Agenda 21 and the World Food Summit. The exportation of agricultural raw material surpluses in order to develop interior markets with the support of subsidies (on many levels) has placed serious obstacles on agricultural production and supply in many developing countries such as Kenya and Zimbabwe. If the sustainability of one country is achieved at the expense of another (especially by lifting the customs barriers and exporting their agricultural surpluses beyond their frontiers), it is not at all possible to talk of sustainability as such.

Summary

Several dimensions of sustainable agriculture may be started by market mechanisms, including the labelling of alimentary products and other information at the disposal of consumers. However, in the eyes of certain observers, commercial regulations have reduced rather than increased our ability to use liberalisation as a means of achieving results in terms of sustainable agriculture. It is difficult to promote sustainable agricultural products on the market and through policies at the same time, although the preambles of the AAUR and the WTO recognise that liberalisation must not jeopardise sustainable development or the protection of the environment.

In all discussions on the subject of the rules of the WTO, that is, on the PPM, customers tariffs and forms of aid, it is easy to lose sight of the more fundamental links between international agricultural trade and sustainability. The justification of the flows of agricultural products over thousands of kilometres from their place of production because the lands, the size of the agricultural operations of the climate restrict their competitiveness in favour of a comparative advantage is a complex game of commitments around sustainability and implies the consideration of the exterior impact of transport, alimentary security and sovereignty of the production of public goods.

Perspectives

In fact, on both sides of the Atlantic we have under 4 % of the population managing 3/4 of the surface area. The rest of the population, and particularly in the EU, insist on the better management of the heritage (the scenery etc) and a more scrupulous, moral management of food production, whereas governments ask their farmers to be more competitive on the world markets.

To this we add the obligation to set up a sustainable agriculture with the post Rio international co-operation process and the agreements to apply the principles and policies of sustainable development and the policy within the CDD of the UNO. However, the CDD is suffering from a lack of credibility and is therefore becoming more cynical. In the eyes of many observers, a platform to present entrenched positions was presented in the worst possible manner following the FAO conference in Holland on multifunctionality and by the exclusion of the concept of multifunctionality in the discussions of the 8th CDD. The debate throughout world civil society reflects the discussions in course in the global economic forums, leases, and particularly at the WTO.

Another important element in this complexity is still that price competitiveness is very aggressive between sectors of distribution that are restructured and which reduce the real price of food by decreasing the costs of the food chain.

How can a dialogue between different social actors concerned propose policies to facilitate sustainable agriculture in such a complex situation ?

To go further in the discussion, four points of synthesis are imposed in the passage to build propositions :

- We are initiated in questions of sustainable agriculture and we have a role to play in setting it up.
- The EU and the USA have very different histories of agriculture which have profoundly influenced the construction of strategies in each continent
- All agricultural activity is subject to natural ecosystems, and it would be a mistake to identify sustainable agriculture as a simple set of good agricultural practices, albeit “light green” (such as integrated production), or “dark green” (such as biological agriculture). Much progress has been made in the referred preceding international forums in accentuating the social, economic and environmental sides of sustainable agriculture.
- The agricultural policy is a justified means for pursuing certain objectives of social, environmental and regional development
- The lastingness and legitimacy of public support for agriculture in industrialised countries are subject to the constant evolution of agricultural questions in society and in the food network in relation with social expectations.

This last point is very important for the construction of national, continental and intercontinental social dialogue.

A need for national dialogues and consideration of social expectations in drawing up policies

The mistakes made in the negotiations between nations and groups of countries are repeated and extended by the very problem of the lack of national consultation, and therefore governance (particularly concerning the question of multifunctionality). The negotiation of the positions presented by national representatives is therefore more a mixture of specific short term interest demands and warnings from selected experts. The treatment of citizens as strangers and beneficiaries rather than actors associated with the frustration of civil society has privileged agricultural foodstuff industries on account of the citizens. The questions are more and more numerous in the state, with agriculture as the starting point for discussions on the use of territories, technology, public health, fauna and flora and sovereignty.

The influence of civil society on the processes of negotiation is one of the main demands of sustainable agriculture. If the representative democracy (in Europe, North America or anywhere else) had done a better job of national consultation on questions of such importance, there would probably be much greater international consensus on setting up sustainable agriculture in the country, based on what people expect of agriculture and the country. What does agriculture mean for a nation and how, depending on the objectives, does the collective meet the cost? Considering the enormous sums of public money irrigating agriculture and also considering how many national territories are managed by agriculture and silviculture, it is deplorable to see the little progress made in preparing national social contracts to guarantee the legitimacy of agriculture in modern society. Social expectations of the agro foodstuff system obviously vary from one country to another. Countries also have different traditions of orientation and expectations with respect to their national government. However, it is obvious that a reformulation of agricultural and food policies is necessary in most societies to take into account the social expectations in agro foodstuff practices. Unfortunately there are few examples of profound attempts to update such expectations through democratic processes (apart possibly from Switzerland), despite the discourse and the wish of certain deciders who talk peremptorily of the European agricultural model.

Towards joint policies

The strength of the concept of multifunctionality is that the policy decisions on trade, environmental protection and sustainable development, and particularly the rural economy are joint in a positive logic of synergy. This creates an appropriate space for the policy of large agricultural operations, and enables the performance of social, environmental, economic and ethical objectives. Numerous agricultural policies that concentrate on sectorial productivity and the conservation of resources oblige us to bring in more systemic dimensions, and it is here where there are the main levers for building a strategy of sustainability. A better articulation of policies also gives an assurance against a destructive liberalisation, where the productive function of small agricultural holdings is undervalued by treating them exclusively either as managers of the environment or as social cases in need of a line of security, insofar as a better transition of agriculture is possible.

The main priority for integrated policies is to substitute the often perverse subsidies, starting particularly with bonuses for irrigation. The reform of the tax code, for example, by creating a specific ownership tax for the ecological management of lands may be highly profitable. There are other interventions that are entirely possible and do not hinder trade, particularly aid to conservation towards sustainable production systems such as biological agriculture. Another fairly obvious possibility concerns ecoconditionality, which has long been a subject in the USA and conditions direct aid to the management of the natural resources.

There are also more integrated institutional provisions for multifunctional agriculture through new forms of contracts between farmers and the state. An excellent interesting example of a joint policy is given by the territorial contract of operation in France, presented as a pivot for agricultural administration in the new law of orientation in July 1999, conceived to redefine the role of agriculture in society (box 3). This is an attempt to reintroduce transparency and more responsibility in the relationship between farmers and the administration, which gives a national substance to the second pillar of the CAP, that is, rural development.

Agro environmental measures also give a market for the environmental services that are produced with agricultural raw materials. Those who can produce environmental services at a low cost may gain the benefits of the "agro-environmental" market by participating in the program. The mechanisms of such a change were explored by the USDA-ERS in a recent article. New commercial opportunities and competitive advantages on this market for multifunctionality have been found particularly in the regions of agricultural abandonment rich in countryside and biodiversity, but also in the periurban sectors threatened by the expansion of towns. A first stage has been started in this sense by the American agro environmental policy, by compensating farmers for stopping certain types of production, with a view to adopting conservation practices with subsidies on environmental goods and services in the Minge-Harkin *Conservation Security Act*, which was unsuccessfully proposed at the last Congress. This opportunity offers a precedent that will prefigure the new legislation.

A subtle combination of the principle of the paying pollutant, economic conditionality and the territorial contract of operation may form the basis of a true policy to enhance sustainable agriculture. This is based on the principle that farmers must respect a minimum level of environmental practices in order to maintain their direct aid, but that the supplementary provision of social goods and services must be paid for and by society. This was the spirit of the policy of rural development in the reform of the CAP in Agenda 2000.

