



**Report on third mission to Uganda
Consultancy for the ADC/IDEA Project**

February 2002

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Cocoa Programme
CIRAD-CP

CP N° 1465

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EXECUTIVE SUMMARY

1. Cocoa has been selected by the IDEA project as one of the five crops that could help Uganda expand and strengthen its Non-Traditional Agricultural Exports. National exports of cocoa have risen sharply over the last 5 years, from 900 tonnes in 1995 to 3000 tonnes in 1999/2000, in spite of low international prices.
2. The objectives of the service provided by the CIRAD cocoa expert to the IDEA Project were fixed as follows:
 - Review the current situation of the cocoa production sector in Uganda; assess international competitiveness, and prospects for future development of the sector
 - Recommend improvement in agronomic practices
 - Review the Cocoa Production Manual developed by IDEA and contribute to the elaboration of adequate training materials.
3. To achieve these objectives, three visits to Uganda were programmed. The first visit took place from 19th to 30th November 2000, the second visit from 22nd April to 3rd May 2001, and the third from 3rd to 12th February 2002. The priorities for this visit were to continue the training of technicians and farmers, finalise the Ugandan Cocoa Manual and make recommendations for the sustainable growth of the cocoa sector in Uganda.
4. During this mission, on-the-spot training for farmers and technicians in Bundibundjo and Hoima Districts and in Kampala focused on:
 - Good agronomic practices : especially IPM techniques to control capsid damage, shade management to promote good flowering and fruit setting and reduce pest and disease incidence, maintenance and rehabilitation pruning, inter-cropping (e. g. cocoa / papaya)
 - distribution of well developed planting materials with improved characteristics (selection of local varieties through the identification of locally high yielding trees, adequate nursery management)
 - improvement of cocoa quality : involving buyers and farmers in training sessions on how to properly ferment cocoa, how to improve drying facilities (mats, small-scale sun dryers...), how to evaluate bean quality (by cut test), etc..
5. The review of the Ugandan Cocoa Manual proposed by CDP and ADC/IDEA has been concluded, with amendments, additions and up-dates. The manual can therefore be printed and distributed within the next few months.
6. The following recommendations were made to promote sustainable development of the cocoa sector in Uganda :
 - reinforce the support (financial but also organisational and technical) given to UCA in order to achieve a more efficient extension system ; UCA should intensify the training of farmers through demonstrations, field visits, meetings, distribution of leaflets, etc. and take charge of the supervision of the cocoa nurseries (and monitoring of high-yielding trees)
 - provide additional training for the field assistants, especially the UCA regional co-ordinators

- improve the distribution of cocoa seedlings (for the rehabilitation of existing cocoa farms or for new plantings) : better management of the nurseries (a reform of the existing system of private nurseries is urgently needed), better choice of germplasm to be multiplied
- distribute seedlings of adapted shade trees (Muzizi, Terminalia) to cocoa growers
- print and distribute extensively the Uganda Cocoa Manual
- promote the export of improved quality beans, through the dissemination of adequate fermentation and drying procedures, and through the implementation of a code of conduct by buyers and exporters (establishment of quality standards ; possible regulation through by-laws)
- organise public events about cocoa and promote cocoa from Uganda on the international market, so as to restore stakeholders' confidence in cocoa production and exportation
- promote the exchange of information and, whenever possible, partnerships between stakeholders of the cocoa sectors, public and private institutions, the donor community.

7. Short term consultant services could be used to support this programme. Two or three missions, between mid-2002 and mid-2003, for a total of 25 to 30 days, are proposed. The objectives would focus on:

- training for farmers and field assistants ; in particular, it is proposed to organise a 3-day training course in Kampala for the UCA co-ordinators, dealing with cocoa agronomy, pests and diseases, post-harvest treatment, breeding, quality control and economics, and with the practical organisation of an efficient extension system
- a follow-up on post-harvest initiatives in Bundibundjo (e.g; organic cocoa project in Ntandi) and troubleshoot emerging problems.

Third report on cocoa production in Uganda
Consultancy for the ADC/IDEA Project
Philippe Petithuguenin
CIRAD-Cocoa Programme

This third report was drafted according to the terms of reference of the contract between CIRAD, France and Chemonics Inc, USA, to provide consultancy services to the Agribusiness Development Centre/ UsAid funded IDEA Project in Uganda. (see terms of reference in annex of first report published in November 2000)

Context and Objectives of this mission :

In an effort to expand and strengthen Non-Traditional Agricultural Exports in Uganda, the IDEA project selected cocoa as one of the five crops with strong export potential. National exports of cocoa have risen sharply over the last 5 years, from 900 tonnes in 1995 to 3000 tonnes in 2000/2001.

Furthermore, the recent rise in the international cocoa price (in 2001) will also help to boost the value of these Ugandan cocoa exports.

IDEA Project support to the cocoa sector started in 1999/2000, with funding of the CDP, (Cocoa Development Programme, Ministry of Agriculture, Animal Industries and Fisheries) for the establishment of demonstration plots and the training of farmers in good management practices, and of CORI/NARO (Coffee Research Centre / National Agricultural Research Organisation) for the revival of cocoa research in Kituza¹. In March 2001, further support was approved by the IDEA Project through a two-year grant to the Uganda Cocoa Association, for the training of cocoa farmers.

The objectives of the service provided by the CIRAD expert were fixed by IDEA officials as follows:

- Review the current situation of the cocoa production sector in Uganda ; assess international competitiveness, and prospects for future development of the sector
- Recommend improvement in agronomic practices
- Review the Cocoa Production Manual developed by IDEA, contribute to the elaboration of adequate training materials and initiate training

To achieve these objectives, three visits were made to Uganda.

