

ANDEAN FOOD SYSTEMS WORKSHOP

QUITO, ECUADOR

NOVEMBER 9-12, 1992

Prepared By:

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Background and Justification:

IDRC has supported numerous crop production and post-production projects in the Andean region over the past decade. It has been recognized however, that due to the complexity of the physical and social environment in the Andes that a holistic, multi-disciplinary approach is required in order to achieve a meaningful impact. Application of a systems approach to problem identification and research across production, transformation and consumption activities for food products is clearly required, especially in the countries of Peru, Bolivia and Ecuador. It has also been recognized however, that there is a scarcity of investigators trained in the post-production sciences (e.g. agricultural economics, food technology, nutrition, agricultural engineering, etc.) compared to the number of investigators trained in the production sciences. This is even more critical in terms of capacity to apply these disciplines with community and participatory approaches. There is a clear need for a training and research program aimed at developing human resources in the Andes capable of participating in multi- or inter-disciplinary teams with production scientists.

Over the past year, discussions have been held with the University of Manitoba and IDRC regarding a collaborative initiative to respond to this need. The University of Manitoba has a long history of international research, graduate teaching and training, including IDRC projects on farming and post-production research in Central and South America. These initiatives focused on applied research problems, linking food scientists, nutritionists and engineers from developing countries with their Canadian counterparts. A strong base has been built upon which efforts can now be expanded to include research partners in Peru, Ecuador and Bolivia; in areas beyond nutritional biochemistry and agricultural engineering to include agricultural economics and marketing, community nutrition, small enterprise development, and anthropology/sociology; and in research institutions beyond government and academic institutions to include non-governmental organizations and the private sector. This initiative could focus on improving research capacity at local institutions, through formal and informal training in the region and at the University of Manitoba. A series of support activities is envisioned including training workshops and short courses, student and scientific exchange, and small grants research. Activities should facilitate multi-disciplinary and multi-institutional team building for research in Andean food systems. An emphasis will be placed on community-based, participatory research in the development of technical and organizational alternatives.

In order to stimulate interest among faculty at the University of Manitoba not directly involved in the previous IDRC projects, a meeting was held at that university on May 7-8, 1992. Approximately 28 scientists and students attended from a diverse range of departments and faculties including food science, foods

and nutrition, agricultural engineering, agricultural economics, business administration, anthropology and entomology. Invited speakers gave presentations on participatory development research (Nora Cebotarev, Guelph University) planning and operation of research and training networks (Gary Newkirk, Dalhousie University), the re-organization of programming at IDRC (Bill Edwardson) and potential research partners in Peru, Ecuador and Bolivia (Barbara Macdonald, IDRC). Enthusiasm for the ideas presented was apparent although it was clear that concrete linkages with Andean counter-parts would need to be made before plans for research and training activities could be planned.

Further discussions between IDRC and the network proposers at the University of Manitoba (Dr. James Townsend, Dept. of Agricultural Engineering and Dr. Dennis Fitzpatrick, Dept. of Foods and Nutrition) prompted the conclusion that a similar workshop should be held in South America. It was deemed necessary that the identified potential Andean collaborators be brought together in order to judge the need for; feasibility of; and interest in; this type of project. It was also recognized that a participatory approach should be fostered at all levels of research and that the Latin American scientists should be brought into the planning process as soon as possible in order to ensure the relevance of this endeavour. It was believed that Latin American scientists would be more interested in participating in a network which they jointly designed rather than one that was presented pre-packaged.

As a result, a 3 day workshop was organized in November of 1992 to address the above-described concerns. The meeting was held in Quito, Ecuador with the following objectives:

1. Explore the concept of participatory, multi-disciplinary, food systems research with researchers from the Andean region (Bolivia, Peru and Ecuador);
2. Identify possible structures and activities for a collaborative project that will develop human resources and conduct research in this area, including the development of inter-regional links and links to the University of Manitoba;
3. Initiate the formation of multi-disciplinary groups of investigators in each of the target countries (Bolivia, Peru and Ecuador) who will aid in the development of the project and who will ultimately be capable of collaborating on this research.
4. Delegate tasks for the development of the final proposal.

Workshop Proceedings:

Due to the early stage of project development and a desire to have meaningful discussion of the issues, it was decided that a small, **representative**, group of researchers be invited to the meeting. As a result, at least 2 participants were invited from each of the target countries and participants were invited from organizations that cover the spectrum of research institutions including universities, national government research programs and non-governmental organizations. Three representatives from the University of Manitoba were invited as well as a number of resource people including representatives from organizations such as CIP and Latinreco, IDRC consultants, and project leaders from other food systems projects in the Andean region. In total 17 individuals participated in the meetings and are listed in Appendix A.

