NERICA DISSEMINATION IN SUB-SAHARAN AFRICA (SSA)

Modus operandi: Partnership

The Africa Rice Center (WARDA) *modus operandi* is partnership at all levels. WARDA is recognized as a partnership center with privileged relations with its constituency of NARS.

For accelerated dissemination of improved technologies, including NERICA varieties, WARDA has explored a range of partnership models and adapted several participatory approaches, such as Participatory Variety Selection (PVS), Community-based Seed Production Systems (CBSS) and Participatory Learning and Action Research (PLAR).

A Center-commissioned Evaluation Review (CCER) on partnerships conducted in 2005 was not only the first-ever by WARDA but the first-ever within the CGIAR. The CCER Panel commended WARDA for its boldness in conducting such a review, which not only confirmed WARDA's partnership model as being unique and exemplary, but also highlighted the Center's contribution to reinforcing Africa's capacity for agricultural research. This recognition culminated in December 2006 in WARDA receiving the prestigious United Nations Award for South-South Triangular Partnership for its pioneering efforts in brokering North-South partnerships in order to create hybridized varieties of rice applicable to conditions in the South.

For upstream research and development, the Interspecific Hybridization Project (IHP) model – a triangular South-South partnership – was developed to bring together the pool of expertise from advanced research institutes with that of national programs. IHP was the key to the advancement of upland NERICA varieties in SSA.

It was supported by Japan, the United Nations Development Programme (UNDP), and the Rockefeller and Gatsby Foundations. The research on NERICA varieties has also been sponsored right from the beginning by the CGIAR. Research and development partners in the IHP include the International Rice Research Institute (IRRI); *Centro Internacional de Agricultura Tropical* (CIAT); Japan International Cooperation Agency (JICA); Japan International Research Center for Agricultural Sciences (JIRCAS); *Institut de recherche pour le développement* (IRD); Cornell, Tokyo and Yunnan Universities; and the national programs of African countries.

- ***Mechanisms of partnership:*** The achievements of WARDA's partnerships in germplasm dissemination, including NERICA varieties, are captured through a variety of mechanisms, including networks such ROCARIZ, ARI and INGER-Africa, and collaborative projects such PVS, CBSS, IHP and PLAR. The Center hosts these networks developed and created in close consultation with stakeholders. Activities of these networks and projects have resulted in tangible outputs which have been summarized throughout this document. The following paragraphs provide additional information.

- ***Participatory Varietal Selection (PVS):*** Introduced for the first time in SSA, PVS has revolutionized the scientist-farmer interaction across SSA and unleashed a wave of NERICA adoption. This is being further advanced through the African Rice Initiative (ARI) coordinated by the Center to disseminate NERICA varieties and complementary technologies across SSA. Participatory Varietal Selection for Research and for Extension (PVS-R and PVS-E) is a means of involving farmers at all levels of the development process. PVS enhances capacity building and ownership of products, and reduces the time involved in the variety release process by up to 10 years. PVS has been quite instrumental in the release of varieties in several African countries, including Benin, Burkina Faso, Côte d'Ivoire, Guinea,

Mali, Nigeria and Togo. Participatory variety selection is the major vehicle enabling the speedy introduction of improved varieties that meet the requirements of resource-poor farmers. Instead of taking 12 years to introduce a new variety under conventional breeding, PVS new lines reach the farmer – for evaluation – in five years and farmers have a major input into the selection of lines released. Progress was made in the supply of sufficient NERICA seed to support large-scale dissemination.

- ***Community-based Seed multiplication Scheme (CBSS):*** CBSS ensures that seed multiplication is devolved to farmers and producers thereby bringing farmers closer to researchers and extension agents. CBSS has been instrumental in the production of seed used in the PVS trials.

- ***Participatory Adaptation and Diffusion of technologies for rice-based Systems (PADS):*** implementation of the PADS project has brought thousands of farmers into contact with WARDA's NERICA varieties for use in low-input rainfed systems through participatory field experimentation, demonstrations and a seed multiplication program in Côte d'Ivoire, Guinea, Ghana, Mali and The Gambia. NERICA varieties have been especially appreciated by farmers because of their short growing cycle (80 to 100 days), which allows the crop to be harvested during the hungry season and reduces labor demand compared to the local rice varieties.