The first stage must consist of establishing a reference level (minimal rules of good agricultural practice or an code of agricultural good practice). Below the reference level (negative externalisms), the practices are unacceptable and pollution is taxed in line with the principle of paying pollutant, or the right to production is revoked.

The area above the reference level corresponds to good practices. The agricultural operations view the base level of agricultural good practice and environmental regulation as a prior condition to receive public aid; there is talk in this sense of eco conditionality. By respecting sufficiently strict standards in

terms of the mineral balance, conservation of the fauna and flora etc, and based on social expectations, this level ensures that farmers are not, in the eyes of the public, paid for doing what they should already have done.

Above the level of agricultural good practice is the level of production of public goods (or positive externalisms) where the production of public goods and services such as biodiversity, the countryside, employment, public access to cultivated lands, animal welfare and extensification, etc, is rewarded in proportion to the production level of such goods (negotiated locally). This concerns the principle of territorial contracts of operation in France (even if the mechanism suffers a great latitude of interpretation on the local level, box 3), the reform of the agricultural policy for ecological modernisation in Switzerland since 1992, and the system of points for sustainable agriculture in Holland.

Naturally this system is not without problems. Most minimal practices arising out of good practices are already being subsidised, as we would find considerable resistance from farmers depending on such subsidies. However, direct payments may come back into the new mechanisms. Regions also draw considerable differences in the provision of multiple functions where farmers may produce public goods demanded by society. Certain farming operations in Iowa have less countryside, biodiversity and “cultural” functions than those in Vermont or the Austrian Tyrol region. This system also presents great problems for international competitiveness and the WTO. Farmers may legitimately argue the fact that the basic standards impose a supplementary burden over producers in other countries, and that this need must be better. But the system is entirely compatible with agriculture itself, which by its very nature is located in a specific region, which is not universally reproducible.

Good agricultural practices have their own local specificity and are decided on the national, regional or county level. The preparation of a contract on the local level may be paid by local financing and national subsidies in order to pay local agriculture in exchange for one service or another, such as rising water resource conservation within the framework of flood prevention or the production of bio energy. One of the greatest problems lies in the fact that the solutions to the agro-environmental problems and the production of significant positive externalities are the result of the accumulation of small changes on the level of a large number of holdings, that is, it depends on the collective impact of a lot of actors. It is therefore more appropriate for a government to contract with groups of farmers or owners rather than with individuals. This is the key ingredient to the success of agro-environmental co-operatives in Holland. (file 5)

Joint policies must incorporate the fact the agricultural problems can not be resolved simply by the policy of rural development and that this can not only be carried out through agriculture, including multifunctional agriculture. We need rural land policies that are integrated and differentiated in the space.

It must also be recognised that it is very difficult to recreate forms of multifunctionality once they have been lost. This concerns countries requesting entry into the EU, where many cultivated lands are rich in countryside and biodiversity (traditional agricultural systems having been developed for several decades) and are at the base of rural development. Joint policies require that

the same policy that protects markets should also protect resources such as land and water.

Finally, the search for public interest in a policy is still essential. Generally, private research only targets one simple function of agriculture, production. If in the long term we wish agriculture to produce public goods, public research must also invest in this research object. Finally we must attract the attention of the private sector to sustainable and multifunctional agriculture and encourage consumers and investors to strive for better practices.

ANNEXE

Agriculture glossary: A simplified typology of qualifications of sustainable agriculture

Provisional version 15/05/01

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Introduction :

The clarification of the terms used to qualify agriculture is necessary today because the words, the vehicles of a representation, are the reflection of what experts think of agriculture²⁶, with a contextualisation in terms of the times and plurality of the areas of application. Certain authors have begun to make the point on some terms used in France, such as “durable”, “paysan”, “raisonné”, “fermier”, “intégré”, “de précision” or “biologique” [Féret, 2000 #667; Roué, 1999 #174]. Others have drawn up a “Glossary of Biological Agriculture”, using a series of expressions synonymous of “biological agriculture” but without detail or classification [Beau, 1992 #705]. In the United States a brochure has come out dealing with a large area of English qualifications of agriculture under the title, “Sustainable agriculture: definitions and terms”²⁷ [Gold, 1999 #674]. There is currently no similar document in French, and no document that exhaustively gathers the expressions qualifying agriculture. Therefore, the words in the explicit or implicit definition infiltrate the discourses and sometimes lose their main sense. A striking example is the use of the adjective “sustainable”. Thus, “*the concept of sustainable development has broken into the agricultural world in such a manner that it appears in all discourses on guidance or strategy, including phytosanitary groups ! This magic word, a consensual time, conceals different sensitivities and orientations and gives rise to slips in meaning. If the concept is fertile, concerning the doors it opens to agriculture, it is necessary to prevent it from losing its content, being the Spanish home to poorly planned agriculture, lastingness and the transmissibility of enterprises with respect to the environment, employment in rural development, ecology ... ethics or social equity. It is thus, but the underlying ideas necessarily advance.*” (Mer, 1999, page 223).

This document therefore defines the adjectives, complements and attributes of the name “agriculture” found in original texts or French translations of foreign expressions, and proposes a preliminary classification. We propose a simplified taxonomy of the definitions of the qualifications of agriculture. This approach allows us to first describe the generic terms qualifying agriculture and then to present the definitions of all the expressions qualifying different approaches to agriculture along four themes : qualifications of agricultural practices or systems that have been generalised in agriculture; qualifications of

²⁶ Farmers, technicians, advisors, engineers, politicians, specialised journalists, scientists...

²⁷ On line consultation : www.nal.usda.gov/afsic/AFSIC_pubs/srb9902.htm.

ecological orientation ; qualifications of an economic orientation of agriculture ; and finally, qualifications of a territorial orientation of agriculture.

Broad lines of a taxonomy of the qualifications of agriculture :

Generic terms to qualify agriculture

The expression “ sustainable agriculture ”

The notion of sustainability²⁸ described in the 18th century in the area of forestry, the use of wood depending on the rate of growth with a view to replying in the long term to the demand for wood in heating and construction [Lewandowski, 1999 #593]. This notion has evolved greatly since then. Therefore, the concept of “ sustainability ” has been discussed in North America since the early 1970s to underline the environmental and social dangers of productivist economic growth, and the adjective “ sustainable ” applied to the words “ society ” and “ economy ” in the late 1970s described the necessary equilibrium between the economy and the ecosystem that supports it, with the common goal to conserve the environment and human well-being [Estevez, 1999 #154].

The adjective “ sustainable ” was applied to the word “ development ” in 1987 in the Brundtland report²⁹. Then the word “ development ” slid towards the economic sectors, and particularly towards “ agriculture ”. In the expression “ sustainable agriculture ”, the term “ sustainable ” has no practical or technical origin, but rather a conceptual origin, which means that sustainable agriculture is sometimes taxed as “ utopian ”. The emergence of sustainable agriculture therefore corresponds less to new, emerging techniques than to a reflection on the awareness of the environment, society, economy and the transmission of resources and information between generations in agricultural development programs, and this on all levels [OECD, 1995 #36]. As a result, all the current forms of agriculture (biological, integrated, reasoned, etc. that are the object of this document), but also all agricultural sectors (breeding, crops) may claim that they are “ sustainable ” or contribute to a “ sustainable agriculture ”. This is why care must be taken to make sure this fertile, innovative concept does not lose meaning by being turned from its main sense [Mer, 1999 #699].

We propose the following definition : “ the expression “ sustainable agriculture ” translates the contribution of agriculture to sustainable development thanks to respect for the environment³⁰, the maintenance of economic profitability³¹, social acceptability³², the transmission of goods and information³³, each of these themes having to be considered alone and in respect of the others in a systemic approach ”. This definition is supported by different works, the list of which can not be exhaustive [Andreoli, 2000 #589; Bonny, 1994 #568;

²⁸ In English : “ Sustainability ”.

