

Brief Summary Week/Theme 3 E-Consultation on Integrated Crop-Livestock System for Development: the way forward for sustainable production intensification. February 15-19, 2010

Building off of the background paper provided at the website <http://www.fao.org/agriculture/crops/core-themes/theme/spi/iclsd>, discussions during Week 3 focused on those policies and institutional supports that must be in place to enable the adoption and spreading of innovations and practices associated with promising crop-livestock systems for food and nutritional security.

This week's discussion included some 22 contributions that came from experiences in India, Burkina Faso, Iran, Zimbabwe, Canada, Sudan, Brazil, the USA, Chile, Bolivia, Cameroon, Ethiopia, and Ghana among others that indicated regional and global relevance. The following brief summary is meant to highlight a range of discussion points. As we noted in previous weeks, the summary is not intended to be exhaustive and cannot adequately capture the depth of the interventions and shared materials. All of the individual interventions can be found on the website as a blog along with the documents, photos and links that were submitted by participants.

This week's summary is organized according to the questions that were used to prompt the discussion.

- ***From your perspective and in the context in which you are working, what are the top one-two (1-2) institutional and/or political constraints that undermine the uptake, implementation or spread of integrated crop-livestock systems?***

In response to this query, a number of constraints were mentioned and several were reiterated time and again. Participants spoke to: disincentives or the lack of support to adopt new technologies or innovate or lack of demonstrations effective to motivate farmers to change; disincentives towards the commonly integrated farming systems, which then led to their disintegration and specialization in the recent past and which still continues; the predominant institutional view that a quick-fix approach can overcome any problem; lack of information, social support networks, physical resources, marketing support, insurance and financial credit limit (lack of understanding of lenders); challenges stemming from the lack of suitable alternative markets within a reasonable distance as well the weak association between different components of the value chain; issues around large landholdings and land tenure/ insecurity that prioritize specialized crop farming for local consumption and export or threaten pasture areas or livestock keepers trying to trek animals.

A constraint mentioned repeatedly was around the compartmentalization of crop/agriculture and livestock activities (breeding and agriculture) within government ministries and departments, extension agencies, researchers leading to a lack of a

systems perspective/approach (“systems specialists”) in research and development including differential intervention needs. There is still a lack of participatory approaches among extension staff and insufficient attention to linking forward to markets and coupling technologies with income-generating commodities.

Further colleagues spoke to a lack of political will/support from top leaders or public initiatives that foster the understanding of importance of integrated crop-livestock systems in enhancing the livelihood of resource poor farmers; institutional and policy silos between producers (different groups), conservation organizations, agricultural NGO, private sector investors, district and national government agencies, among others.

What can/might be done to address these constraints and who (or who together) can make that happen?

Colleagues offered up a number of recommendations to address constraints. Opportunities were raised around: raise political support and financing for integrated crop-livestock strategies that contribute to resolving larger ecosystem-level challenges and opportunities, like watershed restoration, habitat restoration for threatened biodiversity, and carbon sequestration; more influence from researchers and government extension encouraging farmers to adopt alternative production systems. Awareness raising and education were highlighted in terms of strong farmer-led organizations (e.g. conservation tillage alliances, those innovational agricultural schemes) with educational support networks (e.g. extension and research teams working towards similar goals; technical teams to bank managers; and changes in curricula) that could provide a great deal of technical and social support to encourage change and resulting benefits (e.g. in and around these schemes and in the suburbs of large cities) as well as better communication, transparency and confidence are necessary between the producers and processors. Incentives were raised around market conditions including credit; production contract, incentives for quality, good agricultural practices, animal welfare, soil health, are also required.

To address issues of compartmentalization, it was suggested to move toward one platform for all the service providers related to crops and livestock (systems) and innovation platforms that bring diverse actors together for joint action. The institutional dimension to provide incentives for innovation needs effective networks and alliances to put technology into use, recognizing that innovation occurs, emergent behaviours arise, and these represent changes to social institutions. It was suggested that at various levels, there could be better dialogue and join work among different disciplines and stakeholders. Partnerships need to be built among the stakeholders for that better coordination and communication is prerequisite that build upon honest and visionary leadership to bring about change.

To address specific institutional issues around pastoral systems, one colleague suggested delimitation of large areas for livestock keepers, better and more

complementary ways of managing pastoral resources and fodder; as well as ensuring that decision makers realize the importance of mobility for animal feeding and the protection of pastoral spaces.

Another intervention noted that increased energy costs could actually promote the shift towards more local food production systems and another suggested the usefulness of constructing a typology of crop-livestock systems for each country for better targeting of technology and development. One intervention summarized that farmers organizations and an appropriate political environment are key elements.

If you had 5 minutes with a/your Minister of Agriculture (or Livestock, Finance, etc), what message would you want to deliver? What about 5 minutes with the head of national or international farmers' organizations? Any thoughts to share with a relevant private sector representative (inputs, processors, buyers, etc.)?

