**TRANSCRIPTION OF INTERVENTION SEMINAR ON "MEET THE CHALLENGES OF THE TWENTY-FIRST CENTURY WITH AGROECOLOGY: WHY AND HOW? "- December 11, 2012**

**INTRODUCTION OF THE DAY:**

**Valentin Beauval:**

Agroecology are three complementary approaches:

- A scientific approach, which is a fusion of ecology and agronomy. A started a short time ago in France, but several decades AMLAT

- A set of practices, but old days redecorated and new practices

- A social movement that encourages researchers and social movements, especially linking agroecology AMLAT with short-circuits with bio etc..

**Christophe Naudin:**

I'll start with a historical overview.

- The term agroecology appears in 1928 in a book Benzin an agronomist who speaks Russian as the application of methods of ecology to the production plants of commercial interests. That Stephane joined the proposal Henin of "ecology applied to the production of cultivated settlement" or "ecology of cultivated field" 1957.

- In the 1980s dvpmt agroecology science within the concept of agroecosystem Odom defined as an "ecosystem domesticated", intermediate between natural and totally Artificialized. Research on the AE start on the properties of AE, with publications including Altieri and Gliessman and aspects of rural dvpmt.

- Third Period 90 years Rio gives a great dvpmt and excitement around sustainability issues, there is a beginning of the research project that amplifies with enlargement to issues of soil fertility and animal production.

- Since 2000 there is a new dimension of agroecology with proposed new definitions:

o Francis "integrated study of food systems in their integrated nature"

o Gliessman, applicative approach to implementation on the ground

o The two approaches based on Altieri of Berkeley.

Developing country by country:

- USA

o First, an agroecology explored by scientists in response to environmental degradation related to agricultural practices (dustbowl), interest in traditional practices. Born agroecological movements, which are to promote practices.

- Brazil

o First movement in response to intensive agriculture harmful. They emphasize agroecological practices, proximity to Brazil between agroecology and organic farming which is not the case in all countries. Under the influence of Altieri, Agroecology is structured as a scientific discipline and is institutionalized as such.

- Germany

o From the beginning of the twentieth agroecology is considered a science parallel to the ecology that promotes an integrated approach to landscape the plot.

- France

o First of alternative practices of agriculture and agronomy parallel French was questioned later to nearby facets of agroecology. The French agriculture is a factor behind the emergence of agroecology in France, which has only 10-12 years. She began to be recognized as a scientific discipline: master, summer schools, but not yet scientific society of agroecology in France and Europe.

**In summary:**

- Scientific discipline

o very different approaches in the scales

 plot

 agroecosystem ecology, ecosystem entropisé with better productive and non-

 ecology of food systems (Francis)

- Movement

 Sustainable Agriculture

 dvpmt rural

 defense environment

- Practices

 panel stamped practices rightly or wrongly as agroecological practice, which also covers issues of lobbying etpeut be questionable.

**Change since 1928:**

- The scale

o scale field is present from the beginning, with arrests of agronomy, animal science, physiognomy ...

o agroecosystem approach larger scale operation, with contributions from geography and spatial analysis of the impacts of practices

o opening today on the technical fact, rural development, with the arrest of sociology, economics, geography and social sciences

o between AJD is a holistic "food system" raises important epistemological questions.

- The field

o Agroecology is first and foremost a scientific discipline that has its roots in the interaction between agriculture and ecology:

 hard agroecology (Dalgard)

 agrocology soft, uses economics and sociology

o Off agroecology scientific

 belief / philosophical posture / theology developed aspects including Pierre Rabhi.

Agroecology thus promotes research to improve agricultural systems by using natural processes, and see how this understanding can innovate processes in cropping systems to better utilize biological regulation and reduce environmental impacts. And inverse analysis of the impact of agricultural activity on the natural environment, combine productive and non-productive areas.

**Key principles:**

- Recycling of nutrients and energy in place, replace the agricultural production in biogeochemical cycles at all levels

- Integration of agriculture farming, promote mixed farming or reason to the territory with consistent flow between farms specialized

- Species diversity genetic resources &

o time, crop rotations

o space, multi-specific mixtures widely used in developing countries and widely used in temperate agriculture

- Taking into account the overall productivity of the system more than the productivity of a single element

- Strong links with the social economy: short circuit, again territorialize agriculture.

**Conclusion:**

I would say that agroecology takes a variety of forms but three lines of force

- Science of action to SD. It requires:

o Innovation

o assessment, ex ante or ex post

o implementation contextualized

- Applied research & action research: involving OP

- Interdisciplinarity in construction: agro / eco + Animal Science etc ... Difficulty of a systemic approach to farming systems and not just analytical as it is proposed in veterinary science. This systemic approach must take into account several scales, to seek to define and address the problem on several levels:

o Multi-stakeholder

o Multi-scales

o Rethinking the man in the middle of nature.

**Valentin Beauval:**

I'll show you some more practical aspects of agroecology.

First two concepts & transition level.

The idea of ​​transition found in agriculture to high environmental value of Michel Barnier, and in this Gliessman 3-4 levels:

- Increasing the efficiency of conventional practices: farming we have in France

- Substitution of agroecological practices traditional practices with the use of chemical inputs

- A more holistic approach as defined by Christophe Naudin: agroecology starts out relatively. Work in the territory.

- The food system, the relationship between those who produce and those who consume.

Practices to address the major problems of agrarian systems concerned:

Another idea I am attached: the territories do not have the same problems and they are important to identify in the territories major problems:

- Pb rain or wind erosion?

- Pb associated with a loss of soil fertility?

- Pb related to water (quantitative and / or reduction of pollution)?

- Pb associated with a reduction of biodiversity?

- Pb related to frequent attacks by parasites?

- Pb associated with frequent hazards and climate change?

- Pb related to a lack of autonomy farms either on the chemical inputs, feed, energy, ...

- Pb related to price fluctuations and loss of value in terms of production?

- Pb inducing insufficient food production planning and / or poor nutritional quality of food products.

Areas of intervention and practices arising from the diagnosis:

- Useful for reducing erosion

- Friendly practices to improve soil fertility

- Best supporting biodiversity in and around the plots

- Practices promoting carbon storage (soil and woody vegetation)

- Better management practices for water quantity

- Practices limiting chemical or organic pollution of water

- Practices to manage pests without pesticides and weed

- Practices promoting energy independence farms

- Steps increasing resilience to climate

- Steps to increase resilience to price fluctuations and loss of value (= farmer-consumer partnerships - qq forms of contract farming)

- Etc.

Practices against erosion:

- Traditionally when we wanted to address erosion bp is made of stone bunds which partially solved the pb but without addressing the plots.

- Another approach South Brazil with significant resources: contours, traditional techniques of farming terraces bcp mid-mountain.

- Storing carbon and increase soil organic matter:

o direct seeding, single or in cover, it is now more than 100 million hectares or 7% of annual cropland. The pb is that sometimes to protect the soil we are obliged to substitute tillage tools of herbicides relevant to sequester carbon and reduce erosion but bad for water pollution.

o Systems legume root with chickpeas. But before sowing it is necessary to glyphosate.

o All tools not work on all lands if they are very clayey example. We have a tool "strip till" working very shallow, 15 cm, before winter and again in the same passage in the spring. End and works very well. Alternative to the Brazilian planter.

Axis biodiversity interests of cultural associations.

- All the benefits of cultural associations:

o little culture density up to 4 times the pure culture in some plot.

o Performance Measurement "land equivalent ratio" double productivity pure cultures can be, for example greater than French Paris Basin.

o nitrogen fixing trees. Glicida Albida has the particularity to vegetation in the dry season, millet, groundnuts grow very well under the tree, even when there is a drought, it grows only below the tree because it produces organic matter, nitrogen, creates a clay-humus complex under the shaft which increases the water retention. But no miracle if we develop acacia albida is that there is water depth.

o Shea associated with annual crops, Sudano-Sahelian

 Challenge: shea butter only grows well in spontaneous generation, the challenge is how to make shea crop corridors in order to increase engine.

o Vanilla Madagascar legume guardian.

o Plantations of coffee with beans in LATAM.

o Sierra Leone: use of pigeon pea Cajanus cajan integrated into systems that not only plant producing proteins but regenerating fertility.

o South Togo: palm wine, peanuts, cassava.

o Agroforestry: pine tree, jackfruit (East Coast of Madagascar, Indonesia) with cashew beans. The beans can be sown mechanically as cashew alley cropping are 10 to 15 m.

o In the caatinga in North Brazil Este, in the context of agrarian reform in Brazil 20% of the land is to be natural. This produces poles and honey in particular.

o South Brazil, conservation seed sharing between farmers, conservation of agricultural biodiversity.