The event began on the evening of November 9, 1992 with a social evening. An informal activity of this nature was deemed important to allow the participants an initial opportunity to mingle and exchange experiences. It was discovered that many of the Latin scientists have english language capabilities allowing for direct discussions with the University of Manitoba representatives. The formal agenda for the meetings was set with the aid of Carlos Nieto, Julio Chang and Arturo Romero and is given in Appendix B. The meetings were opened by Barbara Macdonald who greeted and thanked all the participants for their attendance, reiterated the objectives of the workshop and discussed the evolution of the network concept. The first day of the meetings largely consisted of individual presentations from the participants. This was a lengthy but necessary exercise in order for all the participants to understand one another's work and to start the process of visualization of potential areas of collaboration.

The Bolivian participants spoke first (Dr. Gonzalo Alfaro and Ing. Gumerindo Benavidez) and discussed the programming and capabilities at each of their institutions (a research program at a university and an NGO). Dr. Alfaro's work at the Universidad de San Simon, Cochabamba focuses on research on foods, natural products and the environment. The program houses physical, chemical and microbiological laboratories and also participates in regional and national projects oriented towards development. Ing. Benavidez, from SEMTA (Servicios Multiples de Tecnologias Multiples) described their institution as a private NGO focused on social development through the generation of appropriate technology for peasant production and post-production systems. SEMTA's activities include micro-regional planning, analysis of agro-ecosystems, validation of traditional peasant practices, extension, operation of a credit program and development and operation of an information centre. Ing. Benavidez stated that one of their most important contributions to a network such as this would be their experience in giving agricultural and environmental research a social development orientation.

The Peruvian participants followed the Bolivian participants. Dr. Carlos Lescano from the Facultad de Industrias Alimentarias, Universidad Agraria de La Molina began by describing the university and its history. The university has been in operation for 90 years and offers professional and post-graduate degrees. Research and training focuses on agriculture in 3 regions of Peru: the Coast, the Jungle and the Highlands. Dr. Lescano then turned to a description of his faculty which is 23 years old and is the only faculty of this type in the Andean countries. The faculty has 40 professors, 500 undergraduate students and 30 graduate students. The faculty has 3 departments: food technology, food sciences and food engineering. Research takes place in their 5 laboratories and their pilot plant and has included such areas as food processing, equipment development, food storage, and food analysis. Specific research projects in the past have included development of dried products from Andean tubers, starch characterization, meat processing and traditional cheese making. One point of difficulty in their Andean crop work has been technology transfer. Ing. Juan Sanchez Barba, director of the Centro de Investigacion, Educacion y Desarrollo (CIED) described both his institution and their linkages with other NGO's in the Andean region. CIED specializes in rural development with an agro-ecological emphasis. CIED has activities in 4 regions of Peru and is expanding to conduct research beyond purely agricultural production to include processing, commercialization and rural agro-industry. Ing. Sanchez described CIED's previous projects with IDRC which included collaborative research with Peruvian provincial universities on Andean production and post-production systems. Ing. Sanchez and CIED are involved both with a national network of NGO's and an international network of NGO's in South America which also includes SEMTA called CLADES. From his experience, Ing. Sanchez recommended that a valuable area of funding for this project would be research and extension in small enterprise development with universities, NGO's and industry. Business management and marketing are especially important areas for potential concentration.

Interesting discussion took place after the presentations of the Peruvian group. The possibility of bringing Ecuadorian and Bolivian students to La Molina for formal training was suggested. Also, differences between the research approaches taken by NGO's versus academic institutions were explored. There is concern that development-oriented research in academia is too heavily based on models developed by external agencies rather than being driven by peasant demand. Attempts by the network presently under consideration to develop new participatory models of technology generation and extension would be most appropriate.

The Ecuadorians were the last group to make their introductions. Ing. Carlos Nieto from INIAP explained that INIAP is the research arm of the Agricultural Ministry and that he has led projects in post-production research since 1986. There is an entire research program dedicated to Andean crops which is particularly