- ***PADS used the CBSS-approach to stimulate farmers in taking the lead in seed supply:*** PVS and CBSS involved more than 20,000 farmers and more than 20 tonnes of NERICA seed were produced and distributed. Local networks and communication channels in which NGOs played a crucial role have been used to promote the new seed. PADS also developed extension materials such as technical fact sheets and leaflets on improved rice varieties, weeds and fertilizer management, the use of bio-pesticides, improved parboiling technology, etc.

The implementation of PADS led to the use of a methodological process-approach for Participatory Learning and Action Research (PLAR) involving farmers, extension, NGOs and research in order to improve participatory experimentation and fine-tuning of technical options by the farmers themselves; regular field visits; improved observation skills of farmers to allow improved analysis and decision-making; discovery of agro-ecological principles in a social learning setting; sharing basic knowledge of technologies among farmers; and analyzing financial and risk implications of new practices by farmers themselves. PLAR has enabled the possibility of a Rural Knowledge Center where the interested farmers can be trained as facilitators and can (partly) take over the role of the governmental (or NGO) facilitators. The idea is that the farmers-facilitators disseminate findings and learning tools/methods to neighboring lowland sites through farmer-to-farmer learning on demand.

The role of ROCARIZ

Contributor: Lawrence Narteh

The partnership model that has been most acclaimed by WARDA's national partners is the task force mechanism of the ROCARIZ *(Réseau ouest et centre africain du riz*/West and Central Africa Rice Research Network) rice network, which has played a central role in the development of the lowland NERICA varieties. It facilitated the shuttle-breeding approach to accelerate the selection process and achieve wide adaptability of the lowland NERICA varieties. Thanks to the task force model, the Center has reinforced SSA's capacity for rice research. The roots of ROCARIZ can be traced to 1991 under a different name and structure known as the WARDA Task Forces.

WARDA recognizes that there are too many rice production constraints to enable either it or the National Agricultural Research

and Extension Systems (NARES) as individual entities to handle single-handedly the research agenda for developing, evaluating and transferring technologies for rice-based cropping systems. WARDA requires the collaboration of NARES to ensure significant impact. As an association of West African states it has privileged access to NARES, and a particular responsibility to serve their respective countries. To this end, WARDA and NARES scientists have pooled their scientific skills to acquire the strength to address the most important research issues through network and partnership arrangements. ROCARIZ was instrumental in the development of the NERICA rice varieties for Africa when its members took an active part in the crossing of *Oryza glaberrima* × *O sativa* and also participated in the on-farm testing and release of the new varieties.

ROCARIZ contributed significantly to closer and increased research collaboration between WARDA and NARS scientists and among the NARS. In addition, it has boosted capacity building through the devolution of responsibility for research activities to NARS and helped increase the capacity of NARS to generate project proposals and scientific publications.

The role of INGER-Africa

Contributors: Eklou A. Somado and Robert G. Guei

The African wing of the International Network for Genetic Evaluation of Rice (INGER-Africa) is the largest rice testing network in Africa. Operated by the Africa Rice Center (WARDA) since 1994, it has the mission to ensure wide and rapid dissemination of rice germplasm in sub-Saharan Africa. This network was created to meet the needs of most national rice research programmes in SSA, which have limited access to diverse genetic materials and rely on international centers to broaden their crop genetic bases.

INGER-Africa has catalyzed regional efforts in public-sector rice research,resulting in the release of about 200 improved rice varieties over the past 25 years in West Africa alone. An impact study found that the producers' surplus gains from these improved varieties were worth about USD 360 million in 1998 alone and that, without them, the West African regional balance-of-payment deficit for rice imports in 1998 would have been 40% higher. Additional 650,000 hectares of farmland would have to be under rice cultivation to maintain consumption levels at their current standard (Dalton and Guei, 2003).

