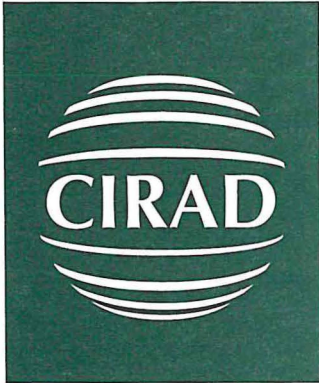


---

Département des systèmes  
agroalimentaires et ruraux  
CIRAD-SAR



**NOUVELLES OPPORTUNITÉS POUR LES PROJETS  
INTÉGRÉS "MANIOC" POUR PROAMYL, EN  
COLOMBIE, AU BRÉSIL ET AU PARAGUAY**

**RAPPORT DE MISSION:**

**EN COLOMBIE, AU BRÉSIL ET AU PARAGUAY, 7-28 Mars 1997**

**CIRAD-SAR No 62/97**

**Guy HENRY  
(PROAMYL)**



**NOUVELLES OPPORTUNITÉS POUR LES PROJETS  
INTÉGRÉS “MANIOC” POUR PROAMYL, EN  
COLOMBIE, AU BRÉSIL ET AU PARAGUAY**

**RAPPORT DE MISSION:**

**EN COLOMBIE, AU BRESIL ET AU PARAGUAY, 7-28 Mars 1997**

**CIRAD-SAR No 62/97**

**Guy HENRY  
(PROAMYL)**

## RESUMÉ

Le début des années 90, en Amérique latine, on peut caractériser sur le terrain agro-alimentaire “manioc” par: (a) plus d’attention sur les aspects d’intégration des domaines de “production”, “transformation” et “marché”, (b) plus d’attention sur l’usage d’une démarche R&D orientée par la meilleure prise en compte de tous les acteurs de la filière, basée sur des principes de FPR (“Farmers Participatory Research”), (c) une reconnaissance de la part des institutions, de l’importance du manioc pour le développement économique des petits paysans, (d) une reconnaissance au rôle potentiel de l’agroindustrie rurale, (e) des marchés des produits du manioc très dynamiques, (f) une demande de la part des instituts nationaux (et internationaux) pour des appuis sur les domaines “post-récolte” et “marchés” (PROAMYL), et (g) des opportunités pour développer et mettre en place des interventions technologiques et institutionnelles.

La mission avait pour but d’identifier et d’analyser les opportunités de collaboration avec des partenaires et de suivre des actions déjà en place. On peut conclure que PROAMYL est bien placé pour suivre et multiplier les collaborations avec (1) CORPOICA et al. sur les aspects de marchés de *achira*, igname et *arracacha* en Colombie, (2) CIAT, F.Carvajal, CETEC, UNIVALLE et al. Sur les actions concernant la qualité, les produits, l’organisation et la commercialisation de l’amidon en Cauca, (3) F.Carvajal, sur les aspects commercialisation des produits de base en Cauca, (4) un groupe de partenaires sur un projet intégré dans le cadre de MERCOSUR, (5) EMBRAPA-CNPMF, sur des aspects “Opport-récolte et marché” du manioc à Bahia, (6) CERAT, sur une méthode de concertation sur les problèmes et les opportunités de l’industrie de l’amidon aigre au Parana, et (7) Comité de Mandioca do Ceará, sur les possibilités d’un projet intégré par le manioc au Ceará.





## **TRIP REPORT Guy HENRY, 7-28 March 1997, Colombia, Brasil, Paraguay**

### **OBJECTIVES**

- (1) To participate in discussions and meetings with multi-institutional partners and prospective donors to further fine-tune a proposal for an Integrated Cassava Project in Cauca, Colombia.
- (2) To discuss with Fundacion Carvajal (Cali) progress on an ongoing collaborative market study.
- (3) To discuss with Rupert BEST (CIAT) current cooperation and a joint proposal for further collaboration on IFAD's activities regarding the Global Cassava Strategy.
- (4) To discuss with CORPOICA and UNIVALLE possibilities for PROAMYL involvement in a market study on Achira and other minor R&T in Colombia.
- (5) To work with Cauca Project collaborators to develop several articles on the results that were generated so far.
- (6) To discuss with CIAT-based cassava scientists additional possibilities for PROAMYL to cooperate with ICRTCR and Inter-Centre Postharvest WG activities.
- (7) To propose further details to R.BEST and D.DUFOUR on the upcoming stage at CIAT of Patricia DJOMSEU of ENSIA-SIARC.
- (8) To review progress on the doctoral dissertation of Olivier VILPOUX of CERAT-UNESP related to transaction costs of producers/processors in the Parana cassava starch industry.
- (9) To discuss with CERAT collaborators and starch industry representatives of the Sta Helena region, future possibilities for interaction with PROAMYL, including the upcoming stage of ENSIA-SIARC student Nathaly VISCARD.
- (10) Accompanied by Gerard CHUZEL conduct formal discussions with CNPMF-EMBRAPA chefia about possibilities for future R&D collaboration with CIRAD-SAR.
- (11) Accompanied by Gerard CHUZEL, participate in a fieldtrip and several meetings in Paraguay, in order to advance an integrated project proposal in the context of MERCOSUR.
- (12) Work with collaborators of the Comit  Estadual de Mandioca (Fortaleza) on further analyses, write-ups and follow-up activities related to the Casas de Farinha study and other already finished EC-STD3 studies in the region, and discuss possible new collaborative project proposals.

## **BACKGROUND, CONCLUSIONS, RECOMMENDATIONS & ACTIONS** (by objective)

### **1. COLLABORATION WITH THE INTEGRATED CASSACA PROJECT, CAUCA**

This concerns a new proposal for the next phase of the Cauca rallanderias project with CIRAD-SAR (Chuzel, Dufour & partners). During the last 8 months, several characterization, adoption & impact, and needs assessment studies were conducted with several of the partners in a client-oriented fashion. The recommendations were prioritized and consensus was reached in a concertation meeting in 12/96. In the mean time several sub-proposals were developed for an action plan to result in a second phase.

1.1 A meeting was held with all project stakeholders, including donors and farmer/processors. Preliminary proposals were presented & discussed on production, processing, quality, organization and market/marketing issues. In general, the teams for the various sub-proposals were too optimistic about possible financing; budgets were too large! ANNEX 1 shows the major conclusions of the meeting (in spanish).

1.2 The timing of the departure of D.Dufour (July 1997) and the arrival of N.Zakhia, 7 months later will have some negative effect on the presence and coordination role that CIRAD-SAR traditional has had in the project. At this crucial point in time active and continuing presence of CIRAD-SAR with the Cauca project formulation & negotiation is a high priority.

*Recommendation: that N.Zakhia plans 2-3 missions to Colombia during the 6-7 months between Dufour's departure and her arrival, in order to not loose interaction on the on-going activities for the new Cauca project phase. Funds are already available for these missions!.*

1.3 In the new project phase, a sub-proposal on market & commercialization has been developed between CIAT, COOPRACAUCA, CETEC and F.Carvajal. PROAMYL has had interaction on this activity. Currently, C.Ostertag (and Gottret) of CIAT, have the leasershhip of this item. Funding opportunities with PRONATTA are not that great for this item as for the others. Ghe continues to interact on this aspect.