- This leads to disadvantages:

o mechanization

o soil productivity but not necessarily important labor productivity, working time is very important. You can not compare labor productivity for maize in association with maize monoculture. The challenge for the future is to put biodiversity in maintaining plots labor productivity, such as cereals and legumes and to collect both. We begin to do this by collecting and sorting all thereafter.

Axis for the reduction of pesticides:

- Reducing pesticide is a challenge for intensive farming. Must be mechanically important. Most farmers do not have that. Some technical innovations have hoeing very fine line to 5cm, or drills that can sow the legume at the same time: we find an ancient practice with modern methods that increase labor productivity and efficiency.

- To reduce by 2/3 fungicides in wheat was given to biodiversity in plots with wheat varieties ≠ with different susceptibilities to diseases.

- Reduced use of pesticides: the fight against the christophine flies at the meeting. Combination of traditional and modern practices

o Prevention: take the fruits attacked by maggots and put them in a augmentarium, and as Trichogramma in maize home we put it every 15-20 m. The mesh bag can go parasitoids, but not to fly through. It develops a natural biocontrol.

o You put a trap crop around the plots, maize, on which you put insecticides.

o The reasoning at the aggregate country because if a farmer does so isolated that does not work.

**FIRST ROUND TABLE:**

**Intervention framing Laurent Levard:**

**Maria Soliz intervention:**

Some figures in Latin America in relation to agroecology and farming. 17 million farmers using + or - 60 million hectares representatives 34.5% of farms. There is significant growth in small farms or "minifundios", the average size of 1.8 hectares. An important trend to reduce the area of ​​operations due to the increase in population. I start with these numbers because they are related to agroecology, which is a response to these structural difficulties of family agriculture in giving an answer economical, social, environmental crisis of peasant economies in a context of lack of political agrarian reform. Family agriculture employs 14% of the population of the LATAM with strong regional differences. It represents 30 to 60% of agricultural GDP in Latin America. It is responsible for 60% of employment in the rural population. Arguably it is also responsible for between 60 and 70% of the diet of peasants for domestic markets. In this context, agroecology is not recognized in most countries when it comes to agroecological production house, but only when it comes to certified organic farming for export.

We have numbers only in this field, and has 8-9 million hectares in 2010 ie 25% of the global production area.

Now that the context of agriculture in LATAM is made, I would like to give examples of how agroecology occurs in LATAM what Laurent said. A strong theme is: how do we calculate productivity in Latin America? Because of the calculation methods used in public policy and academic is not calculated the total productivity but by culture. With this calculation agroecology is disadvantaged because it does not consider animal production, and other varieties and products.

In addition we do not calculate productivity throughout the year, while there may be several crops. We do not calculate the productivity of mixed farming that produces more food if certain products alone can lower productivity, in fact if you look all the more productive.

Concrete examples to illustrate these calculations: 300 m2 vegetable farming can generate two working days. One hectare of diverse culture can support a family self-sufficiency. In general 15/personnes per hectare can be used continuously. This means that there is a more intensive use of fewer resources, and it also reduces costs intermediaries allowing a major percentage of the gross income is considered. This generates a higher value added per hectare, and creates wealth in the country.

So we do not just mean employment generation but also to maintain the structure of the territories. This will allow the children of farmers can be maintained on the farm. It also allows a better appropriation of farmers on their land, a greater "empowerment." It has enabled the enhancement of women's work that has a zero opportunity cost in these territories. And the extensive use of family labor is due to the multifunctionality of farming.

There are also positive effects on food security with several factors:

- With agroecology is valued and retrieves local seed varieties and risk of extinction, and this had a strong impact at the genetic biodiversity of territories. We could say a small operating between 50 and 60 native and non-native.

- In power we observe a better local autonomy and improved family diet with increased consumption of fruits and vegetables, with appreciation of products not previously valued.

**Questions:**

Yves Lefort, the Secours Catholique and agronomist. Nothing is said about health issues: consumers and farmers. And you know, in the Southern countries, including Senegal, balance of many pesticides, but also in France, many farmers are sensitive to that.

Maria Soliz: Agroecology also includes consumers, particularly through partnerships consumers producers, including health issues. Small farms do not employ traditional chemistry. There is a whole body of legislation and normative was developed subsystems operations: water soil, forest etc ... which can not only reduce the use of pesticides but also the promotion of sustainability in operations.

Laurent Levard: the fact that little mention is also the method that was used, and in fact few studies on the impact of intensive agriculture on health. Of course there are even fewer studies on agro-ecology and health, but it is certain that to happen even reduce pesticide necessarily has a positive impact.

Adriana Slava, Christians in the rural world: you do not approach the issue of lobbying by agribusiness including seed next.

**SECOND SESSION OF THE MORNING:**

**Mamadou Diallo:**

I remember an anecdote, one day at a Farmers' Federation of Fouta Djallon that I represent, Dominique Violas GRET came to tell us about agroecology: it has been lynched. Because in our country with known past with so-called revolutionary communists, any use of new terms is ideologically connoted.

Bush fires are a big problem in Guinea, drying rivers, slash-and-burn. So according to these conditions will I say to all my members, producers with less than a dollar a day to stop what they are doing to agroecology? Attention also to institutional instability, attention to poverty ...

Look at the extent of deforestation and land clearing in our country between 1988 and 2007: this is becoming a desert. 80% hilly territories, 4000 mm of rain so torrential bushfires 4/5th territory each year. In 1950 the settler says nothing can is inevitable. While agriculture is extensive deforestation is 14% of forests quarter century. We have the first world reserves of bauxite and aluminum, it means they are in the ground and actually there are difficulties to push sth, low pH, organic matter is low and as n ' has not reached the level of development is cut: to close, to cook etc.. Was not an ancient tree at home.

Then crop yields:

- Extensive cultures or peoples and cultures coexist in the bush, stray animals

- Various types of pollution, thousands of tons of plastic everywhere.

Faced with all this, we have a problem. We have 300 to 400 000 young people on the labor market every year: Will we take all the boats to come to you? Look at the map of vegetation cover is what we cut each year. We went from 20 to 200 inhabitants per km2 hab/km2. Burning the forest was ash, put a few seeds ...

So what do we do? We do not Valentine machines, we men. Our rivers dry season, empty. We have battles for iron ore iron between companies that kill hundreds of people, because the natives were killed after asking to be hired by the company. We created FPFD 20 years ago, with the help of Canada and France. For what reason? Talk to the farmers, it occupies a third of the country. She came to develop barren land, increase the yields of potatoes.

What agricultural techniques does one apply? What name would you give it? Agroecology or not? I remind you that when you give a name to our country you can get lynched.

During the colonial period, our parents were growing traditional plants and the socialist-communist modernization came with ... If you come today and say "do this do that," they say "ohlala they come back again! ". Same for Dominica. Along the way we get into the discussion to understand that this meant that Dominique was not bad but just not appropriate.

64% of women in FPFD, activities, support to production inputs, seeds come from the Nord Pas de Calais, onion seed of Israel for 20 years, marketing support with impacts, guaranteed prices they can live part of the year with the production, training and institution OP. Everything they say, when people are not labeled it is useless, because people do not understand what you say.

Advocacy is also important.

Reduction of lean periods, we still live today: the production of the peasant does not allow him to eat all year round, even if he wins some money.

So what do we do?

- Stop logging, stop the bushfire and try not to fire into the ground

- Modernize agriculture without going into the green revolution. We had some crazy days between the moldboard plow and disc plow, we convinced the disc plow for plowing to 20 cm.

What next?

- Improve the agricultural structure, give more awareness

- Promote organic fertilization. 80% of our fertilizer is organic, we spent 1 tonne of fertilizer per hectare kls 800

- Land Management

- Diversification of crops.

To conclude: there is a threat. "The solutions in the world are not the solutions in Guinea."

I remind you that the fight against the degradation and soil conservation policies are not interested, you spend money and it does not have immediate effects. What a politician will do with it?

Permanent political and institutional instability.

For this FPFD: water control, lower mountain farmers where they intersect, train farmers to better manage their operations. These are our axes. Do they fit or not ecological agriculture? I do not know.

"In the current logic of donors and the current structure of states it is difficult to develop. '

**Joaquim Diniz:**

I'll try to share an experience from Brazil. I am a professor at the Institute of Technical Training in Agroecology. It has nearly 120 courses in agroecology both technically that tank and control in Brazil. How can we meet the challenges of humanity in relation to the types of agriculture on food security issues and ecological crisis.

In my Nordeste region of Brazil, 1 million km2, about 21 million inhabitants live. Semi-arid climate, the phenomenon of cyclical droughts every 25 26 years was four years of drought. Under these conditions it was suggested to find a solution, in the 90s, on "fighting the drought," find a solution to keep water water for dry years. Solution rather positivist, it was a way to strengthen local political power because most dams were in the special properties of the notable private owners and landowners. From a critical thinking approach to this "fight the drought," the government has also tried to endorse irrigation as a dynamic activity ... More recently we had a different approach to 'modernization' of boosting the territory to start industries, tourism and irrigated agriculture. This approach continues to this day as a way to showcase the region and start processes, but often dedicated to export.