WARDA has strengthened its germplasm distribution, regional evaluation and utilization activities across sub-Saharan Africa in recent years. Improved rice germplasm have been multiplied, processed and distributed – free of charge – through INGER-Africa nurseries for further evaluation under local conditions and utilization by national rice improvement programs in SSA.

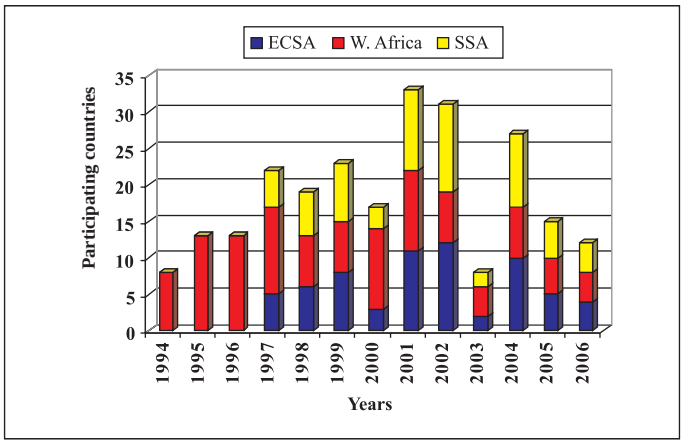


Figure 7. Number of participating countries in INGER-Africa from 1994 to 2006

Between 1997 and 2006 INGER-Africa responded to the demand for interspecific rice varieties (*O. glaberrima* × *O. sativa*) from 29 countries in SSA, including 14 in West Africa (WA) and 15 in East, Central and Southern Africa (ECSA) (Figure 7) by multiplying, purifying and dispatching seeds of these improved materials initially received from WARDA's breeders.

Interspecific germplasm (*O. glaberrima* × *O. sativa*) distributed by INGER-Africa in SSA, 1997–2006

Based upon requests from NARS, INGER-Africa's nurseries were assembled for the rainfed upland and the rainfed lowland/irrigated lowland systems (Figure 8).

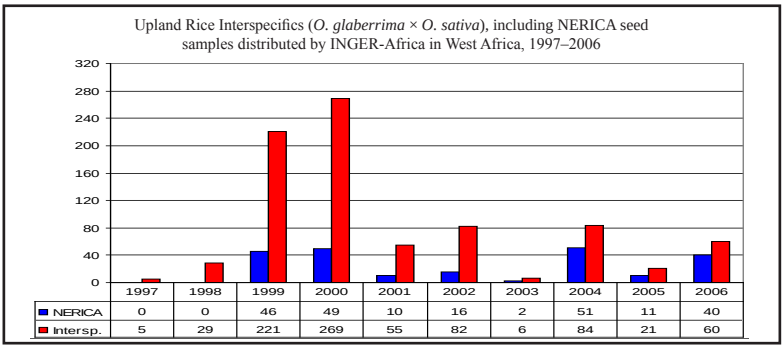


Figure 8. Rainfed upland and lowland/irrigated rice interspecifics *(O. glaberrima* × *O. sativa)*, including NERICA seed samples distributed by INGER-Africa in sub-Saharan Africa, 1997–2006

A total of 832 seed samples of interspecific lines, including 225 of NERICA varieties, were dispatched as upland nurseries for evaluation by scientists in WA, while 670 samples, of which 155 were upland NERICA varieties, were sent to ECSA for the same purpose (Tables 8–9). Between 2003 and 2006, Japan, Belgium, Germany and the USA requested and were supplied with 88 seed samples of interspecific lines, of which 62 samples were upland NERICA varieties.

It was only in 2005–2006, subsequent to the development and naming of these interspecific lines, that the requests for and distribution of the lowland-irrigated NERICA varieties took off. During that period a total of 17 seed samples were dispatched to Guinea, Liberia and Sierra Leone in WA while 186 were sent upon request to Ethiopia, Tanzania and the Central African Republic in ECSA. Also, upon request, Japan was supplied with 62 samples of the lowland-irrigated NERICA–L 32 variety.

