

**Abstracts, Title Summaries and Presentation Proposals
International Farming Systems Association Global
Learning Opportunity (IFSA GLO)
Rome, Italy
2005**

**Theme 1
Food, Agriculture and Rural Development policies in a globalizing world**

More Benefit From Less Land: Rice - pulse (as vegetable + fodder) rice is a more profitable cropping pattern for resource - poor farmers in Bangladesh.

Omar Ali prc@bdonline.com and Dr. Ashutosh Sarker

A field experiment was conducted at Pulses Research Centre, Ishurdi, Pabna, Bangladesh during 2002-2003 and 2003-2004 to find out the economically viable pulses (as vegetable and fodder crop) within the fallow period of Transplant aman rice (Monsoon rice) - Boro rice (Spring rice) cropping pattern and to find out the suitable variety of Transplant aman and boro rice for better establishment of pulses for more benefit of resource poor farmers in Bangladesh. First crop, Transplant aman rice (cv. BR32, BR39 & BINAdhan-4) were placed in the main plot, second crop, pulses (Lathyrus, Chickpea & Field Pea) were placed in the sub-plot and third crop, Boro rice (cv. BR-28, BR-29 and BINAdhan-6) were placed in the sub-sub-plot. From two years pooled result, it was observed that, BINAdhan-4, field pea (as vegetable + fodder) and BINAdhan-6 produced the highest yield of 5.0 ton/ha (grain), 3.25 t/ha (vegetable)+18.1 t/ha (fodder) & 7.8 t/ha (grain), respectively and also gave the highest net return of \$2212/ha/year.

Multi-stakeholder analysis of farming systems development and future policy and institutional challenges for achieving SARD

Marcelino Avila Marcelino.Avila@fao.org

This session will present the salient results of a sustainable agriculture and rural development (SARD) analysis conducted on three major farming systems of the world. In the first part of the session, short presentations will be made on the SARD methodology and lessons learnt, followed by a presentation of the main results and recommendations of three case studies, i.e. the maize-beans systems of Central America, the cereal/root crop-based system of West Africa, and the lowland rainfed rice-based system of South East Asia. Emphasis will be placed on the past evolution and current performance of these systems, future scenario analysis, and future policy/ institutional challenges for achieving SARD. In the second part of the session, participants will comment on the relevance of such case studies, whether they are involved in similar work and the types of results to date, and brainstorm on future policy/ institutional challenges relevant to their own farming systems work.

Panel members: Project Coordinator and Leaders of national teams of Honduras, Mali and Philippines

Precision agriculture, best alternative approach for sustainable agricultural development
 Amir Hossain Chowdhury iedsfoeb@accessstel.net

Information management and its use in practical decision making at the farm level will be the foundation for sustainable agriculture in the new millennium. Precision agriculture provides a sustainable agricultural system that allows farmers to use resources efficiently and develop and maintain complete input and output records. It is a knowledge-based technological management system capable of optimizing farm profit and minimizing agriculture's impact on the environment. To establish the technology of precision agriculture as a common practice, there is need to develop transferable guidelines and principles for decision making in crop management. This requires both attentions to the specificity of crop production (i.e crop rotation) of the field. High economic efficiency and ecological benefits are ensured now a days only by integrated crop production techniques. Precision agriculture can significantly increase economic and also ecological efficiency of crop management. So, steps must be immediately taken to introduce precision agriculture in Bangladesh.

Contributions of Agricultural Extension to Rural Poverty Reduction in Myanmar,
 Khin Mar Cho Khin.M.Cho@agrar.uni-giessen.de and Prof. Dr. Hermann Boland,

The agricultural and rural development policies, characteristics of rural poor and poverty, the relationship between the agricultural production- productivity-rural poverty reductions will be discussed. The impacts of the UNDP and international NGOs projects concentrating on food security and rural poverty reduction in Myanmar will be explored. The ways how to contribute the governmental agricultural extension to the rural poverty reduction will be discussed.

Organizational Legitimacy as Principle for Private Provision of Rural Development Activities: Evidence from Czech Agriculture

Jarmila Curtiss curtiss@iamo.de, et al.

Since the preparations for and the actual May 2004 EU accession, the rural development concerns in the eight new EU member states from Central and Eastern Europe have considerably increased. During the structural policy formation, little consideration has been given to the rural development activities provided privately by the agricultural companies, despite their long tradition. Using the case of Czech agriculture, the proposed paper will empirically analyze the private provision of rural development activities as behavior possibly reflecting efforts to gain organizational legitimacy which secures indirect economic gains. For further information please view following web-pages: www.iamo.de

The Challenges of Farming Systems in Bangladesh in the Post Globalization Period
 Subash Dasgupta Subash.Dasgupta@fao.org

Farming systems in Bangladesh is in crisis and disintegrating affected largely by Structural Adjustment Programmes and Enhanced SAF of the 80s, Globalization and Liberalization of 90s and the Poverty Reduction Strategy Paper (PRSP) of 2000s causing further marginalization of resource poor farmers, becoming more dependent on external resources, experiencing technology divide, depletion in natural resource base including soil fertility and the emergence of non-farm rural sectors.

To validate the above problem adequate research data have been collected over the years that this conference will provide an opportunity and enable me to share with others to draw comments and inputs as a learning lesson for Bangladesh as well as for others to understand the performance and problems of farming systems in Bangladesh in the post globalization

period. In addition, based on working experience as well as continued study of the problem, there is recognition that the farming systems in Bangladesh need to respond to the process of globalization through pro-poor development policies, empowerment of rural communities, particularly women, good participatory governance especially at local level, access to information and knowledge based farming systems, public-private-NGO-Farmers partnership, microfinance and farmer –market direct linkage as part of the complex development process to achieve national development and international commitments like WFS, CCA/UNDAF, MDGs and PRSP.

Enhancing capacity of academic institutions to produce gender-sensitive research and development professionals in farming systems

Helen F. Dayo, helenfd2002@yahoo.com,

Review of gender-related content in university-level curriculum of target institutions, stakeholder consultation on gaps and strategies drawing on field practice to enrich curriculum content, development of support instructional materials, capacity development of faculty and researchers to integrate gender-related content in programs/courses.

Enhancing The Role Of Farming Systems Research And Development In Local Government Development Planning And Action,

Helen F. Dayo helenfd2002@yahoo.com,

Stakeholder consultation on the potential contributions of research and development to local government priority concerns, development of a strategy for harnessing scientific resources and development of agriculture/health/education/other sectors; sensitization and capacity for local government unit executives on the role of science in local development.

Public policies and farming practice changes in French overseas departments - the old times and the modern times

Michel Dulcire michel.dulcire@cirad.fr , Eduardo Chia, Marc Piraux eduardo.chia@cirad.fr

The French Agricultural Orientation Law (LOA) supports the Multifunctionality of agriculture with Territorial Contracts (CTE). Its application in French Guadeloupe (FWI) and Reunion (Indian ocean) islands clash with an action system, where institutions are still promoting a productivist model for exportation towards France. Our surveys, led with farmers involved and with agricultural development and research institutions, prove that the CTE were used to support existing situations, financial crutch or current dynamics, and not to further a new project or new development practices. "Old times" management of these "new sort" of rural incentives transformed the proposed new social contract into a shaky contract. An abuse which may be salutary to reconcile the existent productivist model and the now promoted multifunctional one. The analysis of the reasons and specificities of this inconsistency between the objectives of the Law, and the ways the CTE were developed in two islands, highlights know-how which foresee an ability for a satisfactory management by profession and accompanying institutions of the following expected Sustainable Agriculture Contracts (CAD).

International Partners for Sustainable Agriculture (IPSA)

Linda Elswick, IPSA, ipsa@igc.org

IPSA is proposing a panel session at the Global Learning Opportunity (GLO) featuring partners with practical field experience at local and national levels and policy advocacy expertise at local, national and international levels. The panel will explore examples of linking local learning experiences to policy advocacy forums to advance grassroots successes and influence policymaking decisions.

The EU Novel Food Regulation – a non tariff trade barrier for small farmers and trade companies in developing countries

Irmgard Hoeschle-Zeledon and Paul Bordoni p.bordoni@cgiar.org

The Novel Food Regulation (NFR) of the EU stipulates that food which was not consumed to a significant degree in the EU before 15 May 1997 has to undergo a special notification procedure before it can be marketed and consumed within the EU. It is legally binding for all Member States. This non-tariff barrier for trade in neglected species discourages investment in supply chains and marketing in target markets, an unreasonably high burden of proof on those bringing traditional food products from the South to the EU market.

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0.0.0.0.0.2 *Environmental Decision Making as a Framework for Farm Policy*

Glenda Humiston humiston@nature.berkeley.edu

Public support for agricultural policy in the US relies heavily on the perception that programs are designed to help smaller independent family farmers while maintaining a safe and affordable food supply. Nevertheless, there is an escalating viewpoint that US farm programs have become “welfare” programs for wealthy landowners and large multinational agribusiness corporations. Coupled with this are mounting challenges to biotechnology, conventional production methods, and concerns over environmental problems. This situation has created an opportunity to re-examine the goals of farm policy and create a new policy framework.

Although agriculture can be a source of environmental degradation it can also serve to deliver vital environmental services. The need is to find policies and programs that will enable progress toward a “sustainable” form of agriculture. One such framework, “Multifunctionality”, recognizes and rewards the benefits - other than food or fiber - that can come from agriculture, yet often go uncompensated in the marketplace and that can vary tremendously depending on farming practices. Although very similar to the concept of compensating for “environmental services”, as an instrument to change modes of production, multifunctionality also attempts to deal with socio-economic concerns and needs.

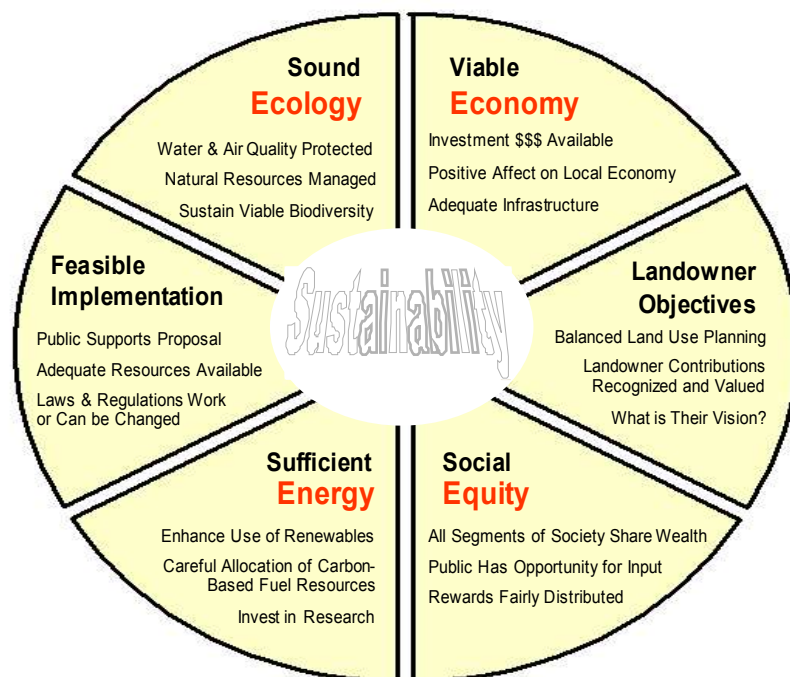
This policy framework has many variations in how individual nations implement their programs and some key questions need to be answered, for example:

- How to ensure that multifunctionality is not used to justify trade barriers?
- How to explicitly identify the externalities due to multifunctionality and how to value them using standard market and nonmarket valuation techniques?

- Where is the appropriate level of support for agricultural operations as well as other natural resource-based activities?
- What roles do rural communities and regional economies play in such calculations and what rewards should they rightfully expect?

A key step must be to isolate and evaluate the factors essential for a sustainable form of agriculture. This phase should aim to achieve a broad consensus on definitions, criteria and values. Although the three “E’s” - ecology, economy, and equity - have become the common standard for most definitions of “sustainability”, they do not fully encompass all elements that must be considered. As shown to the right, many other factors will need to be understood and integrated into any new policy.

Additionally, some sense of equity between the present and future generations should be examined and accounted for. The challenge for all will be to balance desires for both public welfare and market efficiency.



Impacts of crop-livestock R&D on smallholder farming communities in Bangladesh

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In the pursuit of the need for generation of technology and its dissemination with the ultimate goal of improving the agricultural systems in Bangladesh, several systems approaches have been followed, the Farming Systems Research and Development (FSRD) being one of the approaches to technology transfer systems evolved to its present form in 20 years. Crop-livestock farming systems research implemented by the National Agricultural Research System Institutes during the past 10-15 years in 17 FSRD sites under the umbrella of Bangladesh Agricultural Research Council, have provided rapid spread and adoption of numerous promising crop-livestock systems technologies creating varying degrees of positive and significant impacts on production, income and total livelihoods of the smallholder farmers around the FSRD and multi-location trial sites and in the vicinities. Despite some staggering constraints faced by the FSRD practitioners, the crop-livestock technologies as evidenced from the *ex-post* impact assessment of the present study, have brought dynamic and remarkable changes to the rural farming communities in food security and poverty alleviation, employment generation, gender and women empowerment, intensity of land use, income and asset generation, agribusiness development, skill development, organizational linkages, and maintaining a better environment. Future directions highlighting technology transfer and strategic alternatives for organizational and financial sustainability of FSRD are also focused.

The Power of Agroforestry and Multisectoral Partnership in Sustainable Upland Development: The case of the agroforestry support program for empowering communities towards self-reliance (ASPECTS) project in the Philippines

Leila D. Landicho leila_landicho@yahoo.com, et al.

ASPECTS project, which was funded by the Ford Foundation, was pilot-tested in the three provinces of the Philippines aimed at developing a grassroots-oriented extension model that simultaneously addresses the objectives of community empowerment and the advancement of agroforestry education. This project harnessed the potentials of agriculture and forestry schools in empowering upland communities to enable them to extend agroforestry extension services to adjoining communities and other farmers for sustainable development. Lessons from the project implementation demonstrate the viability of multisectoral partnership in realizing a sustainable community-managed agroforestry extension services.

The essential role of livestock for poverty alleviation in seasonal rainfall environments.

Constance L. Neely cneely@holisticmanagement.org and Allan Savory

The symptoms of desertification are numerous including *interalia* increased droughts and floods; drying up of springs, rivers and boreholes; poverty and food insecurity; and social breakdown including violence to women and children, genocide and war. For centuries the main ‘causes’ of desertification have been attributed to human overpopulation; livestock overstocking and overgrazing and communal tenure of land. Recent discoveries have led to an understanding that desertification is not caused by the things traditionally blamed. Nowhere is this better illustrated than in parts of the United States, where despite a very low and falling population, no overstocking and private tenure of land, serious desertification is occurring. This observation, combined with the desertification in Africa of wilderness areas and national parks with no livestock or human presence points to the fact that overgrazing is misunderstood.

In Zimbabwe where all of the symptoms of desertification are present, the use of large multi-species livestock herds has enabled a demonstrated reversal of desertification and increase in livestock health and well being. This has been done on 20,000 acres adjacent to the Wange Community (truly a night-and-day scenario) and is now in the process of upscaling within the community. Managed by a local non-profit organization under the governance of the five Chiefs of the area, and using community livestock that would otherwise have died in many cases, the degradation has reversed dramatically. There has been a measurable increase in vegetation and ground cover which in turn has resulted in water infiltration and renewed stream flow and the return of many species of wildlife. Through the same period, under the same rainfall, adjacent communal land over which livestock are dispersed, has remained drought stricken with dry riverbeds, failing boreholes and mounting poverty. Livestock are clearly an answer to moving poor people out of poverty, enhancing food security, and reversing environmental degradation (addressing several key Millennium Development Goals). The Wange Community members are now keen to replicate this effort.

During the next phase, the people will be offered micro-credit loans adequate to float them out of poverty but in ‘livestock currency’ due to the economic collapse and hyper-inflation of Zimbabwe. This in many ways will be the most difficult phase – getting the knowledge gained and witnessed, to spread effectively to the community at large. Participation in this project is earnestly invited from other organizations concerned with permanent solution to

poverty and desertification using livestock. The paper will present the results of livestock-based and people centred sustainable development efforts in Zimbabwe that can enhance their peoples' land, lives and livelihoods.

Developing strategies for decreasing poverty in rural farming areas in Uzbekistan

Dr. Khasan Mamarasulov mamarasulov2@yahoo.com

The Ministry of Agriculture is promoting the decrease in poverty and environmental degradation. The development of agriculture and environmental sustainability with its impact on good agriculture practices, research on farm development and management, and close cooperation with Uzbekistan NGOs is making a difference in the of lives of the low-income farmers and the rural areas.

Based on the characterization of farming systems and an understanding of their dynamics, differentiated context-specific development pathways can be identified around which multi-stakeholder alliances and public-private partnerships (e.g., CSO, inter-governmental organizations, governments, private sector, etc) could coalesce. A challenge is to foster and mainstream such targeted partnerships with guidelines, regulations and investment practices. Such alliances are required for managing ecosystems and landscapes from farms to catchments, intensification strategies, environmental services, landcare, conservation of the natural resource base and biodiversity, livelihoods diversification, conservation agriculture, eco-agriculture, urban agriculture, and linking mitigation, risk and response for vulnerable systems and populations, including HIV-AIDS.

Developing Public-Private Partnerships in Agribusiness Development: Easy to say but a challenge to do

Harold J. McArthur hmcarthu@hawaii.edu

A case example from a developing partnership between a private U.S. firm, an international NGO and the University of Hawaii to establish a candle nut oil processing plant in East Timor.

Building Social Infrastructure for Decentralized Management of Natural Resources

Keith M. Moore Keithm@vt.edu et al.

In this round table, we describe the process, successes and failures associated with developing a new platform (community-based natural resource management committee) for an ethnically diverse population (involving CSO, NGO, and government stakeholders) in the context of West African decentralization and supportive of local NRM decision making and practice consistent with environmental and socio-cultural conditions. The objective of the effort was focused on raising awareness of NRM issues and building leadership capacity to increase the horizontal linkages between stakeholders in the belief that such a common action platform can increase the flow of information and open debate leading to more carefully considered management decisions and, as a consequence, increase trust between communities. We demonstrate that building associational life is not only a matter of gathering people together -- men and women, regardless of ethnic or socio-professional status -- but also requires the development of individual capacities (training in functional literacy, association management, financial management, NRM texts, laws and codes, improved NRM practices, management and reconciliation of the conflicts, etc.) in order for them to assume active roles in the development of their community and to support the development of extra-communal relations and, in particular, the role played by training in conflict management, given its importance for

the development of self-confidence and building of credibility for the committee in the development and the safeguarding of the community's natural resources.