The first visit took place from 19th to 30th November 2000, and led to a report highlighting the current situation of the cocoa sector in Uganda, outlining its constraints and potentialities, and proposing some priorities for IDEA Project intervention. The second visit took place from 22nd April to 3rd May 2001. For this second visit, the priorities were set on completing the diagnosis of the cocoa sector, especially with a first visit to the main cocoa growing area (Bundibundjo District), and on initiating the training of farmers and technicians with a "field day" at Kituza on cocoa quality.

¹ This IDEA grant to CORI was suspended in 2001 due to poor accountability of the funds spent and lack of concrete results.

The objectives for the third visit, which took place from 3rd to 12th February 2002, were to continue “on-the-spot” training for field assistants (recently recruited by UCA), to visit farmers and buyers in the Hoima and Bundibundjo Districts, to meet exporters to discuss the issue of cocoa quality improvement and to finalise the review of the Ugandan Cocoa Manual.

The consultant wishes to thank IDEA officials, especially Messrs Umran Kagwa and Steven Humphreys, for their support and for the organisation of the visit. I am also very grateful to the UCA Executive Director, Mrs Constansa Basica, and the field and District assistants who helped me in the visits to the farmers, buyers and exporters and provided me with their insights on cocoa production in Uganda. Many thanks as well to the exporters, local buyers and farmers who dedicated some of their time to participate in these meetings and answer my many questions.

Timing and Itinerary of the visit :

- 2/02/2002 : Departure from Montpellier to Entebbe, via Paris and London
- 3/02/2002 : Arrival in Entebbe ; transport to Kampala
- 4/02/2002 : Kampala
- Meeting at ADC/IDEA project to review the programme
Travel to Hoima (on the way, visit to the Katareyka cocoa nursery)
- 5/02/2002 : Hoima District
- Visit to cocoa nurseries (Bulindi and Kyriangobe) and cocoa farms (Kwawagambyre and Nakira Ngobye)
- Meeting with farmers (about 70) and visit to Demonstration Plot in Kyriangobe
- Travel to Fort Portal
- 6/02/2002 : Travel to Bundibundjo
- Meeting with 15 local cocoa buyers
- Visit to cocoa nurseries (Bundibunjo, Bundikuyali and Nyahuka)
- 7/02/2002 : Bundibundjo
- Meeting with 90 farmers in Nyahuka and visit to cocoa farms
- Meeting with 100 farmers in Ntandi
Travel to Fort Portal
- 8/02/2002 : Travel to Kampala
- Visit to cocoa exporter : Esco Ltd (P Betts)
- 9/02/2002 : Kampala
- Visit to cocoa exporters : Ugacof and Olam
- Finalisation of the Ugandan Cocoa Manual

10/02/2002 : Kampala (work on documents and final report)

11/02/2002 : Mukono District

- Visit to NARO/CORI (Kituza)
- Visit to cocoa farmers in Kawaso sector

12/02/2002 : Kampala

- Final meeting with UCA and IDEA officials (discuss main conclusions, review Cocoa Manual)
- Departure for London and Montpellier

13/02/2002 : Arrival in Montpellier (via London and Paris)

Problems affecting development of the cocoa sector

In the course of the mission, especially during the field visits, we were able to draw up a partial diagnosis of the situation in the Ugandan cocoa sector. Several problems were identified :

Cocoa nurseries

The quality of the seedlings produced by the Cocoa Nurseries is notably unsatisfactory. This situation has deteriorated since the last visit (in April 2000). The problems encountered in nearly all of the nurseries visited in Hoima and Bundibundjo are the use of excessively small polyethylene bags filled with inadequate soil (low fertility). This leads to poor development of the seedlings, distribution to farmers of very small plants, and therefore very poor field establishment.

This problem is certainly linked to privatisation of the cocoa nurseries (even though one CDP "demonstration" nursery shows the same errors) and insufficient supervision, since the use of smaller bags and of any type of soil makes it possible to reduce costs and increase the margin on the 300 U/Sh paid per seedling by the government.

Another problem, already noticed in 2000 and 2001, is a lack of information on the quality of the seeds used to produce the plants. The origins of these seeds (variety type, productivity and characteristics of the mother trees) are not documented.

The management of most nurseries is also deficient in the timing of activities. Seedlings are produced and distributed to farmers at different times of the year, not focusing on the months most favourable for good establishment and early field development.

The Cocoa nursery at the NARO/CORI station in Kituza is free from the problems of inadequate bags and soil. They dispose of over 15000 plants ready to be planted at the beginning of the next rainy season. But the technician in charge of cocoa activities does not seem to be aware of the PMA/CDP scheme for registering private nurseries and funding the production of cocoa seedlings for farmers.

Extension services

There is a continuing problem of efficiency and dedication on the part of the Ministry of Agriculture field assistants (placed under the authority of the D.A.O.). This is obviously linked to the lack of incentives and facilities (transport) and to limited technical knowledge (need for technical refresher courses).

The Uganda Cocoa Association has recruited three regional co-ordinators to handle the training of farmers in the main three cocoa growing regions : one for Bundibundjo ; one for Hoima-Massindi ; one for Mukono-Jinja-Iganga. They show greater dynamism, dedication and interest, especially the co-ordinators from Bundibundjo and Mukono-Iganga-Jinja (the situation of the co-ordinator in Hoima who is still a Ministry field assistant needs to be clarified²), but their activities suffer from :

- Lack of systematic organisation of their extension work (the only indicator seems to be the number of farmers attending meetings)
- Limited technical knowledge on cocoa (the three co-ordinators are from a different technical background, but they all show weaknesses in some aspects of cocoa extension work).

As indicated in an earlier report, the demonstration plots have very little "demonstrative" value for visiting farmers and for technicians, since data (production, costs, inputs...) are not recorded and there is no "control" plot. They also lack visibility (no delimitation, no poster) and are also often too complex, integrating too many correcting factors at the same time (replacing missing trees + pruning existing trees + shade management + pest control...), to convince the farmer of the value of adopting these technologies.