Critical thinking of these two approaches and reaction of society in this area to try to find other ways, and the UN conference on the degradation of 99 in this region we had a gathering of civil society to propose another approach "Coexistence with the semi-arid" cohabitation. The construction of the idea of ​​agroecology in the Northeast region today speaks very clearly to try to live with the climate. Cad implementation techniques appropriate to the region, mobilizing families around issues of water security but also to promote citizenship and propose solutions to the government to meet the conditions of production and living conditions in the region.

An action that was carried out was the construction of 1 million small tanks of 16,000 liters, technology cheap and easy to do with raising families. Tanks were as the idea of ​​water conservation in the region. From this we came to 350,000 tanks built. For families in remote communities without water supply, the tank made much difference. Studies have shown a general improvement in the health of the family for the quality of the water we can keep.

Another action we propose is an action of the water for the production of "two waters, land." A program that proposes to revise the access to land, to articulate with access to water. It is always related to the installation of dams to meet water security, irrigation systems, wastewater treatment ... and education, with teaching methods developed for literacy training for young people, who are focus on the specific characteristics of the region. The experiments show that agroecology can be constructed with a wider axis associated with climate. Networks working on mobilizing family, citizenship, and agroecology is a link between citizenship, access to water, and climate change.

This year we have a very strong drought, which already affects many families and demonstrates a weakness even if the federal government there is a project of transportation of a part of the river water in three states. Two approaches: a fluid combat drought through irrigation very expensive, and civil society continues to offer another way to get a water and food security linked to the issue of citizenship.

**Marciano Virola:**

Will add supplements on items that have not been previously added. I am part of the AFA, a federation of 12 peasant federations in 12 countries in Asia. I am here to share our perspectives on agroecology, and focus on how agroecology can address the problems of small farmers in Asia.

Can describe their situation as poverty, famine, suffering the effects of climate change. I am from the Philippines and recently we had a super typhoon that hit the country.

So why are they Asian farmers vulnerable to the effects of climate change? Due to the low productivity of their farms that have suffered the consequences of conventional agriculture, so the lack of support to agriculture governments especially for small farmers, also because of the lack of land, lack of access to credit, seed markets. We could talk all day causes problems, but rather here what we believe: the potential of agroecology.

Agroecology and therefore different techniques wastewater by farmers create food security by diversifying food sources and diversifying crops and mitigating risks, the diversity of food sources not only ensure food security and safety, but also nutrition. Philippines to our members, small farms, farming practices with diverse polyculture with livestock and poultry.

Agroecology also has the potential to reduce poverty. Through diversification farmers have a diversified source of income, if the price of grain down or if the production is affected by extreme events, while producers in agroecology have a kind of insurance risk because they have an extra income . This is shown in Cambodia and other countries.

Third agroecology has a real potential to meet the challenges of climate change, it was noted how it reduces emissions of greenhouse gases. Agroecology is also a significant response for small farmers to adapt to climate change, when they are affected by extreme events, using agroecology can use seed resistance to drought developed participatory manner, or plant varieties more resistant to climate change. So this aspect of adaptation is very important for Asian farmers.

**QUESTIONS:**

Member of FNH from Benin, raises issues of land grabbing and land access and influence policies to exit the agro-export model. We in the South we have one problem: our policies, politicians and public policy.

For public policy we have a problem of financing research in our country, which should adapt to our conditions. We have financing problems of agriculture in its entirety with all the money that we should be able to give the farmers so that they can be more independent to cope with challenges.

Models are not lacking in Benin we model the Songhai whose effectiveness has been demonstrated. What they do not understand is that we are locked in a logical agro-export. Cotton in Benin showed all these years that it would not. In northern Benin, Atakora our region, the water tower Benin, everything we say is that farmers must make cotton when we know that it will not, and yet it persists. There are political problems in men.

Peasants were dying of poisoning by recycling cans pesticide because they have not been educated before.

So my concern is: how can we sustainably influence politicians to influence public policy?

Other person to tell you Mamadou Diallo was needed down the mountain farmers and develop the shallows, so how do you land tenure issues? This analysis joins M. Vilain on data from FAO estimate that it will clear 270 million hectares for food security ... so how you think, in view of agroecology, the links between food security and land pressures.

Bernard Terris, association DANAIA, reflections of Mr. Diallo challenge us on this side includes "what are they done? ". We develop our next project development training modules for schools agro agroecology. This is sthg we do at the request of public authorities and schools. Now I understand this attitude, we often hear, we had to Forum René Dumont Mamadou Cissokho who gave a presentation on this type of attitude around the EPA. I'll ask a question, we all interest in going in the right direction, I think agroecology is common sense, but we can assume that, from now, we go together?

Adriana Slava, Christians in the rural world: how to get the message? I see through the members of our movement, some members of our network spend and believe that bio = bio agroecology, whereas we claim the place of man in agroecology and harmony with nature. How do you get this message integration of man and the producer-consumer relationship? Another question on the role of territories that agroecology can not be stated as a general concept, but only as a concept applicable.

**Mamadou Diallo Kourahoye:**

The issue of land is one of the biggest issues today in South, perhaps one of the challenges of the XXI century. We inherited a colonial land, the Land Code in 1958 to independence has been extended. In 1960 the communist revolution was launched as China, the land belongs to the State therefore, to cultivate it should seek permission from the sub-prefect. In 1985, proclaims the liberal development and disengagement of the state of the production. So in the end the land belongs to whom? Consequence: we have a set of codes that fit the client's head when you go to the authorities to solve this problem.

So how the federation is doing to build for the future?

- The FPFD does not work with people who do not want to work, will not seek to put people on earth. We have plans to millions with nobody on.

- When a group is formed, small producers, so he needs to land. You are the earth, you consensually your paper, you'll see the village chief who signed the paper, you will see the sub-prefect who signs etc and which allows to adjust the final FPFD. In this mishmash we get out. Now multinationals come and say "the state gives us 10 000 ha." But the earth is that the end? 2 years multi happens, and farmers come at night and dig up production to prevent settling. In Guinea can not give land to qqun else, because people's reaction is passive but actually exists. This is the reason why multinational mining so hard working. The land is the only thing that is sometimes the poorest. We therefore hope that the country's new authorities lean on pbs land.

On agroecology are we together? But yes, our production is organic, we fight against bushfires, we reduced our inputs, we develop local varieties resistant ... This is how the present is different, it is necessary to find the form to make it different level of farmers. It was the largest producer of bananas in 1958, was based on agro-ecology, tropical agriculture. The advantage of the banana mulching home was: you have a low-background with hills, when the rains come we cut the straw is placed 50 cm in banana straw, they do the same in September, 1 m straw on the banana plantations. Fertilization was based on limestone because it was a coastal area. In 1968 with the socialist revolution was to destroy everything for tractors. Our job is to give us that agriculture has worked on the basis of this technique. Should not scare people with new techniques, they already have problems in feeding children.

**Joaquim Diniz:**

On how to upgrade the territories with agroecology, we see a possibility of recovering practices, our tangible and intangible heritage.

Side hardware can upgrade territories with the recovery of seeds, soil, water resources poisoned ... At the level of culture in our region wanted to get the cotton in a manner agroecological, in combination with two other legume crops, and may have a small stream that again.

Side of the intangible heritage we want to recover the identity of the region, the way we live, the interest to remain in the region, the strengths and community ties that exist and can be upgraded.

**Lionel UGLY:**

On your question about the organic and / or agroecology was a semantic shift, it is not that easy to clarify the different concepts. The AB is an international label that allows business opportunities in the Western world, generally without ambiguities. Agroecology is to build and does not have the same reputation vis-à-vis consumers and the market. But we must go beyond this opposition, the AB is not the only model compatible with agroecology. The AB is not interested necessarily territories but especially in the plot. Our Brazilian friend said "live with the climate", rather than attempts to change the climate by putting huge irrigation is interesting because AB does not really response remaining at the plot while agroecology has answers at the territorial level. We must overcome the opposition to reach an agriculture that can feed people without environmental damage.

**Valentin BEAUVAL:**

Yes I would add that there is complementarity of approaches, there are organic and the approach channel and agroecology aimed more a territorial dimension. Do not oppose me, the two go together.

Coralie Gabriel, M2 IRIS question addressed to Valentin Beauval: we saw a lot of tractors on these slides and I wanted to know the place that gives the mechanical agro-ecological practices, how they are used and how are they perceived ?

BEAUVAL: it depends on the context, the tractor can be part of the landscape, it can be used intelligently as strip till. By cons in some countries with little tractors with expensive fuel, no infrastructure or interviews where it's more complicated ... but in Benin for example tractors work well now. In Mali tractors have evolved very well, there are groups of farmers in southern Mali motor, which can carry advantage of biomass by tractors or these flows are very important in a territory for sustainable agriculture .

