



F@RMLETTER

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EDITORIAL

The Doha climate change COP 18:
We have work to do!

Robert Carlson, WFO President



After the progress toward made moving agriculture forward in climate change talks in Durban at COP 17, we have seen no progress at COP 18. The agriculture negotiators worked overtime to reach an agreement, but they were unable to find a workable solution.

The only good news is that our work going back to the early UN COP meetings has not been in vain: The negotiators have just put off further work until next year.

Agriculture will be considered again as a possible work program starting from the talks in Bonn, Germany, this summer and concluding at COP 19 in Warsaw, Poland, which is a year from now.

It seems clear to me that we as farmers working through WFO need to have a stronger presence at these talks.

The overriding reality is that climate change threatens world food security.

There is no doubt any longer that climate change is diminishing agricultural productivity all over the world. Droughts, floods, and storms are happening with increased frequency and intensity and crop yields are suffering in these areas.

Extreme weather events - as the insurance industry terms them - are tracked by statisticians who advise the insurance companies on rating risks. The large companies that insure on a worldwide basis are raising insurance premiums to cover those increasing risks from climate change.

For farmers, climate change is more than a matter of increased in-

WORLD'S FARMERS' ORGANISATION

VIA AURORA, 39 - 000187 ROMA PH.: +39 06 42 74 11 58 - E-MAIL: info@wfo-oma.org



insurance costs, it is a matter of increased risk to our production and income. For the world's people, it is a matter of an increased risk to food security. That link between climate change and food security was clearly stated at the Doha COP meeting and the reality of it will continue to bring farming to the world policy makers' attention as time proceeds. It is unfortunate, in my opinion, that this link was not grasped sooner, but it must be part of human nature that we do not see a crisis until it is nearly upon us. At any rate, the urgency of adapting farm production to a changing climate is becoming evident. Agriculture's enormous potential to absorb CO2 in the soil, to capture methane to use as a fuel and to reduce the oxidation and gasification of nitrogen fertilizer will aid in reducing global warming. We just need to be recognized for the contribution that we can make. The data to prove it already exists: All we need are programs to implement the methods that work best. Adaptation and mitigation go hand in hand to make the world more food secure and to reduce greenhouse gasses. We have the facts, now we need to convince policy makers. That is going to take more effort on our part. We need to make and carry out plans to have a more powerful role in upcoming COP negotiations. It is time for action. We cannot wait for COP 50 or 75 or 100.

**THE NEGOTIATORS
HAVE JUST PUT
OFF FURTHER
WORK UNTIL
NEXT YEAR.**

UNIDROIT AND WFO TOGETHER IN HELPING FARMERS DEAL WITH THEIR LEGAL CHALLENGES

Marco Marzano de Marinis,
WFO Executive Director.

How many times have you heard farmers complain about a promising contract turning into a nightmare? Business opportunities that are touted as *Amazing* leading unsuspecting farmers to sell the totality of their production to a single buyer that inevitably leads to disappointment and heartache.

In many cases these *mega-deals* have revealed themselves to be deceptive, burdensome and sometimes plain fraudulent, condemning farmers to be trapped in a negative downward spiral affecting their income, business, farms and, ultimately, their lives.

How many times have you heard farmers say *I don't want my fear of being taken advantage resulting in my losing a potentially good deal ...* The paucity of knowledge and information coupled with the unavailability of opportunities to learn have, on many occasions,

affected the ability of farmers to fully benefit from the business transactions that they are involved in. By granting access to information and adequate training, most farmers would be able to benefit from the opportunities that they are presented with.

How many times have you heard farmers say *If I had understood this legalistic jargon I would have never accepted or signed this clause, contract, deal...* Appropriate and timely information give farmers the ability to understand and use the legal system appropriately and avoid potential risks.

To overcome these kinds of worries and to support farmers in managing legal uncertainty and other unknowns, the World Farmers Organisation and the International Institute for the Unification of Private Law (UNIDROIT) have decided to join forces.

HOW MANY TIMES HAVE YOU HEARD FARMERS COMPLAIN ABOUT A PROMISING CONTRACT TURNING INTO A NIGHTMARE?

UNIDROIT is an independent intergovernmental Organisation created in 1926.

Its purpose is to study needs and methods for modernizing, harmonizing and coordinating private law (and in particular commercial law) between States and groups of States, as well as formulate uniform law instruments, principles and rules to achieve those objectives.

UNIDROIT membership is restricted to countries and at the moment it counts about 63 mem-



bers representing a variety of different legal, economic and political systems.

The Memorandum of Understanding that WFO and UNIDROIT have signed has manifold positive outcomes and is meant to bring the two Organizations working together in areas of mutual interest, and namely:

Publications: Creating joint publications or contributing to the editorial activities of both organizations.

Awareness raising programs: Co-organizing learning projects such as conferences, seminars, workshops and training for trainers.

Sharing knowledge: Providing experts and expertise in projects, events, studies, researches, questionnaires.

Task forces: Organizing and participating in working groups having direct repercussions in the field of agriculture or connected with the needs of farmers.

One tangible output of this collaboration is the **Contract farming** task force. This project aims to lay the foundation of a new and innovative set of rules aimed at better defining relations between food producers (farmers) and buyers. The objective thereof is to avoid misunderstandings, unrealistic expectations or other issues that can pose risks. This exercise is unique since it puts on the same table the UN Multilateral Agricultural Pole, Buyers and Producers. The works, texts and activities of this committee will be made available in the WFO website:

www.wfo-oma.org.

By signing this cooperation agreement, WFO is planting another seed in the fertile soil of farmers' desire to learn, to grow and control their destiny.

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COORDINATING
PRIVATE LAW**

THE DOHA CLIMATE CHANGE COP 18: A REPORT

Anette Engelund Friis,

Manager, Climate Change Policy Environment & Energy Division, Danish Agriculture & Food Council

The WFO delegation to COP 18 in Doha was made up of WFO President Robert Carlson, Sue Carlson (Head of the WFO Women's Committee), Lani Eugenia (General Secretary of Puantani, an Indonesian Women Farmers' and Rural Women's Organization), Dyborn Chibonga (CEO, NASFAM, Malawi), Hilda Runsten, (LRF, Sweden) and Anette Engelund Friis (WFO and DAFC climate change officer).