Quality of cocoa beans

The quality of cocoa beans sold by producers is not a major problem in the districts of Mukono, Jinja, Hoima and Iganga since these farmers have a tradition of fermenting cocoa (they often own fermentation boxes) and the weather conditions are propitious to quick drying of the beans. The low competition between local buyers and, especially for Mukono, the proximity to Kampala (where exporters can pay quality premiums) are also favourable conditions. The main quality problem is the production of cocoa with a small bean size. It can be improved in the long term by the distribution of selected varieties producing larger beans, but in the short term can only be marginally improved by good agronomic practices (limiting water stress).

But quality is a major problem in the Bundibundjo district, which is the district producing about 60 % of Ugandan cocoa and where the increase in production has been strongest in recent years. In Bundibundjo, the main quality problems are the high levels of mouldy and slaty beans. The presentation of the cocoa is also very poor (dirt) and beans are sometimes small. (see annex 2 for results of quality analysis).

² It also seems that farmers' conditions in Hoima district do not always encourage a great interest in improving cocoa production.

According to some observers of the cocoa sector, this quality problem in Bundibundjo district has been getting worse since the beginning of 2001. Possible causes are the multiplication of competing local buyers (attracted by the increase in cocoa production and the rise in cocoa prices, while the crisis of the coffee sector continues) and the unfavourable weather conditions in 2001 (abundant rains).

Farmers and local buyers are aware of the problem, but only consider the short-term consequence (do not consider the implication of a loss of value and position on the international market). They tend to blame each other (lack of proper fermentation and drying by farmers ; lack of price incentive by buyers ; existence of exporter buying centres in Bundibundjo, competing for volume and not for quality...). Farmers also mention a lack of facilities for fermenting (boxes, baskets) and drying (mats, tarpaulins), stealing of green pods, and distance from cocoa fields to villages (most of the farmers still live in village camps, although the problem of insecurity seems to have disappeared). Some local buyers propose the establishment of by-laws to regulate the market in Bundibundjo but it is not clear how these would be applied and against whom.

Separate meetings were held with three of the main cocoa exporters in Kampala. All are aware of the quality discount for cocoa from Uganda, but they do not envisage the same solutions.

- ESCO Ltd (Philip Betts) : This is the major exporter of Ugandan cocoa (Esco Ltd also takes charge of the exporting procedures for some smaller exporters, like Bakwanye and Eden). Esco has a buying centre in Bundibundjo (where cocoa is partially dried) and also receives cocoa delivered by middlemen to its warehouses in Kampala. Cocoa is dried to 8% (if necessary) and hand-sorted in Kampala before transport to Mombasa (where Esco has an exporting office). Maybe because of its dominant position and/or because of Esco involvement in the Uganda Cocoa Association, the manager of Esco is ready to invest in promoting better quality : he supports a project on good quality organic cocoa in Ntandi (exports should start in 2002), and is willing to consider further investments (fermentation centre ?). He is conscious of the economic losses due to poor quality. Ugandan cocoa is sold at a discount of about £100 FOB Mombasa (on the London market) and a further discount of another £120/t can occur for cocoa with up to 20% of mouldy beans.
- OLAM (P. Sankar): The Olam company in Uganda is linked to the Olam international group, with cocoa and coffee export activities in many countries (80000 t in Côte d'Ivoire, also in Cameroon, Nigeria, Sulawesi, etc.). It only exported 300 t of cocoa in 2001 and should export 500 t in 2002. Olam cocoa activities are expanding: a buying centre exists in Kasese and another one is due to open soon in Bundibundjo. Lack of fermentation is not considered a major problem in itself, but Olam focuses its attention on moisture content and low levels of slaty and mouldy beans. To improve quality, the Olam director takes the example of USDA action on coffee and calls for a co-ordinated approach by the government (and the donors), including training of farmers, information, distribution of inputs to farmers, marketing and promotion. He considers that he will also help to promote better quality through the buying centre in Bundibundjo : direct contact with farmers (tell them what they should do ; sometimes, give them tarpaulins for drying), and, maybe, introduce a price incentive for "fully dry, no mould, no slaty" cocoa.

- UGACOF (Mukalgi Ronald) : at the moment, the Ugacof company is not interested in buying cocoa because of excessive competition with middlemen, pushing farmgate prices very high. (Their buying centre in Bundibundjo is closed at the moment). Ugacof normally buys cocoa delivered by middlemen in Kampala, with a fixed price and discounts on weight for excessive moisture, purple beans and mouldy beans. Cocoa is hand-sorted and exported as Fair Average Quality cocoa. Ugacof does not have facilities to dry cocoa beans in Kampala. Mr Mukalgi is not convinced that by-laws could be applied fairly at a local level, but finds the idea interesting.

Cocoa Research at NARO/CORI

With a grant from the IDEA Project, some cocoa activities at NARO/CORI research centre (in Kituza) have been revived since 2000. A fermentary house has been built, and is still in use. A cocoa nursery, with over 15,000 seedlings, has been established. Two trials are in place : a 2ha plot to demonstrate the establishment practices (planting was carried out in May 2001 ; the young cocoa trees are now well established but there is a lack of temporary shade and the demonstration should have included intercropping with annual food crops) and a 1ha demonstration plot on rehabilitation (pruning and gap-filling). Provisional results on hyper-parasites of scales and mealybugs (awaiting identification) and on the use of new pesticides for capsids (including an organic one : Neemrock) have been obtained.

Overall, cocoa activities in Kituza suffer from a lack of dynamism and limited technical knowledge on the part of the staff, and an absence of communication of results, even though they are only provisional (especially to donors and to UCA, which may explain the suspension of the IDEA grant). Running costs also seem to be very high (especially labour).

