Integrated Soil Fertility Management (ISFM) and Policy: Are there gaps in policy that make farmers’ failure to take up ISFM?

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Motivation

- Population of SSA is set to increase to 700 million people in the next 40 years
  - This will result in increased demand for food, fibre and fuel
- How can food, fibre and fuel production be increased?
- Two ways
  - Further land expansion
  - Given current low crop yields in SSA (Zambia included), there is potential to increase agricultural production
Motivation

- Improvements in soil fertility can contribute to yield increase
  - Farmers produce for different motives (market or home consumption or both)
- ISFM => adopting proven principles of soil fertility management to farmers’ situations and goals
- Adopting of soil fertility practices is affected by policy and economic environment present
- So this paper reviews policies that may affect adoption and impact of ISFMs in Zambia
Outline

- What are the ISFM practices in Zambia?
- Descriptive statistics of ISFM
- Review of policies that may affect the impact of ISFM
- Conclusion
What is ISFM?

- ISFM include the use:
  - fertilizer, organic inputs, and appropriate germplasm
  - Combined with the knowledge on how to adapt these practices to local conditions,

- Aiming at optimizing agronomic use efficiency of the applied nutrients and improving crop productivity.

- Managed through sound agronomic and economic principles
ISFM AND POLICY INTERACTION

Source: ISFM Handbook 2013
ISFMs in the Zambian Context

- Manure/compost
- Soil erosion/flash flood prevention
- Minimum tillage
  - Basins and ripping
- Crop rotation
- Fallow
- Fertilizer
- Improved germplasm
<table>
<thead>
<tr>
<th>Serial #</th>
<th>ISFM</th>
<th>% of hh practicing/using</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manure/Compost</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Soil erosion/flood prevention</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>Minimum Tillage (basin+ripping)</td>
<td>Less than 5</td>
</tr>
<tr>
<td>4</td>
<td>Crop rotation</td>
<td>41</td>
</tr>
<tr>
<td>5</td>
<td>Fallow</td>
<td>30</td>
</tr>
<tr>
<td>6</td>
<td>Fertilizer</td>
<td>54</td>
</tr>
<tr>
<td>7</td>
<td>% of use of Improved germplasm (hybrid maize+ OPVs)</td>
<td>52</td>
</tr>
</tbody>
</table>

Source: CFS 2012 and RALS 2012
Effect of Policy on ISFM [1]

- Impact of FISP on SFM practices
  - FISP crowds in some of the soil fertility management practices (Levin & Mason 2013)

- However, the impact may not be realized:
  - Poor targeting where relatively well-off households access FISP inputs (Mukuka, Kabwe & Kuteya 2013).
  - Fertilizer intended for government subsidies leaks out of the government channel and is resold as commercial fertilizer (Mason & Jayne 2012).
Effect of Policy on ISFM [2]

- Agricultural Budget allocations
  - Though ISP have positive influence on ISFM, studies have shown that budget allocation is skewed to only FISP + FRA and leave core areas that may enhance the impact of ISFM practices such as:
    - Extension,
    - Research & Development
    - Infrastructure development (roads, irrigation)
Effect of Policy on ISFM [2]

2016 Allocations to Key Spending Areas (K’million)

- **Total Allocation to MAL**: K3,091 (5.8% of GRZ Budget)
  - **Personnel Emoluments**: K462 (15%)
  - **Grants & Other Payments**: K92 (3%)
  - **Capital Expenditure**: K54 (1.8%)
  - **Ag Show**: K12 (0.4%)
  - **Recurrent Departmental Charges**: K232 (7.5%)
  - **Agricultural Development Programmes**: K439 (14.2%)
  - **Poverty Reduction Programmes**: K1,793 (58%)

Source: Kuteya 2015
Effect of Policy on ISFM [3]

- Land Policy should enhance citizenry to have title over land as that may have positive impact of ISFM
- Results show that hhs with title to land are likely to make more investments in land improvement, relative to those without, which will yield improvements in agricultural outcomes in the medium-term (Munguzwe et al. 2014)
Effect of Policy on ISFM [2]

- Public sector agricultural market information systems (MIS) can provide useful information to farmers, uninformed traders, and policy makers.

- Studies show that Zambia’s AMIC suffers from a range of weaknesses all along the supply chain for price information (Gage 2011).
Conclusion/Policy Implications

- Policy is likely to affect the adoption and impact of ISFM on agricultural production and productivity
- Redirect some funding from FISP and FRA to key drivers of agricultural growth (extension, R&D, infrastructure development)
- Improve Targeting of FISP beneficiaries through use of an E-Voucher.
  - The program is likely to improve diversification in the agricultural sector and
  - will improve monitoring of the ISP program and reduce the leaks of inputs
Conclusion/Policy Implications

- There is urgent need to examine reform options for land policy in Zambia
  - Will encourage land title distribution to more productive land users
  - Especially the majority of the rural smallholders whose livelihood and potential to move out of poverty solely relies on increased agricultural production and productivity
- If the draft Agricultural Marketing bill is enacted can provide an opportunity to re-establish AMIC’s mission and importance.
THANK YOU!! ( ZIKOMO!)