A participatory approach in agro-environmental policy development and decision-making,
Katrin Prager katrin.prager@agrar.hu-berlin.de,

The paper analyses a participatory approach in agro-environmental policy development and decision-making on the state level in Germany. The approach comprises an interactive PC-based model and the facilitation of the corresponding communication process. Research objectives are improved communication processes and an enhanced quality of political decision-making.

Sugarcane based farming systems research and some developed technologies
Dr. M Khalilur Rahman bsri@bdonline.com, et al.

Farming Systems Research and Development (FSRD) Programmes under Bangladesh Sugarcane Research Institute (BSRI) developed a series of technologies that were demonstrated in different agro-ecological zones of Bangladesh. The technologies not only increased the crop production & economic benefit per unit area and time of resource poor farmers but also enhanced women participation in agriculture, agro-processing and marketing. Research findings showed that sugarcane with intercropping like potato, onion, garlic, pulses, different summer vegetables etc. defined 45.48% sugarcane equivalent yield advantage over sole cropping, internal rate of return (IRR) was found about 26%. Sugarcane based FSRD concept has become widely popular phenomena among the sugarcane farm families of Bangladesh, which ensures positive impact on food securities to the farmers as well as nations.

An integrated approach to food security assessment in the context of farming systems in fragile areas

Julieta R. Roa Julie.Roa@wur.nl, Dr. Anke Niehof, Dr. Lisa Price

This paper elaborates the framework and methodology of assessing food security particularly of households farming in less favored environments. Food security is evaluated using three dimensions: food availability, food access, and food adequacy. The framework and analytical tools are applied on the empirical data from two formal surveys of 220 households, a mix of participatory tools, and twelve case studies in Leyte, Eastern Visayas region, Philippines during the period 2002-2004. As the paper articulates a useful analytical framework and tool feasible in development work particularly in farming systems located in fragile areas, policy implications are also drawn relevant for such development.

Sustainet

Helga Stamm-Berg, Helga.Stamm-Berg@gtz.de

Sustainet is a project-cooperation between the German Council for Sustainability, German Ministry of Economic Cooperation, German Ministry of Agriculture, Misereor, Bread for the World, German Agro Action and GTZ (German Development Cooperation). Experiences from around the world confirm that sustainable agriculture can make a significant contribution to fighting starvation worldwide. For peasants in Southern countries, in particular, it offers a realistic way to increase their income. Despite its major potential, in many cases even successful sustainable agriculture models have not been able to gain a strong foothold. The goal of Sustainet is primarily to study the successful approaches and concepts - the best

practices - of projects in the field of sustainable agriculture and then to identify factors that are relevant for scaling up such projects. Our pilot regions are: India; Kenya/Tanzania; Peru/Bolivia; Brasil.

Globalisation, malcontents, and asymmetric impacts on smallholders

Aysen Tanyeri-Arbur Aysen.TanyeriArbur@fao.org

As globalisation sweeps across developing countries, it leaves in winners and losers in its path. This round table gathers experienced researchers on the topic to identify the range of policy responses which would increase the opportunities for smallholders and rural poor, and ameliorate the negative effects.

Role of supporting organisations for agricultural producers in the Czech Republic,

Axel Wolz wolz@iamo.de, et al.

Agricultural producers all over the world are in need of organisations to their support to be economically successful. However, not all of them are joining as members. What are the motivations and reasons of some to join while others do not? Based on a survey among agricultural producers in the Czech Republic, a country which embarked on the transition from central planning to the market economy, it is looked at the motivational factors and deduced how these can be strengthened.

An analysis of agriculture-environment interactions and policy options for sustainable agriculture in Eastern Al Ghouta (Syria),

Samira Al Zoughbi, faop@net.sy

Agricultural sustainability has been recognised as a strategic development objective, and agricultural-related environmental issues have been ranked as top priorities in Syria in the last decade. As a consequence, many research studies have been carried out so far on this topic. One common result of these studies is that the environmental problems have arisen because of many factors, like policy and market failures, institutional failure, and lack of investment. The paper will focus on such a policy conundrum aiming at better understanding of the relationships between agriculture and environment, and therefore at analysing policy options for sustainable agriculture in Syria.

Soil and water conservation practices and improved livestock farming systems for sustainable agriculture and food security achievement in the semi-arid region of Burkina Faso

Jean Sibiri Zoundi, jeansibiri_zoundi@yahoo.fr and Robert Zougmore, robert.zougmore@messrs.gov.bf

Mixed crop-livestock smallholder farmers in the northern region of Burkina Faso are faced to environment uncertainty and the main constraint is natural resources degradation. This case study on best practices indicates how can combined soil and water conservation practices and improved livestock farming systems enhance sustainable agriculture and food security achievement? This study highlights the role of success factors such as the relevance of agricultural innovations generated, the existence of investment support for farmers, the demand-driven approach developed for innovation process and, farmers' connection to markets.

Theme 2: Marketing and trade theme

Reducing rural poverty - the farmer-market linkage and the farmer-agro industry linkage.
Victoria Adarkwa Aduasah

Farmers in Ghana have for a long time depended on the market as the only means of disposing of their agricultural produce. This has led to exploitation by middlemen or retailers. Is that the best option? An alternative may be farmers being linked to the agro-industry, which would add value to their produce.

The Role of Cooperatives in Improving Quality of Life and Providing Sustainable Development

Ana Alice Vilas Boas and Jean Carlos Baldessera, ppgen@ufrj.br

The aim of this paper is to present a comparative analysis about two agricultural cooperatives in Brazil, in order to better understand the social role of cooperativism in improving quality of life and providing sustainable development. Farmers and consumers may benefit from services offered by cooperatives, everywhere in the world. Nevertheless, they will not provide good quality services if people do not know enough about them and their main principles. There are many studies about this kind of organisation, even in Brazil. However, very few Brazilian people are engaged in a cooperative. This study shows that many people do not know enough about the advantages of getting enrolled in this kind of organisation and the role of cooperativism in improving trade and social life in local regions. Cooperatives exist for people in difficulties and people with cooperative spirit. It is because the mutual aid and the reciprocity among partners are basic principles for the proper development of members, thus contributing to have a world more just and balanced. Moreover, lack of appropriated communication among members, committee members, their families and consumers is also another big issue in dealing with this subject. In this context, one of the roles of training in rural areas should be related to optimising the relationship among actors directly or indirectly involved with cooperativism and preparing members to manage properly their own cooperatives and keep, at the same time, an eye on the social aspects of life that may be strengthened by the cooperative movement and by social responsibility of other private companies.

Farmer-Private sector Partnerships and smallholder producer competitiveness: The Nucleus Estate Experience in Nigeria.

Innocent Azih

A private sector-smallholder farmer partnership institutionalized with public sector support aims at raising small farmer technical, business and economic capacity. Impact analysis on farmer productivity, competitiveness and economic empowerment is being done for policy advocacy.

Supermarkets and small growers

Julio Berdegue, jberdegue@rimisp.org

Changes in agrifood chains in developing countries in Latin America, Asia, and Africa, brought about by the rapid growth of supermarkets

Agricultural and rural advice management approach: reference executive of the frame of partly industrialized aviculture of the region outskirts of Dakar, Senegal

Cyprien Awono Bessa ogungbileao2000@yahoo.co.uk et al.

The globalization of the agricultural exchanges lauded by the WTO likelihood contributed to the 70 % lock of the poultry breeding in Senegal between 1996 and 2002. This situation invites to revise the device of frame of the aviculturists, the widely unsuitable device in a context of greater liberalization. The communication tries to show what would be the possible ways of adaptation of this device.

1 Traditional Native Food, Biodiversity And Culture

María Calzada cocinadelatierra@sion.com

Biological and cultural diversity is the root of rural life. Peasant and indigenos groups are guardians of biodiversity, for they farm products and species that don't respond to the demands of external markets; they just continue with traditions inherited from their ancestors. In order to develop, a culture must have a favourable environment, where farmers benefit from their own organizational structures and process development, with the support of public policies that favor active participation in local markets. Native food, more than a tool or an expression, is a ritual, another actor inside this general outline of sharing and exchange of local knowledge. Food is one of the most important manifestations of culture, one of the more relevant means of expression, where every country and region has the opportunity to show its own strengths and productive capacity. "Native Gastronomy," therefore, is a fusion of old knowledge and new trends. The interaction between these two universes is a strategy for the dissemination of culture, customs and traditions, and for the education in biodiversity.

The role small retailers and small-scale producers' organisation in enhancing and strengthening markets linkages and local qualification process

Claire Cerdan et al.

Small-scale farmers faced rapid changes in the organization of marketing channels in the developing world. Supermarkets chains are spreading in Latin America and wholesale markets are loosing space. Food product characteristics tend to be no longer determined by producers or consumers, but by traders, supermarkets and agro-industries that set their own standards. The communication aims to analyse the role of the small retailers and the role of the producer's organisations (cooperatives) to improve competitiveness of small-scale producers by enhancing and strengthening markets linkages and local qualification process.

Our fieldwork is specifically based on four experiences, localised in the south and in the northeast of Brazil. It presents cooperatives and retailers networks, which have overcome a number of obstacles to keep a market position on differentiated supply chains : cooperatives of organic production (Cooperfac, Cooperagreco), fair trade association for

orange juice (Apaco) in the south of Brazil-Santa Catarina and retailers networks of press curd cheese in the Northeast of Brazil.

The communication point out that, actors could offer for small-scale producers, knowledge, information and resources to meet quality standards and formal markets specifications. It will show also that social and local networks or organizations can give producers flexibility, credibility, original know-how and can facilitate the emergence of innovations, resulting in more sustainable market access for small producers. In conclusion, we put these experiences in perspective to design some orientations for public policies.

***Importance of improving the conditions of commercialisation for farmers
Rubber smallholders in the Souh-West province of Cameroon,***
Bénédicte Chambon, bchambon@camnet.cm

Based on a survey carried out with rubber smallholders, the objective of the paper is to show the consequences of a situation where farmers have no choice to sell their crop on the smallholders practices and production. At the end, some propositions are made to improve the situation.

When do smallholder farmer-market linkages increase adoption of improved technology options and lead to increased use of natural resource management strategies.

Robert Delve r.delve@cgiar.org et al.

Case studies from East and Southern Africa linking technology development to market opportunities will be used to highlight and discuss where markets for existing and new products has led to increased investment in natural resources, market orientation and adoption of technologies by smallholder farmers.

Organic Agriculture and Alternative Certification

Dr. Cathy Rozel Farnworth cathyfarnworth@hotmail.com

I would like to make a presentation, which I would ensure was interactive and enjoyable - probably through engaging participants in pair work and getting them to think through a few thought-provoking issues – on my work with organic smallholders and plantation workers in Madagascar on an alternative model for organic certification.

Abstract of Proposed Presentation (*I would select elements from below*)

Starting Point: The relationship between Southern producers and Northern consumers in organic agriculture is impoverished. Although producers and consumers are actually connected through lengthy commodity chains, there is generally a strong sense of felt disconnection. They do not feel part of the same system. People in the chain lack physical presence for one another: they exist in the realm of ideas, if at all.

Tackling the Problem Part 1: As part of my work to find ways of creating what I call ‘quality relationships’ between producers and consumers, I have been working on a ‘quality of life toolkit’, which is capable of capturing the needs and aspirations of smallholders and plantation workers *in situ*. The aim is to contribute a new ‘bottom-up’ methodological approach to the process of social certification in organic agriculture. I have carried out extensive research with organic smallholders and plantation workers in Madagascar in the development of the toolkit.

In Rome, I could present some features of the quality of life toolkit, discuss some of the findings and then turn to some of the ‘difficult’ issues that arise for other stakeholders when trying to develop and implement bottom up certification initiatives.

Tackling the Problem Part 2: It would also be possible for me to talk as part of this presentation – or another - about my novel concept of a social label. This is a product label that could be validated by data and information produced by the quality of life toolkit during the process of social certification. The prototype label I have developed occupies quite different ground to labels dealing with the conditions of production, or trading relationships, or international labour standards. Attention is paid to the values and aspirations that producers actually hold. The aim is to ensure that these are supported, rather than eroded, through the process of production for the Northern market. My concept of a new social label invites actors in organic producer to consumer chains to engage in a richer and more meaningful relationship that extends the realm of legitimate values included in the market exchange of products. An important feature of the label is its ability to acknowledge and build upon the ethical values held by the consumer. Research based on surveys, interviews, and focus groups was carried out in Germany in order to assess the receptiveness of organic consumers to such a label in the context of their own ethical *lifeworlds*.

Collective action by smallholder organic farmers in South Africa

Lawrence Gadzikwa, Lgadzikwa@yahoo.co.uk

The paper considers collective action by smallholder organic farmers in producing and marketing organic crops in South Africa particularly focusing on organisational and contractual arrangements that promote market linkages

Improving farmer decision making and research-extension-private sector linkages for identifying organic and fair trade export opportunities in Uganda,

Michael Hauser r.delve@cgiar.org et al.

Increasing income opportunities through certified organic or Fairtrade exports involves much more than just growing the crops. Linkages to new research information and extension advice are needed to ensure the competitiveness and sustainability of these systems. Experiences from Uganda within a research-extension-exporter research for development program will be discussed.

Smallholder timber: livelihoods diversification and landscape sustainability

Christine Holding Anyonge Christine.HoldingAnyonge@fao.org et al.

Trees on farms have long been recognised as protecting and often enhancing soil fertile, assisting in soil and water conservation and providing fodder, fuel wood and construction materials for rural households. They also help maintain biodiversity and enhance the landscape. In addition, commercial production of timber on farms in the tropics, either as scattered trees or as small scale woodlands as a potentially important element of farm livelihoods.

This multi-media presentation, drawing in particular on experiences in Kenya and Indonesia addresses the potential of farm level timber production, and addresses key issues at the landscape and household scale: the potential of farm-level timber to enhance farm livelihoods

species selection and germplasm access market and marketing chain analysis to support farm-level timber production transparency in legislation, farmers rights, and support to small owners, and small scale wood enterprises in technical entrepreneurial and organisational skills

Transforming of agriculture-based agribusiness systems through process re-engineering: A shift from low-value commodities to high-value and price-stable farming systems-based commodity

Dr. Romeo V. Labios, romylabios@yahoo.com

Goal: To create an entrepreneurial mindset among farmers and fisherfolk for sustained productivity and economic profitability. General: To establish sustainable science- and technology- based agribusiness-oriented rural communities to generate more jobs and develop the agricultural lands and fisheries resources for increased productivity. Specific Goal: To increase total farm productivity and income within the context of a sustainable production system. To enhance the capacity of farmers and fisherfolk to venture into agribusiness by providing training based on needs identified with them. To link the farmers and fisherfolk with support service providers including market, traders, distributors, and dealers to ensure product quality at reasonable prices. Strategies: The proposed activity will include paper presentations of case studies, a plenary discussion, and a workshop that will cover, but are not limited to, the following:

- Empowerment of selected farming communities to go into diversified rural agro-industrial enterprises guided by a market-driven and technology-propelled RDE strategy.
- Enterprises that are geared toward providing a better life for all, global competitiveness, efficiency, equity, sustainability, and strong private sector participation.

Development of the necessary technological innovations, knowledge, and support services to appropriately deal with anticipated constraints and challenges in transforming agriculture-based agribusiness system.

Guarantee Systems for Organic Production

oud

All over the world have been developing methods for guaranteeing the organic status of their product to processors, traders and –increasingly- also to governmental agencies in charge of food quality. The International Organic Agriculture Movements (IFOAM) has been developing an organic guarantee system with a process of consultations with the people involved in organics since the 70s, which has resulted in a sophisticated structure that involves Standards and Accreditation. In the local sphere, groups of farmers in different countries have meanwhile developed less formal methods for guaranteeing the ecological status of their production, especially in the countries of the South, looking for systems more adapted to their realities. Informal systems also exist in other parts of the world where the interest is growing. The reasons for these “alternative” methods of certification vary, but are often a result of high certification costs, the complexity of the paperwork on the formal systems, or a political ambition to support local farmers. In such cases ISO 65 type certification is not seen as necessary. Following the worldwide agreement on the meaning of “organic” means, most of these local groups use the General Principles or the Standards that were developed in the years by the organic movement. But the application of those Standards in the overseeing of production, and the way trade varies widely. These systems often address not only the quality assurance of the product, but are linked to specific marketing approaches and community networks. All over the world, box schemes, home deliveries, and supported agriculture groups (CSA’s or Teikei’s), farmers markets, popular fairs and other direct and indirect marketing systems help to educate consumers about products grown or processed with ecological methods, which build

ence in organic agriculture. Some legislations, like the Brazilian Law on Organic Products, are opening a regulatory systems applied to local markets. It is in this context that IFOAM and MAELA (Latin American Movement) promoted the International Workshop on Alternative Certification, hosted by the NGO Centro de Estudos do Norte de Porto Alegre, State of Rio Grande do Sul, in April 13 to 17, 2004, and built an ongoing Working Group on Participatory Guarantee Systems (PGS WG) that is analyzing and comparing the local experiences all over the world, studying the viability of these systems in relation to the ISO 65 systems of certification and the international standards for organic products.

Organic Agriculture: The answer to drastic food security solution for Malawi,
info@sdnp.org.mw

The main staple food (maize) in Malawi is produced by smallholder farmers. For decades food shortage is met through donations from outside the country. Subsistence farmers who produce for their own needs should be supported to go into mechanized farming for Malawi to achieve food security.

Market-Oriented Agricultural Research in Low-Income Countries: The Case of Lake Zone, Tanzania
januarymafuru@yahoo.com et al.

Implementation of the Farming Systems Approach (FSA) in low-income countries has improved farm-level systems. However, due to FSA, farmers' concerns have increasingly been focused on when developing research agenda. However, improved farm production have often not been translated into income gains for semi-subsistence farmers, which has previously inhibited widespread adoption of, for example, improved crop varieties. This paper argues how the sub-sector approach (SSA) as a complement to FSA can improve the market orientation of research, thereby facilitate the generation of recommendations, potentially resulting in successful commercialization of production by smallholder farmers. We use research data from the Lake Zone of Tanzania to show how preferences concerning crop varieties can vary as we move from the producer to the consumer. The paper concludes that combining FSA has the advantage of strengthening linkages between farmers and consumers, which can enhance the adoption of viable agricultural technologies.

Opportunities For Agriculture Marketing : The Case Of Small Holder Farmers In Malawi
 and George Kanyama Phiri

Agriculture is the mainstay of Malawi economy. It accounts for 45% of the gross domestic product and 90% of annual export earnings. About 85% of the working population deriving their livelihood from agriculture.