Recommendations to the IDEA Project

To stimulate strong and sustainable development of the cocoa sector in Uganda, the following recommendations, based on the diagnosis presented previously, can be proposed :

For the Cocoa nurseries

- If the funding of private cocoa nurseries is to be continued, proper and systematic control of the quality of the seedlings distributed to farmers must be ensured, before payment to the owners of the nurseries ; the UCA local co-ordinators should be in charge of this control.
- Only polyethylene bags of a minimum size (12 cm diameter, 20 cm height) should be used in the nurseries.
- Preparation of the nursery and seeding of beans in the bags should be planned in order to obtain 6-month-old seedlings at the beginning of the main rainy season (for instance in Hoima, this means planting seeds in August-September so as to distribute well developed seedlings in March of the following year). No seedlings of less than 5 months should be distributed to farmers.

- Only seeds from confirmed high-yielding trees should be used. The selection of these trees should be based on farmers' knowledge of their "best" trees, followed by monitoring of those trees for one year by the field assistants or UCA co-ordinator. This monitoring would make it possible to assess productivity throughout the year, evaluate bean size, capsid and black pod susceptibility, and consider the ratio between production and tree size (preference being given to trees with a smaller canopy). Trees confirmed as "mother" trees for seedlings should be clearly identified (by a colour tag).
- Cocoa nurseries should also multiply shade trees, preferably Muzizi or Terminalia trees. Shade tree seedlings should be distributed to farmers together with the cocoa seedlings (at a rate of one shade tree for 10 cocoa seedlings).

For the extension services and the training of farmers

- Further training of the UCA co-ordinators is necessary, to give them full credibility in the eyes of the producers. This training, could start with a 3-day training course in Kampala, with instruction in cocoa agronomy, pest and disease control, post-harvest treatment, breeding and variety identification, quality control and cocoa sector economics. This course would also include a session on the practical organisation of an efficient extension system. These three days would be followed by a visit to cocoa farms and experimental plots.
- Demonstration plots can be very useful for convincing farmers to adopt new technologies and providing them with practical training. But, if the goals are to be achieved, these plots need to follow some simple rules :
 - Keep the demonstration simple : only one or two technologies to be demonstrated on each demo plot
 - Technologies to be demonstrated should aim at the main factors limiting production on the chosen farm
 - Have a control plot (traditional farmer practices)
 - Keep records of all production and costs, in the demo plot and in the control plot (so that an economic evaluation can be made)
 - The location of the plot is important (Accessibility, visibility)
 - Ensure that the owner of the plot is keen to improve his cocoa farm (the test is to verify that he is willing to invest some of his own time and money in the demonstration plot !)
- The planning of the work of UCA regional co-ordinators should be improved, especially considering that they have to cover a large regional area with limited resources. This organisation could be based on existing extension systems (like the Training and Visit system, or the Farmers Field Schools...): it is proposed to start with a diagnosis to divide the region into cocoa extension "sectors", which can be visited regularly. Then a programme of regular visits should be established, each sector having one or two fixed dates for visits in the month. Each visit should allow for several farmers to be contacted, either individually or in groups. The main constraints and limiting factors in each sector would be identified and the training topics and choice of demonstration plots organised accordingly. Co-ordinators would do their best to comply with this programme to gain farmers' confidence. Each visit would be dedicated to checking work in demonstration plots or on farmers' farms, organizing or implementing training sessions, collecting data, etc..

For Cocoa Research at NARO/CORI

Agricultural research has an important role to play in contributing to the bases for sustainable development of agricultural activities. Now that the importance of the cocoa sector in Uganda is growing, stakeholders realise that the absence of cocoa research in Uganda for many years is a limiting factor.

In the short term, it is proposed to renew the IDEA grant to CORI, giving them a precise calendar of expected results and a list of indicators and outputs (timing for release of documents and reports, etc.). In that way, results could be obtained for the activities started last year and it can be ensured that resources have not been invested in vain. In particular, this should include the testing of pesticides (chemical or organic) to control capsids, and maintenance of the establishment's demonstration plot.

It is important that CORI staff participate in the training sessions organised by UCA, so that they can listen to farmers and also make their contribution, but it is not logical for CORI to organise on-farm training without UCA co-ordination. Training at Kituza could be organised but only on specific issues or for technical staff, bearing in mind that activities in Kituza have proved to be more costly than on farmers' farms (especially due to transportation costs).

In a future project, complete modernisation and technical upgrading of cocoa research at NARO should be planned. This would include a review of priorities set for cocoa research, scientific programming and organisation (definition and analysis of trials ; presentation of results), scientific training, monitoring and evaluation of activities and introduction of new cocoa varieties. But this will depend on the interest of the donors, since NARO has excluded cocoa from its priorities.

For the improvement of cocoa quality

- The importance of proper fermentation is not always recognised by all the stakeholders, and needs to be emphasized. Non-fermented cocoa can be sold on the market (it is the case of cocoa from the Dominican Republic and from Sulawesi), but it would not be advisable to promote unfermented cocoa in Uganda for the following reasons :
 1. Natural conditions in Bundibundjo district make it difficult to dry unfermented cocoa properly (this is a difference compared to the climate in the Dominican Republic, and to Sulawesi, where middlemen have artificial dryers)
 2. Access to the unfermented beans "niche" would not be easy, since it is already occupied by two countries, Sulawesi and the Dominican Republic, where production is increasing
 3. Unfermented cocoa is sold for extracting the cocoa butter, and leaves a cocoa "cake" of very low quality; opting for the "butter market" merely goes against the trend of the international market where there is a diminishing relative value for cocoa butter and an increasing value for good quality cake (used for cocoa powder)

