



SUCCESS STORY - 11

Vernonia: a Promising Industrial Oil Crop

USAID/AMAREW understands the limited opportunity for the rural economy to develop under the dominance of low value cereal-based systems, which do not allow market integration, hence a shift towards high value commodity crops is essential



Photo: AMAREW Project

Market-led rural economy development is highly desired and is the leading agricultural development policy moto in the Amahar Region. This could be achieved if the low value cereal based production system is assisted to include high value crops with market attraction. Such potentials are found in new crops such as Vernonia, an industrial value oil crop receiving research-extension attention in terms of variety development, seed increase, and market search through the support of AMAREW. Intensive tests are being carried out in the region which revealed high yield levels of the crop.

Vernonia galamensis (a potential industrial oilseed crop) but an indigenous weed in Ethiopia has a potential for export market. As widely documented in the literature, seeds from this plant contain oil rich in epoxy fatty acids and used in plasticizers and additives in flexible polyvinyl chloride (PVC) resins. Additional market potential might be as a drying agent in reformulated oil-based or alkyd-resin paints. Other potential uses for the oil include paint additives, polymers, and plastic additives. In consideration of the potential market in the United States, for example, over 63 million kg of epoxy compounds are used in coatings and adhesives alone annually. In the area of commercialization of the crop, some essential steps have been taken by the Ethiopian Government to attract foreign investors/business firms for commercial production of *Vernonia* oilseed. As an example, a British firm has indicated an interest in purchasing large quantities of *Vernonia* oil.

The Adet Research Center of Amhara Regional Agricultural Research Institute (ARARI) is actively engaged in *Vernonia* research and has released one high yielding *Vernonia* variety (AD7104). The AMAREW Project assists ARARI in strengthening national and international collaboration. For enriching the germplasm base of the crop, AMAREW obtained from Alemaya University 217 germplasm accessions collected from different parts of Ethiopia and delivered them to the ARC for characterization and selection. Currently, ARC is engaged in *Vernonia* agronomic and germplasm evaluation as well as large-scale seed multiplication at its various sites.

AMAREW is facilitating *Vernonia* potential market linkage between US companies and Amhara Region producers through Virginia State University (VSU). One U.S. Company, VSU is linking with is now doing intensive research on the utilization of vernolic acid for various industrial uses. In Ethiopia, there is still the need to intensify research efforts on this crop for both quantity and quality of oil & open up opportunities for the country to exploit the export market. The concern of many of the U.S. companies such as this one with interest on *Vernonia* is the fear of not having a steady supply of *Vernonia* oil year round, which apparently has hindered its large-scale utilization. We believe the issue of sustainable and reliable production and supply of the crop at the required quantities can be handled through diversification in space & time of production. ANRS entities can also manage to increase production through contractual arrangements with local farmers in an out-growers scheme. AMAREW serves as an effective liaison between market in the U.S. and research and production efforts in Ethiopia.