²⁹ In English “ sustainable development ” ; the Brundtland report has the title : “ Our common future ”, published by the CNUED, 400 Pages.

³⁰ Conservation of soils, air, non renewable resources, biodiversity and countryside.

³¹ Maintenance of the agronomic potential of the soils, maintenance or improvement of the lifestyle of farmers, long term practicability, but also a contribution to local, national or international commercial exchanges ...

³² Consideration of an ethical dimension, the assurance of food in sufficient quantity and quality for all people, maintenance of the rural and urban social tissue ...

³³ Possibility of holdings being taken up by young farmers, accessibility and diffusion of old knowledge and technical and scientific advances.

Bosshard, 2000 #594; Estevez, 1999 #154; FAO, 1995 #37; Girardin, 1996 #85; OECD, 1995 #36 ; Paillotin, 2000 #668]. As synonyms of sustainable agriculture, we will find the expressions : “reproducible” agriculture, “renewable” agriculture, or “sustainable” agriculture, the literal translation of the French work ‘soutenable’ into English.

The qualifying terms of agriculture in a historical perspective :

The expressions “modern agriculture” and “traditional agriculture” qualify agriculture in a historical perspective. The adjective “traditional” characterises the agriculture existing before the end of the 19th century. For instance in France there was a “peasant” model as a result of feudal rural society [Braudel, 1986 #694]. Today, all that remains of this are a few relics [Pernet, 1982 #691] as “traditional” agriculture has fallen in favour of the Danish model and has prepared these global changes thanks to an agriculture based on family operations the production of which is aimed at national and international markets, which is what is behind current European agricultures [Servolin, 1989 #661]. It is towards the end of the 19th century (around 1860), that agriculture paved its way from a domestic economy to an industrialised agriculture, thanks to the arrival of the industrial production of fertilisers, the development of transports and the invention of means of refrigeration and agricultural machines [Augé-Laribé, 1912 #692]. This passage would truly be undertaken in Europe only after the end of the Second World War during “the glorious thirties”, when Europe was seeking alimentary self-sufficiency for the European people by developing mechanisation, the application of technical and scientific progress and by starting up the Common Agricultural Policy [Chombart de Lauwe, 1979 #695]. Agriculture was then qualified as “modern” [Servolin, 1989 #661]. A synonymous expression of “dominant agriculture” is “industrial agriculture” [Chavagne, 1984 #693], or its variant : “industrialised agriculture” [Augé-Laribé, 1912 #692].

The qualifying terms of a dominant agricultural model :

The expression “dominant agriculture” translates the notion of the dominant model of agriculture. When modern agriculture begins to replace traditional agriculture, “*a dominant model of agriculture is gradually constituted as a result of the working of the global social system, which responds to its expectations through the bias of a coherent economic policy and management apparatus. The dominant model, with technical and productive systems adapted to the true objectives assigned to agriculture, is organised in a triple movement of intensification, specialisation and concentration, and is found only in one part of the territory that best corresponds to the needs of its working.*” (Pernet, 1982, page 13 and 14).

We can try to differentiate the main characteristics of the dominant agricultural model in Europe, which are valid despite the diversity of modern systems :

- theoretical aspects : the dominant model is based on the search for maximum output and gives priority to profitability and productivity ; it is less dependent as regards the environment and more dependent as regards industries and national and international commercial circuits ; it is also characterised by an increase in capital and structures ;
- legitimisation : the aim of the dominant agricultural model is to feed the population at a low cost to consumers and in sufficient quantities ; it benefits from union support and an important policy to enhance production ;
- the practices are based on: the intensification of production and the application of new techniques developed by industries (new phytosanitary products, for instance) ; the specialisation of the operation linked to single

crops or specialised breeding ; the use of chemical synthesis products often in the maximum doses prescribed by safety, that is, to restrict production variations as far as possible ; a lack of systemic approach, that is, an approach to interaction between agricultural practices.

As a result, on a semantic plain it is possible to associate the expression “ dominant agriculture ” with certain synonymous expressions that qualify the following practices : “ intensive agriculture ”, “ systematic agriculture ” [Girardin, 1993 #98]. Others qualify the theoretical aspects of the dominant model : “ productivist agriculture ” [Sébillotte, 1996 #7], “ commercial agriculture ” or “ commercialised agriculture ” [Chombart de Lauwe, 1979 #695; Augé-Laribé, 1912 #692], “ capitalist agriculture ” [Augé-Laribé, 1912 #692]. Finally, there are certain expressions that are general : “ common agriculture ”, “ ordinary agriculture ” or “ classical agriculture ” [Viel, 1979 #688], “ conventional agriculture ” [Pernet, 1982 #691].

The generic qualifications of agricultures outside the dominant model :

The emergence of a dominant agricultural model gives rise to the birth of “ *different agricultures* ”, different not only from “ dominant ” agriculture, but also from the “ traditional ” agriculture of the 19th century [Pernet, 1982 #691]. This approach is highly political.

To qualify different agricultures through a more ecological perspective, we find the word “ alternative ”. In its general acceptance, the expression “ alternative agriculture ” translates the will to find agricultural procedures that avoid the use of synthesised chemical products and seek new systems of production. It is in fact a French expression taken from the English “ alternative agriculture ”, the adjective “ alternative ” in English meaning the search for a replacement solution. Such an acceptance may be criticised on a semantic plain, for usually in France the French adjective “ alternative ” includes the notion of choice, dilemma, the notion of alternance, successions of states or opposed phenomena. In the case of “ alternative ” agriculture, it is a search for the final replacement of a dominant form of agriculture by a form in favour of procedures inspired by ecology [Estevez, 1999 #154]. Agro ecology may be considered as one of the bases of research for an (or some) “ alternative ” agriculture/s [Altieri, 1986 #687]³⁴.

The English concept of “ ecological farming ” may be translated into French as “ agriculture écologique ”, that is, a very general term that is synonymous with “ alternative agriculture ” taken in its broad acceptance of a better consideration of the environment in agricultural procedures ; this concept was used in Québec in the 1990s by the Minister for Agriculture (MAPAQ) under the synonymous term “ Eco-agriculture ” [Estevez, 1999 #154].

The term “ holistic agriculture ” is found in French, but not in a very widespread manner, under the qualification “ agriculture holistique ”³⁵. The term “ holistic ” translates the search for a systemic approach, unlike the

³⁴ However, it must be noted that “ alternative ” agriculture may take on a more restricted sense borrowed from the economic domain with the enhancement of non traditional crops, breeding and other farming products, the transformation of products on the farm itself, tourism and other services related to agricultural operations, as well as direct sales and the development of marketing strategies [Gold, 1999 #674].

³⁵ Work of Thompkins and Bird translated from the American “ Holistic agriculture, the secret life of the land ” by Robert Laffont

“mechanistic” and “analytical” approaches. As a result, the name “holistic agriculture” does not translate the search for a single agricultural procedure, but rather gathers all “alternative” agricultures with a global, holistic approach to agricultural operations³⁶ [Gold, 1999 #674].

In order to qualify different agricultures in a multiple, or environmental, social, economic, territorial perspective, we find the expression “multifunctional agriculture”. This expression is intended to translate the wish to extend agriculture to new missions beyond its primary function, which is to nourish the population [Mer, 1999 #699].

Terms initially qualifying agricultural practices later generalised

Several adjectives qualifying agricultural practices have been used to qualify agriculture as a whole. We thus find the expressions “intensive agriculture” and “extensive agriculture”. These French adjectives go into English under the more precise expressions of: “capital intensive agriculture” or “labour intensive agriculture” to qualify “intensive” (or “extensive”) agriculture in respect of a production factor such as labour or capital. In France, the term “agriculture intensive” is sometimes used as a synonym of “dominant agriculture” as it characterises a maximum use of the potential of agricultural operation to obtain the best possible output. On the other hand, the expression “extensive agriculture” characterises an agriculture that minimises output per hectare by increasing the surface areas used [Beau, 1992 #705].

