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**INTER-AMERICAN INSTITUTE FOR
COOPERATION ON AGRICULTURE**



**WORKSHOP ON THE PRODUCTION, PROCESSING
AND MARKETING OF PEANUTS
IN THE RUPUNUNI, REGION 9**



WORKSHOP PROCEEDINGS AND PLAN OF ACTION

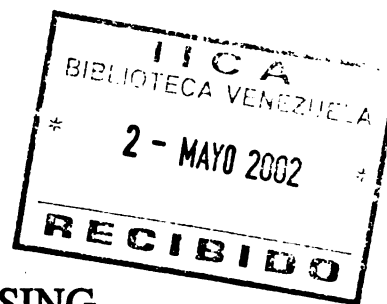
**February 25-28, 2000
Rupertee**

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LIST OF ACRONYMS

BF	Beacon Foundation
BHC	British High Commission
CARDI	Caribbean Agricultural Research & Development Institute
CBR	Community Based Rehabilitation
CI	Conservation International
CIDA	Canadian International Development Agency
CTTA	Community Technology Transfer Agent
FAVA/CA	Florida Association of Voluntary Agencies for Caribbean Action
GSA	Guyana School of Agriculture
GuyCA	Guyana Cooperation Agency
GVC	Guyana Volunteer Consultancy
IICA	Inter-American Institute for Cooperation on Agriculture
IICC	Inter-Institutional Coordinating Committee
IPED	Institute of Private Enterprise Development
IPM	Integrated Pest Management
IUCN	Funding Agency for Amerindian Institute, Region 9
MOA	Ministry of Agriculture
MFCL	Ministry of Fisheries, Crops & Livestock
NBS	New Building Society
NARI	National Agricultural Research Institute
NGMC	“New” Guyana Marketing Corporation
NRDAPA	North Rupununi District Agricultural Producers Association
NRDDB	North Rupununi District Development Board
RDC	Regional Democratic Council
SARD	Sustainable Agricultural & Rural Development
UF	University of Florida
UG	University of Guyana
UNDP	United Nations Development Programme
UNICEF	United Nations International Children’s Emergency Fund
USAID	United States Agency for International Development

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The organizers of this Workshop are grateful to the Florida Association of Voluntary Agencies for Caribbean Action (FAVA/CA) and the University of Florida for providing Jim Rich, David Wright and Bruce Ward as resource persons during the Workshop. Thanks is also given to the Inter-American Institute for Cooperation on Agriculture (IICA) for its assistance in the organisation of the event, for providing four resource persons and for covering a significant proportion of the Workshop expenses. For the technical personnel from NARI, NGMC, MFCL and IPED that facilitated this event we also wish to express our gratitude. It is our wish that this integrated effort will initiate an on-going effort for sustainable agricultural development in the Rupununi.

Randy Gilbert
Chairman, North Rupununi District Agricultural
Producers Association (NRDAPA)

Sidney Aliicock
Chairman, North Rupununi District
Development Board (NRDDB)

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EXECUTIVE SUMMARY

Peanut production has been one of the few sources of cash income in the Rupununi for the past several decades. The Strategic Plan for Sustainable Agricultural and Rural Development in Region 9, formulated in 1999, identified peanut production as one of the best options for income generation. This Peanut Workshop was organized at the request of peanut farmers from the North Rupununi in follow up to an August 1999 visit by University of Florida Peanut Specialist Jim Rich and IICA/FAVA/CA professionals.

The general objective of the Workshop was to initiate a process that will put the peanut industry in the Rupununi on a sustainable basis. The specific objectives focused on the identification of problems and possible solutions and the integration of recommendations into a practical and participatory Plan of Action involving all the key players.

Participants (Annex 2) included some 30 farmers from across the Rupununi, the majority being from the North Rupununi. The twelve resource persons included inter-disciplinary specialists from local (RDC, NRDDDB, NRDAPA), national (NARI, MFCL, NGMC) and international organizations (IICA, University of Florida, FAVA/CA). The resource persons distributed numerous documents in two bound volumes and made a series of presentations following the detailed programme shown in Annex 1. The Workshop methodology included open discussions following each presentation, workgroup and plenary sessions, and practical sessions (where participants carried out analysis of soil using field kits; observed new methods of drying peanuts in the field - pole drying method, and observed simple equipment to speed up the planting process).

The problems and constraints to the development of the peanut industry in the Rupununi, and their causes, were found to be many (see Tables 1, 2 and 3) and the needs for priority training and research were identified. A review of the existing support services in the Region found them to be very lacking and priority needs were identified. Elements of a Plan of Action were summarized in Tables 4, 5 and 6. Using a participatory and integrated methodology, a draft Plan of Action for the Sustainable Development of Peanut Production and Marketing in the Rupununi was formulated (Table 7). This Plan includes the following five major activities:

1. Form and Strengthen Farmers Organisations.
2. Integration and strengthening of support services.
3. Respond to the needs of rural people for financial assistance.
4. Establish and develop an information network that responds to the needs of rural communities in the Rupununi.
5. Development of farmers' agricultural skills and technical capabilities in production, processing and marketing.

It is anticipated that these activities will be implemented through an integrated effort involving farmers and their organisations, RDC, NRDDDB, NARI, MFCL, NGMC, IPED, Beacon Foundation, UNDP, University of Florida, FAVA/CA, IICA and others wishing to collaborate.

1. BACKGROUND

In July, 1999, peanut farmers from the North Rupununi solicited technical assistance from the IICA Cooperation Agency in Guyana (GuyCA) to assist in the development of the peanut industry in and around the communities of Aranaputa, Rupertee, Surama and Annai in the North Rupununi. This request had the support of the North Rupununi District Development Board and was in line with the recommendations of the March 1999 Strategic Plan for Sustainable Agricultural and Rural Development in Region 9, approved by governmental authorities.

To assist in this process, IICA invited the Florida Association of Voluntary Agencies for Caribbean Action (FAVA/CA) to provide technical expertise in peanut production. FAVA/CA was able to quickly recruit the services of Jimmy Rich, University of Florida peanut expert and farmer. During the period August 23-28, 1999, Dr. Rich, two representatives from FAVA/CA, several local peanut farmers and IICA personnel made visits to several peanut farming communities in the North Rupununi. Meetings were held in each community and multiple peanut farms in full production were visited. Based on these field visits, a diagnosis was made of the problems and potential and a series of priority actions were recommended.

One of the first actions implemented was the organization of a two-week visit (October 11-26, 1999) for progressive peanut farmer Randy Gilbert (from Aranaputa) to Florida's peanut production areas. Other important activities planned and executed in 1999 included: (a) preparation of diagnostic reports on peanut production and marketing in the North Rupununi and peanut imports and marketing in Georgetown, (b) the promotion of an association of crop and livestock farmers in the North Rupununi, and (c) the planning of this peanut workshop.

2. WORKSHOP ORGANIZATION

Workshop objectives:

The objectives of the Workshop were as follows:

General Objective:

To initiate a process that will put the peanut industry in the Rupununi on a sustainable basis.

Specific objectives:

1. To review and analyze the existing production and marketing systems in the Rupununi and to make comparisons with systems in Florida.
2. To identify key constraints to the production and marketing of peanuts in the Rupununi.

3. To identify methods for increasing productivity and lowering unit costs of production and marketing.
4. To orient farmers for the coming peanut crop by presenting information for improved decision making on the production, processing and marketing of peanuts
5. To identify priority areas for research.
6. To formulate a Plan of Action for the Rupununi peanut industry.

There was a general consensus among the participants that these objectives were reached to a very high degree.

Workshop programme:

The Workshop Programme, as implemented, is presented in Annex 1.

Participants:

The complete list of the 20 full-time participants and 12 resource persons are presented in Annex 2. In addition there were approximately 10 local farmers and 5 regional professionals/administrators that participated on a part-time basis.

Resource persons:

Resource persons were drawn from local institutions (NARI, MFCL, NGMC, RDC, NRDAPA, IPED) and international organisations (IICA, University of Florida). The Trip Report presented by the three-person FAVA/CA Team from the University of Florida is presented in Annex 3. This report contains some very specific and useful recommendations for follow up actions and should be given serious consideration for implementation as part of the Plan of Action for Developing the Peanut Industry in the Rupununi.