Below, we have placed the 'messages' according to the audience.

Messages for the Ministries:

-The economical and environmental benefits of ICLS (with examples and case studies including political benefit), and that dissemination depends on long-term investments in technical knowledge/assistance and financial access/stimulus.

-From the perspective of the sustainable national development, the reversion of the big large and unproductive agricultural lands is the most important strategy to reduce the poverty and to guaranty the environmental sustainability. This strategy will allow the intensification of the land use and, in the medium term the development of crop-livestock integrated systems of production.

-What is your planed strategy to maintain farmers on their landscape while increasing productivity in quality and quantity, without deteriorating the environment?

-Policies can affect the balance between production and environmental quality. Strategies should be considered that emphasize the long-term sustainability of a region by balancing production and environmental quality, not just focusing on the short-term needs of a selected portion of the population.

-Extension officers need more than technical skills - they are well placed to act as facilitators of innovation by bringing in private sector players, market actors etc to stimulate innovation - but they need to be capacitated and mandated in this direction.

-Put an environment / pollution tax on industrial systems and provide incentives for mixed systems in peri-urban or hinterlands. Use the tax for building infrastructure to link hinterland producers with urban /demand centres.

-Bulk supply of inputs to farmers through farmer association would save on cost of inputs. Bulk purchase of produce by processing industry again through farmers association would save on marketing and transaction costs.

-Dans les zones de savanes subhumides de l'Afrique de l'Ouest, on aurait tout à gagner en renforçant encore plus l'intégration de l'agriculture et de l'élevage. L'agriculture bénéficie de la présence de l'élevage à travers la traction animale, la fumure organique, l'épargne/trésorerie sur pieds et l'élevage bénéficie de l'agriculture à travers les résidus de cultures (ressource fourragère de saison sèche), le recul de certaines maladies comme la trypanosomose....

-Put additional funding into research, education and extension on conservation agriculture and low input crop production systems. We as agricultural producers have been encouraged for years to rely on chemistry to provide solutions to our production practices and we have paid a huge price for this method of production. If government support programs were designed more to support beneficial innovation in our production practices and our public research and extension dollars should be directed at conservation agriculture and integrated pest and fertility management techniques. (The message would be similar for the farm organization leadership.)

-Crop-livestock integration is important as a way forward to environmentally friendly and sustainable agricultural system which should be promoted, made top priority of Government's agricultural policy and cause MoFA and its technical departments to provide position papers for consideration (justifiable documents for his/her consideration must be included).

-Faced with the pressure on space and with the number of animals involved, transhumance seems to be a guarantee for (i) the sustainability of the agro-pastoral systems of the Mbororo stockbreeders and thus (ii) the supply of livestock products to urban consumers, whose needs increases each year. This mobility makes it possible to develop in the course of years a diversity of the agro-climatic situations and natural recourses. In order to be sustainable, however, these systems based on mobility must be better managed. The practice of pastoralism as a socio-economic activity and way of life must be guaranteed. This passes through the sensitization and the popularization of the laws and regulations for the determination of the status of spaces of pasture and the tracks of cattle and the promotion of a policy of regional planning. Stockbreeders must take part in decision-making relating to land.

-Assure market for small and marginal farmers, Credit Card for taking loan from banks for purchase of inputs required for integrated crop-livestock innovations to landless and poor people. Promote agro-processing and input delivery at cluster level through SHGs/CBOs.

-Link integrated crop-livestock system with Food for Work programme.

-Incentives to deforest are major that those to preserve, and only the legislation can do little to help to stop the intensive expansion of forest destroy. This condition limits the intensification of the systems of production, and obviously, limits the development of agricultural systems more friendly with the rural development and the preservation of our lands forest. Integrated crop-livestock systems are one of them that have the major efficiency in the utilization of the factors of production, and it may have important potential to increasing the food national safety.

-A change in the parameters of measurement of the Economic and Social Function of the land (FES) must incorporate the productivity of agricultural or livestock activities. And this may be the route for the break of the extensive unproductive systems and give step to more efficient systems in the use of the agricultural or livestock factors of production. The smallholding and the unproductive big large agricultural lands have given place to the stagnation of the development of the crop-livestock integrated systems of production. Moreover, that condition was the principal topics for the irrationality management of our natural resources, stimulated the degradation of soils and permitted the increasing of illegal market of lands. In the other hand, these conditions was the principal roots of our social tensions and was the principal limiting to access to the food national safety.

-In Bolivia, the rate of national livestock extraction has a range among 12 to 14 %, the first one is proper of South American camels, and the second is representative of meat bovine production. This value is together of Paraguay's value the lowest in the world. It is lower than the world average of 20 %, than that of the CAN of 16 %, than that of the MERCOSUR of 18 % or than that of the EU 15 of 36 %. In other hand, the performance or yield of the canal, this is minor to 52 % and the sacrifice age, product of slow rates of growth, is near to 4 years. Certainly, to improve these parameters of production should be one of the policies of the sector; the low production performance has a linear relation with the equitable access to the land and with two tied factors: the reduction of the poverty and the environmental sustainability.