1.4 PROAMYL also has and in the future, will continue interacting on the organization sub-project that includes project monitoring and evaluation aspects. The other partners here are CETEC, Corpotunia, F.Carvajal and CIAT.

**ACTION: DUFOUR & BEST (with Ghe) to feedback with ZAKHIA on progress. Ghe to comment on all pertinent proposal drafts. Next meeting in July/August to review progress.**

### **2. ONGOING COLLABORATION WITH FUNDACION CARVAJAL, Cali**

This collaboration included my involvement on the thesis research of a student, Beatriz X, on "the characterization & analysis of market channels of basic primary farm products of small farmers in Cauca". This started, on request of OCHOA and CIRAD-SAR (funded by DUFOUR), some 2 years ago. The research has by now evolved into the formulation of a new project proposal, after the organization of a concertation workshop with relevant stakeholders.

2.1 A meeting was held at the F.Carvajal with OCHOA, DUFOUR, Ghe and Beatriz, to review recent results and formulate a future action plan. It was decided that Beatriz would be contracted to further develop the first draft of a proposal (outlined by Ghe), seek feedback with relevant stakeholders, and to start a dialogue with potential donors. DUFOUR would be approached for financing the pre-proposal activities.

**ACTION: Beatriz to write first draft and feedback to OCHOA and Ghe. Ghe to develop a small plan & budget for DUFOUR to finance pre-proposal fase. OCHOA to identify & start dialogue with Colombian donors. Ghe to identify & dialogue with European based donors. Next meeting in July/August to review results.**

### **3. ONGOING ACTIVITIES OF THE CASSAVA GROUP reg. IFAD/CFC MATTERS**

BEST (for CIAT) and Ghe (for PROAMYL) are both members of the Cassava Group involved in activities for the IFAD led Global Cassava Development Strategy, and in the development of collaborative proposals to be financed by CFC (since cassava was formally adopted by the IGG on Grains). Ongoing collaborations were the topic of our long meeting.

3.1 LAC & Asia cassava sector constraints. On this topic Ghe has an ongoing contract with IFAD, that started while still at CIAT (See Rome 2/97 trip report on IFAD meeting for more details). Progress on this was reviewed together with CBN-associate expert J.G.van NOREL (formerly working with Ghe). It was concluded that the sector constraint assessment questionnaires have not all been returned, especially from Asia. A program of activities need to be developed to conclude activities at CIAT in Ghe's absence, and division of labour to be defined.

**ACTION: Reminders to be sent out in Asia by HOWELER. VAN NOREL to further detail different steps for CIAT activities program together with BEST and IGLESIAS. GHe to receive drafts for feedback. Ghe to write draft on the results, in order to have a first draft to show (on LAC at least!) for the IFAD meeting at the end of May.**

3.2 CIAT, NRI and PROAMYL are all worried about the increasing amount of time that is currently invested by us in advancing the various IFAD related activities. It was proposed to develop contracts for IFAD to seek financing for future involvement in the Global Cassava Strategy. Ghe (signed by GRIFFON) sent one such contract to IFAD in early March. CIAT and NRI will follow suit (See SCOBIE 3/97 letter, and first draft proposal of WESTBY). We discussed the complementarity and consistency of these proposed contracts.

3.3 FAO/CIAT/IITA/PROAMYL..... co-authored document on The World Cassava Economy. An activity started in 12/95, that has slowly been integrated in the IFAD Cassava Strategy. The division of labour, institutional responsibilities and financing has evolved over time and is continously the topic for endless complications. Activities and responsibilities were discussed (also with D.PACHICO) which generated a draft letter from SCOBIE to FAO (See the copy to PROAMYL). However, complications with FAO continue.....!

#### **4. COLLABORATION WITH CORPOICA ON MINOR ROOTS & TUBERS IN COLOMBIA**

Basically includes 2 projects (a) Proyecto Achira, and (b) Proyecto Raices autoctonos. The project on Raices Autoctonos will end in June 1997. At CIAT, DUFOUR and Colombian student John Jairo X, have collaborated (among others) with CORPOICA scientists Hugo GARCIA and Gonzalo RODRIGUEZ (See for further background DUFOUR reports and evaluation report of FAURE & BEST). Most funding comes from PRONATTA (WB). Major emphasis has been on characterization of roots, starches, sistemas de produccion, cadenas de comercializacion. Also, studies have been conducted on new products (flours, bread and fried products). Aracacha and yam received most attention within the group of minor roots. The project results will be presented during a CORPOICA seminar, in Ibague, 27-30 May. The Achira (*Cana edulis*) Project will continue further, to end in 8/98. M.MORENO of UNIVALLE participates in this project for his doctoral thesis research on improved starch equipment development (in CIRAD-SAR with F.GIROUX).

4.1 A meeting was held at CIAT with the major collaborators to review progress and discuss options for additional project activities. A sub-meeting was held between Ghe and economist RODRIGUEZ to discuss product, demand and market aspects. There seem to be 2 possible future topics: (a) A study on the human consumption market potential of the minor R&T (fresh) and Aracacha and Yam (processed), both in Colombia and abroad, and (b) A study on the potential of processed minor R&T (starches) to compete with (maize or cassava based) modified starches for industrial and/or human consumption uses. Possibly, PRONATTA could be targeted for additional funding. CORPOICA welcomes collaboration with PROAMYL on these studies.

**ACTION: RODRIGUEZ to elaborate a first draft of study concept notes to be send to GHE, and to start a dialogue with potential donors for funding.**

#### **5. PUBLICATION OF CAUCA STUDY ARTICLES**

With D.DUFOUR and V.GOTTRET I discussed future publications on the Cauca rallanderias past studies. In 1996 it was decided to publish 4 basic articles, written in Spanish and translated into French for CIRAD's CRD. The first will come out in the 1997 No.1. The second on technology adoption & impact is being revised and translated for the 1997 No.2. The remaining 2 articles will be generated during 1997. Based on these 4 articles, additional products in Spanish and English are foreseen, for alternative audiences, in different formats, etc. It seems that V.GOTTRET will take the lead on the Spanish products and Ghe on the English products. Possibly, an additional PROAMYL product in French would also be very useful!!! In addition, I will review the first draft of an F.Carvajal/CIRAD-SAR article on panela and starch industries for the CRD 1997 No.1.

#### **6. PARTICIPATION IN CIAT CASSAVA MEETING**

6.1 I attended a CIAT Cassava Committee (after the latest CIAT budget cuts and the demise of the Cassava Program, this is the new option of assembling cassava R&D related matters)



meeting to explain PROAMYL and comment on on-going activities with PROAMYL and CIAT, i.e. ICRTCR, Inter-Centre Postharvest Working Group, IFAD, CFC, IGG on Grains. Of interest to note is that UNDP is (re)planning a donor meeting (basically to solicit co-funding for the second part of the UNDP funded PROFISMA and ESCAPP projects?) To be held in Cairo at the same time as the CGIAR 1997 MTM.

*Recommendation: Any further interest for CIRAD-SAR and/or CA to take part in the new phases of this very succesful project??*

6.2 Another fact to note, is that R.BEST's CIAT project has received some funds from IDRC as an initial action as part of the CGIAR's Inter-Centre Postharvest Working Group. Following the Jakarta MTM in 1996, IDRC took the lead on this. This initial grant to CIAT will be announced shortly.

