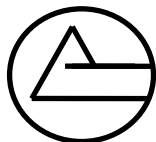


**République de
Côte d'Ivoire**
Union - Discipline - Travail

MINISTÈRE D'ÉTAT,
MINISTÈRE DE
L'ENVIRONNEMENT

Centre Ivoirien Anti-Pollution
(CIAPOL)



Projet PNUD/FEM IVC/94/G31 :
*Lutte contre les végétaux aquatiques
envahissant les plans d'eau pour
améliorer / restaurer la diversité
biologique*

**Programme des Nations
Unies pour le
Développement
(PNUD)**

Fonds pour l'Environnement
Mondial (FEM)

Organisation des Nations Unies
pour l'Alimentation et l'Agriculture
(FAO)

United Nations Office for Project
Services (UNOPS)

IVC/94/G31/A/1G/99 PROJECT

CONTROL OF AQUATIC WEEDS INVADING WATER BODIES TO IMPROVE/RESTORE BIODIVERSITY

"ONE LINE" ASSESSMENT REPORT

Final assessment report

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Abidjan, July 2004.

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ABBREVIATIONS AND ACRONYMS

ABC	: Agents of Biological Control
ADB	: African Development Bank
AW	: Aquatic weeds.
CCT Centre)	: Centre de Cartographie et Télédétection (Maps and Remote sensing Centre)
CIAPOL	: Centre Ivoirien Anti-Pollution (Ivorian Antipollution Center)
CIE	: Compagnie Ivoirienne d'Electricité (Ivorian Electricity Company)
CNRA	: Centre National de Recherche Agronomique (National Centre for Agronomic Research)
ECOWAS	: Economic Community of West African States
GEF	: Global Environment Facility
IEC	: Information/Education/Communication
PIP	: Programme d'Investissement Prioritaire
PIT	: Project implementation team
PSAC	: Project Scientific and Advisory Committee
SIGFIP	: Système Intégré de Gestion des Finances Publiques (Integrated system for public finance management)
SODECI	: Société de Distribution d'Eau de Côte d'Ivoire (Ivorian water distribution company)
SOGEP	: Société de Gestion du Patrimoine EECI (Company of management of the patrimony)
SOPIE	: Société d'Opération Ivoirienne d'Electricité (Company for electricity operations)
SOTRA in Abidjan)	: Société de Transports Abidjanais (Company for transportation in Abidjan)
TPR	: Tripartite Review
UNDP	: United Nations Development Programme
UNOPS	: United Nations Office for Project Services

INTRODUCTORY NOTE

After two well-carried out assessments, the first at mid-term in July - August 1999 and the second in February - March 2002, the present assessment is a "on line" work. One of its important aspects (which does not appear as specific task in the terms of reference presented in Annex 1) was to analyse of the February-March 2002 report. It is, indeed, clearly stated in section 3.2 of that report the following : *taking into consideration the fact that the substantial results varied little during the successive extensions, it has been decided to make, not a "second and final assessment" but an assessment of the final report.*

This type of assessment, imposed by the national context, limits the possibilities of appreciating correctly some concrete realizations since no field mission could be carried out due, notably, to the inaccessibility to the sites.

Similarly, because the terms of reference were not appropriate to this exclusive "on line" work, several frequently asked questions during standard final assessments could only be answered incorrectly or incompletely; sometime we have to refer to the conclusions of the previous assessment mission. However, as a member of the assessment team resides in Côte d'Ivoire, some working sessions and a visit to La Mé Station were arranged. The list of persons met during the mission is given in annex n°2.

INTRODUCTION

The invasion of water bodies of Côte d'Ivoire, mainly by three aquatic weed species-water hyacinth, *Eichhornia crassipes*, water fern, *Salvinia molesta* and water lettuce, *Pistia stratiotes* – became an alarming concern in the early 80s. The biological diversity of the aquatic zones and the contribution of water resources to the national socio-economic development being affected, the Ivorian Government elaborated, in 1992, a coherent project to control this invasion in the framework of a national strategy. This project combines insect-based biological control and water parameter measurements aiming to restore water quality.

A three millions dollars of the United States donation was granted by the global environment funds (GEF). This donation was managed by the United Nations Office for Project Services (UNOPS) of the United Nations Development Programme (UNDP) while the implementation of the project (IVC/94/G31/A/1G/99) was confided to the Ivorian Centre for Antipollution (CIAPOL). The project started in 1997 and also benefited from two cooperation agencies, the United Nations Food and Agriculture Organization (FAO) concerning biological control activities and the United Nations Office for Project Services (UNOPS). Two foreign and ten national institutions also contributed to the implementation.

The GEF support was planned for a three year period, and a second three year period phase was expected to be financed by the government of Côte d'Ivoire and potential donors.

After three extensions without additional costs (January 2001, February 2002 and August 2003), the end of the first phase of the project has been planned for March 31, 2004, i.e seven and half years for the pilot phase.

The objectives of the present "on line final assessment" mission are :

- To measure the progress accomplished since the project started and more especially after the last assessment mission ;
- To analyse the consequences of the external factors that disrupted project progress, in particular with regard to the political situation in Côte d'Ivoire;
- To formulate recommendations for the follow up of project activities and results in Côte d'Ivoire and, in particular, to suggest to the authorities of Côte d'Ivoire the strategies for the post-project phase keeping in mind that GEF does not finance project extensions;
- To formulate recommendations for the dissemination of project results in African countries and, generally, in inter-tropical countries faced with aquatic weed problems;
- To document lessons learned from the project and useful to UNDP and GEF for future projects in the same area.

The terms of reference invited also, if the case arises, to take into consideration the recommendations of the previous assessment mission.

The assessment was carried out, as advised in the terms of reference, by taking into account the following three measures of success :

- impact of the project (according to development and long term objectives),
- sustainability of the results achieved, and,
- contribution to capacity strengthening of target groups to continue project activities towards its objectives.

The final report was subjected to a double analysis : first, to evaluate report conformity in relation to the objectives of the project, and second, to evaluate its qualitative out put. The commentaries made on the format of the report are recorded in a specific document.

The Project Evaluation Information Sheet (PEIS) form constitutes annex 3 of the present report.

1. ON THE NECESSITY OF SETTING APPROPRIATE INDICATORS FOR EXPECTED RESULTS

GEF did not require logical frameworks when the project was being conceived (after the Conference of Rio). A logical framework was elaborated during project execution,

at the request of the Minister of Environment, Water and Forests of Côte d'Ivoire. This planning effort is a positive point to the administrative supervision.

