

Report of the Panel that Discussed Research Priorities for the CGIAR in Latin America

1. Introduction

The Latin America and Caribbean panel took as a starting point the three main issues proposed by the interim Science Council of the CGIAR (poverty reduction, solving productivity issues, decreasing threats to sustainable development of agro-ecosystems). Two additional topics were attached, based on an article written by Dr. Enrique Alarcón and Dr. Jorge Ardila: threats to institutional support of research and innovation systems; the challenge of international competitiveness of Latin American agriculture.

Starting hypotheses for the discussion were expressed. Among them, the following were highlighted: The importance of employment to resolve poverty problems, the difficulty to decrease poverty through food price reduction; differentiation in strategies between large and small scale agriculture and the difficulty of preventing uniform strategies to increase productivity; development opportunities in a wise use of the broad base of natural resources that the region has; the need to adapt innovation systems to new regional problems and to emphasize in the creation of added value; the need to invest in improved coordination, organization and knowledge of the family-based agricultural sector in order to improve the competitiveness of the region.

Fourteen specialists took part in the panel discussions, representing mostly Spanish language and Caribbean countries, and in smaller scale, representing international centers. The panel had the participation of private and public scientists, businessmen, NGOs, agricultural policy specialists, and donors. The discussion was rich, constructive and critical and took place in a friendly and respectful environment.

The panel accepted most of the above hypotheses, and the discussion quickly focused on the implications for the CGIAR's work in Latin America. The interim Science Council's proposed distinction between topics of interest, opportunities and knowledge gaps was not observed: the discussion fluctuated among the different aspects from the beginning, with certain topics receiving more importance, and other topics receiving less. After three weeks of discussion, and trying to respect the subjective interest shown by the members of the panel, the moderator derived from the discussion, eight topics of possible interest for the CGIAR in Latin America. The panel members then expressed their opinions about these the topics.

This report summarizes the panel discussion, possible topics of interest for the CGIAR are presented, the priorities defined by the panel are shown and a short discussion of results is made.

2. Summary of discussion

2. A. General Aspects

1. Full agreement was reached among the participants, than the five starting issues (poverty, productivity limitations, threats to sustainable development, threats to institutionality, competitiveness) are interrelated (Lauckner). We can only get valid conclusions through a holistic approach.

2. A holistic approach must not only manage the analysis, but also interventions. The concepts of action chain (Mateo) and added value (Cadena) are introduced. Certain contributions go even further. The necessity of a more integrated rural development (Moscardi) in which rural incomes are not only received through farming production and related added value processes, but also through payment for environmental services.

There were several interesting suggestions about the holistic approach:

- The development of a G(enotype) x E(nvironment) x M(angement) x P(eople) approach. Teresita Zambrana proposed this approach in order to get to multi-institutional approaches that the CGIAR could lead, preferably within rural development projects.
- Edmundo Acevedo describes the necessity of a “new agronomy”, which considers in a better way environment aspects and producer management abilities, thus reaching a similar perspective to Teresita’s.
- Marianne Schmink proposes for the CGIAR to take a central role in “landscape level adaptive approaches” development, which blends high quality research in many disciplines (social, economy, biology, technology) through models.
- Holistic approach also implies an integration of players: producers.

What is interesting about these contributions is that they foresee a role of the CGIAR in pilot projects, not so in projects that resolve the problems themselves through a much larger area. The selection of the pilot projects is a very important consideration: importance of problems that can be covered, the possibility to create wide alliances and the possibility of generating useful methodologies could be included in the selection criteria.

- At the same time, Edmundo Acevedo proposes that the CGIAR keeps the action chain that it has been managing through many years: genetic improvement (but mostly based in biotechnology) – training – socioeconomic and policies studies.
- Claudio Barriga proposes a larger integration of the work of the CGIAR in long-term development policies, and a larger integration with the private sector.
- Marc Cohen highlights the importance of policy analysis that the CGIAR has been performing, thus contributing to a better performance of the agricultural research process, but also to strategies to fight poverty through “safety nets”, “food assistance programs” etc. Jurg Benz who emphasized on “vulnerability” of poor people seconded his comment. Marc warns us not to seek a single approach, but for us to acknowledge the specificity of problems.