The 29 SSA countries receiving interspecific varieties seed samples during the period under review included 14 countries in WA (Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Liberia, Senegal, Sierra Leone, Niger, Nigeria, Mali, Ghana, Guinea, Guinea-Bissau and Togo) and 15 in ECSA (Burundi, Cameroon, Chad, Central African Republic, Democratic Republic of Congo, Congo-Brazzaville, Rwanda, Madagascar, Ethiopia, Kenya, Tanzania, Uganda, Sudan, Zimbabwe and Mozambique). See Tables 9 and 10.

Table 9. Number of lines of upland rice interspecifics *(O. glaberrima × O. sativa)*, including NERICA (indicated in parentheses), evaluated each year per country by INGER-Africa in West Africa, 1997-2006

West Africa	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	TOTAL	Upland NERICA variety
Benin	0	3	0	8 (4)	0	0	0	3(3)	0	5(3)	19(10)	NERICA2, NERICA 4, NERICA5, NERICA6, NERICA7, NERICA8, NERICA11
Burkina Faso	0	0	42 (8)	5 (2)	4(1)	0	0	0	0	0	51(11)	NERICA1, NERICA2, NERICA4, NERICA6, NERICA7
Côte d'Ivoire	0	0	0	21(1)	0	0	0	7	0	13(11)	41(12)	NERICA1, NERICA2, NERICA3, NERICA4, NERICA5, NERICA6,NERICA7
Gambia	0	0	21 (4)	4(3)	4(2)	0	0	0	0	0	29(9)	NERICA1, NERICA4, NERICA6, NERICA 7
Ghana	0	9	46 (8)	34 (2)	4(2)	11(6)	2	23(23)	0	0	129(41)	NERICA1, NERICA 2, NERICA 3, NERICA4, NERICA5, NERICA6, NERICA 7
Guinea	0	1	24 (6)	2(2)	0	0	0	1(1)	11(9)	11(9)	50(27)	NERICA1, NERICA 2, NERICA 4, NERICA7, NERICA8, NERICA9, NERICA12, NERICA13, NERICA14, NERICA15, NERICA16, NERICA17, NERICA 18
Guinea Bissau	0	0	0	47(7)	0	8(1)	0	0	10(2)	0	65(10)	NERICA1, NERICA2, NERICA4, NERICA5, NERICA6
Liberia	0	0	10 (3)	0	0	0	0	0	0	5(4)	15(7)	NERICA1, NERICA2, NERICA4, NERICA5, NERICA7
Mali	0	0	0	45(10)	12	0	4(2)	32(13)	0	0	93(25)	NERICA1, NERICA2, NERICA3, NERICA4, NERICA5, NERICA6, NERICA 7
Niger	0	0	0	0	6(1)	2(1)	0	0	0	2(1)	10(3)	NERICA1, NERICA2, NERICA4, NERICA 6
Nigeria	0	3	48 (8)	47 (8)	0	0	0	4(4)	0	10(8)	112(28)	NERICA1, NERICA2, NERICA5, NERICA6, NERICA7, NERICA8, NERICA9, NERICA10
Sierra Leone	5	13	12 (3)	55(9)	24(4)	61(8)	0	7(7)	0	12(4)	189(35)	NERICA1, NERICA2, NERICA3, NERICA4, NERICA5, NERICA6, NERICA 7
Senegal	0	0	0	0	0	0	0	0	0	2	2	WAB 450-I-B-P-153-HB, WAB 450-I-B-P-33-HB *(Interspecifics other than named NERICA)*
Togo	0	0	20 (6)	1	0	0	0	0	0	0	20(6)	NERICA1, NERICA2, NERICA4, NERICA5, NERICA6, NERICA7
Total	**5**	**29**	**221(46)**	**269(49)**	**55(10)**	**82(16)**	**6(2)**	**84(51)**	**21(11)**	**60(40)**	**832(225)**	

