

B.E.D.

Bureau
d'Entraide pour le
Développement

**Japanese embassy in
the Republic of Guinea**

Nerica evaluation in the Republic of Guinea



March 2006

**BEZELGA Sébastien
KEITA Sabou**

To all the resource people from the public and parapublic structures, the international institutions from the producers member of Peasant Organisations or isolated, we address our great thanks and our profound gratitude for their availability and openness during the process of collecting information. Without their goodwill this study could not have been realised with such ease.

INTRODUCTION	1
METHODOLOGY	2
THE STUDY	4
.I Situation of rice growing in the Republic of Guinea	4
I.A General situation of rice growing	4
I.A.1 Agricultural policy of Guinea	4
I.A.2 The Rice Channel	7
I.B NERICA'S position	15
I.B.1 CBSS/Nerica Project	19
I.B.2 Our observations	25
I.B.3 Quantitative data	37
I.C Result analysis	42
.II Diffusion of THE NERICA	43
II.A Teaching and impacts of the undertaken programs	43
II.A.1 The strong points and the weak points of the Nerica.	43
II.A.2 Restraints/obstacles to surmount	44
II.A.3 Pre-requisite for the distribution of the Nerica	46
II.B Improvement perspectives of the diffusion system	47
II.B.1 Rural development actors priorities	47
II.B.2 Producers priorities	51
II.B.3 Future paths of intervention	51
CONCLUSION	58
APPENDIXS	i
BIBLIOGRAPHY	i

Acronym and Abbreviations

ABD	African Bank for Development
ACA	Agency for Agricultural Commercialisation
ADRA	The Adventist Agency for Help and Development
APEK	Kindia's Economic Promotion Association
ARI	African Rice Initiative
BCEPA	Central Office for Agricultural Studies and Planification
BURISEM	International Office for Seeds
CBSS	Community Based Seed System
CEO	Chief Executive Officer
CNOP	National council for peasant organisations
CRA	Agronomic Research Centre
DCEO	Deputy Chief Executive Officer
DNA	National Head Office for Agriculture
DPDRE	Protectoral management for Rural Development and Environment
Dynafiv	Dynamisation Projects for food crops channels
ENAE	Agriculture and Breeding National School
EU	European Union
FAO	Food and Agriculture Organisation
FDA	French Development Agency
FOP-BG	Low-Guinea peasant organisation federation
FSP	Priority Solidarity Found
GNF/FG	Guinean Francs
ha	hectare
HAO	Head of Agriculture Operations
HCR	High Commissioner for Refugees
IFAD	International Found for Agriculture Development
IRAG	Agronomic Research Institute of Guinea
IRDRE	Regional Inspectorate for Rural Development and Environment
ISAV-F	Agronomic and Veterinary Sciences Institute of Faranah
kg	Kilogramme
LPDA	Policy Letter on Agricultural Development
MAE	Department of Agriculture and Breeding
MAEF	Department of Agriculture and Water and Forest
NEPAD	New Partnership for the Development of Africa
NERICA 3	variety WAB 450 IBP 28 HB
NERICA 4	variety WAB 450 IBP 91 HB
NERICA 6	variety WAB 450 IBP 160 HB
NERICA	New Rice for Africa: indicates the varieties as a whole
NGO	None Governmental Organisation
PADER/BGN	Rural Development Support Project, North Guinea Base
PADR/ HG	Rural Development Support Programme, High Guinea
PADRAS	NGO ADRA project in Siguiri
PASAL	Support Project on Alimentary Security
PC	Popularization Centre
PDDAA	Detailed Programme on African Agriculture Development

PDRI/GF	Irrigated Rice Growing Development Project in the Guinean Forest Region
PDRI/GM	Irrigated Rice Growing Development Project in the Guinean Maritime Region
PEGRN	Enlarge Programme for Natural Resources Management
PEU	Peasant Experimental Unity
PO	Peasant Organisation
PPDR/ HG	Rural Development Participation Project, High Guinea
PRIAF-Riz	The Rice Channels Actors Information Reinforcement Project
PRODAD-GF	Sustainable Agricultural Development Project, Guinean Forest Region
PSSA	Special Project on Alimentary Security
PTP	Production Test Parcel
RCEO	Regional Chief Executive Officer
RNA	National Agricultural Census
RTG	Guinean Radio and Television
SAA	Sasakawa African Association
SARA	Supporting Structures to the Farmers
SG 2000	Sasakawa Global 2000
SNPRV	National Service for Rural Promotion and Vulgarisation
SNSA	National Services for Agricultural Statistics
SPCIA	Production and Commercialisation Society of Agricultural Inputs
SQA	Acceptable Quality Seeds
UNDP	United Nation Development Programme
VSP	Variant Selective Participation (also knows as PVS)
WARDA	West African Rice Development Association
WB	World Bank

INTRODUCTION

In spite of the favourable rice growing conditions in all natural regions of Guinea for its alimentation, the country largely depends on importations (320 000 tons of rice, 35 000 tons of flour, 103 000 tons of sugar were imported in 2002).

With a very pronounced rural depopulation, the precariousness of mechanical working means (manual work in 80% of the cases), agriculture is characterised by rudimentary practices and an increasingly growing life of expenses. There is a risk that the dependence on importation continues. In spite the implementation of the irrigated and pluvial rice growing development programs and the mounting of a National Alimentary Security Strategy (NASS), there are no indicators that permits an evaluation of the expected objectives for the alimentary security amelioration of Guineans in the period between 1997-2005 (since the launching of the LPDA2).

In the framework of its new agricultural policy described in the LPDA2, the Guinean government expected a progressive suppression of importations before the end of 2005. To get there, a recovery plan of rice growing was initiated trough the settings of projects and agricultural services oriented towards the developments of rice growing. It is in that reason that the introduction program, the production and diffusion of Nerica in Guinea began almost ten years ago. This was in parallel with the choice of the Japanese Government of Guinea and Uganda as two pilot countries for the diffusion of the Nerica.

From now on Japan hopes to make an effort on the promotion of activities for the diffusion of the Nerica that will be in close collaboration with governmental institutions and international organisations.

That way, it is necessary to establish the facts on the situation of the Nerica in Guinea, with the goal of realizing the necessary supports for its diffusion. This is the objective of the present study sponsored by the Japanese embassy in Guinea.

Therefore the study will start by taking into account the Guinean rice growing situation with the viewpoint of its policy and network scale. After that an account on the situation of the Nerica will be made.

The second part of the study will examine the obstacles to surmount and will try to establish from the development organisations and producer's priorities the paths to take that will improve the diffusion of the Nerica.

METHODOLOGY

Defining the referential terms

Guinea and Uganda were chosen by Japan as pilot countries for the diffusion of the Nerica. From now on, with close collaboration with the governmental institutions and international organisations, the efforts will be placed on the promotion of activities for the diffusion of the Nerica.

Today, it is necessary to gather information on the activities forwarded and achievements of diffusion programs of the Nerica in general and of the CBSS in particular, in order to improve the given support.

In that sense, the Japan embassy in Guinea sponsored this actual study whose object is:

- to collect information on activities forwarded for the diffusion of the Nerica, in order to improve the given support ;
- In terms of increasing the fluidity of the diffusion system, provide propositions and recommendations.

The results will be aimed at:

- the evaluation of the Guinean government diffusion program of the Nerica;
- problems clarification with the objective of accelerating the diffusion of the Nerica;
- the orientations on the collaboration with the governmental institutions and international organisations;
- recommendations and propositions to reach the objectives.

Employed methodology presentation

To realise the study we divided our work method in six stages.

1. In function of different interlocutors, the conception of question papers and support guides. (cf appendix 1);
2. The search for existing information in the CBSS programme and on the Nerica by the collection of existing documents at different management level: DG-SNPRV, Project coordination of CBSS, IRAG, CRA, DR-SNPRV, DNA, SG2000...
3. The adjusting of ground meetings and visit programs (zone choices to visit and targeted persons to contact) ;
4. Interviews of resourceful persons in activity inside the mentioned structures and other accompaniment structures (cf appendix 2).
5. Ground visit of targeted production zones (cf appendix 3).
6. The result analysis.

The study was done between February first and March thirty first 2006.

The Study Limitations

Initially the study was scheduled to last three months, however it only lasted 60 days : from February to March 2006, in compliance with the terms of the agreement between the Embassy of Japan and the « Bureau d'entraide pour le Développement ». This reduction in available time seriously limited our ability to adequately collect all the data necessary for our studies. We had to adjust the ground phase due to the advanced date of the stage initial report.

The ground researchers were restricted to the Kindia-Mamou-Labé-Kankan-N'Zérékoré-Gueckedou-Faranah loop and we had to put aside the Low-Coast region.

Equally we had to limit our stays in the prefectorial regions. That way we could not meet DR-SNPRV and some peasants. That situation did not permit us to broaden our research to some peasants and off-project initiatives. Those encounters could have brought more diversity to the results.

However, during the study, we were able to identify new actors that positively contributed to the diffusion of the Nerica even though they were not producers or actors of governmental programs. In the same way, an extension of the ground phase would have permitted to specify a certain number of collected information: KR2 fertilizers, regional quantitative data on the Nerica.

It would have equally permitted to complete the study by answering new problematic issues that recently emerged: such as the fertilizer provisioning by meeting the private distributors, or the credit access problematic in meeting the people from the Rural Credit.

The encountered actors proved to be of great help concerning the information in their possession. However, it can be said that the collection of information was difficult because of the non-homogeneous and the lack of regularity of the results.

That concerns most particularly the data of figures. So, in fact the study could not analyse the quantitative data.

Actually, we were able to observe differences between certain results, which would have been interesting to tally in order to process them.

For other results there is no type format that permits to benefit of the same information according to the regions. The lack of means of certain structures did not permit access to certain informations in the framework of regular follow-ups.

Finally, in a general way, we have to deplore the lack of resources in terms of reliable and actualised data base.

For example when the project Dynafiv comes to us to inquire, who shall we refer to in order to obtain the information in its whole concerning the rice channel?

Will we have then to meet each actor for the actualisation of our informations?

THE STUDY

.I SITUATION OF RICE GROWING IN THE REPUBLIC OF GUINEA

I.A General situation of rice growing

I.A.1 Agricultural policy of Guinea

➤ *The policy letter of agricultural development 2*

In the LPDA2, two essential missions are assigned to the MAE:

- The promotion of food crop development and agricultural products destined for exportation ;
- To ensure a durable and rational utilisation of natural resources and environmental protection.

To fulfil those missions, the MAE as targeted the following main tasks:

- The elaboration of the agricultural policy in concentration with MAE's partners, in particular with other concerned technical departments ;
- The identification and formulation of programs intended for the materialization of sector-related policies responding to effective needs of the producers and operators intervening in the sector ;
- Creation of punctual inquiries, establishing statistics, impact evaluation of the interventions;
- The pursuit of the state disengagement concerning commercial and productive activities in the search of solutions that will permit the pursuing of a successful privatisation process ;
- Agribusiness promotion of agricultural enterprises and incentives to favorise the emergence of professional organisations ;
- Promotions of all forms of peasant organisations and diversified supports ;
- With other concerned ministerial department, the finalizing of promotion regulations and policies in relation with the economic services offered to the producers and operators ;
- Identification and formulation of the agricultural sector needs in terms of research and implementation of research programs.

Remark: the orientations described above, that contributed to the development of agriculture in Guinea are actually arriving at term. The "LPDA 2" dating from March 1997 will soon give place to the "LPDA 3".

Actually the diagnosis phase is in progress. Workshops have been held concerning the topic, especially with the producers. Following that, is the conception phase. For the moment, for this writing level period, no tendency can be ignored.

The « LPDA 3 » orientations will depend on future agricultural development actions that will be taken in Guinea. The fall due is for the thirty-first of March 2006.

➤ *The governmental programs*

« *The Guinean government, with the support of his development partners, has put in place strategies that will help them in the achievement of the alimentary security of the Guineans. »*

To this effect, Guinea disposes of a national development strategy and policy for small irrigation elaborated with the support of the FAO (1999-2001). The French Agency for Development (FAD) financed the elaboration of a development guiding plan for mangrove rice growing in Kapatchez's basin and the left shore of Rio Nunez. She also financed two important development projects concerning irrigated rice growing: Maritime Guinea and Forest Guinea (PDRi-GM et PDRi- GF).

The national alimentary security document (MAE/FAO-2003) recommends the realisation of a protection policy for the local rice channel by a taxation system on imported rice and by the improvement of the quality of local rice (drying...) that will permit a beneficial quality prime of 20 to 30% that consumers are ready to pay.

A special project concerning the alimentary security (PSSA) financed by the FAO and the ABD came into realization with a rice component. The majority of rural development projects : Maritime Guinea rice project, Forest Guinea rice project, PDRi-GM and PDRi-GF (financed by FAD), PADER/ABD, PPDR-HG/IFAD, PADER-BGN/ IFAD, PRAADEL/ IFAD, PPDR-GF/ IFAD, all have a research-action component where rice play a fundamental role.

NGO's like SG2000 participate in the promotion of production and dissemination of rice by the improvement of the cultivation systems, seed production and by conservation technologies and post-harvesting.

Guinea figures among the 7 countries (Benin, Gambia, Ghana, Guinea, Mali, Nigeria, Sierra Leone) beneficiary of financing from the ABD for the diffusion of the Nerica rice. The amount of the financing was of 5,36 millions US.

The Agricultural Solidarity Found (ASF) in its agricultural research component financed by the French cooperation (2003 –2005) had a « Sustainable Agriculture » element that financed in part the rice growing research. »

[Sékou BEAVOGUI –2004]

The CAADP

The Comprehensive Africa Agriculture Development Program is a NEPAD initiative. It is the agricultural element in the NEPAD, it is the development tool for African agriculture.

To make it work, each country puts forward a national middle term investment plan (5 years PNIMT). That program has to expose the problematic and strategies of the country, in conjunction with the problematic and objectives of the CAADP.

In establishing, with the help of the FAO, 4 bankable projects profiles in response to the 4 guidelines of the CAAPD, the Guinean Republic projects were validated in workshops in May 2004.

☞ **Table 1 : the middle term investment program for Guinea in relation with the CAADP (NEPAD)**

Pillars of PDDAA	Projects at Guinea level	
Master of water and soil management	Hydro-Agricultural arrangements	
	For a total of 8100 ha between Maritime Guinea and Upper Guinea. With drilling and OP elements	Budgets at 37,8 millions \$
Rural infrastructures and access to the agricultural markets improvement.	Infrastructure access and agricultural and breeding markets programs	
	One national interest market and 4 of regional interest anticipated with 3750 km of tracks in order to increase the access.	Budgets at 69 millions \$
Crop production revival for the enforcement of alimentary and economic security	Kamsar fishing pole	
	Conservation infrastructure realisation: processing, transformation and commercialisation of fishing project.	Budgets at 60 millions \$
Technology transfers and agricultural research	Sustainable management support for the soils fertility in the agricultural Guinean systems.	
	The objective is to favour agricultural intensification. Notably in the reinforcement of the rural capacities and the private sectors for the distributions.	Budgets at 34 millions \$

For the moment, no projects are in progress, they all are only at the submission stage. The Guinean Republic and the FAO are responsible for the promotion of those projects with the partners. If they are not realised, they can always be integrated within other projects.