The panel suggests that the CGIAR must continue conducting high quality research, but that the model of research must change: instead of “reductive” models, we must seek “inclusive” models. Taking into account that the CGIAR’s work in Latin America should or could have spillover effects (Nicolas Mateo; Marc Cohen), and also that this is the way to enhance the pertinence of international investments in Latin America, the development of these models could be a spearhead. The problem with these approaches is that they are very complicated, and difficult to manage.

3. Acknowledging interactions among poverty, competitiveness, environment and institutional support and productivity directed the panel to a number of very important conclusions:
 - Competitiveness results in employment, thus contributing to fight poverty (Pachico).
 - To enhance human capital, is essential to improve the possibility of people escaping poverty and to improve sustainable managing of natural resources (Barriga). Pilot projects or knowledge transfer programs oriented to education systems can be thought of.
 - As long as there is an agreement over the necessity to strengthen human capital, Edmundo Acevedo wonders if the CGIAR has a comparative advantage in this matter.
 - The CGIAR must seek its role participating in rural development strategies, more than in agricultural development strategies!
4. However, there is no great congruence about which are the most important topics for the CGIAR. Pachico, and most of all Zambrana and Barriga, argue about the importance of social capital and producers' organization. Barriga supports the thesis of a greater organization of the agricultural sector around the family farm. But Moscardi does not find the CGIAR's role on this topic, and Izquierdo says the CGIAR has neither the mandate nor the capacity to design socioeconomic policy, and suggests a concentration on genetic and biotechnological resources.
5. The importance of integrated approaches will have implications on the CGIAR's way of work. Would it have to concentrate on some pilot projects where it tries to emulate action chains? Or must it seek integration on projects managed by other parties? Or does it need to strengthen its links and its capacity to disseminate results? What is clear is that the CGIAR still must become further involved in other innovation and development initiatives, compared to what it is currently doing.
6. At the same time that we acknowledge the necessity of a holistic approach, several authors have made the observation that we cannot generalize on the entire region. We need holistic approaches for well defined "recommendation domains"!
7. International Donor's emphasis in Latin America is reduced compared to Africa and Asia (Jurg Benz). This fact requires some measures so that the CGIAR continues to work in Latin America:
 - Attention to priorities of donors, which means above all, emphasis on strategies to fight poverty.
 - To seek national co-financing (Nicolás Mateo)
 - Inclusion of research programs in integral development projects financed by multilateral banks
 - To seek financing in alliances with national partners.

2.B. Changes in poverty

1. There is a need for better poverty mapping, and to direct the CGIAR's actions towards poorer areas.
2. The CGIAR's chance to influence urban poverty seems less than 30 years ago, given that food prices are very cheap as it is.

3. The CGIAR's must have a better understanding of how its performance can contribute to enhance rural employment. There is the suggestion to evaluate how possible research lines influence employment and to use those evaluation methods in prioritizing.
4. More emphasis on post harvest activities has been proposed by several participants and has been rejected by others. Further analysis is probably required to understand the CGIAR's potential role on this topic. At this time, the importance of research for new agro-industry development is mentioned.
5. The CGIAR's work regarding poverty reduction must be included in wider development strategies.
6. Rural poor people need much more than social capital in order to negotiate a better position. The question is if the CGIAR must contribute to formation of social capital, beyond methodology development.
7. Poverty is closely linked with vulnerability, and poverty reduction strategies must integrate more stable and diverse production systems.
8. The debate on the CGIAR's role in post-harvest research to contribute to employment generation is centered on the comparative advantage of the private sector. What are alliance opportunities in this matter?
9. To reduce poverty must continue to be the CGIAR's central objective.

2.C. Constraints on productivity

1. Constraints on productivity by themselves will have less impact on economic development than in the past. The question is up to what degree the CGIAR must continue to focus on this topic. The obvious advantage is that the CGIAR knows this subject very well. The question is, if a focus on productivity responds to current demands.
2. In relation to this topic, a number of possible research topics have been suggested:
 - new tropical pests and diseases
 - climate change
 - product quality
 - agricultural production diversification, for instance, to tropical fruits.
 - double purpose cattle
 - forestry
 - greater biotechnology development
3. Southern Cone, Northwestern Mexico and Tropical savanna have well defined production systems, which must concentrate on cost reduction per unit of production. Promising alternatives must have priority, above all in tropical parts of the region.
4. There is a great urgency to develop mechanical help for small producers.