Since 1994, Malawi implemented several structural adjustment reforms, which aimed at liberalizing the economy. One of the reforms were to let the market forces play a significant role in the allocation of resources and reduce government intervention. It was therefore perceived that since government role will be reduced, the markets will become more competitive and farmers would get good prices for their inputs and output products as a result of increased competition from private players in the market. This has however not been the case. The reforms resulted in smallholder farmers losing guaranteed prices and markets for their products, which used to be there through the Agriculture Marketing Board (ADMARC). Agriculture marketing instead became characterised with a lot of market failures. One major factor which has contributed to these market failures is lack of, timely and reliable market information which would assist farmers in bargaining for better prices but also have an idea where the markets are. Without market information poor farmers operate under huge risks of not knowing whether their product will be sold, and at what price. As a result once the product is produced farmers tend to spend more time and resources looking for buyers and end up selling to middlemen at very low prices, and buying inputs at very high prices.

markets in Africa since the mid-1990s is also another challenge to small farmers in Africa and Malawi has not. In Malawi now we have the following supermarkets – Shoprite, Seven Eleven, Peoples Trading Centre among others. The rise of the supermarkets in Malawi is transforming the food retail sector. Instead of consumers sourcing basic food requirements from the open council markets now source them from supermarkets. This is posing a challenge to the small-scale suppliers to meet the supermarket standards required for them to supply those markets as opposed to the city council open markets where packaging and standards are not an issue.

The growth of the supermarkets sector implies that supermarkets will increasingly influence the structure and dynamics of the agri-food system. As they increasingly dominate food retail, they will determine the conditions, and the opportunities for small farms and firms to sell agri-food products to the urban market due to increasing urban population and demand. Small farms and firms need these dynamic markets for small producers to escape from poverty. Supermarkets require large volumes, specified quality standards, and packaging sizes among others. These requirements become market entry barriers for small farmers.

Situations in which the majority of small farmers cannot yet meet the standards of the supermarket; there is therefore a need for importing produce to the stores from e.g. South Africa or other countries where the needs can be met.

One of the main barriers for small farmers to access the niche markets for especially organic and fair trade food systems for export is the cost of certification. The cost of certification is just unaffordable.

There are some initiatives aimed at linking small farmers to markets of both inputs and outputs. One such initiative is the Initiative for Development and Equity in African Agriculture (IDEAA) Malawi Program under University of Malawi College of Agriculture with Rockefeller Foundation support.

Initiative for Promoting both Inputs and Outputs Markets: The case of MACE Project of IDEAA

The IDEAA Malawi Program is implementing a project called the Malawi Agriculture Commodity Exchange. The project is aimed at making input and output markets work better for smallholder farmers by lowering the huge risks and transaction costs that hinder their market participation. The specific objectives include the following:

- Reducing transaction costs between sellers and buyers of agricultural commodities.

- Providing smallholder farmers and other market participants with relevant and timely marketing information and intelligence that enhances their market power and competitiveness in the market place; and
- Establishing an efficient and competitive price discovery mechanism.

The overall impact is enhanced farm productivity, incomes, food security, reduced poverty and wealth creation among smallholder farmers and the national economy.

The MACE project is a public/private sector lead initiative because of the high levels of poverty hence not viable to be implemented on a purely public basis; and it is also however difficult to guarantee its sustainability if implemented on public good basis because of the failures of past initiatives once donor funding dries up.

The MACE project is commodity neutral covering a number of important agricultural commodities because farmers deal with many different crops and commodities; and also because of the diversity of agriculture commodities found in Malawi by which smallholder farmers can benefit. Three market information centers have been opened in Limbe, Lilongwe, and Mzuzu. The project is being implemented in a collaboration with International Crops Research Institute for Semi Arid Tropics (ICRISAT), Sasakawa Foundation, and Telekom Networks Malawi Limited which is a Mobile phone service providers.

The MACE project has been active since September 2004. Both buyers and sellers are using the services. It uses various channels such as market information centers, radio, website and Short Messaging Service. Small farmers because of their low volumes are encouraged to bulk their produce as a group so that they could be able to sell to large buyers who require large volumes. A significant change is taking place through the system and there is hope that as time passes a lot of international buyers will be able to access the market.

Implications Of Changes In The Structure Of Fertilizer Prices In Malawi, Charles Mataya,
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Productivity in Malawi's agricultural sector and reduction of poverty and hunger, principally depend on increased use of improved technologies such as organic and inorganic fertilizers, hybrid seeds, and crop protection (World Bank 2003). Currently, it is estimated that about one third of the farming population use fertilizer. It is also estimated that nutrients are depleted from Malawian soils each year while 70,000mt are replaced in the form of fertilizers IFDC (2003). This represents a net loss of about 90,000mt. In order to restore nutrient balance annual fertilizer consumption which is estimated at 200,000 mt needs to be trebled. Unless fertilizer prices are reduced to current levels, the trebling of fertilizer consumption would be unattainable considering that the country's average per capita income is US 160 (World Bank 2003) and also that more than 65 per cent of the country's population live below the poverty line.

Malawi just like other economies within the region has undergone some structural reforms beginning from the early 1990s to create a conducive environment for poverty reduction, growth and development. Principal among the reforms in the agricultural sector was the liberalization of the agricultural markets with the principal goal of increasing private sector participation in agricultural input and output marketing. Increased private sector participation in agricultural input and output marketing also envisaged to lower transaction costs which would result in lower prices of commodities such as fertilizers at levels comparable to those prevailing on the world and regional markets. This paper analyses changes in the fertilizer prices over the past five years and examines the socio-economic implications of such changes.

Standards in Organic and Sustainable Agriculture
 Richard Mandelbaum, richardmandelbaum@hotmail.com

Standards in organic and sustainable agriculture, farm workers, IPs, and NGOs will address incorporating social standards into organic and sustainable agriculture practice and policy, including working toward food labels with verifiable claims about such values as farmers' rights, fair trade and indigenous peoples' rights. Policy implications and partnership efforts between farmers, farmers, NGOs and industry over the past three years will be discussed.

The Upland Vegetable Farmers in Northern Philippines: The Initial Impact of Trade Liberalization
 Maata, Jr. philger@i-next.net

This paper is a case of the market-related problems and difficulties of the upland vegetables growers in Northern Philippines and their coping mechanisms. It will describe the interactions of the various factors that assisted the poor farmers in coping with their poverty conditions as they engaged in the competitive market conditions. Towards the end, a recommendation to the upland farmers and small vegetable entrepreneurs to cooperate and link to address the increasing influx of imported agri-products due to trade liberalization.

Identification and other strategies to improve the income, diets, and nutritional status of vulnerable children in Ghana,
 et al. gmarquis@iastate.edu

This paper describes the process by which they helped develop interventions to improve the well-being of Ghanaian children. Stakeholders examined barriers, analyzed data, conceptualized frameworks, and proposed strategies to diversify income, improve income, diets, and nutritional status.

Meat export in the economic dynamics of Iran and the Middle East region,
 F. Mirzaei, f_mirzaei@asri.ir et al.

Meat export is the largest contributor to the gross domestic product and foreign exchange, and is the second largest export. Yet despite its economic importance, it is largely overlooked in the development of new technologies and

of trained human resources. Agriculture in the Middle East focuses on new ways to improve food challenges of a largely arid land, and managing limited agricultural resources. Agriculture is one of the resources in Iran. Close to one-third of the working population are engaged in agriculture and related industries farming. Agriculture plays a significant role in the Iranian economy: Agriculture accounts for 27.8% of the GNP, employs 26.1% of the labour-force. Agricultural products account for 47% of non-oil exports. Poultry meat is important to food security because there are no taboos against its consumption. With regard to F.A.O annual ranking, Iran has been rated 1st producer and also 1st exporter of poultry meat in the Middle East region. Capital stock in the poultry sector consists of Breeding Farms (lines), Grand Parents(GP), Parent stock (PS), broilers, slaughter-houses. The investment in the poultry sector by the government and private sectors amounts to 4000 Billions Rials (\$5 billion). The objective of this study is to study the dynamics on comparative advantage of Iran's poultry meat export in the Middle East market.

Market uncertainty and diversification strategies for rubber farmers: a comparison in Indonesia and

irad.fr et al.

Prospective analysis using farming systems modelling may help in exploring farmers' strategies and possibilities of production in various situations such as pioneer zones, rehabilitation areas or traditional tree-crop belts, in humid tropics; in a context of globalisation, decentralisation and markets uncertainty. Economic modelling, linked with a social and institutional analysis may contribute to build in partnership with farmers and developers better and more adapted alternatives for decision making processes. This can help farmers to make the right decision at the right time concerning their investments, in particular when tree-crops are concerned. CIRAD/INRA/IAMM have developed a software called FARMING SYSTEMS MODELLING (FSM) that enable such modelling of farming systems as well as farming groups. The approach is aimed to improve the understanding of their own situation, of their evolutive socio-economic context as well as to provide orientations for decision making and development policies for institutions or donors. The prospective analysis lead to scenarios about different trajectories that might be used to the definition of agricultural policies, recommendations domains, and actions in order to address policies to farmers' reality. A comparison between situations of rubber farmers in Cambodia provide case studies as illustrations of such approach.

And fair trade food systems,

almeida@epagri.rct-sc.br and Miguel Altieri,

will present and discuss how innovative and alternative agroecological production, processing and fair-trade food systems (and already are in some cases) make a difference for rural and urban people (focusing on the poorest) as well as the environment. I am sure there are many other agroecologists like Miguel who would like to participate in this

Markets in Disaster and Recovery to Bolster Vulnerable and Poor Farmers.

emington@crsearo.org and Louise Sperling l.sperling@cgiar.org

on markets as a strategic point for supporting vulnerable farmers and their seed systems particularly in
s---e.g. conflict, drought. Drawn from new field evidence across 10 African countries, the paper shows seed
available (i.e. not lost) and the products on offer to be of acceptable qualities and varieties—even during
of ‘good practice’ should be to bolster functioning markets, not undermine them, thereby linking recovery to
development from the initial stages. The paper concretely describes practical options for giving such support,
use of vouchers for asset transfer.

2 man

several other mountain communities had the possibility of marketing high value products but were frustrated
did not know how to market. They got together and established their own marketing arm, the UPLAND
FOUNDATION, Inc., with financial help from some foreign NGOs The UMFII has enabled several marginal
unities to eliminate poverty by helping them produce marketable products and then market them profitably.

***the incomes of the producers within the framework of the production of cocoa resulting from organic
e cocoa "bio équitable" in Ecuador***

roche@cirad.fr and André Deberdt

the schedule of conditions of French association "bio equitable" the chocolate company KAOKA, sets up in
h producers’ organizations an integrated sector of fine and organic cocoa. The presence in the plantations of
many intercalated and perennial cultures (citrus fruits, bananas, plantains, fruits) which either are used for self
or sold at low prices on conventional market, could be better developed within the framework of an
marketing on organic sector.

roductions are difficult to produce in intensive organic culture. The producers’ organizations now dominate
of organic cocoa. An optimization in the setting in market of these associated products would be facilitated
ce gained on the cocoa. That is the stages of the installation of this diversification which is the
object.

Systems

Carlos.DaSilva@fao.org, and Susan Minae,

olved in promoting the modernization of agrifood systems will be highlighted. The presentation and
ases of successful experiences in modern agrifood value chain design and management should provide the
proposal of private strategies and public policies conducive to market access improvement, farm income
al development. Particular emphasis will be given to the issues involved in the integration of small holder
modern agrifood systems under efficient and equitable chain coordination arrangements.

Profitability of diversified farming under rainfed rice-eco system of Chhattisgarh state in India

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arh state occupies a total geographical area of 13.51 m ha with a gross cropped area of 5.8 m ha. The total
e state occupies 5.96 m ha (43.8%). Chhattisgarh state comprises of 16 districts which are divided into three
ones viz. Chhattisgarh plains, Baster plateau and Northern hill zones. About 74 per cent area of Chhattisgarh
ent of Baster plateau and 95 per cent in Northern hills are rainfed. In Chhattisgarh, the total population is
ut of which 32.4 per cent are scheduled tribes (ST) and 12.2 per cent are scheduled caste (SC). Thus, the
s constitute about 44 per cent of the total population. The male female ratio of the total population is 990

per thousand male. Nearly 80 per cent population still lives in villages. The population density is 154 per sq. hectare. Net cropped area is 0.26 ha. The irrigation facilities are very poor and irrigated area is just about one per cent of net cropped area in Chhattisgarh. The topographical variations in the state have created a diverse soil types viz. *Vertisols*, *Alfisols*, *Vertisols* and *Mollisols*. Rice is the foremost crop, grown in about 3.6 million ha area, which is 95 per cent of net sown area. Next to rice are pulses followed by minor millets, oilseeds and maize. In *rabi* (winter) season, area is under pulses, oilseeds and wheat. *Lathyrus*, chickpea, wheat and linseed are the main crops. *Lathyrus* (1.5 million ha) is grown as a relay crop in Chhattisgarh plains. In Chhattisgarh plain most of the land remains fallow for 4-5 months of the season. The region has enough possibility of residual moisture under rice based farming system. Presently, area under oilseeds and pulses in the state is about 12 per cent and the productivity is poor as compared to the national average. Productivity of oilseed and pulses is very low in this region because these crops are grown with minimum care, lack of technical knowledge, unavailability of improved variety seed, social constraints, lack of irrigation facilities, high input price, imbalance use of fertilizer etc. Considering all these facts into consideration 150 numbers of on farm trials were conducted during 2002-2004 under different villages of Raipur and Mahasamund district of Chhattisgarh to study the production potential of different crops after rice. In the trials early varieties of rice has been tried in kharif season followed by chickpea, lentil, coriander and fenugreek. The results revealed that the cultivation of coriander after rice was found quite profitable with the net return of about Rs. 12,000 per hectare.

Sustainable, Suitable and Stable diversified agro - enterprises to augment income of farm families under double cropping production system of Chhattisgarh State in India

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Rice production system occupies an important place in Chhattisgarh state of India where 80 per cent of rice is grown as rainfed. Productivity of rice is very low (10 q/ha) as compared to national and world average. At present, the available soil area after the harvest of rice is not judiciously utilized for the second crop. The cropping intensity of Chhattisgarh is 1.0. After the harvest of rice 1.0-1.2 million people migrate to neighboring state in search of employment. To increase income. First task was to introduce and convert the mono cropping area to double cropping. Encouraged practicing of early rice followed by chickpea, safflower, lentil and linseed crop results revealed average benefit of Rs. 8500/- per hectare was obtained. Various sustainable, suitable, agro enterprises were introduced in these farming systems. Edible mushroom cultivation during lean period (after the harvest of rice) may help farmers to create a subsidiary agro-based income source, permit best utilization of huge agro waste, within minimum investment fetch good amount of foreign amount of exchange to the state (Thakur, 2004). Alternatively, integrated farming system ensures food nutrition, optimum land and water usage, production profit and environmental security. In rainfed medium to heavy soils, rice-fish integration based on the principles of integrated farming has recorded highest rice grain yield of 3.63 tones per hectare and fish and prawn yield of 1.28 tones per season. Thus, rice-fish based farming system can be a sustainable and perspective enterprise for the small and marginal farmers of this state (Chouhan, 2004). Considering all these facts, 49 on farm trial on mushroom farming system and 84 OFTs on rice-fish farming system have been conducted during 2002-2004 in villages of Raipur and Mahasamund districts of Chhattisgarh state under the project "Technology assessment through Institutional village linkage programme". On perusal of the findings the farmers practicing rice-mushroom enterprises are earning an average annual income of Rs. 16,000 per hectare, whereas, farmers practicing rice-fish are getting Rs. 40,000 per hectare per year. 21 OFTs on goat rearing of improved breed Jamnapari is another profitable additional source up to Rs 21000/- per year. Similarly 26 OFTs of high-tech improved nutritious garden have provided an annual profit of Rs 11000/- plus nutritious food for the family. The farmers select various enterprises according to their socio economic condition.

Production in Greece

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cons and pros of the organic olive oil production in Greece. Also, the paper explores the factors that make farmers continue or not the production of organic olive oil. It was found that producers ignore the most recent methods

duction, also there are no organized centers for distribution and because there is no advertisement, consumers of the organic olive oil existence. The analysis of a generalised linear model showed that only the “Seminars” and “Human Labour” were significant in explaining the variation of organic olive oil productivity.

organisational culture and the food chain

ice.woodhead@brs.gov.au and Roger Packham,

food chain is increasing due to a number of pressures including trade liberalisation, global economy, explosion, demands of consumers and community concerns about the way agriculture is practised from and food safety perspectives. This aim of this paper is to discuss the use of systems methodologies to natural and social complexity inherent within a food chain taking the sugar industry in northern NSW Australia as an example. The outcome will be the identification of the role of culture in the creation of benefits for farmers and the building of resilience within the food chain system.

Theme 3 Knowing and Learning Processes

... transformed into agro-pastors by changing their systems to deal with drought and improving their living

AOUI Elhassane elhassaneabdellaoui@hotmail.fr

ture est un secteur d'activité privilégié pour notre objet qui est l'étude de la dynamique sociotechnique et du e visée du développement local et durable. Nous montrons dans cette étude comment des éleveurs plus en plus en agro-pasteurs à la suite de la sécheresse et la surcharge des hommes et du cheptel sur les relles des parcours collectifs, sont amenés à changer progressivement leurs systèmes de production et pports sociaux dans une visée d'amélioration de leurs conditions de vie. En se sédentarisant, les agriculteurs res mécanismes d'apprentissage et de nouvelles formes de connaissances autant dans leur rapports à l'espace, n de la production et des stratégies de commercialisation.

vision figée et homogénéisante de la paysannerie véhiculée par certains modèles sociologiques et par la agricole au Maroc, nous mettons l'accent sur l'hétérogénéité de la paysannerie et les aspects dynamiques de ble et de ses acteurs.

urs/agriculteurs évoluent dans un environnement physique et économique souvent défavorable à leurs manifestent de différentes stratégies pour améliorer leurs conditions de vie ou renforcer leurs acquis. En se e dynamique socioéconomique nous montrerons comment l'intervention étatique et des organismes ternationaux peut susciter et accompagner des projets de développement locaux en respectant l'équilibre de

e sur le terrain rurale de la Commune de Ben Smim, au moyen Atlas berbère marocain, ayant mobilisé uments de recueil d'informations, nous avons relevé que l'activité agricole n'est pas simplement une activité mais aussi de repositionnement des acteurs dans le système social. L'ethnique, le social, l'économique et le lent dans l'orientation des rapports de production. C'est pourquoi il est difficile d'isoler une pratique tres pratiques qui lui sont intimement liées et qui peuvent concerner d'autres domaines de vie des ne approche globale et dynamique des acteurs et de leurs activités est nécessaire pour développer l'économie t améliorer la situation sociale et économique des hommes et des femmes actifs dans le domaine agricole. le développement local durable en liaison avec les orientations générales de la stratégie du développement l au Maroc et les orientations des organismes internationaux pour diminuer la pauvreté dans les pays du sud ité entre les hommes et les femmes.

... and Challenges of learning and experience sharing processes in Farming Systems - an Indian

shreyas@yahoo.co.in et al.

highlight the experiences of SDC-IC projects focusing on farming systems, livelihoods and poverty alleviation.