**Christophe Naudin:**

A small supplement. The term "drive" the land and crops used by Lionel Vilain. I am increasingly convinced that this is a dangerous term, from eg response curve, with a particular dose for a particular reaction. Or one that uses agroecology complex stands can not be "controlled" but accompanied or guided. This is another look at the plot. We will not control everything. It seeks to be against having less variability of production, less weather, fewer risks of pests.

**Mamadou Diallo Kourahoye:**

For farming, just information. This will only be marginal in our country, as you practice in Europe. The cost is $ 10 000. What is the farmer who will spend it for the ECOCERT certification? Then the products used in organic agriculture, trace elements etc. must be imported from Europe. I can give you handicap handicap to explain why all groups dropped bios, why I abandoned myself.

By cons agroecology has the chance to flourish. We participated in the first trip organized by the World Bank in April. There are opportunities to develop the agriculture if there are mechanisms to trigger it. We'll talk this afternoon.

**Laurent LEVARD:**

I wanted to ask two questions that were discussed this morning, but I would like to have the views of other stakeholders:

- Agroecology and use of chemical fertilizers

- Agroecology and labor productivity. We have seen that EI practices is often more labor intensive, and therefore that the coup may pose a problem in terms of labor productivity and therefore income workers. These are assumptions and I would like the participants to express themselves on this morning.

**Valentin BEAUVAL:**

The question that Lawrence is not trivial. Most soils are deficient in phosphorus Maghreb and also in West Africa. Response in the context of organic farming is to say that puts phosphates, or they are not always comparable and raise the question of the duration of response of soils. Some soils are very deficient in potash after three centuries without refund. We need to transfer fertility fetching but other biomass to 300 inhabitants per km2 biomass alone is not enough. This is where we sometimes leave the canvas too precise bio.

**Joaquim DINIZ:**

Us in our idea of ​​agroecology you really see the industrial chemical inputs with increasing dependence. We really try to find other answers to minimize dependence on fertilizers. You should always have a lot of responsibility on the way agro-ecological transition. We are responsible for how the transition is going to reach a point where you can do so without fully sustainable external dependency needs? You really do research to find the answers there, and these studies are still a minority in the field of agroecology. Imagine the time and public investment in agriculture the green revolution! We begin this transition, which will probably be slow.

For labor productivity would be able to reach productivity to arrive at a fair remuneration for work. From qqs testimonies from farmers with whom I worked, I felt that the question of compensation is central but I also heard on the fact that people are open to fair remuneration, medium, and other non-monetary benefits. The farmers working on these subjects have a better quality of life overall: material needs, but also add more widely satisfaction and improvement needs of the family and the community.

**Lionel Vilain:**

For fertilizers, situations with deficiencies in phosphorus, potassium, magnesium. I distinguish two strategies:

- A transition stage, difficult to manage when one starts with a model of agriculture near mining to go to a long-term model of regaining fertility. It is not impossible that in the short term it is necessary to use locally and occasionally mineral fertilizer forms the most natural, ie non-soluble fertilizers for tropical environments with heavy rains ¾ go to the river!

- Second, long-term must recreate pedogenesis. Soils are extremely lively environments, capable of dissolving the bedrock. There pédologies very different, but the overall return to minimum tillage via organic matter to re-solubilize elements insolubilized of bedrock is important. And animals are very important as transfers of fertility and biomass.

For labor productivity is a more difficult question, which varies from one medium to another. When a family of 10 people living on one hectare question does not arise ... Such idle labor can absorb the additional work and it is not worse. Bcp mechanization is generally more difficult and associated systems under agroecological intense. It is a compromise and an equation to the following terms: What is the population per hectare to feed, what is the available labor force etc?

**Marciano VIROLA:**

Examples of our members in Asia, the use of chemical fertilizers. One of the most popular among our members is the integrated operation and organic small plot. This model allows farmers to reduce chemical fertilizers gradually, and they are using organic fertilizers, livestock excrement. This allows reducing the use of chemical fertilizers, there is a transition period of 1 to 2 years.

On the issue of labor productivity, again this model of integrated and diversified small farm organic farms can increase revenues and lower costs of production. In the transition period we can see a decline in rice production, offset by lower production costs. For the intensification of work that can be compensated by an alternation of crops in time, with long and short crops, until the rice grows you can plant crops, so the work can be used more efficiently.

**Christophe Naudin:**

On chemical fertilizers the question arises differently in terms of nitrogen or phosphorus. For phosphorus the two issues are:

- Presence of a problem in soils: the only solution is to import fossil resources via mining

- Bioavailability: we qqs levers on changing the pH of the soil, we begin to look at some plants and their effect on soil and increasing the bioavailability of phosphorus around the root systems of legumes including via but little research and conflicting results.

For nitrogen:

- Inexhaustible source of nitrogen in the atmosphere, available via legumes

Agroecology allows us to improve the efficiency of the elements used and transformed into biomass and also limit losses. Also rethink fertilization management in biogeochemical cycles and do not hesitate to rethink globally. 2003 Galloway cascade nitrogen.

For labor productivity rather I have a question: when you say that the agroecological production decreases productivity T, is that you include only the time spent making the product or also the time to make inputs ...? Is that agroecological practice is not: focus on the factors of production farmers and not many players?

**Valentin BEAUVAL:**

I want to make a small example of the concept of productivity and bounce on the fourth point raised Gliessman and now by Christophe on food systems and short circuits. I have a neighbor Arbo production in conventional and ecological disaster health. It has evolved into bio alternating varieties, 50% more work in his orchard. It collects half ... But he solved the problem via short circuits: instead of selling apples at 30 cents a pound to purchasing, it sells directly to one euro and a half, which is the price of traditional apple covered in supermarkets. This is where the short circuit, and peri-urban agriculture, can and must evolve towards agroecology and see the value of their work with better prices through direct partnerships.

Speaker: Does that remains is not a Western concept of labor productivity? should we not take into account the distribution of work throughout the year and within the family, in different cultures. It should also consider the opportunity cost of the worker.

**SESSION OF THE AFTERNOON:**

**Intervention Laurent Levard:**

**Maria Soliz intervention:**

Example of public policies on agroecology in the Andean countries and the conditions necessary for the development of agroecology. Agroecology AMLAT there exists even in the absence of public policy support, including family farming and is the case in many areas. I must say that the promotion of agroécolgoie is made primarily by peasant movements, civil society and NGOs cooperation that facilitated its development. But in many cases these experiences are regional and rarely reach more global or national dimensions.

At national level, there are two issues:

- On the national laws and regulations. Unique standards relate to organic production for export. But these laws want to be equivalent to those where production is exported but not based on the context and national issues. Organic production is destined for the USA and 51% EU 46%. So all our laws are made references to those countries. There are no standards on agroecological production of domestic consumption countries. A peasant a third-party certification is impossible because bcp too expensive: $ 1,500 a year for example. In the four Andean countries there are laws on organic production, but there are not standards considering the specificities of agroecological production. In the National Food Security Act of Ecuador in 2008, this law has remained a standard very general and does not take into account the rich experiences territories.

In the last 5 minutes I would like to explain how a participatory certification conducted in Ecuador, Peru and Bolivia, based not on a third-party certification but with a direct and participatory social control through producer organizations and consumers. The first level involves the training of promoters farmers who are intermediaries between organizations and farms, and a second level to the municipal level where cantonal or operates a multi-stakeholder committee with many public and private institutions, POs with an annual production on farms to ensure that they meet the standards built sets. A third level institutions with platforms agroecological region or represented different producers and different cantonal committees, certify and submit a book to the kind of producer. The system is distributed across several regions, comprising one million people, and a dozen municipalities themselves have begun to reserve specific areas for these types of marketing and practice.

**Mamadou Diallo Kourahoye:**

Every time we say capitalist agriculture I jump because I think the Structural Adjustment Plans and dismantling equipment domestic production. People have told us in the 80s Bradez all, the state does not get involved in anything, it's free enterprise ... We started to import from China and India, even mopeds. YAMAHA today cost less than a Peugeot bicycle. SAPs have disrupted the economy and agriculture. Guinea was in three phases: in 1958 the end of colonial agriculture, after the socialist Soviet technical installation, third was liberalized and made laws and codes in the 80s, with the support of NOT: Land, Pastoral, Wildlife, Animal. So, let there be found more ...

Result: you talk about agroecology. I'm going home, to the account you will tell me: Have you invited the director of the environment? water? forests? agriculture? land? all depend on different ministries. When you talk about agroecology you do not know where the anchor for each direction want to take the paternity of the problem. On the other side there are rangers corrupt ... The legal and institutional environment is a problem world: without strong laws and ingrained in you as it is difficult to anchor anything.