I.A.2 The Rice Channel

➤ Government's objectives

The LPDA2, adopted in 1998, had the following objectives: a rice production annual growth of 10 % for 2010 and to increase from 460 000 ha in 1996 to 715 000 ha in 2005 in cultivated surfaces including the supplementary arrangement of 40 000 ha between 1998 and 2005 set that way:

- 10 000 ha in Mangrove;
- 14 000 ha in plains;
- 16 000 ha in "fertile valley";

The yield should reach an average of 1,7 T/ha for a production of 1,28 million tons of paddy in 2005 compared to 715 000 tons in 1998.

In the projects that were executed during the same period it was expected that close to 17 000 ha (that is to say 40 % of the LPDA2 objectives) would be arranged, including 8500 ha in "fertile valley", 3000 ha of plains and 5000 ha of mangrove.

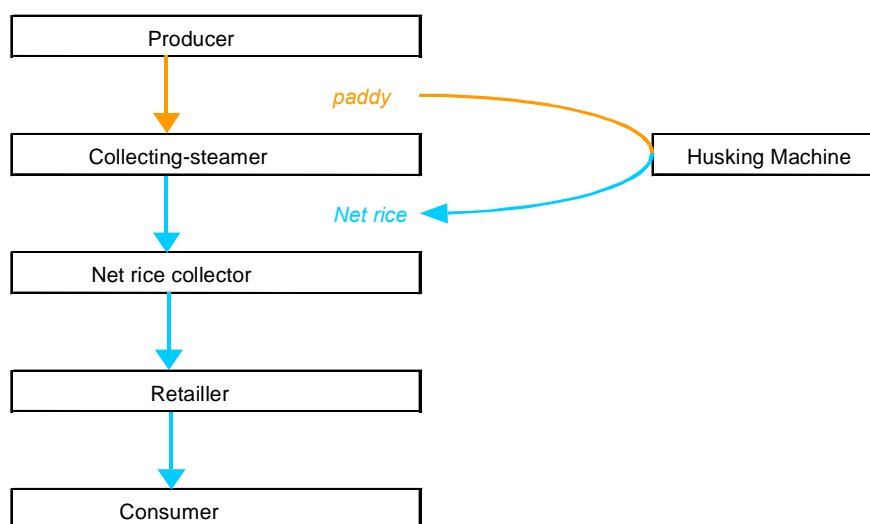
To reach those objectives, different actions were considered:

- Intensification of rice production by the diffusion of the adapted technical itineraries and the increase of impute consumption in view of the modernisation of the production ;
- The poursuit of hydro agricultural arrangements ;
- Improvement in the competitiveness of local rice by structuring the commercialisation and in establishing a variable taxation mechanism for importation, rebalancing the consumer for the profit of other local crop growers (manioc, corn, yam, fonio...);

➤ The channel organisation

« The most prevalent rice commercialisation network of is schematised below. A collecting-dryer buys the paddy from the producer, the steamer pays the person receiving the benefits for the husking, and sells it back to a net rice collector who sells it back again to a retailer. »
[DYNAFIV – June 2005]

🌀 **Figure 1 : the schematic commercialisation short network of the local rice channel in Guinea**



Source: DYNAFIV– juin 2005

Of course the scheme is a generic one, which could experience different variables depending on the numerous rolls played by the actors (shortening), or depending on the intervention of new intermediate (lengthening). The transaction between primary producers and collectors are often realised on the collecting markets, and often they are the weekly local rural markets.

The supplying of large centres lengthens the channel with the intervention of numerous wholesalers.

During the 2002-2003 campaign, the amounts of commercialised local rice were, on the main long channel (large urban centres), estimated as follow:

☞ **Table 2 : Amounts of Commercialised local rice toward the Large urban centres from Large production zones : the 2002-2003 campaign**

Production zones in excess	Upper-south Guinea	Senko Beyla basin	The forest Guinea	North Maritime - Guinea	South Maritime-Guinea	Bowes
Quantity (t)	5 000	10 000	26 000	5 000	4 000	6 500

During the 2002-2003 campaign, those are the quantities of local rice that were brought in from the main production centres into the large urban centres:

☞ **Table 3 : Local rice quantities commercialised in the large urban centres, by regions, during the 2002-2003 campaign**

Upper North-Guinea :	Maritime-Guinea:	Middle-Guinea :
12 000 t	40 000 t	10 000 t
which, Kankan 6 000 t Siguiri 3 000 t	which, Conakry 30 000 t	which, Labé 4500 t

Source: according to DYNAFIV– June 2005

➤ *The production*

The rice production in Guinea went from 350 000 t in 1985 to 650 000 t in 1994, that is to say around 3,5% of growth a year (MAE).

The agricultural inquiry results realised in 1995 estimated the rice cultivated surfaces to 438 400 hectares and a paddy production to 630 000 tons with an average yield of 1,43 t/ha.

According to the RNA 2000- 2001, the total cultivated surfaces in rice represented 41, 7 % of the total cultivated surfaces: characterized by 77 % in pure culture, 22,5 % in main association and 0,5 % in secondary association.

« *If one keeps to the two last agricultural census, the agricultural rice growing surfaces had a 20% growth, going from 480.000 ha in 1997 to 574.000 ha in 2000, the yield being 15%, from 1.49 t/ha to 1.71 t/ha. The production growth, for that 4 years period would be of more than 35 %. The growth can be attributed to two main factors. The first one being the impact of rice growing arrangement, numerous in that period, in the mangrove of Maritime Guinea and especially in the fertile valleys of Forest-Guinea. The second one being the local rice market, in full expansion, which stimulated the peasants to more production. »*

[DYNAFIV – June2005]

☞ **Table 4: The Rice growing Valorised Surfaces by Culture types in each Natural region.**

	Maritime Guinea (%)	Middle Guinea (%)	Upper Guinea (%)	Forest Guinea (%)
Pluvial rice	32	66	72	89
Plain rice	-	15,5	28	3
"Fertile valley" rice	17	18,5	-	8
Mangrove rice	51	-	-	-

Source: LPDA 2/MAEF – May 1997

Insofar as there was no intermediate inquiry, it is difficult to confirm if the percentages were maintained during the last ten years (1995 – 2005)

According to the data of the 2000 national agricultural census, the distribution at the natural regional scale is the following:

☞ **Table 5: Distribution of Production in Function of Natural regions.**

Forest Guinea	Maritime Guinea	Upper Guinea	Middle Guinea
38 %	27 %	25 %	10 %

Source: DYNAFIV – June 2005

In Guinea, there is a phenomenon called the soldering period. The phenomenon designates the time interval between the preceding cereal campaign stock outage and the appearance of the new harvesting of the present campaign. Depending on the agricultural regions, each year, that interval covers the period from the beginning of July to the end of September. The rupture is more accentuated between mid-July and mid-September (around two months).

The rural surrounding, in conformation with its crop growing nature has to put up in a more important way with that phenomenon; it is a period in which it is difficult to nourish one conveniently. In a rural surrounding it corresponds with a rise of rice prices.

Before the introduction of the Nerica varieties in Guinea, the peasants used other local rice, fonio and corn short cycle varieties (2,5 to 3 months). The practice is still in use in the zones where the Nerica is not introduced or cultivated on a large scale (on the coastline from Boke to Forecariah, Gaoual, Koundara, Fria...).

During that period even the wild animals have difficulties in finding food with the exception of herbivores. All the vegetable species are submitted to the pluviometric cycles. During that period there are no trees and herbal blossoming or fructification.

☞ **Table 6: The Respective Surfaces and Yield of the four main cultivation Systems in Guinea**

	Surfaces (ha)	Part of the total surface	The yield (t/ha)
Hillside rice growing	493 000	64 %	1
Plains rice growing	150 000	19 %	0,5 – 2
“Fertile valley” rice growing	70 000	9 %	1,5 - 2,5
Mangrove rice growing	60 000	8 %	1,5 - 3,5

Source: DYNAFIV– June 2005

In Guinea, rice production is based on four large cultivation systems (cf, board 4). In this study it will be question of only two pluvial cultivation systems from which the Nerica is actually cultivated:

« • *Hillside clearing and burn off system*

It is a non flooded fallow land cultivation system that depends on the rain regime. It is the most widespread system in the country (64% of the rice growing surfaces for a yield of around 1 ton/ha), especially dominant in Forest-Guinea. The spatial extension of that cultivation system explains the major part of the production growth verified during the last years.

It has to be noted that 10 to 25% of the volumes produced by that system are put on the market. The surplus generated by the hillsides parcels of Forest-Guinea is responsible for the establishment of a local rice channel between Conakry and the forest region. Specialized market, the Tanane Aviation one, as seen the day during the nineteen’s in Conakry and became specialized in the distribution of the forest region agricultural products, especially rice.

• *The plain cultivation system*

This system actually represents 19% of the rice growing surfaces, essentially in Upper-Guinea. The yield varies between 0.5 t/ha and 2 t/ha, depending on the rising of the Niger and its affluent that are responsible for the uncertainty of that type of cultivation system.

It is the only system that as been working, for a long time, on 40 % of the volumes of the production put on the market. »

[DYNAFIV – June 2005]

In regard of the data exposed previously, we discover that the pluvial rice growing (hillsides and plains) occupies a predominant place in the Guinean agriculture. Therefore, in spite of the importance of that surface cultivation system, it is fundamentally tributary of a subsistence agriculture destined to satisfy the needs of auto consummation for the producers practicing that system.

In spite the efforts deployed during the last years in favour of rice growing, one has to note that yields are still under the expected results. The pluvial rice growing that covers the larger surfaces, have the lowest yields.

« Main cultivation system, hillside rice development has a tendency to deplete. In conjunction with the shortening of the fall period there is an impoverishment of the soil and yield stagnation, if not a drop. The passage to harnessed cultivation in the zone of Sinko/Beyla with the introduction of alimentary leguminous and fonio rotations (the density smothering the adventitious) permitted to increase the yields around 1.5 t/ha and to cultivate the same parcels during 10 consecutive years. Such a change in practices could prolong the predominance of that system, but the fertility management stays the main challenge in the long run.

The potential development of the flooded cultivated systems is in the contrary, considerable. A study realized jointly by the FAO and the National Rural Engineering Head Office, entitled "National strategy for the development of small irrigation system" shoes the following figures. »

[DYNAFIV – June 2005]

∞ **Table 7 : potential arrangement of rice growing zones**

System type	Suitable for cultivation surfaces (ha)	Arrangement potentials (ha)	Arranged surfaces (ha)	Gap arrangement/potentials
"Fertile valley"	80 000 ha	42 000 ha	8 500 ha	20%
Interior Plaines	120 000 ha	120 000 ha	7 700 ha	6%
Mangrove back Plaines	120 000 ha	80 000 ha	2500 ha	3%
Mangrove plains	150 000 ha	120 000 ha	11 500 ha	10%
Totals	470 000 ha	362 000 ha	30 200 ha	8 %

Source: DYNAFIV – June 2005

➤ *Transformation*

The consumer destined paddy as a two phase transformation: the steaming and the husking.

The steaming

« The steaming process consists in the passing of paddy rice through vapour. It permits the enrichment of the grain in vitamins and mineral salts that migrate from the envelope to the almond and in partially jellifying the starch, to obtain a break rate lower than 5% during the husking. Beyond that improvement of yielding in the husking, the steamed rice is appreciated by local populations for its gustative and nutritional characteristics., and benefits on the inside market of a quality premium compared to the imported rice, with a differential price of an average of 42% in 2004. »

[DYNAFIV – June 2005]

In spite of the positive effects, the steaming is a constraining operation:

- The process is a laborious task for woman, necessitating the manipulation of heavy charges of water and paddy;
- Needs a sustained supervision of the operation to avoid the paddy to cook;
- It needs the time to stay close to the fireplace, which release high heat;

- It is a wood burning high consuming operation (around 2 to 10, 15 kilos fagots for one bag of paddy);
- With insufficient sun, the steamed rice dries in an improper way and risks fermentation and in that way loses its gustative qualities and its market value;

« In order to improve the quality and the yield of the steaming process, the Pasa (Support Program for Alimentary Security) in cooperation with IRAG (Agronomic Research Institute of Guinea) managed a research program to improve the steaming material. The material in question is actually finalized.... »

[DYNAFIV – June 2005]

The husking

« During the market liberalisation process, one particularity of Guinea, was the avoidance of the large rice fields stage, adopted strategy by its neighbours-RCI, Senegal, Mali- and that were in most cases unsuccessful. The husking, essentially manual or done in certain centres with old machines, was in fact, a bottleneck of the local rice channel until the recent commercial explosion of the number of small private Engelberg type husking mechanical devices. The arrival, a revolution in itself, of the husking mechanical device is certainly the most remarkable event in the local rice channel in recent years, and the main development factor on the market and in consequence of production. The park of those husking devices, well adapted to the volumes to be transformed in local villages, in fact, went from 200 unities in 1995 to 900 in 2003. For the essential (70% in 2003) they are Chinese husking devices coupled with 12 hp motors, able to treat 150 to 200 kilos of paddy rice by the hour.”

[DYNAFIV – June 2005]

☞ **Table 8 : The Park Evolution of Husking Mechanical Devices in Guinea**

Year	Number of husking devices
1997	200 to 250
1999	550
2003	885

Source: DYNAFIV –June 2005

« That fast mechanical diffusion-for the majority, new machinery- in the collection zones permitted to increase the transformed volumes and by the same way improving the yield of the husking process, in average that went from 60 to 70% during that period. Those two combine factors permitted to lower the cost of mechanised husking operation, from 50 FG/kg in average in 1995 to 35 FG/kg in 2003. »

[DYNAFIV – June 2005]

➤ *Commercialisation*

Since 2004, Guinea has been confronted with a constant raise in the prices of food produce and diverse articles following the raise of fuel (70% in August 2004, 5,55% in 2005, 10,5% in February 2006) and the Guinean Franc inflation. The figures below illustrate the evolution of the local and imported rice during the period from 2003 to 2005.

☞ **Table 9 : The Price of Rice Evolution from 2003 to 2005**

Years	Imported rice, Price of the 50 kg bag (GF)	Local rice, Price of the 50 kg bag (GF)
2003	27 000 – 30 000	45 000 - 50 000
2004	55 000 – 60 000- 70 000	70 000
2005	75 000 – 80 000 -	102 000

Source: from ACA

Three fundamental elements appear with the commercialisation cost analysis:

- The weight of the financial expenses, because trades people finance their essential needs in capital circulation with borrowed capital. Now, the cost of credit is high ;
- The cost of transport : they represent 35% of cost on long networks and 24 % on short ones ;
- The price of fuel that influences the transportation and the husking process.

According to Dynafiv, the cumulated expenses supported by the operators all along the commercialisation network represent around 20 % of the price of the rice that is sold to retailers. The commercial cumulated margin represents about the same price level, that is to say 20%.

➤ *Consumers*

Rice is Guinean's basic food. In the majority of homes it is eaten on a daily base. The average national consumer went from 70 kg by person a year (1989) to 90 kg (1995). In 2003 it was in the order of 90 kg to 100 kg per person on an annual basis.

This consumer average varies from one natural region to another : at 100 to 120 kg per person for one year in Maritime Guinea, 100 to 120 kg per person for one year in Forest Guinea, 69 and 52 kg per person for one year in Middle and Upper Guinea respectively, regions where the alimentary regime is more diversified.