4. Fermented cocoa is much easier to dry than unfermented cocoa
 5. The rise in temperature during proper fermentation (up to 50°C) can help eliminate mould germs in the cocoa mass, thus reducing the risk of mould development during drying.
- Fermentation is more effective in wooden boxes, but can also be carried out in baskets or in heaps (well covered). The practice of storing wet or partially dried beans in plastic bags should be avoided : even though it induces a change of colour in the beans, it is not proper fermentation and does not induce chocolate flavour development ; it also greatly increases the risk of mould development !
 - Drying is best performed on raised platforms and mats, but it can also be done on tarpaulins or simple plastic sheets.
 - Two different strategies can be promoted :
 1. train and help farmers acquire the facilities to process their crop by themselves ; this is possible if each farmer harvests a sufficient quantity (fermentation of small quantities of fresh cocoa beans is difficult) and is not applicable to farmers with very small holdings,
 2. create a fermentation centre (managed by farmers unions or by buyers³) where farmers deliver their fresh beans on the day of pod opening. This solution enables proper fermentation of small quantities collected from various producers and means that farmers receive immediate payment, on the day of harvest, when fresh beans are delivered. But a conversion ratio between wet beans and dry fermented beans has to be established and accepted by the farmers (psychological difficulty of receiving an apparently low price per kg since wet beans have about 60 % of water !). Transportation of wet beans from the farms to the fermentation centre also has to be organised.
 - Definition of by-laws, agreed by all stakeholders and implemented by the local authorities; to regulate the local trade of cocoa beans has been proposed by buyers and farmers in Bundibundjo. Such by-laws have been proposed in the vanilla sector to avoid the marketing of unripe vanilla pods; they are still not implemented. It is proposed that UCA, with support from the IDEA Project, should carefully study how such by-laws could be defined for the cocoa sector, and how to ensure their fair application. The opinion of the consultant on this matter is that it will be very difficult to obtain a consensus of the stakeholders on the definition of the content of such by-laws and even more difficult to have them applied.
 - Too much attention should not be given to the existence of a large number of local buyers for cocoa in Bundibundjo. This is a classic phenomenon after liberalisation or when cocoa prices are increasing. It has been shown in other countries that this is a transitory phenomenon and only the most efficient buyers will still be active after one or two years.

³ The manager of Esco Ltd seems very interested in the possibility of buying fresh beans and may test it on a small scale in the coming months.

- A campaign for cocoa quality improvement needs to target all the players in the cocoa chain, from producers to exporters. Exporter participation is needed to introduce economic incentives for good quality (or discounts for low quality). These price differentials⁴ will be passed on to local buyers and then reach producers, at least partially. Training in quality requirements and quality tests also needs to be provided for farmers, buyers and exporters alike, in order to avoid large discrepancies in quality criteria and indicators. This training should be organised by UCA, with external support.
- Once the quality of Ugandan cocoa has been improved, the promotion of this origin will need to be ensured, in order to bring the product to the attention of more buyers, especially buyers linked not only to the butter industry but to chocolate manufacturers. The example of Tanzanian cocoa illustrates the results that can be obtained by such promotion : Tanzanian cocoa (about 5000 t exported every year) has a good reputation on the international market, fetches better prices and has no problem finding buyers !

For the IDEA Project and for donors

- The IDEA Project should continue its support to the cocoa sector. Priority should be given to increased funding for UCA, short term consultancy (especially for the training of field assistants and for quality improvement), and cocoa research , if agreement can be reached with CORI on activities, outputs and indicators of achievements
- For the donor community, the co-ordination between projects aimed at the rural sector in cocoa producing areas should be reinforced (especially between short-term and long-term projects ; between research projects and development projects ; between technical and institutional projects...) to achieve integrated support to the cocoa sector and its sustainable growth.
- In the future, a larger project aiming at the improvement of cocoa-based farming systems could be developed. With an objective of increasing production to over 10,000 t, for a value of over 15 million US\$, it would mainly benefit the rural sector and contribute to poverty alleviation in rural areas. Such a project would include work on research for the improvement of the genetic basis for cocoa varieties, co-ordination between stakeholders of the cocoa chain, and a strong training component (and farmer support) to achieve good agronomic practices, efficient inter-cropping of cocoa with other annual or perennial crops, better management of natural resources through shade and fruit trees, income diversification and quality improvement.

⁴ Ugandan cocoa could be sold at a minor discount on the London market if the problem of mouldy and slaty beans could be greatly reduced ; it could mean an improvement of the export price (FOB Mombassa) by £100 to £200/t, equivalent to U/Sh 250 to 500 per kg !! This price incentive should make it profitable to invest in quality : it would pay for the additional work and investment in facilities required from farmers (and pay for the 8 % loss in bean weight during fermentation), and the extra care and attention by middlemen and exporters.

Conclusion :

To conclude, it appears that the priorities set for this third mission to the IDEA Project in Uganda (to continue the training of technicians and farmers, finalise the Ugandan Cocoa Manual and make recommendations for the sustainable growth of the cocoa sector in Uganda) have been achieved.

During this mission, on-the-spot training was provided for farmers and technicians, in Bundibundjo and Hoima Districts and in Kampala, focusing on good agronomic practices, distribution of well developed planting materials with improved characteristics, and improvement of cocoa quality.

The review of the Ugandan Cocoa Manual proposed by CDP and ADC/IDEA has been concluded, with amendments, additions and up-dates. The manual can therefore be printed and distributed within the next few months.