Other adjectives are inspired by practices. These are the words “reasonable” and “integrated”, which characterise the origin of the struggle against scavengers and weeds in crops [Ferron, 1999 #704]. The expressions “reasonable agriculture” and “integrated agriculture” extend the methods used for the protection of crops to the whole of the production system. The two expressions are conceptually related to “reasonable agriculture”, which is undoubtedly a first step towards “integrated agriculture”, as the former only seeks to improve the practices of the dominant agricultural model, whereas the latter develops a systemic approach of the agricultural operation with a view to modifying and deepening the dominant agricultural model. We also find the expressions “fragmentary reasonable” and “integrational reasonable”, which qualify two different levels between “reasonable” agriculture and “integrated” agriculture [Paillotin, 2000 #668].

The expression “precision agriculture” qualifies agriculture that calls upon the new technologies: SIG -Geographic Information System, GPS -Global Positioning System, Satellite, computers. Precision agriculture has a reasoning reflected by information. It is based on the principle that with a heterogeneous plot it is necessary to give the inputs (fertilisers, grain, pesticides, land work ...) depending on the unique characteristics of each area of the plot [Auernhammer, 2001 #696]. The English terms for precision agriculture are very explicit, “precision farming” or “precision agriculture” is synonymous of

³⁶ However, a more restrictive acceptance of holistic agriculture lies in the English term “holistic management” (HM), originally called “holistic resource management” (HRM). HM (or HRM) is an approach developed by a biologist from Zimbabwe, Allan Savory, to restrict the progression of desertification. It is a procedure in support of a decision based on the understanding of the relations between man, animals and their environment. This procedure helps local actors to identify and clarify the main values to be able to act effectively on their environmental, economic and social plans. The HM concept is developed and diffused by the Center for Holistic Management.

“prescription farming” or “site specific management” [Gold, 1999 #674]. The expression “appropriate agriculture” (“agriculture appropriée”) seems to come close to precision agriculture given its synonym “appropriate technology”³⁷.

Expressions that can be associated with orientations for future agriculture

Rémi Mer (1999) described three possible scenarios for agriculture: an economic or consumerist scenario, an ecological scenario, and a citizens’ scenario. We have chosen to be inspired by these three views of agriculture, and have added the territorial approach to attempt to classify the many expressions qualifying agriculture today.

We find the greatest number of expressions in the first category of qualifications concerning an ecological agricultural scenario. First of all, a set of expressions found in Europe that are synonyms or variants of “biological agriculture”: “biological agriculture” in the strict sense, “organo-biological agriculture”, “biodynamic agriculture”, and “organic agriculture”, “fermentary agriculture”. This variety of expressions causes translation problems between French and other languages: “agriculture biologique” as defined in France is translated in English countries as “organic farming” (or “organic agriculture”) and in German as “ökologische Landwirtschaft”. Now if the procedures advocated by these agricultures are the same around the world, their literal translation in French (“agriculture organique” and “agriculture écologique”) would have no precise echo. It is therefore essential to beware of translations. If we find terms with the etymological roots “eco-logos” and “bio-logos”, the sense in French will vary in accordance with the country considered: in Spanish, “agricultura ecológica”, in German “ökologische Landwirtschaft”, in Portuguese “agricultura biológica” in French would translate as “agriculture biologique”. We have seen above that the English concept of “ecological farming” is a generic term synonymous of “agriculture alternative”. The English term “biological farming” will also have a meaning that will vary according to the country considered: a very broad acceptance synonymous with “ecological farming” to a restrictive sense synonymous with “organic farming”.

The French expression “third agriculture” qualifies an agriculture between biological agriculture and dominant agriculture and also brings in the scientific knowledge of ecology [Souchon, 1974 #652]. This agriculture will take the name of “integrated agriculture” [Morris, 1999 #698; Viaux, 1999 #665].

Certain expressions characterise the consideration of sylviculture in connection with agriculture. Therefore, “permanent agriculture”, or “permaculture”, invented in Australia in 1978 and which has been maintained particularly in France by Dominique Soltner in preface to the French translation of the book by Mollison et Holmgren in 1986. In France, Soltner is also behind agriculture “bocagère” agriculture, an adaptation to the French context of “forest agriculture” [Beau, 1992 #705], synonymous of “agro forestry”. Within the framework of agro forestry, there is talk of agro sylviculture in the absence of animal production, and agro sylvopasturing in the presence of such production. Finally, the expression “perennial agriculture” may be considered a synonym of “permaculture” [Mollison, 1986 #250], but it also characterises

³⁷ The holder of this concept seems to be Eugene Canales, author of “Smaller Scale grain today” in 1999.

an agriculture based on prairie ecology, defined in the United States by the Land Institute [Beau, 1992 #705].

Several qualifications have been born in Japan : “ agriculture sauvage ” (“ natural farming ” in English) [Fukuoka, 1990 #678] also known as “ synergetic ” agriculture. The term “ sauvage ” has therefore been well chosen in the sense that this agriculture advocates the absence of human intervention in production (the English synonym of “ natural farming being “ do-nothing farming ”), unlike other forms of farming that are necessarily “ artificial ” as they require the intervention of man. Other currents in Japan are translated literally in French by “ agriculture naturelle ” : which is “ nature farming ” and the “ Kyusei Nature Farming ” in English.

In English speaking countries we find qualifiers of agriculture that do not always find their translation in French : “ agriculture de conservation ” (“ conservation agriculture ”), “ agriculture à faible intrant ” (“ low external input agriculture ” or “ low input agriculture ”), “ agriculture régénératrice ” (“ regenerative agriculture ”). Certain expressions are also hazy : “ agriculture radicale ” (in English “ radical agriculture ”); the untranslatable : “ resource efficient agriculture ”; however, these are qualifiers of an “ ecological ” agriculture [Estevez, 1999 #154].

We also find qualifiers of a citizens’ agricultural scenario, under the expression “ citizens’ agriculture ” [Mer, 1999 #699]. One variant is the expression “ solidary agriculture ”. It is a question of placing the farmers at the heart of their project and their territory, of giving them responsibilities within the collective and society in terms of territorial development, food quality, respect for heritage and resources, when until now, thanks to the aids, they had been “ assisted ” or “ bonus hunters ” [Mer, 1999 #699]. The expression “ peasants’ agriculture ” has been revalued politically and syndically, particularly by the minority union Confédération Paysanne, which has drawn up a charter³⁸. “ Peasants’ ” agriculture is intended to revalue and develop peasant lands throughout the world [Beau, 1992 #705].

We also find the territorial dimension of agriculture through “ farming ” agriculture, but also “ interstitial ”, “ urban ” and “ periurban ” agriculture. These concepts cause their own problems concerning territorial organisation arising after several decades [Falque, 1974 #658].

Finally, certain qualifications characterise an economic perspective of agriculture. Therefore, we have the expression “ family agriculture ” which translates as an agriculture that rests entirely on a family workforce [Beau, 1992 #705]. The expressions “ economic agriculture ” and “ autonomous agriculture ” are in the line of the report by Jacques Poly³⁹, who sought economic alternatives to the dominant agricultural model. Farmers have taken up these expressions on their own account and have translated them agronomically by developing production systems allowing inputs to be restricted thanks to the complementarity of breeding and crops [Pochon, 1998 #8]. Within the economic perspective of agriculture, there is a consumerist tendency to seek quality. The expression “ quality agriculture ” translates an

³⁸ <http://www.confederationpaysanne.fr/anapro/principe.html>

³⁹ Former Director of the INRA, who in 1978 drew up the report “ For a more economic and autonomous agriculture ”.

agriculture that produces quality foodstuffs [Beau, 1992 #705], whereas the idea that the Ministry of Agriculture and Fishing wishes to give “reasonable” agriculture is rather based on seeking the “total quality”⁴⁰, developed by Mer (1999).