interested in quinoa, lupins, amaranth and melloco. Ing. Nieto is currently leading a project which integrates research on production, processing and commercialization of Andean crop based products at the pilot plant level. Dr. Julio Chang, economist at FUNDAGRO, began his presentation with a video which highlighted some of FUNDAGRO's work in Ecuador. FUNDAGRO's application of systems research in potatoes, cassava and milk products was described. Dr. Chang stressed that this network would need to develop good systems of evaluation and follow-up of its projects. Dr. Chang's presentation was followed by a description of the research and training activities at FLACSO (Facultad Latinoamericana de Ciencias Sociales) by Francisco Carrion. FLACSO is an international and inter-governmental organization with one of its institutions located in Quito. The institution offers courses in development studies and post-graduate programs in political science, anthropology, economics, history and an inter-disciplinary program in Amazonian studies. They also offer support to university programs in the social sciences. They see the potential contributions of FLACSO to this project as the following: organization of courses such as the design and management of participatory projects in forestry, short programs for professionals, exchanges with foreign professors. They consider themselves to be a flexible institution and should be able to respond to requests from the network as appropriate. The final Ecuadorian presentation was made by Ing. Nelson Andrade from CESA (Central Ecuatoriana de Servicios Agrícolas). CESA's work was described as being focused on marginalized groups in Ecuadorian society with activities under way in six provinces. It is an NGO mainly concerned with rural development activities and research is only conducted if there is a practical application to their primary development activities. CESA has extensive experience in household studies and women's studies and has interests in small enterprises and artesanal fishing. Its principal lines of action are agricultural production including technical assistance and training, conservation of natural resources including forestry and research with native species, training in the areas of agricultural practices, economics and administration, and social organization.

Discussion following the Ecuadorian group presentations centred around exploration of projects with social objectives versus strictly commercial or income generating objectives. The need for an inventory of research groups in Ecuador was stated as there is an information gap among the groups regarding their activities and a large degree of duplication of effort is expected to be taking place. The need for an inventory activity was also vocalized for the other two Andean countries. It was reiterated that the majority of development groups and agencies are set in a few models of intervention when new methodologies require exploration.

On the afternoon on this first day of meetings (Tues., Nov. 12), Carlos Nieto, INIAP, Ecuador, and Ing. Jorge Reinoso, Proyecto PISA, Puno, Peru gave presentations on their projects. Both

these projects take a systematic approach to agricultural research which attempts to integrate investigation from the point of production to consumption. The project in Ecuador, which takes place in the canton of Guamate, Chimborazo attempts to study alternative cropping, processing and commercialization activities in a region characterized by extreme ecological degradation. There is a high degree of collaborative work with indigenous groups in the project which was difficult to achieve initially due to the novelty of the ideas being introduced and competition in the region with other NGO's. The PISA project in Peru studies agricultural and livestock production and post-production systems in the Altiplano. Both rural and urban systems are studied with an emphasis on the interaction between systems. Again, the technicians spend the majority of their time doing field work and spend 3 weeks out of 4 living in indigenous communities. One promising alternative for these communities is production of canned alpaca meat although further marketing and feasibility research is required.

The final presentation of the afternoon was given by the representatives from the University of Manitoba. Dr. James Townsend described the evolution of the network ideas and past U of M projects in Latin America with a focus on a recently completed multi-disciplinary project on Andean foods in Peru. Dr. Benjamin Paz, from the Universidad Nacional de San Agustín, Arequipa, Peru is currently on study leave at the University of Manitoba as part of the Andean foods project and described the benefits of their collaborative research and training for both the Canadian and Peruvian universities.

The second day of the meetings began with further presentations on systematic post-production research. The first speaker was Dr. Christian Wahli, Director of Latinreco, a Nestle research company. Dr. Wahli described Latinreco's operations which include agronomic research, product development and process development. Much of their research is focused on cereals and culinary products. In the past, they conducted quite a bit of work on quinoa but found that it was difficult to obtain quality raw material in the amounts required and that production costs were quite high. Dr. Wahli also commented on the difficulties in operating a network and that participants should focus more on exchange of ideas and less on their own individual research. Dr. Gregory Scott, Head of the Post-Harvest Program at the Centro Internacional de la Papa (CIP) described CIP's organization and its work on its mandated crops: potatoes, sweetpotatoes and more recently minor Andean crops. There are 6 programs at CIP: production systems, genetic resources, disease control, pest control, seed production and storage, post-production systems and commercialization. Dr. Scott also described his experiences with a network of national programs in Latin America on potato commercialization called PRACIPA. Each participating country chose one research project related to this theme and they exchanged their experiences and results through international

meetings, training courses at the national and regional level and special exchange visits. A discussion of networks ensued with Dr. Scott stating that networks are very difficult to organize and that hiring of a full-time technical coordinator is recommended as administrative duties are very time-consuming. Juan Sanchez supplemented the discussion with his experiences from CLADES, the consortium of NGO's in Latin America.

The remainder of the morning was spent in working groups. The working groups were organized according to country and were asked to formulate a presentation which included the following themes for their country:

- priorities for research
- priorities for training activities
- potential activities for promoting the idea of a network over the next 6 months

The country working groups were also asked to elect a contact person for the groups who would be able to communicate with IDRC and would be responsible for communicating any developments to the remainder of the working group.