Financial problems. We have foreign aid, soon it will be indexed on agroecology, we say "yes yes" and it will do anything.

So what message are we going for our governments, our politicians are willing to listen to what you have to say?

What message to give to farmers to say this is not a miracle but a new improvement of the existing. A FPFD we see in there that is applicable to fit what we already do in a more secure environment.

**Joaquim DINIZ:**

I meant qqs federal programs in Brazil since 2002 and Lula, lots of personal social movements linked to the government, and therefore heard these struggles and transformed programs. Qqs some walked and others not necessarily. But we had the ability to expand the volume of credit to family farming. Within regions that developed very differently in the South is highly mechanized, the Northeast is more difficult because of the distances and infrastructure.

Under the national program for family agriculture credit was created lines on agroecology and semi-arid they have hardly been used! It is difficult to have access to families, there were no trained technicians able to carry projects, problems in public banks that have failed to operate these lines of credit based on agroecology and seeding arid.

Two programs example:

- Program lending. Very significant difficulty for the public or consulting services in NGOs and social movements can seize public policy. It was a very important series program and project farmers do not understand why they can not at home. We have a big gap on the possibility of implementing on the ground.

- Programme of technical assistance and consulting services in five Brazilian states, which aimed to start an ongoing technical assistance. This is very important because the discontinuity of programs bcp discourages farmers. Support of IFAD, FAO and the federal government. Establishment of a team that can affect agriculture, but also in other social services and other non-agricultural activities. There were small amounts for each family to start productive activities, to strengthen the structures of access to water, and agroecology was placed for these programs as a preferred approach and develop. Few families affected in the end: 15,000. Despite the good results with verifiable indicators of production, the program was stopped because he needed too and monitoring of government staff to do well in the coordinate. The federal government chose instead to outsource technical advice and assistance to businesses in a less coordinated and centralized form of a service.

What we see is that, in addition to very interesting results, it was shown two important axes:

o Social control in the country, meetings, decisions, discussions of program management.

o Policy integration: This program is able to open and partnerships to facilitate access to other programs having difficulty reaching families. From this we see that for public policy to be able to meet the needs of families, these characteristics must be met.

**QUESTIONS:**

**Hubert de Milly, agronomist and economist.** I will try to revive the debate. I have two points on which other views can be made.

The first course is the generalization of the agro-ecological approach. Is it right and proper to limit family farming? Should be done a priori link between family farming and agroecology: I know of family farms in the Netherlands VS 1000 cattle farms in England with choice of mode of production to the grass and bring these models.

A worldwide since two centuries phenomena are observed concentration of Agriculture and think they will continue, therefore, exclude capitalist agriculture seems curious.

Second question by placing on a global scale: you know the criticisms made on biofuels development that increases in world agricultural demand and result in an extension of surfaces LATAM, Africa and Asia. Should we not ask the same question in Europe: a diminishing returns does not it lead to an increase largest in Europe, and thus the creation of larger areas in the world, and therefore the same phenomenon for biofuels?

The answers are often made on consumption reduce meat, biofuels reduce, but from the point of view of agroecology is there to provide the answers?

**Samuel of FNH.** When we talk about security of tenure is going on not to risk adverse to the producer, be dispossessed of his title by companies who would buy? Example Project Millennium Challenge Account in Benin: it allowed us, Benin, securitize rural land. AJD farmers have title in hand and are private owners, if they decide to sell to multinationals they sell and end point. Is that this is what we want? Is that it is not another trap for the farmer? Should we not think of securing another aspect?

Benin in the 90's we also had SAPs which deconstructed the Farm in place. We support centers to farmer: we all eliminated. 15 years farmers have had more support and advice, each farmer followed the advice as he could. AJD was again SEGPA at regional and local level.

**Claude Torre, AFD** two experiments to raise even more questions. To borrow the words of Hubert de Milly.

Example in Vietnam, family farming with access to finance and inputs on the channels tea there was enormous pollution of soil and water ... We will be required to work with an Indian multinational certified Fairtrade and Rainforest Alliance because their practices are bcp greener ... Here, the situation is very complex.

Public policy to AFD working with governments. Orientation is seen dawn and that govt say family farming is good, we worked long, it did not affect bcp. We have riots in our cities we we want to deforest and large producers who spit maize and cassava for social peace in the city, they say it in encrypted. We should discuss it over there to support family farmers, and improve existing. We are confronted with the need to manage this demand.

**Jacques Loyat,** should legislate on agroecology?

**Laurent Levard:**

On the issue capitalist agriculture and family farming. That, for a number of reasons, family farming is in a better position, does not mean that there is an automatic character between the two. Must firstly that family agriculture has the capacity: in situations of acute crisis of family farming we saw that it was very difficult to make a transition.

It also requires that family farming there is interest. And in many contexts that promote green revolution type solutions, then the interest is sometimes continuing. Therefore not automatic. Depending on economic conditions farmers have interest to work in more or less any particular system.

Now, in a temperate zone, large farms and extensive grassland that grows alone and organic matter levels significant then yes large exploitatons can be capitalist but I think in most countries of the South which we focus the situation is different, because we are often crises fertility. These can be offset in the short term by providing chemical input, but does not solve anything, and other areas with a high population density with the central question of employment. Wherever there is development of large-scale agriculture K in this type of situation, we see that on the one hand measures enrichment of soil organic matter, and practices that are intended to preserve agricultural employment; agriculture K no interest. Bcp is working, labor has a cost, knowledge is complex and difficult to implement on a large scale.

I would like, on the issue of returns, working on another question on what we saw of the work: yes in systems made of green revolution and installed an ecological transition can result in yield losses on short term. But it is clear that in situations of crisis and peasantry ecosystem in crisis, wherever there has been implementation of agroecological practices are witnessing rapid production yields, with the need to think about the whole year and cultures.

Finally, the issue of trees is central, particularly in relation to mineral fertilization since the bedrock. Today, it has been pointed out on phosphorus and potassium, it is a mineral that works agriculture through the use of mineral resources mining ... But instead of trees as a solution in a capitalist system does not seem compatible or marginally so (some protests in the room).

**Valentin BEAUVAL:**

I will provide examples of this against-capitalist opposition / family. Your reasoning Laurent arising from the use of the term "capitalist", which implies a search for short-term profit. I saw a huge operation in Namibia after German colonization, 5,000 ha per family, so agroecological conduct before the word became fashionable. They were in another sense: the land was granted by force, it allowed them to be extensive, to the rural tourosme to leave their farm animals ...

Besides this there was a Bantustan in ecological crisis and demographic and productivity with agroecological practices impossible to implement because of population growth.

So what is tension here is whether we include the social dimension in agroecology or if it's just agronomy and ecology, or if we take the approach of my friend Michel Griffon ecological intensification, which at this time can be applied to any type of system. Brazil DMC 1 active can 300hectare alone. The question is: what country we want? How multifunctionality of agriculture? which product quality?

The need to produce: it is necessary to change our eating patterns, reduce meat.

From the point of Claudius, and it goes into overtime Kourahoye what was said. In the 80s the agriculture was dismantled, more credit, support etc ... but every time we give family farmers a chance, I think the Office du Niger in Mali, the productivity per hectare is 4-5 tons of rice, such as Asians. When I installed the credits were two times less than inflation. When given a chance to family farmers they have a productivity per hectare than the conventional model, and a concern for the long-term more important. So we need to tell our government that agro-export model will result in tragedies in the future.

**Maria Soliz:**

I want to talk about the relationship that may exist between family farming and conventional in the Andean countries. Family farming is part of traditional practices. In the Andes family farming is very suitable for ecosystem processes with participatory varietal selection adapted to geographical contexts and conditions. This helped create rural societies complex, complete with local cycles of production and consumption, the participation of farmers ... It is this family farmers who laid down the principles for the development of agroecology in the Andes.

**Mamadou Diallo Kourahoye:**

We had a head of state between 1984 and 2008. To return to the theme for which is met: the socio-economic and agricultural policies. When the politics of the country is favorable to the development of agriculture there is every chance that this happens. When we launched the FPFD the IMF and the World Bank have said that our potato could not be protected by our state. Our leader has said: I do not care of the IMF and the WB, farmers produce food for the people of Guinea and has implemented protectionist measures. Result: Guinea imported 1000 tonnes in 1992, AJD it produces 20 000 tonnes being exported in the sub-region. So when the political will exists then it works.

But when you do not have the will ...

Our country has three regions: the Guinea forest, bass Guinea, Guinea high. With the global crisis only peasants who survived were the peasants of FPFD, not mega-projects green revolution. Therefore support the OP in a joint and several, taken individually as family farms do not work: here the inputs come from Europe but everyone pays.

The last issue of land. ROPPA level is one of the major themes of work organization. I do not think there is a farmer in the world who wants to sell his land when there occurs, or it is a capital.