*Recommendation: PROAMYL seems very well positioned to more interact with this CGIAR initiative. We still have to await an official invitation to join the Group (similair to NRI) on certain specific collaborative actions. Ghe to follow up!*

**ACTION: Ghe to send R.BEST the PROAMYL 1995 inventory of RTB R&D, for him to show evidence of CIO capacity and areas of expertise, to other CGIAR centres.**

6.3 A further fact to note is that currently, CIAT's NIPPON (formerly Sasakawa) Foundation project in SE-Asia, is starting to prepare a proposal for a second phase, that may include postharvest R&D activities. Possibly also, it may be expanded to include upland rice and tropical forages. IRRI may get involved together with CIRAD collaboration?????

*Recommendation: Any opportunity for PROAMYL? Possibility to include some cassava postharvest activities, currently part of the CFC proposal? Ghe to follow-up with HOWELER in Bangkok.*

## **OTHER CIAT ISSUES RELEVANT TO PROAMYL:**

6.4 With D.DUFOUR, several issues were discussed. INCO-DC proposal of 1996 on Andean root & tubers (with CIAT, CIP, Jenny RUALES, etc.) was supposedly planned in 1996 to be (re) submitted in 1997. Dominique has no time for this. Later on in Brasil I was informed that CERAT is (still) interested in participating in the project, especially regarding the starch characterization aspects.

*Recommendation: WHO will follow-up this INCO-DC proposal? Nadine? PROAMYL?*

6.5 With R.BEST discussed the upcoming meeting of PRODAR at CIAT, 5-6 May. He made note of the fact that PROAMYL is well placed to interact with CIAT, PRODAR and national partners on conceptualization and methodology aspects.

## **7. ENSIA-SIARC student Patricia DJOMSEU:**

The possibility for her to do her stage at CIAT was discussed. There is a potential interest for her

to work on a financial model to complement the technical model for a small/medium-scale cassava starch plant. However, R.BEST concluded that his CIAT project did not have any resources (for her lodging, per-diem, etc.) And that if TEM would consider her collaboration a priority, they possibly could fund her stay at CIAT. A message containing this information was subsequently send to Nathalie GONTARD (ENSIA-SIARC) and Francis TROUDE (TEM).

## **8. Olivier VILPOUX's DOCTORAL THESIS AT CERAT, Brasil**

Doctoral student at the Université de Nancy, department of administration, since 1995, he has taken several elective courses at USP, Sao Paulo. He has identified the subject of his thesis, after (intensively) collaborating with the STD3 cassava industry/market/consumption studies in SC-Brasil since 1994. His work falls within the realm of industrial organization, which is a continuously debated (on methods), but very interesting field. The thesis subject is to analyze and make recommendations on the transaction costs between producers and processors, of the cassava starch industry in S-W Brasil. I was asked to collaborate with him on the study, given my own disciplinary background and cassava industry experience.

8.1 Olivier had sent me a chapter on methodology and literature review, that formed the basis of our discussion. Given his relative isolation from his professors in Nancy, I believe that my comments, arguments and advice will be usefull to him. They included the following areas: (i) the adaptation of Williamson's theory to fit his subject matter seems sound; (ii) the identified variables & parameters to explain the model seem appropriate; (iii) the organization of the thesis needs to be improved, aswell as the separation of methodology and literature review; (iv) references are repetitive and need to be revised; (v) better use of footnotes and annexes to remain with the most necessary and improve the line of argumentation; (vi) tricks to better organize each chapter and for linking the chapters; (vii) the need for validation of expected results with a similar industry study; and (viii) finding "hard" data for several variables will be very tough. It is advised to develop proxies and/or indexes, for approximation of these. Olivier will vist Nancy for feedback with his professors in June/July, and plans to finish (and defend?) by the end of 1997.

**ACTION: Olivier will follow-up on my comments and send a draft to Ghe as soon as possible before his visit to Nancy. Next meeting with GHe will be during his stay in France.**

## **9. OTHER COLLABORATION WITH CERAT, Brasil (incl ENSIA-SIARC student)**

Marney CEREDA has her goal set of (among others) setting up a CERAT starch lab to be the best in LA. Most attention would be on modified starches, but she also is interested to work more on the lesser known (Andean) root & tubers. With her track record, contacts and current opportunities for Brazilian funding, she stands a good chance!

9.1 Current CERAT work in the Santa Helena (Parana) region is centered around the recently donated (by the prefeito) lab, "Nucleo Avanzado de Pesquisa de CERAT", including fields for experiments. Santa Helena region is special on at least 5 accounts: (i) it has a very large concentration of medium/large scale cassava starch factories; (ii) the population includes a large percentage of people with German ancestry, meaning hard workers; (iii) average (?) ag



production units of 20 HA are on relatively fertile, highly productive soils; with easy access to field labor; (iv) Santa Helena municipality is rich because of annual hydro-electric “royalties”; and (v) there exists a strong interest of the industry and institutions to work together.

9.2 The former STD3 project probably laid the principal foundation for several current on-going CERAT R&D activities. In the Sta Helena region, several studies regarding the starch industry have already been conducted. Little by little, principal industry constraints are being detected. To complement this, the following activities are on-going: (i) Vilpoux’s thesis on the producer/processor interaction and (lack of) integration, (ii) ENSIA-SIARC student VISCARD’s work to identify the industry’s studies information holes & subsequent collection (see 9.3), and (iii) various CERAT technical/biological starch, root and product R&D activities. Additional elements that are needed to complete the picture, are (a) a better insight of possible industry organizational models, to learn from i.e. Thailand, and (b) an inventory of all available (in Brazil or abroad) pertinent technology components.

The complete picture, means that on the “demand side”, there are characterizations of the different levels of the sub-sector, including institutional arrangements. Also, there are needs assessments and identification, analysis & prioritization of the principal constraints. On the “supply side” there exists an inventory of possible available technology/institutional options, and an identification of possible new opportunities, either technical, market-related or institutional. Then, “supply” and “demand” will meet in a concertation activity where, with all stakeholders of the sector, a consensus is reached on an integrated action plan. It is my personal feeling that a clear conceptual framework might be very opportune to better guide the way ahead for CERAT and its partners. Hence,

*Recommendation: that CERAT takes time to reflect in order to develop a conceptual framework to rationalize, integrate and organize current and future cassava starch sector related activities including R&D. PROAMYL could help in this process.*

**ACTION: Ghe interacts with CEREDA and CHUZEL to discuss interest and possibilities for the formulation of a framework, including a proposal for a concertation activity (or meeting). Possible first meeting in MPL in June, and/or first week of August, together with CHUZEL in Brasil.**

9.3 ENSIA-SIARC student Nathalie VISCARD has left to start her stage with CERAT in Sta Helena, at the beginning of April. Through intermediation of ENSIA-SIARC prof. Jean-Paul HEBERT, who is part-time with the PROAMYL cellule d’animation, Ghe started to prepare VISCARD for her stage. Through interaction with VILPOUX, her stage topic was further developed, and the scope, objectives, methods, program, collaboration and expected products were defined.

The 6-months study sets out to make an inventory of available starch sub-sector information, identify info holes, collect relevant lacking information, in order to formulate recommendations for a future concertation process.

