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## Groundnut Seed Systems in Senegal and Niger

**J Ndjeunga and B R Ntare** (International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), BP 320, Bamako. Mali)

A number of groundnut (*Arachis hypogaea*) varieties have been released in both Niger and Senegal (Table 1). Recent studies in West and Central Africa have indicated that seed supply systems function poorly and therefore non-availability of seeds is a major constraint to adoption of new improved varieties. However, uptake of improved varieties and profitability of seed systems significantly differ from country to country, and according to crops.

Primary indicators of seed sector performance show that the seed sector in Senegal supplies comparatively more improved groundnut seed (28% of the total seed sown) compared to that in Niger (1%) (Table 2). The informal seed system in both these countries provides access to existing varieties by smallholder farmers. These systems supply most of the seed sown by farmers at low transaction costs and seed quality is apparently good. These systems could be strengthened by ensuring access to seed of new varieties, and possibly by improving seed flow from surplus to deficit regions after drought. Overall, adoption of improved seed by farmers is higher in Senegal than Niger. Also, seed is more efficiently produced in Senegal. There are several variables that

explain the differences in seed sector performance.

These include variety development and availability, seed multiplication, seed selection, storage, and seed stocks.

So far 13 groundnut varieties have been developed and released in Senegal. In Niger little emphasis was put on breeding but adaptation trials were conducted using varieties developed by the Institut de Recherche des Huiles et Oleagineux (IRHO). This led to the release of 9 varieties suitable to a range of agroecological zones. In Niger, only one groundnut variety 55-437 is widely grown while in Senegal several improved varieties are grown (Table 1).

Despite the large investments in seed multiplication and distribution projects in Niger, the formal system has consistently supplied a negligible share of total seed requirement (1%). In Senegal on the other hand, all

**Table 1. Groundnut varieties released in Niger and Senegal.**

Variety	Crop cycle (days)	Year of release	Institution
<b>Niger</b>			
55-437	90	1955	IRHO <sup>1</sup>
T-169-83	90	1977	IRHO
T-181-83	90	1977	IRHO
TS 32-1	90	1976	IRHO
796	90	1976	IRHO
KH 149-A	90	1973	IRHO
47-16	120	1977	IRHO
40-16	120	1940	IRHO
57-422	120	1957	IRHO
<b>Senegal</b>			
28-208	120	1928	IRHO
55-437	90	1955	IRHO
57-313	125	1957	IRHO
57-422	105-110	1957	IRHO
69-101	125	1969	IRHO
73-30	95	1973	IRHO
73-33	105-110	1973	IRHO
GH 119-20	110-120	1920	IRHO
73-27	120-125	1972	IRHO
756-A	125	1951	IRHO
73-28	120-125	1972	IRHO
Fleur 11	85	1988	ISRA <sup>2</sup>
GC 8-35	75-90	1989	ISRA

1. IRHO = Institut de Recherche des Huiles et Oleagineux.

2. ISRA = Institut Senegalais de Recherche Agricole.

Source: Ndjeunga et al. (2000).

improved groundnut varieties are multiplied and made available to farmers (28%). Overall the seed coverage for improved varieties is higher in Senegal, where the private sector such as Groupement d'Interel Economique (GIE) accounts for about 25% of the total improved groundnut seed produced (Table 3). Senegal is endowed

with relatively well-developed seed distribution network than Niger. The informal seed trade is not clearly differentiated from the grain trade. In the informal seed sector, farmer-to-farmer seed exchange remains the main distribution channel.

Seed selection, storage, and quality play a significant role in the marketability of the product. Seed storage is a critical function due to perishability of groundnut seed. Inadequate seed storage results in losses of seed quality especially viability and germination rates and in higher operating costs for the seed enterprise. Results from a survey, however, indicated that performance of the seed systems in the two countries was not attributed to the quality of seed produced and distributed.

One significant difficult issue of seed systems has been on how to deal with seed security stocks. There is less incentive for private firms to maintain significant seed reserves to compensate for drought or other natural calamity, which greatly diminishes the availability of seed. Therefore, investments aimed at enhancing the capacity of local village seed systems to manage seed security stocks is warranted.

## Conclusion

The informal seed systems still remain the main seed sources for almost all small-scale holder farmers in both Niger and Senegal. In both countries, these systems perform fairly well at supplying seed to end-users, distributing seed at relatively low cost, and maintain acceptable levels of seed viability and health. They are also able to maintain a wide access to a large range of improved varieties at low transaction cost. However, they have difficulty in meeting the needs of seed security stocks. Donors and government should invest more resources in enhancing capacity of the informal seed sector for managing seed security stocks, ensuring access to new varieties, and possibly improving seed flow from surplus to deficit regions after a poor harvest.

## Reference

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**Table 2. Trends in commercialized production of groundnut seed in Niger and Senegal.**

Year	Seed production (t)	
	Niger	Senegal
1990	0	10232
1991	22	16781
1992	0	15176
1993	0	22898
1994	313	11265
1995	52	9967
1996	0	6106
1997	6	15523
1998	0	na <sup>1</sup>
Average (1990-98)	44	15523
Average cultivated area (ha)	177526	831051
Expected national requirements <sup>2</sup> (t)	5918	27792
National government seed coverage (%)	1	55
Expected farmer seed needs (t)	4131	54353
Farmers' seed coverage <sup>3</sup> (%)	1	28

1. Data not available.

2. This is computed based on government recommended seeding renewal rate, while expected farmer seed needs is based on rate of market entry.

3. Average seed production/expected farmer seed need x 100.

**Table 3. Proportion of groundnut seed sown (%) from various market sources in Niger and Senegal in 1996 and 1997.**

Seed source	Niger		Senegal	
	1996	1997	1996	1997
Own stocks	89	82	54	36
Family and friends	3	4	0	1
Village markets	8	14	28	38
Formal sector	0	0	18	25

Source: Ndjeunga et al. (2000).