Integrated Pest Management minimizes contamination

Integrated Pest Management (IPM) for managing crop pests and diseases involves tolerant varieties, necessary sprays, natural enemies conservation and use of disease-free planting materials early planting and application of selective pesticides and less toxic botanical extracts. Pepper, Tephrosia, Mexican marigold among others are all encouraged.

Use improved forages to rehabilitate degraded ASALs

Cenchrus ciliaris, a high herbage yielding forages has been developed and introduced in marginal rainfall areas. In addition to forages for livestock, the grass rehabilitates degraded land thereby contributing to environmental conservation.

Cattle grazing on improved pastures
Introduction
KARI's mission is to contribute to improved livelihoods through agricultural innovations and knowledge. In fulfilling this mission, negative effects on the environment are avoided to ensure sustainable agricultural productivity.

How KARI contributes to Environmental conservation
KARI conducts research on high yielding crop varieties, integrated pest and nutrient management, host plant resistance, livestock disease immunisation among others for different zones and farming systems in the country.

High yielding varieties require less land
High yielding crop varieties for the high altitude, moist transition zones have been developed and released. An example is Maize variety KH 600-11D with an average yield of 40 bags per acre, compared to 10 bags from local maize varieties.

High yielding Napier grass
High yielding varieties require less land to give more yields than low yielding varieties. This eases pressure on land and avoids destruction of water catchment areas.

Pest/disease tolerant varieties, Require less chemical
Disease tolerant crops such as Tigoni potato and KK 8 bean variety have been released by KARI. These crops are tolerant to potato blight and bean root rot diseases, respectively.

Push-Pull technology
“Push-Pull technology” for control of maize stalk borers has been jointly tested by KARI and ICIPE. This technology minimizes application of insecticides that would contribute to environmental pollution.

Green manures improve soil fertility and moderate CO₂ gas
Legume green manures like velvet beans (Mucuna) improve soil fertility and structure. Their leafy canopies minimize soil erosion and enhance soil fauna. Their year round vegetation cover reduces CO₂ accumulation in the atmosphere and thus contribute to reduction of Global warming.

Mucuna forage contains 17% crude protein and when fed to dairy cows, milk production increases. Mucuna can be made into silage by combining with maize in the ratio of 75% maize and 25% Mucuna.

Tissue culture bananas require less chemical and provide soil cover
Rapid multiplication of bananas by tissue culture technique has been tested and disseminated by KARI. These bananas are disease and pest free and thus require less chemicals. Banana is a perennial crop and provides year round vegetation cover that minimises soil erosion.

High yielding maize
High Napier grass yields of 8-10 tonnes per acre can be obtained by planting Bana Napier grass as opposed to 2-4 tonnes per acre dry matter yield obtained from natural pastures.