

MECHANIZATION TRENDS AND FUTURE SCENARIOS

Issues; Challenges and Wayforward

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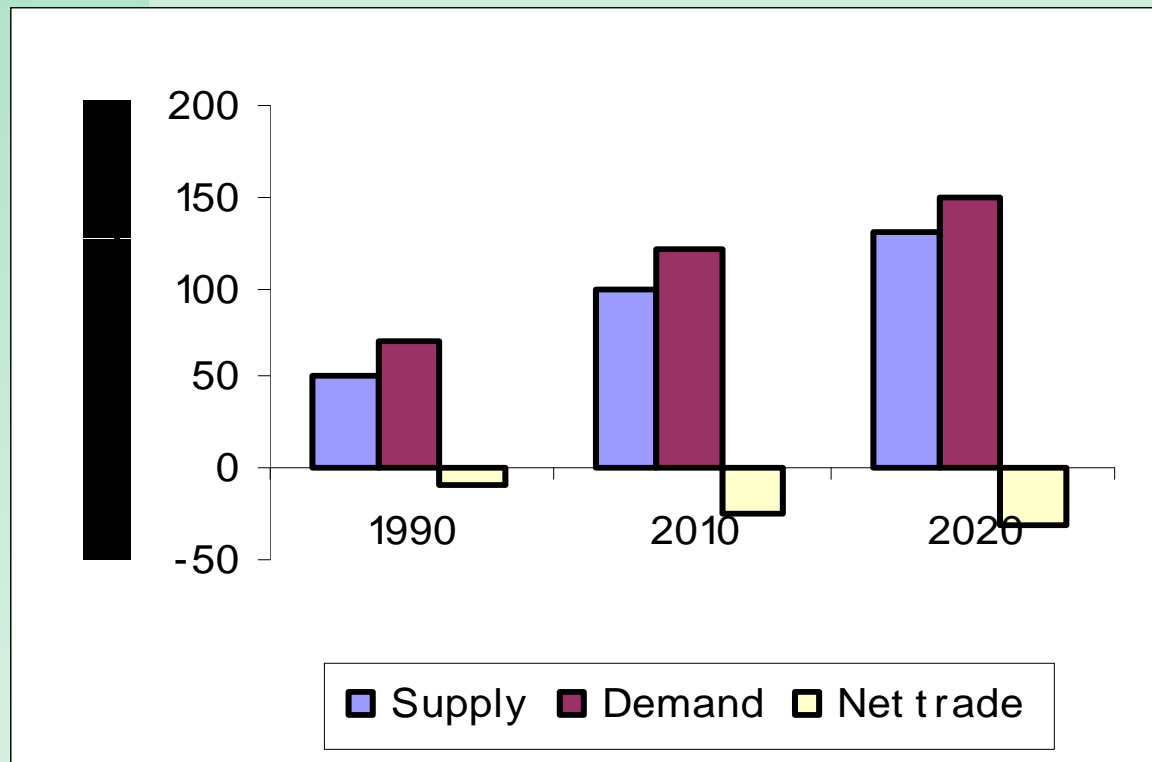
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WHAT DO WE KNOW ABOUT AGRICULTURE?

- Absolutely certain : Agriculture is backbone in SSA countries***
 - ***Uncertainties : food shortages, drought, famine***

- Absolutely Certain : We need 4% sustainable agricultural growth***
 - ***Uncertainties : last 30 years achieved 2%***

Projection for cereal supply demand and net trade in SSA (Source: Badiane and Delgado, 1995).