« The theoretical consumer needs in 2001 were estimated at 765 000 tons for a population of 9 millions which 70 % was covered by local production and 30 % rated on importation. However the rate fluctuates from one year to another; therefore the rice importation that was 300 000 tons in 1992 decreased to 153 000 tons in 2000 before rising to 330 000 tons in 2003. The local rice promotion that gains a 20 to 30% quality prime compared to the imported one explains the drop in the importation volumes in 2000. In that respect the local rice provisioning of Conakry went from 6000 tons in 1994 to 40 000 tons in 2000. »

[BEAVOGUI Sékou – February 2004]

➤ *Importation*

If we only take the example of Conakry, the imported rice represents around 90% of the population needs compared to 33% of the needs inside the country.

« Importations complement consumer needs of Guineans not covered by local rice. Therefore, in the nineties when the local rice production rose, the importations showed a net declining tendency. And that, even with a decreasing in the world rates on rice that would have normally stimulated importations. »

[DYNAFIV – June 2005]

🌀 **Table 10 : Importation evolution**

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Importations (1.000 t)	276,6	218,6	205,3	164	228	153,5	281,3	323,4	327,6	333,2

Source: DYNAFIV – June 2005

« It is observed however, that even with the pursuit of the constant raising of rice production, the importation level starts rising up again from 2000 to stabilise itself around 320.000 tons since three years...

Paralleling up until 2000, the establishing of local rice prices on the retail markets follows the evolution of the imported rice price. But starting in 2000 the price of local rice rose faster than imported rice. In fact, it seems that we are witnessing market segmentation, meaning that the two products don't necessary substitute.

The recent market development of local rice does not seem to be influenced by the evolution of Asian rice importation. »

[DYNAFIV – June 2005]

I.B NERICA'S position

Nerica is the new rice for Africa. Manufactured from the two cross breeds of neighbouring kinds of rice: *Oriza glaberrima* (the African related) and *Oriza sativa* (the Asian related). In fact, Nerica is issued from a group of interspecific new varieties perfected by WARDA.

[see photo 1, next page]

The newly perfected Nerica is available in numerous assortments of seeds depending on pluvial situations. WARDA, in collaboration with IRAG have started the selection of Nerica for rice growing in fertile valleys and the irrigated plains, the varieties are in an experimental phase in the agronomic research stations.

➤ *History*

In 1996, following the conjoined mission of searcher and popularizer at the WARDA (Bouake/Ivory Coast), the transfer of interspecific varieties were negotiated.

♦In 1997: The introduction of Nerica varieties (at the time known as ADRAO rice) in Guinea by the rice growing technological transfer pilot project, initiated by the MAEF. Tests are done in the researcher's stations of Bordo, Kilissi and Sereidou. VSP are put in place (three sites), 116 PEU with 116 producers at 8 prefectures level are also put in place.

♦In 1998 : in the project, tests are carried on in stations in the agronomic research centres, in the framework of the VSP distributes seeds, realizes 240 PEU with 240 producers at 16 prefectures level for the consolidation of the first selection.

- The financing of the PEU was provided by the Guinean government and the World Bank;
- The financing of the VSP was provided by PRIGA (participative rice improvement and gender analysis).

♦In 1999: Seeds multiplication initiation program; with the production of seeds during the counter-season and the installation of 1000 PTP (production test parcels of ¼ of ha each), with the combine financing of the SNPRV and the SG 2000S. **[see photo 2, next page]**

♦From 2000 to 2003: SG 2000 agricultural project supports SNPRV for seed multiplication.

♦From 2002 to 2005: The seed multiplication basic community system (CBSS), with the financing of the Japanese government, managed by the UNDP, is put in to place. An after harvest technology introduction pilot project was integrated (Faranah zone).

There were two levels of testing for Nerica varieties:

-The Peasants Experimental Unities : peasant managed parcels supervised by popularization and research people.

-The VSP (variety selection participation) : managed and directed by research, were the object of open days for peasants.

The introduction of Nerica varieties was made possible thanks to these two methods. These approaches permitted the peasant to choose seeds that were the most convenient for them.



🔗 **Photo 1** : The Nerica seed



🔗 **Photo 2** : A counter-season Nerica seed field at Yatiya Popularization Center (SNPRV of Faranah), destined to be distributed to producers.

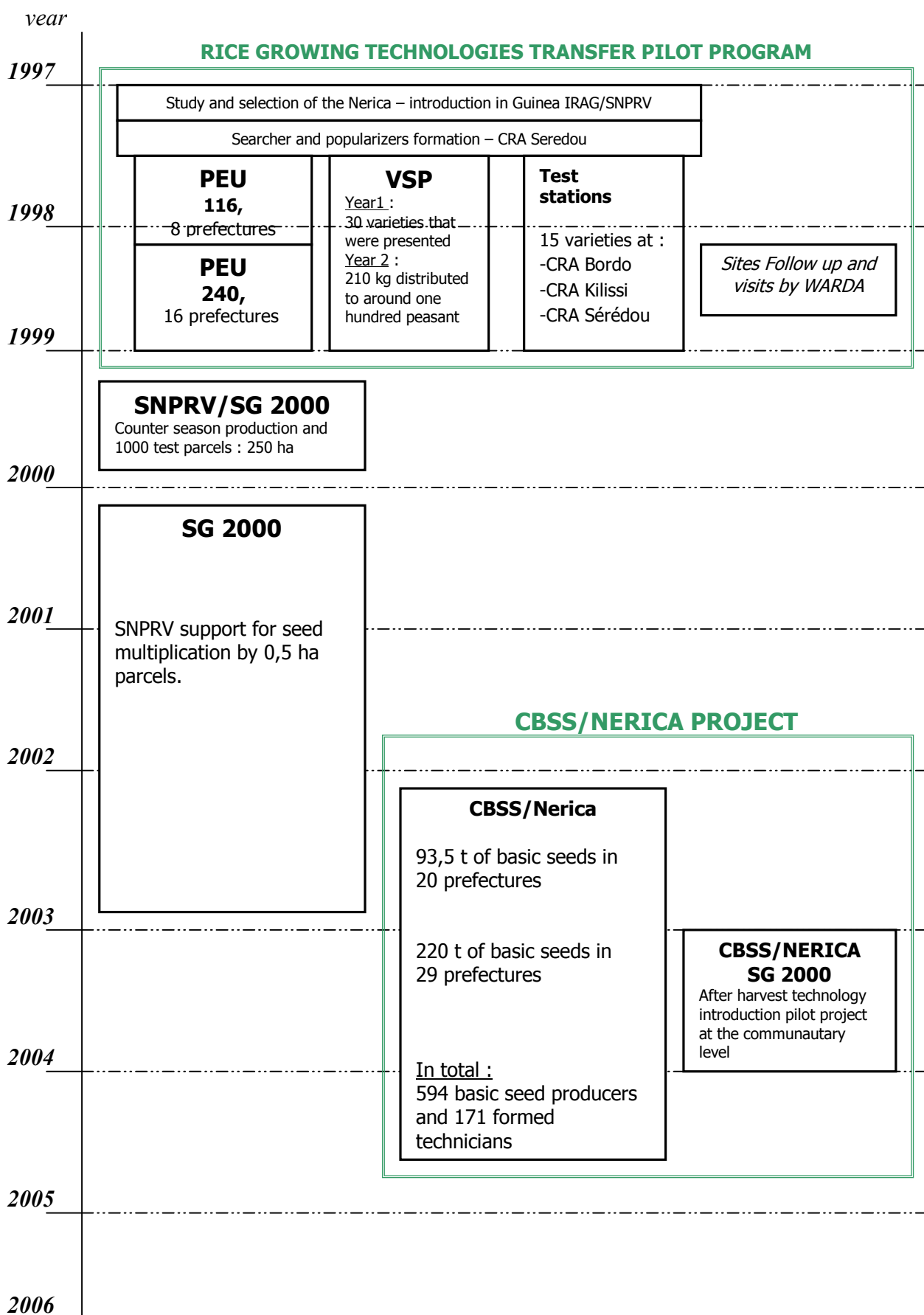
Let us see the varieties that were chosen in the PEU:

✎ **Table 11 : summary of the best varieties chosen in the PEU**

	Forest Guinea	Upper guinea	Maritime Guinea	Middle Guinea
Nerica 6			X	X
Nerica 4	X	X		X
Nerica 3	X			

The following diagram shows the chronology of different vulgarization initiatives of the Nerica.

Figure 2 : A Chronicle of the Nerica introduction and diffusion



➤ *The criteria that permitted the introduction of the Nerica*

- a/ Rice is the basic food of the Guineans, an average of 92 kg/inhabitant/year.
- b/ Guinean governments will make rice its priority for alimentary security.
- c/ The partnership and adoption of new approaches in technology transfers supported by the WARDA, the World Bank and the research and vulgarization national institutions.
- d/ The will and the availability of peasant for experimentation and selection.
- e/ SG 2000 support through input supplying.

I.B.1 CBSS/Nerica Project

The Department of Agriculture, Breeding, Water and Forest benefited from financing from the Japanese government for the implementation of a community based production and diffusion seed program concerning the varieties of Nerica.

The program started in March of 2005. It was the pursuit of the different initiatives that permitted the introduction, the trial and the choice of numerous varieties of Nerica by the peasants.

The global objective:

The goal was to put in place an appropriate community based seed production program adapted to the needs of the small farmers in order to facilitate the physical and financial access to improved selection of the varieties of Nerica.

The specific objectives:

The specific goal was to improve low cost quality seeds available at the villager's community level.

Another objective was to reinforce producers and technicians capacities in the seeds production and distribution domain.

➤ *The project structure*

The introduction and multiplication of Nerica varieties in Guinea were ensured by numerous institutions: State services, financial backers, NGO's and supporting structures.

These structures intervened in the rice growing technology transfers pilot program and/or in the CBSS/Nerica project.

With concerns to the governmental structures in the regions, the rural development regional and prefectural inspectors (IRDRE, DPDRE) ensure the coordination and supervision of activities which are relative to agriculture, breeding, forestry, pisciculture and environment in there circumscriptions.

On that ground they jointly participated in the different follow up missions realised by SNPRV, SG2000 or WARDA.

The technical implementation of Nerica programs was ensured by the SNPRV. ***[see photo 3, next page]***. In the regions and prefectures SNPRV depends on its IRDRE and DPDRE.



✂ **Photo 3 :** Hamidou SQUARE, Regional Director of SNPRV in Labe and El Hadj Tafsir SOW, peasant leader : a successful collaboration for rice multiplication.

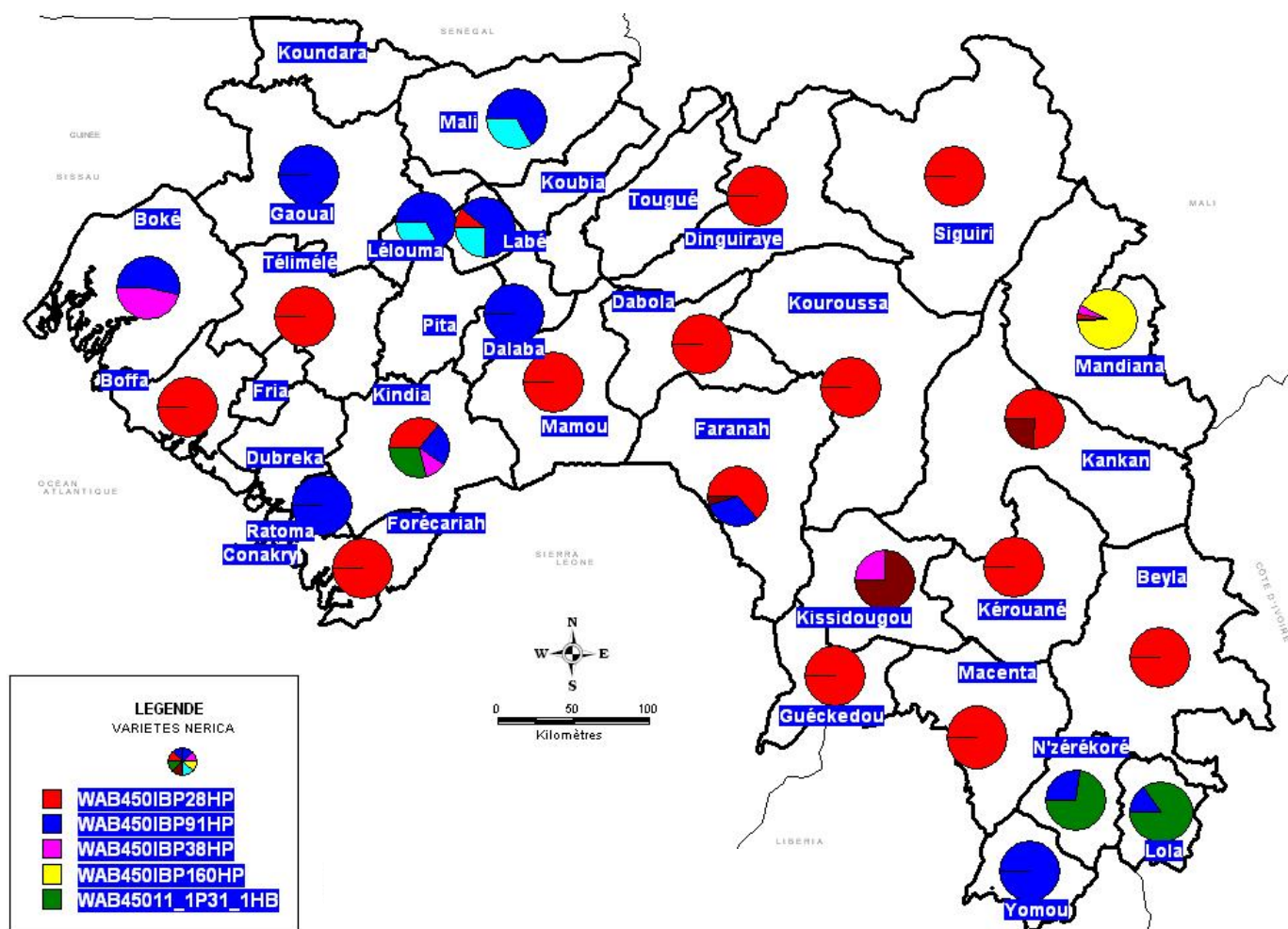
Institutions	Intervention domains	
	Technology transfer pilot program (1997–1998)	CBSS/Nerica (2002–2005)
IRAG	Searchers designation; Variety tests conducted in the stations; Conducting of VSP peasant surroundings; Pre-basic and basic seed production; Purification of variations; Technicians trainings;	-CRA : observation collection, pre-basic seed production ; -technical checking forms elaboration - Input usage reference formulas research
SNPRV	Designation of the managerial staff from the coordination and supervision of the program activities; The follow up agents trainings The seed producers peasants trainings; The setting of PEU (Peasant experimental Unities)	Formation, technical support and follow up; Relation setting from the distribution of the Nerica seeds;
WARDA	-25 seeds interspecific varieties chosen by Guinean technician: -1997, 400 kg -1998, 1500 kg -1999, 1800 kg -Technician training on the technology transfer and test management in a peasant surrounding;	Follow up /evaluation
BURISEM	Supporting missions for the conducting of field activities	Trainings and methodological support
World Bank	The program financing; Support for the preparation and implementation of the program	
SAA	50 000 \$ us in 2000 (complementary budget allowed to NGO SG2000 for seed and field demonstration of the Nerica).	

