Promotion and Development of Agricultural Mechanization in Ethiopia

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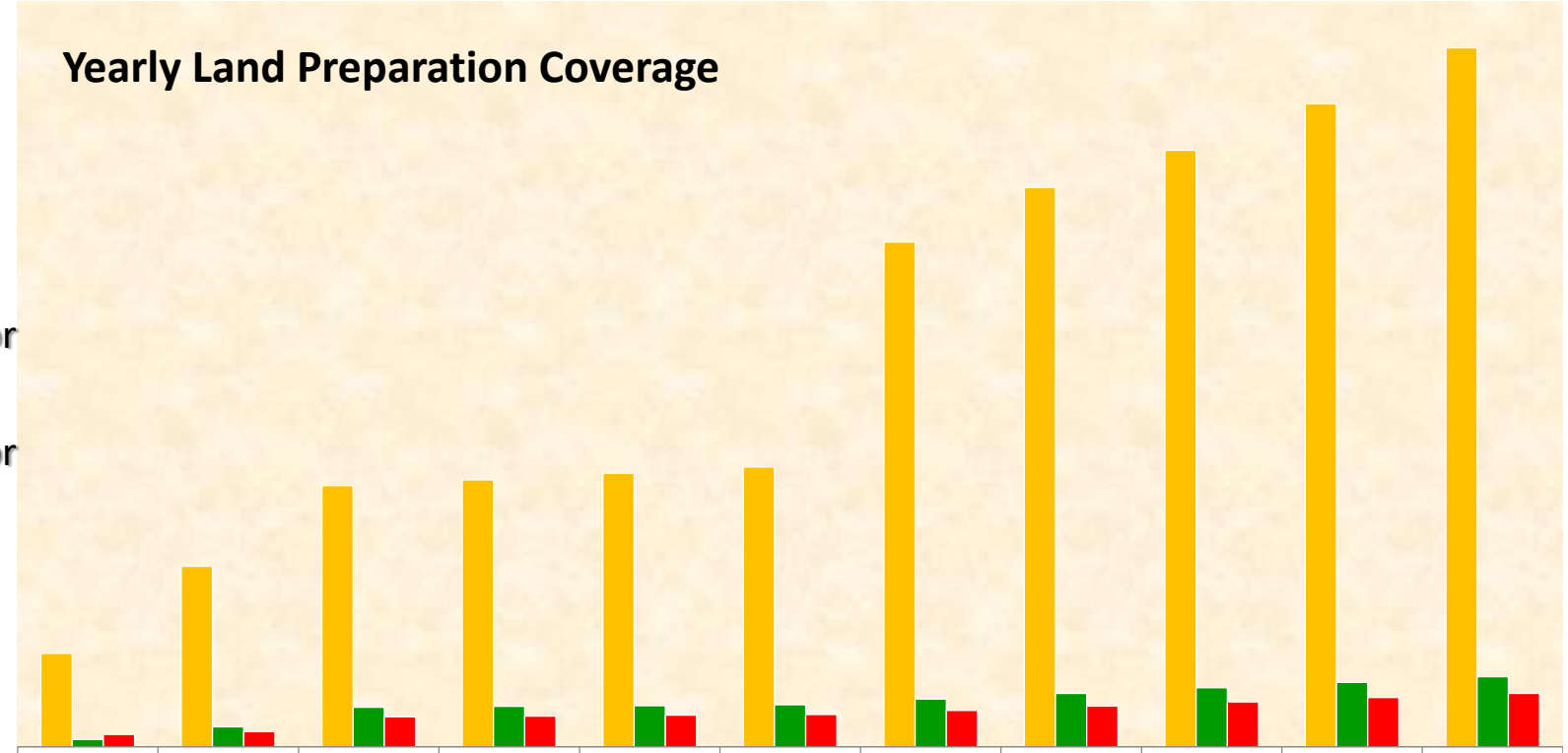
MINISTRY OF AGRICULTURE

Introduction - Status of agriculture in the country



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Land preparation coverage using Tractor (Percentage)	10	19.33	28	28.6	29.33	30	54.13	60	64	69	75
Land preparation coverage using Tractor (million hac)	0.75	2.1	4.2	4.3	4.4	4.5	5.1	5.7	6.3	6.9	7.5
Tractor user farmers	1.3	1.6	3.20	3.28	3.35	3.43	3.89	4.34	4.80	5.26	5.71