Table 10. Number of lines of upland rice interspecifics *(O. glaberrima × O. sativa)*, including NERICA lines (indicated in parentheses) evaluated each year per country by INGER-Africa in East, Central and Southern Africa, 1997–2006

ECSA	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total	Upland NERICA Variety Name
Burundi					7						7(0)	NERICA1 to NERICA 7
Cameroon										18(18)	18(18)	NERICA1 to NERICA 18
Congo Republic					42(9)	13(7)	23(7)			101(23)		NERICA1 to NERICA 7
Congo DR			11(1)	13(3)	30(7)	9(2)		20(14)		3(2)	115(29)	NERICA1 to NERICA 7
Ethiopia					54						50	NERICA1, NERICA 2, NERICA 4, NERICA 6, NERICA 7
Kenya			4	40(9)	1(1)	4(1)	4(1)				53(12)	NERICA1, NERICA 2, NERICA 4, NERICA6
Madagascar			2								2	WAB 450-11-1-P41-3-HB WAB 450-I-B-P-23-HB (Interspecific lines other than named NERICA)
Central African Republic									6(4)		6(4)	NERICA1, NERICA 2, NERICA 4, NERICA 6, NERICA 7
Mozambique					34						34	NERICA1, NERICA 2, NERICA 4, NERICA5, NERICA 6, NERICA 7
Rwanda			13(1)								13(1)	NERICA 6
Sudan					11	4(1)		29(7)			44(8)	NERICA1, NERICA 2, NERICA 3, NERICA4, NERICA 5 , NERICA 6, NERICA7
Chad			20(6)	9(1)	30(9)	66(21)					125(31)	NERICA1, NERICA2, NERICA3, NERICA4, NERICA 5, NERICA 6, NERICA7
Tanzania							8(7)	77(14)		18(18)	103(39)	NERICA1 to NERICA 18
Uganda			11(1)					29(7)			40(8)	NERICA1 to NERICA 7
Zimbabwe								7(7)			7(7)	NERICA1, NERICA 2 ,NERICA 3, NERICA5 , NERICA 6, NERICA 7
Total			**61(9)**	**62(13)**	**167(17)**	**125(34)**	**25(15)**	**185(28)**	**6(4)**	**39(38)**	**670 (158)**	

The role of the African Rice Initiative (ARI)

Contributor: Inoussa Akintayo

While ROCARIZ is mainly a research network, ARI was created to deal with one of the major bottlenecks of rice production—the availability of quality seed. ARI covers the whole of SSA and maintains a presence in each participating country through a stakeholder platform. ARI has contributed to strengthening relationships between extension services and research institutions. It is a vehicle of dissemination for WARDA products from production and development to processing and marketing. Since ARI's inception in 2002, the following main achievements have been recorded:

- Seed availability is constantly addressed by the Coordination Unit. Table 11 provides a summary of foundation seed produced and distributed to several countries through ARI.

Table 11. Production and distribution of NERICA foundation seed by ARI Coordination Unit

Year	Seed produced (kg)			Seed distributed (kg)			Beneficiary countries
	BS1	FS1	Total	BS	FS	Total	
2003	75	350	425	65	350	415	Mali, Togo
2004	151	1 063	1 214	100	1 000	1 100	Burkina Faso, Mali, Togo, Nigeria
2005-06	1 474	14 102	15 576	1 400	13 900	15 300	Benin, Burkina Faso, DR Congo, Ethiopia, The Gambia, Ghana, Guinea, India, Kenya, Mali, Nigeria, Mozambique, Philippines, Sierra Leone, Tanzania, Togo, Uganda.
Cumulative Total	**1 700**	**15 515**	**17 215**	**1 565**	**15 250**	**16 815**	

[1]*BS: Breeder Seed; FS: Foundation Seed*

- In order to increase adoption rate and boost production, ARI facilitated the introduction of more than 400 interspecific lines, including NERICAs, to farmers through PVS. By the end of 2005, 11 new NERICA varieties (NERICA8–NERICA18) were named, from which three were released. The newly-named materials are mainly extra-early (e.g. NERICA8 and NERICA9) at 80 days to maturity. ARI also contributed to the introduction and release of lowland NERICA lines; up to 60 have been named, from which five have already been released.