Another problem is that most young people want to abandon agriculture in all countries of the world. The question is therefore fundamental.

Then the relationship Agroecology and Climate Climate Convention: Convention biodiversity biosecurity convention. What is the relationship with this set of tools? Resources are scarce, how to get and use them for?

**Joaquim Diniz:**

On the issue through legislation or not. We have created in August a law on agroecology and organic production. This bill proposes an integrated various departments to influence policies and programs to agroecology. Interministerial dialogue is always difficult. By the federal government recognizes the potential of agroecology to guide various programs at the federal level.

With the difficulty of running consulting services, we have a network that has the credit Chic-chic (??), Which is the relationship between agro-ecology, feminism and solidarity economy initiatives to support women in the production and representation. Support the transformation, expanding it to other products such as handicrafts, highlight other raw materials, and facilitate marketing. Procurement policy is defined, with a minimum of incorporating product agroecological farming family in orders schools to 30%, sometimes 100%.

In cities, the sale on the open market has also been implemented. These are the configurations of a socio-economic incentive.

**SECOND SESSION AFTERNOON:**

**First round table: Articulation devices consulting, research and training.**

**Marciano Virola:**

How farmers can they adopt and expand their farms agroéocologie. I'll give the pt of view of Asian farmers and experience of members of the AFA. Regarding the adoption and expansion, farmers learn best from other farmers. We always start from the situation of the peasant, where it is, when, what problems they encounter, and there are technology based as it may adopt. Some are traditional and some are the product of new knowledge. Farmers must adopt practices that correspond to the sizes of their farms, their soil types and climatic conditions, but also that these technologies have been adopted by other farmers, and they can learn from the experiences of other farmers . It is also important that these technologies have been validated by research and scientific experiments.

How farmers do they access this knowledge, these practices? Several ways to facilitate learning and knowledge transfer: the transfer of mainly peasant farmers. Some farmers can set up demonstration plots or experiment in which they can innovate and show others what works or not, and it can be complemented by training programs and training of farmer to farmer. These are methods that operate at the level of farmers.

Despite these methodologies it is always difficult to adopt these practices. There are many constraints and challenges.

- Sometimes there is a lack of innovative farmers and / or technicians who want to train other farmers. In Cambodia they explained to us, the NGO CEDAC, it took them 10 years to the IRS to become a movement. It started with one farmer, and gradually it became a movement of farmers who allowed them to free themselves from dependence on agro-chemical companies and seed; expand their market for rice, supplemented by the establishment savings groups. But it takes a lot of time.

- The lack of documentation and production data on these successful initiatives. Many projects and programs of NGOs are anecdoctiques or undocumented. We always ask: where are the studies where the data? If we compare it with conventional agriculture they have big budgets for research and can show a lot of data on high-yield varieties, GMOs etc. But the work of farmers and NGO support is not documented, there is a lack of budget.

- Match the needs practice is also very difficult. A farmer in Afghanistan requires a particular technique, but where is this technique? China perhaps? How do we find knowledge and bring it to the farmer does? There should be a much better knowledge exchange. Can you have a facebook, peasants? How is it with the ICT that it was always difficult to disseminate knowledge? Why all this knowledge and experience are they kept? Why do not we know more agroecological revolution in Latin America? Why research institutions and public do not they seize the issue?

- Finally, there are socio-cultural constraints that make the difficult transition. I know a farmer that supports a community seed bank, and I asked him his difficulties: it is not the workload, the technology that I have to learn ... but jeers and jibes of his neighbors in agriculture conventional who ask "why did you make life so difficult? you have everything on your farm, weeding, produce your own pesticide, it's silly! ". Farmers themselves seem to have forgotten TK which seem to have become completely foreign. Sometimes those who have the greatest interest to adopt agroecology looks with great skepticism. So how to change this mindset? How to change the consciousness of farmers and promote this new approach agroecological their ancestors also practiced before.

With all these constraints, what are the possible answers and support possible to the needs of farmers?

We must identify farmers adopters and innovators that other farmers can take to have the courage to make the transition.

We must support the participatory experiments to document the experiences generate knowledge that farmers can gain perspective on their experiences and what works or not, and that it is not only technical experts.

There is a lack of research on agroecological techniques. We begin to teach in school, but it is not enough. I talked to a young farmer from the Philippines with an association of young farmers, they were all students in agriculture and they realized that most college graduates ended up as an agrochemical companies selling inputs to farmers ... But since they were exposed to agroecology during study visits they decided to get together and practice agroecology on their farm, and encourage young farmers to follow. It takes a lot of time, motivation, and perhaps even ideological belief that it is they need. In short there needs a lot of technical support, which discusses not only the technology but the terms of the adoption of the peasants, adapting to their needs, to bring innovation. We believe that farmers can always adapt technologies to local conditions, that knowledge can always be generated. We need experimentation and adoption continues until we reach a critical mass and that we transform the food system in its entirety.

**VALENTIN BEAUVAL:**

I'm taking a French peasant cap this afternoon that the question of the relationship between device research and consulting a few experiments. In 1980 we were in the middle of the green revolution in wheat, to intensify agricultural practices. The device advice from the Chamber of Agriculture opérteurs or private, was to take us a package with technical inputs, fertilizers and pesticides. Channels in seeds is the same approach: researchers are developing technology package, which are distributed by extension systems. The farmers is to apply. The technician role prescriber. However this type of approach does not fit my philosophy and I soon joined farmers in other networks with horizontal approach, bottom-up, unlike top-down approaches to the green revolution and even seed. Once you are in a pattern such agro-down approaches are dominant.

As I had concerns of sustainability, and I realized that those around me at board had a vision sectarian type "industry" and not my system impacts on the food chain and the environment, I approached groups of farmers, first in the chambers of agriculture and CIVAM networks. I insist on this point: the dimension of creativity farmers group not to feel isolated from neighbors, is absolutely fundamental. Fortunately we were able to receive funding, but woefully inadequate real. Because he had to support networks. Today, the region supports CIVAM, we have also received funding from the Ministry of Agriculture of tender. Barnier also and had spent the Ecophyto 2018 to halve pesticides. His approach was not to finance research institutions, but to finance technical support farmers to develop references that could spread elsewhere. Or at agroecology is essential to strengthen this group work in networks, which for decades has proven its productivity.

Any alternatives to corn and soybeans imported all these are farmers who have developed largely by taking the techniques of their grandfather but also innovative! The importance of autonomy: technical, energy, food. This overview can be an advisor to private firm that can give you, because it is always trying to sell something.

How do these groups? Many visits. The technician facilitator, but not only. IT must play a role in helping farmers to develop technical and economic references useful for their neighbor, and assist in the establishment of methodological rigor because farmers do not necessarily have the time to put protocols etc..

Visits are important: the technician visit a farm, the farmer puts his system on the table, the meeting is well prepared, we share, we discuss, we advance and we often innovates.

One point on which I insist is that social networks become an engine of innovation peasant in France, as the BASE network. It starts with the social network on the internet, then continue by groups and field visits. It can be very complementary. These are the dynamics here, in France, operate networks of sustainable agriculture, with many groups: organic, sustainable agriculture, CIVAM etc etc.. And technical and economic references were not implemented in research stations to be broadcast in top-down fashion. Nevertheless, it has the right to researchers, many examples of which we must dig for example if you want to be more independent in plant proteins with animal production system then it must incorporate protein, more formidable to capture the nitrogen. But to achieve this it is also a certain genetic improvement of varieties. Now 30 years of public research has hardly worked on local truths: feverolles, lupine. Public research must be attentive to the farmers. Ecophyto 2018 finance technicians, but also interventions researchers. This requires listening researchers, a participatory approach in which they were not trained, and is not an evaluation criterion because they are measured on the publication and not responding to societal demands.

As part of the Day of agroecology at ESA Angers we had 17 farmers' innovations presented ... but these things were not supported from the outside. We must insist on the board technical, economic, and research, to ensure that researchers are free with respect to their research, and they can also go on the ground.

**SECOND ROUND TABLE: INTERNATIONAL COOPERATION.**

**Maureen Jorand, Advocacy Officer Food Security:**

C2A the following international negotiations on food security and agricultural issues for several years. The theme of the agricultural model to defend on the issue of climate change is emerging in international negotiations, and we must see how the concept of agroecology emerged in this discussion. We saw the need for public policy to change scale. But we must take into account the weight of the dynamic international development PP. AJD was a strong promotion of private investment, the dynamics of the G8 and the new alliance of 25 U.S. multinationals wanting to develop agriculture in six African countries.