... Rural Innovation System; Capacity to adress Food and Nutrition Security and Poverty,
yasekeram p.Anandajayasekeram@cgiar.org

paradigm shifts in Research for Development is embracing the notion of Agricultural Innovation Systmes

drawn from experienced practitioners from Sub-Saharan Africa, Asia, Latin Amerca, and the CGIAR system xperiences, lessons as well as the challenges

Methodology for assessing impact of farming systems groups (FSGs) in rural communities, Australia

a, Mark Fenton, Stephen Kelly

conceptual framework developed to explore impacts based on physical, economic, human and social capital
 qualitative methodology, followed by a debate to examine global learning opportunities, symposium colleagues’
 assessing impact in the broader rural communities context, and any likely limitations.

***Engaging into Photographers: Information and Communication Technologies (ICT’s) for the generation of local
 knowledge in the context of ecological small farmers’ agriculture, of the AGRECOL Andes Foundation of Cochabamba,***

lando@agrecolandes.org ,

process of farmers, women and men, learning how to document and diffuse their own ecological practices. Event
 photographs and texts.

***Small Farmers Through Capacity Building of Government Service Providers: Lessons from Short-Term
 Projects in Pacific Island Countries***

leiko.Bammann@web.de et al.

Technical Cooperation Projects (TCPs) funded by FAO have, in recent years, been used in a number of Pacific Island
 countries to promote the use of participatory farming system type approaches by governmental agricultural advisory
 services (research and extension). These have had the ultimate objective of helping small farmers achieve sustainable
 experiences with such projects are described and evaluated and, on the basis of these, an attempt is made to
 draw conclusions as to how best to implement such types of projects in the future, given the realities existing in the PICs.
 Recommendations will be given to the institutional setting, types of “external” support required, and the levels at which to base
 training and extension material for use not only in training sessions but also in interaction with farmers.

La décentralisation et la gestion des ressources forestières au Mali-Sud.

je.Bengaly@ier.ml et al.

À l’occasion de la décentralisation au Mali, une étude portant sur la situation actuelle de la gestion des ressources
 forestières dans la région de Sikasso, a révélé un conflit de compétence entre le conseil communal, le service des eaux et
 forêts et les exploitants forestiers. Pour lever ce blocage, les résultats ont montré qu’un cadre fonctionnel de concertation
 inter-institutionnelle était nécessaire, sans quoi l’aggravation de la dégradation des ressources forestières qui en résulte va
 avoir de graves conséquences pour la région.

Innovation for Sustainable Household Food Security in Millet-based farming systems in West Africa.

the@ier.m et al.

This is a successful collaborative and participatory action-research which enables farmers’ research groups for
 household food security of millet-based livelihoods through on-farm development and diffusion of integrated plant
 breeding technologies in rural communities.

Workers-farmer-to-farmer learning and organisation in the villages of Papua New Guinea

pdcoroka@global.net.pg , et al.

which could be a presentation to a round table/panel, is on the Village Extension Worker project, an extension
 mechanism of the government organisation Fresh Produce Development Company in Papua New Guinea. The
 project, established in 1999, aims through a network of village-based model farmers to provide producers in the villages with
 skills, information and confidence they need to make a viable income from their fresh produce. There are
 Village Extension Workers in five provinces in PNG, with over 55% of these being women.

Production Second: Training Farmers to Move Beyond the "Big Pumpkin Fallacy" to Customer

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ension and individual farmers' effort are devoted to growing produce which will not be sold due to customers or lack of customers. Training farmers to produce and provide services based on customers' s/needs will result in improve livelihoods if accompanied by enabling training in farm management, post-harvest handling including value adding. Lessons learned, training approaches, training materials and ared.

emerging small island nation in the Northern Pacific Basin with a small resource base.

Learning on land and water management: a practical field guide for FFS facilitators,

oud.braun@planet.nl and Sally Bunning

which is a set of experiential learning facilitator and training modules on land and water management for used for use and adaptation by government and project partners for improving land and water management by farmers

Institutionalisation of community-based experiential learning and empowerment – mechanisms and Guiding Global FFS Network and Resource Center)

oud.braun@planet.nl et al.

now exists in over 30 countries around the world, encouraging farmer learning in very diverse areas. Other organisations than FAO are implementing FFS, all of which require information in order not to re-invent the wheel. A need for a network, resource center and forum is of mutual learning interest to all stakeholders

Processes in the development of livestock farming systems of Northern Ghana, J. Bruce

[africaonline.com.gh](http://www.africaonline.com.gh) et al.

describes the progress, problems and triumphs of researchers and farmers in a participatory process of livestock farming spanning 10 years

Learning and Knowledge Transfer Systems Among the People of the Upper West Region of Ghana

[africaonline.com.gh](mailto:oud.braun@planet.nl) and Naaminong Karbo

the highly precarious environmental and food security situation of much of the undeveloped world, including Ghana, it is important for farmers to be informed about and make use of information and technology is important. This paper describes the efforts of formal extension services, be they governmental or NGO based and describes in some detail the learning and knowledge transfer systems of the peoples of the Upper West Region of Ghana.

is achieved by suggesting a possible 'door-of-hope' created through the opportunities provided by indigenous learning

Decision-making in transition to integrated farming systems in small watersheds in northeast Thailand

Multi-agent systems (MAS) model.

siobhan.kelly@fao.org et al.

The Multi-agent systems (MAS) model is being developed with farmers to aid decision-making in transition to integrated systems of crop-livestock systems in small watersheds through cattle intensification as a starting basis for investment in ponds, irrigation canals and tables

Learning Processes through Participatory On-farm Research: Experiences of the Lao-Swedish Upland and Forestry Research Program (LSUAFRP)

arscalub@yahoo.com, et al.

The Research/Extension component of the LSUAFRP uses participatory on-farm research methods to develop and recommendation domains based on indigenous and new knowledge that improves the sustainability and existing upland farming systems in Northern provinces of Lao PDR. Simultaneously, on-the-job training is provided to staff to strengthen their capacity to undertake participatory research and extension with Northern Lao farmers. Experiences and lessons learned over three years of implementation is presented.

Farmers' Knowledge Support Systems in Myanmar,

n.m.cho@agr.uni-giessen.de and Hermann Boland

This paper discusses knowledge and information systems in Myanmar, farmers' perceptions concerning sustainable agricultural systems, farmers' perceptions towards participatory extension organization development, needs of institutional coordination program, farmers' knowledge support system, monitoring and evaluation program, education and training discussed.

Decision Support System (DSS) tool for Small Farm Livelihood Systems,

christopher.j.comstock@nasa.gov

This tool transforms linear programming (LP) techniques used by small farm livelihood analysts directly into a Decision Support System (DSS): a user-friendly, graphical interface. This DSS, integrating Microsoft Excel and its Solver Add-in for linear programming, processes the LP methodology "behind the scenes" so the analysts can concentrate on the farm. The level of understanding of an LP and the use of MS Excel and the Solver is minimized.

Forest resources degradation in Ethiopia: Major causes, development attempts and future deliberations

et al. getnet74@yahoo.com

The challenges to properly manage natural resources and improve the livelihood of its citizens. It is therefore necessary to revisit resources management and utilization endeavors so as to correct failures and upscale successes.

Management Advice for Family Farms (MAFF) process in North Cameroon, a framework of mutual learning between extension agent and farmers

NANA djamenana@yahoo.fr and Michel HAVARD

The Management Advice for Family Farms process implemented in North Cameroon can be defined as an assistance for farmers during a learning process which progressively improve both farmer's behaviour and extension agents' performance.

Excellence: Exemplary Forest Management In Asia And The Pacific –Lessons For Agroforestry

rick.durst@fao.org

The Asia-Pacific Forestry Commission (APFC) launched the *In Search of Excellence: Exemplary Forest Management in Asia* initiative in November 2001. The objective of the initiative was to identify and document specific examples of forest management improvement in the management of forest areas in the Asia-Pacific region.

The initiative received more than 170 nominations from 20 countries. Thirty nominations were identified for further studies to assess experiences with regard to innovative management experiences, characterizing a full range of objectives, and representative of a broad range of countries in the region. The initiative was supported by FAO.

al Community Forestry Training Center (RECOFTC) collaborated in supporting the initiative, in cooperation with member countries.

a 3 hour mini-seminar on the agroforestry aspects of the *In Search of Excellence* initiative could be convened under the theme *Farming Systems and Poverty: Making a difference. A Global Learning Opportunity symposium*. The mini-seminar will review the initiative and share findings with respect to elements and factors constituting excellence in agroforestry. Four case studies would be presented to illustrate concrete examples of innovative and progressive agroforestry practices and approaches. Participants will have the opportunity to examine the elements of agroforestry that contribute to, or constitute, “*excellence in agroforest management*”, to discuss their own experiences with agroforestry management practices, and to consider opportunities for broader application.

Relationship between farmers and service providers,

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ence in Farmer Field School activities in Kenya the proposed sessions will focus on how attitudes, self-identity and confidence among resource-poor farmers and service providers change as farmers are empowered to take on more responsibility of extension (in demand-driven services), and how these changes impact on the relationship between farmers’ and service providers?

Livestock Working Group: Partnering for Improved Benefits of Livestock Centered Development

berwick@hsihsus.org, Sue Bertrand, Constance Neely

griculture and Rural Development (SARD) Initiative is a multistakeholder platform bringing together intergovernmental organizations (FAO, IFAD, ILO) and nine Major Groups in society identified as essential for development by governments at the Earth Summit in 1992. The Livestock Working Group (LWG) is a mechanism to promote multi Major Group/CSO, government and inter-governmental collaboration to share and coordinate activities and facilitate linking of local lessons learned with policymakers at national, regional and global level. It will function as a network of stakeholders working to raise the visibility of and attention to livestock issues and policies in SARD. Enhancing the capacity of rural communities to transition to and scale up good practices in livestock and wildlife management will be explored and relevant experiences, good practices and lessons learned at the Millennium Development Goals identified and articulated in policy arenas.

Experiences of NGOs and of governmental organizations - contrasting the experiences of FIDAMERICA and Grupo

cescobar@rimisp.org and Eduardo Ramírez

will describe and critically review the pre-conditions and potential of learning network when they are made up of NGOs (Grupo Chorlavi) and by governmental agencies (FIDAMERICA).

Familiar agriculture from the farmers’ organization point of view in the northern Costa Rica,

meneses@cirad.fr and David Meneses

farmers’ organizations in northern Costa Rica have launched different initiatives to strengthen their capacities. In order to formulate their own proposal of their familiar agriculture to face the challenges of the globalization and to receive more adequate supports from the public and private sector.

Initially, farmers’ organizations elaborated a participative process including different workshops with 15 farmers’ organizations to carry out a diagnosis and identify a global proposal, identification of think-tank with farmers’ organizations and technicians to synthesize the results, workshops with grass-root organizations to discuss the proposal, meetings with public institutions and farmers’ organizations at national level to present the proposal and to discuss a new dynamic, elaborations of projects to answer the short-term needs of some farmers’ organizations, etc.

farmers' organizations define the different roles of the familiar agriculture: incomes generation, food families, employments creation in the rural area, natural resources management, communities development, ing to the whole society, etc. The proposal includes 11 components from farms strengthening programs to icies reforms. As a result farmers' organizations strengthen their relationships between them, improve their ange the point of view of the institutions on their capacity to propose new mechanisms to agricultural sector, ts from different stakeholders. But is it enough to revert the strong globalization effects on the familiar

Decision Support System for the Economic Analysis of Smallholder Farming Systems in South Pacific

in management training and decision support systems for small farmers has declined in South Pacific urgent remedial action is needed. It does not lie with the development of improved training materials, which e adequate, although better training methods are needed to incorporate risk into decision making. We present ons for action through: more relevant and sustained training; enhanced institutional assistance and physical able for trainers and extension staff to do their jobs effectively; more enlightened use of techniques of ysis; and a more inclusive approach is adopted to support farmers' decisions.

Impact of agroforestry: Lessons from three sites in Africa and Asia

el@cgiar.org et al.

s recent lessons learned from attempts to scale-up agroforestry improvements, drawing on three case studies: n Kenya, improved tree fallows in Zambia and natural vegetative strips coupled with the Landcare movement es. Currently more than 15 000 farmers use each of these innovations. Based on an examination of the main ing their spread, 10 key elements of scaling up are presented. These include: taking a farmer-centred research approach; providing a range of technical options; building local institutional capacity; sharing knowledge and arning from successes and failures; and strategic partnerships and facilitation. Three other elements are scaling up: marketing, germplasm production and distribution systems, and policy options, although the three ects had only a marginal reliance on these. As different as the strategies for scaling up are, they face similar ilitators need to develop exit strategies, find ways to maintain bottom-up approaches as innovations spread, and how successful strategies can be adapted to different sites and countries, examine under which hey should scale up innovations and under which circumstances they should scale up processes, and the costs of scaling up may be reduced.

Community is passing on seed and information? Farmer to farmer dissemination of fodder shrubs in central

anzel@cgiar.org, et al.

w technologies has been widely studied but few assessments have been made of farmer-to-farmer that is, who in a community disseminates new technologies and how they do it. The objective of this study the degree to which farmer groups and their members in central Kenya disseminate fodder shrubs, what

g material they disseminate (seed, seedlings, and wildings) and to whom. With formal extension systems in out Africa, such information can help policy makers understand the degree to which farmer-to-farmer can substitute for or complement formal extension services and how to promote it.

Characterization in a community of artisan fishermen in the south of Brazil: the case of São Lourenço do Brazil)

pasquotto, vinicius@pasquotto.com.br Miguel and Lovois de Andrade

er is proposing a theoretical and conceptual approximation between artisan fishing and systemic approach. supposes that artisan fishing is, like agriculture, an activity strongly influenced by social and natural complex adequacy of systemic instrumental to the artisan fishing study must overcome a series of limitations found al and economical characterization level but also in the elaboration and execution of public policies for the

Institutionalisation of community-based experiential learning and empowerment – mechanisms and

Arnoud Braun arnoud.braun@planet.nl Cees Leeuwis Jim Woodhill and Guy Evers

approaches are being scaled-up and institutionalised at national level through million dollar projects. For such d institutionalisation to be successful important changes in implementation mechanisms and strategies are i implementation.

Research, extension, and education: multistakeholder collaboration, organizational development and the

neely@igc.org, Constance Neely, and Rainer Krell,

s the concepts and experiences in which transdisciplinarity and holistic approaches to research, extension and been or might be applied to enhance stakeholder responsiveness and farmer-driven outcomes

Conflicts to Promote Prosperous Farming Systems,

goebel@aboutlistening.com

space workshop to demonstrate a method to successfully resolve rural issues, resulting in more prosperous s. This experiential work has been used in numerous regions around the United States and Mali, West tly, the author is implementing these concepts in central Oregon to foster social, economic and ecologically systems in a six-county region.

ng to communication fidelity,

and Mymensingh and A Halim, dgbina11@bttb.net.bd

s study was to have an understanding about the factors associated with communication fidelity in relation to oduction programme. Twenty-one independent variables were selected for study following Q-sort method. ected from randomly selected 200 farmers residing in four unions of Gouripur upazila under Mymensingh y more than half (52 percent) of the respondent had high communication fidelity compared to 39.5 and 8.5 medium and low communication fidelity, respectively. A total of 46.43 percent area covered by modern Aman rice. Remaining 53.57 percent land area covered by local cultivars. The most important reasons for l varieties of rice by the farmers were: high level of stagnant water due to moderately low land and poor ies in certain area, lack of adequate water due to high land in some other area, late transplanting due to flood and less water holding capacity due to sandy soil. Pearson correlation test depicted that out of 21 ad significant positive relationships, while one variable negatively related with the communication fidelity. ed fifteen variables were: communicators' credibility, communicators' knowledge level, communicators'

skill, suitability of messages, profitability of messages, understandability of messages, electronic media use, personal locality, receivers' credit receipt, receivers' innovativeness, receivers' social participation, receivers' family education and receivers' risk orientation. Negatively related variable was receivers' family size. Results of stepwise multiple regression analysis revealed that seven variables contributed significantly to communication fidelity. These variables were: suitability of messages, profitability messages, receivers' credit receipt, print communicators' credibility, electronic media use, and receivers' family size. Out of these seven variables only family size contributed negatively. Other six variables contributed positively to the communication fidelity. These combined contributed 53.7 percent of the total variation of communication fidelity.

Communication in Uganda through farmer empowerment, informal adult education and demand driven advisory
 by Friis Hansen efh@diis.dk

From the fieldwork (300 hh questionnaires and qualitative interviews in Soroti district) from which I presented the results at the Neuchâtel meeting November last year. It is intended for submission as an article. On the basis of a rough well-being ranking (method developed at CIAT 1999), qualitative in-depth interviews and quantitative analysis, the article shows that two thirds of the members of FFS and NAADS groups have shifted from very-poor well-being status over a 4-5 years period. It describes the most common pathways out of poverty and reasons for this success story in terms of (i) farmer learning based on informal adult education principles (in schools); (ii) farmers' organisational and institutional empowerment (as members of FFS/NAADS associations/farmer fora); and (iii) changes in opportunity structures influence on content of extension and services available (NAADS and NARO reforms).

Communication and agricultural development: considering multiple dimensions
 by [hsrc.ac.za](http://www.hsrc.ac.za)

This article considers why research and extension agencies should focus on local knowledge and local innovations among farmers in Africa. Through the use of examples it explains this point and also points out why such a focus should concentrate exclusively on the technical aspects of local knowledge. Socio-cultural factors play an important role in this process. For support to be successful attention needs to be given to the socio-cultural dimension. To ignore this is a mistake of all involved in the development process.

Improving the Learning Process by Small Farmers: An Experience Using Illustration-Based Educational Materials in El Salvador, Central America
 by MMHARTMANN@ifas.ufl.edu et al.

This article discusses the use of illustration-based educational materials to facilitate the learning process by small farmers with a low level of literacy, taking into account for socio-cultural differences to develop audience oriented educational materials to improve their learning process.

Participatory Communication, Considerations for Effective Service Delivery: Using Participatory Communication to Gain a Better Understanding Farmers' Realities, by:
 by MMHARTMANN@ifas.ufl.edu et al.

This article discusses how validating farmers' cultural orientations and preferred communication styles is essential for effective service delivery. The considerations are the background for the conceptual model of participatory communication advanced in the article.

Using Farmers as Teachers to Build Rural Entrepreneurism and Increase Family Income
 by gan1@postoffice.ag.ohio-state.edu

monstrate how small scale farmers in a rural Appalachian region of Ohio are teaching other farm families (small farms, how to develop alternative agricultural enterprises in order to increase family income. This group (men and women) have developed the largest small farm educational program in the USA to accomplish their goal. The workshop will give ideas on how other rural communities can identify and train farmers to serve as mentors to farmers in rural communities who wish to develop alternative agricultural and natural resources-based enterprises as a tool to increase family income and reduce poverty.