The fact of being limited to note only the nature of result indicators made it difficult to have an objective assessment (Table 1 in the final report). This loophole, unfortunately too frequent in GEF-financed projects, can be seen as a real lack of commitment from the parties. No new project should be approved without correctly identified indicators.

A correct formulation of result indicators has to take into consideration their nature, quality, quantity, spatial and temporal dimensions (bearing in mind that there are, in addition to indicators of physical progress, indicators of impact and indicators of process).

Adequate indicators must necessarily be defined by a limited number of persons (who will latter be part of the implementation team) prior to any project negotiation. This task is not an academic one, but a mean of expressing the commitment of project initiators.

The definition of indicators is thus a contract between project team and its partners. Otherwise, any interpretation is possible, no complete assessment can be made, and it is impossible to make objective judgment concerning the impact at the end of the project.

Because no indicator was correctly formulated in Table 1, some suggestions are given in Annex 4.

Some important hypotheses mentioned in the logical framework do not depend on factors external to the project, (*out of reach of project managers*), but are under direct responsibility of the implementation team (example : the inventories are representative / the choice of national specialists to train is adequate / the sites selected in the country are appropriate).

2. PROGRESS ACCOMPLISHED SINCE THE PREVIOUS ASSESSMENT

The assessment team cannot normally answer these questions on the basis of the available data. A written note from the implementation team, reporting the progress accomplished with regard to these recommendations, should have been joined, as annex, to the final report. Without such specific documents, a "on line assessment" cannot answer the questions of this section with the rigor required in the kind of work. The mid-term report written in July 2003 and the presence of one of the evaluators in Abidjan made it possible to give however, some tentative answers.

2.1. Were the recommendations of the last assessment mission followed ? If not, what are the reasons and what are the consequences on the fulfilment of project specific objectives ?

The main recommendations made by the 2002 mission are recalled, in italic, at the beginning of each section. The text of these recommendations are in Annex 5.

- recommendation concerning project administration and management

In order to get a more effective project administration and management, the final assessment mission advises CIAPOL and UNDP to organise the management organs of the project (PSC, PSAC and TPR) in prelude to the final seminar for project result presentation and to have them to meet more regularly during the follow up phase.

Two managing bodies of the project (Project Steering Committee – PSC - and the tripartite review - TPR whose role is to advise PSC), met during the extension period (May 27, 2002 for the TPR and September 24, 2003 for the PSC).

No meeting of the Project Scientific Advisory Committee (PSAC), in its initial composition, was held during this last phase of prolongation (this committee met only once, during project launching period, may be because of the fact that most of its members living out of Côte d'Ivoire is a major constraint). As this PSAC had to counsel the PSC, the co-option of members who can meet only on exceptional occasions contributed to the poor functioning of the PSC. However, new communication technology could be used to solve, at least partially, this deficiency.

Nevertheless, it was probably not a bad idea to co-opt internationally well-known experts. For a matter of availability, it is always difficult to gain the expected support; in the present case, the national, or available experts in the country or at regional level, could have shown a better reaction to the needs.

Following a recommendation of the TPR, the implementation team took a good decision in setting a national scientific committee to prepare the May 2002 seminar (even though several members of this committee belonged to institutions already involved at different levels in project implementation, which does not guarantee the independence expected from this type of committee).

Conventions were signed with each national operator. The development and the follow-up of these conventions are well assured by project coordination.

- Recommendations on the follow up biological control results

- . *The capacities and activities set up be maintained by endowing the CNRA La Mé insect rearing station with appropriate funds and human resources;*
- . *CNRA guarantees jobs for ABC rearing and release ;*
- . *CNRA guarantees a research programme for biological control and assures the replacement on a long term basis of the biological control officer;*
- . *CIAPOL and CNRA assure jointly the effective integration of biological control activities in the project with an appropriate mechanism of coordination;*
- . *The awareness campaigns for riparian populations in view of their involvement in the project be reinforced and widened.*

La Mé rearing station has been endowed with the necessary human resources, particularly CNRA has designated technicians in charge of rearing and releasing biological control agents. This is not the case for budgetary means; in fact, because

they are significant for the sustainability of actions undertaken and determine the future of other components of the project, need a specific section (Section 4.2.5).

The right frame of mind of the national operators should be stressed.

Thanks to the efforts of implementation team members, the two stations (La Mé and CIAPOL) are fully functional.

Two out of the other three recommendations of this section have been fulfilled; the third one, relative to the "awareness programme" (obviously about information/education) is partially fulfilled.

- Recommendations on improving the results of the component "monitoring the invasion of water bodies"
 - *the lack of coordinates of the sites be filled for the follow-up phase;*
 - *the necessary data for GIS regular updates be collected permanently and be sent to CCT-BNETD ;*
 - *a map of the state of invasion of water bodies by AWs be published annually.*

Coordinates are now correctly collected for the sites where no coordinates were recorded before. Since maps of invasion were developed in 1997 and 2001/2002, the last GIS update occurred in December 2003. This update concerns only the southern part of the country because some northern zones are not accessible for security reasons (all field activities are stopped in these zones since 2003).

- Recommendations on result consolidation for the " integrated catchment management " component
 - . *A depositary for the model be designated, for example ESTP INP-HB (availability of the required expertise and adapted environment for a long-term maintenance), and that the adjustment of the model to other pilot catchments, and its maintenance be assured during the post-project phase;*
 - . *CCT/BNETD carries out the regular GIS update and makes it available to interested national operators;*
 - . *The concerned authorities of Côte d'Ivoire achieve the necessary institutional reforms to endow the country with an adequate institutional setting for integrated water resource management;*
 - . *The participative approach be reinforced.*

The first recommendation is satisfied. The numeric model of soil-water nutrient exchange has been deposited at CIAPOL, but not at the national school of public works (ESTP/INP-HB) of Yamoussoukro, identified as possible institution to be the depositary. This decision was justified because CIAPOL has the competences to make use of the model. Locating the model in Abidjan is also a way to give more access to a large number of operators.

The frequent changes in the ministerial assignments, that took place throughout project implementation was a constraint for putting in place an adequate institutional reform for integrated water resource management. In the best of cases, the project could only contribute in setting up this institutional reform. However the process is not abandoned and is being carried on by the Ministry of Waters and Forests designated

by the "Code de l'eau" (Code of water, a set of regulations on water management) promulgated in December 1998.

The two other recommendations seem to be satisfied (because too broad, the subject on "strengthening the participative approach" is impossible to verify during this "on line assessment").

It's worth noting that follow-up activities on water quality, as well as information/education campaigns towards riparian populations at selected sites, were carried out in the southern part of the country.

