STRATEGIC POLICY PRIORITIES FOR CLIMATE RESILIENT FARMING SYSTEMS IN SSA: A CASE OF ZIMBABWE

2023 Regional Climate Smart Agriculture Policy Dialogue
Transitioning to climate-resilient farming systems in Sub-Saharan Africa
13 – 15 March 2023

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Agriculture uses 70 percent of the world’s freshwater resources (Hotel & Africa, 2017).

More than eighty percent of the land in countries where agriculture is the primary economic activity is put to agricultural use (World Bank, 2006).

Zimbabwe’s largest water consumer is the agricultural sector (80 percent) (M. Moyo et al., 2017; FAO, 2012).

Irrigated farming is vulnerable to climate change and variability (IFAD, 2018; Gitz et al., 2016).

Zimbabwe’s climate is expected to warm by 2.5 °C and dry out by 4.1% by 2030, according to projections that extend all the way to 2070. (Mpambela & Vincent, 2017; Risks et al., 2019).

Water scarcity is predicted to have negative effects on Zimbabwe’s long-term economic growth and food security (Gitz et al., 2016; Gutsa, 2015; Risks et al., 2019).

Water is a finite, limited and scarce resource (GWP 2015).

In Zimbabwe’s rural irrigation schemes, there are no water meters installed at the plot level.

If water resources are used inefficiently, shortages are unavoidable and conflicts over water could arise as a result of climate change. Irrigation scheduling helps conserve and efficiently use water in irrigated agriculture, which is essential.
Country Context- Irrigation and Water

- The country is faced with a skewed water sector development reality whereby dam developments are far ahead of irrigation development. Being aware that the country:
  - is endowed with water resources that have a potential to irrigate over 1,500,000Ha, (Zawe, Madyiwa and Matete (2015))
  - has about 216,000Ha equipped with irrigation infrastructure;
  - out of which only about 193,000Ha of the equipped infrastructure is functional;
  - 25,000ha requires rehabilitation and modernization on mostly communal, A1 and A2 farms.
- The country needs at least 350,000 hectares of functional irrigated land as the minimum capacity that will assure that the nation becomes food self-sufficient and a net exporter of grains.
Country strategies

- The government has come up with the **National Development Strategy 1** (350 000ha by 2025), National Accelerated Irrigation Rehabilitation and Development Programme which is anchored by the Agricultural and Food Systems Transformation Strategy which has laid the groundwork for achieving these set targets through a whole of government approach.

- The main objective of these strategies is to strengthen resilience of agricultural livelihoods of vulnerable communities particularly women and children, and also **graduate the irrigation farmers from pro-subsistence to farming as a business**, contributing to the national and regional food security situation.
To address the impending challenges, the following strategies are being pursued:

a. Currently the Government of Zimbabwe is harnessing water through construction of dams and developing irrigation systems around those water bodies.

b. Presidential borehole drilling programme. A Borehole per village for 35 000 villages around the country, supply portable water and establishment of village nutrition gardens under the (Horticulture Revitalization and Development Plan) and fish ponds under the Fisheries development programme.

c. Catchment/Watershed management programmes like Blitz’s Soil Conservation programme to protect water bodies from siltation.

d. Operationalization and maintenance of 13 000 ha of communal irrigation on existing 450 communal irrigation schemes.

e. Irrigation area is being increased through Programmes like the 200 ha per district Programme for communal irrigation schemes. This brings in a total of 12 000ha every year from the country’s 62 districts. Since irrigation development is capital intensive, most farmers cannot access loans to develop their own irrigation infrastructure.

f. On the other end, government’s recurring cycles of investing in irrigation schemes only to have to rehabilitate them a few years later has led to the adoption of a new strategy coined the Vision 2030 Accelerator model (V30 model). World Bank (2008) observed that “There are hardly any cases of successful and sustainable farmer-managed smallholder irrigation schemes despite efforts by Governments, NGOs and private organizations”

g. Improving the efficiency of water use by adopting modern irrigation systems (water saving irrigation systems like drip irrigation and center pivots)

h. Improving the policy and regulatory environment to motivate private sector participation and accelerate dam and irrigation infrastructure development. An Irrigation Development Alliance has been set up which is crowding in the participation of private sector players in Irrigation development.

i. Upscaling risk-informed planning to other provinces building on lessons from high frequency monitoring initiatives by government and its partners.
Recommendations on policy priorities that could help transitioning to climate resilient farming systems

1. Paradigm Shift in Irrigation Management
   Transition from Pro Subsistence to Pro Business

2. Sustainable Models for Irrigation Management
   Status reports, lessons learnt, remodeling and re-assignment

3. Building Strong Institutions
   Clear mandates, stakeholder engagements, Whole of Govt Approach

4. Continuous Professional Development
   Young Professional Development

5. Farmer Training - Climate Smart, Gender Inclusive
   Operation and Maintenance, Water management

6. Key Stakeholder Lobbying - IWG
   Govt, Donors and Industry players have to converge, certain compromises will have to be considered, avoid duplication of effort and resources

7. Use of Early Warning Systems
   Support protection of livelihoods, infrastructure

8. Promoting ICTs, Smart Technologies
   Soil water, nutrient management

9. Re-Launch and Roll Out
   Adhere to framework guidelines for implementation, learn from past experiences

Promoting labour, water and energy saving technologies

Solar technology - photovoltaic (clean energy) bridges the gap on energy limitations,
Centre pivot, Drip irrigation
Integration of drip irrigation with greenhouse technology to support crop production
Conservation agriculture for soil and water conservation - PFUMVUDZA/INTWASA