Stakeholder participation, R & D, Policy making – what has Learning got to with these?

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The forum begins from the premise that the development of new modes of collaborative adaptive management involving scientists, consumers and stakeholders in the rural world relies also on the society's organisational capacity to carry out R&D. In the recent past, the development of the agricultures of industrialised countries has benefited from public and private backing to support the continuous productivity gains, which have characterised western agricultural research has played a prominent role in this. But the situation has now changed. No real consensus exists on the role of agricultures in European countries, and the funding of public R&D is under question in a number of countries. This creates a situation of uncertainty about the models of development, which would be able to meet the actual challenges that agriculture has to face. Meanwhile, it is clear that each country, according to its history and model of agricultural development faces this situation in various ways. Our point of view is that the forum is in itself challenging the professionals and practitioners of R&D. It addresses new questions to social scientists. Nevertheless the contours of this challenge and of these questions have yet to be adequately reflected and internalised within R&D and teaching. Therefore, our forum seeks to share experiences on the structure of the forum among researchers and practitioners within situations of learning and changes. The main research question that the forum addresses is how to involve diverse stakeholders in meaningful conversations, so that they engage in new ways of thinking and actions and outcomes that move farming and related industries toward a multi-functional agriculture.

Processes for systemic learning, research and change in complex systems

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The forum presents 6 case studies of multi-stakeholder learning groups which have been facilitated to create systemic change in institutions, industries and rural communities. Case studies include (i) PAR with farmers and scientists in Cambodia, (ii) Adaptive Management with rice farmers in Cambodia, (iii) Social Learning with practitioners in Tara, (iv) Multi-stakeholder learning in the Pork Industry, (v) Multi-stakeholder learning with conservation, consumer and industry groups in the UK, (vi) Participatory Conference Development with farming systems stakeholders for the Farming Systems Conference in Australia. Conclusions about facilitating multi-stakeholder learning with competing interests, across institutional/organisational boundaries.

Learning for people-centred development

shaban.Kelly@fao.org et al.

The Support Programme has conducted regional workshops in Latin America, the Caribbean, West Africa, Southern Africa and the Pacific. These integrated round table, tools bazaar and poster sessions will synthesise what is now working and what is not working based on the experience of field practitioners, and examine the implications for capacity building and policy development. The tools bazaar will show selected training tools and kits.

Knowledge in natural resource management to improve livelihoods and heal landscapes in pastoral and agro-pastoral communities: lessons from eastern Africa.

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” a traditional practice, which involve conservation of fallow and rangelands by encouraging vegetation Shinyanga Tanzania, reawaken development workers and researchers to importance of local knowledge in the management. In subsequent development and discussions on scaling-up it was realized that this traditional is common among most pastoral and agro-pastoral communities. There is “Lelwe” among the Gogo of Tanzania, “Lelwe” among the Maasai in Tanzania, “Amare/Ekwa” among the Turkana of Kenya, “Deso” in Afar Ethiopia and “Kelo” in Ethiopia. What is needed is recognition of the value of this local knowledge, combine it with science and technology to improve livelihoods and heal landscapes. The “Ngitili” case also underscored the importance of customary laws in instilling good stewardship of natural resources in communal tenure systems.

Realization of trans-disciplinary activities for rural livelihood development

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Presented of a workshop analyzing the potential and requirements of holistic collaboration at institutional levels for agriculture development in a rural livelihood context. Institutions need to develop special capacities and make structural adjustments to be able to create real, dynamic, long-term synergies through collaboration and integration, which are a necessity for sustainability in today’s market, sociological, political and knowledge conditions.

Simple farming: Educating the farmers simple principles of economics

ay@ivri.up.nic.in et al.

The situation of marginal and small farmers has stagnated at subsistence level due to lack of economic rational amidst the technology available to them in the developing countries. Educating them simple economic principles may lead to a shift towards commercial activity.

Peasant University for the Nordeste of Brasil"

Emilie Coudel

In the poorest of Brasil, the major peasant union (CONTAG) and a federal university (Universidade Federal do Rio Grande) have initiated together a pilot project : a peasant university. Based on the exchange between local knowledge and scientific knowledge, its objective is to stimulate the capacities of community leaders to implement development projects. Through a problematisation methodology, taken from the pedagogue Paulo Freire, the aim is to discover their own identity and culture. We will present the importance of the collective action in the learning process, and will discuss the possibilities of starting new similar experiences.

Peer-to-peer learning among farmer groups and service providers that are separated by large distances"

Development initiatives use participatory action learning processes as the principle mechanism to empower local people for the achievement of their objectives. How to organize local people for learning, sustain learning after external support, enhance communication between local groups, and how to get new ideas into local debate are questions that concern the managers and beneficiaries of such development initiatives. This round table will collect ideas and experiences from those who participate on issues such as:

1. The organization and running of a learning exchange network. The use of the internet to enhance the learning of groups that are separated by large distances. The new opportunities for rural business that emerge from operating learning exchange networks. Codes of conduct and patterns of behaviour needed to sustain peer-to-peer learning networks.

Participatory learning processes in a community based activity experiences in Laguna and Palawan, Philippines

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Like to narrate the author’s experiences in the conduct of participatory technology development in Laguna and collaborative management (ACM) in Palawan, Philippines. Any actual on-farm activity participated by

and other marginal groups in the community is an opportunity for learning. The challenges for the extension worker lies on sustaining the processes that maintains the participation of an individual or group over time enhance the skills and development until they reach the stage of self-sustenance. Various innovative approaches as innovators workshop, multi-stakeholder/participatory monitoring system (self-based and group oriented) seemed complicated but effective if properly done/conducted

Large effort

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the paternalistic client-orientation of rural development during the 1970-1980s. But, actually, we would like rural people learn and share experiences.

smallholder farmers community from middle-mountain area in France, we may analyse an on-going learning over years. This research concerns a farmers group which is trying to make and to sell local cheeses.

farmers took over a stiff formula for setting what they wanted to achieve, without previously getting a clear actual context.

they dealt to be unable to learn anything new (from visits they did or from studies they have ordered) which is a contradiction with formula. We can show gap between questions, which have generated exploration (e.g. "what do we need?") and answers given by knowledge exploitation (e.g. what they concluded about studies issues).

smallholder farmers decided to face reality, by full-size testing cheeses' sale at supermarkets. After this they had to revise their original formula.

tool in two steps. In first time, it allows us to locate the genuine formula. In second time, it allows us to close the gap between knowledge exploration and actual learning events, within a group. Then, we can use this tool, as a reflection approach, to improve group reflexivity about its own learning, before full-size testing.

focus on decision-making and helps to discover in what the group is able to do really (in given context) to achieve its goals.

In this paper questions public subsidies' liberality towards farmer's organizations. Because these subsidies are often for disorganized successive studies, which are quite unexploited by the principals. Instead of such liberality, we need assistance to lead a real "consensus building" approach, among the project participants.

Leadership capacity for sustainable rural development

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literature on "leadership" but not much of it has been applied to the field of rural and agricultural development.

We would like to make a good effort to do this at IFSA in 2005. We would explore investment in leadership as a means for achieving sustainable social change at individual, organizational and systemic levels. Look at the models and the

We would invite Gillean Martin-Mehers, head of training at LEAD International, a key person from ASHOKA (entrepreneurship), and perhaps a leader from Equator Initiative or winner of the Goldman Environmental Prize. I

will present our Environmental Leadership Program at UC Berkeley and lessons learned after five years. This

is the 2005-2014 UN Decade for Education in Sustainable Development, and I know someone we might invite

Leadership in sustainable agriculture : the example of the Sustainable Agriculture Farm Network in Midi-

pyrenees,

bernard.mondy@educagri.fr and Agnès Terrieux,

offer a testimony of a research combining farmers, farmers organizations and researchers about the way they share references in sustainability. How they share those references and practices among themselves, with extension workers of agricultural vocational schools (the purpose here is to induce new curricula), and researchers, in a process of knowledge producing. The testimony could as well be a poster or a presentation in a round-table or

Shaping Integrated Pest Management Knowledge and Practice

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Technology transfer is based on the assumption of autonomous individuals independently making behavioral decisions. In contrast, the idea of "social networks" is that people and technologies are interconnected in ways that reproduce some types of knowledge and behavioral practices and not others. Research from West Africa shows that farm level decisions are shaped off farm by type of network integration. Evidence from Farmer Field Schools in South East Asia are re-interpreted in light of the diversity of the social networks shaping Integrated Pest Management (IPM) decision making. Findings from social network analysis in Ukraine are also explored. The paper shows that social networks are not monolithic and, furthermore, that there is competition between network segments for appropriate IPM knowledge and practice. The paper recommends further research is needed to determine how social networks can contribute to improved technology transfer programs.

Field experience as a master trainer in the Farmers Field School (FFS) approach as adapted to the FFS approach from its origin in Asia. I

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I have been a master trainer in the FFS approach in the Philippines and then helped introduce the concept in Kenya by training master trainers, to date there are over 1500 "schools" in 23 districts in Kenya...the notion of its spread as a "bushfire" my master's thesis. Have worked with the Coast Development Authority (CDA) in the position of Agricultural head and National Coordinator and FAO consultant in the FFS in Kenya until my study in Wageningen. Currently I am in Wageningen university finalizing my thesis conducted in Kenyan coast of which I intend to share part of the outcome as a workshop: Farmer Field schools in Kenya: 'A bushfire in perspective' A case of livelihoods and participation of smallholder farmers in coastal Kenya. Looking forward to your response

Adaptive Management (ACM) in Practice: Lessons from Mafungautsi Forest Reserve in Zimbabwe

n.nemarundwe@cgiar.org et al.

Over the years we have seen the emergence and emphasis on people-centred approaches in developing countries as a means to ensure sustainable use and management of natural resources. In the forestry sector, recent management initiatives have emphasized active participation of local people, including in the management of reserved/state forests. However, many of these initiatives have been unsuccessful because little attention was paid to processes that facilitate conscious and joint learning and decision-making. In response to the lack of success of some initiatives aimed at fostering community participation in forest management, the adaptive collaborative management (ACM) research project was initiated in Zimbabwe in 1999. The aim was to add value to a joint forest management scheme that was in place around Mafungautsi Forest reserve managed by the Forestry Commission and local communities. The goal of introducing the ACM approach in this case was to improve the effectiveness of management practices, institutional arrangements and policies in order to promote sustainable forest management systems and practices for both human and ecological benefit. The adaptive collaborative management (ACM) approach emphasizes social learning in forest management through collaborative action, monitoring and reflection processes. This paper explores the contribution that ACM has made in Mafungautsi state forest in north western Zimbabwe towards improved forest management within a context characterised by multiple stakeholders with conflicting interests. The case shows that facilitating community participation in state forest management requires careful planning and negotiation related to shared goals, approaches for forest management, sharing of information and the development of platforms in which social learning takes place. The paper concludes that ACM processes can contribute to improved forest management in multiple stakeholder landscapes if sufficient attention is paid to the development of appropriate reflection and learning platforms.

Farmers begin to invent water saving cultivation in northeast Thailand.

Masato Oda seven@affrc.go.jp, et al.

A method of farmer-researcher partnership was developed which stimulated a farmers' group to respond to a researcher innovation that reduced dry season water use to 5 mm per crop by inventing themselves cheaper, environmentally-friendly technologies in companion plots. I will appreciate your consideration of this submission. I understand the symposium wants to organize panels to stimulate discussion. For that purpose, I would be willing to present this paper in a panel with other presenters reporting on new methods for farmer-researcher partnerships. I have also requested funds in my workplan to come with two of our farmer-collaborators. I can also present in an individual poster presentation. Please let me know what you would suggest, and if you have any questions.

I will look forward to your reply on March 31, and hope that we may have the opportunity to share our results with the global community of farming systems and participatory research professionals, practitioners, and stakeholders.

From Reductionism to Farmer Innovation systems: Implications for multi-stakeholder collaborative learning and client –orientation in Uganda.

Chris Opondo, c.opondo@cgiar.org, et al.

Research strategies have tended to be overtly commodity focused when promoting agricultural development as has been evident in the strategies of Green Revolution. These strategies have limited impacts on the intended beneficiaries as the complexity of their livelihood systems is ignored. The African Highlands Initiative (an ecoregional program), the NGO, Environmental Alert and the National agriculture Research organization (NARO) in Uganda have championed research approaches to research and development (R&D) that are intended to address broadly the components of the existing farming systems using participatory approaches (such as use of integrated and multidisciplinary teams, promotion of participatory research and farmer- led innovations processes, multi-institutional collaboration for synergistic partnerships). The above mentioned organization are striving to change the mindsets of those with whom they work, while emphasizing a new focus on broader impacts of new innovation processes including a critical assessment of the actors involved the R&D partnerships and how they learn from activities they engage in, as well as an orientation to impact by tracking and document changes that accrue in the process. This paper illustrates that the transition to promoting local innovation systems requires a total change in mindsets and in strategies for conducting formal research. The research has to be an integral part of the development process and not just for the seek of generating new knowledge per se. Moreover, it has to involve, with multiple stakeholders on account of the systemic nature of the diverse components that farmers are faced with. The competencies of farmers, and other R&D actors needs strengthening as new approaches such as action- research processes for equitable targeting and inclusion and sharing of benefits as brought on board. The papers draws insights crucial for embracing innovation systems, multi-stakeholder collaboration partnerships based on experiences gained in R&D initiatives in Uganda.

Strategies beyond peer-to-peer knowing and learning for cocoa quality improvement in PNG

Jane Ravusiro s4071645@student.uq.edu.au and Christine King

Earlier case studies showed efforts to address the increasing quality issues of cocoa produced in Papua New Guinea by smallholder farmers in particular led to considerable research and releases of new post-harvest technologies over the last decade. However, current trends have indicated that cocoa quality issues still exist and have been reflected in the increasing complaints by end users and the decrease in premium paid which has often affected smallholder farmers. This has presented opportunities to revisit previous learning approaches

and the relationship between researchers and farmers in addressing quality and smallholder cocoa farming systems. This paper will present work in progress on strategies developed to strengthen entrepreneurial capacity for peer-to-peer knowing and learning. Given the time and resources spent previously on learning which was ToT oriented, peer-to-peer knowing and learning may not be enough therefore, the strategies will aim to address learning between institutes and smallholder cocoa farmers as well as challenging how different stakeholders can learn and work in addressing quality.

Incentives are not enough”: Could knowledge gaps vis-a-vis natural resource management be constraining rural livelihoods?

Dr. Jules R. Siedenburg jules.siedenburg@linacre.ox.ac.uk

Given the juxtaposition of widespread natural resource ‘mining’ with limited farmer adoption of seemingly advantageous ‘sustainable agriculture’ practices, several authoritative authors have recently identified adoption of such practices as the pivotal issue facing agriculture in ‘low potential’ areas. Typically, constraints to adoption are framed in terms of the incentives facing farmers, such that given existing resource and institutional constraints failure to adopt is seen as privately optimal. By contrast, the paper reports on recent doctoral research examining the possibility that the local knowledge informing farmer’s management of natural resources could be problematic under certain circumstances, causing farmers to neglect emerging opportunities and threats.

The evolution of a participatory learning approach for agricultural nutrient management in the northeastern United States

Walter Smith, walter.smith@ct.usda.gov et al.

Three projects relying on a participatory research and learning approach for agricultural nutrient management have evolved into a program entitled Farmer Research Groups. Within this setting, problem identification, research development and solution implementation are managed as a participatory process, led by farmer groups with technical assistance from the research and technical communities. The overall objective is to overcome technical hurdles associated with on-farm change in the management of agricultural nutrients, but the program has evolved as it has become evident the technical hurdles are not as great as the social hurdles to obtaining behavior change related to conservation implementation.

Forming a farmer experimental group to develop technology for integrated farming in rainfed northeast Thailand.

Uchada Sukchan Uchada_au@yahoo.com et al.

We describe a process begun from 2003 in which farmers and researchers have jointly identified needs, established a common research agenda, formed a farmer experimental group, and carry out on-farm research on integrated farming for vegetables, fruit, livestock, and rice.

I will appreciate your consideration of this submission. Please let me know if you have any questions. I will look forward to your reply on March 31, and hope that I may have the opportunity to share our results with the global community of farming systems and participatory research professionals, practitioners, and stakeholders.

Theme 4 Development Strategies, Pathways, and Synergies

Agro-Advisory Services based on Medium-range weather forecasting in the new alluvial zone of West Bengal, India

Saon Banerjee and S. A. Khan sbaner2000@yahoo.com

In the era of global warming and climate change, erratic rainfall-pattern poses a threat to the farmers of any rain-fed farming region as the water-requirement is concerned. Again, during transplanting of rice, the diurnal range of temperature plays a crucial role. Wind speed governs the pesticide spraying schedule. Hence, there is an ever-increasing demand for accurate weather forecasting to the farming community. Since 1994, the demand is fulfilled in the New Alluvial zone of West Bengal, India through the establishment of weather based agro-advisory services by National Centre for Medium Range Weather Forecasting (NCMRWF), Dept. of Science & Technology, Government of India. The main objective of the centre is to publish and disseminate the agro-advisory bulletins prepared on the basis of weather forecasting and current weather situation.

The main achievement of the centre is that the farmers of the nearer locality participate in weekly meetings where they get necessary advices on adjustment of different cultural practice according to weather forecast. Feed-back survey is carried out each year to evaluate how much the agro-advisory are utilized by the farmers. Study carried out from 2000 to 2004 revealed that about 12.9% of the farmers rated the weather based agro-advisory service as excellent, 67.7% as good and very good, 9.7% as satisfactory and rest did not answer. The farmers utilize rainfall forecast from different mass media sources, mainly radio, apart from the bulletin published by the agro-advisory service unit. All farmers under survey agreed that the bulletin is too much useful for planning their field operations like sowing, transplanting, irrigation, spraying of pesticides, fertilizer application etc.