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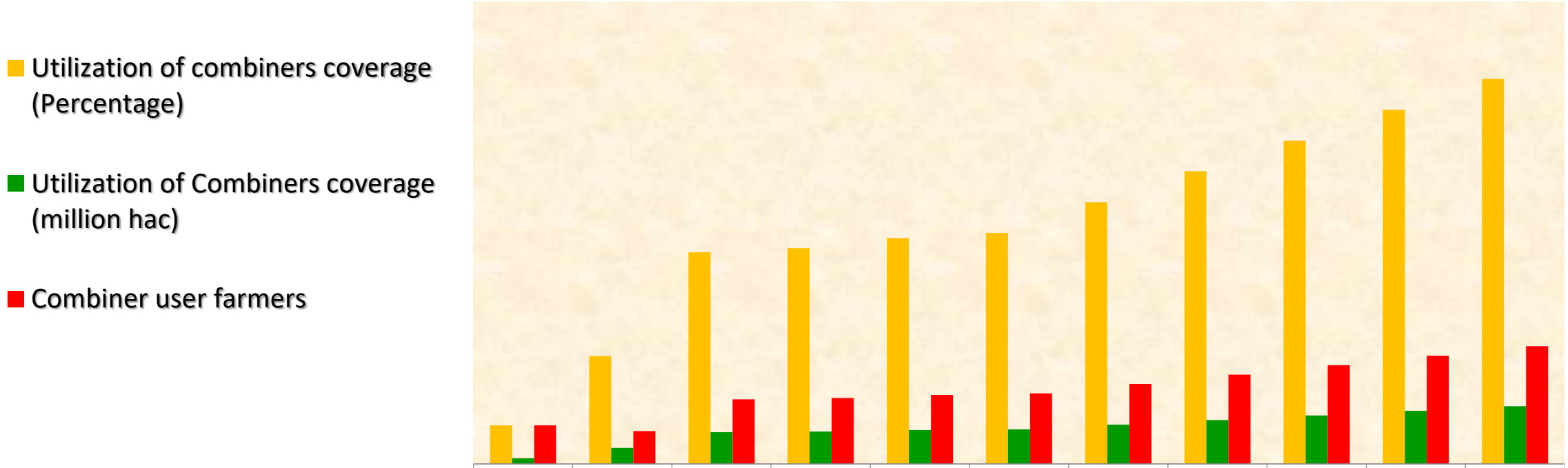


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Utilization of combiners coverage (Percentage)	5	14	27.5	28	29.33	30	34	38	42	46	50
Utilization of Combiners coverage (million hac)	0.75	2.1	4.12	4.2	4.4	4.5	5.1	5.7	6.3	6.9	7.5
Combiner user farmers	5.00	4.28	8.39	8.56	8.96	9.17	10.39	11.61	12.84	14.06	15.28

Why is mechanization important in the country?

- **Agriculture in Ethiopia is characterized by small holdings, due to high population density with nearly two-third of the population residing in rural areas.**
- **There are about 111.5 million hectares of land in Ethiopia,**
- **74.5 million hectares of which is suitable for agriculture, and 13.6 million hectares of which is currently under production out of which 70% are suitable for using mechanization technologies as research indicates.**