Institutions	Intervening Domains	
	Technology transfer pilot program (1997–1998)	CBSS/Nerica (2002–2005)
SG 2000	-VSP financing at a 3000 dollar level; -Accompaniment of research, production and diffusion; -Vehicle affectation for the Nerica program coordination(1999–2002); - 1000 PTP of 0,25 ha installation in 1999; -Seed multiplication program financing (2000–2003).	-Input, fertilizer, weed killer supplying; -After harvest transformation material introduction (pilot project): -threshing machine -husking machine -steaming machine
Japanese government		CBSS financing though UNDP administrative and financial management
ISAV-F		Conducting test in station and peasant surrounding
DNA (seed and plantation division)		Control and certification
Written press, RTG, Printers		System promotion; (documentaries, calendars, posters, technical check list)
ENAE		-Basic seed production
Peasant leaders and PO	-PEU and VSP adoption and acceptance -Nerica selection of varieties	-Seed production and diffusion
APEK and SARA NGOs		-Producers and animators formation -Seed diffusion

NB : between 1998 and 2003, SG 2000 contributed for 150 000 US dollars in the development of Nerica activities;

IFAD participated in the rice development by giving 20 000 \$/year from 2001 to 2003, through the based rice adaptation system program's

📍 **Figure 3 : Repartition of the Nerica by prefecture**



Source: CBSS final report – September 2005

Of the 33 prefectures in Guinea, all the above indicated were reached by the CBSS project

The impact and teachings are defined as in table 12, by the team in the final report. [BARRY – September 2005].

Table 12 :Following the project , the impact and the teachings of the Nerica

Categories	Impacts/teachings	Difficulties
The technological viewpoint	<ul style="list-style-type: none"> -The CBSS system promotes physical and financial access to quality improved seeds. -Permitted to gain time on seed experimentation. -Permitted to initiate producers on input usage 	<ul style="list-style-type: none"> -The informal diffusion has difficulty in varieties diffusion statistic keeping. -The difficult task of threshing the Nerica has slowed down its introduction. -Difficulties that come with the after harvest transformation period. -The difficult access to different inputs makes it hard to respect the recommendations; limiting in that way the productive potential of the Nerica.
From a biodiversity viewpoint	<ul style="list-style-type: none"> -The project enriched the patrimonial varieties of villages. 	
From a alimentary security viewpoint	<ul style="list-style-type: none"> -The short term cycle permits avoidance of scarcity. -With the low input in the traditional culture situation, the introduction of Nerica represents a gain of productivity compared to local varieties. 	
From an economic viewpoint	<ul style="list-style-type: none"> -the short term cycle avoids an increase in the producers' debt ratio. -It is an improvement in the producer's income. -The economic advantages of Nerica permits to stimulate the peasant organizations. 	
From a social viewpoint	<ul style="list-style-type: none"> -The new producer's groupings seems to be a successful condition. -Women play a determining role in seed production; they manage essential operations. 	
From a capacity reinforcement viewpoint	<ul style="list-style-type: none"> -The field trainings for the producers and technicians improved there competences. -The participation approaches was a gain in efficiency for the program. 	
From an environmental viewpoint	<ul style="list-style-type: none"> -Introduction of new rotation systems: rice/niebe/soja. -Reforestation with rapid growing species. 	<ul style="list-style-type: none"> -The increase in clearing with the exploitation of new hillside land.

I.B.2 Our observations

Generalized demand for the insertion and diffusion of the Nerica in Guinea is a main factor in our observations. All through this study, our interlocutors might have been producers or institutions from the rural world, they all confirmed it: Nerica is requested by the producers and the supply does not respond to the demand.

Numerous factors create the infatuation for it.

The 3 month short term cycle, mainly responsible for its popularity, is the first factor that makes it popular. The consequence of the short term cycle **is that Nerica can be harvest during the soldering period. In that way this solves a major alimentary problem during the crucial times of the year (July, August, and September).**

So, if the community based seed diffusion experiences have worked or not, introduction of the Nerica in Guinea is a success as it answers the need of the rural populations.

- *For example, in Kouroumanya with El Hadji Kourouma who is designated as a pilot peasant. He hopes to carry on with the Nerica, because he says « it is rice for the soldering period and so helps fight hunger». This is a start in securing alimentary in villages during the soldering period.*
- *In Foye, in the subprefecture of Konkoure, where seed production has failed, there is an important demand because that rice arrives at a moment where « everybody is hungry », even before the short cycle fonio.*
- *Around Labe, El hadji Tafsir Sow is a professional producer that practices agriculture more as an income activity than a food crop activity; he is a great seed producer. He explains his interest for the Nerica by the fact that it harvests during the soldering period and that he wants to spread it throughout the Fouta-djalon. It often happens that people come to him to say it is because of him if they pass through the soldering period.*
- *In Batouata, in the sub-prefecture of Gouecke, in a village named « the mirror village » by the SNPRV, due to the fact that the grouping has succeeded in its rice production, the Nerica is called : "loneneye" signifying « the one that leaves the child to its mother » because the Nerica « saves the family from the soldering period ».*
- *In Daintily, in the sub-prefecture of Farina, even if other short term cycle varieties exist, it is other qualities like its resistance to drought period and yield, compare to local rice, that attracts the attention and gives it the people's preference. In other respect in the same sub-prefecture, in Kamarah, even do local varieties are found that respond as well as the Nerica to inputs, it is the Nerica short term cycle that still attracts the attention.*

What is shown here is that Nerica is an appreciated seed with many qualities with the major one being its short term cycle.

Here is a list of Nerica's qualities;

- high yield for a small input inflow,
- appreciated organoleptic characteristics,
- very few "empty" paddy grains,
- up to 15 days drought period resistant,
- étouffe les adventices par son tallage (un seul désherbage suffit)
- high level of regeneration,
- good swelling during the cooking,
- the short term cycle permits two harvests a year
- the fact that it is harvests during the soldering permits it to sell at a high price.

The introduction and the resulting success of the Nerica are based on these intrinsic qualities. Actually, whatever the zones might be, whether the community based seed production has succeeded or not, whether the technical follow up failed or not, whether the means of production are there or not, **its diffusion dynamic exists.**

What characterises the dynamic is that the demand for the Nerica is firm, in the sense that it is always higher than the offer. A diversity of institutions from the rural world are interested in the Nerica seed : producers and State services that want to respond to the international demand, development projects, NGOs, support organizations, trades people and son on. In the seed grower villages, through either gifts, family exchanges, between neighbours, an informal diffusion is created. **All the producers that were met recognize that they regularly receive requests for the seed.** Particularly, if the seed is eaten and not conserved the interest for the Nerica seed comes back during each soldering period. The demand could come from people who have already been supplied the product or from new buyers.

- *Even if the community based seed production did not work, there will always be some seeds with one member of the grouping, so demands will be continuously received. (Fourah grouping, subprefecture of Boulliwel). Some groupings adopt, in terms of distribution, a ration strategy in order to satisfy everybody (Dantilya and Kamarah Unions). Others choose to give only to groupings to be sure that the production will work (Batouata and Kadia Solo Coulibaly groupings). El Hadj Tafsir Sow recognizes that in spite of a good production level, demands are received all the time and that creates difficulty in managing the distribution to satisfy everybody.*
- *In Kindia, when APEK agriculture was looking to put in provision, they were looking for Nerica ; in fact they could not find any in Kindia so they had to get some seeds through Faranah's SNPRV.*
- *The SNPRV regional management offices, directly implicated in the diffusion of the Nerica, often serve as intermediates in supplying people with Nerica, even supplying other countries as (Sierra-Leone, Gambiia, Mali, Ethiopia...), as well as development projects.*

In fact, Nerica's price has always been confirmed to us as being higher than the local variety prices.

Even when we take into account reliable market indicators, during our field visits the announced prices for the 2005 campaign were in the order of:

✂ Table 13 : Seed price order examples for the 2005 campaign

localisation	Nerica (GNF/kg)	Local varieties (GNF/kg)
Upper-Guinea	2000 - 1500	1300 - 1000
Forest-Guinea	2000	1500 - 1000

The variations in the price of the Nerica comes from the fact that it is sold at a cheaper price around the villages than it is to buyers coming from elsewhere such as supporting structures or projects.

The superiority of the demand is due to a limited supply. The limited supply is due to the incapacity of producers to be able to produce sufficiently. The lack of means of production for cultivation intensification is the principal factor that explains the situation: the production is too low to respond to a firm demand.

Other factors can be counted such as the limited counter season cultivation and the utilisation of the Nerica as paddy during the difficult moments of the soldering period.

Recall of the specific objectives:

To improve the availability of quality seeds, at low prices, at a villagers community scale.

To enforce the producers and technicians capacities to produce and distribute the seeds.

In the light of our field observation, we can say that these specific objectives were achieved in a certain number of cases. The established facts reveal that thanks to Nerica's qualities, it has been adopted and root stock was preserved in the villages where they were introduced.

Therefore we can identify two different general situations:

- producers acted in a professional way and were responsible for Nerica profitable seed productions and/or became regional references in the production of the Nerica.
- In a food crop approach the seed is multiplied by the producers.

Here are few examples concerning the first cases:

• *El Hadj Tafsir Sow, from the Senghen seed grouping, near Labe, started in 2000. He produced up to 7 ha for an average yield of 2 and 3 t/ha. As early as the first year, he distributed the seed to 15 persons. His estimate is that after all that time he must have reached around 200 persons. He would like to increase his production up to 10 ha and so be able to increase Fouta-djalon's potential in being a rice producing region and contribute, by that way, to alimentary self-sufficiency. [See photo 4, next page]*

• *Kadia Solo Coulibaly, in Kodjeran, in Mandiana's prefecture, started before 2000. As early as the first year he sold or exchanged the seed to a total of 10 persons. Before having production difficulties, that we will discuss later, he was able, during 2003 campaign, to obtain 5,1 t for 1 ha of seed cultivation. The entire production was sold to external buyers. His village now has the Nerica, but equally thanks to other producers. For himself he benefited from that production and was able to buy cattle, one donkey and a cart.*

• *Jerome HABA, in BATOUATA, in the sub-prefecture of Gouecke, started before 2000. The first year, he harvested around 6 tons on 5 to 6 ha (an average yield of 1, 1 t). From that production he distributed around 4 tons in his village and 4 more tons in other neighbouring villages (Gbo, Galakpaye, Gobouta, Gbeke). Actually, a great number of villagers possess the Nerica. Those who do not use it are those who can't support its restraint. He estimates that after all that time, he has served 40 to 45 persons. He underlines the economic importance of the Nerica sold at a higher price. The production of the Nerica allowed him finance to build a stocking store.*

• *Bandjougou CAMARA, in Yatiya, FARANAH's prefecture, benefited economically from Nerica, thanks to a peasant that was knew of the project but not having direct involvement within the project. So he was able, through the years, with the profits made over its Nerica production, pay for cement to stop the consequences of fire burning his hut frequently, buy a motorcycle, and buy goats and some sheep.*



✂ **Photo 4**: A part of El Hadj Tafsir Sow harvest.

The life conditions of producers that invested themselves in the Nerica seed production were improved. There are numerous reasons explaining the success of those productions. From our field observations and by listening to the producers.

-The supervision and follow up by the popularizer agent is necessary and unavoidable. All the people that succeeded followed and respected the given advice, and applied the acquired knowledge during the training sessions. Some recognized that they already knew the technical itinerary, however the supervision of the process was essential. To make sure that the peasant will succeed, others go as far as doing a follow up on the peasant to whom they gave the seed (El hadj Tafsir Sow et Kadia Solo Coulibaly).

-A minimum of capacity is required from the producers to proceed with « professional » agricultural activities. For example, the SNPRV regional management office in N'Zerekore recognises having chosen Batouata as the « model village » for the Nerica in the region : not only because producers were interested but also because they had at least the minimum capacity in terms of skill and from a financial and alphabetisation viewpoint. Effectively, it is necessary to follow the provided technical advices given in order to understand and apply the approach in terms of methodology. Nerica faces a certain number of issues that are insurmountable in absence of minimum knowledge on its production.

Below are a few examples concerning the second case:

• *The feminine grouping President in Foye, in the prefecture of Mamou, Taibou Conde, explains that there is no great seed production in that area. As previously explained, some root stock still remain with certain members and neighbours that received the seed. Amongst people that received it, they report that the first year the production was good because there was a sustained follow up with advices and inputs. However, following a delay in input delivery and inadequate technical advices, the results were not as interesting the second year; the input used burnt half of the field. The cultivation was started again the following year. The President recognises that she then lost her production because of a lack of surveillance concerning the birds. Understanding that she did not have the means to face the requirements of the Nerica cultivation system, lack of manpower and input, she abandoned the project. Other pursue the cultivation but without input. Some people, in advance, ask for the Nerica, but it is not everybody that can be satisfied. People from the village do not know where to go to find the seed.*

• *The grouping of Fourah, in the sub-prefecture of Boulliwel [see photo 5, next page], received the Nerica in 2001. They made a community field that they watched by taking turns. They shared the production between the members. The second year they started again, but the input came late; they did not use any weed killer and the production was limited. Also after the harvest, and after having refunded their debt, the grouping had no more seeds. On top of that, the credit in "nature" made was not refunded on the account of problems regarding fields devastated by cattle. Some members of the grouping still have the seed; amongst them, certain people were able to harvest, but other were not. They encountered the same problems by the grouping previously discussed.*

• *In Samoe, the Toyakoli grouping, in the prefecture of N'Zerekore, was presented to us as a group of seed producers that had not succeeded. However since they started with the Nerica in 1999, they produced seeds with each harvest. Thanks to them, another peasant in the village became a leader in the production of Nerica. In the population many people surrounding the village and living in the village now can produce the Nerica. However they recognize they can't harvest large fields because they are obliged to rent fields to the community; a condition that slows down the production. We have to add the fact that the sole reliance on manual labour limits the productivity.*



✂ **Photo 5:** The Fourah grouping(subprefecture of Boulliwel), on their community parcel

On the whole, these situations illustrate the determination of people: they did not abandon the Nerica even though some did not become seed producers.

One main reason explains the situation, a reason that is reinforced by observations made about the experiences of the first case.

Whatever the situation: the availability of inputs (seeds, fertilizer, and weed killer), the necessary manpower (sowing, maintenance work, and surveillance) or the land ownership, **the producers are in need of a certain number of means to produce the Nerica.**

In fact, that observation goes beyond the Nerica problematic : the question concerns the Guinean farming evolution, it concerns its professionalism in food crop agriculture.

➤ *Some diffusion examples*

Within the zones covered by CBSS/Nerica projects

Often, from the first year, the owner circle of Nerica became larger and went beyond the initial nucleus of peasants supervised by the SNPRV, in the framework of the CBSS project. Interested by that rice which can be harvested rapidly and produced in abundance, the demand was immediate. Since then, in the village and surroundings, small quantities were distributed, exchanged or sold.

-So, Bandjougou CAMARA, in Yatiya, prefecture of Faranah, was able to significantly improve his life conditions thanks to the cultivation and the selling of the Nerica. He started with 4 measures of the Nerica that he obtained from his younger brother, who had it from the SNPRV. For the 2005 campaign, Bandjougou CAMARA, was one of the peasants contacted by the SNPRV to assemble 2,7 tons for a Conakry operator. [See photo 6, next page]

-At the start (in 1998), in the « model village » of Batouata, the SNPRV had made follow ups with only 2 peasants. Since then, peasants have confirmed that in the village, everybody that could cultivate the Nerica, had it. They also say they have diffused the seeds in the neighbouring villages of: Gbo, Galakpaye, Gobouta, and Gbeke.