Workshop documents:

A bibliography of the multiple documents distributed at the Workshop is given in Annex 4. This collection of documents was given to each participant in two bound volumes.

Workshop methodology:

Efforts were made to make the Workshop as participatory as possible. Presentations were kept informal but closely followed a detailed Programme. Free discussion followed most presentations. Practical demonstrations on soil analysis were made using field test kits and outside demonstrations were given on the use of a mechanical seeder, field drying using the pole method and drip irrigation for vegetable production. Workgroups focused on priority concerns and reported back to plenary sessions. The

final conclusions reached and the recommendations made for actions and projects represent the opinions of the majority.

3. WORKSHOP RESULTS

The principal desired products from the Workshop were:

- a) To reach a general consensus on priority peanut production and marketing constraints in the Rupununi.
- b) To identify means and methods for overcoming these constraints.
- c) To identify the types of support services required to put peanut production on a sustainable basis and the respective service providers, and
- d) To reach a general consensus on a Plan of Action to put the production and marketing of peanuts in the Rupununi on a sustainable basis.

During the Workshop, resource persons summarized the problems, issues, key points, conclusions and ideas for solutions that arose during the presentations and discussions. These were then printed on newsprint and taped to the walls for consultation, review and modification. Summary sheets giving the conclusions of the different Workgroups were also taped on the walls for study and modification. It is the totality of these worksheets that contain the Workshop Results. Consequently, the information from these Worksheets was reviewed and organized so as to maintain their content and originality while attempting to minimize repetition and length of report. The Results from this analysis are presented below.

3.1 Production and Marketing Constraints to Peanut Production

Peanut production in the Rupununi, as presently being carried out, is considered to be unsustainable. The three main reasons for this are market uncertainty, low productivity and poor support services (Figure 1).

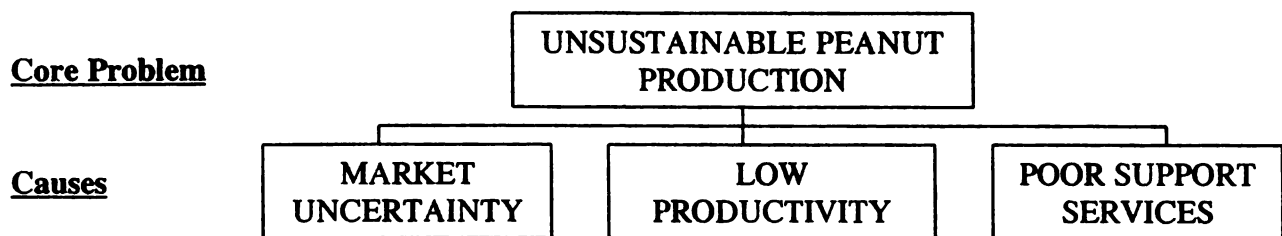


Figure 1: Causes of unsustainable peanut production in the Rupununi

The causes leading to market uncertainty, low productivity and poor support services are summarized in Tables 1 to 3.

Table 1: Causes of Market Uncertainty for Rupununi Peanuts and Contributing Factors

Fluctuating prices in Georgetown	Unreliable supply of peanuts to Georgetown	Undependable quality of Rupununi peanuts	Inadequate information for proper decision-making	Absence of policy to promote development of peanut industry
<ul style="list-style-type: none"> - competition with imported peanuts; - individual sales by farmers; - unorganised marketing; - buyers demand credit; - fluctuating pricing of transport; - fluctuation in yields; - high costs of production; - high costs of labour; - poor support services; - poor management practices. 	<ul style="list-style-type: none"> - only one cropping season; - uncertain weather affects production; - poor road conditions; - long transport distances; - on-farm prices received do not cover production costs; - payments from buyers are unreliable; - unorganised supply. 	<ul style="list-style-type: none"> - poor quality of planting material; - poor harvesting methods; - untimely reaping; - unscrupulous harvesting and bagging practices; - poor drying; - no quality control; - improper storage practices; - poor storage facilities; - poor transportation; - poor management practices; - poor land preparation; - few farm inputs used. 	<ul style="list-style-type: none"> - lack of awareness by farmers of appropriate business and marketing practices; - insufficient information on weights and measures and no control system; - insufficient information on production and marketing costs; - poor access to information on improved production practices and weather patterns; - no organised information on market prices and opportunities. 	<ul style="list-style-type: none"> - no clear policies or support services within NARL, MFCL, NGMC, Ministry of Trade or other public sector institutions that support the development of peanut production; - no attempts are being made to identify and develop specialised niche markets such as that for organically grown foods in Europe. - no efforts are being made to look at value-added products and/or use of by-products.

Table 2: Causes of Low Productivity of Rupununi Peanuts

Inadequate & improper farm management practices	Continuation of column one	Limited use of appropriate tools/equipment	Use of uncertified & low quality seeds	Limited access to credit
<p>Land preparation:</p> <ul style="list-style-type: none"> - poor timing in many cases; - limited information on weather; - slash and burn technique; - new farms cut each year in south; - rotated land nutrient poor in north; - labour intensive; - poor/inappropriate tools & techniques; - no planned research; - little information on soil and land use; <p>Weed control:</p> <ul style="list-style-type: none"> - inability to identify types of weeds; - little understanding of life cycle of weeds and stages for effective control; - high costs of labour; - no appropriate tools/equipment; - no access to chemicals or IPM methods; <p>Pest Management:</p> <ul style="list-style-type: none"> - inability to identify insects/life cycles; - poor information on methods of control; - poor access to inputs/technical assist.; <p>Planting practices:</p> <ul style="list-style-type: none"> - wrong seeding rates; - no information/technical assistance. 	<p>Fertilization:</p> <ul style="list-style-type: none"> - limited access and high cost of fertilizers; - limited knowledge on proper usage; - no applied research or demonstrations; - no ready source of lime; <p>Harvesting:</p> <ul style="list-style-type: none"> - improper timing; - use of inefficient stripping methods; - highly labour intensive; - inadequate on-farm drying; - inadequate on-farm storage; - no grading done. <p>Pests:</p> <ul style="list-style-type: none"> - acoushi ants; - root rot. 	<ul style="list-style-type: none"> - poor information to determine best option; - poor access to appropriate technology; - few suppliers; - insufficient financial resources; - no applied research; - no demonstration on use and maintenance; - delays in filling orders; - no organized purchases; - uncertain transportation. 	<ul style="list-style-type: none"> - poor information on varieties, e.g. high yielding & disease resistance types; - no research & testing; - no chemical treatment and/or inoculation; - poor on-farm selection of seeds; - poor seed storage. 	<ul style="list-style-type: none"> - limited information on credit facilities; - only one credit source in region; - high interest rates; - limited repayment time; - limited ability to prepare projects to access resources.

Table 3: Causes of Poor Support Services for Rupununi Peanuts

Inadequate or inappropriate research, training & transfer of technology	Poor access to farm inputs and equipment	Poor utilisation of scarce resources	Poor management & utilisation of available information
<ul style="list-style-type: none"> - conflicting goals and methods of operation within the agricultural sector institutions; - insufficient local follow-up on institutional decisions; - poor inter-institutional communication & coordination; - shortage of qualified resource personnel; - field officers with poor attitude; - insufficient incentives for farmers and field officers; - no planned research; - training activities are <i>ad hoc</i> and do not respond to farmers' real needs. 	<ul style="list-style-type: none"> - few suppliers of farm inputs; - long delays in filling orders for farm inputs; - insufficient information or knowledge at farmer level to determine needs for farm inputs, e.g. soil analysis, pest control; - shortage of finances to purchase needed farm inputs; - no farmer organisation; - difficulty in shipping inputs to communities due to poor roads and limited transport; - farmers' reluctance to change farming practices. 	<ul style="list-style-type: none"> - poor utilization of scarce resources due to poor or non planning; - poor coordination between farmers, transporters, marketers and public institutions; - hidden agendas of individuals having decision making power; - scarcity of institutional credit; - high cost of credit; - lack of skills for accessing credit, e.g. project formulation. 	<ul style="list-style-type: none"> - no systematic planning for the development of non-traditional crops in which the farmers participate; - farmers do not have access to technicians to help them identify their needs for information; - rural communities do not have access to information available on the coast or internationally; - rural communities do not have access to electricity, telephones or reliable mail service; - no market information available.