The afternoon of the second day was opened with presentations from each of the country working groups. There was a great deal of enthusiasm displayed during each of the presentations and copies of the ideas generated by each group are presented in Appendix C. Common ideas between the groups included the necessity of activities in the areas of rural agro-industry especially business management, marketing, food chemistry and new product development. All groups agreed on the necessity of conducting an inventory in each country of the status of post-production research in order to define research and training priorities for the project. The participants stated that this activity was warranted as they were collectively aware of many other research groups in their respective countries not represented at the meeting. The inventory would aid in the reduction of duplication of effort and the identification of additional institutions and individuals to augment the country working groups.

Group discussion took place at the end of the last presentation which was marked by enthusiasm. This was the first opportunity for the participants to discuss the concepts informally. Certain participants stated their concern that the most important concept to be defined initially was the structure of the communication and exchange goals of the network, with the research activities to be defined at a later time. Other participants remarked that definition of the research activities was the most important activity and that the communication and training activities would flow naturally once these goals had been defined. The basic nature of the project was also under debate with some participants looking for primarily information exchange and other participants looking for a more active research mandate with the working groups developing and validating multi-disciplinary and multi-institutional research models. It was clear that much more discussion was required and that definition of research and

training activities for the project was premature at this stage. The second day of the meetings was closed by Arturo Romero who reiterated the objectives of the meeting to the group and drew up a schematic diagram for activities over the next 6 months. The graph showed that the initial activities for the project over the next 6 months would be completion of the inventory and further promotion of the network idea in the three countries including identification of additional members. Upon completion of the inventory and further financing of the project, the participants would be brought together for another meeting to receive the results of the inventory and to review and define proposals for the research and training activities of the project. It was decided that the final day of the workshop would be spent in multi-country working groups. Groups would be focused on the conduct of research, training and communication activities within the network including a skeleton of potential types of activities (specific topics to be defined after the inventory), potential problems, etc. It was also decided that Jorge Reinoso would attempt to formulate a methodology for the conduct of the inventory in each of the countries. In the afternoon, we planned to receive presentations from the working groups. At the end of the day, the country groups would be re-assembled to discuss the conduct of the inventory including a potential budget. The participants agreed on this strategy and we broke for the day.

The third day of the meetings proceeded according to the re-drafted agenda. Two working groups were formed, one to discuss training activities and one to discuss research activities. Ing. Jorge Reinoso worked independently on the inventory activity and generating potential activities for diffusion of information within the network as well as wider dissemination of results. Presentations were made by each of the groups and copies of the acetates presented are found in Appendix D. The mixed-country working groups were productive and many good ideas were put forward. Discussion was limited to 20-30 minutes after each presentation in order to complete the agenda of activities for the day. Participants were invited to send their ideas, comments, recommendations to IDRC after the workshop if they so desired.

The objective of the research component of the network was defined as "the development of post-production research for Andean foods that will establish methodology in both inter-institutional and multi-disciplinary research with the participation of Bolivia, Peru, Ecuador and Canada". Priority Andean foods for investigative activities included potato, quinoa, olluco, camelids, dairy products and faba beans. Actual research projects and partners are to be defined upon completion of the country inventory. The objective of the inventory is to define and justify future lines of investigation. A tentative chronogram of activities to complete the inventory was drafted by the research working group and is as follows:

- data collection (inventory) (3 months)
- report preparation (4 months)

- exchange of information between the 3 countries
- preparation of research proposals for each country (2 months)
- exchange of proposals between the 3 countries for review.

The objectives of the training component of the network were defined as documenting existing knowledge of post-production systems in the 3 countries, strengthening the capacity of professionals to perform research, and strengthening the capacity of rural producers to improve agricultural and livestock post-production systems. Suggested methodology for the training component was to use the existing institutional capacity in the target countries including universities, NGO's and government programs with technical and academic back-stopping from the University of Manitoba and CIP as required. Tentative activities under training of professionals were defined as post-graduate training, continuing professional education including seminars, workshops and courses, professional and student exchanges. This level of activities would be coordinated and executed at the regional level (Andean region) under the responsibility of the working group and the larger project. A level of training for rural producers was also recommended with peasant organizations and small business operators as examples of participants. Recommended potential activities at this level included short courses, workshops, field days, and exchanges and visits. These activities would be organized at the national level and would fall under the responsibility of the country working groups. Validating results from the research component of the network would be one of the main objectives of this level of the training component. Key general themes for training identified were concepts and methodology in food systems research, food and fibre processing methods, methods for commercialization and business management. Key Andean products identified were potato, quinoa, olluco, faba beans, camelids and dairy products. That is, the same products identified by the research group were also identified by the training group.