-El hadj Tafsir Sow of Senghen, prefecture of Labe, says that at the start, he gave samples away. If, for example he distributes quantities of 10 to 30 kg, he will ask to be reimbursed in seeds; that way he can redistribute the reimbursed quantities. He has cultivated Nerica since the year 2000 and estimates having served 200 persons.

-In Dantilya, the production of Nerica started 3 years ago with the community field of the Benkadi grouping. Since, then producers founded a « Union » that included new groupings that became implicated in the Nerica : Benkadi 1, Benkadi 2, Soodia, Landaya, Soumanbou. They served the neighbouring villages of Hermakono, Horoya, Biguiti, Dalafore.

-In the village of Samoe, prefecture of N'Zerekore, the Toyakoli grouping was one of the supervised grouping by the SNPRV. But actually, the demand is low. The reason being that in the village, one peasant became a leader in the production of the Nerica : Martine HABA. The latter started with 4 kg of seeds that she had received from the Toyakoli grouping.

In the surroundings of those who were cultivating it, because of its qualities, the Nerica was rapidly coveted. Therefore, to ensure its availability, traditional and conventional systems of exchange were rapidly put in to place. We could notice that in zones covering the village and its surroundings, **the Nerica was fully diffused.**

Within the covered zones by the project CBSS/Nerica, the Nerica seed is available. Its availability can even surpass the availability implemented by the project.



✂ **Photo 6** : Ibrahima YANSANÉ, Regional Director of SNPRV in FARANAH and the harvest of Bandjougou CAMARA, sold to a distributor in Conakry.

Outside the covered zones by the CBSS/Nerica project.

In the same way its good reputation made it popular and diffused in zones of its introduction, the same reputation of the Nerica helps its diffusion outside those zones. Often through the SNPRV, rural development partners and institutions, not participating in the CBSS/Nerica project, came to buy seeds from seed producers with the intention of producing Nerica paddy and even seeds of the Nerica.

☞ **Table 14: Recap of few diffusion cases with other institutions.**

Institutions	Localisation	Quantity bought		With whom?	Beneficiaries	Observations
		Kg	Year			
ACA	Conakry center, Kankan antenna	600	2003	DPDRE in Kouroussa	Kabkaria, Baro, Cissela : Kouroussa grouping.	The rice was appreciated, but there was no return in the harvest quantities and the pursuit of the diffusion.
APEK	Kindia	4000	2005	Seed growers Through the DR-SNPRV in Faranah	Food crop producers union in Kindia, Market gardening producers union in Kindia, Benna's grouping producers union in Forecariah,	10 kg were distributed by the grouping and 12 kg were returned as refunding by the grouping. Stock evolution after the first distribution without any follow ups.
		na	fin 2005	ADRAO, Bénin	Koba-Pastoria, Molota, Komoya	In progress with the setting up of the "CBSS"
HCR	na	10 000	2002	Seed growers through DR-SNPRV in Kankan	na	
		10 000	2003			
ADRA	PADRAS in Siguiri	6000	na	Seed growers through DR-SNPRV/Kankan	Producers supported by PADRAS/Siguiri	Settings of the Nerica multiplication activities.

Institutions	Localisation	Quantity bought		With whom?	Beneficiaries	Observations
		Kg	Year			
PADER Upper-Guinea	Upper Guinea, Kankan	3000	na	Seed growers through DR-SNPRV/Kankan	na	
Rép. of Mali	Bamako	4000 and 5000	na	Seed growers through DR-SNPRV/Kankan	na	
PPDR Upper-Guinea (IFAD)	Upper-Guinea, Kankan	2000 2000	na na	Seed growers through DR-SNPRV/Kankan	na	<i>See inbox</i>
The Rep. Presidency	Conakry	7000	na	Seed growers through DR-SNPRV/Kankan	na	
Military Unit	Koundian (Mandiana)	na	na	Seed growers through Kankan and Mandiana	Military grouping of Koundian	

na : not-applicable

- The IFAD, Rural development participative program of Upper-Guinea (PPDR) has now starting its second phase, which will last 6 years. During the pilot phase, the groupings ask to cultivate the Nerica.

For that second phase, one of the activities is to realize community seed banks. The people from the project decided to start with the Nerica.

The project covers 10 CRD in the prefectures of Kankan, Kerouane and Mandiana.

Through the SNPRV, they identified seed growers to obtain 3 tons: but they could only get half of a ton.

For this first year of activities, they gave the seed to the groupings (2 by CRD) with the purpose of having community productions; they credit the inputs and the phyto-sanitaries. The project managers contracted IRAG and the SNPRV for the follow ups in the seed growing fields.

For that first year it is expected that all the production will be sold only to the project. That production will be treated in the seed growing centre of Bordo and returned to the same groupings (but this time payable). If there is an excess, they will increase the number of groupings.

- The Guinean alimentary security initiative (ISAG) in Dinguiraye and Dabola, of the AFRICARE NGO, as an agricultural production aspect in Dinguiraye. For that production they looked for an early variety : so they bought the Nerica to the CRA of Kilissi. The project provides inputs and agricultural materials.

They hope to put in place peasant leaders in seed growing. The project started in 2003 and will finish in September of 2006.

Other institutions were also implemented in the diffusion of the Nerica in zones outside of where CBSS/Nerica project intervened. This is not an exhaustive approach, it is only a general idea that our field observations permitted us to develop. It is probable that other intervening parties were implicated and that we did not have sufficient time to identify them.



🔗 **Photo 7**: In front of a counter-season Nerica parcel, in a Gueckedou field, we see Michel KOUNDOUNO. The production is intended to a grouping : the community revitalisation committee, supported by the International Rescue Committee

Actually the Nerica is not sold on the public market like are the local rice varieties. Put aside few isolated cases [*see photo 8, next page*], there are no suppliers or producers that would speculate on it as paddy or seed. There is no formal market circuit for the Nerica.

Today, the only functioning network is mutual agreement sale between buyer and seed supplier, thanks to the market intervention of the SNPRV.

The Nerica paddy, for the moment, is essentially used for consumer. As long as the soldering period problem will last, under that configuration, that market tendency is there to stay.

The ARI project Nerica aspect

In the framework of the African initiative on rice, the ABD is actually financing a Nerica rice diffusion project: ARI (African Rice Initiative).

The global objectives are:

- Contribute to poverty reduction and alimentary security by increasing the access to ameliorated Nerica varieties.
- Increase rice production and substitution produces.

Nerica specific objectives are:

- Promote the Nerica varieties and the complementary technologies.
- Maintain the purity of the Nerica varieties.

• The technology transfer component, more applied to the Nerica, contains the following activities:

- ① produce seed stem from pure root stock for VSP and for basic seed production,
- ② conduct adaptation complementary technology test in the CRA,
- ③ make research on improved agricultural system for Nerica,
- ④ do the locally evaluation of the Nerica new varieties,
- ⑤ to install in a peasant surrounding the «research and popularization VSPs»,
- ⑥ to conserve the vat bases,
- ⑦ to support the peasant leaders and the groupings in the seed production (all categories),
- ⑧ to collect and keep the traditional varieties,
- ⑨ to organize open day and Nerica tasting test,
- ⑩ to produce seed and paddy production guides.

• The support component to the production contains numerous activities from which some of them will concern more directly the Nerica:

- furnish support/advices to the seed and paddy producers,
- organize seed production and quality control,
- to do improved equipment and material demonstration for the seed grower groupings and the transformers.

The project follows a « make-do » approach inside framework conventions with the SNPRV general and regional management offices for activities concerning the Nerica. So, the mobilized actors are ones who have a strong experience of the Nerica, because they were the ones that intervened in the preceding programs.

With the sending of basic seeds from the ADRAO, the project just started. The seed multiplication in a counter season framework follows its course in Yatiya's popularization centre, prefecture of Faranah. It will cover the prefectures of Macenta, Faranah, Mandiana.



✂ **Photo 8** : A isolated exemple of "Nerica commercialisation" in Faranah ; with the help of the stockistes put in place by SG 2000.

I.B.3 Quantitative data

The figures below are in relation with the Nerica; they give an idea on the importance of the production and diffusion of the Nerica.

➤ *On the national level*

☞ **Table 15 : a recapitulation of the Nerica production in the CBSS/Nerica project**

Year	Produced quantities in tons (t)		Total (t)	Valorised surfaces in hectares (ha)		Total (ha)
	<i>Basic seed</i>	<i>Acceptable quality seed</i>		<i>Basic seed</i>	<i>Acceptable quality seed</i>	
	2002	93,5		13,2	106,7	
2003	218,7	335,9	554,6	121,5	195,3	316,8
Total	312,3	349,1	661,4	175,6	202,9	378,5

Source: according to the final report of the CBSS – Nerica/Guinea project

☞ **Table 16 : a recapitulation of distributed inputs by CBSS, (period of 2002 – 2003)**

Nature of inputs	Quantities
Rice seed	22 tons
Urea technical inputs	31,76 tons
NPK composed inputs	34,75 tons
Weed killer	460 litres

The major part of inputs distributed in the framework of the CBSS project, around 80%, were obtain by the KR2, through the DNA.

When the KR2 came to an end, the people from the project found a new source with local importers in Conakry or with Hydrochem society from Ivory Coast.

More detailed informations on the quantities, the sources, in relation with the years are available with the SG 2000 store responsible in Kindia.

➤ *On the regional level*

The informations below are taken from the activity reports of the regional responsible of the SNPRV and SG2000 of Labé, Faranah and N'Zerekore.

The exposed figures are permitting to have a general outline on the production main increasing tendencies of the Nerica rice in the regions.

The region of Labe

☞ **Table 17: Developed surfaces (in ha)**

Varieties	Year			
	2000	2001	2002	2003
Nerica 4	0,25	10	20	50
Nerica 3	0,25	2	10	22
Total	0,5	12	30	72

Source: according to DRSNPRV/SG2000- Labe.

☞ **Table 18: Nerica seed (in kg) quantities distributed**

Varieties	Year			
	2000	2001	2002	2003
Nerica 4	20	700	1000	3300
Nerica 3	5	100	500	1000
Total	25	800	1500	4300

Source: according to DRSNPRV/SG2000- Labe

☞ **Table 19: Distributed input (in kg) quantities**

Input types	Year			
	2000	2001	2002	2003
NPK	100	1 200	2 400	6 400
Urea	50	300	1500	2 500

Source: According to DRSNPRV/SG2000- Labé

☞ **Table 20: estimation of the produced quantities (average surface-yield) in tons of Nerica rice.**

Variétés	Année			
	2000	2001	2002	2003
Nerica 4	1.25	45	96	195
Nerica 3	0.95	6.4	29	70.4

Source: According to DRSNPRV/SG2000- Labé

The region of Faranah

☞ **Table 21: CBSS/Nerica project, 2003 campaign**

Prefectures	Surfaces	Number of producers		Distributed inputs (kg)			Total production (kg)
		Individuals	OP	Seeds	Input		
					NPK	Urea	
Faranah	16	15	2	868	1950	1000	7 509
Kissidougou	11.3	8	1	590	50	500	7 677
Dabola	16,1	9	1	493	1000	500	17 659
Dinguiraye	5	5	1	350	-	-	2 901
Total	48,4	37	5	2 301	3000	2000	35 746

Source: According to the campaign activities report 2003 /DRSNPRV/Faranah

In parallel the CBSS, SG 2000 through the SNPRV initiated a pilot project on the multiplication of the Nerica that includes after harvest transformation technologies, in the prefecture of Faranah.

☞ **Table 22: Nerica pilot project, 2003 campaign.**

Unions	OP	Individuals	surfaces	Distributed inputs (kg)				Distributed seeds (kg)			Total production (kg)
				NPK	Urea	TSP	SOP	Nerica 3	Nerica 4	Total	
Tiro	5	298	17	1700	1700	400	400	1070	120	1190	32 980
Kamara	3	173	22	2200	1700	550	550	1420	120	1540	51 942
Yatiya - Dantiliya	4	146	21	2100	2100	500	500	1170	200	1470	37 800
Total	12	617	60	6000	5500	1450	1450	3660	440	4200	122 722

Source: According to the 2003 /DRSNPRV/Faranah campaign activity report

The region of N'Zerekore:

☞ **Table 23 : A geographic coverage presentation of the Nerica in the south of Forest-Guinea**

Years	Number of Villages	Number of peasants	Surfaces (ha)	Observation
1997	5	15	0,3	Introduction phase of the first tested Nerica varieties in the PEU
1998	12	44	5,11	Acceptable quality seed multiplication phase in the PEU (SQA).
1999	23	54	12,6	Varieties selective participation phase (VSP) and the SQA production.
2000	118	296	58,9	PTP phase with the support of SG2000; seed growers based peasant identification and formation; SQA multiplication.
2001	45	256	42,28	PTP, seed growers based peasants and peasant producers of SQA.
2002	58	338	47,6	Production and diffusion : of basic seeds and of SQA.
2003	138	386	67,51	Production and diffusion : of basic seeds and of SQA.

Source: According to 2003/DRSNPRV/N'Zerekore
Activity report campaign

☞ **Table 24 : South Forest-Guinea 2003 campaign achievements**

	Basic seed production			Acceptable quality seed (SQA)			Distributed inputs		
	Number of producers	Surface (ha)	Harvest (t)	Number of producers	Surface (ha)	Harvested Quantities (t)	Seeds	NPK	Urea
N'zerekore	22	11,5	17,8	196	17,70	22,5	-	-	-
Lola	14	3,2	5,4	69	16,61	21,2	-	-	-
Yomou	35	6	7,7	50	12,50	15,9	-	-	-
Total	71	20,7	30,9	315	46,81	59,6	865	740	562

Source: According to 2003/DRSNPRV/N'Zerekore
Activity report campaign

I.C Result analysis

From the agricultural development policy to the alimentation, and more, one must consider the place it holds in the country's agriculture, which is $\frac{3}{4}$ rural, we can say that rice holds a major place in Guinea.

Soon an LPDA 3 will come and even do its contents is not known, self-sufficient objectives and production intensification will probably be major points of it ; because the production is still not sufficient to satisfy the national demand.

The fact that rice is estimated by consumers, in that way stimulating the market expansion, which could represent a supplementary opportunity for the development of the Nerica.

The actual observation is that pluvial rice (hillside and non irrigated plains) is the major cultivation system. It represents an important part of the cultivation surfaces and of the production. Practiced in all Guinean regions, that system is responsible for the increasing of the recent year's production.

However, it is a low yield system, and on top of which, it suffers from the effect of a decreasing soil fertility. Therefore, we can say that management of soil fertility is one of the major challenges to take up in Guinea if the country wants to increase production and modernize its cultivation systems.

The hillside Nerica, as an improved seed, as its place in the developing of rice growing in Guinea. Also, it can take its place in a modern technological package, notably with the use of inputs. Thanks to the high yield that it would bring to the major rice growing system, it would have an increasing effect on production; two harvests a year would then be possible. By adding the fact that it has a dynamic diffusion system, we can say that **the Nerica** studied here **is in a position to occupy a pertinent place** in the rice growing development.