⁴⁰ Mer (1999) defines total quality as the whole comprising the quality of foodstuffs, the environment, the countryside, the quality of life of farmers, the quality of buildings and the treatment of animals, etc.

Table summarising the qualifying terms of agriculture.

Expressions	Definition	Reference authors	Label	Production scale	Current use of the expressions	Main characteristics of the agriculture concerned	Motivation
Generic terms Sustainable agriculture Synonyms : Soutenable (literal translation in English " sustainable " or German " nachhaltig ") Reproducible Renewable	The expression " sustainable agriculture " is a concept that translates the contribution of agriculture to sustainable development and the maintenance of economic profitability, social acceptance, the transmission of goods and information, each of these themes having to be considered by itself and with respect to the others in a systemic approach ". <i>(details in the text)</i>	Rapport Brundtland (1987). Different works the list of which can not be exhaustive [Andreoli, 2000 #589; Bonny, 1994 #568; Bosshard, 2000 #594; Estevez, 1999 #154; FAO, 1995 #37; Girardin, 1996 #85; OECD, 1995 #36 ; Paillotin, 2000 #668]	/	/	Used throughout the world by experts in agriculture and development	An agronomic translation might be integrated by the agriculture defined by the OILB [Vilain, 1999 #84]	Economic, political, social, environmental.
Traditional agriculture	19th century agriculture, before its industrialisation. This might be considered anti modernisation agriculture [Beau, 1992 #705].	[Augé-Laribé, 1912 #692; Braudel, 1986 #694]	/	Family production or access to local markets	Relic in Europe ; characters present in developing countries	Animal traction ; based on crop-associated breeding.	Historical
Modern agriculture	Agriculture from the Danish model having led to current European agricultures	[Servolin, 1989 #661 ; Chombart de Lauwe, 1979 #695]	/	Access to national and international markets	All of the West	Mechanisation, use of synthesis products.	Historical

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Industrial agriculture (or industrialised)	Industrial agriculture refers to the progressive disconnection of agriculture from the environment, which has led to strong dependence on industries. This expression is a variant of " modern agriculture "	[Chavagne, 1984 #693; Augé-Laribé, 1912 #692]	/	Access to national and international markets	All of the West	Those of the dominant agricultural model.	Historical, economic
Generic qualifiers of the dominant agricultural model							
Dominant agriculture	" Dominant agriculture " applies the principles of the dominant model (see text).	[Pernet, 1982 #691]	/	Access to national and international markets	All of the West	Those of the dominant agricultural model.	Economic motivation.
Conventional agriculture Synonyms : Common, Classical	The adjective " conventional " qualifies the conformity to social rules, or the conformity resulting from an agreement passed among individuals, or among social or political groups . " Conventional " agriculture is therefore the kind that conforms to the dominant agricultural model, but might also mean an agriculture at the root of official political or social agreements. This is a reference agriculture.	/	/	Access to national and international markets	All of the West	Those of the dominant agricultural model.	Economic motivation.

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Productivist agriculture	Productivist agriculture is an agriculture that seeks to increase wealth (natural or in goods) and the profitability of agricultural operations.	[Sébillotte, 1996 #7]	/	Access to national and international markets	All of the West	Assure maximum output.	Economic motivation.
Capitalist agriculture	Capitalist agriculture seeks an increase in the agricultural heritage	[Augé-Laribé, 1912 #692]	/	Access to national and international markets	Not used today	Those of the dominant agricultural model.	Economic motivation.
Commercial agriculture (or commercialised)	Commercial agriculture is intended to participate in national and international economic exchanges.	[Augé-Laribé, 1912 #692; Chombart de Lauwe, 1979 #695]	/	Access to national and international markets	All of the West	Those of the dominant agricultural model.	Economic motivation.
Agriculture intensive (in English : " Capital intensive ", "labour intensive ")	The adjective " intensive " qualifies an agriculture seeking to increase output per hectare or zoo technical outputs (carcases, milk) by increasing the performance of animals, vegetables and soils, for instance via the selection of varieties, genetic selection, soil fertilisation.	/	/	Access to national and international markets	All of the West	To ensure maximum output by capital intensification and by intensifying work by production surface area.	Economic motivation.

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Chemical agriculture	Chemical agriculture is based on the use of chemical products : late 19th century fertilisers, then pesticides from the end of the first half of the 20th century. It takes its source in the discovery of the role of mineral elements for plant nutrition by von Liebig in 1840, which led to the industrial production of chemical fertilisers from the end of the 19th century	[Augé-Laribé, 1912 / #692]		Access to national and international markets	All of the West	The use of chemical products to free oneself of environmental dependence.	Economic motivation.
Systematic agriculture	A variant of the term " chemical agriculture ". Reference to the way in which synthesis chemical products are applied, the adjective " systematic " qualifies the application of chemical products without concern for the true needs of the vegetables concerned by this feeding.	/		Access to national and international markets	All of the West	Use of chemical products by security to ensure maximum production and to restrict production variations as far as possible.	Economic motivation.
Artificial agriculture	Synonym of " chemical agriculture " rarely used.	/		Access to national and international markets	Rarely used	Use of synthesis chemical products for agricultural production.	Economic motivation.

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Reasonable agriculture (approach of industries and majority unions) Abusive translation : Integrated agriculture	Reasonable agriculture claimed by industries and agricultural unions put in place to enhance the brand image of the chemical and foodstuff industries without questioning the dominant agricultural model, in the economic objective of spreading its products.	Communications by Farre, Forum de l'Agriculture Raisonnée Respectueuse de l'Environnement. Several critical approaches [Bonny, 1997 #97; Roué, 1999 #174]	Unchecked labels given by Farre and large distribution	Access to national and international markets	Europe	Enhance the image of industries by advocating respect for the environment thanks to a reduction of the provision of synthesis products.	Economic motivation and marketing.
Generic qualifiers of agricultures outside the dominant agricultural system							
Different agriculture (s)	Agriculture(s) opposing the dominant model or lying outside the model due to technical and/or economic impossibility, but not replying either to the criteria of traditional agriculture (they are not retrograded).	[Pernet, 1982 #691] /		Access to local markets and family production	France	Great diversity	Engagement for certain farmers. Otherwise none because of issues of exclusion or marginalisation

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Alternative agriculture (s)	<p>" This approach tends to establish perennial models the function of which is linked to production : i) to safeguard the essential tool of production, which is land taken out of its normal ambience, ii) to restore a better balance between the part of individual and/or community autonomy and the part of interdependence with the exterior." [Cavelier, 1990 #679]</p>	/	<p>" Freed of rigid dogmas, the multiplicity and adaptability of their variants make them compatible with he different exchange models such as self-sufficiency." [Cavelier, 1990 #679]</p>	World	<p>" These are globalising strategies seeking to optimise all the resources of the agro ecosystems [...] They are often based both on the empirical know-how of the local populations and on the abstract knowledge acquired from the exterior, and the scientific approach helps to objectivise and rationalise this know-how. All these strategies lie on the important role of cultivating associations, trees in particular, and on that of the space-time aspects of the use of resources." [Cavelier, 1990 #679]</p>	<p>Philosophical (a priori conception of reports of man on nature and society) ; socio-cultural (recovery of rationalised, generalised ancestral know-how) ; environmental ; pragmatic (positive wish to escape from economic and environmental blocks). None of those foreseen excludes the other [Cavelier, 1990 #679].</p>
Holistic agriculture	<p>The expression " holistic agriculture " does not translate the search for a single agricultural procedure, but rather brings together the set of " alternative " agricultures with a global, holistic approach to agricultural operations.</p>	/	<p>From family production to the international scale</p>	English speaking countries	<p>The term " holistic " translates the search for a systemic approach, and not " mechanistic " and " analytical " .</p>	<p>Cf. " alternative agriculture " .</p>
Ecological agriculture (or "eco-agriculture" in Québec)	<p>The English expression " ecological farming " is a very general term that is synonymous of " alternative agriculture " .</p>	/	<p>Cf. Alternative agricultures.</p>	English speaking countries, Québec.	<p>Cf. Alternative agricultures.</p>	<p>Cf. Alternative agricultures.</p>