Difference as a resource for sustainable agricultural development: Responding to the globalisation of modern agriculture by supporting local agrobiodiversity

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The dominant modernisation approach to agricultural development fails to sufficiently value the diversity that exists within social and ecological systems because of the need to maximise short-term goals of profitability and productivity. While there are substantial advantages inherent with the increasing interconnectedness and mutual responsibility associated with globalisation, it is vital that an inability of the modernisation approach to incorporate the diversity of societies is recognised. An alternative evolving Human Ecology paradigm, which focuses on the multifunctional values of agriculture, including the inherent value of difference between and within agricultural systems, provides a framework by which economic development could go hand in hand with social and ecological sustainability

Bonnes pratiques de formation pour un projet de développement rural : L'exemple du Projet Emploi Rural en Algérie

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Cet article est basé sur une pratique algérienne de mise en œuvre d'un projet utilisant les techniques et les outils de l'approche participative. C'est le résultat de plusieurs années d'encadrement et de formation des personnels de différentes administrations du ministère de l'agriculture, en particulier l'administration des forêts, et des membres d'associations. Il présente une synthèse des acquis, des méthodes utilisées, des résultats obtenus ainsi que des insuffisances et des bonnes pratiques pour l'amélioration des projets à venir conformes à la réalité de ces terroirs. Seront présentées et analysées les différentes activités et leurs résultats, ainsi que les principales difficultés rencontrées sur le terrain par les formateurs et les agents de développement dans la mise en œuvre des outils de la méthode. Enfin nous concluons sur les conditions nécessaires à la réussite d'une telle approche et les adaptations requises au niveau institutionnel pour l'harmonisation des stratégies d'intervention en milieu rural et la création des meilleurs cadres de concertation avec les partenaires

La plasticulture itinérante dans les Ziban (Algérie)

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Le maraîchage et la phoeniculture connaissent essor important dans la région des Ziban. La volonté des pouvoirs publics, à travers les différents plans de développement de l'agriculture saharienne, en plus de la disponibilité des eaux souterraines et l'accumulation d'un savoir-faire local expliquent cette expansion. On rencontre, dans cette région, les dynamiques agricoles les plus grandes, caractérisés par l'extension des périmètres phoenicoles et l'introduction de nouveaux systèmes de production, cultures légumières sous abri et de plein champs en plus de l'arboriculture fruitière. Par ailleurs, l'environnement socioéconomique de la production empêche sa valorisation optimale, notamment la transformation et la distribution. La désorganisation des marchés locaux privent les agriculteurs de restituer leur marge au profit d'une multitude de commerçants intermédiaires. L'écoulement de cette production dans les marchés extérieurs pose des problèmes liés à l'organisation, à la stratégie des producteurs et aux conditions d'accès. Les plasticulteurs, de cette région aride, sont mal connus, leur stratégie de production et de pénétration du marché doivent constituer l'élément clé pour la mise au point d'une politique de développement durable répondant aux préoccupations locales et au respect de l'environnement.

Plan de développement pastoral participatif en Tunisie centrale

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Cette communication aura pour objet les résultats d'une étude réalisée dans une petite zone en Tunisie centrale. Les objectifs de cette étude étaient d'une part, d'établir un diagnostic de la situation agricole de la zone et d'autre part, d'élaborer un plan de développement participatif à partir des résultats du diagnostic. Un profil historique de la zone a été réalisé pour mieux comprendre la situation actuelle de l'agriculture. Dans le passé, l'activité principale était le pastoralisme. Au fil du temps et sous l'effet d'éléments divers, les systèmes pastoraux ont évolué vers des systèmes d'agriculture associée à des élevages ovin et caprin. Compte tenu des ressources fourragères limitées dans la zone et du fait de la dégradation de la nappe alfatière, le plan de développement pastoral participatif, tel que cité dans les termes de référence de l'étude, devait apporter des solutions pour le maintien de l'activité pastorale. Compte tenu de la réalité du terrain, un plan de développement participatif basé sur des actions agricoles a été, en définitive, préconisé.

Identifying strategic development pathways for African agriculture

Prem Bindraban Prem.Bindraban@wur.nl et al.

Any agricultural production system that could be pursued for the development of sub-Saharan Africa should target the millions of small and resource poor farmers to ensure widespread development, while it should comply with international standards and developments in agriculture. The understanding of the evolution in agriculture in the developed world that results from external and internal forces is valuable for identifying strategic agricultural development pathways for Africa. The complex and diverse African agriculture may appear to be an asset instead of a constraint to comply with these local and international demands.

Co-existence between Genetically Modified, conventional and organic crops

Birte Boelt, Birte.Boelt@agrsci.dk & Lise C. Deleuran,

With the rapid introduction of genetically modified crops special attention should be given to farming systems that use local varieties from possible gene flow. The supply of pure traditional seed for organic agriculture, as well as farm-raised seed, is of specific concerns.

Animal Feeds For Smallholder Farms In Southern Laos

Bounphavanh Kanyavong and Arsenio D. Calub, arscalub@yahoo.com

The Agricultural Development Project, IDA Credit 3509 LA, is a four-year irrigation rehabilitation cum-livelihood enhancement and poverty alleviation activity in four southern provinces of the Lao P.D.R. The project involves 21 irrigation schemes ranging from 30 to 2,000 ha for a total 7,000 ha directly benefiting around 10,000 households and material assistance to 5,000 poor families. Participatory Rural Appraisal and informal feed inventory prioritized promotion of feed production on-farm and in home gardens: for non-ruminants-food cum-feed crops, in descending order: yellow corn, cowpea, pigeon pea, sweet potato, cassava, and coconut; for ruminants- *Leucaena* and/or *Gliricidia* plus sugarcane forage.

A sustainable innovative yield booster in rice farming system in North Western zone of Tamil Nadu, India

M.N.Budhar, mnbudhar@rediffmail.com et al.

System of rice Intensification (SRI) or single seedling method of rice cultivation could address solutions in increasing productivity and efficiency in rice farming system in North Western zone of Tamil Nadu, India. SRI conducted in 100 farmers holdings could reveal the enhanced yield potentiality by changed management practices by “learning by doing” by farmers with innovative attributes like less seed rate, less water, and less area for nursery. Concrete and visible status differences were seen in terms of higher yield, increased income, more water saving, enhanced soil fertility with improved fertilizer use efficiency at micro level. At macro level enhanced standard of living and food security maintained with sustainable livelihood in the adopted areas. Thus, SRI could act as yield booster coupled or compatible with agro ecological system of North Western zone to empower the subsistence rice farmers with enhanced socio economic status. SRI-a sustainable innovative yield booster in rice farming system in North Western zone of Tamil Nadu, India

Sustainable Development of Arid Lands Through Appropriate and Innovative Farming Systems and Rational Use of Water Resources

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Adopting Appropriate and innovative farming systems designed to secure the rational and optimum use of the available soil and water resources with varied qualities and conditions would provide the badly needed scenarios for the small farmers that could secure sustainable development of resource base with optimal socio-economic returns and minimal environmental hazards.

Rôle de l'accès aux ressources naturelles communes dans la réduction de la pauvreté; Cas des parcours collectifs au Moyen Atlas, Maroc

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Dans la région du Moyen Atlas (Maroc), les ressources naturelles communes ont souvent offert aux différentes familles une source de revenu non négligeable. À un moment d'abondance relative de ressources pastorales, des familles venant du Sud du pays trouvaient refuge dans une cette région hospitalière. A travers un long processus de changement (croissance démographique, mise en culture de terres collectives...), ces ressources sont devenues de plus en plus rares. Les parcours, placés sous tutelle de l'État, font l'objet de processus d'appropriations individuelles qui menace leur durabilité. En disposant de moyens propres pour abreuver le bétail, les gros éleveurs s'approprient les meilleurs parcours ; inaccessibles pour les petits troupeaux qui sont ainsi repoussés vers les marges. Aussi, les petits éleveurs sont contraints de recourir à d'autres ressources pour subvenir aux besoins de leurs familles. Les ayants droit sans élevage se voient interdits par les gros éleveurs, de recourir à des associations d'élevage avec des « étrangers ». Ainsi, on tentera, à travers cette communication, sur la base de l'étude de dynamiques de systèmes de production (réalisée dans un village de Moyen Atlas), de monter les différentes stratégies développées par les paysans pour faire face à un milieu de plus en plus contraignant, en relation spécialement avec l'utilisation de ressources naturelles. On intégrera aussi le cas des paysans sans terre. Sur la base de l'étude des perceptions locales d'une gestion durable des parcours chez différentes catégories d'acteur, on tentera de montrer différentes façons de concevoir des alternatives chez la population locale. Ces perceptions sont à mettre en parallèle avec la conception étatique du développement pastoral dans le but de comparer les différentes logiques en présence. On essayera enfin de montrer, qu'en l'absence d'une approche globale de la question des ressources naturelles qui intégrerait l'ensemble des logiques en présence, il serait difficile de concevoir un développement équitable des zones de montagne. En effet, le développement pastoral ne peut être réduit à un projet d'aménagement visant l'augmentation de ressources fourragères produites par unité de surface. La gestion durable ne passerait-elle pas par une réappropriation collective et dynamique de la ressource. Pour cela, il est peut être temps de concevoir des projets de développement qui prennent en compte les différentes catégories d'acteurs locaux pour un développement plus équitable qui réduirait les inégalités sociales. Ainsi, les ressources communes peuvent offrir une chance pour une vie meilleure pour les plus démunis de la société

Harnessing the Power of Partnerships in the Marketplace: Using a Learning Alliance for Agro-enterprise Integration into Agricultural Recovery

Rupert Best (Rupert.Best@fao.org), Tom Remington, Shaun Ferris and Mark Lundy

CIAT and CRS have developed a long term Learning Alliance, based on the concepts of market engagement to meet the needs of rural households living in extreme poverty, that is transforming how both institutions work. Through this process CRS has shifted from a supply side approach to disaster recovery, with an emphasis on food security based sustainable production, to the application of a market orientation. This new approach is being applied at the outset of recovery interventions; leading to better profiling of rural households and the identification of appropriate market opportunities and focused agro-enterprise support. Disaster affected producers are linked to markets, in a process that strengthens their agro-enterprise capacity, increases smallholder income and resilience to future shocks. The result has been an evolutionary process of co-innovation and mutual learning between CIAT and CRS, which connects research with development and provides a bridge between disaster recovery and development.

Livelihood diversification and other strategies to improve food security, income, diet and health and local capacity of vulnerable populations in Uganda,

Lorna Michael Butler lmbutler@iastate.edu et al.

The poster describes the evolution of Iowa State University's Sustainable Rural Livelihoods Program and the sustainable livelihoods (SL) concept, describing how the multi-dimensional SL approach is used to guide processes for partner identification, program planning and implementation, and monitoring and evaluation. The SRL program, initiated in Uganda in 2003, partners with a national NGO and an established university to engage local farmers and leaders in technology adaptation, capacity strengthening workshops, farmer-to-farmer training, and other participatory activities aimed at livelihood diversification.

Precision Agriculture; Best Alternative Approach for Sustainable Agricultural Development

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Information management and its use in practical decision making at the farm level will be the foundation for sustainable agriculture in the new millennium. Precision agriculture provides a sustainable agricultural system that allows farmers to use resources efficiently and develop and maintain complete input and output records. It is a knowledge-based technological management system capable of optimizing farm profit and minimizing agriculture's impact on the environment.

To establish the technology of precision agriculture as a common practice, there is need to develop transferable guidelines and principles for decision making in crop management. This requires both attentions to the specificity of crop production (i.e. crop rotation) of the field. High economic efficiency and ecological benefits are ensured now a days only by integrated crop production techniques. Precision agriculture can significantly increase economic and also ecological efficiency of crop management. So, steps must be immediately taken to introduce precision agriculture in Bangladesh.

Corn-livestock integrated farming system in selected corn growing areas in the philippines.

Dr. Cayetano C. Pomares, arcdp@philonline.com

The utilization of corn for poultry and ruminants has been explored thoroughly in corn farmers field in Guitawan, Arakan valley, North Cotabato and Alamada, North Cotabato.

The technology resulted to the upgrading and market potentials of Kabir and native chicken as added income to corn growers at the time that their corn is still not harvested.

The biotechnology of utilizing corn as soilage and silage as feed for goats, sheep and cattle on feedlot has resulted to the improvement of the average daily weight gain of the animals and has increased the market potential of the stock. Corn growers in the same token, increased the market value of the grain corn growers since price for grain corn is never stable. The whole corn plant is marketable at steady price and has shorter wait until harvest. Thus, the livestock and corn growers has increased their income.

The generation of these technologies resulted to the adoption of beneficiaries of the Department of Land Reform (DLR) under the livelihood project as Agrarian Reform Communities Development Project (ARCDP2) in answer to their mandate to raise household incomes and the quality of life of the project beneficiaries by improving their productive assets, rural infrastructure and their access to key support service. One of this support services is a biotechnology on small ruminants on breeding and genetics as artificial insemination which would develop the genetic potentials of their goats as source of breeders, meat and milk. The project is now implemented by the Dole Agrarian Reforms Beneficiaries Cooperative Incorporated at Project 70, Tupi, South Cotabato; ARC Batanes Province with the Ivatans; ARC Misamis Occidental and outside the DLR, Municipality of Naujan, Oriental Mindoro with the Mangyans; and Lupa, romblon, Romblon.

Small livestock for landless and small farmers: Improving farmers' lives through improved goat production practices in India

Mahesh Chander mahesh64@email.com & H.P.S.Arya,

Goat production offers a good opportunity for poorest of poor in rural India, who have very limited options for livelihood. An action research experience of working with goat keepers in 6 villages of Northern India has been discussed.

Smooth Transitions from Relief to Reconstruction and Sustainable Agriculture

Maja Clausen, maja.clausen@fao.org and others

The overwhelming response to the tsunami disaster brings into question the dynamics, coordination and linkage of activities. These can be looked at from a household and community livelihoods perspective, and also from the perspective of higher level stakeholders.

Land, water and forest resources degradation in Ethiopia: Major causes, development attempts and future deliberations

Getinet Desalegn, getnet74@yahoo.com et al.

Ethiopia is facing challenges to properly manage natural resources and improve the livelihood of its citizens. It is therefore important to revisit resources management and utilization endeavors so as to correct failures and upscale successes.

Presentation (English or French): Tool of Scheduling in Projects aiming at promoting sustainable intensification of a big ladder Agriculture, by: Bougouna SOGOBA, Agronomist The results of five (5) years of experience between the African Division of the IFDC and its partners for the project ' Embedded Management of the soil Fertility (GIFS) in seven (7) countries in West Africa, the technical note below indicates logical settings of the first two

stages of a three stages project cycle. It has to be himself a scheduling tool to follow-up and assessment of the programs aiming at promoting a sustainable intensification of Agriculture in the areas strategically chosen. The logical settings are conceived in order to suit the mutual training between actors and ' facilitators' organizations. This training concerns the technical aspects (options of fertility management), institutional and economic ones (reinforcing farmers' organizations and other actors, fertilizers supplying, agricultural products sellers, credits and saving structures, agricultural policies). It is mainly based on two training cycles, called DATE/R for Research - Action and DATE/E for participative vulgarization (NB. DATE = Diagnosis, Action Planning, Trying out, Assessment, /R = Research, /E = Extension). The Settings include only objectives, required results (at short and long terms) and indicators - activities depend on specific circumstances of every area the collected results. The settings permit to lead to the collection, the analysis and the data interpretation viewing to inform the different implicated parts. The formulated indicators have the privilege to be simple, measurable with a doorsteps quantification wished to reach to the foreseen results regarding the factor steps in the time. They also take into account the level of involvement and the degree of understanding of various actors.

New potato planting technique with rice straw mulching under no-tillage in rice –potato cropping system

Zhu Defeng, zhudf@mail.hz.zj.cn et al.

Potato seeds are put on the raised bed of rice field under no-tillage after the harvest of rice. One application of fertilizer or organic manure is practiced and bed is mulched with rice straw. Weeds will be controlled with rice straw. At harvest season, 25 to 30 t/ha of potato can be collected taking out the decayed straw. That is easy, labor-saving , sustainable and high-yielding potato planting technique suitable for small household in rice growing area.

To fight against the hunger and poverty by the agropastoral: contributed to the development in DRC: Case of the cultures around the Field and Hunting preserve of Bombo Lumene in Kinshasa,

Dr. Pierre Boyzibu Ekhasa, ekhasa@yahoo.fr

The DRC is potentially rich in natural resources, but without food safety. Poverty and the hunger are accentuated by the diseases and are at the base of the daily fight for the survival of the populations. To improve the operating system of these resources: it is to reduce poverty and to contribute to the economic development and the protection of biodiversity

The plantation of acacias as source of returned for the local population around BOMBO LUMENE's protected areas in Kinshasa

Pierre Boyzibu Ekhasa ekhasa@yahoo.fr

In Kinshasa, more than 90% of the population uses the charcoal and the firewood for cooking and in the factories of transformations. The cuts of wood are carried out in the some forest galleries around Bombo Lumene's protected areas which are at the same time soils for fields of several food crops. Whereas the exploitation of the natural resources out of peripherals of the surfaces protected in Democratic Republic of Congo, does not occur without ecological impacts on fauna and the flora. With Bombo Lumene's protected ares, in the bordering village soils of the forest classified of this one demographic growth, poverty, the search for ember and firewood, the bad management of the natural courses and lack of water point; contributed enormously to the destruction of this forest ecosystem which still shelters some animal

species. The surrounding population prefers more and more to occupy the forest galleries for field and work for the perennial cultures. This is why, the safeguarding of the forest ecosystems in the surfaces protected in DRC implies the integral participation of the local communities to prevent that those can be given to their destruction and consequently contribute to their own poverty.

The plantation of acacias around Bombo Lumene areas allows:

- to protect the vegetation from this Field,
- to increase the financial incomes of this population by the production of and charcoal firewood,
- to make perennial cultures,
- to fight against the turning into a desert,
- to shelter certain animal species,
- to decrease the human pressure on the destruction of fauna and the flora.

This forest of acacia became a true factor of development for this local population.

To rationalize the exploitation of this forest, is: to promote the development of this population and at the same time and to fight against poverty

Using ethnographic linear programming to assess natural resource management alternatives among smallholders in the Western Amazon

Maria DiGiano, mdigiano@ufl.edu

My research utilizes ethnographic linear programming (ELP) to model and understand extractivist and colonist livelihood systems in the Western Amazon. ELP models are used to project various natural resource management scenarios and assess their potential differentiated impacts on income generation and forest cover for diverse households. Preliminary results show that the viability of natural resource management alternatives is differentiated among households within the same livelihood system

Butterfly Farming: A Sustainable Micro-Enterprise Model for Biodiversity Conservation,

Thomas C. Emmel, tcommel@flmnh.ufl.edu et al;

Butterfly farming and ranching provides a community-based enterprise model to directly link natural resource conservation and rural economic development through the sustainable utilization of available biodiversity. Resulting ventures can directly enhance individual and community earning potential, diversity local tourist opportunities, catalyze environmental educational initiatives, and stimulate positive attitudinal paradigm changes. The current global market for living or papered butterfly material substantially exceeds 200 million U.S. dollars annually.

Multi-use landscapes in the U.S.: Developing new synergisms between wildlands and farmlands,

Tara Pisani Gareau, tarapg@ucsc.edu et al.

Historically, agricultural production goals and wildlife habitat conservation have been highly polarized, with 'clean farming' as a dominant preventative approach to pest management and 'human exclusion' as the dominant approach towards conserving ecologically sensitive lands. Results of this polarization have been the continued reduction of wildlands and associated biodiversity, reduction in ecological services necessary for agricultural productivity, and overall tension between environmentalists and farmers over land ownership and use. An emerging trend in the U.S., in which farmers, conservation organizations and extension agencies are forging partnerships to conjointly restore and conserve natural vegetation at landscape scales may provide a framework for resolving these ecological and social issues. We investigate the role of US agri-environmental policy, specifically the implementation of conservation and agricultural easements, in facilitating these new partnerships and ecological outcomes.