WHAT WE KNOW ABOUT AFRICA

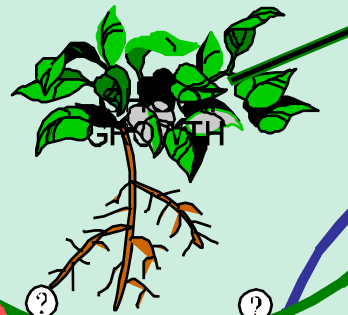
☐ Absolutely certain : Extreme weather events: Extreme Poverty levels

- drought, flood, famine

☐ Absolutely Certain : Weak and Underdeveloped infrastructure

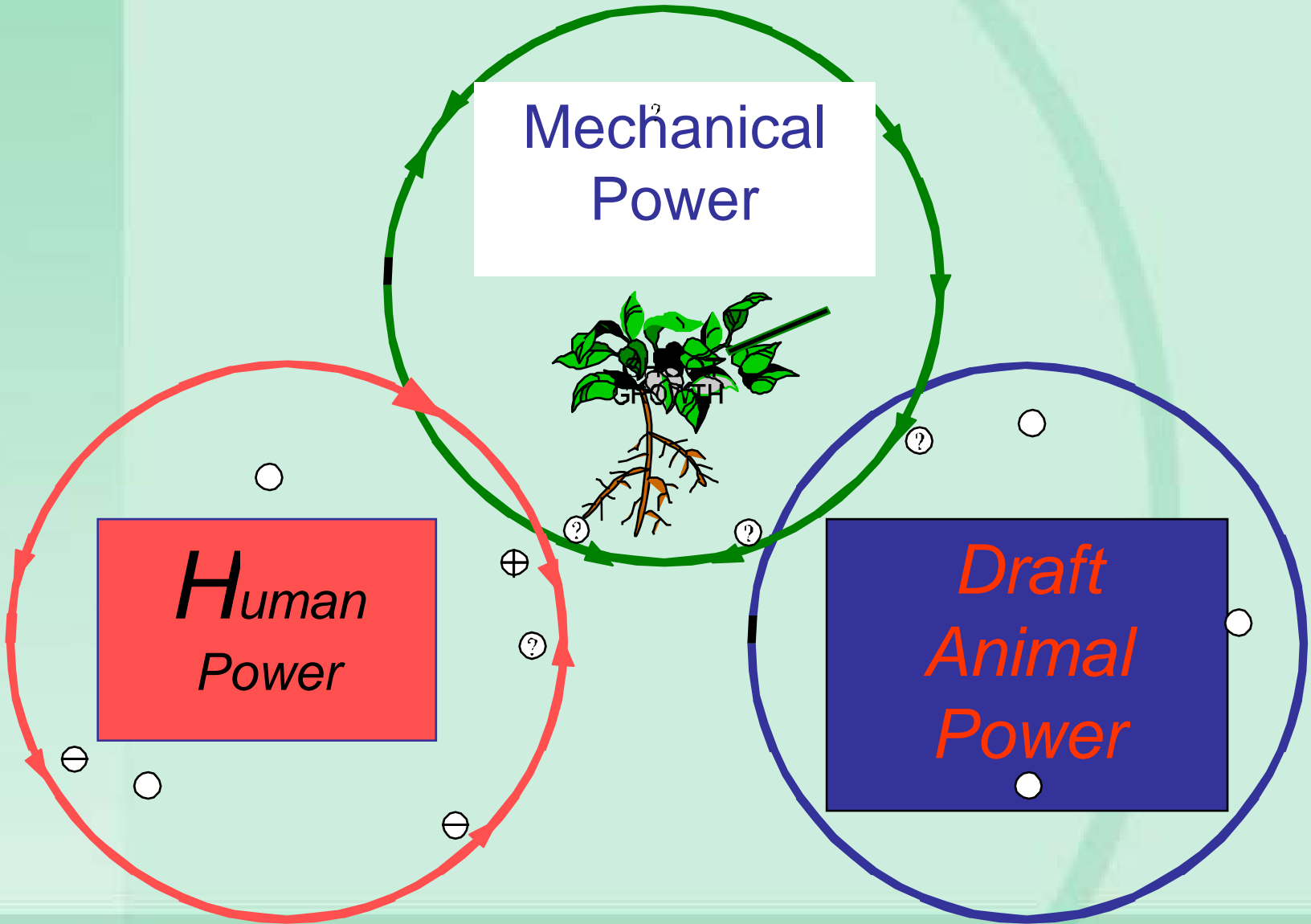
☐ Absolutely Certain : Wars and Rumours of wars