Along with this it is necessary that he level of international food governance and the governance of rural development is taken into account the concept of agroecology. But the theme Agriculture and climate change was an object of discussions of the Committee on World Food Security of FAO, reformed 2 years with innovative mode of governance: states, international organizations, private sector and civil society mechanism representing all international civil society, and the work of HLPE that product on the basis of theoretical and empirical research report on the state of the discussion, to the point and launch them. A report was published this year, and for the first time in an international report agroecological approaches are clearly identified as being able to meet the challenges.

It is interesting to see how the states have not necessarily been able to take the position of reflections HLPE or integrating agroecology in the final states. The SC strongly supported the integration of the concept in the states, but was faced with a private sector willing to incorporate the requirement to integrate the models of climate-smart agriculture, close to the green economy. We were in competition: should we push for integration may have a concept of the private sector? For us the risk was too great, we declined. This really appeals to thinking it must be on the extension of the concept of agroecology because at the end we found ourselves in opposition concept: come agrtoécologie concept of civil society, with concepts sector private and state concepts. So we must popularize diffuer and agroecology among states, especially Africans who have little knowledge of it. So we need an international strategy extension.

Also multiply the spaces to promote agroecology: it should not be limited to the SC working on it, there is always a multitude of contact, and the theme is agriculture-climate change in many areas: COP Doha, Rio +20, etc., it will continue for many discussions are started. Therefore popularize this concept to other actors of international civil society, including acting on the environment, to harmonize advocacy and lobbying at international level.

**Claude Torre, AFD**

How agroecology is part of the AFD's strategy in promoting food security AfSub?

It is a framework document that will be discussed soon with the Minister and NGOs, in January.

Generally the work of the AFD is to support strong growth in developing countries, since it is behind income, employment. It must be inclusive and maintaining the dural cpaital natural level of the land, territories, watersheds. Through consultations between stakeholders: communities, OP, private sector, states, for the establishment of ad hoc PP. Level targeting is targeted primarily of family farms that can be achieved either directly or indirectly, through the work of OPs that can provide support to producers. We want to create a thriving rural economy and high employment to generate income, build infrastructure and put in place institutional environnemetns with sproducteurs services from consulting, training, etc.. Human capital: rural training. K natural maintain, conserve, manage natural resources.

Points of attention, our old weaknesses: work on structuring food chains. The appearance is imprtant to downstream processing, markets and thus the income improvement capture value. Risk management. THE collaborative management of natural resources, land tenure and use. The agroecological intensification will play an important part.

What experience is a practice agro-ecologies, the SCV in Madagascar?

With CIRAD over 15 years, we have funded 30 million on many national and cross. Northern Cameroon, Mali, Madagascar, Laos, Cambodia, Tunisia ... cirad.agroécologie. Capitalization: manual on SCV. Systems under plant cover: direct seeding without touching the ground, permanent cover, crop rotation. It has some questions about this experience was not the most optimal:

- There were bcp research has allowed CIRAD capitalize ... but in terms of diffusion is less successful bcp bcp and more difficult. There was a project approach, which complicates the task. Contexts soil very poor, and we had to recover a K organic matter not obvious. Also linked to a problem of "technological package", ie being asked to take a leap farms institutional: get financing, seed specific cover crops, inputs (herbicide glyphosate before planting live) mechanization (tools for sowing in plant cover).

These experiments will be evaluated in 2013, we want to take the opportunity to have a broader reflection on the practices of agroecology, including in particular with other donor issues agroforestry and livestock agriculture.

What are the prospects in the longer term?

We need to increase knowledge npos not to get stuck on a single practice, even if it was successful, however, with non agroecological in southern Brazil. We want to integrate the issue of water too. Our approach will be contextualized in the sense that we want to be more in support of existing dynamics: there are no quick fixes, we must start from the existing cultural understanding of the dynamics that are taking place and how they can accompany them. Why not a hybrid practice combining conventional and innovative practices. Knowing that it is the farmers themselves who adapt practices. In Madagascar, direct seeding approach has enabled farmers to reorient farms and permanent grassland, which was not expected at the outset.

We reflect on the incentives for public dvper these approaches: PSE example, how to mobilize what channels? Reflection at a territorial level as well.

At practices we want a more transversal approach in our operations, "greening" our practices. We want to work in partnership expanded and not get stuck with as CIRAD. Other donors, Germans and Northern donors have a huge experience in agroecology.

Also funding R & D and training: countries are reluctant to finance loans on these issues here. It was therefore important needs grants.

Compared to NGOs was an experiment with FISONG Facility (Sectoral Innovation NGOs) on conservation agriculture, NGOs have established experience in this field, and the next will focus on adapting agricultural practices to change climate.

**DEBATE:**

**DANAIA:**

Compared to the research question I will join Mamadou Diallo who insisted on NOT. Our experience in Mali, Bamako IER, a public, proves. The Malian government does not pay the search, so it is those who demand and finance. No research on agroecology so. If you want to do: find the budget. If we talk about SAP, it is still the reality that in a top-down agroecology're ASPD possible Mali. It is looking for farmers, who have always aps how to do a thorough, with strict protocols, etc. comparative.

SAPs also have an impact at training. DANAIA had started a project to create a training module for Agroecology in the schools of agriculture in Mali. This is a sosrte alternative to the state, because the state does not have the means, but is it the end?

For the dissemination of agroecology, one way to accomplish this is actually to have a top-down approach through schools, an approach to long-term firmaion teachers, programs, supports short . Students must be trained technicians with patents. And after that he must finally they find jobs for technicians that is difficult to state or NGOs, to finally train farmers.

Another approach is developed in West Africa networks form: AFAFA Senegal, ENDA Pronat, AVS Mali, AVAPA, Comics, Earth & Humanism, consult more organized and to communicate directly with farmers els methods of agroecology. Both approaches are necessary;

A third media is interesting force farmers to practice listening RFI things because they heard X, Y, Z. It will do all these axes transmission of information and knowledge.

Charlotte Libog, coordinator of the platform René Dumont dedicated to the promotion of entrepreneurship in agricultural AfSub.

You talk about means, but it is a question of political will. African agriculture is facing 30 years of non-existent and inadequate agricultural policies, and should civil society draws take things in hand, the private sector can be involved as well.

I represent a platform created by associative frameworks and desentrepreneurs African voualtn revive agriculture. Agroecology interests us and as such we have created spaces on social networks, Vidao, LinkedIn, Facebook. I am at your disposal for all those who wish to provide us with information about the science there for us to participate in the outreach effort.

**Michel Girard, director of the NGO Initiatives & Development Poitiers:**

Developments towards agroecology are demanding in time: the need for a proper diagnosis, research and extension. The raison d'être of an NGO like the one that I belong is to support partners in the South on their projects. Can we expect donor commitments over time?

**Céline ALLAVERDIAN:**

I make findings on Agricultural Research for dévleoppement. We have a project of inclusion of smallholders in agricultural research in areas AfOuest, Southern Af, AfSub: we find that all public research institutions are NOT due to HS, the budget cuts etc.. We also see that, in fact, the private sector invests agricultural research: the Gates Foundation, the company invests the phytosanitary field and then use public infrastructures to conduct their research. There are international research institutions, EU, USA, have research programs, and sometimes researchers interested in including it necessary to include peasants, but even with these people their vision is to involve farmers in field trials but the inclusion is limited to this, while our message is: peasants must be upstream in the definition of research programs, funding guidance, both at the French against the CIRAD , INRA, but also at the international level for which the CGIAR needs a peasant participation and not just a representation came from nowhere to put pretty.

We need a representation of the OPs, the org ranchers, consumers, it is decided in consultation. I am amazed by the number of questions from FPFD, but when asked about partnerships with research Guinean they run away. And at the same time it is difficult to make partnerships with CIRAD because everyone is chasing its programs, publications, strategies ...

**Christophe Naudin:**

Importance of the relationship between researchers and farmers academic researchers. It can not develop if we are aware of expectations and differences of these two audiences. The peasant often argued on empirical knowledge, while the academic researcher will seek generalizable knowledge rather different nature. At first they contradict and oppose, and wealth occurs when one manages to confront and pass from one to the other. It is very difficult for a epistemological point of view.

The other was on the peasants experimenters should think of remuneration systems for the risk they take by testing new practices that do not reach the point the first time. This is a risk of loss of income. It could be interesting to consider in a project or pltq of dvpmt consider compensation to risk.

**Patrice Burger, CARI:**

I'm training in agroecology 20 years. The agroecologists I have met agroecology modest but resolute. All those who have developed in the world, this is where it goes. Technical support, training is very important.

Yes, a platform for sharing best practices and experiences, ie capitalization, this is what it takes to agroecologists the world. One of the problems of our training was the question of resistance: how many times have I heard farmers tell us why apply these practices requires more work, a longer return on investment? We often talk about techniques, but agroecology requires a personal approach. If people engage in agrocologie only to increase yields or increase labor productivity, then goes to disillusionment. We need people to understand the scope of agroecology, not only in terms of production. Must decolonize our imagination.