Recommendations have been made to promote a sustainable development of the cocoa sector in Uganda :

- reinforce the support (financial but also organisational and technical) given to UCA in order to achieve a more efficient extension system ; UCA should intensify the training of farmers through demonstrations, field visits, meetings, distribution of leaflets, etc. and take charge of the supervision of the cocoa nurseries (and monitoring of high-yielding trees)
- provide additional training for the field assistants, especially the UCA regional co-ordinators
- improve the distribution of cocoa seedlings (for the rehabilitation of existing cocoa farms or for new plantings) : better management of the nurseries (a reform of the existing system of private nurseries is urgently needed), better choice of the germplasm to be multiplied
- distribute seedlings of adapted shade trees (Muzizi, Terminalia) to cocoa growers
- print and distribute extensively the Uganda Cocoa Manual
- promote the export of improved quality beans, through the dissemination of adequate fermentation and drying procedures, and through the implementation of a code of conduct by buyers and exporters (establishment of quality standards ; possible regulation through by-laws)
- organise public events about cocoa and promote cocoa from Uganda on the international market, so as to restore stakeholders confidence in cocoa production and exportation
- promote the exchange of information and, whenever possible, partnerships between stakeholders of the cocoa sectors, public and private institutions, the donor community.

For next year, short term consultant services could be used to support this programme. Two or three missions, between mid-2002 and mid-2003, for a total of 25 to 30 days, are proposed. They would focus on the training of farmers and field assistants (in particular, it is proposed to organise a 3-day training course in Kampala for the UCA co-ordinators, dealing with cocoa agronomy, pests and diseases, post-harvest treatment, breeding, quality control and economics, and with the practical organisation of an efficient extension system) and on a follow-up of post-harvest initiatives in Bundibundjo (e.g. organic cocoa project in Ntandi).

List of Acronyms

CDP	:	Cocoa Development Programme
CIRAD	:	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CORI	:	Coffee Research Institute
IDEA	:	Initiative ^{Investment} to ^{ing} Develop Export Agriculture
NARO	:	National Agricultural Research Organisation
UCA	:	Uganda Cocoa Association

Annex 1: Analysis of Cocoas samples from UGANDA

References :

N/REF	V/REF
167 / 02	Ntandi village / Bundibundjo district (traditionnal fermentation, solar drying)
168 / 02	Kasawo Village / Mukono district Farmer : Nsubuga Asumani, 7 days heap fermentation. (turnings every 2 days) solar drying.
169 / 02	Kituza Research station (NARO/CORI) 6 days box fermentation, solar drying

Chemical analysis :

N/REF	Moisture content (%)	% fat/DM *	% FFA
167	5.32	61.50	0.36
168	5.72	60.55	0.44
169	4.16	57.87	0.43

* % fat (cocoa butter) / Dry matter

Comment : Moisture contents and Free Fatty Acid contents are all within acceptable limits.

Technological analysis :

Cut test (in %)

REF	167	168	169
Mouldy	0.0	0.0	0.0
Slatty	1.2	0.0	0.0
Flat	1.2	2.3	1.0
Purple	0.6	2.0	0.0
Half purple	6.0	7.0	6.0
Black	0.0	0.0	0.0
Light breaking	0.0	0.0	0.3
Brown	91.0	88.7	92.7
Weight of 300 beans	*	294	348
Nbre of beans./100g	95	102	86

* Sample < to 300 beans

General Comment :

These three samples are heterogeneous in the visual aspect of the beans but do not have major defects (low slatty, no mouldy, no beans damaged by insects...). The fat contents are high (especially for samples 167 and 168). It has to be noted that the analysis for mycotoxins (Ochratoxins A) has been performed in our Cirad Lab and that no traces of OTA have been detected.

In the case of sample 167, it confirms that good quality beans can be obtained from Bundibunjo district area with adequate post harvest (fermentation and drying) treatment. The result needs nevertheless to be taken with a little bit of caution since the sample analysed was already several week old when collected, a delay which can reduce (to a limited extent) the apparent number of slatty and purple beans.

The sample 168/02 (from Mukono) present a small bean size, and a higher number of flat beans, probably due to drier environmental conditions in the sector.

The sample from Kituza is of high quality, showing a complete process of fermentation and drying, and with a good bean size. The fat content is slightly lower than for the other two samples (for no obvious reason).

Annex 2 : UCA reports to IDEA Project on their training activities

- First Progress Report April-September 2001
- Second Progress Report October-December 2001
- UCA Training Tracker

UGANDA COCOA ASSOCIATION

First Progress Report (April to September, 2001) for Activities funded by ADC/ IDEA Project October, 2001

1.0 INTRODUCTION

The UCA started its activities in April, 2001 with funding from IDEA project. The UCA is charged with, among others, establishing and managing a dedicated field extension program for small-scale cocoa growers in collaboration with other players in the sector together with providing training to growers and extension staff from targeted districts in all aspects of cocoa production and marketing.

The major cocoa growing districts are Mukono, Jinja, Kamuli, Iganga, Mayuge, Hoima, Masindi, Kibale and Bundibugyo. UCA aims at carrying out extension work related to cocoa production in these areas so that there is increased output.

The cocoa industry in the country currently face a lot of problems that include among others:

- (a) Presence of many neglected farms throughout the cocoa growing areas;
- (b) Wide use of poor agronomical practices by many farmers;
- (c) Inadequate agricultural extension services to the farmers;
- (d) Buyers take less regard to the quality of cocoa bought which leads to farmers not caring at all about cocoa quality from their fields.
- (e) Use of low production potential varieties;
- (f) The high infestation of pests and diseases and
- (g) The low farm-gate prices of cocoa that greatly discourages many farmers.

This report highlights some of the cocoa activities that have taken place at UCA with effect from April, 2001 geared at addressing some of these problems and at the same time trying to achieve the association's set objectives.

2.0 ACTIVITIES WITHIN THE REPORTING PERIOD

2.1 Progress towards set objectives.

2.1.1 Farmer's Training

Farmer trainings started in April with trainings mainly focusing on the rehabilitation of neglected fields, field establishment, post harvest treatment and quality evaluation by the cut test.

