Report of a symposium held at the Faculty of Agriculture, Forestry and Veterinary Science, University of Dar es Salaam, Morogoro, Tanzania, 10-12 May 1976

Editors: J. H. Monyo, A. D. R. Ker, and Marilyn Campbell

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Intercropping in Semi-Arid Areas

Report of a symposium held at the Faculty of Agriculture, Forestry and Veterinary Science, University of Dar es Salaam, Morogoro, Tanzania, 10–12 May 1976

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The views expressed in this publication are those of the individual author(s) and do not necessarily represent the views of IDRC.
Farmer’s field near Ibadan, Nigeria, showing intercrop of cowpea under maize.
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Intercropping of Cassava with Vegetables

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Various investigators have shown that the mixtures for traditional cropping systems have higher total productivity than pure stands of any of the individual crops in the mixtures (20, 21, 22, 25). Incompatibility between mixed cropping and some modern agricultural techniques is the reason most often given for not fostering mixtures. Wilson (26), however, contends that many traditional mixed cropping systems could be modified to accommodate some of these techniques. Thus there is no need to base the development of new cropping systems in the tropics solely on pure stands.

In various parts of West Africa where cassava is an important staple, it is a major component of the mixed cropping systems. Vegetables are usually minor crops in such systems, but increases in the vegetable component can significantly improve the nutrition of the people of the area (27). There is, therefore, a need to increase the vegetable component of these systems.

The results of one of a series of experiments on vegetables in a cassava-based cropping system for the humid tropics were as follows.

With the aid of irrigation one crop of cassava was intercropped with three crops of vegetables in the sequence tomato–okra–French bean, and the highest yields were produced when the cassava rows were 2 metres apart. Cassava had no apparent effect on the performance of the tomato, but suppressed the yields of okra and French bean, the second and third crops respectively. The land equivalent ratios showed that the cassava–vegetable intercropping was more efficient than pure cropping of cassava alone or any of the vegetables.

The poor performances of okra and French beans may be due to the zero tillage method used, as these crops have been found to perform better on tilled than on nontilled land.

In regions where cassava is the staple, the diet is sometimes low in essential vitamins, minerals, and protein. Increasing the vegetables in the diet would overcome the vitamin and mineral deficiency and supply a reasonable amount of protein (27). To increase the available vegetables the production must be increased. This could be achieved through an intercropping system in which production of the major staple is maintained.