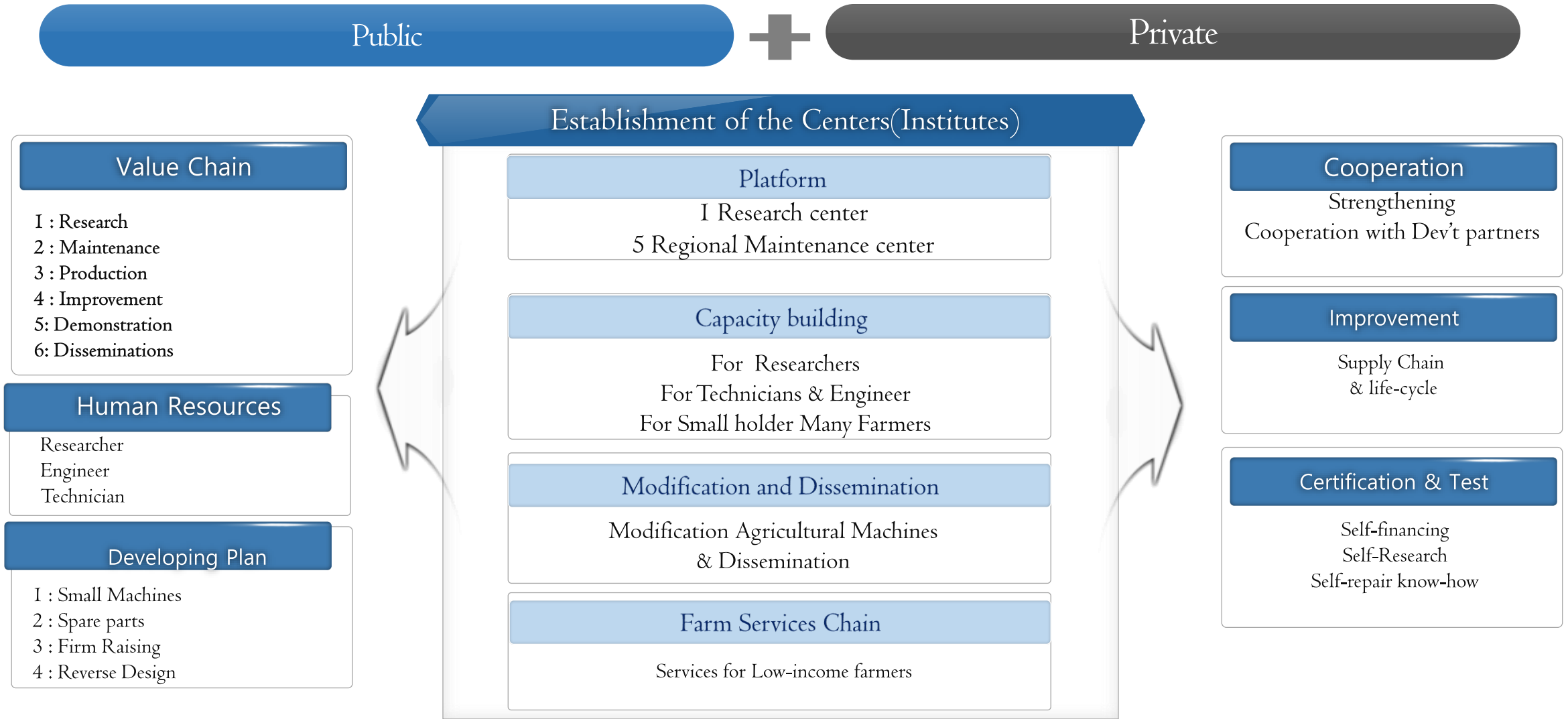
❖ **Even though, Currently agriculture mechanization use 8000 tractors and 1500 combine harvester for ploughing and harvesting crop yet,** (the agriculture is on small stage in using mechanization technologies

❖ **To bring sustainable agricultural growth to feed the faster population growth, using agricultural Mechanization technology is not alternative rather it is a mandatory**.

Key opportunities for mechanization in Ethiopia

- **The growing urban population food market Since 1/3 (40 million) are urban dwellers, they need food produced at low cost, efficiently and sustainably; mechanization has an important role to play**
- **Among 120 million population more than 50 % is young generation which can be directed to run farm mechanization business**
- The government attention and commitments is very high
- Emerging agro industries which needs huge inputs from the agriculture production

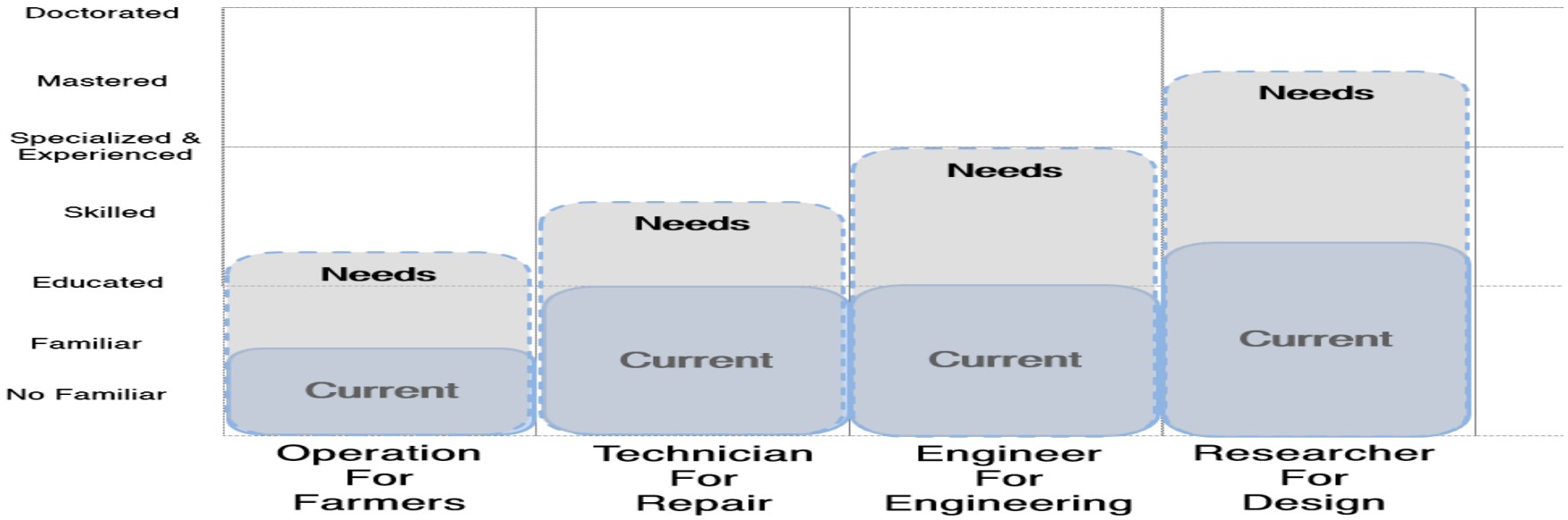
links in the agricultural mechanization value chain