During my visit at Sta Helena, VISCARDS’s study proposal was discussed with the other partners in meetings with the prefeito of Sta Helena, Secr. of Agriculture and his assistant Carlos KRAMER, industrialist Nilton LANG, and the CERAT team. It was decided that the prefeitura

would pay for VISCARD's lodging, food and office space (and labtop), while CERAT would put in study supervision and transport. Also, that VILPOUX would be her CERAT counterpart, KRAMER, would be the Sta Helena institutional counterpart, while Ghe would be the study advisor. LANG offered his collaboration were possible. Upon return from my mission I debriefed with VISCARD before her departure to Brasil.

*Recommendation: that the study of VICARD aims to strongly integrate with local institutions (prefeitura, Secr de Agr., industry) besides CERAT, in order to optimize co-ownership of her study, in particular, and the R&D process, in general. Hence, that the expected study documents clearly show shared ownership!*

**ACTION: VISCARD to feedback study progress to Ghe on a regular basis (e-mail & fax) and that Ghe will visit Sta Helena to review preliminary results, while with CHUZEL on mission during the first week of August.**

9.4 With LANG a discussion was held on the organization of the starch industry. I was told (again) that the formal existing organization ABAM is not very strong, nor well respected and could potentially do much more for the industrialists! On the other hand, the Sociedade Brasileira de Mandioca (SBM) is not integrated with ABAM, and work with different agendas and people. LANG has an idea to organize several strong & interested starch industrialists in a group that will really start doing things for the industry (what basically ABAM is supposed to do!). This would include being pro-active regarding starch sector technology identification, adaptation and transfer (working hand in hand with CERAT & partners). One of the issues that came up again, is to go to visit the Thai starch sector.

*Recommendation: that if several Brazilian starch industrialists are indeed interested to go to Thailand, PROAMYL (Ghe) can easily organize this trip & accompany the Brazilians for a week in Thailand.*

**ACTION: Ghe to contact N. LANG with a 1-page proposal to offer PROAMYL's services as a consultancy. Copy to CHUZEL & CEREDA.**

## **10. CNPMF VISIT (GC to complement)**

10.1 At the end of 1996 CIRAD-SAR directors received an official request from CNPMF-EMBRAPA chefia about the possibilities for future collaboration between the 2 institutes. CNPMF holds the national R&D mandata on cassava and (7) tropical fruits in Brazil and is stationed in Cruz das Almas, Bahia. The centre works with 16 EMBRAPA priority projects, divided into 82 sub-projects, with 60 scientists (and support personel).

10.2 D.GRIFFON formally suggested an exploratory visit by G.CHUZEL and G.HENRY. Both of us know very well the chefe tecnico, Marcio PORTO, who is ex-CIAT Cassava Program. Moreover, I conducted several discussion in 1996 with new chefe general, Sizernando DA OLIVEIRA. Since 1990, as CIAT economist, I have had collaboration with CNPMF scientists and visted the Center 5-6 times. Hence, our entry was very smooth and amicable. Our visit lasted some 1.5 days and most meetings were conducted with the 3 chefes and some pertinent scientists. At the start, both parties presented their center's organization, mandates, objectives & activities. Several of their on-going projects were highlighted in more



detail. A preliminary discussion agenda had been agreed upon between Marcio, GC and GHe by e-mail before the visit. Most discussions centered around cassava topics.

10.3 It is useful to note that the CNPMF request to a large extent was based on their desire to strengthen the area of post-harvest (integrated with socio-economics), and given the experience of UNESP-CERAT (with strong French cooperation) in the South, CNPMF looks forward to a similar strong collaboration. Several times the chefe general mentioned his desire to have a CIRAD scientist stationed at CNPMF, working on cassava & fruits postharvest issues! It also needs to be mentioned that there is hardly any contact between CNPMF and CERAT and there exists some degree of envy & anxiety ("turf fighting") on the part of the latter! More formally, the chefia informed us that the center (a) lacks scientists in several areas, especially post-harvest, (b) emphasises collaboration through "parceras", and (c) stresses the need for post-graduate training.

10.4 There are 3 major projects at CNPMF dealing with cassava R&D with an emphasis on methods, FPR and rural development:

(a) PROFISMA, a CNPMF-CIAT-IITA collaboration emphasizing biotic constraints and FPR; funded by UNDP, its first phase ended in 1997 and some bridging funds have been received for 1 additional year. However, UNDP has made it clear that a second phase with the same objectives is NOT welcome! On the other hand, the donor has indicated that it would consider a proposal for a project in the NE-Brasil, using the established farmers organizations (COPAL) but emphasizing post-harvest/market issues and further diffusion of the COPAL's.

(b) An IFAD-funded project with CNPMF-CIAT-IITA on Brasil-Africa varietal (semi-arid) selection with a strong FPR component. The project in 1997 started a second phase (which includes for Africa a new component: post-harvest).

(c) EMBRAPA funded Rural Development Project for the NE using cassava and FPR to optimize technology (production/process oriented) adaptation & diffusion through intensive integration with farmers organizations. The project ends in 1989-99.

These 3 projects have several themes in common besides being centred around yuca. They are very rural development oriented with a strong emphasis on final adoption & impact. In addition, all 3 pretend a strong (but with somewhat different methods) philosophy of FPR or client-orientation. However, I personally feel that they all lack (to various extent) an integration of production-processing-market aspects! It seems that the chefia to some extent shares my opinion, since they see that in the medium term the 3 projects should be brought together into one effort with one basic FPR method, involving COPAL's and following a full integrated model, with an increased emphasis on processing/market aspects. This then would be the model with which CIRAD-SAR can collaborate, if so desired!

10.5 There is an on-going discussion in the centre on the issue of research vs. development. We were informed that the chefia is attempting to clearly separate its mandate on research from site specific development type activities. This will take time and effort, but the effort is receiving high priority. Development type activities need to be devolved to state institutions, NGOs, private sector, etc. For instance, site specific fertiliser trials are going to be eliminated (in time).

10.6 The Integrated Cassava R&D Project (ICRDP) model was developed by CIAT and several of its partners. The model integrates production, processing & market aspects through a 4-phase R&D activity. Currently at CNPMF an interesting adaptation of the model is being experimented. Besides integration of the 3 aspects, they have added a 4th, institutional aspects. While in the CIAT model this was always important, the CNPMF model has made it more explicit. This seems quite appropriate.

10.7 Explicit FPR activities were started at the centre as part of the first IFAD cassava varietal project some 4-5 years ago with a strong training component by CIAT, and based on an earlier experience by CIAT-CORPOICA earlier on. An additional strong boost was given to FPR with the start of the PROFISMA project in which farmer organizations/committees were formed, etc. A series of trainings were conducted at the centre and in the project regions. The methodology has proven successful & popular. The chefia now wants to take this one step further by aiming the centre to be a regional centre for FPR training! Besides integrating the method in its centre activities, it wants to start training partners & clients in the region (and starting a special unit on this?).