Lani Eugenia delivered the Farmers' Constituency opening statement to the Subsidiary Body for Scientific and Technological Advice (SBSTA) and attended the Gender Day.

Robert Carlson was one of four speakers at the Agriculture, Landscapes and Livelihoods Day 5 (ALL-5) High Level Panel and delivered a strong and powerful statement on behalf of WFO.

Dyborn Chibonga attended a Roundtable at ALL-5 about reducing greenhouse gas emissions in the value chain. Furthermore, Dyborn Chibonga had the chance to represent farmers at a roundtable on the Durban Platform for Enhanced Action.

The history of agriculture in the UNFCCC

The UNFCCC first treated agriculture in 2008 when the Subsidiary Body for Scientific and Technological Advice (SBSTA) issued a report



United Nations Climate Change Conference
COP18/CMP8 Doha, Qatar

DOHA 2012
UN CLIMATE CHANGE CONFERENCE
COP18|CMP8

on climate change mitigation in the agricultural sector.

Discussions about including agriculture in the UNFCCC negotiations was initiated in 2009, where parties started working on a COP decision about the SBSTA work program on agriculture, but failed to get a decision.

Another attempt was made in 2010 but the COP could not agree on adopting a decision. The main reasons behind the failed attempts at getting a COP decision on agriculture mainly consisted in the content of the work program and whether this should be only about adaptation or about both adaptation and mitigation. Other reasons for not being successful did not concern agriculture but rather the chapter in which agriculture was discussed, and namely in the mitigation section (together with bunker fuels). See also: <http://www.farmingfirst.org/climate/>



COP 17 decision

COP 17 decided that parties should discuss agriculture in 2012, with the aim that COP 18 would take a decision about agriculture in December 2012: *Agriculture Requests the Subsidiary Body for Scientific and Technological Advice to consider issues related to agriculture at its thirty-sixth session, with the aim of exchanging views and the Conference of the Parties adopting a de-*



decision on this matter at its eighteenth session; Invites Parties and accredited observer organizations to submit to the secretariat, by 5 March 2012, their views on the issues referred to in paragraph 75 above; Requests the secretariat to compile the submissions referred to in paragraph 76 above by Parties in a miscellaneous document for consideration by the Subsidiary Body for Scientific and Technological Advice at its thirty-sixth session.

At the UNFCCC sessions held in Bonn in May 2012, parties had intensive and substantive discussions on agriculture, encountering - once again - difficulties in connection with adaptation and mitigation, since some countries only wanted adaptation, while others wanted both adaptation and mitigation. Other difficulties were encountered in relation to the question of having another round of submissions from parties and registered observers, which were to form the basis for an in-session workshop in Doha during COP 18 in 2012, as well as around the question of common but differentiated responsibilities. The outcome of the discussions in Bonn was as follows: *The Subsidiary Body for Scientific and Technological Advice (SBSTA) initiated, in accordance with decision 2/CP.17, paragraph 75, an exchange of views on issues relating to agriculture and agreed to continue consideration of this agenda item at its thirty-seventh*

session. It was therefore envisioned that COP 18 would finally decide on a SBSTA work program on agriculture.

COP 18

COP 18 did not, however, see the expected decision on agriculture. Several negotiation meetings took place during the first week but were unsuccessful.

The primary stumbling blocks remained adaptation vs. adaptation and mitigation, and CBDR (*Common But Differentiated Responsibilities*).

Although these were the main issues preventing agreement on agriculture, the failure to get an agreement should also be seen in a broader context, since some countries are unwilling to discuss agriculture before the framework for a new binding agreement (the ADP) has been reached.

This means that agriculture will continue to be discussed under SBSTA and that talks will continue in June of next year in Bonn.

WOMEN ADAPT TO CLIMATE CHANGE

WHERE ARE WOMEN IN THE CLIMATE CHANGE POLICY NEGOTIATION? HOW ABOUT WOMEN IN AGRICULTURE AND FARMING ACTIVITIES?

Lani Eugenia, General Secretary of Puantani, Indonesian Women Farmers' and Rural Women's Organization

It has taken nearly two decades for gender to emerge as an important focus of International Climate Change Debates. The first ever Gender Day was celebrated on 27th November 2012 at COP 18 in Doha.

The background

Every year climate negotiators come together for complicated climate change policy debates and processes, which for the time being have given few results. At the same time, women from every part of the globe have, side by side, negotiated with nature (often for many years) by using their traditional knowledge with a view to adapting to climate change.

While the gender perspective in the climate change context means looking not only at women, but also at vulnerable men, children and the elderly, it also means looking at women not only as victims who suffer disproportionately, but also as repositories of indigenous knowledge, innovative strategies and traditional practices, which are a valuable resource in terms of the ideas and actions that have allowed them survive and adapt to climate change.

Since women are primarily re-

sponsible for producing food for the family, as well as obtaining the household water and energy supply, this vital leadership role in revitalizing their communities and managing natural resources has positioned them well for adapting livelihood strategies to a changing environment. This is a shifting paradigm that has turned women from victims who suffer disproportionately from climate change to agents of change in climate change.

Women adapt to climate change

Women's capacity to adapt is reflected in the saying that necessity is the mother of invention. In conditions of vulnerability, poverty and limited resources - in which climate change is experienced as an exacerbating stress factor - women are forced, in the face of necessity and of a challenging situation - to turn to indigenous innovations (which often tend to be cost-effective and very efficient) so as to solve their own and their communities' problems.

However, traditional approaches to dealing with every type of risk will not always be adequate or even appropriate as longer-term climate change impacts evolve.

In this regard, there are a number



of women empowerment strategies that may be employed to boost women's problem-solving and innovative capacities, such as learning and raising awareness, better access to resources and appropriate technologies, training and other support services.

