



INTSORMIL's Global Impact: A Revolution in West African Sorghum Production

“INTSORMIL technologies are capable of more than doubling sorghum and millet output in the developing world”



“All farmers raised their hands when asked if they would continue the program and what they had learned from it”

Battelle

The Business of Innovation

Sorghum and pearl millet are the staple grains for millions of people around the world, especially those residing in the semiarid margins of agricultural sustainability. For this reason, INTSORMIL has been working in the semiarid regions of Africa and Central America where it has been helping sorghum and millet farmers achieve the status of surplus grain production and the economic, social and health benefits thus provided. What impact has INTSORMIL had on the lives of these sorghum and millet farmers?

To determine the global impact of the USAID funded INTSORMIL program, Battelle, an independent agency, was chosen to conduct an assessment in West Africa where INTSORMIL has been active for 29 years. The assessment was conducted to illustrate the breadth and depth of impacts being achieved through focused INTSORMIL activities. The impact of INTSORMIL activities in villages in Mali and Niger are herein highlighted.

What was observed in West Africa is, in effect revolutionary, the structuring of a new integrated economic development system to achieve meaningful change in rural, urban, and national living standards.



Using INTSORMIL technology produces high sorghum yields



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Eager farmers at a sorghum field day

Discussions with farmers and producer cooperatives in Mali and Niger showed that yields are being doubled. The participating farmers universally hailed the program as one that they are delighted to participate in, and all said that they will continue with the program and what they have learned from it. It is clear from the case studies that INTSORMIL is presently generating powerful impacts through projects at the individual village level and is working toward the next step, that of rolling these impacts out on regional and national scales.

Now, more specifically, at the farm level, what has been the outcome of the INTSORMIL program conducted in collaboration with the national programs, IER (Institut de Recherche Economique) in Mali and INRAN (Institut National de Recherches Agronomiques du Niger) in Niger?

Karfara Village, Mali- In Kafara Village, farmers following the INTSORMIL/IER had sorghum yields of 34 tons/ha compared to 14 tons in previous years. The increased yield achieved on the 32 hectares of poor land dedicated to the program provided a net income increase to the village of 968,000 CFA—equivalent to \$1,874 U.S. dollars, a significant sum to a group of relatively poor Malian farmers.

Gabi Village, Niger- In Gabi Village, participating farmers stated they achieved a better than two-fold yield increase using



Proud sorghum producer

INTSORMIL inputs and recommendations with an average of 2-2.5 tons/ha versus typical yield of only 1 ton. Also, farmers noted better food quality of grain, and better feed quality of the stover (dried stalks and leaves used as fodder for livestock). The farmers call the high yielding variety bred by the INTSORMIL/INRAN project, Sepon 82 variety “eat all” because the grain can be eaten by humans and animals and the stover is relished by animals.



Traditional granaries filled with sorghum in Niger

Farmers were able to leverage increased staple grain yield to increase acreage of other cash crops and were able to diversify income. Farmers indicated a unanimous positive response to the INTSORMIL/INRAN program and all wish to participate again.

Guidan Idar Village, Niger- Farmers in Guidan Idar have achieved at least a five-fold increase in yield over a 15-year period working with INRAN/INTSORMIL. The high yields have allowed the farmers to: (1) Fill their granaries, (2) Achieve food security for their community, (3) Provide food aid to relatives and surrounding villages, (4) Shift some land from grain production into onion cash crops, and (5) Diversify land into seed production acreage and to be able to sell the seed to surrounding villages.

Key Elements- In conclusion what are the key elements of the Integrated Program in Mali and Niger? (1) Farmers noted that what they have learned from INTSORMIL has also been applied to their onion agronomy – resulting in a three-fold yield increase, (2) Prior to working with INRAN/INTSORMIL the farmers were mining nutrients out of their land and seeing some land become nonproductive – this trend has now been reversed, (3) The farmers have quite a sophisticated understanding of the benefits of training and human capacity building – they have a thirst for it, and (4) Farmers believe they have progressed to next level where they are ready for mechanization

INTSORMIL Potential- The Battelle report concludes with the statement that “INTSORMIL is generating powerful impacts through projects at the village level and these should be extended to national and regional scales. INTSORMIL technologies are readily capable of more than doubling sorghum and millet output in the developing world. The global adoption of INTSORMIL technologies, however, requires an international knowledge diffusion effort that extends well beyond the current INTSORMIL resources. It is imperative that financial resources be made available to fully realize the world-changing potential created by INTSORMIL’s 29 years of work.”

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