Ing. Jorge Reinoso presented potential activities under the communication component of the network. These ideas included conferences, meetings of special interest groups, mechanisms for individual information exchange such as mail, fax, electronic mail, periodic bulletins, annual reports of network activities, publications in journals and the bulletins of other networks, and a data base of members. Ing. Reinoso also presented a potential interview guide to be used for collecting data for the inventory. This underwent extensive discussion with the group rather polarized regarding whether the inventory should be highly structured and quantitative or more of a qualitative, purposive exercise. Discussion in the larger group was growing unproductive, so the membership broke into country groups to discuss how the inventory could be completed within their countries and with what resources. Each group produced a draft "mini-proposal" for the inventory which was taken to IDRC for discussion and potential funding.

The meeting was closed at the end of the third day with a discussion of the advances made during the workshop. The floor was opened to the participants to make comments.

Conclusions:

The participants invited to the meeting were enthusiastic about the potential network project. Participants represented a spectrum of research institutions and demonstrated a wide variety of experiences that fall under the theme of Andean Food Systems. A desire to share these experiences and to develop new methodologies in inter-disciplinary and inter-institutional food systems research was expressed. Examples of topics of broad interest to the entire group included research and training in rural agro-industry, marketing and methods for maximizing community participation and acceptance of development and research projects. It was drawn to the attention of the workshop planners that networks with similar themes exist in the region and that this project should move beyond simply information exchange to forge new cooperative links between institutions with common and complementary interests at both national and regional levels.

Forging of these links has been initiated at this meeting and support has been voiced for the continued development of the project. Participants expressed a strong concern that in order for the planning of relevant research and training activities an inventory of research institutions with interests in Andean food systems research be conducted. IDRC has responded to this request with funding and the inventory is currently under way in the countries of Peru, Bolivia and Ecuador. Coordination of the data collection, analysis and reporting activities is being carried out by Dr. Julio Chang (Ecuador), Dr. Gonzalo Alfaro (Bolivia) and Ing. Jorge Reinoso (Peru) with participation of the country working groups. An international meeting will take place upon completion of the activity to review results and proposals for initial activities in each of these countries.

Appendix A: List of Participants:

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Appendix B: Planned Program for the Workshop

Monday, November 9, 1992:

7:00 - 9:00 p.m. Reception - at the FUNDAGRO Building

Tuesday, November 10, 1992:

8:30 - 9:00 Opening Remarks
Barbara Macdonald

9:00 - 12:30 PRESENTATIONS BY PARTICIPANTS

1) BOLIVIA:

9:00 - 9:15 Gonzalo Alfaro, UMSS, Cochabamba
9:15 - 9:30 Gumerindo Benavidez, SEMTA, La Paz
9:30 - 9:50 Discussion

9:50 - 10:10 Coffee

2) PERU:

10:10 - 10:25 Carlos Lescano, UNA La Molina, Lima
10:25 - 10:40 Juan Sanchez, CIED, Lima
10:40 - 11:00 Discussion

3) ECUADOR:

11:00 - 11:15 Julio Chang, FUNDAGRO, Quito
11:15 - 11:30 Francisco Carrion, FLACSO, Quito
11:30 - 11:45 Nelson Andrade, CESA, Quito
11:45 - 12:00 Carlos Nieto, INIAP, Quito
12:00 - 12:30 Discussion

12:30 - 2:30 LUNCH (FUNDAGRO)

2:30 - 6:30 IDRC EXPERIENCE IN THE ANDES (POST-PRODUCTION RESEARCH)

2:30 - 3:15 PISA Project, Puno, Peru
Jorge Reinoso

3:15 - 4:00 Quinoa Project, Guamote, Ecuador
Carlos Nieto

4:00 - 5:00 Andean Foods Project, University of Manitoba
Dennis Fitzpatrick, James Townsend,
Merle Faminow, Benjamin Paz

5:00 - 5:20 Coffee

5:20 - 6:30 Discussion

Wednesday, November 11, 1992:

| | |
|---------------|--|
| 8:30 - 9:15 | Presentation by Latinreco Christian Wahli |
| 9:15 - 9:30 | Discussion |
| 9:30 - 10:15 | Presentation by CIP Gregory Scott |
| 10:15 - 10:35 | Discussion |
| 10:35 - 11:00 | Coffee |
| 11:00 - 1:30 | COUNTRY WORKING GROUPS |

Development of a Presentation on:

- Resources of the institutions (comparative advantage in food systems research)
- common and complementary interests among the institutions
- reaction to the previous day's presentations
- priorities for research for their country and their institutions
- priorities for training

| | |
|-------------|--|
| 1:30 - 2:30 | LUNCH (FUNDAGRO) |
| 2:30 - 4:00 | COUNTRY WORKING GROUP PRESENTATIONS |
| 2:30 - 3:00 | Bolivia |
| 3:00 - 3:30 | Peru |
| 3:30 - 4:00 | Ecuador |
| 4:00 - 4:30 | Coffee |
| 4:30 - 5:30 | Discussion |
| 5:30 - 6:00 | Formation of Two Working Groups to Prepare the Proposal (Training and Communication within the Network; Research Activities) |