- ARI activities were initially restricted to pilot countries, but have been extended progressively to further countries. By 2005, NERICA lines had been tested in many countries in SSA (Figure 9). Forty six NERICA lines were adopted and 19 released in 17 countries, the number of varieties per country ranging from one to seven.

Area in SSA producing NERICA varieties

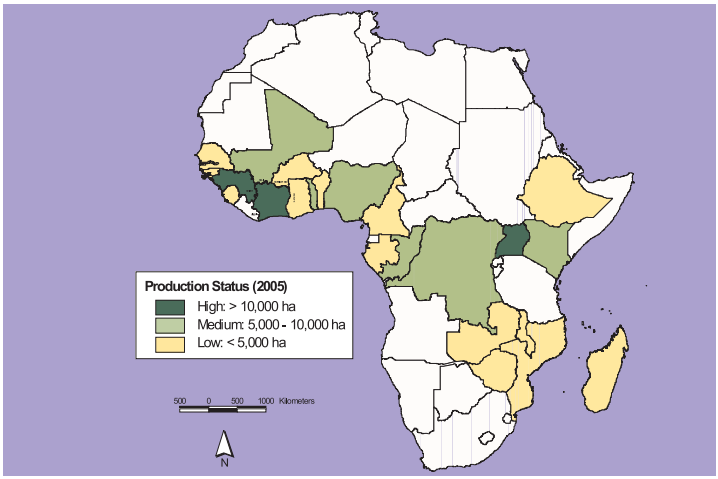


Figure 9. Area cultivated under NERICA varieties in 2005

NERICA rice varieties have been making headway in SSA. In 2006 it was estimated that NERICA varieties were planted on more than 200,000 hectares across Africa, including about 70,000 ha in Guinea and 15,000 ha in Uganda. Figure 9 illustrates the area grown to NERICA varieties in Africa in 2006. Figure 10 shows NERICA distribution in 2006

The NERICA dissemination effort is not intended to replace local varieties totally but to integrate NERICA varieties into the existing varietal portfolio of rice farmers, with complementary technologies, sound natural resource management practices and improved rice marketing and distribution systems.

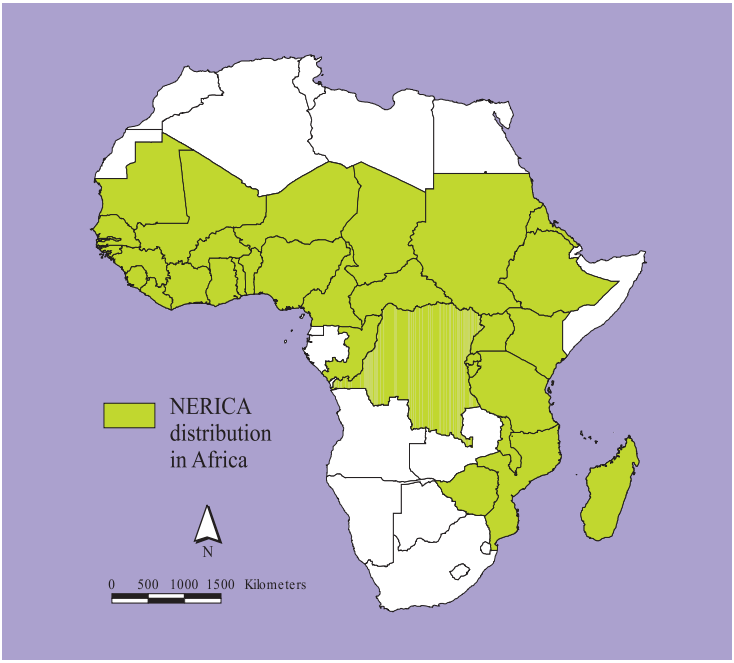


Figure 10. NERICA distribution in SSA (2006)