- Recommendations on result valorisation for the "inventory and follow-up of biological diversity" component
 - . *to look for ways to get the Laboratory of Botany more involved in activities during the follow-up phase ;*
 - . *to include the objectives of the project into laboratory research topics ;*
 - . *to let CRO only process data concerning the follow up of key species of aquatic entomofauna;*
 - . *to include statistical analysis to data processing by CRO ;*
 - . *to improve the format of the final report from CNRA-Bouaké and to write, in italic, species names in the tables.*

The conditions of "on line assessment" don't give adequate information to ascertain that these recommendations have been followed.

- Recommendations on "Coordination with similar African projects and result dissemination" component
 - . *CIAPOL rethinks its communication strategy and let it manage by the ministry of Environment. This strategy should take into consideration all aspects of project result diffusion to similar projects in west Africa;*
 - . *Researchers involved in project implementation make a scientific processing of data collected in view of publishing articles in specific journals or in theses/diploma dissertations;*
 - . *A clarification be made by project implementation team and biological control component about the understanding of "integrated control" associating water quality management on catchments and insect-based biological control ;*
 - . *Project implementation team finalises the web site:*
 - . *CIAPOL, in agreement with the Government and UNDP/GEF, invites African decision-makers to participate to the final project result presentation seminar.*

Even though incontestable efforts have been made, it doesn't seem to exist a real communication strategy (no document was presented to that effect) and it is not sure that the Ministry of Environment, to which it was recommended to manage the one to be proposed by CIAPOL, possesses its own.

The implementation team has not finalised the web site, yet mentioned as "being developed" in February 2002. The May 2002 seminar report states that it has been abandoned; but following the July 2003 TPR meeting, the implementation team revived web site project in order to assure a larger diffusion of the results (some pages of Internet format are written).

A scientific use of project data for theses or degree reports is mentioned in the report (with no specification of the type of works in annex). The list of documents produced should therefore be completed.

In spite of a specific recommendation on the subject, and by relying only on the final report, no article was published in journals, seven and half years after the project started. However, interviews with the implementation team permit to note that two articles are published (Parinet *et al.*, 2000; Dah *et al.*, 2004); a third one (Parinet *et al.*) is expected soon, and three other publications are underway. The Project also contributed to thesis preparations and defences at the University of Poitiers in France (Lhôte, 2000) and to the writing up of a publication on taxonomy (Diomandé *et al.*, 2000).

The two other recommendations have been fulfilled.

- Recommendations on result consolidation and the future of the project

The mission agrees that project result consolidation requires a lap of time where the above mentioned constraints should be addressed. This phase of consolidation shall allow :

- . To assure a transition between the period of project implementation and a period of non-project ;*
- . To mobilize funds needed to support the activities initiated by the project on the long term ;*
- . To involve the national operators on the long term ;*
- . To reinforce and to widen the involvement of the riparian populations;*
- . To formalize the involvement (technique and/or financial) of important water body users;*
- . And to clarify the doctrine exported out of the country.*

These recommendations have been, basically, fully followed since the end of phase 1 intervened only on March 31, 2004. One can, on the other hand, wonder if this period of grace has been correctly used "to strengthen" the project. Indeed, the two year extension period had :

- *to mobilize funds needed to support the activities initiated by the project on the long term*

The government has confirmed its financial contribution through the national budget (Priority investment program/ Programme d'Investissement Prioritaire – PIP); listing project expenses in this budget is a guarantee for a long term support.

Unfortunately, no funds could be mobilized on the long term and few concrete actions in this regard have been taken so far.

- *to get the national operators involved in long term activities*

Without a long-term financing, it is difficult to guarantee the involvement of the national operators, even though it is incontestable that several of them show a real interest for the project.

- *to reinforce and to widen the involvement of the riparian populations*

Some progress, particularly on information/education/communication, should be noted; some local NGOs created mobilisation for the project. It remains to make sure that this social mobilisation doesn't depend anymore on the only actions of NGOs but on the repercussions of the AW control programme and, especially, that these populations will be significantly represented in the future catchment area committees.

- *to formalize the (technical and/or financial) involvement of some operators*
Contacts have been made with the Chief Executive Officer of SODECI/CIE, and the General Manager of SOTRA; it is important to keep up with this collaboration.
- *to clarify the doctrine of the Project*
It is difficult to understand the meaning of this objective, even though one can think that it is about clarifying the importance of integrated water resource management in the doctrine. Wasn't the project able to elaborate a clearly comprehensible doctrine in 2002 (that doesn't seem to be the case based on available documents)? Was the message distorted by those in charge of explaining it outside the country? This hypothesis seems unlikely. Maybe these messages were wrongly interpreted by some persons or the messages were possibly not correctly translated in English?
It is however possible to consider this recommendation as well satisfied since, according to information given by implementation team, this doctrine has been presented several times in 2002, during meetings in Niger and Burkina by the Principal Technical Adviser, and in 2003 at the NEPAD environment meeting in Maputo and at ECOWAS meetings by the Ministry of Environment.

2.2. Were the results in accordance with the planned objectives?

This aspect was considered thoroughly by previous assessment missions.

- A. - Objective 1. To reduce main invading aquatic weed populations by biological control

The success of the project resides, without a doubt, in the very high level of achievement for this objective (exotic natural enemies were released and successfully established on 90% of the invaded zones). This result confirms the efficacy of this control method, already experienced with comparable success by many other projects in southern and western Africa.

The documentation on these activities need however to be completed and the maps of distribution must be finalised. It would be useful to conceive separate maps : one for the areas invaded by aquatic weeds (from several surveys, with indications of the extent of invasion) and one for release sites and areas where exotic ABC were established. Otherwise, the lists of release points and ABC confirmed ABC establishment for one year remain to be updated.

B. - Objective 2 : To follow the state of invasion of water bodies

This objective is closely related to the previous one because follow-ups are necessary to appreciate, first, the degree of water body invasion and then, to judge the impact of the control. The final report doesn't give enough information to evaluate whether the weak results noted by the previous assessment have been improved.

However, based on information received from the implementation team and by reading reports specific to the component, it appears that some substantial results can be noted and that the impact of ABCs on aquatic weed populations has been clearly shown according to the described methods.

These essential data constitute the basis for findings concerning the results of the previous objective. They must appear in the final report in order to serve as basis to future work on the impact of this project (once the floating rafts have disappeared, they cannot be reconstituted, of course). Without these information for reference, continuing the inventory of floating weed populations cannot be justified.

It is recommended to include all or part of the numerous available photos in the final report, in order to complete the only example actually shown.