Mechanical
Power



*Human
Power*

*Draft
Animal
Power*



Human power



WEEDING WITH DONKEYS



Sources of Power of Primary Land Preparation in some countries in SSA and Asia (% of cultivated land)

Power	Human	Draft Animal	Mechanical
• Sub Saharan Africa	80	16	4
• Botswana	20	40	40
• Kenya	84	12	4
• Tanzania	80	14	6
• Zimbabwe	15	30	55
• South Africa*	10 (20)*	20 (60)*	70 (20)*
• India		18	21
61			
• China	22	26	52

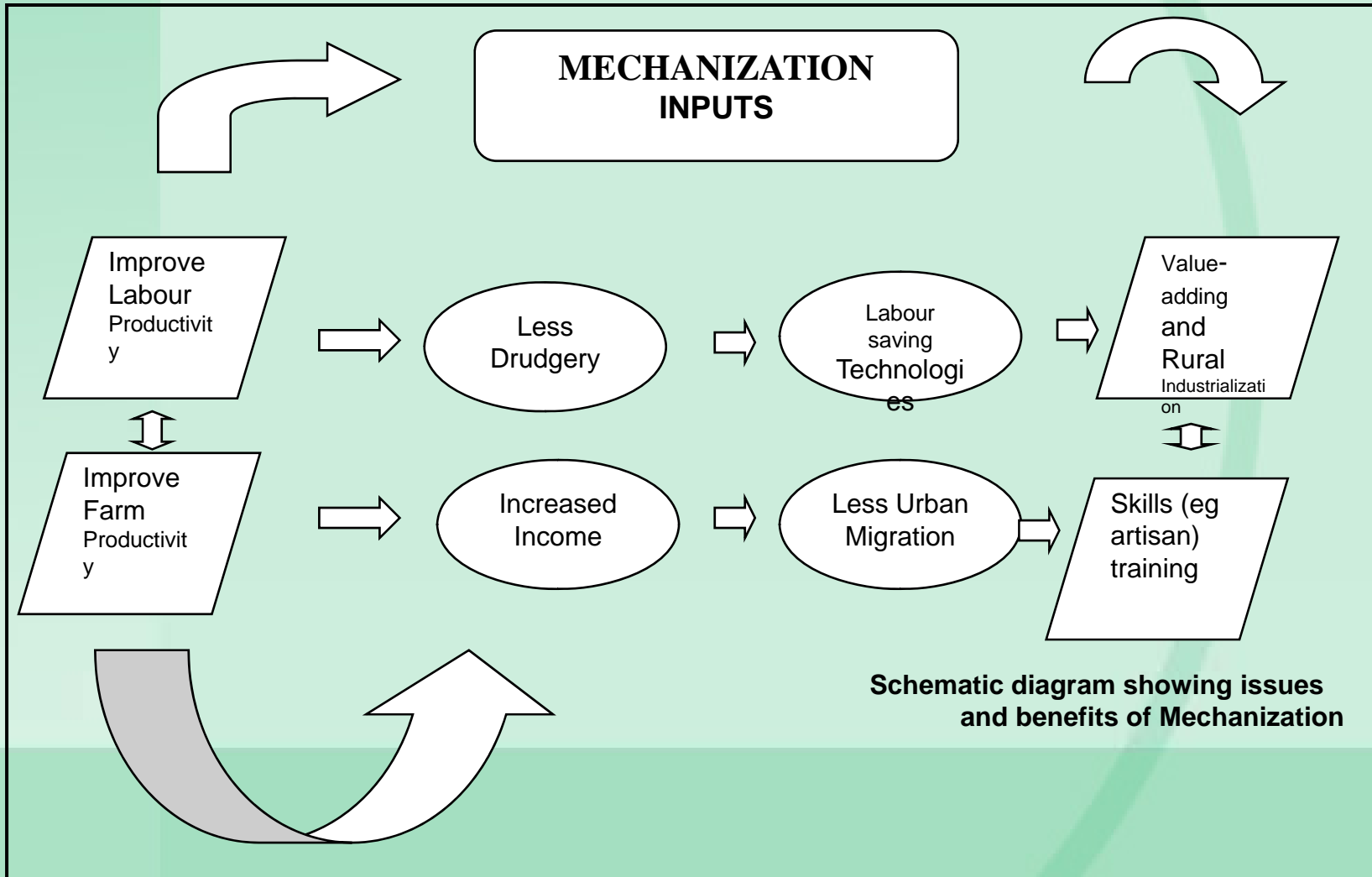
Farmers using animal power, especially those using donkeys instead of cattle (the majority of smallholders), are not offered information about and support for their working animals