The role of PVS

Contributors: Howard Gridley and Moussa Sié

Farmers in the driving seat

The goal of PVS (participatory variety selection) is to transfer improved rice varieties to farmers efficiently in order to:

- reduce the time required to move varieties into farmers' fields;
- determine the varieties that farmers want to grow
- learn the traits that farmers value in varieties to assist breeding and selection
- determine if there are gender differences in varietal selection criteria

Research on PVS has revealed a gender-based varietal selection process whereby men and women farmers use different criteria to evaluate varieties. For instance, men gave importance to short growth duration and plant height, whereas women preferred traits such as good emergence, seedling vigor and droopy leaves that indicate weed competitiveness, since they are mostly involved in the sowing and weeding operations.

Research methodology

The NERICA varieties were introduced to rice farmers in Côte d'Ivoire in 1996 and Ghana, Togo Guinea in 1997, through Participatory Variety Trials (PVS), (WARDA, 1999). Farmers then started disseminating them through their informal channels. Seven NERICA varieties (NERICA1–NERICA7) intended for upland rice farming were being used by farmers in 2000.

PVS was chosen because it:

- shortens the time lag between varietal development and release
- accelerates the rate of adoption of promising rice varieties from WARDA

- obtains farmer criteria for choosing/adopting rice varieties and passes such information to researchers for further refinement of technology
- has efficient methodology – a 3-year program (Box 1)
- is a tool for efficient transfer of improved rice technologies to farmers

In the first year of PVS, WARDA and national scientists and local farmers identify centralized fields near villages, and plant 'rice gardens' with up to 60 upland varieties. The varieties range from traditional and popular *O. sativa* cultivars to NERICA developments, African *O. glaberrima* cultivars and local varieties as checks. Men and women farmers are invited to visit the fields as often as possible, but farmers are brought in groups for formal evaluation of the test entries at three key stages (maximum tillering, maturity and post-harvest). For the first two visits, farmers compare agronomic traits, including weed competitiveness, growth rate, height, panicle type and growth cycle, while the third visit focuses on grain quality attributes such as size, shape, shattering, ease of threshing and husking and palatability. Each farmer's varietal selection and the criteria for selection are recorded and later analyzed.

In the second year, each farmer receives as many as six of the varieties, which he or she selected as favorites in the first year, to grow on his or her own farm. Thus, new genetic diversity enters the communities. PVS observers, who may comprise breeders and/or technicians from NGOs and Extension Services, visit participating farmers' fields to record performance and farmer appreciation of the selected varieties. At the end of the year, farmers evaluate threshability and palatability to provide a full view of the strengths and weaknesses of the selected varieties.

For the third year, farmers are asked to pay for seeds of the varieties they select as evidence of the value they place on them. Thus, in three years, PVS-Research (PVS-R) allows the farmers to select

varieties with specific adaptation and preferred plant type and grain quality characters. These, in turn, can be integrated into the breeding programmes to tailor new varieties for farmers.

Participatory varietal selection

Year 1: Rice garden: Farmers are exposed to a range of promising cultivars and make selections.

Year 2: Farmers plant selections alongside local varieties.

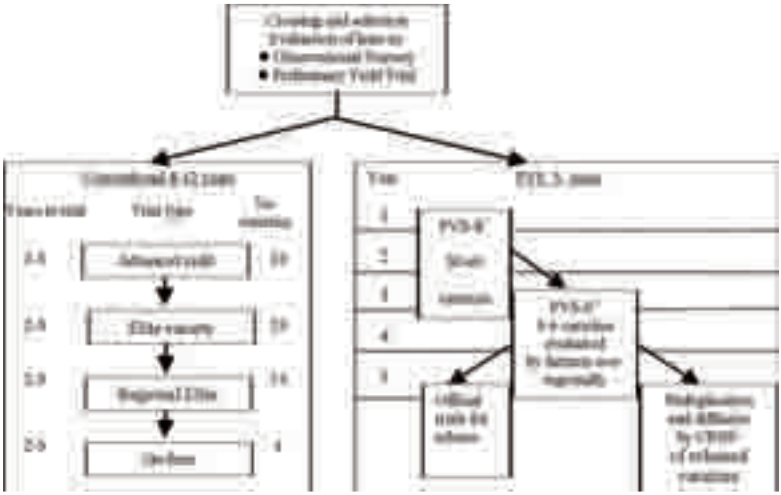
Year 3: Farmers verify for a further year variety preferences–selection criteria.