10.8 Current postharvest activities, especially on cassava have significantly increased during the last year. To a large extent this was due to the chefia's increased priority setting on this and (subsequently) the hiring of postharvest specialist Fernando MATSUURA (Msc). For CIRAD-SAR he is basically the key counterpart in the centre, together with economist Carlos Estevao LEITE. Fernando has been occupied the last year writing proposals for internal EMBRAPA project funding, visiting other postharvest units (CERAT, CIAT), and setting up the beginning of a lab (currently still shared with physiology). Funding for fruit postharvest is being found for installations & equipment. This is of direct use to cassava postharvest as well. He has already been supervising several student thesis research (from the nearby UFB- Escola de Agronomia). He has little contact with relevant sister EMBRAPA centers CENEPAT (Fortaleza) and CTAA (Rio de J).

*Recommendation: In order for CIRAD-SAR to have a clear & detailed idea of exactly where and on what to collaborate, we asked the chefia about developing an assessment on the postharvest current activities, future plans and potential themes for collaboration.*

**ACTION: Marcio will send a 2-page assessment of the planned CNPMF postharvest activities to GHe within the next 10 days, with copy to GC.**

10.9 After years of relative weakness, current socio-economic activities seem to be much stronger with the presence of several recently post-graduated (MSc) economists and better focused. Especially Carlos Estevao LEITE seems right on the ball. His MSc thesis (on cassava policies) was a topic (and partly supported) by the STD3 project coordinated by Ghe. He is very much aware of the need for full integration and currently is developing a cassava market study (Bahia?) that will well support other on-going projects. He is interested in the 4 cassava economic studies that GHe coordinated in Ceara under the STD3 project and would welcome collaboration with GHe. We talked about this and about another economic study that I have had in mind for some time already: "Price formation of the Brazilian cassava industry with special emphasis on North-South trade flows". I envision this study to be conducted by CIRAD-SAR (GHe), CNPMF (Leite) and CERAT (Vilpoux). Maybe the Comit  de Mandioca do Ceara (Parente) should also be involved. As such we would have all 4 economists together who know

most about the Brazilian cassava industry. This study is needed for better understanding the sector, and its results are vital for the formulation of several regional action plans.

*Recommendation: CNPMF and CIRAD-SAR (and CERAT) will collaborate on such a study and a MSc Economics thesis student will be sought in Montpellier (?) for the basic execution. This is planned for the Spring 1998.*

**ACTION: GHe to write a 1-page study outline and send for comments to Brazilian collaborators. In addition, GHe will identify an appropriate student in Montpellier.**

*Recommendation: CNPMF and CIRAD-SAR will collaborate on the on-going cassava market study, either with a French student or with a local student from the UFB. To be implemented by Spring 1998.*

**ACTION: Leite is going to send GHe the proposal of the study with an assessment what has been done and what further needs to be done. GHe to review & to react.**

10.10 Current institutional collaboration seems to be under review at the centre. The chefia are trying to solve their human capacity under investments by forming new partnerships (parcerias) and increased (post-graduate) training. However, in the field of postharvest/markets, several obvious partners are hardly being involved: CENEPAT, CTAA, SEBRAE, CERAT, etc.

*Recommenation: that exploratory meetings will be held with CNPMF and several potential Brazilian partners, and CIRAD-SAR, for either strenghtening or forming new bonds. In addition, that the UFB will be increasingly involved in partnerships, since it would be relatively easy for CIRAD-SAR to initiate collaboration with this University, given current formal funding opportunities (i.e. exchange and/or training of professors and students with institutes in Montpellier).*

**ACTION: GC with Marcio and Fernando to visit CTAA at end of April, and visit to CENEPAT by June.**

10.11 Impact assessment of the Kellogg project (Ceara 1991-94) was started several months ago by CNPMF (Bernardo OSPINA) with an ETH (Zurich) student, using methods developed by CIAT (for the Cauca starch industry studies). The use of these rapid and participatory methods is less costly and cumbersome than previous methods used by us up to 1995. The student Nathalie THURNER made a presentation of the preliminary results, on which I made several comments. On several occasions I had already interacted with OSPINA on progress of the study.

The study will continue but as part of a more formal collaboration between CNPMF/CIAT funded by the Inter-CGIAR Impact Assessment Project, which selected the Kellogg Project as a case for an impact study. I was asked for (in)formal collaboration on it, but I am not very sure if this is possible, given the topic and scarcity of funds. No doubt my ex-CIAT associate will be heavily involved, and she knows the topic well.

10.12 Recommendations for a possible CIRAD-SAR/CNPMF collaboration which were suggested in the final meeting with the CNPMF chefia include:



*(a) that future collaboration in the meantime will fall under the general agreement between CIRAD/EMBRAPA as agreed to in Brasilia in 1996. If so desired, CNPMF may want to formulate a specific accord together with CIRAD in the future.*

*(b) that (formal) partnerships will be actively sought by CNPMF with CENEPAT, CTAA, UFB, CERAT and CIRAD-SAR (and others?) in the areas of postharvest, socio-economics, product & market development in NE-Brasil to increase (efficiency in) collaboration.*

*(c) that in the short run collaboration between the institutes will be based on additional exploratory meetings (with potential partners) and the involvement of CIRAD-SAR and specific staff through student theses training.*

*(d) that GC and Ghe will feedback the conclusions of their meetings at CNPMF to CIRAD-SAR directors.*

**ACTION: GC and Ghe debrief with CIRAD-SAR chefs?**

## **11. PARAGUAY VISIT (GC to complement)**

Last year the idea was born to study the opportunity of mounting a regional project of MERCOSUR countries on common agro-alimentation issues in the neighbouring border zones. As such, GC and other colleagues made several visits in Paraguay and Argentina (see trip reports). This time, GC has asked me to help him with a field trip, develop a pre-proposal, and present this to institutional partners in Paraguay (at a meeting in the French embassy).

11.1 Small-scale farmer groups were visited in the South-Eastern region of Paraguay, accompanied by "old cassava friends" (since 1990) Julio CABALLERO and Moises VEGA (Min Ag). The visited coops and comites had many things in common regarding type of farming and market systems, and in terms of principal problems. One important aspect to note is that in Paraguay a significant amount of small farmer groups are organised into formal (and legal?) associations, coops and comites, which from a development point of view is extremely opportune. The groups visited had all a similar historical background of former landlessness and having acquired the land through lengthy and hard negotiations and even violent actions. Nonetheless, compared to their commercially farming neighbours, their landholdings are small. In general, their production system includes land dedicated to (i) cash crop(s) mostly tied in with some access to credit i.e. cotton, maize, soya, (ii) semi-commercial crops i.e. mandioca, yerba mate, peanut, fruits, and (iii) household garden crops and animal husbandry for on-farm consumption only. Until last year, most cashcrops like cotton had a good demand with relatively stable prices. The nearby market places to sell their semi-commercial crops have an easily saturated demand and very fluctuating prices. In addition, monopsonistic behaviour of intermediaries cause high marketing margins (mandioca:400-500%) and very low off-farm prices. Women are typically involved in production of household food activities and play a large role in product commercialization.

11.2 Mandioca is the traditional carbohydrate staple crop for the Paraguayos, eaten (in rural areas) almost 3 times a day (average is 250-300 KG/cap/yr). Yields are 10-12 T/ha, of which 30% is non-marketable (economic loss currently). Except for certain areas where they produce

limited quantities of traditional (hand made) cassava starch, mandioca is hardly used to value-add on-farm. Varieties are traditional, “sweet” with mostly high % DM (taste being most important).