The Main Issue!!!

**“Low Utilization of Agricultural
Mechanization Technologies
in Agricultural operations at
all levels”**

ISSUES AND BENEFITS



WHAT ARE THE MECHANIZATION SCENARIOS TELLING US?

Case Studies of 4 countries

Zimbabwe; Swaziland, Namibia and South Africa

Zimbabwe Today

- **Communal Farming: 1.8 mill households
90% use DAP**
- **A1 farmers (1980): 0.3 mill use Hiring services. DDF & ARDA 1500 tractors**
- **Large scale commercial farmers: 4500 farmers**
- **Estimated 10 000 tractors in use, demand 40 000**

Swaziland Today

- **75% of population depends on agriculture with low mechanization inputs**
- **Communal farmers (SNL): 4000 tractors in use**
- **Govt. Tractor Hire Services: 21 centres, 179 tractors**
- **Estimated: 50% tractors; 30% DAP; 20% Human Power**

Namibia Today

- **70% of population depends on agriculture with low mechanization inputs**
- **Govt. Tractor Hire Services privatised 1990**
- **Estimated: 21% tractors; 70% DAP; 9% Human Power**

South Africa Today

- 50% of South Africa population in rural
- 50 000 commercial farmers
- 4.3mill communal farmers
- 1.2mill of rural communities use DAP
- Estimated 325 000 tractors with annual sales of 4 000 units.

WHERE TO NOW ?