Women-led adaptation to climate change should not be seen in isolation from adaptation in related fields, as it is as much a developmental issue as an environmental one.

Women in farming activities are one of the most cited examples of women adapting to climate change

Women count for over half of the people in the world, most of



them living in the rural areas and working in farming activities and agricultural sectors. Some examples of women adapting to climate change mostly concern farming activities.

For a long time now, women have, both individually or in the community, tried to adopt different strategies vis-à-vis climate change. For example, where female farmers in Timorese, East Timor

Indonesia, are the custodians of intricate knowledge on seed selection, they play an important role in understanding and preserving agricultural genetic diversity, such as shorgum, foxtail millet, dryland rice and cassava, which can be harnessed when environmental conditions deteriorate, as well as planning for expected future climate change.

In Tamil Nadu, India female far-

mers have made food last longer by improving post-harvest traditional systems. Up to 20 different traditional post-harvest practices have been developed and refined over generations. They vary according to the specific crop, but commonly including threshing, winnowing, cleaning and drying. In the Bolivian plateau, women yaphuchiris (in their capacity of custodians of genetic crop diversity) focus primarily on the improvement of productive farm work (potato varieties, grain seeds, medical plants). Moreover they assist other women farmers in developing the ability to design risk management strategies. Women yapuchiris have been instrumental in securing long-term market access through contracts for the supply of potatoes (the requirement for stable yields has been achieved through strategy risk management).

The picture illustrated above and many others examples in different environmental situations

give an idea of how women have adapted to climate change in farming activities and in the agriculture sector.

The publication of *Women Adapt to Climate Change* became the starting point for the gender day series activities held on 27th Nov at COP 18 DOHA, which presented high profile figures such as Maite Nkoana-Mashabane, former COP 17 President, the President of COP 18 Abdullah Bin Hamad Al Ittiah and the executive secretary of UNFCCC, Mrs. Christina Figueres, as well as Mrs. Mary Robinson, a human rights expert. The publication describes the situation on the ground in terms of the daily lives of millions of women (in particular in developing countries), who find themselves in the poverty trap. This is a significant contribution, in particular in terms of advancing the discussion on women's adaptation to climate change.

Where are women in the Climate Change Policy Negotiations?

In the next session of advance discussions on breakthrough changes in Climate change gender equality, a good point was made that women and gender must be the cross-cutting issue of climate change,

Currently, concerns about women and gender have made good progress in terms of a slight increase in women's participation at UNFCCC COP 18 and discussion forums, including participation in the decision-making processes of convention bodies (as well as the celebration of gender day itself - even though the future debate on women and gender issue should



be included in the COP agenda and not only in side events).

A nice statement was made during the discussion on *gender equality in the climate change demanding too little*. It was stressed that this remains a challenge in terms of promoting and advancing strategies that need to be formulated in coming years.

On the other hand, a strong commitment was shown by the Executive Secretary of UNFCCC, Christiana Figueres, who also stated in the publication *Women Adapt to Climate Change*:

Investment in climate change adaptation has been led by women and it is critical that women on the ground benefit therefrom. It is important to ensure that policy address their specific needs and priorities. The UNFCCC secretariat is committed to empowering women in the arena of climate change mitigation and adaptation.

A supporting statement has cle-

arly shown that policy processes and negotiations will still continue for years to come, whereas challenges and strategies will still require strong support from all of the women and gender constituencies.

Gender equality in world, national and regional Climate Change Policies and Processes should principally aim at ensuring an enabling environment for women in terms of their access to the decision-making process in convention bodies, as well as enhancing their participation therein and engaging them in controlling and ensuring that negotiations will finally benefit women in the process of adapting to climate change.

Women in farming activities and the agricultural sector are one of the most cogent examples of how women can adapt to climate change, but they need greater attention from a policy and financial point of view, as well as access to resources.

RENEWABLE ENERGY AND AGRICULTURE: A CONFLICT OR AN OPPORTUNITY?

Marino Berton,

President of AIEL (Associazione Italiana Energie Agroforestali) - Confederazione Italiana Agricoltori

The debate which has been opened on agriculture and renewable energy raises passions, as have many questions. There are complex and sometimes conflicting opinions concerning the key challenges for the future of humanity that can be summarized in a gross simplification: Food or Energy?

This is a simplification that helps to understand immediately what this issue is about but does not take into account the complexity of the different contexts and dynamics involved in this issue, proposing a duality that is not always presented as such.

This article does not pretend to deal in an analytical manner with an issue which would deserve much more space and analysis, but aims to give a contribution, albeit in a partial manner, to this discussion. Such contribution is the result of a long period of militancy and commitment to a farmers' organisation which aims to promote the sustainable development of renewable energy from agriculture and forestry.

Let's start with three premises which are known to most people but which are necessary to introduce this discussion.

An overwhelming multitude of pe-

ople that live on our planet continue to be denied the right to food and this situation is getting worse. The causes of this tragedy are not only to be found in adverse climatic or environmental conditions, but also, in many cases, are due to abuse, exploitation, corruption and the cynical arrogance of those who trample on the most basic human rights. Among the inalienable needs of man, the right to food cannot be placed on a scale of priorities: It is the primary and basic right and is not negotiable.

The fight against climate change is one of the major challenges of our time. The close relationship between the consumption of fossil fuels and climate change is not a conjecture but a real fact: Two-thirds of global emissions of greenhouse gases are attributable to the energy sector. We have the obligation to take urgent action to mitigate the already too obvious damage which has already been caused and develop a capacity to resist the phenomenon of climate change. The answers can only be global, based on a new concept of development, in which the growth of the green economy could provide a real contribution to change.

The third premise is in many ways linked to the second one: Development and Energy are intimately linked to each other. A country's

possibility of growth is virtually nil without an adequate energy supply, but current energy models are mainly based on fossil fuels. Energy reserves are not widespread but are concentrated in certain parts of the planet, as are the power of those who maintain control over the production and distribution of energy. The expansion of energy produced from renewable sources is one of the main pillars of the green economy and is one of the main tools for the decarbonization of the energy system, but it can also be a powerful tool for promoting a democratic use of energy (i.e. the right of every community to have access to energy).

