



Prospects of Establishing Food Irradiation Facilities in Kenya

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Synopsis

A national project of food irradiation in the country is being proposed. At present there are no facilities for food irradiation (and food irradiation research) in Kenya. This report is therefore largely comparative between the traditional and the conventional food preservation methods on the one hand and the irradiation technique on the other. The report is also based on information from other countries where food irradiation is practiced (Kawabata, 1981) or is being also contemplated (Diop et al, 1997), as well as on the relevant report of the International Atomic Energy Agency (IAEA) on this topic (IAEA, 1993).

The paper presents the statement of the research problem, i.e., in Kenya large quantities of food and other farm produces go to waste annually as a result of the inadequacies of the preservation techniques currently in use. These (other) preservation techniques, although often less controversial than the irradiation techniques, have also been found to be more expensive to run when compared to irradiation techniques. Such techniques, presently employed in Kenya, include the traditional methods (e.g. sun drying, smoke and fire drying, etc.) and modern techniques such as freezing or refrigeration, lyophilization, etc., as well as application of chemicals like insecticides and fumigants. The latter combines the disadvantages of high costs with environmental pollution and associated health risks.

In this preliminary research, aimed at studying the prospects of a national food irradiation project, the following food items that are selected for their importance to the economy of the country, include potatoes, rice, maize, coffee, tea, various fruits, fish and meat. The paper also explores the economic feasibility as well as the human and technological requirements of establishing a commercial food irradiation plant, with aim of assessing the applicability of food irradiation as alternative or a complimentary approach for preservation technique in Kenya.

Quantitative determination of the effectiveness of the methods on the various food items and the wholesomeness of the irradiated foodstuff, however, needs to be carried out experimentally. This aspect of the research requires input from the national authority and, possibly, that of the IAEA. The required government contributions identified include: legislation and pass into law of the various radiation protection regulations that have been proposed by the various international organizations, particularly the IAEA and the International Commission on Radiological Protection (ICRP).

It is also proposed that the next stage of the project should involve the establishment of a national committee on food irradiation programme. This committee will be charged with the responsibility to study and advise the government on; possible irradiation effects on selected foodstuffs, wholesomeness of the irradiation food, the various irradiation technology, and the establishment of basic research programme on food irradiation. It is recommended that the committee may comprise researchers in food productions and preservation, radiation experts and radiation protection advisers, as well as officers from relevant government ministries.

References

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