11.3 Yerba mate is very similar to mandioca in the sense that it is a traditional product used daily (hourly!) by all Paraguayos, grown by most campesinos, but not value-added on-farm. It was mentioned that the average rural campesino consumes 50-60 KG/yr. However, he sells the green leaves, but then buys the end-product in the shop at 10-15 times the price of the raw material. Most small farmers have up to 1 ha of yerba mate planted with traditional varieties.

11.4 General & specific problems seem very similar in the various communities visited. There are still problems with land tenure, regarding both the seize of land and the legal status of it. There exist problems with infrastructure, education, health control, water, energy, roads and empty political promises. More specifically on agriculture the campesinos mentioned the cotton crisis, low (and highly fluctuating) product off-farm prices, difficult access (absence of knowledge) to stable markets, difficulty to get (operational & investment) credit, old varieties, absence of technical assistance, and “the dangers of cheap imports from neighbouring countries”.

11.5 The cotton crisis deserves further detail. For several years (?) small farmers were enticed (with credits) to grow cotton. This product forced them in a treadmill of working hard to pay of their credits every year. The only positive aspects were that cotton cultivation was very hard but relatively simple, and a market was always assured. However, starting in 1995-96, two major events ended this cotton culture. First, an insect called “el picudo”, devastated cotton yields, while at the same time national cotton market prices collapsed. The results are: (i) small farmers are heavily indebted, (ii) sudden absence of a stable cashcrop market, (iii) no idea about crop alternatives, and (iv) no assistance to resolve this situation. Maize or soya do not seem to be appropriate alternatives.

11.6 Based on the above, previous mission results and secondary data, a preliminary outline of a proposal (with emphasis on the Paraguayan part) for an Integrated Project was formulated by GC, Ghe, Caballero & Vega, and presented during a work meeting at the French Embassy (in Asuncion). Present were representatives of the French Embassy, the French regional cooperation, the Paraguayan Ministry of Agr., Dept. of Extension, Dept. of Commercialisation, Dept. of International Cooperation, (see list). The presentation included an outline of the proposal, possible collaborators, sources of funding and shor term action plan. In general, the Paraguayos received the proposal very positively. A very useful discussion generated valuable feedback that was incorporated in the draft proposal. The next step is to further refine the proposal (in Spanish) with executive summaries in English, French and Spanish, then to discuss the preliminary proposal with the appropriate UE desks in Bruxelles on 11 April together with Chuzel, Bertin and Henry.

**ACTION: Feedback from our Bruxelles visit to further finetune the proposal by Ghe. GC will plan a short visit to Uruguay to validate farmers problems (on mate) and discuss collaboration with INIA. Then proposal will be sent to all 4 country collaborators for technical feedback. At the same time we have to start a lobby with the 4 country relevant MERCOSUR representatives. GC and Ghe will again meet in France in July, and visit Brasil/Paraguay partners during first week of August.**

11.7 Sub-Tropical cassava germplasm: It is useful to note that CIAT cassava breeder Carlos IGLESIAS had earlier informed me that he saw Paraguay as an interesting option for centralizing or coordination of further work on the sub-tropical cassava germplasm. As such, when further elaborating the project proposal, this option should be taken into account for possible inclusion.

## **12. VISIT TO COMITE DE MANDIOCA, FORTALEZA, CEARA (GC to complement)**

Since GC had never visited the region nor the Comit , it was very useful for him to accompany me. The Comit  (resulting under the Secretaria de Agricultura do Cear ) was started during the 1990-94 Integrated Cassava Project funded by Kellogg. In the mean time it has become fully (under) funded by the state. The Comit  is now coordinated by the former number 2, the very capable economist Walter CARVALHO PARENTE, with whom I have worked together for the last 7 years on several projects. Walter assessed the mandioca in Cear  for the sake of Gerard (who had to leave) in some 4 hours. Among the wealth of info, the following aspects seem most pertinent:

12.1 The assessment of the mandioca sector in Cear  includes: A 1996 harvested area of 140,000 ha with some 70,000 producers, for an average yield of 8-9 T/ha (18 months cycle), mostly falling in the aug/sept months. More than 60% of production is for low quality farinha "grossa" that sells locally at prices 300% lower than "quebradinha" or 600% lower than "fina da Bahia". Of 1 T roots, on the average, 240 KG farinha and 60 KG of starch "gomma" is produced. The starch is almost entirely further processed in a morning snack called "beijou". On the average, P starch is 60% higher than P farinha. On the average, Cear  is a net importer of farinha (60,000 T) and starch (30,000 T), mainly from the Southern states (Parana) and Bahia. Of production, some 30% goes to on-farm animal feed or chipped & dried by the coops (and sold to milk producers). Remainder is postharvest economic loss. Planting material for each new season remains a major problem, since during each drought period, farmers feed their starving cattle with mandioca stakes (Africa?). Government intervention arrives (partly and not for all) in the form of (50%) subsidised stakes (for farmer is US\$ 30/ha) that have been imported from whatever other area (or other state!) implying that obviously the varieties are not adapted, etc, etc!

12.2 Chipped & dried cassava "raspa" is being produced in some 185 unidades (1997). However, various factors are impacting on this industry. A major negative effect has come from the "Plan Real", in terms of relative costs, prices and exchange rates vis-a-vis cheap imported feed substitutes! Last year, the industry only produced some 1000 T/year. Most of this in 3 of the largest units. 1996 raspa prices were in the US\$ 16-22/KG range, compared to US\$ 23/KG for Argentine maize (to compare on a nutritional basis, P raspa must be below 0.80 P maize). The intensive animal feed industry is growing, showing an elastic derived demand for feed ingredients, but raspa producers cannot supply!! There is no 2nd order organization to manage commercialization. There is no quality control, price/customer info, operational credits, supply contracts, etc.

12.3 Problems in the industry may be many, but fortunately, there are currently also many opportunities to remedy this situation:

- \* The World Bank has placed a multi-million \$ grant in Cear  that includes besides several huge prestige projects, also mandioca! The approximately US\$ 10 million for mandioca



is however basically restricted for installation & equipment (casas de farinha & raspa). Moreover, it requires 30% counterpart contribution from the Secr de Ag (who don't have the funds!). One major project in the Sao Jose region includes the construction of 41 casas de farinha (US\$ 44,000 each), 17 casas de farinha & raspa (US\$ 50,000), and 2 unidades de raspa (US\$ 15,000). These model units are of an intermediate scale. Casas de farinha have 3 mechanized fornos; unidade de raspa has a drying floor of 400 m<sup>2</sup>.

*Major problem is that the Comite de Mandioca can hardly integrate in these activities because the Secretaria does not have the operational funds. So there is technology without technical assistance/training/M&E/commercialization, etc.*

- \* SEBRAE has another plan, to invest in large farinha factories (7 fornos) costing US\$ 100,000 a piece, to produce higher quality farinha for exports to other states.
- \* Banco do Nordeste has set aside US\$ 17 million as investment credit for small mandioca farmers. However, these small farmers do not have the knowledge/info/capacity to really access this kind of capital. Again, Comite de Mandioca cannot assist in this scheme.
- \* SUDENE, supposedly also has set aside operational credits for small mandioca farmers, but again these farmers don't know how to access these credits!
- \* A large private company producing broilers wants to vertically integrate through raspa production and feed utilization. This seems an opportunity to link up with the private sector.