Only a small part of the pluvial rice production is on the market : on the base of which and therefore pluvial rice as less economic influence than food crop growing. The fact is that the cultivation system is designated to satisfy self-sufficiency needs.

Now, the Nerica covers essentially the CBSS project intervention zones. Even with its presence in 29 prefectures out off 33, there still is a lot a surface to cover. We have to consider that its production means are weak, limiting in its extension. The place of the Nerica in the local rice channel as to be marginal, otherwise it would have increased the price of the rice during the soldering period: no price rising were observed because the place occupied by the Nerica on the market is too small. Its importance comes from the fact that it relieves farmers during the soldering period.

The place of the Nerica is more of a food crop than one of local steamed rice channel. Actually it is more then an alimentary security tool.

However, the question is not to favour only food crop production.

Two types of Nerica rice growing producers exist, the professional ones and the food crop ones. The professionals are sometimes brought to answer an important market demand of numerous tons, and even answer the international demand.

So it is important to favour both aspects. Notably because those aspects are complementary; food crop producers have to renew their seeds.

So it has to be considered that the Nerica can take its place in the local non-stick pluvial rice channel because, in a growing market, it represents an economic opportunity during the soldering period. We have to add to its qualities the organoleptic factors.

Actually the Nerica can also represent an economic opportunity.

.II DIFFUSION OF THE NERICA

II.A Teaching and impacts of the undertaken programs

II.A.1 The strong points and the weak points of the Nerica.

➤ *From the production viewpoint*

Before opening up the diffusion system, it is imperative to ensure the availability of the product, so its production as to be stable. Therefore it is in that perspective that we are listing the strong and the weak points of the production of the Nerica.

Following discussion that we had with producers we conclude that:

Strong points:

- Short vegetative cycle (90 days) that solves the soldering period problem.
- Responds to inputs: as soon as it receives the input the Nerica often reacts in a better way than the local varieties. It is a bit demanding in input; nevertheless it needs input to grow. Some producers say: "help it in helping you".
- The taste is estimated: for its organoleptic features and it's swelling during the cooking.
- In Upper-Guinea, it is praised for its resistance capacity of more than two weeks of droughts.
- Its short cycle permits a resistance to adventitious, so only one weeding is needed.
- Its short term cycle permits to consider two harvest in one year or an annually crop rotation, and also other after harvest activities.
- It is economically interesting, because during the soldering period one can get a high price for rice. Its seed is also sold at a high price.

note: in the Fouta-Djalon, the Nerica permitted rice production in places were it was not possible for other varieties, notably thanks to a crop rotation with the potato : on the soils of Ndantaari, on aride hillside soils and on old soils with the reputation of being infertile. All that of course, is thanks to input, or to the effect of crop rotation with potato soils with years of maturing.

Weak points:

- The Nerica is susceptible to strong damage from the birds, gnawing animals and insect. Predators will profit of its short vegetative cycle: often when there is noting much to eat, they will devastate entire fields that are left without surveillance. Certain varieties have an aroma which makes it interesting for human consumers, but also attracts its predators.
- Its short term cycle requires a consequent adaptation, because it rushes the farming calendar. One has to be attentive in its follow ups in order not to miss the weeding for instance.
- There is a much important third criteria: the manpower availability
- The threshing is difficult and limiting, especially for Nerica 4 variety.
- With its short term cycle and its production happening during the rainy season, the conservation of the Nerica is difficult.
- It is essential to renew the seeds, in order not to lose its variety purity (to that point, nothing has been decided yet concerning the seed renewal: of it's degeneration or the result of a physical blending of the seeds.

Note: Of the last point, the renewing necessity comes from the fact that we are in presence of a variety blend. The cultivated seed is not as pure as it was in the beginning.

Numerous advices exist on that issue. Some speak of a degenerate seed, on the base that the Nerica is a hybrid. Now, according to searchers, as an autogenous plant, rice should not degenerate. Others say that the situation is due to bad manipulations resulting in a physical blend. Actually there is no clear position on the reason for the degenerating phenomena of

the Nerica. Whatever may be the case, the actual seed conservation condition with the peasant is not optimal. Before starting a new diffusion, it is imperative to renew the seed. It is a problem that will regularly repeat itself. The optimal renewal seems to occur in a three year period.

➤ *From the diffusion viewpoint*

As the inquiries progressed, numerous anecdotes were related to us concerning people that were looking for the Nerica and addressed themselves to the wrong persons...

According to numerous actors, an index of basic information (a producers list, availability of stocks...) is something the Nerica is lacking.

It proves that the access for information on the Nerica is difficult for outsiders in relation with the CBSS project zone interventions. If one addresses himself to the SNPRV, he has all the chances of being put in contact with a Nerica seed producer. However the SNPRV mission is not one of a seed provider. In the configuration program, the SNPRV was only a link. At the DNA they recognise the necessity of an information system, because *"everybody knows the Nerica, but no one knows where to get it"*.

An example of information diffusion were the radio and television reports on the Nerica cultivation in the Fouta-Djalou, an initiative of the regional management office of the SNPRV ; they had a great impact on the Nerica and El Hadj Tafsir Sow notorieties.

But as shown above the dynamics of the Nerica is due to its intrinsic qualities. So, in rural surroundings, in the intervention zones of the CBSS project, through a mouth to ear process and on mutual agreement exchanges, one knows where to find the Nerica. In that situation, its diffusion works well and is stopped only by one limiting factor : the weakness of the offer due to an insufficient production.

II.A.2 Restraints/obstacles to surmount

➤ *General restraints*

-The entirety of the research testifies that **the Guinean agriculture has few means**. Even amongst the pilot-peasants in the CBSS project, the possibility of increasing the production surfaces is deplored. At that level, when the threshing difficulty concerning a variety has been surmounted, SG 2000 has then equipped peasants with multi-threshing devices (In Labé Senghen grouping, El Hadj Kourouma in Kindia, Seed growers union around Faranah). Peasants recognise that the SG 2000 intervention as facilitated the task for them. However, that did not permit them to increase the surfaces.

They need to have access to working material that will permit the mechanization of few but essential cultivation operations: ploughing, seedbed, harvesting, threshing...

For that reason an access to the treasury could permit the necessary terms of seeds, inputs, machinery...Though that is also lacking.

[See photo 9, next page]



✂ **Photo 9** : A steamer from the after harvest transformation chain, property of the Union of Dantilya. That transformation chain was offered by the SG 2000 Nerica pilot project : it includes a multi-tresher, a husking machine, a steamer and two drying spaces.

➤ *Restraints relative to the Nerica*

- Even in small quantities the Nerica needs inputs. Not to forget, Nerica needs weed killer, conservation products and installations if the peasants hope to increase their productivity. As a whole the producers undergo a blockage due to a generalised absence of inputs. They do not know where to address themselves to get adapted and quality inputs. **There is no input supplying systems.**

- The producers say they need follow ups and advices to respect cultivation techniques and the agricultural calendar. According to the managerial staff of the SNPRV, the reason for the absence of a compilation manual and the restricted information circulation (a producers list, available stocks, distributed stocks, supplying points for the seed renewals) is the lack of follow ups. That situation is due to the fact that the SNPRV agents are without means with concerns to the functioning of operations.

The SNPRV is not sufficiently operational.

Note: the KR2 could have been used as a supplying system for inputs, essential in the Nerica possess. In fact, in the framework of the CBSS project, the SG 2000 was used with success and efficiency, as a supplier. But that project was not settled on a permanent base; the fact is KR2 was a gift. So when the KR2 disappeared, the peasants became in need of supplies. They could not find any inputs, which led to few or no inputs being applied at that time. According to certain observers, market distortion was caused by the use of the KR2. Retailers obtained inputs from the KR2 and sold them at a lower price than the market price. Not being able to support the competition, the supplier stopped all their activities. In parallel to that situation, suppliers such as SPCIA had problems in selling quality inputs, yet were available in their stores inside the country. It is an important point to raise. On one side, some deplore a lack of regular quality supplies, and on the other side, those who are able to supply deplore the absence of demand. Is it a price problem, a will problem, one of taking risk, of distribution or something else?

II.A.3 Pre-requisite for the distribution of the Nerica

In a certain way, the type of restraint noted above was foreseeable. The object here is the diffusion of an improved seed. That improved seed is a modern tool, a tool for a professionalized agriculture, a tool for an agriculture industry that has the will to intensify its production. It is notable that one has to observe that the main objective of the pilot project of introducing rice growing technologies was to contribute to an environmental protection and cultivation settling. Therefore, someone which speaks of settling, speaks of intensification.

If we are looking for a modern tool introduction, one has to accompany it with a corresponding technical package in a way that it can deliver all its potential and being worth mentioning.

So the problem with the Nerica goes beyond the simple fact of distributing it. **It questions the problem of the evolution of the Guinean agriculture.**

The Nerica could be a tremendous tool for an agricultural revolution in Guinea. But it can't be the only one. Its diffusion needs to be accompanied with means: inputs, mechanization, credit access.

Without those changes, the Nerica will only stay at the technical innovation stage, even though its dynamics are very promising.

II.B Improvement perspectives of the diffusion system

II.B.1 Rural development actors priorities

➤ *International organizations*

☞ **Table 25 : international organizations intervention priorities**

ORGANISATION	Intervention priorities
FAO	<p>-The FAO acts in support of the government, responds to its demands in numerous domains of activity, (Agriculture, breeding, fisheries, silviculture) from the policy to the project accomplishment.</p> <p>-The diffusion of the Nerica is a major component of their rice program (sub-regional level). ADRAO as put the people from FAO in charge of the follow up on Nerica in West-Africa. In Guinea, the collaboration with the PNUD and the ADRAO had to evaluate the CBSS/Nerica.</p> <p>-The quality of seed availability is recognized by all the ARI partners. The FAO is hopping to work with partners as ARI,ADRAO,JICA, SG2000...</p> <p>-Actually, in sub-Saharan countries, the FAO has 3 projects concerning the quality of seed, on which projects its supplies a technical support. They are also working on 3 projects more specifically applied to Nerica, one finance by Japan which is in Uganda and will start in 2006.</p> <p>-If the Guinean state would ask them to get involved in the seed production, they would.</p> <p>-Recently the FAO, through their Alimentary Security Special Project, declared its intention to participate in the PDDAA pillar 1 project (<i>see p 11</i>).</p>
European Union	<p>-In rural development the European Union is actually intervening in 3 domains: breeding, villager hydraulic projects and support to PO. The peasant organisation project is new for them and as a result of which the money invested is principally aimed at supporting certain projects; supporting civil society organisations, is one. Therefore, they are preparing a financial file for the CNOP, for the take over aspect of the action plan.</p> <p>-The EU is a « strict » financial backer. So, for activities that will be carried on, the interlocutor will be with the CNOP. The EU will finance the CROP with funds for market studies, for support of competence reinforcement and human resources of the regional technical cells of the POs, for the formation through the « proposition invitations ». If a preoccupation has to be taken in account on the Nerica, it will be done by the CNOP.</p> <p>-In terms of future interventions: on the 31/12/2007, there won't be any further rural development for the EU in Guinea.</p> <p>-Actions on the Nerica could however be integrated in « proposition invitations » directed in numerous domains by the EU. For instance, in the future PRD (Rural development plan-Forest-Guinea reconstruction and development plan) includes an alimentary security aspect.</p> <p>-Otherwise the founds on alimentary security could be more appropriate. They are managed by the CEDEAO, but it comes on to the Guinean government to manifested itself in the management of the founds.</p> <p>-Globally, in the countries that it intervenes, the European Commission favorises the development of the private sector.</p>

FDA	The agency	<p>-Concerning rural development, the FDA particularly works in on the food crop channel, on wide-ranging projects. They also look forward to concentrating on Maritime-Guinea and Forest-Guinea.</p> <p>-After lifting the financing suspension on Guinea, the FDA has been preoccupied with the termination of its preceding projects. The only actual perspective is the « Low-Guinea rice support channel » project, the pursuit of the PDRI-GM. The project should start at the end of 2006.</p> <p>-For that project, the production aspect will concern mangrove planning, but the remainder of the channel (transformation, marketing) will follow the Dynafiv approach that will be opened to all types of rice growing productions. One as to note that, on the project they have the intention of supporting the FOP-BG on the retaking of the rice growing centre of Koba.</p> <p>- They are not expected to get involved before 2007 in a program like the diffusion of the Nerica, but eventual collaboration should occur. That could be done on co-financing bases ; an approach that they valorise.</p>
	The Dynafiv project	<p>-The action of the Dynafiv is situated on the downstream side of the channel (transformers, retailers) and is concerned only in a very light way with the production, they are more so interested in the information providing to the rice growing channel.</p> <p>-For instance, by animating an after harvest technician network, they can accompany threshing mechanical innovation. They will also give information on how to get in relation with credit institutions and retailers.</p>
	The BCEPA/PASAL project : ORIZA-Guinée	<p>-They are working to improve the information system of the rice channel.</p> <p>-Their short term project concerns are the use of a CNOP technical secretary for information diffusion on the rice channel.</p>
ADB	<p>-In the framework of the African Rice Initiative, it is financing a Nerica diffusion project in Guinea. <i>(see p 30, the ARI project)</i></p>	
UNDP	<p>-Its orientations are to support the government in its priorities.</p> <p>-The UNDP can be a financial backer or implement in a financial and managerial way, such as projects for financial backers.</p> <p>-The UNDP, actually has no activities in rural development.</p> <p>-In the future it will be decided in the country's program (2006-2011) if they should have an elaboration course.</p> <p>-The UNDP has a component that is specialised in the mobilisation of financial resources. That information could be useful for future Nerica diffusion programs.</p>	

🔗 **Table26 : intervention priorities of the administration structures**

ORGANISATION	INTERVENTION PRIORITIES
<p style="text-align: center;">SNPRV/SG 2000</p>	<p>-Implementation of the program « ARI »: renewing of the old seeds. -In the optic of improving the diffusion of the Nerica, the SNPRV/SG 2000 organisations believes that the CBSS is a good operational base but needs improvement :</p> <ul style="list-style-type: none"> -revisit the old contract concerning the offer of inputs and adapt them to the producers financial capacities ; -create a synergy amongst the different intervening parties; -put in place a proximity distribution network ; -put in place a follow up and evaluation device from the seedbed to the commercialisation and relay it to a SNSA data base.
<p style="text-align: center;">DNA</p>	<p>- Concerning the production and commerce of the rice in Guinea, a law is in its phase of ratification and promulgation: packing and production regulation. -They are equally working on the creation of a national seed growing committee and a seed growing national fund. - To improve the seed production, it is imperative to :</p> <ul style="list-style-type: none"> -to make responsible the seed producers in regard to their autonomy, -to put in place a seed distributor network with a proximity distribution system. <p>-To be able to go from a SQA to a normal and exportable quality seed. The institutional capacities should be strengthen, the certification laboratory should be equipped and its personnel formed, and after support the controlling actions.</p>
<p style="text-align: center;">IRAG</p>	<p>To improve the diffusion of the Nerica, here are ways which can be explored by the research :</p> <ul style="list-style-type: none"> -support the basic and pre-basic seed production ; -purification and maintenance of variety purity concerning the base of the tank ; -be able to offer from the SNPRV and the DNA the basic seed ; -create varieties which have adapted to fertile valleys...

➤ *The supporting structures*

During our inquiries we were in contact with people from supporting structures that intervened in the CBBS/Nerica diffusion project.