The method chosen for the economic analysis, useful to value the results, needs to be included in annex, referring, among others, to the contribution of Greenhouse and Cougny (1997). This analysis is socio-economic rather than economic and financial. The report gives only a summary of the results and it would be necessary to mention, at least in annex, the quantitative data collected. According to results shown, the analysis considers only the global economical advantages of the project and particularly of biological control. The extra costs due to water treatments as well as the social and environmental costs are not valued while the calculation doesn't take into account the evolution of costs and benefits. To facilitate the completion of this study, an example of economic analysis is given in Annex 6 (De Groote *et al.*, 2003).

The socio-economic aspects, namely the gains resulting from aquatic weed control, should have been a separate result of objective 2 because these are grounds to make many decision-makers take more commitment for natural resource conservation. That is more reason to suggest that the format of the analysis be improved. This analysis could be worked-out again after the project has ended to determine more efficient strategies (for example, promoting small private businesses to keep watch on the extension of aquatic weeds and to manage their control).

It would be interesting to continue the observations on the invasion of water hyacinth rafts by *Typha sp.* and probably, to a less extent, by *Phragmites sp.* According to observations made at IITA, such invasions occur in rafts of *Eichhornia* undergoing a stress due to *Neochetina spp.* Such observations describing the disappearance of water hyacinth are mentioned in the "gray literature" but without mention of an exact follow-up. The preliminary data of this project constitute therefore an interesting topic to study in more details. The results of such investigations would be a great contribution to the biological control of these invading weeds.

The phases and the techniques for map development and data integration in a GIS take a large number of pages in the report, but the results are not well developed. For example, the report does not mention the extent of aquatic weed invasion nor

their spatial distribution. A summary of these results should be integrated to the report by referring to the excerpt of the presentation of Kokoué *et al.* at the GIS Conference in 2001 (the writing of the report needs also to be improved). This summary will be easy to write-up as there already is a specific document *Final Report of the Component State of Invasion of Waters by Aquatic Weeds* written in December 2001 by the implementation team.

C. - Objective 3 : To lay the basis for an integrated basin management so as to deal with the fundamental problem of the excessive enrichment of waters with nutrients

Formulated as it is, this objective was too ambitious for a three year project because it implies taking institutional measures; this would have been difficult to materialize in this delay, even if the national situation was normal,.

As several similar projects showed through the world, this kind of objective yield more theories than concrete results. This being, the technical and scientific results as well as the recommendations made by the Project, the strategy of the doctrine and the participating approach, are strong basis for an institutional reform and the adoption of an integrated basin management.

The authors write, understandably, that *without organs of decision to use them, the tools finalized by the project (notably to facilitate decision-making) would remain merely academic exercises.* It is hoped that, in the future, these organs will be created to make use of these data by making them available through publications. In this sense, it can only be recommended to take as example the report on the technical support to the integrated catchment area management, published in 2001 (DHI, 2001).

D. - Objective 4 : Making inventory and following up biodiversity

The activities and results for this fourth objective of the project take 111 pages out of 219 dedicated to the five objectives (i.e. 51%). What could appear like an unbalance resulting from an insufficient planning is perfectly justified because this project is a GEF project whose main emphasis is on biological diversity.

The report doesn't give enough information to assess whether the level of achievement indicated by the previous evaluation mission has been improved in a substantial way during the two year extension period (this rate is certainly higher now but, relying on this report, the quality of the results is not obvious).

The contributions concerning biological groups are of unequal quality. It is sometimes difficult to distinguish the observations or findings, specific to the project, from findings of studies elsewhere. The results from the zooplankton or algal flora activities can be used as reference because they are correctly presented and well written.

To the contrary, some contributions are insufficient and need a complementary work (refer to the document entitle "Commentaries on the final report" and the propositions of corrections on the final version of the document on the enclosed CD-ROM).

- Benthic macrofauna and entomofauna

The authors have a tendency to conclude, concerning several groups, to a weak biological diversity; a quick look on the extent of results variances shows, in fact, an insufficient collection of data. This deficiency does not allow to perform valuable statistical analyses (section Benthic macrofauna) or doesn't permit to characterize a habitat, because of the large number of aquatic insect species (section Entomofauna). Some mistakes are found in the taxonomy of the entomofauna (the corrections are on the CD-ROM).

It is surprising to note that the presence of floating plants can benefit to tsetse fly. It is, indeed, known that newly emerged larva from this species pupates immediately, without feeding, in humid but not aquatic environment. Therefore it would be interesting to provide more explanation concerning this topic.

- Zooplankton

The results are very substantial and shown in a professional way; they deserve to be published.

- Ichthyofauna

The comparison between periods before and after biological control shows the real setting of the project. The list of fish certainly needs to be completed before some general conclusions can be drawn. Catching large size fish has been favoured (maybe because they are useful to man) and the collection of small size fish, like those of the family of Mastacembelidae, seems accidental. The Cyprinodontidae (now Aplocheilidae), the Aplocheilichthyidae, the small Cichlidae and Cyprinidae, as well as other families including small size species, numerous in this type of waters, are completely missing from this list of fish. Some mistakes in the scientific names can be picked up (refer to the corrections proposed on the CD-ROM).

- Algae and other microphytes

The lists of species are remarkable and well presented, the relation with floating weeds having been an obvious preoccupation for the authors. This section also includes a good list of flora species associated with other plants in these habitats. The section must permit to clarify the presence of indigenous species of *Salvinia* because several names are used in the different sections of the report to designate one and same species presumably, that is *S. nymphellula*. For a publication, this list should replace the incomplete lists shown through out the report.

- Fauna of "floating rafts"

Data don't appear in the available version of the report that needs to be completed. Commentaries can however be made from reading the methods used.

A particular attention must be given to the description of the methods used (this remark completes the one made on the economic study). Without a clear mention of the material and technique used, it will be impossible to repeat the study and

therefore to make comparisons and follow-ups. Most teams showed correctly the chapter on "Material and methods" but no standardized inventory methods of the *avian fauna* were presented; this may explain the small number of species observed. This *avian fauna* section, blemishes the quality of the other contributions and would need to be presented as a complementary note only.

Another example of chapter that will need to be completed is the one on Mammals. Even if it is clearly mentioned that rodents were captured with Sherman palmist seed baited traps disposed on lines along the bank, the following information are not specified : interval between traps, length of lines, number of trapping days (the internationally recognized standard is three weeks).

Even methods which seem well described at first reading, do not give precision (for example, the mention of the addition of 5% Formalin to a solution containing samples without specifying in what proportions).

