

# LWR & SEEDS

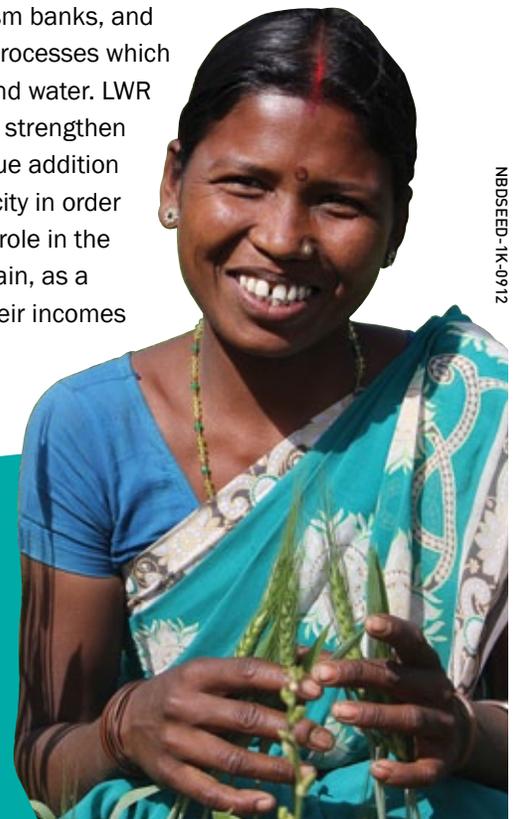


## BACKGROUND: THE IMPORTANCE OF QUALITY SEED IN AGRICULTURE

Farmers everywhere depend on access to quality seed as the foundation to their crop production system. A lack of quality seed can mean low germination rates and yields, and/or loss of production due to disease or adverse climatic conditions. Smallholder farmers traditionally rely on informal channels for access to seed, such as on-farm seed saving and storage, farmer-to-farmer exchanges, and informal and unregulated markets, increasing the probability that available seed is of substandard quality and susceptible to drought, pests and other disruptions. A relentless cycle then takes over: low crop production causes a rise in food prices which cause a rise in seed prices. In times of crisis, farm households, faced with threats to their food security, often end up consuming the quality grain that would normally be set aside for re-planting.

## LWR'S APPROACH: BRIDGING THE SEED GAP

Throughout the world, LWR works with farmers groups, cooperatives and producers' unions to support agriculture which is adapted to and better able to produce, in spite of changing climates. As part of a Climate Smart Agriculture approach which builds resilient ecosystems through improved seeds and other approaches, LWR supports participatory research and development of new hybrid seed varieties, efforts to preserve seed biodiversity through community germplasm banks, and crop intensification processes which demand less seed and water. LWR and its partners also strengthen seed production, value addition and marketing capacity in order to increase farmers' role in the agricultural value chain, as a means to improve their incomes and livelihoods.



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### Climate smart seeds

LWR links producer unions, researchers, government agricultural extension agents and seed distributors for research and development to identify high-yield, drought- and pest-tolerant seed varieties. LWR convenes different stakeholders to help identify mutual interests and emphasize consultative processes, as a means to ensure that researchers integrate existing farmer knowledge and experience as new seed varieties are developed. This consultation also ensures that seed is adapted to local agro-ecological conditions, consumer preferences and farm management systems.

LWR also supports recovery and preservation of native seed varieties to increase the availability of quality traditional seeds and promote local crops which have both nutritional and export market value. To do so, organic seed banks are established at the community and household-levels, to preserve genetic material and protect the biodiversity of unique food crops.

In addition, crop intensification approaches reduce the quantity and quality of seed required as a result of more precise crop management techniques. Seed and other input costs are therefore lower than traditional planting, yet substantial yields are achieved. LWR programs in Asia have used Systematic Rice Intensification (SRI) techniques, which require less water and are less labor intensive than traditional approaches. SRI has doubled crop yields, increased food security by 6-7 months on average, and led to year-round rice availability in target communities. A similar technique applied to wheat production has resulted in 3 additional months of household food supply per family per year.

### Local seed production: smallholder seed enterprises

In addition to working with research institutions to identify and produce improved breeder and foundation seeds, LWR builds the capacity of local farmers and their organizations to successfully multiply and market new seed varieties at the local level. LWR supports the creation of a sustainable supply and demand system for improved seed through targeted technical assistance.

LWR works with local organizations to ensure that seed growers have the tools and knowledge to maintain maximum quality control throughout the entire production process – from seed to harvest. At all stages of seed development, LWR provides on-farm training and technical assistance on seed production, quality control and certification. Whenever possible, LWR works in coordination with government extension agents to introduce improved agricultural practices such as soil and water management and integrated pest management. Plots are planted using breeder and foundation seed obtained from local research and seed supply agencies. Warehouses for seed storage are built and marketing support is also provided. Produced seed is registered with local government and certifying agencies, and then introduced for sale and distribution through private-sector suppliers and farm organization networks. Cooperative and farmers' group members receive preferential pricing on seed purchase, while sales to a broader clientele fetch competitive market prices.

## PROGRAM HIGHLIGHT: MALI

In Mali, LWR supported seed multipliers to produce over 800 tons of certified rice seed, covering at least 70% of need in the area. LWR's technical assistance established three storage facilities equipped with state-of-the-art equipment for seed sorting and cleaning--resulting in increased quality control and a 100% success rate in certification. LWR and its partner also provided training sessions in technical support and financial management and governance for cooperative leaders - strengthening their ability to provide improved and ongoing services to their members. LWR replicates similar interventions throughout West and East Africa - with organic sesame, fonio, and beans production, which have increased seed producer earnings, as well as the affordable supply of adapted, quality seeds.