Box 1. PVS methodology – a 3-year program

Advantages of PVS methodology over the conventional scheme
Conventionally, it takes at least 12 years to put varieties in farmers' hands and, even then, farmers and consumers may not appreciate the varieties selected. A PVS extension (PVS-E) phase has recently been introduced to complement PVS-R and accelerate dissemination and official release. Four to six of the more commonly-selected varieties in the second year of PVS-R in an ecoregion are disseminated widely to farmers within the region for evaluation in the third year. After two years of PVS-E, the more-preferred of these varieties are enrolled in multi-location trials to generate data for official release.

Simultaneously, these varieties enter community-based seed systems (CBSS) for multiplication to ensure adequate seed supplies for rapid dissemination of the varieties once they are officially approved for release. PVS research is a novel applied and adaptive research mechanism that favors farmers playing an active role in product

development and spread. It has assisted in the early and broad dissemination and adoption of promising lines, including NERICA varieties, by NARES, development agencies and farmers in WCA. WARDA introduced PVS into Côte d'Ivoire in 1996 and farmers liked the concept of sharing responsibilities for rice research because they were able to select varieties that met their needs. Encouraged by the results, WARDA extended it to all 17 WARDA member countries by 1999. Regionally, more than 3500 farmers in WCA participated in the PVS and about 5000 farmers were exposed to improved upland rice varieties through PVS in 2000.



[1] *PVS-R and -E: PVS Research and Extension, respectively.* [2] *CBSS: Community-based Seed System.*

Figure 11. Representation of relative time scales for conventional variety development and PVS to deliver new varieties to farmers

WARDA has been providing varieties for participatory varietal selection over the last 10 years. Table 12 summarizes farmers' selection criteria for adoption of NERICA rice varieties in different countries in SSA.

Table 12. Farmers' selection criteria applied in PVS-R in 17 countries in SSA

Country	Selection criteria																				
	Yield	Height	Short growth cycle	High tillering	Grain size	Grain-large	Weed competitiveness	Grain color	Grain-bold	Good response to fertilizer	Lodging resistance	Panicle size	Taste	Non-sticky grain	Drought tolerance	Medium growth cycle	Bird damage resistance	Adaptability	Emergence rate	Aroma	Disease resistance
Togo	✓								✓				✓	✓							
The Gambia		✓	✓	✓	✓		✓				✓										
Chad	✓				✓			✓		✓			✓	✓			✓				
Sierra Leone		✓	✓	✓		✓		✓		✓											
Senegal	✓	✓	✓	✓		✓															
Niger	✓	✓	✓	✓																	
Nigeria		✓			✓	✓										✓					
Mauritania		✓		✓	✓			✓							✓	✓					
Mali	✓	✓	✓	✓	✓	✓	✓			✓	✓				✓						
Liberia	✓		✓								✓										
Guinea			✓																		✓
Bissau	✓	✓		✓	✓	✓	✓		✓		✓	✓			✓		✓				
Guinea	✓	✓	✓	✓		✓			✓				✓	✓							
Ghana	✓		✓	✓	✓					✓											
Côte d'Ivoire	✓	✓	✓	✓	✓	✓			✓											✓	
Cameroon		✓	✓	✓	✓							✓									
Burkina Faso	✓	✓	✓	✓	✓			✓				✓						✓	✓		
Benin	✓		✓	✓			✓														
Total	**12**	**12**	**13**	**13**	**10**	**7**	**4**	**4**	**4**	**4**	**4**	**3**	**3**	**3**	**3**	**2**	**2**	**1**	**1**	**1**	**1**