

Development of adequate infrastructure for best agricultural practices in food production

The issue of global food security has been recently increasing as an important societal concern. Prevention of food losses in general and postharvest loss in particular is increasingly cited as a means to effectively contribute to available food supplies. Without adequate infrastructure to store and transport crops, enormous amounts of food are lost on the way from farms to consumers' tables". Recent studies of FAO provide indications that postharvest losses are substantial, with a commonly cited assessment that 1/3 of the world's agricultural product is wasted (FAO. Food Losses and Waste, 2011).

The vision of the Food Security Strategy is to attain universal physical, social and economic access to sufficient, safe and nutritious food at all times to meet their dietary and food preferences for an active and healthy life. Reducing food insecurity continues to be a major public policy challenge in developing countries. Almost 1 billion people worldwide are undernourished; many more suffer from micronutrient deficiencies.

Obviously, agricultural development is crucial for reducing hunger and poverty in rural areas, but non-agricultural growth can be important as well.

In developing countries as a result of absence of food safety managements systems a lot of food is spoiled with different contaminants. It is estimated that in some developing countries more than 75% of the local cereal production is provided by small scale farmers (FAO, 2011). For example, it is also estimated that about 90% of rural households in Kenya grow maize. However, the national maize supply by these small scale farmers annually decline due to a combination of crop failures in the predominantly short rains dependent region coupled with pre- and post-harvest losses which range from 20-30%. FAO in their 2011 report spoke of the "Missing Food" in which they estimated that currently, 1 out of every 5 kilos of grain produced in Sub Saharan Africa is lost to pests and decay. This lost food is enough to feed 48 million people for 12 months and is valued at around \$4 Billion or ½ annual grain imports to Africa. This means that a reduction in grain losses could have an immediate and significant impact on people's livelihoods. Furthermore, because cereals form a major part of the staple food of the sub-Saharan region, it is important that food security and safety concerns be identified so that appropriate control steps can be taken to prevent post harvest food losses and human health hazards. To date, the two major health concerns related to cereals in Africa are contamination with pesticide residues used in maize production and storage and fungal toxins that contaminate maize.

Qualitative losses (such as loss of caloric and nutritive value, loss of acceptability by consumers, and loss of edibility) are more difficult to measure than quantitative losses of fresh fruits and vegetables. While reduction of quantitative losses is a higher priority than qualitative losses in developing countries, the opposite is true in developed countries where consumer dissatisfaction with produce quality results in a greater percentage of the total postharvest losses. Providing consumers with fruits and vegetables that taste good can greatly increase their consumption of the recommended minimum of five servings per day for better health. Development of new cultivars with better flavor and nutritional quality plus adequate productivity should be given high priority in all countries.

For resolving all above mentioned issues as a very sufficient tool can be used best production practices, particularly good agricultural practice.

The term Good Agricultural Practices (GAP) can refer to any collection of specific methods, which when applied to agriculture, produce results that are in harmony with the values of the proponents of those practices. Good Agricultural Practices are a collection of principles to apply for on-farm production and post-production processes, resulting in safe and healthy food and non-food agricultural products, while taking into account economical, social and environmental sustainability. GAPs may be applied to a wide range of farming systems and at different scales. They are applied through sustainable agricultural methods, such as integrated pest management, integrated fertilizer management and conservation agriculture. They rely on four principles: Economically and efficiently produce sufficient (food security), safe (food safety) and nutritious food (food quality), sustain and enhance natural resources; maintain viable farming enterprises and contribute to sustainable livelihoods; meet cultural and social demands of society. GAP will assist to only for sustainable rural development and management, but will reduce postharvest losses in developing countries. This strategy includes:

- 1) Application of up to date knowledge to improve the handling systems (especially standardizing, packaging and cold chain maintenance) of horticultural perishables and assure their quality and safety
- 2) Overcoming the socioeconomic constraints, such as inadequacies of infrastructure, poor marketing systems
- 3) Encouraging consolidation and vertical integration among producers and marketers of horticultural crops.

GAP has impact on postharvest losses and reduction of risk on mycotoxins.

Reduction plan includes good store design and conditions, ensuring that stores are maintained with good ventilation and air flow, good harvest and store hygiene to prevent any fungal spores being carried over between seasons. Adequate drying capacity will minimize the risk of ochratoxin A occurrence in storage.

And finally advantage of GAP systems is developing export oriented production. As certification in compliance with GLOBALGAP standard particularly for horticulture products is obligatory in EU market. Even in EU Eastern Partnership developing countries there are necessary conditions to develop agricultural production, but expected market is EU one, taking into account geographical location also, but unfortunately EU market till now is unreachable as a result of non compliances of production requirements and standards.

Adequate infrastructure for implementation of GAP includes.

1. Establishment centers for trainings, consultancy, vocational education
2. Adoption of code of good agricultural practices as prerequisite program for food safety management
3. Establishment of third body audit for certification in compliance with GLOBALGAP standard
4. Accreditation of certification bodies in compliance with WTO and EU requirements.

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