In addition to the problems and their causes summarised in Table 1, 2 and 3 above, the participants and resource persons made other relevant comments during the Workshop that are noted below. It should be recognised that no attempt is made to reproduce here all the information that was distributed and presented at the Workshop. The following points were taken from plenary discussions, many of which may not be documented in handouts.

General:

- Annual imports of peanuts into Guyana are on the order of one million pounds.
- The Rupununi presently produces approximately 300,000 lbs./year of peanuts.
- In the 1980s peanut production reached 800,000 lbs.
- Production decline was due to marketing constraints.
- A survey of 32 peanut intermediaries in Georgetown showed that over 50% preferred the Rupununi peanut, even though they found the supply to be unreliable and the quality inconsistent.
- The average monthly family income in the Rupununi is probably less than G\$10,000 which is quite low.

Market opportunities:

- Peanuts from the South Rupununi are grown without chemicals and could qualify as "organic peanuts" and possibly receive a much higher price if exported.
- The NGMC is willing to purchase products from the Rupununi, including peanuts.
- The NGMC experience with the purchasing of mutton from the Rupununi ended due to inconsistent supply. This implies the need for planned production.
- The NGMC is in the process of establishing a central packaging facility to promote exports. This facility could be used by organised Rupununi farmers to store products such as peanuts.
- The key players in the sustainable production and marketing of Rupununi peanuts would include many types of people and institutions, e.g. farmers, truckers, wholesalers, retailers, hawkers, agro-processors, importers, NGMC, MFCL, NARI, RDC, North Rupununi District Development Board (NRDBB), farmer organisations and support agencies such as IPED, IICA, University of Florida, FAVA/CA, among others.
- Some farmers in the south barter peanuts with Brazilians and some trucker intermediaries.
- Since there is only one crop/year of peanuts, it is difficult to meet the demands of the Georgetown market.

Seeds:

- Some farmers say they do seed selection and have little problems with germination.
- Other farmers save poor quality material and get poor results.
- Knowledge of best storage techniques is very limited.
- Farmers that store their own seed must have proper storage and insect management.
- May be better for small farmers to have access to a reliable seed supply.

Production:

- Sustainable production of peanuts in the Rupununi will require: increasing productivity, reduction of production costs, improvement in peanut quality, adding product value in the farming areas, organisation of farmers and improving the quality and regularity of support services from the public and private sectors.
- The Rupununi soils are inherently poor and have poor water holding capacity.
- Peanut seed germination can be poor due to lack of gypsum/lime in the soil.
- There are presently no local sources of lime/gypsum.
- For best results, lime should be applied to soil three months before planting peanuts but it is not needed every year.
- Runner varieties of peanuts would be most useful, since they have more disease resistance.
- Higher seeding rates of peanuts will reduce weed problems and help to standardize maturity.
- Green peanuts are good for inoculation of the soil.
- Inoculants should be used on new soils and old pastures where peanuts are being planted.
- The present use of chemicals in peanut production is very low.
- Peanut productivity is much lower in the North than in the South where new lands are farmed each year (newer soils have higher fertility levels).
- Peanuts are grown in the South using a moulding (hilling) technique that some farmers feel contributes to increased yields.
- Peanuts have relatively low soil nutrient requirements in comparison with grains such as corn.
- Production challenge: how to produce sufficiently high yields of peanuts without destruction of forests (planting new lands each year) and excessive use of chemicals?

Harvest and post harvest:

- Maturity testing is important to determine the best time for digging, thereby maximising yields.
- Actions must be taken to reduce the risk of aflatoxin. Important means of control include proper weed control, irrigation, control of soil insects, maintenance of clean equipment, proper harvesting, removal of stems and dirt from peanuts, adequate drying and proper storage.
- Modern threshers tend to break a lot of pods if peanuts are too dry. Best threshing moisture is 15-18%. Low cost (US\$250) moisture testers are available in the USA market place.
- Pole drying in the field will dry peanuts to 10%, which is ideal for storage and marketing.
- Once peanut vines are stacked around a pole, the top should be covered with grass or palm leaves to help protect the peanuts from the rain.

Social concerns:

- Children labouring on cash crops may keep them home from school.

Miscellaneous:

- Research should be conducted on the use of cashew oil from the St. Ignatius processing plant for the control of acoushi ants.
- Trucker, Eddy Singh, volunteered to donate 1,000 lbs. of peanut seed for the next crop.

3.2 Needs for Research, Training and Farmer Organization

(a) The following needs for **Research** were identified:

Production Research:

- determine the impact of selected chemicals on specific pests;
- variety testing;
- on-farm pest and disease control, e.g. traditional vs improved methods of control;
- identification & naming of most common weeds, insects and diseases;
- responsiveness of different soil types.

Harvesting Research:

- use of appropriate equipment to reduce labour costs and improve quality.

Post harvest Research:

- appropriate methods of field drying, stripping and transporting;
- alternative methods of seed storage;
- best methods for storage of peanuts for market.

Marketing Research:

- identification of market information needs;
- best methods for joint/organized marketing.

(b) The following needs for **Training** were identified:

Training in Pre-production Aspects on:

- how to improve planning by relating weather patterns to future production;
- how to access and interpret information in the form of reports, tables, graphs, diagrams, etc. to facilitate planning and decision making;
- how to develop better understanding among farmers of agricultural terminology in the fields of agronomy, economics, postharvest, marketing, technologies, etc.
- keeping farm records for improved planning and decision making;
- effective planning and programming of research, training and productive activities;
- organization and running of farmer organisations and group activities.

Training in Production and Harvest on:

- understanding of soil types, soil conditions, soil needs, and efficient land use;
- identification of pests following specific weather patterns;
- proper and safe use of chemicals;

- seed production methodologies;
- appropriate pest and disease management;
- appropriate use of fertilizers to maximize returns, and their positive and negative effects;
- use of small equipment and appropriate tools.

Training in Storage on:

- proper grading and storage of seeds;
- proper grading and storage of peanuts for market.

Training in Marketing on:

- market demands and characteristics and the need for the continuous supply of quality products;
- costing of peanut production and marketing for improved decision-making.

Training related to Institutional Support on:

- methods of networking and lobbying to get results;
- importance of political support: do's and don'ts;
- methods of accessing financing;
- methods of accessing chemicals and other farm inputs.

(c) The **organization of peanut farmers** was considered a necessary action for sustainable production and marketing of this crop. Some key points taken from the discussion were the following:

- **Farmer organization requires TEAM WORK: less ME and more WE!**
- Farmer organizations can facilitate many types of services, e.g. research, farm input supply, transfer of technology, credit, training, marketing technology transfer, lobbying of special interests and public sector institutions, among others.
- Farmers organizations are characterized by being a legal entity, having rules, having a governing body, and having goals, objectives and a mission.
- Some constraints of farmers organizations in Guyana identified were: there are few farmers organizations and all are weak in organization and managerial skills; support services such as funding, training, technology transfer, legal support, etc. are weak or non-existent; the legalization process is slow.
- Successful farmers organizations: are open, democratic and accountable; demonstrate sound fiscal management; provide technical assistance and improve farmers skills; represent the best interests of their members, and can make positive impact on their members.
- Types of farmers' organizations in Guyana include: Friendly Society, Co-operative and Company. Each type has its positive and negative sides.
- Each group of farmers should select the model that best meets its needs.
- Organizations need help in the early stages of development and for a number of years afterwards until they become self-sustaining.

3.3 Diagnosis of Available Agricultural Support Services

Following the analysis of problems and needs it became evident that agricultural support services in the Rupununi are a very scarce commodity. A summary of the existing situation shows the following support services.

Technical Assistance:

- *Research:* the National Agricultural Research Institute (NARI) has no presence in the Rupununi. Since 1999 it has been planning to rehabilitate the Research Center at St. Ignatius. It has budgeted funds for 2000 to locate one Officer and one Research Assistant at St. Ignatius. Research priority is likely to be given to peanuts, cashew and small livestock.
- *Extension:* The Ministry of Fisheries, Crops and Livestock (MFCL) maintains a staff of six persons in the Rupununi. Three are based at the Regional Office in Lethem, including the Senior Agricultural Officer, Agricultural Officer and Veterinary Officer. One Field Assistant is based at Karasabai and one at Aishalton. There is also an Animal Health Assistant at Annai. In general, farmers express the opinion that the extension services received can be improved.