A total of 6 trainings were carried out in all the regions, with 3 in Buganda/Busoga, (one of which was held in Kizuza for farmers from Iganga, Mayuge, Mukono and Jinja with 71 farmers in attendance); 2 in Bundibugyo and 1 in Bunyoro. A total of 268 farmers of which, 237 were male and 31 female attended the trainings.

During the trainings, the following topics were covered:

- Establishing a cocoa field
- Demonstration of cocoa pruning
- Rehabilitation of a cocoa plot
- Fermentation
- Drying
- Quality evaluation

Table1: Showing progress in training against set benchmarks.

Activity	Benchmarks set for year one	Achieved so far	Yet to be achieved	Comments
Farmer trainings	60	6	54	Training continues.
Farmers trained	1900	237	1663	Training continues.
Extension staff trained	50	3	47	More to be trained in the next quarter.
Technology packages produced	2	-	2	Packages yet to be released by Kituza.
Cocoa production manuals produced	2000	-	2000	IDEA officials still revising the manual.

** also see attached training tracker table.*

2.1.2 Quality improvement and market development.

Efforts are being made to discourage farmers from selling poor quality cocoa. One training in Kituza with 71 farmers and one in Kasawo with 44 farmers addressed this. Modalities are being put in place to encourage buyers give a premium price for good cocoa to farmers. A joint meeting of both the buyers and producers is being prepared especially in Bundibugyo to try and address this issue.

2.1.3 Membership development and association strengthening.

The board members together with the RCs have been urged to intensify the campaigns and 4 cocoa exporters have so far been identified and interested into joining the association.

2.1.4 Yield increases

It is still early to determine this. However, the trainings being carried out are mainly aimed at field rehabilitations with an aim of increasing yields per acreage. New farmers are also being trained who have started establishing new cocoa fields. The rehabilitation of old fields and establishment of new ones will hopefully increase the cocoa yields.

2.1.5 Cocoa promoted as an alternative cash crop

Some farmers who hitherto had coffee as a cash crop are now turning to cocoa as an alternative. The training carried out in Nkokonjeru-Mukono was focusing on the establishment of a new crop and most of the farmers who attended were new cocoa growers.

2.2 Other UCA activities

2.1 In June, the UCA recruited its Executive Director who is charged with overseeing the Association's activities. Three Regional coordinators in charge of the three regions were also recruited in August and started field activities in September.

2.2 The work plan for the period June – December 2001 is in place and was discussed during the Board meeting that took place in July, 01.

3.0 CONCLUSION

The UCA has started its activities in the field and it is hoped that these will expand, as more farmers get interested into growing the crop. It is also hoped that cocoa quality in the country will improve, as farmers and buyers come together to address the problem of poor quality on the export market.

UGANDA COCOA ASSOCIATION

Second Progress Report (October to December, 2001) for Activities funded by ADC/ IDEA Project January, 2001

1.0 INTRODUCTION

This report highlights the progress of UCA field activities in the regions of Bundibugyo, Buganda /Busoga and Bunyoro; the major cocoa growing regions in the country, where UCA operates.

Field activities have been intensified since last reporting period and while a total of 268 farmers had been trained by the end of last reporting period, to date, the number has increased to 1567. Despite this, problems associated with cocoa production still prevail in the countryside.

Currently, the cocoa acreage is being increased – thanks to the government efforts through the PMA program, being executed by CDP (*which estimates a total of 18,000 seedlings to be planted by end of July, 2004 at a rate of 6000 seedlings per year*). The major problems that still persist at farm level in regard to cocoa production in the country include:

1. Poor cocoa quality sold to the buyers. The farmers (especially in Bundibugyo) hardly ferment their cocoa and due to the increasing demand of cocoa beans, buyers in some places have reached an extent of buying wet beans, an action that has led to continued deterioration in cocoa quality in the region.
2. Little or no knowledge on the part of farmers about cocoa field management.
3. Low farm-gate prices in many areas. These however had started improving by the end of the reporting period especially in the Bundibugyo region.
4. Few dedicated extension staff in the field. UCA doesn't have enough personnel to meet the training demands in the countryside.
5. Most cocoa farmers are aged and these cannot cope with the demand for cocoa field rehabilitation and maintenance. There is therefore need to sensitize young farmers to come on board and take up cocoa growing in the producing regions.
6. The security situation in some areas like Bundibugyo continues to threaten the development of the crop.

2.0 ACTIVITIES WITHIN THE REPORTING PERIOD

2.1 Progress towards set objectives.

2.1.1 Farmer's training

In the first months of the reporting period, training was focusing mainly on the establishment and rehabilitation of cocoa shambas. However towards the end of the period the trainings' focus changed towards harvesting, post harvest activities and quality control. This was due to a general outcry that cocoa quality was greatly deteriorating especially in the Bundibugyo region.

Table 1: Progress in training against set benchmarks.

Activity	Benchmarks set for year 1	Achieved so far	Yet to be achieved	Comments
Farmer trainings	60	41	19	Training continues.
Farmers trained	1900	1567	333	More to be trained.
Ext. staff trained	50	3	47	More to be trained.
Technology packages produced	2	-	2	Kituza to produce these
Cocoa production manuals produced	2000	-	2000	Manual in final stages of production.

* See attached training tracker table.

2.1.2 Quality Improvement and market development.

Four joint meetings of both buyers and producers were held on the 10th and 11th Dec. in four different locations in Bundibugyo district to map out ways of improving cocoa quality and develop the market for a good crop. A total of 334 participants attended. The meetings were to sensitize them on the need for improved cocoa quality. All members resolved to have good quality cocoa that should equally fetch a higher price.

2.1.3 Membership development and Association strengthening.

Sensitization on UCA membership was intensified during the reporting period. So far the following has been achieved.

Table 2: UCA paid up members in Bundibugyo region by Dec, 2001.