5. The CGIAR must consider a reduction on its work directed to solve productivity constraints. The criterion to be applied is whether or not “pro-poor” characteristics are being worked on.

2.D. Threats to sustainable development of agro-ecosystems and its context.

1. Water management, in every way possible, is becoming a main problem. Its expressions are very diverse: permanent or seasonal shortage; inappropriate water allocation; water quality and availability for post-harvesting processes.
2. It is suggested that under-utilized genetic resources for a higher future value should be treated as a priority.
3. The region needs a better work on forestry (tropical) and a greater access to results of such Centers as ICRAF and CIFOR.
4. Climate change requires attention, given that for many parts of the region there are no example of the effect of an increase in temperature. Besides, effects on rain availability may cause a need for very different production systems.
5. In order to maintain the continent’s rich resource endowment, more complete production systems analysis must be developed and applied. Current production systems may appear cheap, but are not very sustainable.
6. International conventions may be a good starting point to define research programs in the CGIAR.
7. There is a role for the CGIAR in sea resource harvesting and in the stabilization of sea ecosystems.

2.E. Threats to research and innovation institutions

1. The region needs more effective institutional models. It is important to understand that traditional institutes must not be kept. More integrated and efficient models must be developed, that understand how to better transfer knowledge in progress.
2. New institutional models for innovation and research must further emphasize on integrating private sector, NGOs and “no-INIA” knowledge sources, such as universities. They will be more diverse models. The CGIAR must link itself with this wider range of actors.
3. More attention to transfer and diffusion of technology is needed for the region, to make sure that new knowledge will be used. The private sector can play an important role given that it knows how to reach an important amount of people in the agricultural area. The CGIAR could take a leadership role. The CGIAR must promote alliances among public, private and civil sectors in order to accomplish more effective research results transfer.
4. The CGIAR must take more seriously the private sector (begging pardon to Claudio, for my omission in my initial proposal). The private sector is as essential in the

creation of wealth as the public sector, and its functioning criteria (to seek profits) are similar to government or NGO's survival strategies. We have to acknowledge the mutual interdependence and its legitimacy as a development agent.

5. Science and innovation institutions must improve their capacity to collaborate and build alliances. Changes in the institutional culture that encourage collaboration over competition are required. And collaboration is more effective if it is done with other types of organizations, for instance, when private and public sector collaborate. Through well-designed alliances, a more balanced rural development is achieved. What is important in alliances is to establish suitable financing mechanisms (for instance, semi-fiscal funds in the coffee sector of Colombia).
6. To stimulate biotechnology, a control system that can be managed by small companies, and not only by multinationals must be rapidly achieved. Current "biosafety" arrangements are responsible for the fact that only very large companies are enrolled. The public must understand the necessity and value of "biosafety", based on scientific knowledge. The CGIAR has a role in the orientation of biotechnology towards small producers, trying to emphasize positive aspects, and to control the negative. Finally, the CGIAR must use its work in biotechnology not only to solve specific production problems, but also to give access to biotechnology to national programs.
7. The importance of suitable legislation on property rights to stimulate innovation is acknowledged. However, this legislation must validate traditional rights of small producers. CG system must continue his policy of defensive intellectual property, and must continue to focus on global public assets.
8. The CGIAR can play a role in selection, packing and distribution of information.

2.F. The challenge of international competitiveness

1. To increase the competitiveness of agriculture, an approach focused on production costs per unit is not enough. The sector requires a bigger organization and bigger integration of markets. The concept of integrated chains can be of high utility.
2. The organization of small producers is important to assure that they do not end up losing in their contacts with the big players in the market.
3. Small producers must be integrated in a sector with better organization parameters, in order to compete in international markets. By linking small producers in integrated marketing chains, their market risks are reduced, and their investment opportunities are improved.
4. Latin America and Caribbean agriculture needs to integrate much more knowledge. Human capital to compete is lacking.

3. Possible main topics for the CGIAR in Latin America

Eight topics of interest for the CGIAR's work have arisen from the discussion. They are broad topics that will need to be specified by recommendation domains, products, or production system. There was no possibility to go to this level of detail in our panel discussions.