Credit:

- the only source of formal credit in the Rupununi is that provided by the UNDP and supervised by IPED in a pilot project in the North Rupununi and a recently implemented (March 2000) USAID-funded pilot project in the South Rupununi, being executed by Beacon Foundation;
- in both cases, the amounts of the loans are small and collateral can be in the form of small personal property;
- total capital is G\$6,000,000 for the UNDP project;
- both are pilot projects;
- IPED loans have been well monitored and repayment to date has been good;
- the Beacon Foundation project is just beginning;
- peanut farmers often receive their farm inputs from truckers who normally purchase and market their production;
- farmers report they do not always get paid on time and frequently do not get paid at all.

Farm Input Supply:

- most seeds are obtained from other farmers, their own farms or from the truckers who buy their produce;
- some chemicals, small tools and equipment are used in the North Rupununi and may be supplied by truckers or purchased in Georgetown by the farmers or someone else on his behalf;
- few other farm inputs are used.

Information:

- most farmers report obtaining their information on peanut production from their ancestors and their own experiences;

- many get information from neighbour farmers or from experiences working with others;
- infrequently, information may be obtained from technicians passing through their area or local field assistants;
- there is no organized information service for farmers in the Rupununi.

Soil Analysis:

- few farmers take soil samples for analysis;
- some have in the past but with unsatisfactory results received from NARI;
- it takes NARI 2-3 months to provide the results of samples sent;
- farmers have difficulty interpreting results sent by NARI.

Transportation:

- roads are very poor and non-passable during the wet season;
- farmers are dependent upon Regional authorities and private truckers for transport of their produce (mainly the latter);
- farmer owned transport, if any, is limited to ox-cart and/or bicycle.

Communication:

- outside of Lethem there are no telephones;
- short-wave radios are used to communicate between many villages, and in some cases, with Georgetown;
- radio stations do not carry any farming information for products produced in the Rupununi.

3.4 Elements of a Plan of Action

On the final day of the Workshop, three Work Groups worked independently to identify solutions for the priority problems identified above. The results of these three Work Groups are presented in Tables 4, 5 and 6.

Table 4: Proposed Solutions for Marketing Problems

Problem	Causes of Problem	Proposed Actions and Solutions to Resolve the Causes of the Problem
Fluctuating prices in Georgetown	See Table 1	<ol style="list-style-type: none"> 1. Improve management practices: <ul style="list-style-type: none"> - introduce proper record keeping; - carry out field trials to improve peanut production; - provide regular training to farmers; - improve farmers planning capabilities; 2. Introduce appropriate technology: <ul style="list-style-type: none"> - identify needs; - establish a pilot farm for applied research; - form a farmers organization to play a leading role; - promote credit programme that meets needs of peanut farmers; - provide on-going training to farmers; - form strategic alliances with diverse groups, institutions, organizations to obtain technical and financial support.
Unreliable supply of peanuts to Georgetown	See Table 1	<ol style="list-style-type: none"> 1. Improve access to market and weather information. 2. Develop improved radio communication system.
Undependable quality of Rupununi peanuts	See Table 1	<ol style="list-style-type: none"> 1. Develop proper storage infrastructure and management practices: <ul style="list-style-type: none"> - improve on-farm storage practices; - farmers association should provide bond facilities to small farmers; 2. Proper selection and grading of planting materials: <ul style="list-style-type: none"> - carry out training and education programme; - introduce simple and appropriate equipment to test seed quality (moisture content); - provide necessary seed treatment.
Inadequate information for proper decision making	See Table 1	<ol style="list-style-type: none"> 1. Develop an information system that responds to the needs of the farmers: <ul style="list-style-type: none"> - form a farmers association; - determine farmers' needs for information;

Problem	Causes of Problem	Proposed Actions and Solutions to Resolve the Causes of the Problem
Absence of policy to promote the development of peanut industry	See Table 1	<ul style="list-style-type: none"> - initiate systems to collect, analyze and disseminate information through farmers association; - include information such as prices, market trends, consumer preferences, acreage planted, quantities of stored product; expected yields and production, etc. - integrate the services of the NGMC, MFCL, farmers and farmers association. <ol style="list-style-type: none"> 1. Form an inter-institutional working group to formulate desired policy to include farmers association, NGMC, MFCL, NARI and selected donor/support groups. 2. Meet with relevant authorities to lobby for new policy.

Table 5: Problems, Causes and Proposed Actions and Solutions for Low Productivity of Peanuts

Problem	Causes of Problem	Proposed Actions and Solutions to Resolve the Causes of the Problem
<p>Inadequate and improper farm management practices</p>	<p>See Table 2</p>	<ol style="list-style-type: none"> 1. Form dynamic inter-institutional Team to coordinate formulation and implementation of a Plan of Action and to propose and promote supporting policy interventions. 2. Establish a model farm for research, training and development work in the North Rupununi. 3. Establish on-farm demonstration sites in selected communities in different micro-regions. 4. Establish a long-term interior savannahs research programme. 5. Systematically organize seminars, field days and demonstrations to highlight (showcase) the results from research and on-farm demonstrations. 6. Identification of lead farmers to participate in training programmes and to function as community technology transfer agents (CTTAs). 7. Establish in each farming community a repository of information of use to farmers and other rural people. 8. Develop networks with institutions and organisations so as to respond more effectively to the needs of rural people for information and technical and financial assistance.
<p>Limited use of appropriate tools and equipment</p>	<p>See Table 2</p>	<ol style="list-style-type: none"> 1. Explore avenues of funding to acquire appropriate equipment and to establish model and/or demonstration farms. 2. Expedite the acquisition of equipment and materials on offer from the University of Florida for peanut production and post harvest handling. 3. Investigate the local availability of appropriate tools and equipment for peanut production and processing, e.g. CARDI/NARI operations in the Intermediate Savannahs. 4. Establish closer working relationships between Rupununi farmers and Georgetown input suppliers.

Problem	Causes of Problem	Proposed Actions and Solutions to Resolve the Causes of the Problem
Use of uncertified and low quality seed	See Table 2	<ol style="list-style-type: none"> 1. NARI should take on the responsibility of verifying existing seed quality. 2. Florida seeds (and others) should be accessed and varietal testing carried out. 3. Farmers should be selected and trained as quality seed producers. 4. Farmers should be identified and trained to participate in a programme for self-saving seed.
Limited access to credit	See Table 2	<ol style="list-style-type: none"> 1. Lobbying by the "farmers association" for lower rates and longer repayment time. 2. Training activities for farmers on project identification and formulation and specialized training for completing loan request forms for credit with IPED, Beacon Foundation and other institutions that may come on stream.

Table 6: Causes and Proposed Actions and Solutions to Problems of Poor Support Services for Rupununi Peanuts

Problem	Causes of Problem	Proposed Actions and Solutions to Resolve the Causes of the Problem
<p>Inadequate or inappropriate research, training and transfer of technology</p>	<p>See Table 3</p>	<ol style="list-style-type: none"> 1. Establish effective inter-institutional relationships through the formation of a coordination unit involving MFCL, NARI, NGMC, NGOs, selected donors and others. 2. Organize training in human relationships and responding to customers needs (for all key players). 3. Improve main road and selected farm to market roads to facilitate access. 4. Develop inter-institutional strategies for the organized implementation of research and development activities in Region 9. 5. Improve the benefits and incentives for professional staff in the Rupununi.
<p>Poor access to farm inputs and farm equipment</p>	<p>See Table 3</p>	<ol style="list-style-type: none"> 1. Establishment of a strong and well-managed farmers organisation. 2. Formation of an inter-institutional network to organise a more effective response to the needs of the rural people of the Rupununi. Members would include farmers and other rural organisations, NRDDDB, MFCL, RDC, NARI, UG, NGMC, UNDP, IPED, Beacon Foundation, IICA and others. 3. Introduction of organised training in farm management, farm machinery and small equipment operation and maintenance, post harvest handling of produce, marketing, irrigation and other relevant subjects to school curriculum. 4. Establish Rupununi Technical Institute and formulate and implement a long-term training and development programme. 5. Establish model farms. 6. Improve transportation and road network.