As to whether legislation is needed: yes, we certainly find support in public policy but in local contexts. Once that goes to the national or regional situations we risk people who will seize it to make anything, as said Mamadou.

**Valentin BEAUVAL:**

On the remuneration of services that can make agroecological farmers, I'll remember that the CAP is implementing agri-environmental measures (AEM), it allows to reach French agriculture chauqe average 25,000 euros. The CAP is being renegotiated and it is hoped that 20 to 30% of aid conditionalities go to agroecological more clearly. These aids are important: 300 euros / ha, in the Loire Valley, is 200 EUROS grants consumers. With this money there is a way to help farmers to take risks. It is even a duty. Can not reach as many European citizens' money without counterparty.

The pb is that bcp in Southern countries this approach is not applicable, even if there is funding and agroecological redistributions. But states are financed from agricultural production, and not the reverse.

About Africa, we use this term agroecology, but I realize that the use of words, modes: integrated development courses etc, be careful that it does not last all that 5 years as concepts. Care must be taken that the concept does not drown everything. ENDA Senegal works on agroecology, without naming it. Similarly in Mali, crop rotations, legumes, establishment of hedgerows, mixed farming, recycling of biomass important ... without naming. Benin, Songhai Center has also done considerable work ... should this concept unifies steps outside and does not replace the other.

Must fund research groups, and I turn to AFD: could not finance it that in developing countries, the image that the French state is for networks and SETA CIVAM?

**Claude TORRE:**

AFD does not make money. It operates at 90% per loan. The rest by our guardianship subsidy data, including the MFA, which often fund NGOs. Soon there will be the facility for agricultural practices and climate change, to meet Initatives & Dvpmt, we realize that this is not enough, but it will support everything that is "soft" and that the country will not be financed loan.

We also try to find ways elsewhere, including the EC, with which we talk about ease agroecological might emerge at some future time.

Relation to public policy, we are a financier: working with partners and must consider their request. If we ask our partners to finance the clearing and installation of large investors, we will not, but we will try to discuss and trade-offs and compromises with partners by showing her that statistically family agriculture can meet the urban demand for 20 years. The other point is to show that the existing agro-industrial farms not everything is perfect, it has pbs including performance and that it is not the best solution to meet policy needs.

On supporting participatory development is sth long-term, governments are reluctant to fund and rebuild. Either they do in one-shot with a project, then it stops. We have a real problem on sustainability issues funding advice and support, funding OPs. The two large OP that it could emerge in Mali and Burkina Faso are after 25 years of continuous support of Canadian cooperation. If I take the example of Brazil, in 30 years there has been an agricultural revolution: it is made from large producers direct seeding, it is great to have worn, it is thanks to them that half of the area are SCV - even if environmentally unfriendly. We need to find the right carrier practices.

The other point is technology: direct seeding in Brazil could emerge through dvpmt machines semi appropriate for animal traction. And this is from 10 to 15 years of investment. Poor states are reluctant to invest in research and training.

**Mamadou Diallo:**

You talk about the research, and as mentioned SAPs and removed all our states are broke. The little research is done by the multinationals who are in search of new lands. We had Global2000 who has done research on soil fertility. The results showed that it was a bit pricey and they stopped everything. We had the Fouta Djallon, a program of the OAU who wanted to fund research into the protection of the massif: it remained at the project stage, while it is a regional threat. There was a bad anchor the project: the first to use the massif are farmers, or neither they nor the OPs have been associated with this project.

**I agree Marciano:** the exchange platform is fundamental, we know what we are talking about. It would allow everyone to know what vehicle as a message. Especially with our problems with pseudo-socialist, then NOT hunger sets. It has 59% poverty rate of the population. The level of poverty is increasing: therefore say, "Change of method! "We must make arguments. It was a model of exchange between producers, people were encouraged to compost, we went from 300 to 30 000 composters, a project funded by the EU. When you see that it works it is spreading. Communication are now blazing in my village there are 6 networks: if a technique works in a village, it is appropriate it should be broadcast. But be careful not to do anything. Farmers are reluctant, when you talk about something measure your words.

**Joaquim DINIZ:**

To add a word to what has been said, when we ask the question of how agriculture can meet the challenges. Capitalist agriculture is the basis of competition, while the family agriculture is the basis of solidarity. So the proposal to have a platform for sharing knowledge between countries, between farmers, to cooperation on this subject there is a good idea. Must be real solidarity, that agriculture is closer to nature, also recreating new relations between producers and consumers closer to the urban and the rural. It should also bring agroecology solidarity economy.

**Summary of the day by Frédéric Apollin:**

I'll take some of the highlights of the day, not necessarily the why and the how.

- The first point is that agroecology is perhaps a scientific novelty, but not necessarily new to farmers. Many farmers around the world have been agroecologists, which is lost as more suited to the new conditions, eg demographic, or drowned by models of green revolution. For example, the Future Harvest movie begins by presenting the milpa, a combination of ancestral cultures. This system has long been criticized by many agronomists as not efficient, returns now in fashion!

- Is that agroecology is a solution with farming or for any system? There was no dissenting voice heard here, although questions about yields and labor productivity, to say that it was not an important pathway to promote tomorrow challenges. In these debates I still remember that farming should be supported in promoting agroecology because it is the historical agroecologists. Agroecology is born of peasants and not necessarily research and NGOs. I remember the same digits: 20 to 30 million peasant farms conventional farms and 500 million in these systems and not producing 60-70% of the world production. It is not known exactly how many of them are agroecologists, nor exactly how much damage the environment as you mentioned Claude. Also, on the issue of employment in rural areas, the maintenance of life on these territories on the quality of food will require agroecology is for peasant farmers.

- You said that meant the support agroecology support in all its components:

o We talked about techniques and agroecological practices, especially agricultural, relatively little farming, which remains a grnad field work.

o Our colleagues noted that agroecology is an economic component that involves a reorganization of courses of exchange and promotion of products. We can not promote agroecology unpaid correct product.

o Component policy: the role of OPs, networks, to create innovation networks, ensure that there is trade peasant. In these networks promote reflection on the desired type of agriculture in the territory tomorrow, not only for income but for the future, the type of environment we want to leave our children. This issue will be pushed by farmers.

- The fourth element: agroecology is not organic. It must be remembered. Saying it is dropped fears among institutional among the peasants. That agriculture is complementary because beyond the plot or farm which is across the organic, agroecology involves us to the question of the territory itself and not just the plot.

- Agroecology poses many challenges for those on scaling. Challenge for many development practitioners

o Renewal of farm advisory

o Vision of action that we can have in rural dvpmt at territorial level

o Training institutions: rural youth but also the frame. Maria showed a teaching in the university that allowed a Masters in Agroecology after a course of 4 years only focused on the conventional model. Does one wish that agroecology is a specialization of a conventional model or we want to go further?

o The research, which is, and that began to renew its own scientific questions and consider the questions farmers. There is research that begins to adapt, but it is a challenge, particularly in participatory approach but also systemic and not necessarily analytic and especially on the breeding.

o Challenge OPs: involves the introduction of new services, if only for networks of innovation on issues of participatory certification that requires collective organizations and alliances including with municipalities think that this is expected of agricultural production (economic income only or other things?) challenge to be linked with the word urban consumers and tomorrow because if we want to promote agroecology will require urban demand consumer products quality. Reflection of the type of agriculture of tomorrow must be treated between farmers and consumers.

o Challenges for institutional and policy.

 Diallo told simplify the institutional environment.

 We talked about securing the land.

 Protection of the internal market

 Legislation adapted that should not be limited to legislation tyoe bio Export.

 Funding Policies to meet many investment needed.

o Challenge for International Cooperation:

 NGOs

 AFD

 How do we reinvent the cooperation that involves all stakeholders working on the subject?

- Agroecology invites us to not have a vision or reductive or dogmatic. There are pros and cons. It should be afraid of, if we put out the word before transition. This is not a dogma but to apply a transition to more sustainable systems and respectful man and producer-consumer relations. Realistically, and slow. It involves clearly identify problematic territories, and prioritize, identify local knowledge including those who were lost to re-upgrade, identify ways of economic value (label, local markets, public procurement etc.). The approach involves a participatory diagnosis and choose the OPs themselves as Mr. Diallo said.

- Attention finally not to trivialize agroecology, it must renounce certain number of foundations. If you think agroecology as a model farm and territorial future, not fall back on vague concepts such as farming, the climate-smart aricole. Agroecology carries with it values ​​to relocate:

o Autonomy

o Diversity

o Quality

o Organization of the production and trade in the territories.

o I would say that agroecology is a way to enhance the business history of peasant agriculture on a feeder that does not force nature.

- The concept of documentation must also add the importance of performance evaluation: technical, economic, environmental and related research. And exchange: knowledge networks, ICT, physical exchange, which we should all work.