D. - Objective 5 : To strengthen the coordination of control projects in Africa and dissemination of the results

The activities carried out were in concordance with these objectives. However, the main target seems to be the scientific and technical community, whereas interested persons should also include, and mainly, the rural populations who do not have access, for most of them, to new communication systems. It is thus worth wondering about the relevance of the communication techniques used to introduce the project to, and disseminate its outputs in, local communities. Besides, the report should better indicate the expected effect from result dissemination, notably towards local communities.

The tasks to be accomplished in Côte d'Ivoire in this area are still so numerous that one may wonder if the first part of this objective (coordination of other projects) was not unrealistic for a pilot project. No measure taken in this sense is quoted in the report. It may also be an incorrect formulation because the interviews with the implementation team make think that this component (coordination) should be understood as regional exchanges, which have been done well.

Because the scientific data presented in the report are at a preliminary stage, it would be premature to consider actually a dissemination of the results. On the other hand, information on biological control to riparian populations need to be pursued.

2.3 Was the combination of local and international expertise appropriate and productive ?

The "on line" assessment does not allow to give a clear opinion on the subject but discussions with members of the implementation team show that this combination has been effectively appropriate and productive. The last paragraph of the report and one of the conclusions of the previous assessment reveal that there was however a misunderstanding between project team and one of the technical cooperation agencies concerning its role.

The collaboration with IITA, Cotonou, established in the 80s with researchers in Côte d'Ivoire on biological control of *Chromolena odorata*, cassava pests - mealybug *Phenacoccus manihoti* and green mite *Mononychelus tanajoa*, and maize stemborers *Sesamia calamistis* and *Eldana saccharina*, was strengthened thanks to the actual project. Several technicians visited IITA and completed their training on insect rearing and follow-up (some strands of ABC were also provided by ITTA to start insect rearing). The success of this collaboration could be better enhanced in the final document.

It seems that the project made little use of the expertise of PPRI (Pretoria), whereas this institute is the leader in biological control of invading weeds in Africa and one of the three most important in this area worldwide.

It is surprising that few scientific publications (two) were produced in internationally known journals, in seven years. This weakness cannot be totally imputed to a lack of supervision from the international expertise (the national academic team bears the main responsibility).

2.4 Did the national and international experts give adequate training (formal or on the job) to their national counterparts to better understand the reasons and how of adopted methods or actions undertaken in the project ?

For biological control, the visit of La Mé insect rearing centre confirmed the impression that this training led to good results. However, the final report does not give information allowing to have a positive opinion on the question; this is unfortunate because ulterior interviews showed clearly that this task has been well accomplished.

For the other component of the technical support (water quality follow-up and integrated basin management), the attention has been drawn on the quality of DHI support, including beyond its mandate (conceptual aspects, water quality follow-up, GIS, models, etc.).

2.5. Were the planned final format and project results presentation (popularisation and sensitisation posters, final report, seminar of final restitution) appropriate ?

Considering the "on line" conditions of the present assessment, it is impossible to answer judiciously to this question. Some prompt elements will only be given.

2.5.1. Result presentation seminar

Because one of the actual assessment team members participated to the May 2002 result presentation seminar, it can be said that the posters shown at this seminar were well prepared and edited. This effort of conception and popularisation deserves to be shown in the final report.

The seminar was an useful initiative to show project results at a national level. It remains to present and popularise the results also in concerned areas of the country, by poster distribution.

2.5.2. Popularisation posters : two posters have been published.

2.5.3. Movies: two documentaries were produced and shown on the national TV network. Three other documentaries produced on UNDP's initiative have been internationally distributed and several TV show have mentioned the activities of the project (*Azimuth* magazine- seen in more than 70 countries, *Baobab* and *Jours d'Afrique*).

2.5.4. Website

It is not clear why the creation of an Internet website for the project, as indicated in the restitution seminar report, has been temporarily abandoned (refer to paragraph 6 of section 2.1). If it is because the creation of a specific site is difficult to justify or appears too complicated, the website of another institution in the country could be used for a better dissemination of project activities.

2.5.5. Final report

This report, presented in temporary format, is a good initiative of the implementation team whose objective is to gather, in a single document, all the findings of the project. Some commentaries related to this final report have been recorded in a specific document completing the present report.

The first and last parts of the report are correctly written; only some corrections and details are suggested. These two parts are pleasant to read, notably the description on history or evolution of the methods and concepts.

On the other hand, the largest part of the report (results presentation) requires a complementary writing-up work. Some contributions are appropriately written and need simple corrections (those on zooplankton, algal microflora and, to a less extent, on fish); some others are written carelessly. It should partially be rewritten with rigorous reasoning, conciseness and the rhythm.

This document seems to be a juxtaposition of contributions including an excess of information with no synthesis (this impression may be understandable at this stage of development of the document). An important revising work remains to do (lack of references, numerous approximations or mistakes). The style need also to be revised in order to standardize the text.

A summary (with a translation in English) and a glossary should be added. The bibliography, as well as the list of documents produced, should be completed.

3. INFLUENCE OF EXTERNAL FACTORS ON THE PROGRESS OF THE PROJECT

It is incontestable that the events which occurred in September 2002 (even though the many ministerial changes of 2000 didn't continue) seriously disrupted the progress of field activities planned for this ultimate project extension. The delays can be partly attributed to delays in institutional set up, in long-term financing or in the setting up of the second phase which is under the responsibility of the Ivorian Government.

4. PERPETUATION OF PROJECT RESULTS IN COTE D'IVOIRE

4.1. Extent of internalisation of project achievements by target groups and national operators to carry out post-project activities

Generally, there is a good appropriation of the programme by the national institutions. It is however difficult to make that kind of judgment on riparian populations who don't seem to have been, at least on the basis of this report, sufficiently considered as partners.

The principles of integrated water resource management and, therefore, of integrated management of basins remain to be materialised in a suitable institutional setting and, especially, in the daily activities of the concerned water department (including Department of Water Resources -Direction des Ressources en Eau- of the Ministry of Waters and Forests).

4.2. Arrangement to be made from now on by the Government of Côte d'Ivoire and the target groups to guarantee that project findings won't be lost

4.2.1. To put in practice the philosophy of the project (participative approach)

One of the basic ideas of the project was to reinforce the capacity of national institutions in of environment and to create a network coordinated by a committee similar to the one existing for aquatic weed control prior to the actual project. Capacity reinforcement of institutions has been made. The network still remains to be formalized and perpetuated by reinforcing actions for the involvement of local communities.

At the international level, the government should carry on efforts to have its approach considered in the coming ECOWAS/ADB aquatic weed control project.

4.2.2. To better affirm the commitment of the government

Reading the final report and analysing the actions taken by the government raise several concerns.