We need to ensure everyone has access to energy, but, in doing so, we cannot devastate natural resources. If we were to achieve the goal of ensuring access to energy for everyone primarily through the use of fossil fuels, the negative effects of climate change would adversely affect crops, as well as farming and woodland. We need to promote renewable energy, not only for a privileged elite but also for the benefit of everyone.

The more specific issue of food-energy may be placed in this general context.

Is there the possibility of developing in a sustainable manner renewable energy sources, in par-



particular with regard to biological and agro-forestry energy sources, which do not cause conflicts with the production of food, as well as with other products of the agro-forestry system?

The answer, in our opinion, is yes. This is the result to be achieved under certain conditions and assumes a non-ideological approach which is free from bias.

The real question is not FOOD or ENERGY, but FOOD and ENERGY. To assume that one necessarily excludes the other is a mistake or is the result of a biased approach. We believe that, under specific conditions, power may be produced while contributing at the same time to the production of renewable energy and thus develop the country's and local communities' economies.

The relationship between agriculture and energy is very old. Even in the rural areas of more developed countries and even before the

spread of the combustion engine and oil and gas, about a third of the land used by farms was for feeding livestock, as well as for animals used for drawing and for transport (oxen and horses were the real driving force) and for the production of wood for heating and cooking. The forestry system has, moreover, been in the past the primary source of heating for generations, which it still continues to play, albeit in a context of changing conditions and energy conversion technologies that now allow high levels of energy efficiency and low emissions.

Agriculture has, since its inception, never been used only for food production, but also for other goods such as textile fibers (cotton, wool, silk, hemp, etc.), building materials, natural dyes, medicines and perfumes: In the future, it will increasingly be called upon to produce biopolymers and other so-called useful bio-based products, which have a low environmental impact. Functions and services such as soil

conservation, the maintenance and enhancement of the local landscape, are - even though in most cases they are not remunerated - increasingly requested from and attributed to the primary sector.

Current farming may be grouped into three broad categories: Developed Countries that have characteristics of high specialization, diversification of products that is addressed to a very complex, demanding and solvent market. Developing Countries, which are characterized by large estates, extensive crops and commodities that do not have particular quality characteristics. Poor Countries in which subsistence farming is carried out, with a view to providing food to the same rural people who farm the land and to the local communities. Even in the latter case, the increasingly serious phenomenon of land grabbing is taking hold, which prevalently concerns the taking of the most fertile land by the most powerful economic groups.



Renewable energy sources which are more directly related to the primary sector are the following: Solid biomasses (mainly wood biomasses), biomasses for the production of biofuels and biomasses destined for the production of fuel gas. We can find in all of these types of renewable energy sources, problems or opportunities, depending on how they are designed and especially in what context and in what kind of land they are produced. We can cite three negative and positive examples thereof:

- Encouraging the deforestation of primary forests in Africa or Latin America for the purpose of using the wood biomass for large power plants in northern Europe is unacceptable. Promoting sustainable forest management

for the purpose of producing biomasses for energy purposes (e.g. providing power to distance heating networks at the service of local communities) is a practice to be supported;

- Finding a viable alternative to fossil fuels cannot consist in the use of large tracts of arable land for the production of biofuels. Organizing groups of farmers that produce biomethane to be allocated to vehicles, through manure, agro-industrial by-products and crop integration is definitely a step in the right direction;
- Producing electricity from biogases that are generated from undifferentiated dedicated crops is not a sustainable model to be

taken as an example.

Supporting, however, the efficient joint management of biogases mainly produced from farm by-products, enhancing the digestate to improve soil fertility, is a positive opportunity for farmers, as well as for the country.

The above are examples which certainly do not claim to describe in an exhaustive manner a much more complex situation, but are used to outline what could be a possible future model.

An in-depth analysis cannot avoid looking at the necessity not to make generalizations about models, dimensions and solutions: Conditions are very different in the different farming areas of the globe and it would be unrealistic to ignore this.

RENEWABLE ENERGY SOURCES WHICH ARE MORE DIRECTLY RELATED TO THE PRIMARY SECTOR ARE THE FOLLOWING: SOLID BIOMASSES, BIOMASSES FOR THE PRODUCTION OF BIOFUELS AND BIOMASSES DESTINED FOR THE PRODUCTION OF FUEL GAS.

Systems could be looked at, however, with a view to seizing opportunities. It would be impossible to continue using the above-described method on poor agricultural land suffering drought conditions in Africa for the production of bio-gases, but it would be very useful and effective for spreading instead the idea of a system which concentrates solar power on a domestic scale for the cooking of food (thus avoiding the exhausting search for wood) or developing wind or photovoltaic farms with a view to developing these countries from an economic point of view and allowing populations to have access to electrical energy.

In our opinion, a series of principles may be identified that can form the basis of a model which is applicable to sustainable bio-energy, whatever is the latitude or context in which it is used:

1) The main condition for making bioenergy projects successful is that of commencing from the context, the territories (and the territories' resources), the local communities, as well as the economic, social and environmental

situations in which such projects take place;

2) The economic and social benefits produced by bioenergy production, which must always involve the local stakeholders;

3) The operations may be of differing size and scope: They may be domestic, at the service of the community and local businesses, as well as for the general utility of an entire country, but in any event they cannot ignore the issue of sustainability;

4) An integrated approach is one that best expresses the potential of a proper agro-energetic policy because it increases the value of sub-products and integrated crops, as well as an efficient and sustainable management of farm land, livestock and forestry;

5) Policies should be developed with a view to supporting and promoting the achievements and experience gained in spreading these principles.

An unnecessary fatalism should be avoided and any speculation that pretends to create new monopolies and injustices in the name of renewable energy should be combated, as should any bias (which is product of an ideological view of farming which is bucolic and far removed from reality) that is expressed (in the name of renewable energy) against progress in the field of agro-energy.

