

DEBUNKING MYTHS

about agricultural labor and mechanization in Africa

Farm-level data shows African rural households are far more dependent on labor markets, and much more inclined to hire mechanization services, than previously assumed. Governments must create an enabling environment to promote appropriate mechanization for small-scale farmers to promote sustainable intensification of food crops.

Small-scale mechanization appropriately sized for small farms – such as using two-wheel tractors and direct planters – represents a shift away from conventional mechanization strategies dependent on large machines, leading to land consolidation and the disappearance of otherwise-productive small farms.



African smallholder farmers who invest in agricultural power improve food production



5 agricultural labor myths busted

Myth 1:

Labor is abundant and cheap; thus, farm power does not limit agricultural productivity.

Reality:

A lack of power is holding productivity back, illustrating a much higher demand for mechanization than macroeconomic analyses suggest, pointing to a problem of access rather than a lack of demand.

Myth 2:

Most of the labor is provided by women.

Reality:

Women provide just 7 to 35 percent of the labor invested in household farming, far less than the often-claimed 60 to 80 percent. Women tend to provide less labor for farming than men and hired labor. Even in female-headed households, women often hire labor or use children as the main providers of labor.

Myth 3:

Agricultural tasks are carried out almost entirely by family labor.

Reality:

The majority of farming households in the region hire labor, draught animals and, however to a much lesser extent, tractor power to complete agricultural tasks.

Myth 4:

Consolidating land, by enabling "efficient" mechanization, would have a positive impact on agricultural productivity.

Reality:

Land productivity tends to decrease with increasing farm area. The concept of 'appropriate mechanization' argues that machines should adapt to farm size, and not the opposite.

Myth 5:

African agriculture is characterized by a wide gender gap.

Reality:

There is little evidence of a significant gender gap. Land productivity does not differ significantly between male-headed households and female-headed households. Social capital tends to be high in these communities, and constitutes a safety net for women-headed households. This is not to deny the usefulness of current interventions targeting women-headed households, but rather highlights the importance of strengthening existing social mechanisms.



How to fuel mechanization in Africa?

✔ Government, development agencies and farmers must recognize the farm power constraint.

Productivity, environmental and economic health diminish as the majority of cultivated land is arduously prepared by hand hoes.

Small-scale mechanization should be promoted, in addition to traditional labor sources, to perform the most intensive and critical activities to productivity gains – such as crop establishment.

✔ Governments need to create an enabling environment for mechanization supply chains to develop.

This includes the creation of mechanization policy instruments, including subsidies and training, that further respond to smallholder demand.

✔ Accessibility may be increased through interventions targeting financial inclusion.

Parts of these instruments may be short-term smart subsidies that lay the ground for more sustainable practices. Mechanization pathways must be promoted through policies tailored to smallholder needs.

✔ Research to identify different pathways to mechanization is urgent to inform policymakers.

Ultimately, diverse patterns of mechanization will take place in most countries building on current policies, the diversity of demand and the diversity of supply.

✔ Considering the impact conventional plowing may have on land degradation, it is essential for interventions to consider minimum soil disturbance technologies.

The use of mechanized direct seeder has shown to improve productivity, increase soil health and improve timeliness that reduces the intensity of labor needed for in-season operations including weeding - reducing overall drudgery.

✔ Entrepreneurial training for agricultural mechanization service providers.

Encouraging the growth of agricultural mechanization service providers improves its equitable availability.

For more information about mechanization at CIMMYT, contact:

Bruno Gérard | Director, CIMMYT Sustainable Intensification Program (b.gerard@cgiar.org)

Regional specialists

Africa: Frédéric Baudron (f.baudron@cgiar.org); Rabe Yahaya (r.yahaya@cgiar.org)

The International Maize and Wheat Improvement Center (CIMMYT) is a member of CGIAR

www.CGIAR.org
www.CIMMYT.org