12.4 Asking PARENTE to identify the high priority problems or elements in the Ceara mandioca sector that need urgent actions (possibly in the type of a collaborative project), they are as follows:

- (A) Consolidation of the organizational system of the unidades de raspa (and farinha) and the formation of 2nd order organization including commercialization activities.
- (B) Enterprise management training at all levels of the industry in order to better integrate with customer demands, needs, qualities, timing, etc.
- (C) Full integration of producers, processors and consumers of the filiere.
- (D) Strengthening of the Comite de Mandioca with augmented operational funds and human resources to fully capitalize on their potential pivot role in technical, training and organizational back-stopping of the mandioca industry development activities. They are perfectly placed as the key interface between the various stakeholders (farmers, processors, consumers, R&D institutes, policy makers, credit institutes) of this development.
- (E) Use new information from STD3 studies and other sources to develop a plan regarding improved/new product & market development.

- (F) Improving the existing infrastructure of unidades de raspa.
- (G) Development of efficient and simple mechanisms for small farmers to access available credit lines.
- (H) Integration and coordination of the various institutional activities regarding mandioca development to optimize efficiency & effectiveness (one common agenda?).

*Recommendation: It seems that there are many opportunities for solving the mandioca industry problems in Ceara. There is political interest, funds, technologies, a Comitê, information, farmers interests, potential market demand, etc. The situation is ripe to launch an integrated project that would capitalize on the past experiences and current opportunities. CIRAD-SAR could catalyze the development of such a project. There seems to be a lot of interest for such activity at the Secretaria de Agricultura!*

**ACTION: GC & Ghe get together to develop a first draft outline of an integrated project proposal and feedback to PARENTE. When can we find the time?**

12.5 The STD3 study on Casas de Farinha in Ceara has had a preliminary analysis, back at CIAT. The results were studied by Walter and myself. It seems that there are several discrepancies that need further review by Antonio RAIMUNDO. Furthermore, Ghe will check back with Norbey at CIAT regarding several changes and checks of analyses.

**ACTION: Ghe and PARENTE to each check on different issues of the results and verification of numbers, before meeting again for write up.**

12.6 The Casas de Farinha study is the fourth and last study as a result from the STD3 Operation 5 activities in NE-Brazil, that were coordinated by Ghe with collaboration of the Comitê de Mandioca and the UFB in Fortaleza. Hence, we discussed how best to diffuse this information. It was decided to write 2 documents, integrating the results of the 4 studies. The first document, in Portuguese, targets a NE cassava sector/technicians/institutional audience, and must be a product showing extensive detail to results (through annexes) and implications. This document is also envisioned for serving as background info for future integrated cassava projects. The second document in English and/or French will target a more international R&D and donor audience, putting more emphasis to methods, sector constraints & opportunities, and implications & recommendations.

The first document will be printed in Ceara, and will show the logos of Secretaria de Agricultura de Ceara and CIRAD-SAR. Cost estimation for a print run of 250-300 copies will be around US\$ 1000. CHUZEL has promised to see if he can fund this issue. Time table for completion is before end 1997. The second document should probably be printed in MPL as a PROAMYL product. Funds for this product need to be estimated and identified.

**ACTION: Ghe to send PARENTE an outline of contents and a division of labor. PARENTE to identify printing opportunities through the state agencies. Ghe to send CHUZEL a small proposal for funding the first document.**

- 000 -



## ANNEX 1

### **PROYECTO INTEGRADO DE INVESTIGACIÓN, DESARROLLO Y FOMENTO DE LA AGROINDUSTRIA DE ALMIDÓN DE YUCA EN EL DEPARTAMENTO DEL CAUCA** (*doc: c:\guydocs\proposals\reumin2.104*)

**PARA:** Carlos Iglesias, CIAT  
Carlos Ostertag, CIAT  
Verónica Gottret, CIAT  
Luis Alfredo Hernández, CIAT  
Dominique Dufour, CIRAD-SAR  
Guy Henry, CIRAD-SAR, PROAMYL  
Alberto Rodríguez, CETEC  
Ricardo Ruiz, CETEC  
Gentil Romero, CETEC  
Miguel Serrano, CETEC  
José Manuel Trujillo, COAPRACAUCA  
Luis Alfonso Oliva, CORPOTUNIA  
William Cifuentes, CORPOTUNIA  
José Restrepo, FIDAR  
Jorge Iván Restrepo, Fundación Carvajal  
Libardo Ochoa, Fundación Carvajal  
Juan Pablo Bedoya, Fundación Carvajal  
Alejandro Fernández, UNIVALLE  
Olga Rojas, UNIVALLE  
Martín Moreno, UNIVALLE

**DE:** Rupert Best, CIAT

**REFERENCIA:** Minutas - Reunión Proyecto Integrado de Almidón de Yuca con Representantes del Ministerio de Agricultura, Marzo 13 y 14 de 1997

**FECHA:** 1 de abril, 1997

Como es de su conocimiento el 13 y 14 de marzo se llevo a cabo una reunión entre los miembros del equipo de trabajo del Proyecto Integrado de Investigación, Desarrollo y Fomento de la Agroindustria de Almidón de Yuca en el Departamento del Cauca con miembros del Ministerio de Agricultura y PRONATTA.

#### **Atendieron la reunión :**

Ramiro López, Ministerio de Agricultura.  
María Hercilia Bonilla, Ministerio de Agricultura.  
Nayive Leyva Londoño, Unidad Coordinadora Regional de Occidente, PRONATTA  
Rupert Best, CIAT  
Carlos Iglesias, CIAT  
Carlos Ostertag, CIAT

Verónica Gottret, CIAT  
Ricardo Ruiz, CETEC  
Miguel Serrano, CETEC  
Guy Henry, CIRAD  
Dominique Dufour, CIRAD  
Libardo Ochoa, Fundación Carvajal  
Luis Alfonso Oliva, CORPOTUNIA  
William Cifuentes, CORPOTUNIA  
Alma Castro, CORPOTUNIA  
José Manuel Trujillo, COAPRACAUCA  
Vitelio Menza, Productor de Yuca de Pescador  
José Restrepo, FIDAR  
Alejandro Fernández, UNIVALLE  
Olga Rojas, UNIVALLE

Como primer punto de la agenda se recibió retroalimentación del Ministerio de Agricultura sobre la propuesta en general. Ramiro López dijo que el Proyecto de Modernización esta interesado en apoyar proyectos de yuca tanto para la parte de producción como de procesamiento. Además están interesados en la parte de desarrollo empresarial, organización y comercialización. También indicó que era necesario trabajar con un enfoque integral como se estaba haciendo en la propuesta, pero que era necesario identificar proyectos y priorizarlos. Finalmente, indicó que los compromisos del Plan de Modernización permitían una financiación mas inmediata pero a la vez limitada en presupuesto, y con una vigencia de un año solamente. El apoyo al proyecto en los años siguientes dependerían de la continuidad del Plan, y el presupuesto que se le asigne.

