

## 3.5 Action Plan for Integrated Farming Systems

### 3.5.1 *General Description*

Integrated farming of small livestock-fish-poultry-vegetable-crop production system operates on the premise of inter-dependency. Crop production depends on the supply of animal manure. Livestock plays a key role fertilizing the fish pond and field crops. The small livestock depends on extensive grazing of natural pasture and crop residues during the dry season. This is a closed system in which waste products from one activity are used as input in the other activity. For example, the waste products from crops and vegetables are used by livestock and fish.

The main climate change benefit of mixed farming in general and integrated farming in particular is that farmers have chance to spread their risks across several enterprises. The effects of failure of one enterprise as a result of climate change hazards is somewhat mitigated by the other enterprises that continue to operate. And yet at the same time, the interdependence of enterprises makes them more resilient to climate change hazards.

The total investment cost for integrated crop-small livestock-fish-poultry-vegetable production system was estimated at ZMK 15,226,900 (\$ 2,873).

### 3.5.2 *Target for Technology Transfer and Diffusion*

The preliminary targets for Integrated Production Systems pilot project will target 50 agricultural HHs who will each be helped to acquire fingerlings, livestock (5 goats & 10 ducks), sorghum and sugar beans and vegetable seeds sufficient for a 1.25 Ha plot of land.

### 3.5.3 Proposed Action Plan for Integrated Farming (IF) System

Barrier	Root cause(s)	Proposed Measure(s)	Justification	Relevant Agency	When	Funding Sources	Indicators for Success	Possible Risks
Little knowledge of how to move from simple mixed farming to integrated farming	Inadequate information on integrated production systems	<ul style="list-style-type: none"> <li>Devise communication channels which are cost-effective, e.g. community schools, farmer field schools, radio listening groups etc</li> </ul>	<ul style="list-style-type: none"> <li>These already exist and would be more cost effective to use rather than setting up new channels</li> </ul>	<ul style="list-style-type: none"> <li>Min of Agriculture, Min of Education, Min of Community Development, NAIS, ZNFU</li> </ul>	<ul style="list-style-type: none"> <li>From 2014 but Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Budgets of relevant agencies</li> </ul>	<ul style="list-style-type: none"> <li>Number of radio programs, sensitization meetings and farmer field trips</li> </ul>	<ul style="list-style-type: none"> <li>Lack of funds</li> </ul>
		<ul style="list-style-type: none"> <li>Promote farmer-led communication programs</li> </ul>	<ul style="list-style-type: none"> <li>Will allow farmers impart relevant knowledge, experiences &amp; lessons among themselves</li> </ul>	<ul style="list-style-type: none"> <li>Min of Agriculture, Min of Education, Min of Community Development, NAIS, ZNFU</li> </ul>	<ul style="list-style-type: none"> <li>2013 &amp; Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>As above</li> </ul>	<ul style="list-style-type: none"> <li>Number of workshops/ farmer field trips held</li> </ul>	<ul style="list-style-type: none"> <li>Lack of funds</li> </ul>
		<ul style="list-style-type: none"> <li>Strengthen cooperatives to work as information centers</li> </ul>	<ul style="list-style-type: none"> <li>Many cooperatives created since 2001 and are currently underutilized as they focus mostly on FSIP</li> </ul>	<ul style="list-style-type: none"> <li>Min of Agriculture, Min of Education, Min of Community Development, NAIS, ZNFU</li> </ul>	<ul style="list-style-type: none"> <li>2014 &amp; Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Budgets of relevant agencies</li> </ul>	<ul style="list-style-type: none"> <li>Number of cooperative acting as information centres</li> </ul>	<ul style="list-style-type: none"> <li>Farmers may lack motivation to use information centers</li> </ul>
High start-up cost of investing in integrated production system	High input requirements	<ul style="list-style-type: none"> <li>Encourage farmers to adopt IF through a phased approach</li> </ul>	<ul style="list-style-type: none"> <li>Will allow farmers to raise funds from one enterprise to add another enterprise</li> </ul>	<ul style="list-style-type: none"> <li>Min of Agric, ZNFU, NAIS</li> </ul>	<ul style="list-style-type: none"> <li>2014 &amp; Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Budgets of relevant agencies</li> </ul>	<ul style="list-style-type: none"> <li>Change in types of enterprises per farmers</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate funds to promote IF</li> </ul>
		<ul style="list-style-type: none"> <li>Encourage farmers to adopt integrated farming at lower scale and expand slowly</li> </ul>	<ul style="list-style-type: none"> <li>With raised resources, farmers would be more able to handle bigger operations</li> </ul>	<ul style="list-style-type: none"> <li>Min of Agric, ZNFU, NAIS</li> </ul>	<ul style="list-style-type: none"> <li>2014 &amp; Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Budgets of relevant agencies</li> </ul>	<ul style="list-style-type: none"> <li>Average growth in IF</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate funds to promote IF</li> </ul>
		<ul style="list-style-type: none"> <li>Promote practice of agriculture sector as a business and make it attractive for lending</li> </ul>	<ul style="list-style-type: none"> <li>A business approach to farming will enable farmers to borrow for investing in integrated farming</li> </ul>	<ul style="list-style-type: none"> <li>Min of Agric, ZNFU, NAIS</li> </ul>	<ul style="list-style-type: none"> <li>2014 &amp; Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Budgets of relevant agencies</li> </ul>	<ul style="list-style-type: none"> <li>% of farmers observing farming as a business practices</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate funds to promote farming as a business</li> </ul>

Barrier	Root cause(s)	Proposed Measure(s)	Justification	Relevant Agency	When	Funding Sources	Indicators for Success	Possible Risks
Inadequate manpower at household level	Labour Intensive	<ul style="list-style-type: none"> <li>Promote integrated farming at scales of production that are manageable to farmers</li> </ul>	<ul style="list-style-type: none"> <li>Potential for take up only realizable if production system feasible for farmers</li> </ul>	<ul style="list-style-type: none"> <li>Min of Agriculture, CBs, BOZ</li> </ul>	<ul style="list-style-type: none"> <li>2014 &amp; Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Budgets of relevant agencies</li> </ul>	<ul style="list-style-type: none"> <li>Number of farmers successfully practicing integrated farming</li> </ul>	<ul style="list-style-type: none"> <li>Failure to increase manpower due to lack of funds</li> </ul>
		<ul style="list-style-type: none"> <li>Promote farm power mechanization</li> <li>Promote integrated farming at scales of production that can be managed by farmers in view of labour constraints</li> </ul>	<ul style="list-style-type: none"> <li>To relieve labour constraints at household level</li> </ul>	<ul style="list-style-type: none"> <li>Min of Agriculture, CBs, BOZ</li> </ul>	<ul style="list-style-type: none"> <li>2014 &amp; Ongoing</li> </ul>	<ul style="list-style-type: none"> <li>Budgets of relevant agencies</li> </ul>	<ul style="list-style-type: none"> <li>Number of farmers taking up farm power mechanization</li> </ul>	<ul style="list-style-type: none"> <li>Low capacity farmers to acquire equipment</li> </ul>