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Multifunctional agriculture	The expression "multifunctional agriculture" qualifies agricultures in a multiple perspective, that is, environmental, social, economic, territorial.	[Mer, 1999 #699]	/	Europe	From family production to the international scale	This expression must translate into a wish to extend architecture to new missions beyond their primary function which is to feed the population	Multiple : political, territorial, economic, environmental...
Generic qualifiers initially applied to practices or systems							
Reasonable agriculture (agronomic approach) Synonym (disuse) : Directed agriculture	Result of the reasonable struggle (also called "directed"), the reasonable agriculture developed by the agronomists is based on the observation of the medium and a modification of agricultural practices in view of better respect for the environment ; we might therefore also talk about "directed" agriculture. This is the first step towards integrated agriculture.	[Gleizes, 1998 #671]	No labels but pursuances and controls independent of the evolution of agricultural practices	France	Access to national and international markets	Ferti-better operations (changing fertilisation practices), Phyto-better (crop protection), Irrigation and water management and Pic-Agri (collection of empty packaging). No systemic approach.	Agronomic and environmental motivation.
Agriculture de précision (in English : "precision farming", "precision agriculture", "prescription farming", "site specific management")	"Precision" agriculture calls upon the new technologies : SIG - Geographical Information System, GPS - Global Positioning System, Satellite, computers. It involves large investment in the new information technologies.	[Auernhammer, 2001 #696]	/	West	Access to national and international markets	Based on the principle that if a plot is heterogeneous, it is necessary to provide the inputs (fertilisers, grains, pesticides, land working ...) depending on the unique characteristics of each area of the plot.	Economic motivation, environmental repercussions.
Reflected agriculture	This gathers reasonable precision agricultures	[Féret, 2000 #667]	/	France, rarely used	Access to national and international markets	Affirmed in modernity via technical innovations.	Economic motivation, environmental repercussions.

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Agriculture appropriée (in English : "appropriate agriculture")	A variant of precision agriculture (?)	[Gold, 1999 #674]	/	?	English speaking countries	Cf. precision agriculture ?	precision agriculture?
Agriculture extensive	The expression "extensive agriculture" characterises an agriculture that minimises removal per hectare by increasing the surfaces used [Beau, 1992 #705]	A variety of authors and works	/	From family production to the international scale	World	As opposed to intensive agriculture.	Economic and environmental
Integrated agriculture	The adjective "intégré" is first of all applied to the struggle against the crop scavengers, then to protecting crops ; it translates an orientation of agriculture to a better consideration of the environment (see below).						

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Qualifiers within an ecological perspective of agriculture							
Integrated agriculture	Integrated agriculture is an expression that arises from an expansion of the concept of "integrated production" that the OILB defined in 1993 as having a production system that ensures viable agriculture in the long term, that supplies quality foodstuffs and other raw materials by making maximum use of resources and natural regulation materials and limiting as far as possible all inputs that might be harmful to the environment. The aim is to obtain a qualitatively optimal harvest by cultivation techniques that satisfy economic, ecological and toxicological demands [Ferron, 1999 #704].	[Ferron, 1999 #704]	In France for certain productions (vines, trees) In Switzerland	From family production to the international scale	World	Integrated productions is based "on a global approach to the operation associated with rotation, choice of varieties, bearing in mind the quality and the sensitivity to illnesses, seed density data, production dependent on infestation levels and the state of the crops, a fertilisation adapted to the potential of the land and the needs of the plant" [Viaux, 1997 #653]. See works [Viaux, 1999 #665] and articles [Girardin, 1993 #98 ; Bonny, 1997 #97]	Economic, agronomic, environmental, social,

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Third agriculture	The expression "third agriculture" qualifies an agriculture between biological agriculture and agriculture, which integrates scientific knowledge of ecology.	[Souchon, #652] 1974 /	/	Not used as such ; there is talk of integrated agriculture.	This agriculture will take the name of "integrated agriculture" [Morris, 1999 #698; Viaux, 1999 #665]	Economic, agronomic, environmental. social,
Biological agriculture	Difficult to define given the numerous currents : organo-biological, organic and biodynamic. The expression "biological agriculture" generally qualifies an agriculture that maximises biological processes and opposes the use of synthesis chemical products ⁴¹ .	[Viel, 1979 #688]	Charge files allowing labelling (whole world)	World	See works [de Silguy, 1994 #669]	Quality of products, human health.
Biodynamic agriculture	This is the first current of biological agriculture, founded by Rudolf Steiner in the 1920s and spread by Ehrenfried Pfeiffer.	[Pfeiffer, 1972 #690]	In France, under the label of biological agriculture. In Switzerland : Démetre brand.	World	Details of the character of different authors [Pfeiffer, 1972 #690; Carpenter-Boggs, 2000 #332]	Quality of products, human health and political philosophical dimension.
Organo-biological agriculture	An old expression qualifying the "biological" current in the strict sense of biological agriculture.	Founded by Müller in Switzerland then taken up by Rusch (Austria). For the history, read Viel (1979).	/	Not used	Cf. Biological agriculture	Give support ideologically linked with biodynamic agriculture [Viel, 1979 #688]

⁴¹ An example definition : "A global concept based on the choice of values such as respect for the land and biological cycles, health, respect for the environment, animal well-being, social life ... This is a form of agricultural production based on a series of complex techniques exuding the use of synthesis chemical products." Fédération Nationale de l'Agriculture Biologique (quoted by Féret, 2000).

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Organic agriculture	Organic agriculture is the English current of biological agriculture. In English, it might be considered a synonym of "biological agriculture".	Current begun in the 1940s by Howard [Viel, 1979 #688].	Charge files allowing labelling (whole world)	From family production to the international scale	English speaking countries	A copy of the work carried out in India (reevaluation of the traditional farming system by setting up capital-cheap but work-demanding technologies) in England where the working class is suffering from a state of poor nutrition.	For Howard, it is in everyone's interest, and employers and workers, to produce healthy, cheap foods, this effort lying with the farmers and land owners [Viel, 1979 #688].
Fermentary agriculture (synonym of "biological agriculture" [Viel, 1979 #688])	This expression was invented to take into account the bacterial processes and soil nutrition in agricultural operations, with a view to improving human health. According to Viel (1979), a synonym of "biological agriculture".	[Keilling, 1974 #654]	/	Not applied	Not used	Fermentary agriculture seeks to place "the accent on the necessary reestablishment of practices more in accordance with the bases of the working of all vegetable or animal community" [Souchon, 1974 #652]	Quality of products ; human health ; agronomy (maintain the fertility of the soils)

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Agriculture régénératrice (in English "regenerative agriculture")	The expression "radical agriculture" underlines the importance of developing agricultural procedures allowing renewal (regeneration) of renewable resources on the environmental plain, this concept of regeneration may also be applied to the economic and social plains.	Robert Rodale /	?	This concept is now developed and diffused by the Rodale Institute and the Rodale Research Centre.	Popularisation objective of new forms of agriculture [Beau, 1992 #705].	Environment, economy, politics
Conservation agriculture (or conservative agriculture)	The expressions "conservation agriculture" translates all practices that reduces, changes or eliminates soil work and avoid the burning of surface waste throughout the year.	Several internet sites ⁴² and associations : APAD and ECAF ⁴³	?	English speaking countries	Certain techniques are the following : semi direct (no soil work), the simplified cultivation technique (minimal forms), the non incorporation of harvest waste on the surface and vegetable coverings in sylviculture (spontaneous vegetation or appropriate seed species) or between two successive annual crops	Environment