Key challenges facing mechanization in Ethiopia

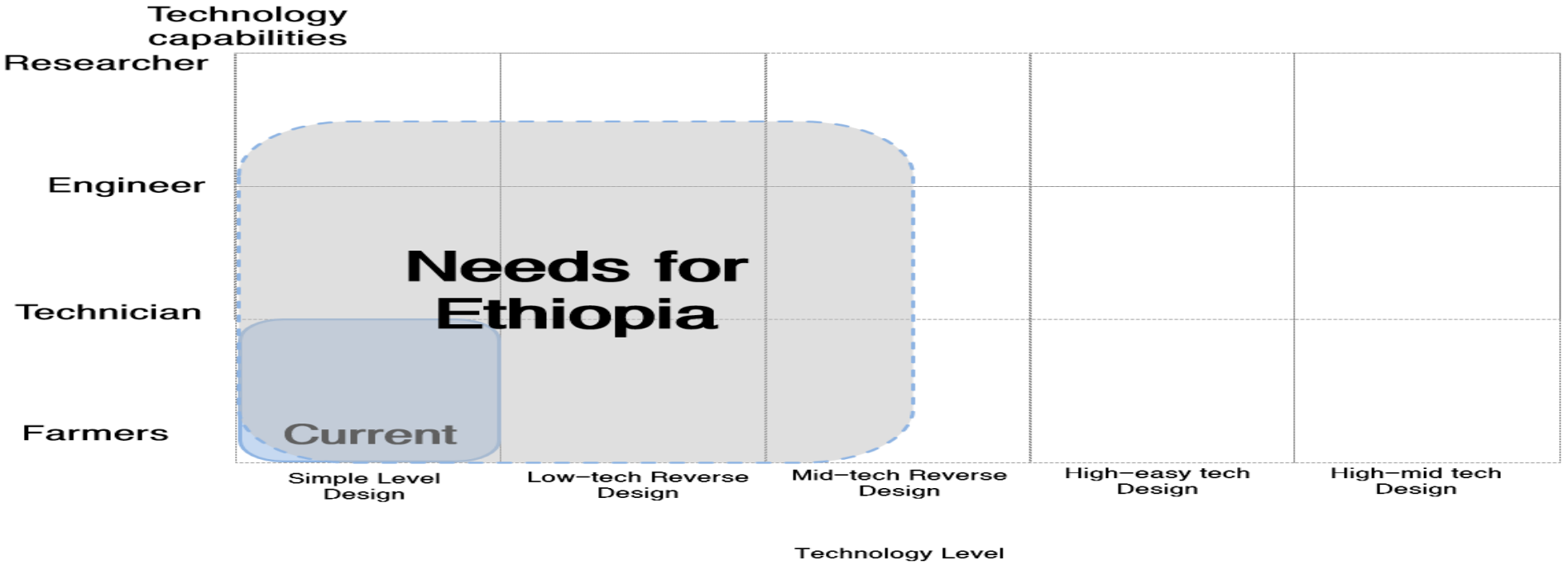
- Short term

Technology level



- Medium & Long term

Requirement



Challenges to Ethiopia

1. (Usage) Low Proportion of Usage of Agricultural machinery
2. (R&D) No experiences developing locally customized agricultural machinery due to very low/no R&D specialist for agricultural machines.
3. (Technology) Low level of capability on the mechanical design research and technology specialized in agricultural machines
4. (Capacity) Lack of sustainable education & training program for maintenance & repair specialist
5. (Modification) Lack of locally customized agricultural machinery production capability
6. **Migrations of rural youth:** unemployment /under-employment & inflation
7. limited resources (e.g. finance)