Those people from the supporting structures also have suggestions and propositions for the improvement of the diffusion of the Nerica.

✂ ***Table 27 : intervention priorities from the supporting structures***

ORGANISATION	INTERVENTION PRIORITIES
ACA	<p>-ACA works for the promotion of local production. In that perspective it gives information on the country's market prices. The ACA is a supplier in improving seeds for market garden produce, in inputs, organising agricultural events, and giving formation. Their network is well implanted in Guinea.</p> <p>-ACA offers its skills and know how to the popularization aspect of the project (information on prices and producers list), on the follow up of the commercialization process (available quantities and prices) and further more with information bulletin and exchange meetings.</p>
APEK/Agriculture	<p>-Following a request from the producers, which they support, they are implementing a CBSS.</p> <p>APEK has contacted the WARDA to obtain the basic seed and import the input to be sure of the quality and the availability.</p> <p>They propose to :</p> <ul style="list-style-type: none"> -broaden the basic seed production ; -support and broaden the formation of producers on production techniques of the Nerica ; -ensure the actors with broad information.
SARA	<p>SARA proposes to :</p> <ul style="list-style-type: none"> - offer a better knowledge of the supplying sources in seeds to the POs; -a formalizing of the contact between the seed producers and the buyers; -to make possible an established relation between actors of the multiplication and diffusion seed system ; -make it possible for the POs to use their village store for the stocking and the distribution of the Nerica ; -relieve the heavy acquisition of input process.

II.B.2 Producers priorities

-In the great majority, the producers prefer a **short network in seed supplying**. The preference for a short supplying seed network is shared amongst other actors that we met. The objective is to avoid the intermediaries in a way that the basic seed supplier can go directly to the groupings and seed producer unions. In a light exchange process, the supplier can go toward the producer or the producer is invited to meet the supplier and informed of the availability of the seed.

-Everything has to be **accompanied with means** that will permit an increase in the production: inputs, mechanisation ...or even credit to have access to those means.

-The **follow up and supervising** by a popularization competent organisation is necessary.

On the other hand, the form that it should take is not clear....

Depending on the speaker, a structure or an institution, or even a project that could take in charge the seed distribution could be evoked. It could supply inputs and the means of production and could be under contract. Credit should be promoted in that direction. The POs that would receive the means directly from that structure, could establish producer grouping stores, and after would deliver to the peasant leaders.

The SNPRV could be doted with means of functioning to ensure the follow up, or it would be possible to contract with the latter.

Others suggest using functional supporting structures for the diffusion, the formation, the follow up.

Finally, some are looking for the implication of a nationally known actor for the distribution and hope for an organised marketing enterprise.

What the synthesis of those priorities reflect from the producers part is a concern of effectiveness coming from the structures that accompany them, in order to realise an effective seed production.

II.B.3 Future paths of intervention

According to the results of the different diffusion programs of the Nerica in Guinea, we can say, like we mentioned earlier, that numerous positive effects are coming out.

But the main objective is to ensure a large diffusion of the Nerica, an important task remains to accomplish.

To achieve that goal, numerous plans are offered:

- seed production on a community base (CBSS),
- a basic seed producer network,
- a diffusion policy coming from a commercial problematic.

Even if the fact concerning the supply in inputs is a major difficulty in the diffusion of the Nerica, we have decided not to tackle the question. This problem is related to a more general framework associated with the Guinean agriculture and can not be solved through the only issue of improving the diffusion of the Nerica.

The problem should be analysed in parallel, for instance by using a project as pillar 4 of the CAADP:

« Support of sustainable management of soil fertility in the cultivation systems in Guinea »

➤ *Community based seed production (CBSS)*

The preceding project of community based seed production permits to put in place professional seed growers. It also permits to popularize the hillside Nerica production on all the national territory, by ensuring a market demand. We can had also, that new producers by discovering the potential of the Nerica, have chosen to undertake seed growing productions.

The reinforcement of acquired knowledge of the seed growing producers, permit the emergence of new producers and widen the implantation zones for the Nerica ; a new project of the same type as the CBSS could be put in to place.

Actually, the question is to realise a second phase of the CBSS/Nerica project and surmount the restraints found in the first one.

For that to happen, it is imperative to establish a synergy amongst the different actors. Under a coordinating team, the missions of each actor will be clearly defined and they will be financially independent.

The changes will concern three fundamental aspects:

- Technical improvements aiming at a production increasing;
- Put in place a sustainable and reliable input distribution network;
- Put in place a data base on inputs (were to find them, from whom to get them and the prices)

• From a production increasing viewpoint

The following intervening parties could have the responsibility of the designated functions.

Intervening parties	Functions
SNPRV	-choose a team for the project coordination , -support/advice and follow ups on producers concerning the production technical agenda; -support for the selection and the setting of input managerial stockists by zones of high production; -formation for producers.
Producer organisations (groupings)	-problem identification related to seed production; -evaluation of the input needs for producers; -request collecting ; -establishing contracts with the suppliers ; -formation needs identifying the relation with the encountered restraints in cultivation and after harvest practices ; -for a PO doted with stocking and retailing structures, offer a management for the POs villagers bank (cereal banks, villagers boutiques, stockade stores); -contractualisation of country credits.
IRAG	-experimentation of new varieties introduced in the stations; -maintaining the purity of the varieties : pre-base seed production; -trial of adapted varieties for fertile valleys and irrigated plains ; - through the POs, pre-base seed delivery to the base seed producers ; -formation for the base seed producers.

DNA	-new seeds introduced and the ones produced locally in co-ordination with the IRAG certification ; -the settings of norms and criteria's for the variety purity and quality of the seed ; -protocol for varieties certification formation addressed to the follow up agents and producer leaders ; -in function of the ecology, the setting of a seed and available varieties.
The craftsmen	-for relief of certain work tasks, the making of tools: threshing device, husking device, seeder, animal traction plough...
The credit organisations	-country credit for purchasing inputs, tools...

• From a distribution network viewpoint

The distribution schema bellow could be considered in the case of a proximity seed formalized distribution network:

Seed introduction:	IRAG-DNA
Multiplication:	CRA (Kilissi, Bordo, Sérédou)
Base seed production:	Peasant leaders and seed growing POs
Acceptable quality	
Base seed production:	Producers and POs

Distribution:

Who intervenes?	Fonctions
POs/producers	- Settings of seed collection and sale points for POs without stocking infrastructures. -realisation and communication of a seed availability calendar.
SNPRV	- sustainable relation setting between buyers and suppliers, - A formation for stockists.
SPCIA, Agricultural counter, Stockists, Retailers interested by the activity...	Collecting, stocking and distribution inside of those network
DNA and Producers	price homologation
Newspapers : community radio, rural and national radio television	-seed promotion through information on the availability of seeds : nature, quantities, localisation, suppliers, prices, -report series, publicity reports or documentaries (ecology, organoleptic advantages, availability...).

• From the data base viewpoint

In order to know where to find the Nerica, with whom and at what price...it matters to have a permanent interlocutor that is able to answer different questions by centralising the information.

The maintenance of a non-stop follow up/evaluation device is preliminary to ensure a census, a follow up, an updating of quantitative data (number of producers, seed quantities, production quantities, upgraded surfaces, inputs quantities used).

The work can be ensured by the managing staff of the SNPRV. In one way because of their positive intervention in the previous programs, and in another way because of their spreading throughout the territory. The coordination will strengthen that activity.

The agricultural national statistics service will intervene in the setting of an informative data base on the Nerica and other interspecific varieties. The data base could be located inside the SNPRV offices.

➤ *Base seed producers network*

From the CBSS project came the emergence of base seed growing producers ready to get involved in a far-reaching production scope.

With the help of those producers, we can set up a network of seed growing producers that will lend a supporting hand, with the purpose of ensuring supplying of Nerica sufficient quantities.

Description:

- Project coordination is established.
- The coordination obtains the seed by ordering the root stock seeds or by requesting the intervention of the national structures (CRA, CV of SNPRV).
- The coordination would distribute it without an intermediary to the seed growing producers (individuals or POs) previously identified.

The identification criteria's are the criteria's that were responsible for the success of the previous CBSS producers. So, involved in the second phase project will be, peasant leaders coming from the previous program and new ones that registered in the seed growing approach as well as others identified that could be able to subscribe to that approach.

The object is to have a territorial networking between seed growing producers with the purpose of answering the national demand.

- In parallel, the coordination will have proceeded to the setting of an input supplying system for the seed growing producers.
- A credit system will also be put in place for those producers, with the purpose of giving them the chance to access production means and so be able to intensify the production.
- The technical/accompaniment support is realised in a contracting process with competent structures.
- The coordination then organises the network, facilitating the contact with the seed suppliers and the big buyers of the product. It uses the targeted means of communication: rural and national radio and/or direct contact by means of coordination with the different partners or establishment that have contacts with the producers.

The whole process will be managed by contacts between the different institutions: a contract permitting producers to obtain pre-base seed, input abstention contract, a pre-established seed quantity delivery contract with the distributor and a contract between the coordination and the vulgarization team.

- A follow up evaluation study will evaluate the system by supervising it in terms of the needs and availability of the seeds.

The stakes

The informal distribution which relies and is a result of social relations will carry on with its work. The fact of having a seed producer network can only stimulate the distribution, because it gives it the chance of being supplied in quantity and quality. Concerning the base seed continuity, the SQA could exist and supply the food stock logic.

The interventions must maximally rely on local capacities and on the operational structures. In the course of the project, the following competences should be developed and favoured:

- the campaign prevision
- follow up/advice between producers.
- seed marketing (negotiations with the buyers)

The acquisition of those competences rest on the producers; it is up to them if they want to get involved.

The primary goal attached to the program would be to increasingly give the responsibility of keeping alive the Nerica seed channel to the private sector:

- In ensuring, by its solvency, the autonomy of the production, in other words allowing the Nerica seed production to be a profitable cultivation system.
- In allowing the producers to get closer to the input suppliers and to have the machines at their disposal.
- By transmitting the follow up/advice combination system toward the supporting structures and the POs.
- In establishing a commercial relationship between seed growers and distributors.
- By the involvement of structures as SPCIA whom possess all the capacities for a large scale seed production (seed growing centre).

Institutions

Function	Potential institutions
Project coordination/follow up-evaluation	-The setting of a team project -The SNPRV
Pre-base seed suppliers	-ADRAO -IRAG/CRA -SNPRV/CV
Pre-base seed distribution	-Coordination towards grouping
Base seed production	-Identified professional producers
Input provisioning	-Project -Contracting between the producers and national suppliers (to be identify according to the regions)
Credit Attainment	-Project -Mutual guarantee, credit organisms (to be identified according to the regions: rural credit...)
Technical support/ accompaniment	-SNPRV -Dynamic supporting structures (to be identified according to the regions: APEK, FPF...)
Seed certification	-Seed growing centres -Large distributors (take charge of the distribution contracts)
Distributors/buyers	-Seed trades people, buyers from the previous CBSS.

➤ *A diffusion policy issued from a commercial problematic*

After almost 10 years of work, the introduction of the Nerica is a success. It was proven that it has its place in the Guinean rice growing environment, that producers are interested in it and are ready to open their fields.

So the time as come to place the Nerica in a general evolution and broadening framework. One has to go beyond a new project phase that would only work on a new zones aspect of the question. That type of approach in a new phase, once completed would ultimately be confronted with the same problems as the actual producers encountered from the CBSS. Therefore, after the different stages of community introduction and multiplication, it seems judicious to question oneself on the evolution of the diffusion policy.

To ensure a large scale diffusion concerning the Nerica, we already have seen that one of the keys for its happening is its availability. To offer the Nerica in sufficient quantities, one has to ensure the stability of the production. For the realisation of that general objective, the autonomy of the producers in relation with the accompanying structures seems imperative. This element of autonomy could be a commercial element.

Therefore, we should specialise producers by promoting a commercial diffusion.

If the demand is there for the seed, then it has to be paid at its real cost.

It should be the same logic that would be applied all along the sequence. Such a context would definitely allow the proper structure of the Nerica seed channel: the professional seed growers would then represent a market. So, if a benefit system is put in to place, it has to be worth it.

To be functional, the channel dynamics has to rely on institutions that are ready to invest themselves. **The approach put in place has to involve numerous institutions and partners.**

During the study we discovered other actors than the ones inside the project, who got involved in the diffusion of the Nerica. Those interested actors represent non-negligible opportunities. In terms of network, the dynamics of the POs can be used. On the basis of the support/advice of the producers, the SNPRV can be present, but through the supporting structure and the NGOs less centralise response can be considered. According to solvent demands coming from the producers, one or more CRA could be implicated in the supplying of pre-base seed. The problematic in relation with the inputs and the credit, is one of more global agricultural system that concerns other actors.

Actually, the object is to imagine **a national diffusion plan that would be aimed at the setting of the Nerica channel.** The scope of the study does not permit an efficient answer to that problem, but we can suggest two prerequisites for an efficient reflection purpose.

1 The creation of a round table or a seminar permitting the sharing of the infatuation of the Nerica; it would be an occasion to share the impact, the results, the performances and the conditions and limitations of the Nerica.

This exercise would allow a demonstration of the results with all the institutions that intervened. It would also be a useful activity in the sense of attracting new partners, of implying them in the nerica's dynamic. The objective of the seminar or the round table being the exploration of activities to come, to see in which areas the majority or part of the intervening parties of the Nerica want and are able to invest themselves.

2 From a solvency and the required quality level viewpoint, realize a study concerning the evaluation and the testing of the seed market.

The results of those prospects will permit to obtain more detailed answers on the possibility for the realisation of the Nerica channel.

CONCLUSION

With Uganda, Guinea was chosen by the government of Japan for the diffusion of the Nerica. After almost 10 years of work, witnessing the creation of numerous introductions and multiplications of Nerica programs, it is now the time for new initiatives and activities that will permit a large scale diffusion of the Nerica. The Nerica introduced in Guinea is a whole pluvial of varieties.

At the actual stage of the promotion of the Nerica, it enjoys a great popularity and admiration on the part of the producers. The popularity of the Nerica is due the quality of its varieties: precocity, yield, adaptability to drought or to soils with an uncultivated reputation....In its introduction zones the demand are constant. New actors now intervene to diffuse the product into new areas.

Therefore, in allowing one rice harvest during the soldering period, its introduction and diffusion had an effect on the alimentary security. The Nerica also permitted the producers to get a hold of improved seeds. Finally, for certain producers understand that the Nerica is an important economic reality.

However, even if the programs undertaken have transmitted a certain control over the base seed production techniques and of acceptable quality, the demand of the Nerica is still not satisfied.

The major element responsible for that shortage is the weakness of the production capacities of the Guinean cultivation systems; Guinean agriculture has few means. The producers are hoping to get into large-scale farming with the Nerica, but they do not have the financial or the material means to do it.

Actually, they should enjoy a stable quality input supplying system (seeds and inputs) and an access to mechanization (agriculture and after harvest).

Facing those numerous established gains and obstacles to surmount, a number of scenarios could be considered. First of all, understanding that the community base seed multiplication program was a success, a second phase would permit an increase in the Nerica produced in Guinea and would strengthen the gains and widen the production areas.

However, the preceding programs in allowing the emergence of a dynamic, new support could be directed to the existing producers with the objective of organizing the distribution through a network of producers.