The end of the section 5.1.3 of the final report insists that it is necessary for *political decision-makers to make available, in the follow-up and strengthening phase, the appropriate means and human resources for the challenge*. It is surprising that, at project's closing time, recommendations are still being made whereas the main objective of this last two year extension was to guarantee means for the follow-up phase. Obviously, these means are not available yet.

The apparition of opportunistic plants such as *Typha domingensis* and *Echinochloa pyramidalis*, which are now invading water bodies cleared from water hyacinth, water lettuce and water fern, indicates that aquatic weed control is not a matter of short time project, but a matter of long term programme.

Discussions with persons en charge of some national funds (other than FNDE) and private companies must be intensified. Similarly, it is urgent to present a communication on project results to the Council of the Ministers (Government).

These initiatives would be in agreement with the tripartite meeting of July 23, 2003, during which the government of Côte d'Ivoire, through the Director of cabinet of the Minister of Environment, co-chairing the meeting, committed firmly to *transform this project to a national programme and to search for resources to pursue its implementation and to reinforce the national implementation agency and its team, as well as the national operators and the international technical support.*

The government of Côte d'Ivoire has therefore to honour this commitment vis-à-vis GEF for the implementation of the follow-up phase of the project.

4.2.3. Institutional and regulation measures

The creation of an institutional setting and regulations on code of water should be effective, taking into consideration the findings of project. For this reform, the creation of basin committees should be privileged.

However, the emergency is not at this level. Attention must rather be, for the time being, on the best way to assure the follow-up of project activities. Indeed, the competent team who implemented the project is breaking up (within the implementation team but also in the partner institutions). Actions should be better planned; as example, two positions have just been created for the Project at CIAPOL (a logistician and a sociologist respectively recruited in April and May 2004 whereas these recruitments were not programmed, nor solicited by the project). It would be right, in the future, to conform to the usual procedures (position description, approval by project managing body, budget provision for these positions, call for candidacy). Although activities have been reduced, the availability of the drivers is not assured in a permanent way because of solicitations on behalf of other services of CIAPOL or the Ministry of Environment.

It is therefore important to keep some autonomy to the project vis-à-vis CIAPOL, for scheduling activities and managing staff or budget.

4.2.4. Scientific measures

It will be convenient to gather all expertise of the country for a coordination of Research with the means existing in different institution, rather than to conceive a scientific project with independent financing.

This could be done with specialists in biological control and biodiversity conservation, for example within a committee. Such a grouping would offer better results than

counting on several ministries at a time. The focal point of the Convention on Biological Diversity could facilitate such initiative.

Publishing data from biological control activities (importation of ABC, rearing, release, establishment of these agents) should be the priority, by showing the positive impact and the advantages of these actions.

The study proposed on plants morphology or on *Sameodes* (an ABC that could not be established in West Africa) is not a priority.

On the contrary, the survey of Chironomidae as indicators of pollution level would be an adequate research topic, but would require the distinction between different species on the basis of giant chromosomes.

The description and study of mechanisms concerning the growth of reeds within water hyacinth floating rafts, according to the extent of plant vigour reduction by actions of released weevils, would be an obvious interesting topic.

Biodiversity studies should take into account the results of biological control, limiting the number to systematic groups where conclusive results were observed. The other proposed studies should be abandoned or should be concentrated on very limited systematic groups, in the setting of academic studies (DEA theses, doctorate) which should not be necessarily financed by the project.

Generally, it will be useful to concentrate on topics considered as priorities for the project and to avoid reproducing investigations of more general interest, often already carried out elsewhere.

4.2.5. Budgetary measures

During the implementation period, the project had a 200 millions CFA Franc annual budget. For 2004, from a 232 millions FCFA request introduced by the implementation team, only 69.5 millions FCFA were granted, that is about a third of the expressed needs.

It is worth noting, also, that this is just a financial endowment promised by the Ministry of Finance and therefore susceptible to change any time and, because of the long process of national budgetary system (SIGFIP), this budget may not be easily accessible.

In this budget, the part intended to the national operators and correctly documented by the implementation team, was rejected by the Ministry of Finance. The implementation team is going to correct this mistake by proposing to reorganise the budget; but this operation needs a long procedure and could take up to several months since only a decree from the Minister in charged of the national budget can allow such changes.

The reasons for project budget cut may be because the services of the Ministry of Finance expect CIAPOL and the Ministry of Environment, that collect several taxes for environment protection matter, to make the financial complement.

To that end, a request of about 100 millions FCFA has been submitted to the national fund for environment. This fund, due to serious mismanagement, is being reorganised and cannot actually provide any aid to the project.

No request has been addressed to the national fund for water or to the national fund for energy.

Some concerns can be addressed concerning the capability of a public institution to meet the follow-up requirements of this project, on administrative and budgetary management aspects. The project already experienced serious constraints during its implementation when the management depended on SIGFIP via CIAPOL:

- difficulties for payments that nearly stopped the activities in 1999 and 2000
- loss of about 30 millions FCFA due to an error in budget allocation via CIAPOL
- some equipments, mentioned to be repaired during the February 2002 assessment mission, have not yet been repaired (changing electrodes and reprogramming the system of a multi-parameters probe for water analyses)
- systematic delays in payments and reimbursements :
 - a fuel payment requested since July 2003, has not yet been honoured
 - payments to seven national operators requested in September 2003 have not been satisfied yet
 - requests to reimburse field mission expenses introduced by drivers in August and November 2003, have not been even processed
- project management under central administration will lead to a 50% reduction of remuneration of the remaining project staff
- laboratory equipment of CIAPOL would be renewed.

These few examples clearly indicate why, without the exceptional direct payments procedure by GEF/UNDP, as proposed by a tripartite meeting, the project would have been almost stopped.

Actually, the financing of insect rearing activities, a task considered unanimously as of great priority, is not planned for 2004 and depends, while looking for solution, on the good will of CIAPOL and CNRA. That is not the best way to guarantee the sustainability of the project.

4.2.6. Information/education/communication measures

Actions on information/education/communication (IEC) should be treated by specialists. Very often, actions undertaken in this discipline are similar to advertisement or to propaganda. Documents "prêt-à-porter" do not exist ; it is thus recommended to produce documents adapted to each target group. Using the term "programme" to designate IEC actions implies the diversity of means to use. Interactivity is to privilege : the more a programme will contain interactive elements, the more it will yield positive results.

An exchange of information and a patient monitoring of the concerns of riparian populations are essential. In fact, the apprehensions of these populations with regard to the introduction of predatory insects of aquatic weeds were reasonable and comprehensible. They confirm the educational responses received in similar projects. If results are properly disseminated, several IEC activities can be carried out for project continuation.