Ongoing mechanization actions/programs

Agriculture & Rural Development Policies & Strategies Revision

Past achievements

- Significant investments in raising agricultural productivity
- Yields of major crops (maize and wheat) recorded significant growth
- **Derived through input intensification** led by **public institutions & cooperatives**
- **Productivity oriented with little or no foresight and trade-off analysis**

The case for strategy reform or policy revision

- **Progress vs. expectations:** food security, raw material, export, global average
- **Market system were not developed** in areas where we had surplus, e.*g. maize & vegetables*
- **Labour productivity was not taken into consideration**
- **Limited contribution to trade balance:** challenging to increase investment on agriculture
- **Structural shift could not be achieved:** unemployment /under-employment & inflation
- Driven by policies, practices/implementation and limited resources (e.g. finance)
- Changes are required to **improve polices and practices** to meet expectations, accelerate economic growth, be better competitor in the global economy on a sustainable basis

Principle of policy revision

- Alignment with the **home grown economic reform**
- Engagement of key actors to make the revision **knowledge-based**
- **Redirecting state to focus on governance and private sector on business**
- Actionable **polices and the associated legal documents**
- **Policies that can enhance investment, entrepreneurship** and **innovation**

Ongoing mechanization actions/programs

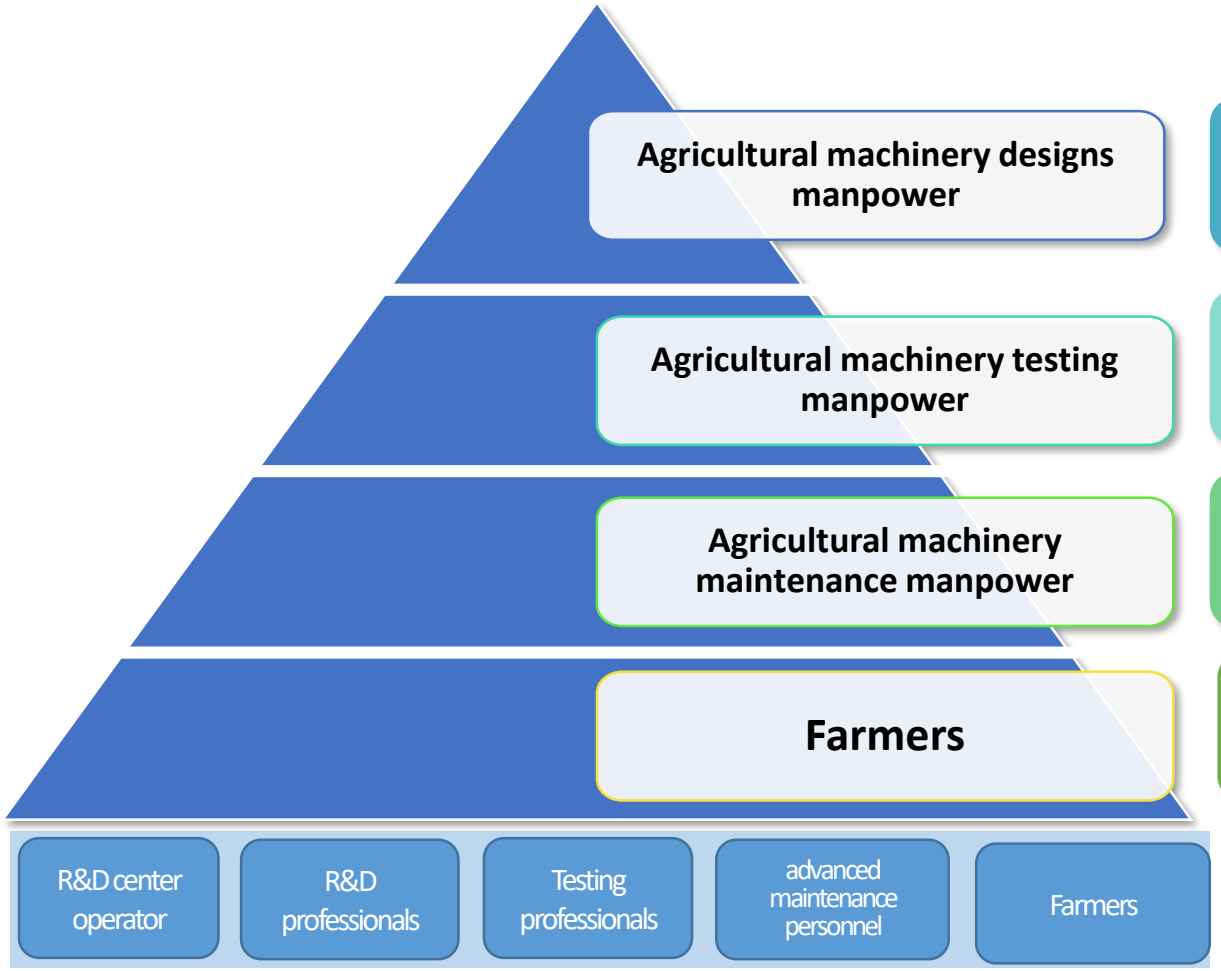
Objectives	Short term Objectives	Long term Objectives
Revision of agricultural policy and strategy	Agricultural mechanization policy, strategy and implementation road map that will contribute towards Effective and efficient agricultural policy and strategy implementation will be prepared	as a result of good implementation of agricultural policy and strategy approved by Ethiopian government, national agricultural mechanization policy, strategy and road map, agriculture growth and economic development of Ethiopia will improve