⁴² <http://www.ncsu.edu/sustainable/peet/tillage/c03tilla.html>; http://agriculture.house.gov/glossary/no-till_farming.htm;

http://scarab.msu.montana.edu/Agnotes/agnotes12b_149.htm;

⁴³ APAD : Association pour la Promotion d'une Agriculture Durable ; in Europe : ECAF, European Conservation Agriculture Federation ; site internet : <http://www.ecaf.org/frances/Envirom.htm>; <http://sis.agr.ca/CANSIS/PUBLICATIONS/HEALTH/~intro.html>

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Agriculture sauvage (or synergic agriculture, in English : "do nothing agriculture" or "natural farming")	"Wild" agriculture is a concept to question the principles of dominant agriculture.	Invented by a Japanese microbiologist, Masanobu Fukuoka in the late 1970s [Fukuoka, 1990 #678]	/	Japan, USA	Wild agriculture advocates an almost total lack of action by farmers concerning their production : soil work, fertilisation, pesticides, weeding are banned, and only little human work is required, consisting of attention at the time of sowing and on the synergy between plants.	Environment, agronomy (soil fertility).
Agriculture naturelle (in English "Nature farming" and "Kyusei nature farming")	The expression "nature farming" translates a cosmogonic conception of agricultural work : the indivisibility of the physical and spiritual worlds, and the living ability of elements of fire, water and the land given to the soil. The expression "Kyusei nature farming", with respect to "nature farming" translates the use of specific technologies..	"nature farming" by the Japanese philosopher Mokicho Okada around 1945. "Kyusei Nature Farming" by the Japanese Teruo Higa in the 1980s [Gold, 1999 #674]		Current from Japan	The agricultural procedures brought forward are composting, green fertilisers and special soil working techniques. The "Kyusei nature farming" also allows the use of technologies such as the inoculation of micro organisms in the soil in order to increase diversity.	Environment, agronomy ; philosophy.
Permanent agriculture (or permaculture)	"Permanent agriculture", or "permaculture" is defined as "a harmonious association of agriculture, sylviculture, breeding and horticulture" [Mollison, 1986 #250].	[Mollison, 1986 #250]	There is one brand in Australia	Invented in 1978 in Australia, it spreads particularly in English speaking countries. In France, permaculture has been especially supported by Dominique Soltner	Systemic approach of the operation.	Environment, philosophy, agronomy

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Perennial agriculture	The expression "perennial agriculture" may be a synonym of "permaculture", but also characterises an agriculture based on prairie ecology, defined in the United States by the Land Institute.	[Mollison, 1986 #250 ; Beau, 1992 #705]	/	World, USA	Cf. Permaculture, or prairie ecology	Environment ; territory.
Forest agriculture (or agro forestry)	A definition proposed by the ICRAF : "a collective term for land use systems and technologies where the perennial lines are deliberately cultivated on lands also used for cultivation and/or breeding in a spatial or time arrangement, and where there are ecological and economic interactions between the lignants and the other components of the system" [Cavelier, 1990 #679].	[Beau, 1992 #705; Cavelier, 1990 #679]	/	The procedures of agro forestry are found in warm and tropical, arid or semi arid regions.	Within the framework of agro forestry, we talk of agro sylviculture in the absence of animal productions and agro sylvopasturing in the presence of such productions. It is therefore a question of preserving or restoring media by using trees in the soil structuring and protection roles, but also their role in fertilisation, fuel, feeding and animal well-being.	Environment ; territory ; development.
Bocagère agriculture	Adaptation to the French context of "forestry agriculture" [Beau, 1992 #705].	Invented by Soltner [Beau, 1992 #705].	/	France	Cf. Agro forestry	Cf. Agro forestry

Qualifiers in the citizens' perspective of agriculture						
Citizens' agriculture (or its variant: solidary agriculture)	This is a question of placing the farmer at the heart of the project and the territory, of giving him responsibilities in the group and in society concerning the development of the territory, the quality of foodstuffs, respect for heritage and resources.	[Mer, 1999 #699]	/	Family territorial scale	France, world	Political, social
Peasants' agriculture	" Peasantry agriculture must allow as many peasants as possible around the whole territory to live decently from their work by producing healthy, quality feeding on a human scale without questioning tomorrow's natural resources. It must participate with citizens to give a living rural medium in a life framework appreciated by one and all." FADEAR ⁴⁴ (quoted by Féret, 2000). Otherwise, the expression " peasantry agriculture " translates the will to revalue and develop peasantries throughout the whole world [Beau, 1992 #705].	In France, diffused by the minority union Confédération Paysanne and made into a charter ⁴⁵ .	/	/	World	Unlike productivist agriculture, this seeks to return a sense to farmers in the face of the financial markets.

⁴⁴ FADEAR : " Fédération Associative pour le Développement de l'Emploi Agricole et Rural "

Qualifiers in an economic perspective of agriculture								
Reasonable agriculture (consumerist approach)	In the course of definition by the French Ministry of Agriculture. The agriculture will be based on the qualification of the operations.	[Paillotin, #668]	2000	Foreseeable ?	Access to national and international markets	France	To enhance the development of the quality in agriculture (products, hygiene, safety, etc.).	Trade, health
Quality agriculture	This expression qualifies an agriculture that produces foodstuffs of a good organoleptic quality [Beau, 1992 #705], and undoubtedly healthy for man.	?		/	From family production to international markets	France	/	Hygiene, health
Family agriculture	The expression " family agriculture " translates an agriculture based on family labour [Beau, 1992 #705].	?		/	Family production ; local markets	World		Economy, territory

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Economic agriculture (variant : autonomous agriculture)	The expressions "economic agriculture" and "autonomous agriculture" translate the search by certain farmers for independence from the agricultural foodstuff industries and producers of synthesis and chemical products, and also power autonomy.	These agricultures are in the line of the report by Jacques Poly who sought economic alternatives to the dominant agricultural model. Several sources [Pochon, 1998 #8; Guillou, 1998 #67; Ferrière, 1997 #637].	/	Family production, local markets, even national markets.	Different bodies in France and in Europe working and diffusing the concepts : CEDAPA, Groupe Planète (Europe), CEIPAL, Planète (Europe).	Agronomic tradition is the development of production systems allowing input to be restricted thanks to the complementarity between breeding and crops. Basic work : [Voisin, 1957 #700].	Economy, territory politics,
Agriculture à faible intrant (in English "low external input agriculture" or "low input agriculture").	This advocates the minimum purchase of inputs from outside the farm (pesticides and fertilisers) and the in situ production of inputs such as compost and covering plants	[Gold, 1999 #674]	/	From family production to the international scale	In 1985, a program launched in the USA by the Department of Agriculture, called LISA ⁴⁶ , to expand and diffuse the information on farmers interested in the reduction of chemical inputs. The program was rebaptised SARE ⁴⁷ in 1990 and extended to the breeding and diffusion of alternative agricultural practices [Gold, 1999 #674]	The aim is to limit the costs of production, increase profitability in the short and medium term, avoid pollution (surface, underground water) and pesticide waste in foodstuffs, to limit the agricultural risks on the economic and environmental plain.	Political, environment, economy,
"Resource efficient" agriculture (no French equivalent)	? Quoted by Estevez and Domon, 1999.	? ?	? ?	? ?	Canadian site: ? www.reap.ca	? ?	?