***ADAPTING TO CHANGE AS
A BEST MANAGEMENT PRACTICE***

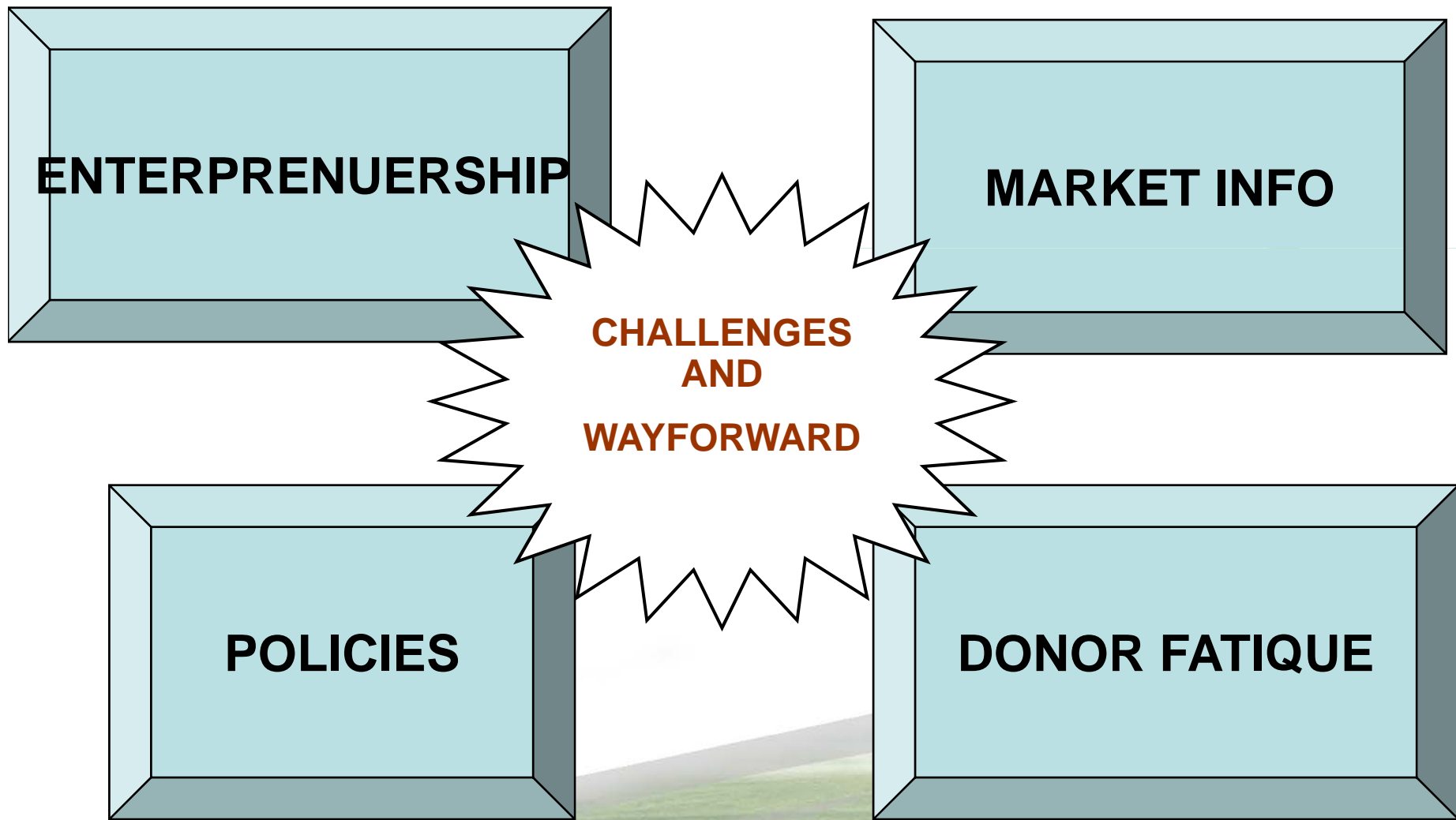
**FOR BEST MANAGEMENT
PRACTICE, MECHANIZATION
CHANGE HAS TO FIT INTO THE
“BIGGER PICTURE” OF
RESOURCE AND RISK
MANAGEMENT**

[Practical knock-on of issues]

A close-up photograph of two hands cupping a glowing incandescent lightbulb. The lightbulb is the central focus, emitting a warm, yellowish glow that illuminates the hands and the surrounding area. The background is dark, making the lightbulb stand out. The overall mood is one of inspiration and innovation.