Thursday, November 12, 1992:

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|---------------|--|
| 8:30 - 10:40 | PROPOSAL WORKING GROUPS |
| 10:40 - 11:00 | Coffee |
| 11:00 - 12:00 | PRESENTATION OF WORKING GROUP RESULTS |
| 12:00 - 2:00 | LUNCH (FUNDAGRO) |
| 2:00 - 3:00 | DISCUSSION AND INTEGRATION OF PRESENTATIONS |
| 3:00 - 3:20 | Coffee |
| 3:20 - 5:00 | FINAL DISCUSSION (DECISIONS, IMMEDIATE ACTIVITIES, RESPONSIBLE INDIVIDUALS) |
| 5:00 - 5:30 | CLOSING REMARKS |

Appendix C: Reports from Country Working Groups (in Spanish)

GRUPO DE BOLIVIA

1. PRIORIDADES DE INVESTIGACION

- | | | |
|--|---|------------------|
| Alimentos andinos (Altiplano, valles) | - | quinua, tarwi |
| | - | papa amarga |
| | - | Camelidos |
| | - | leche |
| | - | pulpas de frutas |
| | - | hortalizas |

TEMAS:

- | | | |
|------|---|---|
| PAPN | - | Contaminantes agro-ambientales (pesticidas) |
| | - | Sustancias tóxicas al consumidor (glicoalcaloides saponinas) |
| | - | Almacenamiento |
| | - | Transformación |
| | - | Organización productiva comunitaria |
| | - | Mercadeo y comercialización |
| | - | Sistemas de crédito |

2. PRIORIDADES DE CAPACITACION

DEMANDA

- * Análisis especializados de alimentos
 - Alcaloides
 - Pesticidas
 - Vitaminas
 - Glicoalcaloides
 - Identificación de microorganismos
- * Mercadeo y comercialización
- * Agroindustria rural
 - Carnes
 - Evaluación de proyectos
- * Diseño maquinaria agrícola - granos

OFERTA

- * Entrenamiento análisis alimentos
- * Diseño prototipos tecnológicos de maquinaria poscosecha

* Capacitación técnica en:

- Forrajes
- Riegos y drenajes
- Agricultura
- Ganadería
- Construcciones rurales
- Administración, contabilidad

* Transformación rural de alimentos

3. ACTIVIDADES DE PROMOCION

* Información

- Implementación sistema información y comunicación
- Sistema base de datos
- Inventario general de instituciones

* Difusión

- Competencia nacional "sistemas de alimentos andinos"

* Fortalecimiento

- Taller nacional "Investigación y desarrollo en alimentos andinos".

* Consolidación

- Taller internacional

4. PROXIMAS ACTIVIDADES

- Formulación y negociación del proyecto

5. OTROS

- persona para contacto: GONZALO ALFARO

GRUPO DE PERU

1. OBJETIVO DE LA RED

Investigación y capacitación en sistemas de post-producción en alimentos andinos.

2. PROBLEMAS A INVESTIGAR

- Por cultivos y crianzas
- Por fases del sistema de post-roducción

3. MARCO INSTITUCIONAL

Cooperación enterinstitucional entre universidades, instituciones públicas y organizaciones no gubernamentales a nivel regional, nacional y andino.

4. LINEAS DE INVESTIGACION

- * Complementar el diagnóstico por productos y por fases de post-producción.
- * Investigación tecnológica en:
 - Almacenamiento
 - Procesamiento
 - Empaques
- * Investigación de mercados por producto
 - Regional
 - Nacional
 - Internacional
- * Análisis de experiencias en modelos de gestión

5. LINEAS DE CAPACITACION

- * Seminario taller en sistemas de post-producción (Aspectos conceptuales)
- * Seminarios específicos en:
 - Toxicología en alimentos andinos
 - Metodologías en medición de mermas y pérdidas
 - Mercadeo de productos procesados
 - Dietas y nutrición
- * Intercambios profesionales

* Entrenamiento profesional (Grados, post-grados)

6 INFORMACION

- Bases de datos documental en aspectos tecnológicos de gestión y mercado.
- Eventos de coordinación
- Boletín informativo/correo electrónico
- Informe de mercados externos