4.3. Strategy recommended for the post-project phase

4.3.1. To set up a National Committee for Aquatic weed control

Such a committee existed before the implementation of the actual project and was perfectly functional according to information. It could have been the Project Steering Committee. It is recommended to revive this committee.

4.3.2. To organize a workshop for the National Committee in order to define second phase actions

Considering the lessons learned during the first phase of the project, it is useful to define a realistic programme, abandoning activities not essential to the success of the follow-up program (research activities for instance).

An internal and technical workshop should permit to define the content of the second phase since this work has not been done or, at least, is not shown. The workshop should include :

- analysis of strengths, weaknesses, risks and opportunities
- determination of strict priorities, on the one hand, leaving aside activities that do not directly contribute to the achievement of planned objectives, and on the other hand, giving priority to field activities over basic research.

The authors of the final report repeatedly underline that keeping insect rearing capacity is a priority, which is quite justified. But the follow-up of released insect populations and the state of invasion by aquatic weeds, which probably demands an intensive work (difficult to carry out in the present national conditions) seems less important.

Until now, the project has put a lot of work in research activities. The benefits of these activities to riparian populations, is a concern which has been repeatedly raised and is now of uppermost importance. It seems indeed indicated to justify the second phase by the contribution to these populations' living conditions improvement and to poverty alleviation

- establishment of a logical framework (up to the third level of planning) with real indicators on which are going to depend, for potential donors point of view, the credibility of the considered actions
- definition of responsibilities, by privileging activity implementation according to operator (specialized national institutions, NGOs, local communities)
- development of a budget and a chronogram.

4.3.3. To run an organizational audit of the project and CIAPOL

As already mentioned in section 4.2.4, the management of the project under CIAPOL, a public institution (with a management system close to a central administration) doesn't appear to be the best guarantee to continue project activities in adequate

conditions. Isn't possible to delegate many of the activities to private institutions (including NGOs and community-based organizations).

It would be useful for the management team of CIAPOL to think on the type of organization that can permit to better accomplish its missions. Must it continue to implement all the activities by itself? Does CIAPOL have to work in collaboration with the national laboratory for quality control (LANEMA, Ministry of Industry) or with specific services of research centres, and keep a role of coordination and supervision?

The question of the administrative tie with the Ministry of Environment should not be overlooked. Is a ministry the most capable institution to carry out activities related to a theme as broad as water resource integrated management?

4.3.4. To diversify sources of financing

From the government side, the Communication planned for ministerial cabinet meeting will be the opportunity to request a firm commitment from the government on project financing.

Once the financial aid of the government is guaranteed, and a document on the development ("business plan") of the second phase conceived with a clear vision on sharing functions and services, it will be a lot easier to search for complementary funds. This search for funds will be directed to three potential sources :

- big private companies using water bodies : CIE, SODECI, SOTRA (already contacted), SOGEP and SOPIE
- national funds (Environment, Water, Energy, Agricultural research -FIRCA)
- institutional donors (bilateral and multilateral cooperation).

In the search for financing, the emphasis should be on the socio-economic impact of the project and its contribution to the improvement of living conditions of the riparian populations.

Finally, the possibility to create a specific foundation, with the participation of the public sector (but to have minor share in order to encourage private sector initiatives and to respect GEF principles), should not be ruled out. This is possible because the law on financing and management of national parks and reserves, promulgated in February 2002, finally paved the way for foundations for environmental actions in Côte d'Ivoire. Part of the contributions from the big companies using water bodies to the existing national funds could be affected, transparently, to this foundation (these companies should be members of the board of directors). The largest part of collected funds would be put in high interests special bank account.

5. DISSEMINATION OF PROJECT RESULTS OUT OF COTE D'IVOIRE

The efforts on communication should be intensified if the ambition is to act as model for other African countries confronted with similar problems. Among other activities, the development of a specific document to present the doctrine of Côte d'Ivoire and the principles of integrated control would be certainly very useful; a printed version

and an electronic version should also be edited (providing this activity has not yet been anticipated by the ECOWAS PAR-GIRE/AO project).

The previous assessment mission underlined the weak impact on the other African projects. In fact, the combination of biological control with ecological studies going beyond the exotic plants and their natural enemies is now a current notion in all countries dealing with biological control. The realization of this notion is on the other hand a problem that has yet to find satisfactory solution, whether in South Africa, at IITA or in Côte d'Ivoire. A lot of work remain to be done and the experience of the actual IVC/94 project will contribute to progress on this way. Researchers from the Ivorian project needs simply to fully participate in biological control activities in Africa to automatically disseminate project results.

The project is very much attached to its "doctrine", shown as new; this was in fact the case in 1992 at the time of project conception, as Côte d'Ivoire incontestably played then a pioneer and reference role. This doctrine is however too general to be indeed useful. If a distinction between exotic and indigenous plants is not made (what is often the case in the final report) the generalities of this doctrine may overlook applicable and convenient findings. In particular, it would be necessary to distinguish the case of plants of exotic origin on which the classic biological control may have a great impact, because the results are little or not influenced by water quality. This is especially true for water ferns and water lettuce. For water hyacinth, a strong "eutrophication" of water can offset the impact *Neochetina spp.* For plants of local origin, the existing natural enemies are not capable to reduce plant populations below an acceptable threshold. In this case, the preservation of water quality and the reduction of nutriment concentrations become effectively essential, as biological control cannot then be applied with the same expectation.

To facilitate the passage from the statement of the doctrine to its implementation, a better involvement of Ivorian researchers in biological control international activities is wished.

The following results deserve to be published in scientific journals :

- results on release, follow-up, and establishment/dissemination of exotic control agents. The tables and corresponding maps should be elaborated according to standards (concordance between numbers given in the text - 60 localities, 458 release sites - and those mentioned on the maps should be verified);
- the analysis on changes in biodiversity induced by biological control of exotic invading plants. The sections concerning zooplankton and algal microflora and, maybe ichtyofauna, appear to be of sufficient quality for a publication. These data should be completed by the observations on water quality.

6. GENERAL LESSONS LEARNED FROM THE PROJECT FOR UNDP AND GEF

The conclusions of the previous assessment mission of February 2002 are still valid. Only few complementary commentaries will be made.

The ideas which prevailed during the conception of the aquatic weed control project, associating biological control with water quality management, as well as the idea of a participating approach, must serve as reference for similar projects.