⁴⁶ LISA " Low-input sustainable agriculture "

⁴⁷ SARE, " Sustainable Agriculture Research and Education "

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Radical agriculture	? Quoted by Estevez and Domon, 1999.	Invented by Merrill in 1976 under the term " radical agriculture " .	/	?	USA (English speaking countries ?)	?	?
Territorial approach							
Farming agriculture (farm products)	" Agriculture, the specificity of which lies in the fact that the people involved fulfil various functions: production, transformation, sale of products to consumers. Farm producers are involved in the evolution of society : reply to consumer expectations, creation of work and employment, revitalisation of territories and development of a living rural space. They also participate in maintaining the bond between town and country." FNAPE ⁴⁸ (quoted by Féret, 2000)	?	National charter	Family production ; and local national markets	France	Raw materials only from the farm, product mastery and consumer responsibility, transparency, public acceptance, maintenance of rural space [Féret, 2000 #667].	Economic, territorial

⁴⁸ FNAPE : " Fédération Nationale des Associations de Producteurs Fermiers "

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Periurban agriculture (AUP)	The AUP is a series of "agricultural units close to the town that manage intensive commercial or semi commercial operations by horticulture (vegetables and other crops), poultry breeding and the breeding of other animals aimed at the production of milk and eggs" [FAO, 1999 #659].	[Falque, 1974 #658; FAO, 1999 #659]	/	Family production ; local markets	World	Geographic and socio-territorial approach	Politics, territory urbanism,
Urban agriculture	'Urban' agriculture is one that is at the heart of towns ; it " refers to small areas (for instance, unused lands, gardens, borders, balconies, various recipients) used in towns to grow plants and raise small animals and milking cows with a view to consumption for the household or local sales" [FAO, 1999 #659].	[Falque, 1974 #658; FAO, 1999 #659]	/	Family production ; local markets	World	Geographic and socio-territorial approach	Politics, territory urbanism,

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<p>Interstitial agriculture</p>	<p><i>“ Interstitial agriculture is mixed agriculture in towns, either in the centre or on the outskirts, or even separating two towns next to each other. [...] it therefore defines a sociological function as, as a green area, an air and chlorophyll reserve, it breaks with the tar and constitutes a necessary biological area for citizens, allowing a balance to be drawn between the town and the country ”</i> [Gaye, 1974 #657].</p>	<p>[Falque, 1974 #658; / FAO, 1999 #659]</p>	<p>Family production ; local markets</p>	<p>World</p>	<p>Geographic and socio-territorial approach</p>	<p>Politics, territory, urbanism,</p>
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Complete with : agro-ecology (Altieri), new agriculture (OECD), human sized agriculture ...

Perspectives

This document was intended to present a (very) complete list of the qualifiers of agriculture in order to remove all ambiguities or confusion, but also to identify any lagoons of shortcomings that we are faced with. This stage can not be defined in the objective of a classification of the many existing agronomic approaches. Concerning this first work, we see that “ sustainable ” agriculture is a qualification aside from the others, and that all existing agricultures could claim such a definition, as each particularly develops one or several foundations of sustainability (environment, economy, society, information, or even systemic approach). Sustainable agriculture may therefore be a concept, a paradigm, that enables an exhaustive approach to all agricultures, and the basis of a taxonomic approach to the agronomic principles currently proposed. The very simple taxonomy we propose here may be improved and deepened by analysing the agronomic principles and the objectives of each past, emerging or future agriculture through different axes of sustainable agriculture. Works showing the importance of such proceedings [Sardet, 2000 #663].

Such a work opens research perspectives, particularly in terms of the evaluation of current or emerging agricultural systems and practices, in order to analyse their social, economic, environmental relevance and their transmissibility depending on the contexts. The preparation of a glossary and a taxonomy of the agronomic approaches may also serve in teaching circles for studying all the elections brought into play on agriculture. It will then be possible to deal in a critical manner with all the approaches of agriculture, diffuse rich and varied thoughts beyond prejudged ones, launch instructive discussions, and finally to help the mentalities of the future experts of the agricultural world to evolve.

Furthermore, this work shows the need for a multidisciplinary approach notably associating sociologists, ethnologists, economists, agronomists, geographers, specialists in communication, and land actors such as technicians and farmers. The language may also enrich this work by allowing the analysis of the role of adjectives in the qualification of agriculture, by drawing up a typology of qualifications in order to impose this typology on that of agronomists for greater relevance, and identifying the roots of the words and the meaning given to the terms defining agriculture.

The Alliance for a Responsible, Plural and United World

Working together towards the challenges of the 21th century

Ever since the late eighties of the 20th century, numerous initiatives have been put forward from different regions of the world and extremely diverse contexts. Different social actors were thus put in motion with the aim of organising a vast worldwide process seeking to explore values, proposals and regulations capable of overcoming the modern challenges humanity is faced with.

A large number of thematic, collegial and continental meetings were organised in the early nineties, a process which led, in 1993, to the drafting of the *Platform for a Responsible and United World*.

Regional groups were set up, international professional networks and thematic networks on the fundamental issues of our era were developed: the Alliance was created. It is financially and technically supported by the Charles Léopold Mayer Foundation for the progress of Humankind (FPH), among others.

The Alliance is focussed on inventing new forms of collective action on both a local and global scale, with the aim of shaping together the future of an increasingly complex and interdependent world.

The challenge of the Alliance is to actively support unity in diversity by asserting our societies' capability to understand and appreciate the complexity of situations, the interdependence of problems and the diversity and legitimacy of geo-cultural, social and professional perspectives.

The Alliance, as a space of discussion, reflection and proposals, is built around three main orientations:

Local groups aiming to bring people of a community, a region, a country or a continent together by looking at the realities and issues of their own societies. This is the **geo-cultural approach**. It reflects the diversity of places and cultures.

Groups of socio-professional actors wishing to provoke dialogue and mobilisation within a given social sector or profession (youth, peasants, scientists, local representatives, etc.). This is the **collegial approach**. It reflects the diversity of social and professional milieus, their concerns and responsibilities towards society and the challenges of today's world.

Thematic workshops seeking to create reflection groups centred around the major issues of our common future (sustainable water management, regional integration and globalisation, financial markets, art and society, etc.). This is the **thematic approach**.

It reflects the diverse challenges humanity is faced with in the 21st century. Thematic workshops are organised into four areas: Values and Culture, Economy and Society, Governance and Citizenship, Humanity and the Biosphere.

Seeking both to draw on the richness of materials and experiences gathered by these reflection groups whilst networking with other citizen dynamics with a similar focus, the Alliance fixed itself the objective of obtaining collectively developed, concrete proposals. The following meetings were thus organised:

- **international meetings**, for each thematic workshop and each college,
- **synchronized continental assemblies** (Africa, Americas, Asia, Europe) and a regional meeting in the Arab world (Lebanon) in June 2001.
- a **Citizen World Assembly**, held in December 2001 in Lille, France, bringing 400 participants together from around the world.

These meetings together contributed to the drafting of some sixty *Proposal Papers for the 20th century* and a *Charter of Human Responsibilities*, published in several languages in different countries.

The Alliance has been involved in a process of disseminating and developing these outcomes since the beginning of 2002. Networks are expanding, branching out and their work themes are becoming increasingly transversal. They also strengthen links with other approaches aiming to create an alternative globalisation.

For further information, please visit the **alliance website** at www.alliance21.org, where the history of the Alliance, the challenges it is engaged in and the workshops and discussion forums being held can be viewed in three languages (French, English and Spanish).

E-mail: info@alliance21.org

The proposal papers on the internet

Whether in their provisional or definitive form, all the proposal papers and their corresponding translations can be accessed on the website of the Alliance for a Responsible, Plural and United World, at:

<http://www.alliance21.org/fr/proposals>

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