Fortalecimiento del Programme de desarrollo de las Montanas Cubanas

Ramon Gonzalez

This presentation describes the experience from an FAO supported project to enhance the service provision of a multidisciplinary extension programme serving the mountain areas of Cuba. Content will focus on the underlying process of extension, and the coordination and partnerships of the various extension government and non government agencies. extract:

Por lo que se acuerdo reforzar en los extensionistas actuales y en su trabajo cotidiano el concepto de "dialogo horizontal" y el "intercambio de saberes". por lo que "proceso" implica el acompanamiento de los productores por parte del facilitador en la evolucion de la apropiacion tecnologia a partir de su propia experiencia y de esta forma ir avanzado el empoderamiento de su propia capacidad. Es importante senalar que el facilitador en este proceso de acompanamiento crece al ir aprendiendo la otra parte del concocimetino no academico

Participatory on-farm trials and demonstrations in support of improved food security and agriculture productivity – experiences and lessons from the South Pacific Island Region

Dr Danny Hunter, and Heiko Bammann, Heiko.Bamman@fao.org

The paper summarizes experiences made in the implementation of participatory farming systems type projects in the South Pacific island region over the past years. The authors will compare two different implementation models used: a region wide (regional) project and a series of nationally implemented projects. Small farmers are the focus of both approaches and the work is implemented through national (government) advisory services, with an aim to closely collaborate with non-state actors. The paper will make an attempt to describe what works, what does not work, why it does not work and what could be done to be more efficient and effective in supporting small farmers agriculture in island countries.

Assessing the potential impacts of environmental service payments on household income and land use among smallholders in Brazil's western Amazon

Maria DiGiano mdigiano@ufl.edu

The potential impacts of environmental service payments programs on smallholder livelihood strategies are understudied to date. With recent attention and funding directed to such initiatives, ethnographic linear programming models provide a tool by which potential impacts may be projected and studied. This study examined the potential impacts of Proambiente, recent payments for environmental services (PES) initiative in the Brazilian Amazon. Proambiente seeks conserve forests and alleviate poverty by providing incentives to rural producers, through environmental service payments, technical assistance and credit, to maintain or adopt sustainable resource management practices. The complexity of Proambiente's objectives and the socio-economic, environmental and cultural diversity of the Amazon require research tools to attain a keen understanding of the livelihood systems of rural producers and to project and compare potential impacts on poverty and forests. The study used ELP models to project 5 scenarios, including a "business as usual" scenario and different policy scenarios in order to compare their impacts on forest cover, pasture and incomes over a ten year time horizon. For the scenario in which smallholders received environmental service payments for maintaining forest cover as mandated by federal regulations, the results generated by the models showed that payments improved smallholder income; however, they did not slow deforestation rates and in fact provided capital for further investment in cattle ranching. When payments were linked directly to the implementation of agroforestry systems, incomes increased, deforestation slowed and cattle production decreased. Research showed that PES programs in the Brazilian Amazon may have the potential to both conserve forests and alleviate poverty when payments act as incentives to adopt specific natural resource management practices and are packaged with appropriate technical assistance.

The changing land use system on Vertisols in Kenya: challenges and opportunities,
E.C. Ikitoo et al. scienceprep@yahoo.co

Vertisols, the heavy clay soils found mainly in semi-arid areas of Kenya are traditionally used for extensive livestock grazing but with increasing human population and emigration of people from humid to semi-arid areas, they are now increasingly being used for arable cropping. Due to difficult physical properties, they pose severe tillage and other management problems. This is a challenge to researchers but could be a great opportunity to improve production. The paper will review some of these aspects and present data on improved management technologies.

Improving rural livelihoods through efficient on farm water and soil fertility management (in Tanzania)

Andrew K.Kabanza, kkaggwa@yahoo.co.uk

Under rainfed agricultural systems, enhanced water productivity is possible through improvements in water and soil fertility management, agronomic practices (eg conservation tillage) and use of improved genotypes of food-feed crops. In most of the semi-arid tropics of Africa and Asia, the nexus of water and feed limitation is the primary constraint to effective crop and livestock production. There is a need through integrated and participatory multidisciplinary research to identify constraints of agricultural production and disseminate low-cost farming technologies that can improve water productivity to benefit smallholder farmers.

Potentials of tree domestication to improve carbon sequestration and farmer livelihoods in smallholder production systems of the humid forest zone of the Congo basin.

J. Kanmegne, j.kanmegne@cgiar.org et al.

A strategic integration of valuable indigenous fruit and medicinal tree species in land uses along the slash-and-burn chronosequence, and the development of market opportunities for tree products at local, regional and international levels, can significantly reduce land degradation, and reduce poverty in rural areas of the humid tropics.

Building a Sustainable Community Food System in Seattle and King County, Washington, USA: Developing a Local Food Policy Council

Sylvia Kantor Sylvia.Kantor@METROKCC.GOV

A Seattle/King County food policy council will provide a role for city and county governments, in partnership with private sector (for- and non-profit) organizations, to play in decreasing food insecurity, improving health, and increasing the sustainability of the local farm and food system. Such a public-private partnership will undertake a comprehensive food system assessment in order to identify priority areas for developing policy and program recommendations, educating and engaging the public, leveraging resources for food system improvements, and strengthening linkages among food system components.

Complexity in Farming systems, livelihood and Natural Resource Management, a case study in “Bazoft Watershed” in Iran

Esmail Karami, e.karamidehkordi@reading.ac.uk Dehkordi and Chris Garforth

This paper is to discuss complexity aspects in natural resource management (NRM) by understanding nomadic and rural communities' farming systems and livelihood and the intervention and policies on NRM. It is also to identify what kind of potential obstacles there may be for managing this complexity. For this purpose, a case study was used in Bazoft, one of the watersheds/catchments of Chaharmahal and Bakhtiari Province in Iran.

Health Hazards Associated With Occupational Exposure To Pesticides

Givi Katsitadze, ekotox@myoffice.ge

The process of economic and political transition in Georgia caused severe health and environmental problems. Especially it is concerned with the intensive using of pesticides. This point necessitates to prognosticate and evaluate occupational health hazards related to pesticides. Covered in this study are 42 farmers occupationally exposed to pesticides (organophosphorus, organochlorine, organomercurial, carbamate and other). Observations were made during spring and summer and included physical examination, the collection of urine samples, determination of serum cholinesterase activity and fetal hemoglobin (HbF) blood level. Farmers were subjected to a special questionnaire. The results of this study showed that about 45% of farmers had chronic intoxication symptoms and reproductive function disorders, the elevated HbF levels were found in 60% of the examined workers. The increased values of urine pesticides level were found in 20%. The inhibition of cholinesterase activity was not stated. This study offers a recommendation for the medical control of rural population exposed to pesticides to designing medical measures for the prevention of pesticides poisoning.

Le système vétiver: une solution pour préserver l' environnement Pourquoi le système vétiver?

Fatima Kouady Sy, kouadyk@yahoo.fr

Bien que le vétiver (*Vetiveria zizanioides*) soit utilisé pour des besoins de protection de la terre depuis une cinquantaine d'années, son impact réel sur la conservation des sols et des eaux ne s'est vraiment fait ressentir que plus tard dans les années 80 grâce à la campagne de promotion initiée par la Banque Mondiale. Le vétiver avait été initialement développé en vue d'assurer la conservation des sols et des eaux dans les terres agricoles. Bien que cette application joue toujours un rôle vital dans les terres agricoles, le vétiver, doté de ses caractéristiques morphologiques, physiologiques et écologiques uniques comprenant son degré de tolérance aux niveaux élevés de métaux lourds ainsi qu'aux mauvaises conditions climatiques, joue un rôle essentiel dans le domaine de la protection de l'environnement et de la réhabilitation des terres.

Le vétiver quel rôle et quel mode de fonctionnement? Le vétiver est un moyen très simple, pratique, peu cher, demandant très peu d'entretien et très efficace, servant à la conservation des sols et des eaux, au contrôle des sédiments ainsi qu'à la stabilisation et à la réhabilitation des terres. De par sa nature végétale il ne détruit pas l'environnement. Plantés en rangées le long des contours, les plants de vétiver formeront une haie très efficace pouvant ralentir et épandre les eaux de ruissellement, réduire ainsi l'érosion des sols, conserver l'humidité du sol et retenir les sédiments sur place. Bien que n'importe quelle haie soit en mesure de faire cela le vétiver, pour des raisons liées à ses caractéristiques morphologiques et physiologiques uniques précédemment mentionnées, est capable de le faire mieux que tous les autres systèmes ayant été testés....

The Power of Agroforestry and Multisectoral Partnership in Sustainable Upland Development: The Case of the "Agroforestry Support Program for Empowering Communities Towards Self-reliance (ASPECTS)" Project in the Philippines

Leila D. Landicho, leila_landicho@yahoo.com

ASPECTS project, which was funded by the Ford Foundation, was pilot-tested in the three provinces of the Philippines aimed at developing a grassroots-oriented extension model that simultaneously addresses the objectives of community empowerment and the advancement of agroforestry education. This project harnessed the potentials of agriculture and forestry schools in empowering upland communities to enable them to extend agroforestry extension services to adjoining communities and other farmers for sustainable development. Lessons from the project implementation demonstrate the viability of multisectoral partnership in realizing a sustainable community-managed agroforestry extension services.

Development of agroforestry farming systems based on coffee plantations in the Western Highlands of Cameroon.

Ngome nee Tata Precillia Ijang, ijang2001@yahoo.fr et al.

Assessing the possibility of ameliorating the productivity from local coffee based farming systems through improved soil management techniques, farming systems, cropping systems, pest management, input application and increase yields within coffee plantations.

Abandoned Pesticide Waste Sites in Georgia

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Uncontrolled waste sites, including waste storage and treatment facilities, former industrial and agricultural properties may produce health and environmental effects when chemicals released from these sites. The potential impact on rural population health is most marked in

developing countries. Such countries are not enabling to take appropriate measures for preventing accidents, treating victims, and aiding environmental recovery. The present paper extends the review of current information on environmental threats to human health of abandoned pesticide waste sites in Georgia and estimate position to organize work to decontaminate toxic pesticide waste and to prevent its negative impact on environment and human health.

A congress on organic solutions for world farming

Alberto Pipo Lernoud

IFOAM, the International Federation of Organic Agriculture Movements, organizes an Organic World Congress every three years. In September 2005, thousands of organic farmers and traders, governmental representatives and certification agencies gather in Adelaide, Australia, to discuss the main issues of ecological farming, a reality that is growing.

The world-wide organic markets have been growing steadily during the last fifteen years, reaching a volume that is over 30 billion dollars of annual turnover. The land under certification has also grown constantly for the last decade and a half, covering over twenty five million hectares. Australia, with more than eleven million hectares certified organic, the biggest surface in the world, is an example of a powerful exporter of diversified products and an intense and booming internal market.

During the Organic World Congress the different areas of organic farming processing and marketing are analyzed by the persons involved. There is a Scientific Congress with presentations from researchers from dozens of countries, coming from universities, research centers, farming schools and farmers participatory research groups. There is also an intense exchange of marketing experiences, from the small local markets in the developing countries to the international export structures. Norms and regulations are also discussed, and governmental representatives and standards experts compare experiences and debate the possibilities for harmonization in a field of production that is becoming more significant for its social, environmental and economic virtues.

Poverty reduction in hill farming systems of Nepal through more equitable access to local resources

Maharjan, amina@psussmp.wlink.com.np et al.

The distribution of agriculture land in the densely populated hills of Nepal is highly inequitable and poverty is widespread. A novel approach for poverty reduction is being described which provides an opportunity for the most disadvantaged community members to gain access to community resources and income generating opportunities.

Effective Partnerships for Sustainable Rural Livelihoods: A Critical Review and Case Studies from Africa

Robert E. Mazur rmazur@iastate.edu and Lorna Michael Butler lmbutler@iastate.edu

The roles of multi-stakeholder alliances and partnerships in promoting sustainable rural livelihoods based on sustainable agriculture, natural resource management, income earning and capacity strengthening will be critically reviewed from both outcomes-based and social science perspectives. The primary focus is linkages among universities, inter-governmental and non-governmental organizations, and government agencies; the private sector's role will

be examined to the extent possible. Guidelines based on 'lessons learned' will be identified. Examples from Africa will be highlighted.

Use of Swot Analysis in Participatory Soil Conservation Planning For Smallholder Farming Systems: A Case Study,

Munyaradzi Manjoro manjorom@mailhost.buse.ac.zw et al.

The paper presents a case study conducted in rural Cuba on the use of SWOT analysis in soil conservation planning and particularly, in the promotion of participatory diagnosis of problems, potentials, priorities and context-specific technology development in small-holder semi-subsistence farming systems. Steps for the SWOT conducted and the results reached at on its use in soil conservation planning are presented. The study concluded that SWOT analysis can be a useful tool in getting better insight into the problems affecting smallholder farmers in the developing world and promoting participation in their solution and recommends that similar studies be done to test the usefulness of SWOT analyses in dealing with rural development and natural resource management challenges in the Third World.

Préservation Des Ressources Naturelles Et De L'environnement Par Une Valorisation Des Ressources Genétiques Du Rhizobium Autochtone De Quelques Legumineuses A Interet Pastoral Et Fourrager Des Zones Arides Et Semi Arides D'algerie,

K. Mekhtoub mekh_kahina@yahoo.fr

Les mutations ainsi que les changements survenus au niveau des zones semi-arides et arides à des situations complexes de dégradation des agro- systèmes principalement sous l'action anthropique. Le système Sol- Végétation- Atmosphère, sous l'influence conjuguée et répétitive des cycles climatiques et des activités humaines sur cet écosystème fragile dont la régulation n'est désormais plus assurée. L'azote, après l'eau est le facteur limitant majeur de la productivité végétale dans ces agro- systèmes où la sur- exploitation des sols par la gestion intensive de ces milieux. L'agriculture moderne se trouve de ce fait de plus en plus tributaires de l'utilisation massive des engrais chimiques azotés. Ils présentent beaucoup d'inconvénients sur le plan économique par leurs coûts de production qui est de plus en plus onéreux et sur le plan environnemental par le lessivage dans les nappes phréatiques posant ainsi le problème de pollution et de santé publique. Les légumineuses fourragères établissent des symbioses fixatrices d'azote atmosphériques avec des bactéries du sol communément appelées Rhizobium. Cette symbiose Rhizobium- légumineuse présente une grande importance à la fois agro- économique (engrais biologiques, fourrages, rotations des cultures, alimentation humaine) et écologique (maintien des sols, réhabilitation d'écosystèmes dégradés). Elles constituent une importante source de fourrages dont les propriétés symbiotiques sont peu étudiées. Cette complexité et l'importance de cette problématique imposent une nouvelle approche en recherche et développement durable pour la préservation des ressources naturelles de ces régions.

Productivity enhancement and welfare gains on smallholdings in South Western Kenya: interaction between institutions, technology in transforming farming systems

Lutta Muhammad luttam2002@yahoo.com et al.

We analyze the role of micro-finance, KARI technologies and participation in community based organizations in increasing grain and milk production by 11 and 38 per cent respectively in South Western Kenya, a region bedeviled by poverty and disease and propose a way forward.

Constraints and Challenges in the maize-based farming system in southern Africa: Experiences from Zambia and Mozambique

Mulugetta Mekuria, m.mekuria@cgiar.org and Shephard Siziba

Maize-based farming systems dominate the agricultural systems of southern Africa. Efforts to improve the productivity and sustainability of the systems have been underway by both NARS and IARCs. A study by CIMMYT and its partners attempts to describe the system and understand "why farmers do what they do" in their maize based production systems and identify constraints, challenges for R&D

A participatory approach to for salty soil reforestation in Senegal

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In Senegal saline degraded lands cover about 500 km². This hostile ecosystem est particularly found along the Sine and Saloum rives located in the peanut basin. Since 1971 the Senegalese Institute for Agricultural Research through its forestry and Agroforestry programs has been testing local and exotic species for degraded land rehabilitation. In 1994 this the results of these investigations are used in a forest research development projects involving actively farmers are used to value this degraded ecosystem at a sylvo-pastoral point of view. Presently more than 100 hectares are reforested and local people with fodder, wood, medicinal material, etc. At the same time land degradation process is alleviated.

Development Strategies, Pathways and Synergies investing in Sustainable diversified Agriculture for the Small Holder Vulnerable but Viable Farmers

Drinah Banda Nyirenda,

Lessons learned and best practices on providing a low cost input diversified starter pack for the vulnerable but viable farm households tilling one hectare or less is critical strategy in improving food and nutrition security and jump start them for entry into small scale entrepreneurship for rural development. In the last four years 2000 – 2004, the Government of the Republic of Zambia through Programme Against Malnutrition (PAM) has implemented the Food Security Pack Programme aimed at providing low cost inputs to the largest small holder group in the rural areas representing 80% (4.2 million of the 5.25 million) rural people. These are provided with a diversified crop package of improved cereal, legume and cassava/sweet potatoes with complimenting pack of yield enhancing technologies for soil conservation and improvement (liming, green manuring and good tillage practices) and water retention (basin making) in dry areas. The farmers are taught value adding processing and utilization technologies and cereal/seed bank management. The seed/cereal banks at community level provide marketing points for surplus products. The programme can be sustainable if alternative livelihoods are provided under a low cost credit scheme that would make the households engage into complimentary all year round income generating activities. This model provides lessons and best practices that if funded well could lead to the achievement of the World Food Summit Declaration (1996) and Millennium Development Goals (MDG) on reducing hunger, improving food security and initiating agricultural growth and rural development in Zambia and many African countries.

This paper elaborates the framework and methodology of assessing food security particularly of households farming in less favored environments. Food security is evaluated in three dimensions: food availability, food access and food adequacy. The analytical tools are applied using empirical data from formal surveys of 220 households, various informal interviews and 12 case studies in Leyte, Philippines during the period 2002-2004. As a whole, the paper articulates a useful analytical framework and tool feasible in development work.

Evaluating the Success of Forest Conservation Efforts by Smallholder Cacao Producers in Southern Bahia, Brazil.

Kathleen Painter, kpainter@ufl.edu and Dr. Robert Buschbacher

I will present a poster of my master's research, carried out in conjunction with Jupará, a Brazilian agricultural development NGO. Jupará extensionists have worked with land reform communities in Southern Bahia since 1994 to teach agroecological methodologies and secure organic certification. Jupará set several specific goals for participating families, including organic certification and maintenance of 30% of the landholding in forest cover and 40% in diversified cacao agroforestry systems. My research will use household interviews and analysis of satellite imagery to assess the extent to which goals have been met by participating families.

Revaluing the Social Domain: Using the ORCA model to understand how social factors determine farming systems in Trinidad.

Kelly Payson kellyp@ufl.edu et al.