CRIANZAS ANDINAS (PROBLEMAS)

| FASES PRODUCTOS | ACOPIO Y SELECCION | ALMACENAMIENTO | PROCESAMIENTO TRANSFORMACION | MERCADO INFORM. CONSUMO | TRANSPORTE Y EMBALAJE | GESTION EMPRESARIAL |
|-----------------------------|------------------------------|-----------------------------|------------------------------|--|-----------------------|---|
| Camelidos (alpaca) (llamas) | Selección de carnes y cueros | almacenamiento al frio | Derivados de carne Curtidos | Estudios de mercado nacional e internacional | | Modelos de gestión. Capacitación gerencial. |
| Ovino | Selección de carnes y cueros | almacenamiento al frio | Procesamiento de carnes | Estudios de mercado nacional y regional | | Modelos de gestión. Capacitación gerencial. |
| Derivados de leche | Técnicas de acopio | técnicas de almacenamiento. | Producción de quesos | Estudios de mercado nacional y regional | | Modelos de gestión. Capacitación gerencial. |

CULTIVOS ANDINOS (PROBLEMAS)

| FASES PRODUCTOS | ACOPIO Y SELECCION | ALMACENAMIENTO | PROCESAMIENTO TRANSFORMACION | MERCADO INFORM. CONSUMO | TRANSPORTE Y EMBALAJE | GESTION EMPRESARIAL |
|--------------------|--------------------|-----------------------------|--|--|-------------------------------|---|
| Papa | Manejo y selección | deshidratado y mermas | Análisis microbiológico recopilación de tecnología Derivados | Estudios de mercado nacional e internacional | técnicas para reducir mermas. | Modelos de gestión. Capacitación gerencial. |
| Quinoa | | almacenamiento al frio | Procesamiento de carnes | Estudios de mercado nacional y regional | | Modelos de gestión. Capacitación gerencial. |
| Derivados de leche | Técnicas de acopio | técnicas de almacenamiento. | Producción de quesos | Estudios de mercado nacional y regional | | Modelos de gestión. Capacitación gerencial. |

GRUPO DE ECUADOR

CESA
FUNDAGRO
INIAP
ESCUELA POLITECNICA
FLACSO

1. Necesidad de realizar un inventario de instituciones, actividades y resultados vinculadas a poscosecha, procesamiento y mercadeo.

- Hay una erie de instituciones en este campo con las que no se tiene vinculación.
- Se están duplicando esfuerzos
- Esta identificación permitirá precisar las líneas de acción y las respectivas ventajas comparativas.

2. Investigación

Partiendo de la definición de que estará trabajando en el área andina/ de sistemas de producción.

- Poscosecha

Granos/tubérculos/frutas y hortalizas/enseres. Generar tecnología y fomentar intercambio.

Identificación y desarrollo de nuevos roductos para los grupos de productos andinos.

Identificación y desarrollo de mercado potencial

3. Capacitación

- A nivel de formación de recursos/posgrado

Poscosecha
Transformación
Política agrícola
Economía agraria
Técnicas de gestión

- Evaulación de las dificultades, modelos alternativos de desarrollo de proyectos, acciones con productores y sus organizaciones para facilitar un proceso de capcitación a nivel de las instituciones es que trabajan en sistemas alimenticios andinos.

- a nivel de transferencia
- a nivel de los módulos organizativos de gestión

4. Sistema de información/ base de datos,

Informacion Institucional (para el inventario)

Nombre:

Tipo de Organizacion:

Actividad:

Productos:

Direccion:

Persona a Contactar:

Appendix D: Reports from Proposal Working Groups (in Spanish)

BASES PARA LA PROPUESTA EN INVESTIGACION

1. Desarrollar investigación en poscosecha de productos alimenticios andinos para establecer metodologías interinstitucionales y multidiciplinarias con participación de Bolivia, Perú, Ecuador y Canadá.
2. Considerar prioritariamente en la formulación del proyecto los siguientes productos andinos:
 - papa
 - quinua
 - olluco
 - camelidos
 - derivados lácteos
 - habas
3. Considerar para el mejoramiento de la propuesta los resultados de un inventario de instituciones a realizarse en cada país, en los próximos 6 meses y ejecutado por los participantes del taller de Quito.

El inventario de instituciones tiene el propósito de definir y justificar líneas de investigación para el futuro del proyecto y comprenderá un levantamiento de datos sobre trabajos, resultados, capacidad y recursos humanos en el área poscosecha de limentos andinos ya priorizados.

El inventario deberá abarcar todos los componentes del sistema poscosecha los mismos que pueden ser:

- acopio
- selección
- empaque
- almacenamiento
- transporte
- transformación primaria
- mercadeo (rural y urbano)
- transformación industrial
- consumo (seguridad)
- maquinaria

4. Calendario recomendado para la elaboración del inventario y etapas posteriores:
 - a. Recolección de información: 3 meses
 - b. Preparación de informe: 4 meses
 - c. Intercambio de informes entre tres países
 - d. Preparación propuestas de investigaciones específicas por país: 2 meses.
 - e. Intercambio de propuestas de investigaciones específicas entre los tres países.