Messages for Farmers' Organizations:

-Farmer organizations could work together so that the agricultural systems of a region are diverse and vibrant, rather than manipulated by a dominant few at the expense of others.

-What are the minimal conditions required to implement an ICLS? And secondly, which are the bottlenecks you visualize on the system?

- Organize meetings/workshop of their members where experts including myself could address the larger group on the crop-livestock system set up, implementation and benefits. From there they could be a pressure / advocacy group for government's support for the programme.

Messages for Private Sector:

Private agricultural industries could offer a suitable suite of alternative technologies to meet the diversity of needs within a region.

The livestock production systems have an average of productivity of 16 kg of corporal mass per hectare. This low production is determined by the application of a system of extensive managing that is reflected in degradation of forage resources, capacity of carrying low and equal to 0.2 UA bovine per hectare. With this low productivity, the strategy is to access large lands. And, the most important are to access lands of low cost or zero cost. Only in this condition the livestock systems offers utilities.

What policy or institutional support or changes have you witnessed or read about that led to demonstrated success in the uptake, implementation or spread of integrated crop-livestock systems? Are there successes in other fields that might be applied in this situation?

In response to this question, participants named some examples and also expanded a bit on what has to be in place to have successful systems in place.

Examples that colleagues felt could inform the debate included:

The use of sorghum for poultry feed in Asia promoted through an institutional innovation / coalition approach including crop scientists, poultry nutritionists, feed industry, credit agencies, input dealers (including seed), farmers, farmers' federation, poultry producers, and poultry federation.

The Indian Council of Agricultural Research (ICAR) is experimenting institutional innovations under National Agricultural Innovation Project (NATP) for enhancing the livelihood security of rural poor so that it (ICAR) becomes a dynamic innovation system capable of responding to the present as well as the future needs of agriculture research and development. The emphasis is on improving and developing the most suitable integrated farming system models in the less favourable environments and regions and groups through action research so that the livelihood of the rural poor improves through assured food, nutrition, employment and income.

Several technologies refined under Institute Village linkage programme of NATP (such as backyard poultry rearing, integrated farming systems, strategic feed supplementation, etc) are up scaled at state level through Agricultural Technology Management Agency (ATMA) far wider and faster impact.

Through the Landscape Measures Initiative (www.landscapeasures.org), Ecoagriculture Partners and numerous partners have begun compiling and further

developing tools and methods for analyzing, planning, design and monitoring of such participatory landscape initiatives.

CLFIS is a strategy of sustainable agricultural production which integrates crop, livestock and forest activities on a same area, applying agricultural techniques such as crop rotation, succession, double cropping, and intercropping, searching for synergistic effects among the components of the agroecosystems, contemplating environment aspects, human value, and economical viability. The project uses categories for different agroecological zone in Brazil including: crop-livestock integration; crop-livestock-forest integration; and livestock forest integration.

The regional COAMO's experience (Cooperativa Agropecuária Mourãoense Ltda – Campo Mourão – Paraná) where in 5 years have reached an adoption level of 1980 stakeholders working with ICLS. Its success was based on field demonstrations and knowledge spread by 200 agronomists, trained by a partnership with Universidade Federal do Paraná (UFPR) and IAPAR (Instituto Agrônômico do Paraná), and supported by private enterprises as well.

Another is the PISA (Produção Integrada de Sistemas Agropecuários em Microbacias Hidrográficas). It aims to promote sustainable agricultural development having ICLS as one of its main pillars.

Additional suggestions and insights included: a systematic review of the various models that are being experimented with for multi-stakeholder innovation and action platforms, and lessons learned about their development and management (and financing) and to pull together the methods being used in crop-livestock integration programs at landscape scale, and make them more widely available through diverse platforms, including the Landscape Measures Resource Centre; the importance of personal desired of individuals to make necessary changes toward a sustainable rural community; ensuring that universities, research institutions and agricultural government supporters are sympathetic with the System Approach; fully taking on board the coalition approach (with forums and capacity building) where in all the potential stakeholders (players /actors) are brought on a common platform; stockbreeders have to invent new forms of social and professional organization in order to have the capacity to defend their interests, to communicate with the authorities, the better organized communities of farmers and organizations working for development; and policies must be started to advance ICLS through effective regulations and the offer to (small to medium) farmers of alternatives models. Further, one intervention noted that in order to develop sustainability ecological crop- livestock productions is necessary to participate in the markets of just prices the following are necessary: a) prohibition of the use of transgenic seeds; b) prohibition of the production of agro bio fuels; and c) to satisfy, as the first priority, the necessity of internal market, and newly later to satisfy the external demand.