Introduction to AIEL-CIA

The Italian Association of Agroforestry Energy (AIEL) of the Italian Farmers' Confederation pursues the goal of promoting and spreading the idea of renewable agricul-

tural and forestry energy sources, as well as the development of their use for domestic and industrial purposes.

In particular, the Association aims to spread knowledge about the latest technologies for the growing, harvesting, processing and transformation of agricultural and forest crops, to be used for the production of energy (including more efficient methods of energy production and distribution obtained from energetic crops).

AIEL works towards aggregating the supply of energetic crop products, including the promotion of supply chain agreements and other collective bargaining methods, as well as encouraging among consumers and users knowledge about the environmental, economic and social advantages of using agricultural and forestry products for energetic purposes, as well as knowledge about the opportunities offered by the legislation and measures which are currently in force.

AIEL is committed to enhancing the role of farmers who wish to invest in the agro-energetic field and encourages the use of renewable energy at domestic, European Union and international level as a specific business opportunity.

THE REAL QUESTION IS NOT FOOD OR ENERGY, FOOD AND ENERGY.

CASE STUDIES & BEST PRACTICES

CLIMATE SMART CROPPING WITH NEW HORIZONS

Stephen Briggs,

Farmer, Farm business consultant & 2011 Nuffield scholar

Stephen & Lynn Briggs rent a 105ha farm in Cambridgeshire, UK.

Stephen is also a farm business consultant of Abacus Organic Associates www.abacusorganic.co.uk, where he specialises in organic arable production, as well as being an author of the book *Organic Cereal and Pulse Production*. Lynn is also an environmental consultant as well as helping run the farm.

Given their passion for organic farming and conservation, it is unsurprising that the farm was converted to organic farming as soon as they started renting it in 2007 on the basis of a 15 year agreement.

Their overwhelming challenge is to develop an organic farming system, with a balance of productivity and environmental management that is suited to high quality peat soils, producing a good financial return which is sustainable in the long term, on a farm where soil fertility is good but where the challenges for weed control are high.

Another major concern is that the light peat soils on the farm have very high levels of organic matter (c.23%) and are subject to oxidation and wind erosion, which give rise to a loss of the farm's most important resource. They wanted to do something that would protect the soil whilst retaining productivity and enhancing biodiversity.

With previous experience from the time spent working in Africa and recognising the environmental bene-



fits of agroforestry, they were keen to develop a system at the farm to create a mixed tree & arable crop landscape on 52ha.

In the light of the changes made to the EU CAP Pillar 1 Scheme in 2009, which made fruit, vines and nursery crops eligible, apple trees were chosen as a tree species. They chose apple trees as they wanted to get a commercial return within the 15 year farm rental period (if they had had a longer rental period, nut, coppice or timber trees would have been considered).

Diversification into apples - alongside or indeed, mixed in with arable crops - creates a greater enterprise mix and spreads cropping risk, whilst also capitalising on a resurgence in demand for English apples.

In late 2008, an order for 4,500 apple trees was placed with a nursery after gaining approval for the

project from the land owner.

After setting out the planting rows, 1yr old apple trees on semi-dwarf root stock were planted by hand, supported with a wooden stake, as well as a 1m² mipex mulch mat (for weed control) and a wire tree guard.

Thirteen different varieties were planted for the eating apple and juicing market, with varieties selected for taste, good storage, pollination ease, disease resistance and late ripening.

Late ripening was important so that apples could be picked after the cereal harvest in the autumn.

After harvesting arable crops in the autumn, the farm will move straight from cereal to fruit harvesting and the risk of a difficult harvest will be spread over a wider harvest window.

Compared to a normal orchard with over 850 trees per ha, a planting



density of under 100 trees per ha allows normal farm equipment to be used, eliminating the need for specialist orchard machinery. This keeps fixed and operational costs down and means any equipment is multi-purpose.

Between the rows of trees there is a 24m wide cultivated area for the cereal, root or vegetable crops.

They held their breath when drilling the first cereal crop between the rows of trees, but the layout worked, the cereals performed well and there were no problems with harvest. They did, however, remind the combine driver to drive straight!

Unlike a new orchard, where all the land is occupied by trees and narrow alleys, approximately four per cent of the land area is now occupied by trees. This means that they can continue to crop ninety six per cent of the area whilst they wait five

years for the apple trees to reach full productivity. This is a major plus point for the system with regard to cash flow. The arable crops provide short term income and the trees and fruit provide longer term income and are a capital asset.

They have also introduced a wide range of conservation measures, including over winter cereal stubbles, feed plants for wild birds and nectar flower mixtures, multi species legumes and wild flowers sown beneath the tree strips to attract insects and pollinators (which is important for fruit production and beneficial to surrounding crops).

In developing a new system, they have learnt lots and made a few mistakes: They should have used bigger tree guards and taller wooden stakes as they would have had problems with rabbits and deer feeding on tree stems and some

tree stem breakages from fat pigeons!

On reflection Stephen and Lynn sum up *we think what we are doing at Whitehall Farm is creating a sustainable business integrating conservation and a profitable farm by using some very novel approaches, which we believe have a bright future and which create new horizons - literally!*

Agroforestry - Cropping the extra dimension

Agroforestry is a concept of integrated land use that combines elements of agriculture and forestry in a sustainable production system. Agroforestry systems are classified as silvo-arable (trees & crops) or silvo-pastoral (trees & animals).

With an emphasis on managing rather than reducing complexity, agroforestry promotes a functional bio-diverse system that balances



productivity with environmental protection.

Systems can combine production of a wide range of products including food, fuel, fodder and forage, fiber, timber gums and resins, thatching and hedging materials, gardening materials, medicinal products, recreation and ecological services. Tree species can be timber, fruit, nut, coppice or a combination etc, and the rows in between trees can produce cereals, vegetables, fruit, forage etc. Careful selection of crop components is required in relation to market outlets, local climate, soil, alley spacing, tree height, planting and harvesting timing, tree leaf production and shading etc. Agroforestry systems modify local microclimatic conditions (temperature, air water vapor content, evaporation and wind speed) and provide benefits to crops which are grown with the trees by reducing soil degradation and enhancing biodiversity, pest and disease control. Agroforestry also reduces nutrient loss by ma-

ximizing internal nutrient cycling through leaf litter return.