María Hercilia Bonilla dijo que el proyecto era muy bueno que cubría básicamente todos los puntos importantes pero que tenía algunas dudas. Una de sus mayores preocupaciones fue de cómo lograr que los pequeños productores mejoren sus ingresos. Estaba interesada en ver que instrumentos se están aplicando en la propuesta para asegurarse que los beneficios lleguen a este grupo. Las personas del equipo de trabajo explicaron algunas de las ideas que tenía el proyecto para lograr que los beneficios lleguen a los pequeños productores y se discutió bastante sobre este punto. Cualquier propuesta que se presente debería puntualizar como el proyecto contribuye a asegurar el bienestar de los pequeños productores.

Siguiendo con la agenda de la reunión, el equipo de trabajo presentó la propuesta por componente en forma resumida y luego se discutió con el grupo cada componente.

En cuanto al componente de Mercadeo, se habló de tres sub-proyectos :

1. Identificación de Mercados y Mercadeo para el Almidón Agrio
2. Esquema de Comercialización de la Yuca
3. Gestión Empresarial para la Comercialización y Mercadeo.

Guy Henry opinó que creía necesario acelerar la propuesta de mercadeo durante el primer año. Según la propuesta actual en este primer año el proyecto propone realizar los estudios de mercado, diseño del esquema de comercialización y desarrollar las estrategias de mercadeo. Además sugirió que era necesario dentro de este componente incluir un sistema de monitoreo continuo de información de mercado que estuviera actualizando la información específica al

mercado en forma continua.

Nayibe Leyva Londoño opinó que en la parte de mercadeo era importante tener un mecanismo de retroalimentación al proceso de producción. Una función importante de esto sería la de evitar la sobreoferta de productos dando información al pequeño productor sobre cuanto producir, dadas las condiciones del mercado.

Se podría averiguar en el Ministerio de Agricultura sobre el acuerdo con IFI para el financiamiento de estudios de factibilidad, incluyendo los estudios de mercadeo.

Sobre el componente de organización, Guy Henry opinó que éste vive su propia vida y que la propuesta no gira solamente alrededor de la yuca sino de otros aspectos. Una opción sería la de empezar con organizaciones de base de solo yuqueros. Además, opinó que trabajar con 50 veredas es muy ambicioso y que es necesario hacer una buena selección y limitar el trabajo. De esta manera debemos movernos de lo "ideal" a lo "posible".

Rupert Best opinó que era necesario diferenciar entre las actividades de desarrollo de herramientas y metodologías de trabajo, y aquellas actividades de difusión relacionadas con la cobertura del proyecto. De esta manera, la cobertura se definiría de acuerdo con los recursos y se iría ampliando en la medida que se consigan recursos adicionales.

En cuanto al componente de procesamiento, Guy Henry opinó que se debía incluir dentro de la propuesta la valorización de sub-productos, lo cual podría beneficiar directamente a los procesadores. Además, señaló que la involucración de la mujer en el proyecto debería incluirse en forma explícita. Finalmente, opinó que dentro de este componente se podían juntar los productos 2 y 3 ya que estaban muy relacionados. A esta última sugerencia, Ricardo Ruiz explicó que el producto 2 se refería básicamente al desarrollo de estándares y métodos de control de calidad, mientras que el producto 3 se refería al trabajo con los procesadores para mejorar la calidad del producto en el proceso en sí. Por esta razón él piensa que se justifica tener los dos productos por separado. Ramiro López opinó que en este componente falta la parte de "desarrollo empresarial". Se le explicó que esto está dentro del componente de organización ya que este trabajo se haría a través de las organizaciones.

Ramiro López indicó que la prioridad del Ministerio de Agricultura en este momento era la parte de producción y procesamiento, pero que el proyecto FIDA/FAO podría estar interesado en la parte de gestión empresarial. Dentro de estos créditos para la agroempresa rural, el Departamento del Cauca es uno de los cuatro departamentos piloto y la idea es que se den los créditos con acciones de acompañamiento por parte de las ONGs locales. Para esto es necesario hablar con Luis Fernando Perlaza que trabaja en la Caja Agraria en el Fomento a la Empresa Rural o con Uriel Ramírez en el Programa de Modernización. Por otra parte, el Fondo Capacitar, a pesar de que normalmente se ha trabajado con las organizaciones de productores más tradicionales, ahora va a apoyar a la Federación Nacional de Yuqueros (FEDEYUCA). Sería importante que José Manuel Trujillo, miembro de la Junta Directiva de FEDEYUCA averigüe la posibilidad de incluir un proyecto de capacitación para el Norte del Cauca dentro del apoyo a FEDEYUCA.

Después de esta sesión de discusión se realizaron trabajos de grupo por componente para definir mejor los proyectos y la agenda futura de trabajo.

En cuanto a **Producción** se definieron tres proyectos :

1. El Proyecto "Difusión de Nuevas Variedades de Yuca y Prácticas Agrícolas Conservacionistas con Participación de Agricultores para la Región Andina de Colombia." Presentado por FIDAR y el Proyecto de Mejoramiento de Germoplasma de Yuca del CIAT. Durante la reunión se anunció que fue aprobado el financiamiento para este proyecto por parte del Plan de Modernización del Ministerio de Agricultura. El proyecto tiene un presupuesto para tres años de 527.160 miles de \$Col., con una contrapartida de las instituciones de 207.480 miles de \$Col. De los 319.680 miles de \$Col. que se pidió al Ministerio se resto lo de bienes y equipos (8 millones) y el rubro de administración e imprevistos (29.12 millones), por lo tanto, se aprobó por 282.560 miles de \$Col. con un compromiso de un año (84 millones de \$Col. para el primer año).
2. Proyecto de capacitación para agricultores sobre la tecnología ya existente. Este proyecto se presentará a PRONATTA en la línea de "Fortalecimiento Institucional" (100 millones a un año con una contrapartida de las instituciones de 15 millones).
3. Proyecto de validación y ajuste de tecnología para los elementos no contemplados en el proyecto que tiene actualmente FIDAR con PRONATTA. Este proyecto se presentará a PRONATTA por la línea de "Desarrollo Tecnológico" (hasta 201.912 miles de \$Col. para tres años con una contrapartida del 50% de las instituciones).

Para el componente de **Procesamiento** también se definieron tres proyectos :

1. Proyecto de validación y ajuste de tecnología de tratamiento de aguas residuales. Este proyecto se presentará a PRONATTA en la línea de "Desarrollo Tecnológico" (hasta 201.912 miles de \$Col. para tres años con una contrapartida del 50% de las instituciones).
2. Proyecto de mejoramiento de la eficiencia de extracción de almidón y transferencia de tecnología para la disminución en el uso del agua y de la carga contaminante. Este proyecto se presentará a PRONATTA en la línea de "Desarrollo Tecnológico" (hasta 201.912 miles de \$Col. para tres años con una contrapartida del 50% de las instituciones).
3. Proyecto sobre estándares, métodos de control de calidad, y mejoramiento de la calidad en el proceso. Se presentará al Plan de Modernización del Ministerio de Agricultura, el cual ofreció 80 millones de \$Col. para un año.

Para el componente de **Organización** el Ministerio de Agricultura ofreció 30 millones de \$Col. para un año. Ellos están interesados en un proyecto que ayude a integrar el proyecto, canalizar las ofertas tecnológicas, y fortalecer las organizaciones regionales.