SUB COUNTY	PARISH	NO. OF MEMBERS	MEMBERSHIP FEE COLLECTED
Harugale	Kasulenge	62	Shs. 62,000
Busaru	Mirambi	50	Shs. 50,000
Busaru	Kaghema	51	Shs. 51,000

No buyers or exporters have been registered but sensitization is going on.

Table 3: Membership against set benchmarks.

ACTIVITY	BENCHMARK SET FOR YEAR ONE	ACHIEVED SO FAR	YET TO BE ACHIEVED	COMMENTS
Grower members fully paid up	5000	163	4837	Sensitization is still going on.
Local association	10	-	10	Sensitization is still going on.
Exporters	5	-	5	4 have been identified and are yet to pay.

2.1.4 Yield Increases

Field observations reveal that more cocoa fields have been established. With the trainings offered by UCA and the free planting materials given out by government, hopefully, the yields are expected to increase with time as a result of increased acreage. The trainings on field management are also expected to result into increased yields per unit area.

2.1.5 Cocoa promoted as an alternative cash crop

Most of the trainings done especially in the Buganda/Busoga region have concentrated on the establishment of new cocoa fields. Information from nursery owners reveal that many farmers in all regions have been given seedlings to establish new shambas.

2.2 Other UCA activities

- 2.2.1 UCA has embarked on the exercise of looking for more funds to intensify its activities. Organizations like DANIDA, NAADS, FAO and World vision have been approached for possible collaboration and funding of some of the association's activities.
- 2.2.2 UCA has started the registration of all cocoa farmers and their acreage. This exercise will help determine the total area under cocoa in the country, help estimate the country's production potential and the percentage cocoa contributes to the nation's export volume.

3.0 CONCLUSION

The association's activities are being limited by funds, otherwise there is great potential among farmers as far as cocoa development in the country is concerned. UCA does not have enough capacity to cover all cocoa producing areas as effectively as possible.

UCA
Training Tracker

Month	Total Trainings	Region	Training site	Date	Total Farmers	Male	Female	Percentage Female	Aspects Covered
April-01	1	Buganda/Busoga	Kiuza	4/25/01	71	71	0	0	Post harvest treatment. QTY evaluation by the cut test.
				9/18/01	48	44	4	8.33%	Production and Rehabilitation
September-01	2	Bundibugyo	Bugombwa Bubandi	9/24/01	44	42	2	4.55%	Production and Rehabilitation
				9/27/01	41	25	16	39.02%	Rehabilitation
October-01	2	Buganda/Busoga	Kasawo Nkokonjeru	9/22/01	44	38	6	13.64%	All production aspects with NARO and CDP.
				9/8/01	20	17	3	15.00%	Rehabilitation, and Establishment of new Shambas
				10/10/01	52	42	10	19.23%	General crop field rehabilitation and management.
				10/16/01	54	43	11	20.37%	-do-
	3	Bunyoro	Mirambi Hakilara Busoru	10/11/01	54	53	1	1.85%	-do-
				10/19/01	48	44	4	8.33%	-do-
				10/25/01	41	28	15	36.59%	Rehabilitation
				10/17/01	37	20	17	45.95%	Rehabilitation
	4	Buganda/Busoga	Kicompyo	10/23/01	36	22	14	39%	Rehabilitation
				10/4/01	20	15	5	25.00%	Establishment of new shambas
				10/30/01	13	9	4	30.77%	Establishment of new shambas
				10/31/01	16	15	1	6.25%	pruning, fermentation, pest and disease control
November-01	4	Bundibugyo	Metuba Lwabala	10/31/01	11	10	1	9.09%	-do-
				11/8/01	56	47	9	16.07%	Cocoa rehabilitation
				11/13/01	59	50	9	15.25%	Rehabilitation, disease & pest control, Marketing.
				11/19/01	57	49	8	14.04%	Field maintenance, -do- group formation
	3	Bunyoro	Mirambi	11/21/01	61	49	12	19.67%	Quality improvement in post harvest, gp formation
				11/13/01	20	15	5	25.00%	Field establishment and management
				11/20/01	20	17	3	15.00%	Field establishment and management
				11/23/01	20	18	2	10.00%	Field establishment and management
December-01	3	Buganda/Busoga	Dwooll Nalweyo Kasomoro	11/20/01	17	17	0	0.00%	Field establishment, Pest and disease control
				11/20/01	8	7	1	12.50%	-do-
				11/21/01	41	35	6	14.63%	-do- fermentation.
				12/10/01	45	42	3	6.67%	Sensitization on well fermented, good quality cocoa.
	8	Bundibugyo	Nyahuka	12/10/01	134	130	4	2.99%	Sensitization on well fermented, good quality cocoa.
				12/11/01	28	27	1	3.57%	Sensitization on well fermented, good quality cocoa.
				12/11/01	127	124	3	2.36%	Sensitization on well fermented, good quality cocoa.
				12/19/01	24	22	2	8.33%	Post harvest activities.
	2	Bunyoro	Njule B'kahungu Kinyante	12/12/01	33	21	1	3.03%	Post harvest activities.
				12/24/01	7	7	0	0.00%	Quality improvement and shamba maintenance.
				12/23/01	27	21	6	22.22%	Post harvest activities.
				12/18/01	13	8	5	38.46%	Site selection and field establishment
	4	Buganda/Busoga	Kigorobya	12/17/01	18	18	0	0.00%	Cocoa field establishment
				12/17/01	41	28	15	36.59%	Field establishment, rehabilitation and post harvest.
				12/17/01	29	17	12	41.38%	Field establishment and maintenance.
				12/18/01	21	12	9	42.86%	Field establishment and maintenance.
TOTALS	41		Buyandha	12/19/01	16	13	3	18.75%	Field establishment and maintenance.
					1567	1334	233	14.87%	