Cropping the extra dimension

Most crop production systems exist by exploiting sun, air, water and soil nutrients in a relatively thin layer above and below ground, typically no more than a meter or so.

Combining trees in the system can make much better use of these resources in space and time.

Tree roots access nutrients and water at greater soil depth than most farmed crops and branches make better use of sunlight above an understory crop.

Agroforestry systems use resources over a longer period of the year. The secret is to combine complementary components. For example, cereals require most resources from April - June, whereas a later-leaving tree species may require most of its water, sunlight and nutrients later in the summer and autumn, after the cereal has ripened. This allows the farm to better utilize natural resources and also crop an extra and widely underutilized dimension,

upwards!

There is a growing understanding that agroforestry can provide multi-functional land use and environmental benefits.

These are not yet clearly acknowledged or understood by UK farmers or policy makers.

By integrating trees into the agricultural landscape, there is also a real potential to impact on the local economy by increasing economic stability, diversifying local products and economies and rural skills, improving food and fuel security, as well as the cultural and natural environment and landscape diversity. Combined with the positive impact of agroforestry on resource use, resource protection and climate change mitigation, the benefits of agroforestry are slowly becoming better understood and documented. However, the role of agroforestry in protecting the environment and providing a number of ecosystem services has not yet been fully appreciated in the UK.

A REGIONAL PROJECT TO SUPPORT THE ADAPTATION OF AGRICULTURE TO ENERGY AND CLIMATE ISSUES

Philippe Touchais,
French Chambers of agriculture



In the light of the depletion of fossil fuels and climate change, agriculture must become more efficient and resilient in order to continue meeting the need for food, energy and renewable materials.

The Regional Natural Park of Normandy and Maine is a land project involving 164 municipalities and 171,000 inhabitants in the North West of France. Farming is very strong in this rural area, with 60% of available land being dedicated thereto and 1,800 farms that are mainly involved in dairy farming.

In 2010, the Park embarked on the CLIMAGRI® experiment, performing an analysis of Greenhouse Gas (GHG) emissions from agricultural and forestry activities carri-

ed out in the Park. This allowed for a better understanding of the agro-energy context and for the identification of the most relevant factors needed to improve energy efficiency and mitigate climate change in agriculture and forestry.

In 2011, the Park launched an ambitious plan to help farmers plan the reduction of the impact of their operations on climate change. Built on an analysis carried out on the basis of CLIMAGRI® experiment, this plan consists in 35 actions planned over three years. It involves many agricultural scientific and technical partners and is funded both by local authorities, ADEME, the Chambers of Agriculture and the European Union.

The main activities of this project

include:

- Awareness and training of farmers on the current and future challenges in climate change, which shall be put into practice on the ground;
- Involvement in research programs on carbon storage and carbon flows, the management of manure and the impact of diets on greenhouse gases;
- The creation of a pilot group of 15 farmers willing to reduce their emissions of greenhouse gases, followed individually by an agricultural counselor:
 - Funding for diagnostics, for the organization of technical meetings and for projects aimed at achieving energy savings and renewable energy production.

Several actions will be developed later on in the project concerning the adaptation to climate change, agroforestry and the training of young farmers.

For more information:

http://www.parc-naturel-normandie-maine.fr/agir/agriculture3/agriculture_climat.html

<http://www2.ademe.fr/servlet/KBaseShow?sort=-1&cid=96&m=3&catid=24979>

For information on ADEME in English:

<http://www2.ademe.fr/servlet/getDoc?id=38480&m=3&cid=96>

CLIMATE CHANGE AND WOMEN FARMERS

Rose Akaki, UNFFE



A recent World Bank report warned that the world's temperature is likely to increase by more than 3°C when compared with the preindustrial climate. Even with the full implementation of the current mitigation commitments and pledges, there is roughly a 20 percent likelihood of exceeding 4°C by 2100.

If they are not met, a warming of 4°C could occur as early as the 2060s. This - they say - will have far reaching effects in the Least Developed Countries, which are the most vulnerable to the likely

negative impacts of extreme climate conditions.

In particular, rural farmers - whose livelihoods depend on rain-fed agriculture - are likely to bear the brunt of adverse impacts.

The extent to which these impacts are felt will depend on the extent of adaptation in response to climate change.

Adaptation is widely recognized as a vital component of any policy response to climate change (Gebtibouo, 2009).

Without adaptation, climate change would be detrimental to

many sectors, including agriculture.

Women and climate change

In rural Uganda, as in many impoverished communities, women bear the brunt of domestic duties. Inside small homes, huts, and shacks, they breathe polluted air from biomasses outside, women and girls spending as many as eight hours walking to collect water and firewood.

In a drought, they may walk farther.

As the primary agricultural produ-



- Planting early
- Planting multiple crops (both drought and non-drought resistant crops)
- Utilizing compost manure
- Avoiding cultivating in highlands or practising terracing for the communities which live in the highlands.
- Making water edges around the farms in order to reduce the effects of floods.
- Using water harvesting techniques for small scale irrigation: The level of dependence on weather for farming must be reduced in an era of climate change.
- Planting trees around the farms.

cers, women work harder and longer to provide for their families in degraded environments and when weather patterns change.

In this sense, a woman's quality of life is deeply connected to the environment.

Women are forced to walk further to collect firewood and clean water, suffer emotionally and physically when crops fail as they are unable to feed their family and are subjected to an increase in domestic violence due to frayed tensions in the family home from a lack of food.

That is not to say that men aren't also suffering from climate-induced changes in seasons.

A lack of food is devastating for the entire family.

Yet in many parts of Uganda, a lack of women's rights to own land is one that puts women at a greater disadvantage to men, as they are reliant on each crop succeeding to survive. And if men have to sell the land, women are left to fend for themselves.