Problem	Causes of Problem	Proposed Actions and Solutions to Resolve the Causes of the Problem
Poor utilization of scarce resources	See Table 3	1. Improve and strengthen the institutional coordination for the planning and prioritisation of community needs.
Poor management and utilisation of available information	See Table 3	<ol style="list-style-type: none"> 1. Improved communication and coordination at the community and farm level to identify specific needs. 2. Identification of all the stakeholders and key persons in the decision making process and involve everyone in the decision making process. 3. Organize training activities in accessing and utilizing information. 4. Establish information networks that will facilitate farmers and rural people access to computers and sources of modern information.

In addition to the proposals from the three Work Groups, plenary discussions led to a number of suggestions and observations relevant to the formulation of a Plan of Action for the Sustainable Production of Peanuts in the Rupununi.

Considerations:

- Farming practices should give due attention to lowering of labour costs.
- Farming practices should give due attention to increasing the yields (quantity) of peanuts as well as their quality.
- Efforts should be made to add value to the final products in the rural areas by shelling the nuts and processing into such things as peanut butter, ground nuts, candies and others.
- The introduction of equipment will reduce the demand for labour which has both positive and negative effects, i.e. production costs may be reduced at the cost of employment opportunities.
- Prior to investing in new equipment one should consider: appropriateness, costs, size of farm, local maintenance capability and costs, required size of tractor to operate equipment, availability in the market place, type and quality of soil, ownership (farmer or farmers organisation), whether technology has been validated on local farms, whether tools or equipment can be produced locally, whether farmers have any experience or knowledge of the new technology, among others.
- Prior to the introduction of chemicals on the farm, consideration should be give to: the cost of the chemicals, the potential damage that could be done to humans and wildlife, other options, and training of a local farmer to properly manage the chemicals.

The final day of the Workshop gave priority to the identification of activities that could be included in the Plan of Action for the Sustainable Development of the Peanut Industry in the Rupununi. Some of the needs that were highlighted and discussed were:

- need for seed farms;
- need for farmer involvement in seed research and on-farm production of seed;
- rogue (pull out) off-types of peanuts and keep for seeds;
- research on multiple cropping systems on available lands to optimize returns and identify sustainable systems;
- need to carry out applied research on model farms and farmers own plots;
- research on integrated farming with crop rotation to optimize family income;
- research on best crop rotations, e.g. peanuts and grass crops (bahia grass);
- research on variety testing of peanuts;
- studies on seeding rates;
- fertilisation trials;
- research on applied integrated pest management;
- conduct regular training workshops and field days;
- identification of important pests/diseases in peanuts (virus, bacteria, nematodes, fungi) and their characterization, magnitude of problems and methods of control;
- selected use of chemicals, e.g. herbicide Prowl, that are low cost and effective and not dangerous to beneficial insects and wildlife;

- identification of major weeds and methods of control;
- develop weed map of farms;
- training in effective marketing;
- research on productivity when re-using same lands;
- need to improve farm to market roads;
- need to improve access to tools, equipment and farm inputs;
- introduce appropriate technology to lower costs of production;
- identify and classify lands best suited for peanut production;
- research the use of ashes as source of lime;
- establish organization to provide a marketing service;
- train farmers to estimate their costs and profits;
- introduce system that will regularly evaluate technical personnel from public sector institutions and provide incentives and/or controls as required;
- NARI and MFCL should coordinate with farmers in developing an effective peanut seed program.

4. PLAN OF ACTION AND FOLLOW-UP

Based on the above, a draft Plan of Action was prepared and round-robbined to the resource persons and farmer leaders that participated in the Workshop. The final revised draft Plan of Action with the recommended revisions is presented below. This final draft version should be reviewed by all the institutional participants and necessary revisions introduced. Decisions should then be taken in regard to its implementation.

Table 7: Proposed Plan of Action for the Sustainable Production and Marketing of Peanuts in the Rupununi

ACTIONS	OBJECTIVES AND DESCRIPTION OF ACTIONS	PARTICIPANTS
<p>1. Form and Strengthen Farmers Organisations:</p>	<p><i>The purpose is to help farmers organise themselves into groups that will have the capacity to effectively communicate and coordinate with public and private sector service providers so as to improve the level and quality of agricultural support services received by farmers.</i></p>	
<p>a. Participatory diagnosis of farmers' needs by Sub-District</p>	<ul style="list-style-type: none"> - The NRDAPA will take the lead in executing a participatory diagnosis to identify and prioritise farmers' needs by Sub-District and to propose the most effective way of meeting those needs. 	<ul style="list-style-type: none"> - MFCL, NARI, IICA
<p>b. Strengthen NRDAPA</p>	<ul style="list-style-type: none"> - The NRDAPA is the first farmers organisation in the North Rupununi. It was launched on February 27, 2000 with approximately 20 peanut and livestock farmers. Its members will require on-going technical support and training from key institutions. 	<ul style="list-style-type: none"> - IICA, MFCL, NARI, UNDP
<p>c. Form and strengthen farmers groups in other four Sub-Districts</p>	<ul style="list-style-type: none"> - The Rupununi is divided into five Sub-Districts. The NRDAPA represents farmers in the North Sub-District. Similar groups will be formed in the other four Sub-Districts as need and opportunities arise. 	<ul style="list-style-type: none"> - MFCL, NARI, IICA, UNDP
<p>d. Develop and strengthen support services through farmers groups</p>	<ul style="list-style-type: none"> - Many of the required support services can be best provided by the farmers themselves, if they are properly organised. Such services include: seed certification, storage and quality control; input and product storage bonds; farm input sales; equipment rental; information service; transport service; internet service; coordination of technical assistance, among others. 	<ul style="list-style-type: none"> - MFCL, NARI, IICA, UNDP, Beacon Foundation

ACTIONS	OBJECTIVES AND DESCRIPTION OF ACTIONS	PARTICIPANTS
<p>2. Integration and strengthening of support services</p> <p>a. Create Inter-Institutional Coordinating Committee (IICC) for peanut production in the Rupununi.</p> <p>b. Participatory formulation of Plan of Action and designation of responsibilities for the Peanut Working Group.</p> <p>c. Strengthening of institutional support services</p> <p>d. Implementation of a two-year Plan of Action</p>	<p><i>The purpose is for the principal agricultural sector institutions to develop and upgrade their respective support services so that they respond to rural needs and reach the farmer in an efficient and effective manner.</i></p> <p>- This Group will lobby for policy changes and monitor the formulation and implementation of the Plan of Action. The development of the peanut sub-sector in the Rupununi offers a good opportunity for the respective institutions to work together in a coordinated effort to reach a common goal. If successful it could serve as a model for other crops and other micro-regions.</p> <p>- Most of the key institutions participated in the Peanut Workshop where they reached a consensus of opinion on the priority actions required. A technical Peanut Working Group will prepare its terms of reference and finalise, coordinate and monitor the implementation of the Plan of Action.</p> <p>- Each of the participating national institutions will provide support services in their respective areas of expertise. In most cases these services suffer from imperfections/weaknesses. During the implementation stage institutions will make efforts to optimise their services.</p> <p>- Each participating institution would have well defined responsibilities for research, training, technical and financial assistance or other actions. Each would be responsible for implementation of "its" actions and would be monitored by the Peanut Working Group.</p>	<p>- RDC, NRDDDB, NRDAPA, MFCL, NARI, NGMC, Beacon Foundation, IPED, IICA, UNDP</p> <p>- NRDAPA, MFCL, NARI, NGMC, IICA</p> <p>- RDC, NRDAPA, MFCL, NARI, NGMC, Beacon Foundation, IPED, IICA, UNDP</p> <p>- RDC, NRDAPA, MFCL, NARI, NGMC, Beacon Foundation, IPED, IICA, UNDP, FAVVA/CA, U. of Florida</p>