Another approach would consist on leaning on a plurality of institutions with the purpose of structuring a seed growing channel for the Nerica, inside of a commercial dynamic. In each of the scenarios, the professionalisation of the Nerica channel would ensure the supply of the food crop to the producers. Before actualizing those solutions, one has to proceed with further research and verify their coherence and feasibility with the institutions in place.

APPENDIXS

- Appendix n°1, the interviewing guides
- Appendix n°2, a list of resourceful persons from the national management offices.
- Annexe n°3, a list of resourceful persons met during the field mission.

- **Appendix n°1, the interviewing guides**

❖ **THE INTERVIEWING GUIDE FOR INTERNATIONAL ORGANISATIONS**

1. What are your main intervention domains in terms of support to the Guinean development ?
2. In terms of rural development on what is centered your support ?
(*Agriculture, breeding, rural tracks, villager hydraulics*)
3. When did you start supporting the agricultural sector ?
4. Are there some reason explaining the choice of that sector rather than others ?
5. What are your priorities in that sector ?
6. We would like to hear about your accomplishments.
7. Do you have more than one recapitulative documents of your work in Guinea ?
8. What lessons do you draw from your different accomplishments ?
9. On what will be centered the future interventions of your institution in terms of rural development ?
10. Have you heard of the rice growing channel in Guinea : production, sales network, import and consumer ?
11. Have you heard of the project Nerica financed by the Japanese government ? Did you make a contribution or an intervention on that program ? If yes, of what nature?
12. In your viewpoint what are the problems and the restraints for a diffusion increasing of the Nerica ?
13. Have you heard of the products supplied by the KR2 in Guinea ? Do you have any information on their usage ?
14. In an action synergy framework amongst financial backers, would you have prospect for the agricultural sector in general and more specifically for the Nerica diffusion program in Guinea ?

❖ **THE INTERVIEWING GUIDE FOR THE ADMINISTRATIVE INSTITUTIONS**

1. What are the government priorities in the agricultural sector ?
 - a- Putting forward the CAADP program (Comprehensive Africa Agriculture Development Programme);
 - b- The Nerica diffusion situation (produced and distributed quantities, valorised surfaces) ;
 - c- Is there an existing cartography in Guinea related to general rice growing production localizations and more specifically to the Nerica production ?
2. What about the activities of each MAE's technical service involved in general rice growing and in the Nerica, in a more specific way ? (DNA, SNPRV, DAOP, IRAG, Dynafiv, Ins. Rég. Environment and rural development, SG 200) ...
 - a- Can we have informations on the rice cultivated in Guinea ? (surfaces, yield in paddy)
 - b- What about information on the usage of inputs and agricultural material by the KR2 ?
 - c- Can we have documents (articles, reports, information bulletins) of your accomplishments ?
3. Speaking more specifically of the Nerica, what are the lessons to draw from the program (successes, difficulties and restraints tied to the diffusion of that variety of) ?
4. What assets can we keep from the Nerica diffusion program during the two phases : the experimentation one (1997-1998) and the production and diffusion one (2002-2004) ?
5. In the optic of a large diffusion of the Nerica, could you tell us about the arrangements taken or the orientations considered by your administrative structure to :
 - facilitate the seed distribution on a national scale;
 - acknowledge the accompaniment measures to improve the production and spread the cultivated surfaces (the previous system improvement propositions and/or new propositions).
6. Propositions and recommendations with the purpose of reaching the objective of a national Nerica seed distribution.
7. What are the different International institutions with whom you work in the field of rice growing in general and on the Nerica in particular ?
 - a- What are the lessons you draw from that collaboration or from that partnership?
 - b- If collaboration was renewed with one or more partners, what proposition would you make to reach the objectives assigned to the program ?
8. Who are the local operators with whom you worked during the two pilot phases of diffusion and experimentation or the Nerica ? On which aspect of the program did they intervene and what form did it take (financial support/material/human)?
 - a- What are the conclusion that draw from those partnerships ?
 - b- If collaboration was renewed with one or more partners, what proposition would you make to reach the objectives assigned to the program ?

❖ **THE CBSS NERICA'S PROJECT INTERVIEWING GUIDE**

1. Origin of the Nerica and of the program ?
2. The problematic to be solved : (the yield, parasite and climate variation resistance, the vegetative cycle, alimentary security, the taste....)
3. What are the reasons for choosing the Nerica compared with others ancient Guinean rice varieties?
4. In how many stages was the program Nerica executed ?
5. What were the accompaniment measures ?
6. Whom were your partners : financial and operational ?
 - a- On what aspect do they intervene and in what form (financial support/material/human) ?
 - b- What are the lesson that you draw from those partnerships ?
 - c- If collaboration was renewed with one or more partners, what proposition would you make to reach the objectives assigned to the program ?
7. What the results of the program in terms of :
 - a- seed quantities distributed;
 - b- harvest quantities with the average yield by hectare compared to other varieties ;
 - c- valorised surfaces ;
 - b- number of producers beneficiary (grouped in POs and non grouped);
 - c- cartography of the concern zones ;
8. Have you heard of the product supplied by the KR2 in Guinea ? Do you have informations on the usage of those products ?
9. In terms of environment, how do you evaluate the cohabitation between the Nerica beneficiary peasant and the Nerica non beneficiary peasant ? How do you evaluate their differences?
10. At the commercialized rice level, what part does the Nerica represent in the large production areas ?
11. In relation the Nerica, now, on the spot, could you give us the feelings and the apprehensions of the peasant ?
12. What evaluation do you make of the Nerica program now that two test phases have been experimented ?
13. If the results are satisfactory, what are the factors that intervened ?
14. If the results are completely satisfactory, in your opinion, for what reasons ?
15. If the program was to be renewed at a national scale, what propositions (in terms of collaboration with local and international actors) would you make for a better seed distribution and an improvement of the yield ?

❖ **THE INTERVIEWING GUIDE FOR THE PRODUCERS**

1. What type of farming are you practicing and what are the surfaces cultivated ?
(name the dominant species in your agricultural activities : food crops farming, cultivation of , income, arboriculture, vegetables...).
2. What does justify your choice ? (Alimentary habits, an easy goods selling, a consumer strong demand,...).
3. In your rice growing practices, what are the variety cultivated ?
4. Since when do you practice the cultivation of the Nerica : surfaces and yields ?
Can you make an historic and an evaluation of your Nerica cultivation ?
 - the origin (the supplier),
 - the first quantities received and the seed granted conditions;
 - the obtained results;
 - encountered difficulties and used solutions to surmount them.
5. What is the apprehension that producers (all categories) have for that variety of rice ?
6. Do you feel it like an imposed change in your customs by an external structure, or is the program responding to a demand coming from the producers to solve a specific problematic ?
7. If the problematic solving was the expressed mobile by the farmers, what are your expectations in relation with the results ?
8. Do you have indicators that will permit to evaluate the satisfaction of your expectancies in term of :
 - income/capitalization;
 - hardness of the work ;
 - decreasing of difficulties in relation with the soldering period;
 - decreasing of difficulties in relation with climatic variations.
9. If the program should be renewed what would be the improved conditions that you would hope for in terms of :
 - farming technics
 - follow up on producers
 - accompaniment measures (credits, inputs, harvest products transformation.....)
 - seed production and distribution
 - improvement measures of the network: suppliers/producers,/consumers/supporting structures/financial partners;
10. Are you hoping for a program renewal by the partners ? And under what form ?
What would be the role of each intervening party (producers, Pos, supporting technical services, operators, financial partners)?
11. If the program is renewed, are you ready to increase yours surfaces in Nerica ? And for what reasons ?

• **Appendix n°2, a list of resourceful person from the national management offices, met during the study.**

STRUCTURE	Persons met	FONCTION
ACA	Yvonne Nabe Dacosta Paul Lama	Administrative management. Section information chef, agricultural markets and documentation.
FDA	Cavalier Mathilde	Rural development and environmental mission entrusted.
AFRICARE	Mme Baldé Tadiba Kourouma	Follow up/evaluation programs entrusted.
BCEPA	M. Cissoko	Project/Programs division chief.
DNA	Abdoul Karim Camara Bernard Mansaré Namory Yombouno Alpha Savané Atigou Baldé Ibrahima Khalil Sackho	National Agriculture Director. DNA counsellor. Plant and fertilizer division chief. Plant and fertilizer section chief. Agricultural engineer. Seed promotion entrusted.
DYNAFIV	M. Béréte Thierno Abdoul Diallo Youssouf Traoré	Commercialisation section. Commercialisation/crédit cell chief
FAO	Mamadou Kaba Souaré N'guyen N'guu	FAO's Assistant to the representative in Guinea "International rice commission" secretary (e-mail contact)
IFAD	Alain Cécé Camara Mamady Traoré	PRODAD/GF coordinator. PPDR/HG coordinator.
IRAG	Docteur Mahmoud Camara Sekou Diawara Docteur Mamady Kourouma	DGA
ORIZA- Guinée	Lansana Bayo	ORIZA-Guinée coordinator.
UNDP	Mohamed Efa Sylla	Program entrusted/counsellor.
SG2000	El Hadj Modi Sidy Diallo	National Coordinator.
SNPRV	Aly Condé Alhassane Pendessa	DG/SNPRV (CBSS project coordinator) CBSS coordination
SNSA	Thierno Saïdou Sow	Statistic and documentation section chief
SPCIA	Mamadou Abdoulaye Kane M Baldé, M Bah	General Director
European Union	Didier Nils	Rural development/section chief

• **Appendix n°3, a list of resourceful persons met during the field mission**

LOCALITIES	TUTELAGE STRUCTURES	INTERVIEWED PERSONS	FUNCTION
Kindia	SARA APEK	Seydouba Hawa Sylla Ismael Babady Camara Abou Camara	Program coordinator APEK Director Food crops entrusted
	DR/SNPRV	Mohamed V Camara	Seed multiplication entrusted, Banban
	CRA – Foulaya JIRCAS	Dr Jun-Ichi SAKAGAMI Ammara Cisse	Assistant searcher
Kouroumanya (Kilissi-Kindia)	Village	El Hadj Kourouma	Seed producer
Foye (Mamou)	Foye grouping	Tahibou Conde Habi Diallo	President Member
Mamou	SNPRV	Habib Daff	Popularizer agent
Boulliwel (Mamou)	OP de Fourah	Karamoko Bori Diallo	The grouping president
		Demba Keita	Secretary
		Mamadou Camra	Administrator
		Balla Camara	Member
		Alpha saliou Keita	Social affaires entrusted
		Abdoulaye Barry	Member
		Mamadou Yero camara	Member
		Bori Keita	Member
		Mamadou Lamarana Camamra	Member
		Mamadou Samba Keita Mamadou Lamarana Diallo	Member
Labe	SNPRV	Hamidou Souare	Regional director
Guarambe (Labe)	Groupement de Seghen	El Hadij Tafsir Sow	Seed producer
Kankan	SNPRV	Lance Djama Toure Mamady Sidibe	Regional director Food crops entrusted agent
	CRA Bordo	M. Saliou Sandake Balde	Food crops entrusted
Kodjeran (mandjana)	Kinieran grouping	Kadiya Solo Koulibali	Seed producers
N'Zerekore	SNPRV	Mme. Henriette Kourouma Tonamou Wowo	Regional director Follow up/evaluation entrusted
Batouata (N'Zerekore)	Batouata grouping	Jerome Haba	Member producer
		Sékou Sacko	Member producer
		Fassou Haba	Member producer
		Sonace Haba	Member producer
		Eugene Moyah	Member producer
		Loua Eugene	Member producer
Samoe (N'Zerekore)	Toyakoly grouping	Labile Thea Cece thea	Grouping V-P Secretary

LOCALITIES	TUTELAGE STRUCTURES	INTERVIEWED PERSONS	FUNCTION
Seredou	CRA	Salifou Camara Cece Honore Haba Baourou Mansare Fara Camara Sekou Cisse Claude Jannot	Director Scientific programs coordinator Fertile valleys consortium coordinator Production system searcher System searcher Counsellor
Gueckedou	Nongoayombou grouping, Gueckedou seed producers union CRC	Olyano Farayande Michel Koundouno	President Community revitalisation committee president
Faranah	SNPRV	Ibrahima Yansane Mme aminata Diallo Saliou Barry Lamarana Sow M Kamano	Regional director COA/Interim Agro-trainer Popularizer agent Food crops entrusted
Yatiya (Faranah)		Bandjougou I Camara Bandjougou II Camara	Producer Producer
Dantiliya (Faranah)	Dantiliya groupings producers Union	Kagbe Kouyate El Hadji Malon Camara Idrissa Diawara Balla Conde Sory Samoura Karamoko Kollet Samoura	President member member member member Production entrusted members
Kamara (Faranah)	Kamara groupings producers Union	M'mah Toure Conde Saran Kande Nkankou Oulare Foremba Oulare	

BIBLIOGRAPHY

Baba Galle CAMARA *and al*, *The history of Nerica in Guinea*, IRAG/SNPRV/SG2000

BARRY Alpha Bacar, *Final report of the CBSS Nerica/Guinea project*, project CBSS-Nerica/Guinée, SNPRV (September 2005)

BARRY Mamadou Billo, CONDE Aly, *Synthesis report on the Guinean rice growing technological transfers pilot program (Provisory document)*, IRAG/SNPRV (march 1999)

BAYO Lansana, CONDE Aly, *ADRAO interspecific rice evaluation report, mission report*, BCEPA-ORIZA/SNPRV (December 2000)

BEAVOGUI Sekou , *A brief summary of rice growing in Guinea* , seminar communication on the « Production and scattering promotion of rice in Africa », organized by the Japanese Cooperation Agency (JICA), Nairobi, (10 et 11 February 2004)

Information Bulletin on Imports follow ups n° 11, third quarter 2005, Dynafiv, BCEPA

DIALLO Thierno Abdoul, *Guinean rice production panorama*, National work shop on the rice channel, Conakry, Dynafiv (May the 7 and 8, 2001)

DIAWARA Sekou *and al*, *Diffusion and adoption of the Nericas and other improved varieties in Guinea*, IRAG/ADRAO/SNPRV, (December 2004)

KOUROUMA Henriette, *Annual report of activities for the 2003 – CBSS Nerica agricultural campaign*, DR-SNPRV de N'Zerekore, (2003)

LPDA2 volume 1, synthesis document , volume 2, main document (revised version), MAEF(May 1997)

ORIZA – GUINEE, *Bulletin n°10*, (June 2004), *bulletin n°11*,(November 2005), BCEPA

PENDESSA Alhassane - BANGOURA Djibril Tamsir - CAMARA Ahmadou, *Mission report for the CBSS-Nerica, 2004 agricultural campaign evaluation*, CBSS-Nerica/Guinée project, SNPRV (January 2005)

The 2005 Annual report of activities, DNA (December 2005)

The 2003 agricultural campaign activity report, DR-SNPRV de Faranah, (January 2004)

The 2004 agricultural campaign activity report, DR-SNPRV de Faranah, SG 2000, (2004)
Follow up-evaluation service, information and communication,

The local rice channel in Guinea (synthesis), Dynafiv, BCEPA (June 2005) Follow up-evaluation service, information and communication,

Capitalization notes on the rice channel in Guinea, Dynafiv, BCEPA (May 2004)

SQUARE Daouda, *Peasant dynamic and strategy study concerning rice growing on hillsides and fertile valleys in Forest-Guinea (Theses-Master)*, IRAG/CNEARC/CIRAD, (December 1996)