Ongoing mechanization actions/programs (revising Policy and Policy Tools)

Policy and Policy Tools	Policy tool	Tax & duty free Import Status (2014EFY)
Tax exemption from all kinds of tax	**Proclamation on 650 different Agricultural Mechanization technologies and Inputs**	• **1,190,371** Different mechanization technologies and inputs :- • 181,568 Water Pumps and 217,435 Irrigation Hoses • 2111 Tractors & Implement's and 486 Combiners • 200,000 knapsack sprayers, • 1,062 Engine driven Sheller's and multi-crop threshers • And grain storage hermetic bags/sack, other livestock technologies like incubators, liquid nitrogen, day old chickens….etc.
Financial Lease for Agricultural mechanization	**Public and private lease financing service provision**	• Around 140 Combiners and 435 tractors have been distributed for the service providers
Regulation (Standards, Directives)	• **Directive for tax holiday service** • **Standard for AMS provision**	
Road Maps & Strategy	**Alignment with the ten years lead plan**	Zero Draft completed on May/2013 EFY but is at Zero draft level, waiting the study outcome of baseline study on the pre impact assessment of tax holiday for the past two years.

Planned future actions/activities (Education & Training)

Establishment of Capacity building & Agricultural technology improvement system



- Agricultural machinery R&D capacity building and training of center operation/management personnel
- Agricultural machinery element, system design and analysis, R&D and project management, etc.

- Agricultural machinery standardization of the inspection system and training of qualification experts
- Agricultural machinery (tractor, combine, Power tiler, etc.) structure, performance, safety inspection, etc.

- Acquisition of agricultural machinery maintenance technology and training of maintenance/repair experts
- Agricultural machinery (tractor, combine, power tiller, etc.) maintenance, repair, management, etc.

- Enhance understanding of agricultural machinery operation and foster professional farmers
- Understanding the operation and principle of agricultural machinery (tractor, combine, power tiller, etc.)

Planned future actions/activities (increasing AMSP)

❖The Current level of mechanical power under use for agriculture production is around 0.18KWh this will be upgraded to 1-2 Kwh with the coming five years

As a result the current number of farmers who use mechanization will be increased from 8.39 million to 11.61 million and the current postharvest loss which is between 15-25% will be decreased to 5%

For the above intended results to be effective among the strategic activities with first priority the following will be practiced and implemented.

- Gender and climate resilient based AMSP models will be practiced on being opened and future planed FTC's as a result women's stake on mechanization use will be raised up to 30%
- FTC based AMSC's and private owned AMSC's will be supported with capacity building training, technical advice and support.

Conclusion

So far government has revised existing agricultural policy and strategy at national level. Based on this existing agricultural mechanization research and development strategy needs to be updated to coincide with the future goal, /target thereby for implementing sector specific policy strategy and road map as national agricultural mechanization road map has to be prepared and implemented a.s.a.p.

Thank you for your attention

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Thank You

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