ACTIONS	OBJECTIVES AND DESCRIPTION OF ACTIONS	PARTICIPANTS
<p>3. Respond to the needs of rural people for financial assistance:</p>	<p><i>The Rupununi is presently going through a transition stage from subsistence to commercial agriculture. As soon as the all weather Brazil to Georgetown road is opened, considerable market opportunities will present themselves in both Boa Vista and Georgetown. The communities of the Rupununi will require grant funding for supporting infrastructure and training and farmers and other rural people will require credit for productive activities. The purpose of the following actions is to ensure that the necessary resources for the development of this Region are available.</i></p>	
<p>a. Identify and quantify real needs on a product basis</p>	<p>- Pilot credit programmes are underway but no one really knows the quantum of resources required. This action would determine the needs for both grant and loan money for the Region, prioritizing the demand for peanut credit.</p>	<p>- RDC, NRDDDB, NRDAPA, Farmers, IPED, Beacon Foundation, UNDP</p>
<p>b. Develop responsive credit programmes building upon local and national experiences</p>	<p>- Credit programmes should be dynamic and have the capacity to grow with demand, using all the positive and negative experiences to build effective programmes. Credit for peanut production could serve as the model for other crops in the future. Needs of peanut, cashew and livestock farmers would be communicated to on-going credit programmes with recommendations for their making the necessary adjustments.</p>	<p>- RDC, NRDDDB, NRDAPA, Farmers, IPED, Beacon Foundation, UNDP, IICA</p>
<p>c. Determine needs for grant assistance and establish coordinated effort among the many donors active in the Rupununi</p>	<p>- There are many donors/agencies spending money in communities of the Rupununi with varying degrees of success. This activity would document all on-going actions and would strive to build an effective coordinating mechanism for defining common goals towards which the respective actions of each assistance body would contribute. Requirements to support the peanut industry would be given priority attention and would be used to develop a model for further coordinated efforts.</p>	<p>- RDC, NRDAPA, Farmers, IPED, Beacon Foundation, UNDP, IICA, Rotary, BHC, CIDA, CI, GVC, Iwokrama, CBR, UNICEF, NBS, others</p>

ACTIONS	OBJECTIVES AND DESCRIPTION OF ACTIONS	PARTICIPANTS
<p>4. Establish and develop an information network that responds to the needs of rural communities in the Rupununi</p> <p>a. Establishment of an information center at a central location in the North Rupununi</p> <p>b. Improvement of radio communication system between villages</p> <p>c. Linkage with national Internet information system</p>	<p><i>The purpose of this activity is to supply farmers and rural people with the necessary information, and knowledge how to use the information, so that they will be able to make more effective decisions in the production, processing and marketing of their products.</i></p> <p>- This center would initially house documents, reports and studies relevant to peanut, cashew, livestock and other crops and products of interest to the local farmers. As technology permits this center will be linked with national and inter-national information networks using radio, telephone and eventually the Internet. This Info. Center will also function as headquarters for Community Technology Transfer Agents (CTTAs) in their quest for information and technology to be transferred to farmers. The Info. Center could also serve as the center for farmers organisations and MFCL extension workers. It could be located at the North Rupununi Institute.</p> <p>- At the present time, the most practical, low cost and effective means of communication is by short-wave radio. Several, but not all villages, have operating systems. Organized production and marketing of any crop requires rapid means of communication. This action will promote efforts to establish short-wave radios in all communities participating in the peanut production and marketing programme.</p> <p>- As soon as it is technically feasible, the North Rupununi will be linked with the Internet and with existing national agricultural information networks and websites. This would permit easy exchange of information and technical assistance with collaborating national and</p>	<p>- NRDAPA, NRDDDB, IICA, UNDP, NARI, MFCL, UG, GSA, REPAHA, U. of Florida, FAVA/CA, others</p> <p>- UNDP, RDC, Ministry of Health, NRDAPA, NRDDDB</p> <p>- NRDAPA, NRDDDB, IICA, MOA, MFCL, NARI</p>

ACTIONS	OBJECTIVES AND DESCRIPTION OF ACTIONS	PARTICIPANTS
<p>d. Local radio station</p>	<p>international support groups, e.g. the University of Florida could facilitate the diagnosis of peanut pests and diseases over the internet using digital photography.</p> <p>- Iwokrama has plans to establish a local radio service. Efforts will be made to utilise this radio service for the development of the peanut industry.</p>	<p>- NRDDDB, NRDAPA, Iwokrama, UNDP</p>
<p>5. Development of farmers' agricultural skills and technical capabilities in production, processing and marketing</p> <p>a. Support the establishment and strengthening of the Rupununi Technical Institute</p> <p>b. Establish and develop model farm in North Rupununi</p>	<p><i>The purpose is to transfer to farmers and rural people the information, knowledge and technical skills required to allow them to compete in national and international markets, to optimize their returns, and to contribute to the improvement of the quality of their life and of that of their families.</i></p> <p>- The IUCN, from England, is providing funding to the NRDDDB for the establishment of a Technical Institute. One of the priority training areas will be in the field of agriculture and priority will be given to training of peanut producers and processors. This Institute will need ample technical support in research and training. National institutions will provide such support.</p> <p>- In the same general area of the Technical Institute, a model farm will be established to carry out applied research and to offer practical training to farmers of peanuts, cashew, livestock and other products with market opportunities.</p>	<p>- NRDDDB, IUCN, NARI, MFCL, NGMC, IICA, BF, CI, CBR, IPED, RDC, NRDAPA, Farmers, UNDP, Rotary, BHC, CIDA, Iwokrama, UNICEF, GVC, others</p> <p>- NRDDDB, NARI, MFCL, IICA, NRDAPA, Farmers, UNDP, BHC, CIDA, UF, FAVA/CA, USAID</p>

ACTIONS	OBJECTIVES AND DESCRIPTION OF ACTIONS	PARTICIPANTS
<p>c. Carry out on-farm applied research</p>	<p>- In addition to research at the model farm, applied research will be conducted on the farms of the more progressive peanut farmers. Research will include management of different soil types, seed varietal tests, identification of weeds, pests and diseases, experiments with different harvesting and storage techniques, irrigation trials, among others.</p>	<p>- NRDDB, NARI, MFCL, IICA, NRDAPA, Farmers, UNDP, UF, FAVA/CA, USAID</p>
<p>d. Execute intensive peanut production and marketing training programme</p>	<p>- The Workshop identified a number of areas in which peanut farmers need training (management practices, planning, marketing, infrastructure management, seed production, product storage, farm machinery and small equipment operation and maintenance, postharvest handling, irrigation, pest and weed control, etc.). This training should be organized and provided in the most practical and cost effective manner so as to respond effectively to farmers needs and available resources. It will include workshops, seminars, short courses, on-farm practical applications, field-days, farmer exchange and other methods.</p>	<p>- NARI, MFCL, IICA, NRDAPA, Farmers, UF, FAVA/CA, USAID</p>
<p>e. Identify, select, train and support rural extension service of young Community Technology Transfer Agents (CTTAs)</p>	<p>- For the foreseeable future, the agricultural sector in Guyana will be unable to provide the human resources necessary at the rural level for effective research and transfer of technology. Consequently, a more practical and low cost model must be sought that utilizes the existing human resources (leaders and progressive farmers) in the rural communities. The purpose of this activity is to identify, train and support local and young Community Technology Transfer Agents willing and capable of providing extension services.</p>	<p>- NARI, MFCL, IICA, NRDAPA, Farmers, UF, FAVA/CA, BHC, CIDA, USAID</p>

Annex 1

Workshop Programme

- Dates:** February 25-28, 2000
- Venue:** Rupertee Training Centre
- Organisers:** North Rupununi District Agricultural Producers Association (NRDAPA) and the North Rupununi District Development Board (NRDDB)
- Support Agencies:** IICA, FAVA/CA, University of Florida, NARI, MFCL, NGMC, RDC
- Participants:** Approximately 40 participants including 25 peanut farmers and 15 resource persons/facilitators.

Day 1: Friday, February 25, 2000

Session 1: Review of Peanut Production and Marketing Systems in Guyana

- 08:00 hrs: *Opening and welcome from RDC Vice-Chairman, Vincent Henry, and introduction of Resource Persons and their respective institutions, e.g. FAVA/CA and U. of Florida*
- 08:30 hrs: *Introduction to Sustainable Agricultural and Rural Development, Jerry La Gra, IICA*
- 08:50 hrs: *Production and marketing of peanuts in the North Rupununi, Randy Gilbert, NRDDB*
- 09:10 hrs: *Production and marketing of peanuts in the South Rupununi, Eddie Singh, Businessman/trucker*
- 09:30 hrs: IPED activities in the Rupununi, Mike James, IPED Field Officer
- 10:00 hrs: *Plenary discussion of priority production and marketing constraints, Facilitator, Hughlet Greaves, Farmer/Teacher*

Desired products from Session 1: (a) a general understanding of the characteristics of sustainable development (SARD), (b) general consensus and list of priority peanut production and marketing constraints, (c) awareness of available resources.