A. The development of holistic (or inclusive) approaches instead of reductive approaches in order to improve agricultural activity in rural areas.

These approaches combine the following elements: G(enotype) x E(nvironment) x M(anagement) x P(eople) and they require multi-institutional strategies that the CGIAR could lead, preferably within existing rural development projects. They can support the development of a "new agronomy", which considers in a better way environment aspects and producers' management ability. These approaches must combine high quality research in many disciplines (social, economic, biological, and technological) through models, and they need the integration of many actors: producers, other users of resources, government agents, researchers, businessmen, etc.

Through these approaches, a more integrated rural development can be sought, in which rural income is not only generated through agricultural production and related added value processes, but also through payment for environmental services. Specific topics that can be introduced in these approaches are: agricultural production diversification, for instance, through tropical fruits; double purpose livestock production; and forestry.

The CGIAR will work on pilot projects. Selection of pilot projects is a very important consideration: importance of problems that can be covered, and the possibility to generate useful methodologies and to establish wide alliances could be included in selection criteria. The development of these models could be an interesting spearhead for the CGIAR in Latin America.

B. Development of holistic (or inclusive) approaches in order to develop new agro-industries, through value chains

Through the development of new agro-industries, the CGIAR can contribute to the creation of higher added value and the generation of employment. The CGIAR must have a better understanding of the ways in which its work can contribute to increased rural employment. Several members have proposed a higher emphasis on post-harvesting (including product quality). Given that in these strategies competitiveness results in employment, there is a chance to contribute to reducing poverty, at the same time that economic growth is promoted. The CGIAR's approaches must be focused around the family farm. This strategy requires a higher integration of the CGIAR with the private sector.

In order to enhance its competitiveness, an approach focused on unitary production costs is not enough. Small producers must be integrated in a sector with better organization parameters, so that competition in international markets can be reached. Through the integration of small producers in integrated chains of commercialization, their market risks are reduced and their investment opportunities are improved.

C. The development of new institutional models for rural innovation

The region needs more effective institutional models. It is important to understand that traditional institutes must not be kept. More integrated and efficient models must be developed, that understand how to better transfer knowledge in progress. New institutional models for innovation and research must further emphasize on integrating the private sector, NGOs and “no-INIA” knowledge sources, such as universities. They will be more diverse models. In these models, the private sector is just as essential as the public sector when it comes to creation of wealth.

More attention to transfer and diffusion of technology is needed in the region, to make sure that new knowledge will be used. The private sector can play an important role given that it knows how to reach an important amount of people in the agricultural areas. The CGIAR could take a leadership role. The CGIAR must promote alliances among the public, private and civil sectors in order to accomplish more effective research results transfer.

The importance of suitable legislation on property rights to stimulate innovation and to direct collaboration among different organizations is acknowledged. However, this legislation must validate the traditional rights of small producers.

Science and innovation institutions must improve their capacity to work in collaboration and in alliance with others. Changes in the institutional culture to encourage collaboration over competition are required. Collaboration is more effective if it is done with other types of organizations, for instance, when private and public sector collaborate. Through well-designed alliances, a more balanced rural development is achieved.

D. Biotechnology to fight poverty, and affordable to everyone

To stimulate biotechnology, a control system that can be managed by small companies, and not only by multinationals must be rapidly achieved. Currently, “biosafety” arrangements are responsible for the fact that only very large companies are enrolled. The public must understand the need and value of “biosafety”, based on scientific knowledge. The CGIAR has also a role in the orientation of biotechnology towards small producers, trying to emphasize positive aspects, and to control the negative. The CGIAR must use its work in biotechnology not only to resolve specific production problems, but also to give access to biotechnology to national programs.

Within the development of a biotechnology program, emphasis should be given to methods that use no genetic transformation, in order to avoid problems of technology acceptance.

E. Research, development and implementation of a “pro-poor” agricultural policy

There is a need for better poverty mapping, and to direct the CGIAR’s actions and policy in general towards poorer areas. A greater integration of the work of the CGIAR in long-term development policies, and a larger integration with the private sector are proposed. These studies may result in a better performance in agricultural research processes, but they can also contribute to strategies to reduce poverty through “safety nets”, “food assistance programs”, etc. The necessity to develop programs that explicitly acknowledge the “vulnerability” of poor people is emphasized.