Women are not only victims of climate change. They are also effective agents of change in relation to adaptation, mitigation and disaster reduction strategies because, in most countries, they interact more frequently with the environment than men.

Their responsibilities in households and communities as guardians of natural resources have prepared them well for livelihood strategies adapted to changing environmental realities.

Given their roles in society, (in terms of production and reproduction within their families and community), women have important knowledge, skills and experiences for shaping the adaptation process and the search for better and safer communities.

Women can, therefore, be the greatest ally in fighting climate change: If well trained, they are a very useful resource. Their training needs to focus on the following:

- Practising tilling cultivation

Women are engaged in more climate change-related activities than is reported, documented or recognized by the public.

At the same time, the effects of climate change are having a significant impact on poor people, particularly women.

Climate change is exacerbating the problems and inequities that women are already facing.

Women's livelihoods are highly dependent on natural resources which are heavily threatened by climate change since most women - especially in households in rural areas - have the most responsibility for collecting and storing food, fuel for cooking and heating, as well as water for all domestic uses.

When weather patterns are erratic, women spend more time on each of these tasks, which means less time is spent on education, development work, health etc..

They need, therefore, to be part of the solution to climate change and must be involved at all levels.

YOUNG PROFESSIONALS IN AGRICULTURE ENGAGE IN DISCUSSIONS ON CLIMATE CHANGE!

Marina Cherbonnier,

Web and Communications Officer,

YPARD - Young Professionals' Platform for Agricultural Research for Development

COP18, the 18th edition of the **Conference of the Parties (COP)** to the United Nations Framework **Convention on Climate Change (UNFCCC)** took place from November 26 to December 7, 2012 in Doha, Qatar. Two events were particularly related to **agriculture: Forest Day and Agriculture, Landscapes and Livelihoods Day**, held on December 2 and 3, 2012.

Agriculture needed to have its space at the negotiation table at COP18 in order to influence effective implementation of solutions focusing on agricultural activities. As we have learned during **GCARD2**, special media gives us the opportunity to engage, get the voice of young professionals heard and get a space on the stage. That is why we wanted our YPARD members to unleash **their social media power** with these two events at COP18 and bring to the forefront perspectives of *youth in agriculture!*

It was also a means to stress the need for support of *Youth in Ag.* and promote agriculture as a field



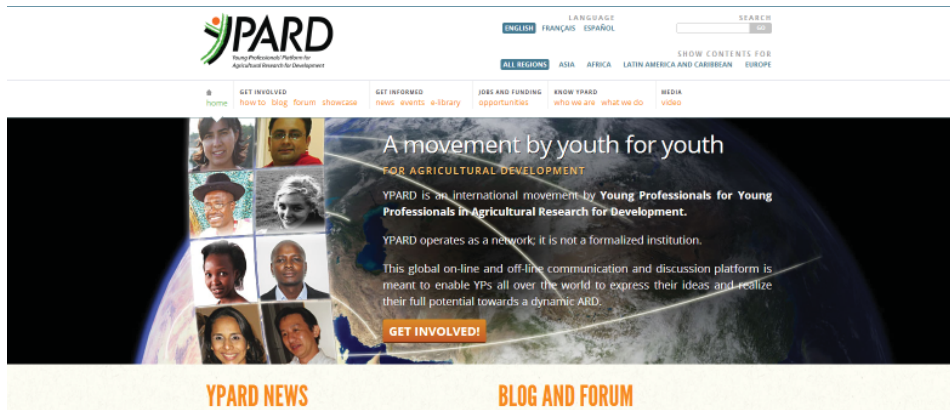
where enthusiastic, bright, confident and ICT-literate young people fulfil themselves!

How this all happened...

In order to make a fruitful contribution, young professionals had read carefully the content available on line through the different websites: forestday.org and agricultureday.org.

One week before the event, they could already follow #ALLforest on Twitter (the common hashtag for the 2 events related to agriculture, held on December 2nd and 3rd). There was already a lot of information shared that they could re-twe-

et (disseminate) and comment. An online **#ALLForest social media team** was also running through the google group (built from past-events, including RIO+20). This list consists of experienced social media people, many running social media for big organisations (WordBank, WFP, IFAD, WFP,..). This team needed **more young people to join. That is where the YPARD call played a key role!** It was an excellent opportunity to experience the setup and execution of an event's social reporting! Many of the Young Social reporters that had gathered for GCARD2 the month before took on the chal-



challenge once again! Our YPs (Young Professionals) were also encouraged to create content, telling their own story. We indeed wanted to know how they were confronted with the consequences of climate change and how they were working with ways to adapt to these changes. Both events were webcasted. By following simultaneously on Twitter, we were given occasions to speak up online - in real time! - share information, comment, asking questions to the panellist by interacting with the moderators who were relaying our questions on-site.

We did it!

At RIO+20, we earned our spotlight, when during Agriculture-Day, the first question taken from the online public to the panellist was from... YPARD! There was NO YPARD member in the room: We were only present online! We did it again at COP18 Agriculture! Before the closing remark of the agriculture day, moderators solicited on-line participants through the micro-blog: “Are there any burning issues that you would still like to bring to this audience?”, “Hey world - what was missing from today’s event?” We grabbed the chance! We ex-

pressed our frustration at not seeing Youth challenges and opportunities addressed when it comes to climate change and agriculture.