Session 2: Important Aspects of Peanut Production and Available Techniques

- 11:30 hrs: ***Making money (\$) from peanut production:*** the importance of accurate information; on-farm record keeping; costs vs. benefits of peanut production in the North Rupununi, **Charles Carmichael, IICA**
- 13:00 hrs: Lunch
- 14:00 hrs: ***Practical introduction to soil science:*** types of soil and classification of soil; nutrient holding capacities and peanut nutrient requirements (examples from U. of Florida); ways of meeting nutrient requirements; pros and cons of fertilizer use in Guyana, others deemed relevant and important, **David Fredericks, NARI and University of Florida**
- 15:30 hrs: ***Practical application of soil test kit,*** **Randy Gilbert, NRDDDB, and David Wright, University of Florida**
- 17:30 hrs: **Closing of Day One**

Day 2: Saturday, February 26, 2000

Continuation of Session 2:

- 08:00 hrs: ***Principles of peanut production:*** the Plant (peanut types and growth characteristics, uses by type, adapted varieties, plant growth stages, flowering and pegging, water requirements); **Nutrition** (requirements, nut and foliage partitioning, deficiencies and toxicities, soil test results, major fertilizer/lime requirements and application methods and timing, inoculants - definition, storage, application and benefits); **Cultural/Production** aspects (soil types, land preparation, minimum tillage, seed rates, planting depth, plant spacings, seed treatments); **Harvest** (critical nature of timing, maturity tests), **David Wright, U. of Florida**
- 10:00 hrs: ***Pest management principles and peanut diseases:*** **Pest management concepts** (pest control methods, thresholds and scouting, prevention versus remediation, key pests); **Disease management** (disease causing organisms, signs and symptoms, identification, management methods, chemicals available, application methods, IPM strategies for key disease - leaf rust); **Jim Rich, University of Florida**

- 11:00 hrs **Weed management** (general weed types, annuals and perennials, yield losses, identification, management, herbicide types, pre & post application methods, IPM strategies for key weeds); **Insect management** (insect types, feeding habits and damage, identification, management methods, insecticide types, application methods, IPM strategies for key insects); **Pesticides and safety** (types and toxicities, common and commercial names, formulation, labels, handling, backpack calibration, cost considerations, mixing formulations), **Bruce Ward, University of Florida**
- 12:30 hrs: ***Organic farming*, Jim Rich, U. of Florida**
- 13:00 hrs: ***Application of Modern Practices of Peanut Production*** to the reality and the diverse soils and characteristics of the Rupununi; availability and costs of chemicals and equipment, marketing constraints, onfarm test methods, etc. **Open plenary discussion led by Facilitator Hughlet Greaves, NRDDDB**
- 13:30 hrs: **Lunch**
- 14:30 hrs: ***Workgroup Sessions (production practicums)*** on priority production problems and concerns, (workgroups will review local experiences and available information and recommend solutions), **Facilitators, David Wright, U. of Florida and Charles Carmichael, IICA** and resource persons for each group
- 15:30 hrs: ***Panel discussion on appropriate equipment for the production and processing of peanuts in Guyana:*** (a) *Overview of needs*, **Randy Gilbert**, (b) *Small scale units available*, **Bruce Ward**, (c) *Costs & benefits of production options*, **Charles Carmichael**
- 16:30 hrs: **Plenary discussion reviewing the days activities and the feasibility of introducing changes, Facilitator, Randy Gilbert**
- 18:00 hrs: **Closing of Day 2**

Desired products from Session 2: (a) basic understanding of the importance of soil and soil nutrients and how they impact yields of peanuts; (b) identification of most appropriate varieties/types, methods, strategies and technologies for the production of peanuts in the North Rupununi; (c) identification of priority pests and diseases in the Rupununi and means of dealing with them; (d) identification of labour saving tools, and (e) clear understanding of the costs and returns from peanut production.

Day 3: Sunday, February 27, 2000

Session 3: Options for Improved Postharvest Handling and Marketing of Peanuts

- 08:00 hrs: *Postharvest handling of peanuts*: Pole drying and storage (drying and moisture levels, storage ventilation, insect control, aflatoxins); Byproduct uses (vines, hulls), **Bruce Ward, U. of Florida**
- 09:00 hrs: *Opportunities for adding value and marketing of peanuts*: case study of small-scale processing of peanut butter in Haiti, **Jim Rich, U. of Florida**; **open discussion** of alternatives for transportation, joint marketing and other methods of adding value led by **Facilitator, Jerry La Gra, IICA**
- 09:30 hrs: *Priority research, demonstration and education needs*: production, processing and marketing, **Plenary discussion** led by **Facilitator, Maurice Bennett**

Desired products from Session 3: (a) clear understanding of the options for marketing peanuts, including adding value and their costs and benefits; (b) list of priority research topics.

Session 4: Support Services

- 10:30 hrs: *Information support network*: An example from Florida, **Jim Rich**; Desirable characteristics for an information network for Guyana, open discussion and consensus, **Facilitator, John Woolford, MFCL**
- 11:30 hrs: *Break to participate in the reception of the Prince of Wales*, Annai Airport, followed by lunch
- 14:00 hrs: *The role of farmer organizations*: Groups, Associations, Cooperatives, Friendship Societies and Companies, some practical experiences, **Cromwell Crawford and Maurice Bennett, IICA**
- 16:00 hrs: **Visit to neighbouring farm to look at drip irrigation of vegetables**
- 17:00 hrs: *Providing support services for the production and marketing of peanuts*: minimum services required from the public sector; services that can be provided by a farmers organization, **Plenary discussion, Facilitator, Joseph McAllister**, with comments from **Nizam Hassan, NGMC**

Desired products from Session 4: (a) clear identification of the types of support services required and proposed service providers (e.g. associations, MFCL, NARI, etc.); (b) identification of needs for strengthening farmer organizations.

18:00 hrs: **Closing of Day Three**

Day 4: Monday, February 28, 2000

Session 5: Plan of Action for Peanut Production, Processing and Marketing in the Rupununi

08:00 hrs: *Presentation of a methodology for the formulation of a Plan of Action* (prioritisation of problems; formation of working groups to formulate specific solutions to each problem; integration of solutions into a medium term - 2 years - Plan of Action), **Cromwell Crawford, IICA**

08:30 hrs: *Work groups*, each with resource person

10:30 hrs: *Presentation of results from Work Groups*, Facilitator, **Cromwell Crawford**

12:00 hrs: *Plenary discussion to integrate solutions of specific problems into a Plan of Action*, Facilitator, **Randy Gilbert, NRDAPA**

13:30 hrs: *Formation of Inter-institutional Team* for Follow-up Action (promotion and implementation), Facilitator, **David Fredericks, NARI**

14:00 hrs: Closing, Lunch and Departure

Desired products from Session 5: (a) Consensus on a Plan of Action (POA) to define the way forward; (b) institutional support for the implementation of the POA identified; (c) Inter-institutional Team formed for follow-up action.