This paper argues that social factors (socio-economic, socio-cultural, and life-stage variables) are key determinants of farming systems and must be accounted for in any development strategies. The ORCA model is introduced as a tool for analyzing how social factors determine the objectives, resources, and constraints of individuals, thus affecting the nature and type of livelihood activities engaged in. Practical application of the model in Trinidad demonstrates how social recommendation domains were identified in two ethnically distinct farming communities.

Building on synergies: Achieving joint production, conservation and livelihood outcomes at a landscape scale. The case for "ecoagriculture"

Claire Rhodes crhodes@ecoagriculturepartners.org, et al.

It is often assumed that achieving productivity and conservation objectives necessitate serious trade-offs. However, strategies to enhance agricultural productivity and preserve biodiversity can be more than mutually compatible. Ecoagriculture is an umbrella term that embraces diverse land management practices that sustain rural livelihoods through productive and sustainable agriculture (crops, livestock, forests, fish) and *also* protect ecosystem functions effectively at a landscape scale. This session will have presentations that cover the basic concepts and goals of ecoagriculture, successful field examples of ecoagriculture, capacity-building challenges for scaling-up ecoagriculture, and valuing ecoagriculture. Presenters, discussants and open discussion will debate processes for balancing trade-offs and the multiple objectives of different stakeholders, with respect to ecology, economic and productivity goals. The panel will include representatives from farming and community-organisations, an international conservation / rural development agency, the private sector, among others.

Water Harvesting, to abridge the Food Gap, & Conservation of resource base In Western Sudan (Kordofan Region)

Osman Abdul Rahman Alfadni et al.

Western Sudan depends to large extent upon small farmers to increase agricultural production to meet the nutritional requirements of a tenaciously increasing population. In abridging the food gap, water harvesting, proved to be promising. Constraints to mainstreaming of the

technology that needs to be overcome by small farmers, revolve around variables associated with technological changes, institutional arrangements, and information needs. The paper deals with new technologies mainstreaming in western Sudan.

Focus on biodiversity, as this is in decline, and it affects all ecosystems including the human aspects of them such as human well-being and poverty, vulnerable systems and populations.

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Use biodiversity to make such systems more sustainable and/or productive, for example, underpinning of the relationships between diversity and primary production, protection from pests and disease, and management of pollution; Manage systems to conserve useful or desirable biodiversity, for example, underpinning of the relationship between agricultural practices and the maintenance of desirable species or ecosystem services provided by biodiversity; Cultures differ for different people, tribes, and gender should be included at different scales, both spatial and temporal. Biodiversity is directly influenced by policies and governance, and multi-stakeholder partnerships such as C.S.O.s, inter-governmental organizations, legal entities, governments, and the private sector, together with guidelines, regulations and investments. Uncertainty is a component of biodiversity and the data we measure. However there will be trade-offs, synergies, feedbacks, drivers both direct and indirect, pressures, states, impacts and responses at different spatial scales. There is a need for innovative institutions, and policy coherence and coordination at different levels, as well as the mainstreaming of ecosystems, ecosystem services, and human well-being related to decision making. Effective biodiversity response strategies have a bearing on human well-being in three ways:

- 1) They conserve a source of current and future goods and services;
- 2) They create synergies and trade-offs of biodiversity conservation with other needs of society, including sustainable use of biological resources.
- 3) Difficulties in measuring biodiversity make response design difficult, and complicate assessments of the impact of responses.

Les mutations récentes du système de production oasisien dans la vallée de Oued-Righ (Algérie)

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Depuis tout temps, les régions sahariennes constituent une source de richesse économique, de diversité naturelle et d'échanges sociaux. Examiner leur système de production s'est avéré nécessaire, car il a subi une large et profonde évolution des contraintes touchant ces différentes strates et principalement le premier étage, à savoir la phoeniciculture, qui est soumise à une dynamique provoquée par la mise en œuvre des différentes politiques depuis l'indépendance et jusqu'à nos jours. En effet, cette région se caractérise par un système de type oasisien qui consiste en une association de trois strates végétales. De même, le microclimat qu'il offre est favorable à une polyculture vivrière, en plus d'un élevage caprin et ovin de type familial destiné, essentiellement, à l'autoconsommation et conduit d'une manière traditionnelle. Cependant, un regain d'intérêt pour ce secteur est enregistré durant les deux dernières décennies. L'agriculture a, de ce fait, évolué du point de vue structurel puisqu'on assiste à une relance qui s'exprime non seulement à travers l'extension des périmètres phoenicicoles mais aussi par le développement et la mutation des systèmes de production. Ainsi, le passage de la monoculture à la polyculture, la réalisation de grands canaux d'irrigation, l'extension de la plasticulture, l'amélioration des itinéraires techniques manifestent autant le renouveau de cette agriculture. Nous tenterons, ici, de répondre à

certaines questions, à savoir : Quels sont les goulots d'étranglement qui entravent le développement de l'agriculture de cette région ? quelles sont, aussi, les retombés socio-économiques, techniques et environnementaux, sur cette même région, après la mise en œuvre du PNDA (Plan National de Développement de l'Agriculture) ? De savoir aussi, de quelle manière se concrétise la dynamique de ce système de production ?

From Pastoral to Sedentary Farming Systems: Making a Difference to Bedouin Communities in Northwest Coast, Egypt

Abdul Bari Salkini, a.salkini@cgiar.org et al.

Ecologically-balanced pastoral systems in the semi-desert region of the Northwest Coast of Egypt have been evolved into sedentary, more productive FS due to development activities implemented in the last few decades. However, settlement of the Bedouins, accompanied by changes in their aspirations and living style and standard, and random development endeavors have increased human and livestock pressures on an inherently poor and fragile resource base, engendering cyclic resource degradation and poverty. The paper presents the impressive experience of Matrouh Resource Management Project (MRMP) established to tackle this problem. It focuses on analyzing the biophysical, socioeconomic, and institutional and policy factors that have influenced the evolution process of the FS. It also discusses the project components and methodologies, highlighting the participatory, multi-disciplinary, multi-institutional and community-based approaches employed by the project to introduce to the Bedouin community simple technologies for sustaining the resource base and for agricultural production improvement. Monitoring and evaluation of adoption and impact, and the technical and managerial lessons learned from the project were given a special emphasis in the paper.

Understanding and Sharing of Successful Local Development Practices

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The purpose of preparing cases on successful local development practice is to foster collaboration between civil-society, government and inter-governmental organizations for scaling up their impact and to identify conducive policies for such scaling up. The cases presented at the IFSA Global Learning Opportunity will be analyzed by the participants for their suitability for collaborative action and scaling up. Participants will also identify policy messages that promote the scaling up of successful development practices. These policy messages will be shared with governments at PRSP assessments and work-plans for national sustainable development councils, as well as at IGO & Civil Society regional consultations in the UN ECOSOC Commission on Sustainable Development.

Systèmes de Production Agricole Durable et Lutte contre la Pauvreté: l'expérience de SYSPRO à Sébikotane,

Moussa Seck thierno_seck@hotmail.com, et al.

Les systèmes de production agricoles expérimentés au Sahel se sont jusqu'ici soldés par des échecs pour la plupart en ce sens que : non seulement ils n'arrivent pas à assurer l'autosuffisance alimentaire, mais aussi ils contribuent à la dégradation des ressources naturelles et de l'environnement en général. Le papier que nous allons vous soumettre montre l'expérience de SYSPRO dans la mise en œuvre de système de production agricole de « Troisième Génération » qui assure une synergie autour des trois conventions des Nations Unies à savoir la lutte contre la Désertification, la préservation de la Biodiversité et la lutte contre les Changements Climatiques tout en participant à la lutte contre la pauvreté.

The Relationship between Agroforestry & Agroecology vis-a-vis the Development of Sustainable Landuse Systems,

Howard-Yana Shapiro, howard.shapiro@effem.com

A Collaboration Between Mars, Incorporated and The University of California, Davis
There are four pillars of Sustainable Landuse: the reduction of poverty, the enhancement of livelihood's, the reduction of ecosystem degradation and the protection of biodiversity. Agroforestry and agroecology take opposite hierarchies of need to the solutions of Sustainable Landuse, the key between though is the use of trees and what they represent to the small stakeholder, as a subset there are four further subsets of sustainability that work on a national scale. Firstly, trees and the markets and their components of germplasm, products, processing and the market chain; secondarily, land and the people, the household farm system and the assembly of components together into systems; thirdly, environmental services, the landscape effects, of water shed management, soil degradation, biodiversity and climate change; and fourthly, strengthening national institutions, the challenge of building capacity in research and development, social services, farmer organizations and extension services form the function of the four pillars and the four subsets the family tree portfolio is the answer, if we understand the components, the household farm system, the landscape effects and the challenges articulated above only then we will be able to meaningfully create a "Really Green Revolution" and sustainable landuse systems.

Zero-Tillage: Another revolution in third world agriculture."

A.P.Singh apalsingh@yahoo.com, A.L.Rathore, and G.K.Shrivastava

(1) Growing cost of agricultural production system is causing adverse effects on benefit:cost ratio of farming business and the consequences of all above resulted in poverty, exodus of farmers resulting in an increase of city slum.

(2) Definitions of sustainability that consider only one dimension i.e. soil fertility are insufficient, hence, ecological, social and economic dimensions must always be considered.

(3) Zero tillage or conservation tillage system has been considered towards the achievable three-dimensional sustainability in agriculture as it offers numerous advantages that conventional tillage system cannot match.

A framework to support effective policy making on biodiversity - poverty relations in farming systems in developing countries,

Tonnie (A.) Tekelenburg tonnie.tekelenburg@rivm.nl and Jan Joost Kessler

On the basis of a conceptual framework (paper) and interactive dialogues with IFSA Farming System partners (open space workshop at GLO), insight and understanding on biodiversity-poverty mechanisms will result in developing more effective policies for simultaneous biodiversity conservation and poverty alleviation. Biodiversity-poverty mechanisms are interpreted as commonly occurring combinations of interlinked factors that together strongly affect biodiversity-poverty relations. It is assumed that the world-wide variety of biodiversity-poverty relations can be reduced and described by a limited number of typical mechanisms. These mechanisms cause negative impacts on biodiversity and/or poverty, but for each mechanism positive policy options or solution strategies will be proposed. For critical mechanisms the main risks and sensitivities can be described, so that insight in the mechanisms also has a certain predictive value.

Farming systems (FS) approach to mitigating the effects of HIV/AIDS on rural livelihoods in southern Africa,

Paul Thangata, Paul@Thangata.fsnet.co.uk et al.

The HIV/AIDS pandemic is a developmental issue affecting all sectors of rural livelihoods. An ELP model demonstrates how the FS framework is applied in the analysis of HIV/AIDS studies, focusing on food and nutritional security, land availability, gender and labour shortages.

Agriculture and Rural Development Project in Cambodia with Scope for Human Security-Nurturing Self-reliant Rural Communities

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Human security is a key issue when implementing agriculture and rural development projects in developing countries. The Kingdom of Cambodia has entered the development stage from the reconstruction stage after one decade from the first free general election held in 1993. In the last decade physical and social infrastructures have been improved and the security of the country has been improved. However, we still observe many difficulties in the implementation of development projects in rural areas. Some enjoy development while an increasing number remain in poverty. Sometimes if not all the time, we have found in the rural area that the gap between the wealthy and the poor has increased. Some negative impacts on the reconstruction and development processes were created during the recovery period. Most donors did not pay much attention to the negative impacts of rural development projects because pro-poor projects were believed to bring only positive results.

Japan International Cooperation Agency (JICA) has an agricultural project in Battambang that is in the north-west of the country 300km from Phnom Penh. The project, named Battambang Agricultural Productivity Enhancement Project (BAPEP) started in April 2003 with a 3-year cooperation term, and this is the first project that JICA has implemented with a provincial government in Cambodia. Four Japanese experts are assigned to work with PDA to provide better technical services to farmers. This project focuses not only on agricultural production but also on the rural community. The Activities in BAPEP show practical use of the human security concept. The fundamental principle is to avoid the negative influences of the development project implementation.

The experience of BAPEP shows that technical support based on the resources and potentials in the area is critical for agriculture and rural development after the reconstruction stage. The 'farmer to farmer' approach is effective for easier adaptation of improved techniques with technical support. Assurance of market is vital for stable production and quality improvement. It is useful to involve existing local authorities for supporting and strengthening farmer organization. Small farmer groups can coordinate in different activities by interacting with each other and synergy can be expected. By combining these different activities, the rural society can support different levels of farming and this leads to human security in rural areas. It has also been observed that a network among government agencies, donors, Non Governmental Organizations (NGOs) and farmer organizations is useful when the local government has little power to take initiative in rural development.

Small Low Resource Farmers Complementary and Supplementary Farming Activities for Productivity and Livelihood Sustainability

Dr Augustine J. Udoh, augtine@yahoo.com

Th poor-low resource farmers rely on keeping one or two goats or sheep as a source of savings. However, much of his food for the family comes from his small plot of land that is planted to four to eight crops. For instance, cassava and maize are planted as base crops and intercropped with vegetables like okra, fluted pumpkin, bitter leaf, melon, cocoyam, cowpea and with one or two stands of oi palm as a permanent crop. In recent times, Gnetum africanum, a climber has been introduced as an additional vegetable crop in the farming systems of the area. The proceeds from the plot are supplemented with non-timber forest products (NTFP) consisting of tree legume seeds, ols, fodder and fuel wood. A study to determine how the poor-low resource farmers in Akwa Ibom State in the southeastern zone of Nigeria (Latitude 4o30'and 5o53'N and Longitude 7o25' and 5o25'E) enhance their livelihoods and productivity was undertaken. The State of Akwa Ibom was divided into six zones. The six zones do not differ from one another with regards to major characteristics. Four zones were randomly drawn to take part in the study. The four zones were subdivided into four sub-zones respectively making a total of 16 sub-zones. Twelve sub-zones were randomly drawn from the sixteen. Twenty farmers were purposively selected from each of the 12 sub-zones making a total of 240 farmers and 120 farmers randomly selected from the list of 240 to take part in the study.

The results show that 100% of the farmers are low resource in characteristics. The farmers have a family size of 8-12 members and with low level of education. Annual income ranges from \$20-45 and with size of farm from 0.2-0.5hectare. Over 90% of the farmers depend on intercropping the small plots that they cultivate and harvest NTFPs to augment their farm proceeds. Most of their farm products are harvested for family consumption before the farmers can think of any sales in the rural markets. Most members of the farm families take part in the farming activities and labour is over-supplied. This study therefore suggests building blocks on small low resource farmers effective utilization of their farm plots, storage and marketing of their farm proceeds and improvement of their lifestyle.

Features of the System of Rice Intensification (SRI) Apart from Increases in Yield

Norman Uphoff ntu1@cornell.edu

The System of Rice Intensification (SRI) -- by changing the way that rice plants, soil, water and nutrients are managed – has its most obvious and dramatic effects on yield, generally raising yields by 50-100%, and sometimes even more. But there are many other considerations why farmers, governments and donor agencies should consider use or support of SRI practices that are now being increasingly documented in a number of countries.

Vulnerability of Small Farm Systems and Farmers' Coping Mechanisms towards Land Use Change and Land Conversion

Amparo M.Wagan, amparowagan@yahoo.com et al.

Suggested Authors and Affiliations: Agricultural researchers, extension workers, and development planners from various institutions in developing countries in Asia mandated to do action research and development activities in rural areas. The proposed activity will involve paper presentations and plenary discussion on the effect of land use changes on small farming systems, vulnerability assessment of small farming systems to the inevitable land conversions that go along with rising industrialization in developing countries in Asia and model cases and innovative approaches to cope with the adversities of land conversion in these areas. Participation of agricultural research, extension and development workers representing various countries in Asia will enable thought-provoking discussions on real cases, issues and concerns on the effects of land conversions on the livelihood of small farmers who were the target of development activities during the last two decades

(beneficiaries of farming systems development programs then) and farmers' current and possible coping mechanisms to avoid adverse impacts of these (already happening) changes on their livelihood. It is timely and appropriate to have an activity that will provide a venue for exchanging experiences and knowledge on courses of actions needed to pursue efforts to uplift the plight of the small farmers, and could also be the start of IFSA sub-network of R&D workers towards making recommendations for the formulation of rural development policies and strategies at national and regional levels.

The Comprehensive African Agriculture Development Programme (CAADP) NEPAD vision for addressing food and rural development issues in Africa: Originality, methodology and way forward in remodeling development policies.

Augustin Wambo AugustinW@nepad.org

The CAADP, a framework for renewing agenda for agriculture development in Africa mobilizes a continent-wide participatory methodology that makes it original as compared to what used to be done before. This paper wants to make a critical analysis of the reliability of this approach and discuss its sustainability in the long run as well.

Sustainable Tree Crops Program (STCP): Realizing a New Development Paradigm,

Stephan Weise & Martine Ngobo m.ngobo@cgiar.org

Through a strategic alliance between tree crop farmers and communities, the worldwide chocolate industry and trade, governments, research institutes and the public sector, STCP aims, since 2000, at improving the economic and social well being of smallholders and the environmental sustainability of tree crops farms. STCP is a viable platform for partnerships around a common vision, functioning effectively on the ground in multiple West African cocoa- and cashew-producing countries and already having clear impact on lives of farmers.

Surprising new partnerships in the journey to a sustainable rural area in Noord-Brabant in the Netherlands. Theory and practice

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The agricultural sector is as much in need of resolving the global challenges as anyone else. Since the role of national governments was scaled back, expectations of corporate responsibility have increased. Meanwhile, a new generation of non-governmental organisations is appearing on stage, involving practical examples of collaboration between the civil society, the private sector and the public sector that are successful in tackling particular global challenges in local settings. These new types of relationships – or strategic partnerships – reflect a shift in attitude from trying to avoid harm or compliance, to being responsive in actively meeting reasonable stakeholder expectations, to being fully engaged in order to maximize economic, social and environmental value simultaneously. This presentation will include first hand experiences from working with these partnerships and draw lessons relevant for wider global contexts

Food Security and the Sustainability of Rural Livelihoods: Recent Trends in Syria

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Since 70% of the Syrian agriculture is rainfed depending on the rainfall rates, priority should be given to study the negative impacts of the fluctuating crop and tree production on the farmers income from one side and on the off-farm income which affect the sustainability of

the household living of the rural people from the other side. Then, to study the relationship between the different types of household's expenditure on food and the non-agricultural activities. There is no pure agricultural income in Syria and no full time farm job among villagers due to low wages, climate conditions, and low crop productivity, so 50 percent of the hh income comes from the off-farm activities. To study the relationships between the low productivity of agriculture and the misuse of land and water resources. Losses and deteriorating and polluting soil and water. Inefficient use of resources lead to low productivity and to low return which in turns leads to exiting agriculture seeking other income sources. Inequality in market access results in low productivity. Relationship between population growth rate and poverty and migration.