Our online youth group echoed this remark, by retweeting: *Focus on YOUTH role & support needed, was strongly missing!; Can we talk about sustainable agriculture & climate change without addressing support to #youth? (rhetorical question); That’s right! Focus on YOUTH role & support needed!; FACT! Focus on YOUTH role & support needed, was strongly missing!*

We got heard by the moderators: *Thanks for the immediate online feedback. Heard you on gender, youth and rural development!, YPARD, we heard you... We brought the message for the closing session. Just wait. watch the webcast. You will see!!!; OK, online community, webcast with your feedback now live: <http://agricultureday.org>.*

We got our message through at the closing session! Dr. Lindiwe Majele Sibanda said: *Young people are complaining. “We are the future farmers. If in the future we don’t farm, you will have no food”.*

Invest in rural development and engagement of youth in the whole value chain. UNFCCC do you hear us? “No Agriculture? No Deal!” This is just a milestone on the road... As CGIAR said through Twitter : *YPARD there you go. So, once again, now is the time for youth to engage, towards policy, research, extension and your peers!*

We got our recognition and we have a group of strong, enthusiastic and dedicated Young People to carry on bringing youth messages out! We also thank the social media coordinator, Peter Casier, for opening the floor and supporting us tirelessly: *Without the help of YPARD and youth, there would have been no social reporting from this conference Youth in Agriculture are here, willing, enthusiastic & bright! They just need a little push & support!* We are getting strong in giving a voice to Youth in Agriculture, as individuals and as a core group of YPARDians! We must still ensure that our voice is heard!

**WE EXPRESSED
OUR FRUSTRATION AT
NOT SEEING YOUTH
CHALLENGES
AND OPPORTUNITIES
ADDRESSED WHEN IT COMES TO CLIMATE
CHANGE AND
AGRICULTURE**

NEWS&EVENTS

ITALY FLOODS PROMPT FEARS FOR FUTURE OF FARMING

The floods that have been recently devastating Italy can become more severe in the near future, threatening food production and devastating the country's beauty. According to Enrico Rossi, the Governor of Tuscany (i.e. one of the regions that suffered most of the damage), climate change is leading to even more violent flooding. In addition to this, the Italian meteorologist Mario Giuliacci said: *The Mediterranean has warmed up by 1C to 1.5C in the last 20 years, meaning that Atlantic weather fronts passing over it absorb more vapour and more heat, which means ever more violent storms and more rain when the fronts hit Italy.*

The data collected shows that Italy's wine harvest dropped by 6% to a 40-year low, while the apple harvest was down by 22%, pears by 13%, chestnuts by 50% and honey by 25%. Production of flour destined for making pasta dropped by 12%

To sum up, a hot, arid summer this year, followed by floods, has en-



sured that the more traditional Italian produce, which finds its way into kitchens around the world, is increasingly scarce according to Coldiretti

<http://www.guardian.co.uk/world/2012/nov/13/italy-struggles-floods-fears-farming-future>

MACHINE AND COWS ARE HER PASSION; HEIDI BÄTTIG, A YOUNG FEMALE FARM MANAGER IN SWITZERLAND

Heidi Bättig is one of the few women in Switzerland that manages a farm by herself. Only 4% of Swiss farms are run by women; meaning that the farms are not only owned by a woman but are also lead by one.

Compared to the European Union, the number of Swiss female farm managers is rather low.

Official investigations of the European Union have shown that, in the European area, on average one woman in five manages a farm. There are, however, significant differences between the individual member states of the EU: For example, more than 29% of Austrian and 24% of Italian farms are headed by a woman, whereas this number is only 7% in Denmark and 6% in the Netherlands.

This is a result of changing agricultural environment as independent and, most notably, willing women are perpetuating this process of change.

<http://lac.ypard.net/testimonials/machine-and-cows-are-her-passion-heidi-b%C3%A4ttig-young-female-farm-manager-switzerland>

FAO, IFAD AND WFP ORGANIZE A JOINT SIDE EVENT ON CLIMATE-SMART AGRICULTURE AT COP18

The side-event called *Sustainable Agriculture, Food Security and Climate Change: How Can Climate-Smart Approaches Help Build Resilience in Food Security and Agriculture?* was held on 27 No-





ember, last and was moderated by Alexander Mueller, Assistant Director-General of FAO. It focused on climate-smart agriculture resilience, barriers to scaling up climate-smart agriculture and benefits to the poor and the most vulnerable. Mueller called for climate smart agriculture, identifying lessons to be learned. He said the potential for expansion is limited despite the need for increased productivity and that the new challenge is to expand agriculture into low potential production zones. He asked panellists to address how climate-smart approaches can be used to build resilience, barriers to scaling-up climate-smart practices and how the poorest and most vulnerable can benefit from climate-smart approaches.

<http://www.fao.org/climatechange/en/>

of climate change - at the UN's climate change conference in Doha have been postponed until next year.

As a matter of fact, climate change also threatens agriculture, which most developing countries' populations rely on for income. The impact of climate change also threatens global food security: projections show that yields from food crops could decline by five per cent for each degree Celsius of increase in global warming. Many poor farmers are already experiencing the impact of increasingly variable rainfall. All in all, developing countries are arguing they need more money and better technology to help farmers adapt to the impact of climate change, including frequent droughts, flooding and increased soil salinity.

<http://www.irinnews.org/Report/96967/CLIMATE-CHANGE-Agriculture-takes-a-backseat-again>



choices have to do with hurricanes, heat, floods and droughts. The site shows 30 key facts to explain the complex relationship between agriculture and climate change, integrating research on issues ranging from undernourishment and population growth to forestry and fisheries. Each fact is illustrated with info-graphics or photographs from the field and links to related issues.

It is well understood that climate change has an enormous impact on what we can grow and eat" said Sonja Vermeulen, head of research at CGIAR's Research Programme on Climate Change, Agriculture and Food Security (CCAFS, which are the people behind Big Facts).

Agricultural agencies, farmers' groups and policy makers have convened the *Agriculture, Landscapes and Livelihoods Day* on December 3 during climate talks in Doha in order to push for policy action on climate change and food security.

<http://www.trust.org/alertnet/blogs/climate-conversations/what-does-what-you-eat-have-to-do-with-climate-change> ◆◆◆



CLIMATE CHANGE: AGRICULTURE TAKES A BACKSEAT AGAIN!

Discussions about much-needed support for agriculture - which is seen both as a victim and a cause

CLIMATE CONVERSATIONS - WHAT DOES WHAT YOU EAT HAVE TO DO WITH CLIMATE CHANGE?

The newly launched *Big Facts* website is set to explain what food