Annex 2

Participants

No.	Name	Location
Regular Participants		
01.	Milton SAMSON	Annai
02.	Michael JAMES	Annai
03.	Abel WILLIAMS	Annai
04.	Clement JOSEPH	Apoteri
05.	Carlyle ABRAHAM	Aranaputa
06.	Hughlet GREAVES	Aranaputa
07.	Arnold HAMILTON	Aranaputa
08.	Desiree HAMILTON	Aranaputa
09.	Elvan HAMILTON	Aranaputa
10.	Patrick ATKINSON	Karasabai/MFCL
11.	Nicholas CYRIL	Katoonarib
12.	Richard DANIELS	Kwatamang
13.	Eddie SINGH	Lethem
14.	Wenceslas ALBERT	Patarinau
15.	Fred ALLICOCK	Surama
16.	Madonna ALLICOCK	Surama
17.	Robert ALLICOCK	Surama
18.	Jeffery ALBERT	Tiger Pond
19.	Gerald MOSES	Wowetta
20.	Rudolph EDWARDS	Yakarinta
Resource Persons		
21.	Randy GILBERT	NRDAPA/Aranaputa
22.	Jerry LA GRA	IICA
23.	Cromwell CRAWFORD	IICA
24.	Charles CARMICHAEL	IICA
25.	Maurice BENNETT	IICA
26.	Jim RICH	University of Florida
27.	David WRIGHT	University of Florida
28.	Bruce WARD	University of Florida
29.	John WOOLFORD	MFCL
30.	Joseph McALLISTER	MFCL
31.	David FREDERICKS	NARI
32.	Nizam HASSAN	NGMC
Other Participants		
33.	Vincent HENRY	RDC
34.	Sidney ALLICOCK	NRDDB
35.	Mapera THOMAS	Veterinary Officer, Region 9
36.	Benjamin FRANK	MFCL, Region 9
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Annex 3

Trip Report to the North Rupununi, Guyana

22 February - 3 March 2000

Submitted By FAVA/CA Volunteers

Jim Rich, Bruce Ward, and David Wright

1. Background:

Peanut production volunteers were recruited by FAVA/CA, following a request from IICA for assistance in training peanut farmers in the Rupununi region of Guyana at a 4-day Workshop. Events leading to the workshop and FAVA/CA involvement are presented as attachments to the booklet compiled by IICA entitled 'Workshop on the Production, Processing and Marketing of Peanuts in the Rupununi'. Please refer to this document for details. Briefly, the Workshop was organized to promote grower and institutional understanding and cooperation on problems, issues and potentials of peanuts as a viable economic pursuit in the Rupununi. Participants represented an excellent mix of peanut farmers, local and national governmental agencies, private enterprise and other public support sectors.

FAVA/CA volunteers provided technical information and first hand experience from their many years of work in peanut production and handling technology. Presented herein are observations and recommendations of the volunteers on these specific areas as well as some general thoughts and recommendations.

2. Needs Summary

Peanut production and handling information is greatly lacking in the Rupununi region and all aspects need considerable improvement. Basic technology transfer from other peanut producing countries is essential to help build a successful peanut industry. However, local environmental and socioeconomic conditions must be incorporated for greatest long-term progress. The Peanut Workshop provided an excellent 'starting' point for information to all persons interested in peanut production in the Rupununi.

From the standpoint of production and handling of peanuts, serious gaps in information were apparent and expertise in some areas may not be available in Guyana. As a result, we feel that in the short-term (ca. 2 years), FAVA/CA volunteers could provide useful input into the developing peanut industry.

3. Future Training:

The workshop highlighted weaknesses and needs for information flow and training for all involved in peanut production. Aggressive follow-up training efforts are needed to help move the peanut industry forward in a positive and sustainable direction. Due to time constraints, training efforts earlier than July are probably not feasible, thus suggestions start from that point.

Early July, 2000: Two or three mini-workshops in selected villages for insect, disease, and weed identification and management - one day programs with four hours in the classroom and four hours in fields. Associated with these programs would be efforts to identify major pest problems by name (local, common, and scientific) and photograph these for use in a Rupununi Peanut Production Guide.

Early September, 2000: Conduct field demonstrations (4 hours long) in selected villages on peanut maturity index, drying poles, moisture determinations, and correct storage. In one or two villages, demonstrate the operation and maintenance of the tractor-drawn thresher (FAVA/CA volunteers needed here).

Annual Peanut Workshops: Yearly workshops are needed to keep growers apprised of developments after crop harvest and before next crop planting. Topics would be chosen as determined most important by the North Rupununi District Agricultural Producers Association (3 hours to a 1 day meeting).

Field Days: At least one and maybe two field days each year would be useful to exhibit results to growers and other interested segments of the peanut industry at the Model Farm and in growers fields. Due to initial development time, these may not be possible prior to the 2001 crop year.

4. Daily/Weekly Information Transfer:

- Weekly visits and consultations with farmers on their farm by extension agents or other trained individuals during the growing season are essential. Optimally, an individual should be assigned to each of the Rupununi sub-districts and appropriate support provided. These individuals are central and critical since they should be in regular contact both with growers and institutional support teams.
- Designate a central depository for subject matter information and a person(s) to contact (probably those above) who can obtain further information.
- Train selected individuals to initially utilize Internet uplink capabilities in Lethem and later develop those capabilities at the Model Farm so current and worldwide information is readily available.

5. Model Farm/On-farm Demonstrations:

- The concepts of a model farm and on-farm demonstrations were unanimously agreed upon at the workshop. Although logistics, manpower and timing problems are many, it is critical to make attempts for a few well-planned tests/demonstrations this year, to provide momentum for future work.

2000 Crop Year:

- **Variety Trials:** one replicated trial using new varieties compared to the standard grown in the Rupununi. Use a single U.S. variety (strip plantings) to compare with farmers' variety in 3-4 on-farm sites.
- **Seeding Rate study:** one replicated trial with three seeding rates (1, 3, 6 seed/foot row). On-farm strip demonstrations comparing grower rates and the recommended 3-4 seed/foot rate.
- **Liming Trials:** one replicated trial using gypsum or lime at 0, 600, and 1200 lbs./acre applied in a 12" wide band over the peanut plants at 35-40 days after planting. Side by side comparisons in grower fields using 0 and 600 lbs./acre would be useful.

2001 Crop Year:

- **Replicated field trials:** 1) varieties, 2) planting rates, 3) liming, 4) herbicides, 5) fertilizers, 6) rust control, 7) inoculation, and 8) harvest timing. Side by side comparisons on farmer fields would be useful as confidence with the technology grows.

6. FAVA/CA and/or Volunteer Follow-up Activities:

- Be available for consultations and questions as requested.
- Assist in development and writing of grant proposals to support peanut project efforts.
- Make available a listing of common agricultural terminology as a reference guide to farmers.
- Assist as needed to produce and provide training materials for in-country trainers.
- Purchase and send a manually operated fertilizer band spreader for use in field trials.
- Acquire and send peanut varieties for evaluation in the Rupununi.
- Acquire and deliver one case of the herbicide Prowl for use in research and demonstration trials.

- Purchase one tractor-drawn mechanical peanut thresher for subsequent shipping by IICA.
- Work with IICA to provide volunteers for training farmers on the proper use and maintenance of a tractor-drawn peanut thresher and other equipment as needed.
- Prepare a peanut Production Guide for Guyana (with appropriate editors from Guyana).
- Determine availability and prices (as possible) of peanut roasters, peanut butter makers, peanut shellers and a tractor for possible later purchases by Rupununi peanut growers.
- Purchase and send prototype peanut storage bags with appropriate logos and names/addresses on bags.

7. Other General Suggestions:

- Continue soil nutrient analyses from farmer fields, develop soil nutrient data bases.
- Provide guidance in field test design and correct data collection.
- Conduct pesticide and fertilizer rate calibrations training.
- Devise a standard application form for use in applying for loans from IPED.
- Coordinate certified seed production and testing as an ongoing project.
- Develop training sessions for trainers in all aspects of the peanut industry.
- Follow-up on possibility of obtaining deep wells for fresh water and irrigation via Ben Yantis (219-737-7610). J. La Gra to contact.
- Check the location(s) of lime rock in Guyana and feasibility of obtaining the material for Rupununi growers.
- Investigate the feasibility of establishing a University of Florida/IICA/Guyana long-term programme to support the development of the Rupununi agricultural capabilities.

Annex 4

Bibliography of Documents Distributed at Workshop

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7. CARMICHAEL, C. Developing a Business Approach to Small-Scale Agriculture
8. FREDERICKS, D. Fertilizer Use in Agricultural Production: Crop Requirements and Land Qualities for Peanut Production
9. Documentation distributed by University of Florida Team:
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 - Planting Dates, Rates, and Methods of Field and Forage Crops
 - Disease Management in Peanuts
 - Seed Treatment
 - Insect Control
 - Peanut Insects and Control
 - Disease and Nematode Control
 - Weed Control in Peanuts
 - Foliage Feeders on Alabama Peanuts
 - Fertilization of Field and Forage Crops