**Inventing the
FUTURE!**

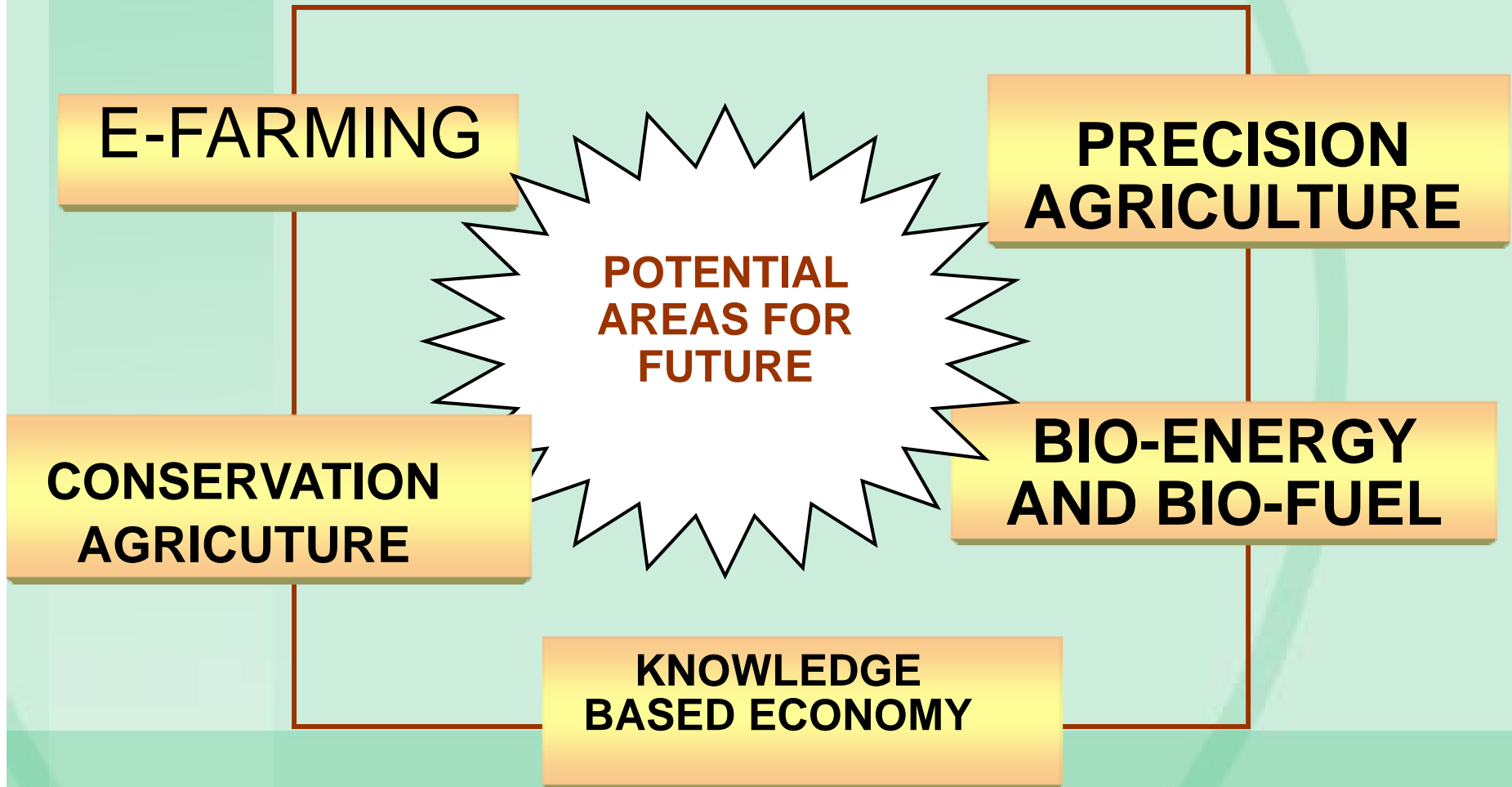
KEY ISSUES





**Managing
the FUTURE!**

POSSIBLE AREAS FOR FUTURE



POSSIBLE AREAS FOR INTERVENTION

STRATEGIC AREA # 1:

E-FARMING AND PRECISION AGRICULTURE CONCEPTS

How can we solve this???



STRATEGIC AREA # 2:

**ENHANCING THE ACCESS TO
MECHANIZATION INPUTS AND
SERVICES FOR DIFFERENT
FARMER GROUPS/*END USERS***

STRATEGIC AREA # 3:

**TOWARDS KNOWLEDGE BASED
ECONOMY: CAPACITY BUILDING**

STRATEGIC AREA # 4:

BIO-ENERGY AND BIO-FUELS

Conservation agriculture offers sustainable solutions for farmers



STRATEGIC AREA # 5:

***STRENGTHENING OF
INFRASTRUCTURE AND SERVICES
NECESSARY FOR THE SUCCESSFUL
MECHANIZATION EFFORTS***

CONCLUDING REMARKS

**Re-orientation of donor assisted
programs and focus
Towards mechanized micro-enterprises**



CONCLUDING REMARKS

- **More Government and donor support towards supporting entrepreneurs**

- **Change emphasis and focus from pro-poor to emerging farmers**

CONCLUDING REMARKS

- **Provide appropriate Enabling environment and professionalism in agricultural mechanization programmes**

Thank you