Some hypotheses to be evaluated are:

- a. Agricultural research has less influence on urban poverty than 30 years ago, given that food prices are already very low.
- b. Rural poor people need much more social capital in order to negotiate a better position.
- c. Poverty is closely linked with vulnerability, and poverty reduction strategies must include the development of more stable and diverse production systems.

F. The development of programs that support the creation of human capital among rural poor people.

To enhance human capital quality is essential in order to improve the possibility of people escaping poverty and to improve the sustainable management of natural resources. The importance of social capital and producer's organization is emphasized. The thesis of a stronger organization of the agricultural sector around the family farm, is supported.

In order to build a work program on this topic, pilot projects to develop and transfer knowledge in the rural sector could be thought of. These projects would have a leading role in the development of new methodologies. Knowledge transfer programs oriented towards educational systems, for instance, through curricular development for pre-graduate education or vocational training, in Spanish, can also be considered.

G. Water management and climate change

Water management, in every way possible, is becoming a main problem. Its expressions are very diverse: continue or seasonal shortages; inappropriate water allocation; water quality and availability for post-harvesting processes. We can also treat climate change combined with water problems. Climate change requires attention, given that for many parts of the region there are no examples of the effect of an increase in temperature. Besides, effects on rain patterns may bring a need for very different production systems.

While the region, on average, does not have the same shortage problems as the Middle East, or part of India, water availability in certain parts of the region (for instance, Mexico, Northeastern Brazil) is very poor. In other parts of the region, inadequate management of basins is enhancing the variability of water availability, and is creating flood and drought risks.

H. Genetic resources management

It is suggested that under-utilized genetic resources should be managed having in mind their future higher value. The region houses a large part of the world's genetic diversity, including species like maize, potato, cassava, beans, and others. Research on genetic resources in the region can bring important benefits for agricultural production, and can be highly beneficial to other parts of the world. There is a great potential for the production of International Public Goods (IPG) around this issue. This topic reflects the CGIAR's traditional strength.

4. Prioritization of issues of interest for the CGIAR

To establish priorities, panel members were asked to allocate a total of 20 points between different topics, following their personal preferences. The result is summarized in table 1.

Table 1: Results of prioritizing process of LAC panel

Issues	Points	Frequency
A Rural holistic approaches	1.7	6
B Agro-industrial holistic approaches	1.4	5
C New innovation models	2.3	6
D Affordable biotechnology	4.0	10
E Pro-poor agricultural policy	2.4	8
F Human capital development	2.3	7
G Water management and climate change	2.8	9
H Genetic resources management	3.2	7
Total	20	10

The sequence of priorities is:

1. Affordable biotechnology (4.0)
2. Genetic resources management (3.2)
3. Water management and climate change (2.8)
4. Pro-poor agricultural policy (2.4)
5. New innovation models (2.3)
6. Human capital development (2.3)
7. Rural holistic approaches (1.7)
8. Agro-industrial holistic approaches (1.4)

5. Discussion of priorities

While the panel had a very rich and exploratory discussion on new research approaches, in the end the priorities are centered in those issues where the CGIAR's comparative advantages are clear, based on past experience, in areas like biotechnology, genetic resources and (a bit less) water management. Prioritized topics also reflect areas where the CGIAR, with its restricted emphasis in Latin America, may have a visible and concrete impact. The first three prioritized issues suggest that the CGIAR focuses on physical and biological issues.

If the CGIAR's budget in the region were wider, the panel results suggest an opening towards political-institutional issues (agricultural policies, new innovation models, human capital development). The results of the panel imply that only through a larger budget, that does not seem feasible at the moment, the CGIAR could have a significant influence and a concrete impact on these topics,

While there is plenty of interest in the panel for holistic approaches, the panel members apparently do not consider that the CGIAR is in a condition to achieve enough progress in this area. The initiative for the development of these approaches must come from other actors.

Final conclusion: After a rich and very exploratory discussion, the panel prioritizes those topics where the expected impacts are relatively clear. In the current CGIAR situation, the panel prefers to avoid bets and choose what is certain.