While elaborating a project, it is important to take into consideration activity planning, notably :

- identification of indicators objectively verifiable to correctly assess the level of achievement of planned results
- definition of the intervention framework and the responsibilities of the operators (among other things, the authors of the final report state that the administration of Côte d'Ivoire "didn't always say the same thing")
- nature of the commitment taken by the government or the beneficiary institution to assure the continuation of the results
- adequacy between the means used on a short period and the possibility to assume recurrent post project costs
- the planning must be as realistic as possible, but not underestimating the unavoidable delays required for setting up procedures and for effective starting of field activities.

It is important that the commitment of the beneficiary country to correctly finance the follow-up phase be formally demonstrated during grant negotiation; this must be a contractual point for releasing funds. Another requirement should be the existence of an adequate institutional setting or, the commitment of the beneficiary country to apply the principles of water management recognized at international level.

A general aspect of this IVC/94 project is the fact that the steering organs are heavy and slow to act. In a context gathering,

- so many ministries and organizations far away from practical problems,
- so many groups of researchers with different areas of expertise and, finally,
- so many political constraints,

it is remarkable that the project got so many outstanding results.

The administrative constraints should be avoided (it is not necessary to create organs that never meet or meet too rarely, or delay the progress of a project) and the realism must be the basis for all decision (for example, exchanging electronic mail could have palliated the impossibility for the PSAC to meet and to benefit from the international expertise).

For the second phase, the structure of project organization should be reversed and the target populations should be better represented during the conception of the activities. The present case of aquatic plant control, with easy rearing natural enemies, is a good opportunity to involve water body users from the beginning. The biological control agents can be reared locally and disseminated by the villagers. Besides, the efficiency of the control, especially of water hyacinth, depends on a change in the behaviour of the populations to avoid water eutrophication. This gives a supplementary reason to involve them as early as possible.

The project permitted to establish some partnership but it is certainly possible to do more. The question of confiding the management of a field project to the administration, or to an institution with a statute close to the administration, has already been asked. Administration clearly showed, for several components of this project, difficulties to follow the rhythm required by the implementation of a three year activity program; but it can play an essential role of conception, orientation, supervision, and assessment. Administration is not the most capable to implement concrete actions. Delegating functions of the projects to specialized institutions, NGOs, and local communities should be privileged, with an emphasis on working with direct beneficiaries. The possibility to create joint groups with equal representations (associating administration - CIAPOL, representatives of water users and NGOs - with a technical assistance) needs also to be considered.

7. RECOMMENDATIONS

7.1. To plan priority actions for the second phase

- to organize a workshop, with at most 12 to 15 people, leaning on the former project team and associating the main donors/partners to plan next five year activities and to strengthen the achievements of the first phase
- to underline, in the presentation document of the program, the achievements concerning choice of the priorities and definition of the indicators of results.

7.2. Institutional aspects

- to maintain the autonomy of a "aquatic weed control" component in a national program on integrated water resource management and, to this end, revise the organization of the Project and CIAPOL
- to simplify the coordination of the activities by limiting this coordination to one technical and scientific supervising committee (similar to the former national committee of aquatic weed control) and to assure its independency to the implementation organ
- to carry on the institutional reform necessary to an integrated water resource management by encouraging a large delegation of some activities to the private sector
- to consider, according to the importance that the government will give to water management policy, the opportunity to create a suitable institution : a high commission, an authority, an agency or a secretariat of state

7.3. Long term financing of activities

- to get the Government to guarantee a long term budgetary endowment
- to elaborate a development plan (business plan) with coherent components for approaching private companies and potential donors, in order to facilitate financing by various sources (government, grants of embassies, academic programs)
- to build a financing dossier for outside donors; this dossier will include :
 - a presentation pamphlet
 - a synthesis of the results recorded during the first phase, emphasizing work achieved by rural communities,

- the development scheme of the second phase as mentioned above
- a document showing the socio-economic impact of the project and its actions toward the improvement of living conditions of riparian populations, two interesting themes that need to be valued in the available documents,
- to organize a set of meetings with potential partners by proposing three sources for financing : public sector, private sector and donors
- to start the process of creating a specific foundation.

7.4. Final report

- to finish writing up the final report by taking in account the notes elaborated by the consultants and the propositions of corrections made on the CD-ROM

7.5. Information/Education/Communication

- to lean on IEC experts for the conception of a communication strategy and a global program
- to produce supports adapted to the target groups
- to privilege interactivity : exhibitions, theatre-forums, rural radio, etc.
- to improve the communication on the scientific risk free use of predatory insects

7.6. Dissemination of results

- to publish a synthesis of the report (20 to 30 pages) and a pamphlet (8 to 10 pages)
- to encourage/to supervise the publication of articles in important scientific journals
- to prioritise the creation of a website and to prepare an electronic version (format HTML or pdf) of the produced documents
- to popularise the chosen approach on the basis of the posters and pamphlets already edited

7.7. Exchange of experience with similar projects in Africa

- to incite the Government to take any useful measures so that the regional ECOWAS/ADB project is inspired by the experience of Côte d'Ivoire
- to finance a set of grants to allow researchers and technicians of Côte d'Ivoire to do some working visits and trainings in specialized institutions in Africa (ITTA, PRI) and reciprocally
- to consider the possibilities of partnership with UEMOA.

CONCLUSION: TO EVOLVE FROM A PROJECT TOWARD A LONG-TERM NATIONAL PROGRAM

The efficiency of the biological control using predatory insects of aquatic weeds has been perfectly demonstrated once again. Also, a model of nutriment exchange between soil and water is operational; it allows a better understanding of the eutrophication processes and their reasons. A team of competent technicians has been trained and, especially, a network of partners of about two hundred people is

created on the occasion of this project. The example of this IVC/94 project, which demonstrative vocation has perfectly been respected, confirms that meaningful results can be achieved when financial means, human and organizational (thanks to the direct implication of UNDP) are available. Unfortunately, very often, the importance of the post - project period is underestimated. However, with the development of opportunistic plant species that are occupying water bodies newly cleared from aquatic weeds, it become obvious that it is necessary to think in terms of a long-term program. This program, mainly about integrated water resource management, remains to be organised.

Most of the recommendations given out by the previous assessment mission have been satisfied during this consolidation phase of the project. The main preoccupation must be now to perpetuate the indisputable achievements of this project. This will require a more evident support from the Government as well as a larger opening to the private sector and to the associative world. The main recommendations of the section 7 are oriented towards this objective.

It should be recalled that the final report, on which the present "on line assessment" is based solely, answers an initiative of the implementation team that has, by itself, wished to gather the available data in a unique document. It must be congratulated and must be encouraged to finish this important work that will constitute, without a doubt, a national reference.

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