5. Las investigaciones a los participantes en el próximo taller se realizarán una vez que las propuesta hayan circulado entre los países.
6. Las propuestas de investigaciones específicas deberán considerar un máximo de 03 productos.
7. Se propone considerar:
 - 1.año: desarrollo de metodologías.
 - 2.año: aplicación de metodología e investigaciones
 - 3.año: aplicación de metodología e investigaciones
 - 4.año: evaluación y difusión

BASES PARA LA PROPUESTA EN CAPACITACION

I OBJETIVOS

1. Rescatar y socializar los conocimientos existentes sobre el sistema de posr-producción.
2. Fortalecer las capacidades de profesionales y productores en las diferentes fases de post-producción de cultivos y crianzas andinas en aspectos técnicos y teórico-metodológicos.

II METODOLOGIA

1. Utilización de la capacidad institucional de las universidad, ONGD y Programa Públicos.
2. Apoyo técnico y académico de la Universidad de Manitoba y del C.I.P.
3. Niveles de capacitación profesional
 - 3.1 Posgrado: integral (especialización)
 - 3.2 Actualización profesional: seminarios/talleres, cursos.
 - 3.3 Intercambios profesionales
 - 3.4 Pasantías con estudiantes

Este nivel se ejecutaría a nivel andino, bajo la responsabilidad del grupo de trabajo y del proyecto.

4. Niveles de formación de productores (Org. campesinos, empresarios y microempresarios)
 - 4.1 Cursillos
 - 4.2 Talleres
 - 4.3 Días de campo
 - 4.4 Intercambios y visitas

Este nivel estaría bajo la responsabilidad de las instituciones de cada país, que replicarían los aportes del proyecto andino.

CRONOGRAMA

| NIVELES/TEMAS | A Ñ O S | | |
|---|-------------------|------------------------------------|---|
| | I | II | III |
| 1. <u>GENERALES</u> | | | |
| Conceptos y metodologías en sistemas de productos. | Seminario inicial | | Especialización |
| Procesos de transformación | Seminario | | Especialización |
| Procesos de comercialización y gestión empresarial. | | Seminario | Especialización |
| 2. <u>POR PRODUCTOS</u> | | | |
| Papa | Intercambios | Cursos y seminarios Intercambio | Cursos y seminarios Especialización Intercambio |
| Quinua | Intercambios | Taller Intercambios | Cursos Intercambios |
| Olluco | Intercambios | Inteecambios | Taller Intercambios |
| Habas | Intercambios | Intercambios | Taller Intercambios |
| Camelidos | Intercambios | Seminario curso Intercambio | Especialización Curso Intercambio |
| Lacteos | Intercambios | Intercambios | Cursos Intercambios |
| Medios y materiales educativos | ----- | ----- | ----- |

EDUCACION

| ACTIVIDAD PRODUCTO | PROFESIONALES | | | PRODUCTORES | | | FORMAC. EN SERVIC. |
|---|---|----------------------------------|---|----------------------------------|---|---|--------------------------|
| | A | B | C | D | E | F | |
| Conceptualiza- ción sistema. | X | Seminario inicial | | Curso inicial | | | |
| PAPA Acopio, almac. Procesamiento | Esp. en proceso Especial. Especial. Especial. | Taller | x | taller | x | x | x |
| Mercadeo | | taller | x | curso | | | x |
| Transp/empaque Gestión empres. | | curso curso | | curso taller curso | x | | x |
| QUINUA Selección Procesamiento Mercadeo | Especial. Especial. | taller curso curso | x | taller curso curso | | x | x x x |
| OLLUCO Almacenamiento Mercadeo | | taller curso | | taller curso | | | x x |
| HABAS Transformación Mercadeo | | curso seminario | | curso curso | | | x x |
| CAMELIDOS Selección Transformación Mercadeo Gestión | Especial. Especial. Especial. Especial. | curso curso curso curso | | curso curso curso curso | | | x x x x |
| LACTEOS Acopio | | | x | curso | x | x | x |
| Transformación | | | x | curso | x | x | x |
| Mercadeo | | | x | curso | x | x | x |
| Gestión | especial. | | x | curso | x | x | x |

A = Post-grado

C = Intercambios profesionales

E = Días de campo

B = profesional

D = Cursos y talleres

F = Intercambios



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DIFUSION

- Reuniones periódicas para avances de investigación
- Reuniones especiales con temas específicos
- Mecanismos de intercambio de información: correo, fax, correo electrónico .
- Boletín, anual, trimestral
- Memorias del proyecto
- Informes anuales
- Revistas, publicaciones
- Base de información.