

Satellite Imagery for Precision Grazing



CHALLENGE

SOLUTION

RESULTS

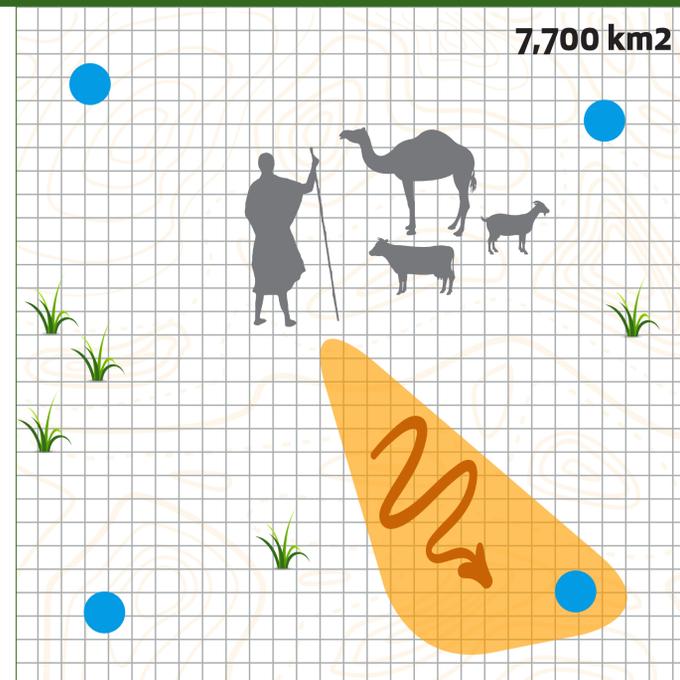
SEEKING WHAT THEY CANNOT SEE

Well managed livestock migration, practiced seasonally by over 200 million pastoralists in the drylands of Africa, can help fertilize and stimulate plant growth, minimize overgrazing, and improve livestock conditions. However, pastoralists traditionally rely on three methods to determine where and when to migrate—indigenous knowledge, word of mouth, and scouting. While important tools, they often prove imprecise, dated, or simply incorrect. Climate change has only amplified unpredictability. Moreover, a pastoralist can only assess a fraction of their expansive traditional grazing areas using these techniques.

Consequences of not finding adequate pasture and water:

- 30% herd loss annually (\$3,000 in local market value)¹
- Hundreds of dollars in excess scouting costs
- Overgrazing depleted pasture
- School dropouts
- Tribal clashes
- Out-migration

¹ Principal Impact Evaluation: Satellite Assisted Pastoral Resource Management (SAPARM). Andrew Simmons & Helene Purcell. Fordham University (January 2019)



Employing all three traditional methods, the pastoralist in this example misses the optimal grazing and only finds depleted pasture.

THE SHEPHERD'S EYE IN THE SKY

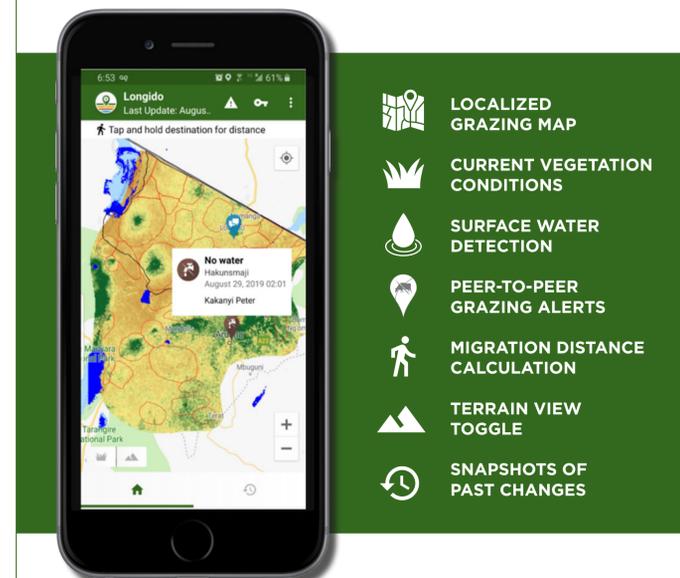
Realizing that pastoralists could make more precise and cost-effective decisions with better data, we created AfriScout. The AfriScout mobile app provides pastoralists in Kenya, Tanzania, and Ethiopia with actionable grazing data using satellite imagery and crowd-sourced indigenous knowledge.

The app acts as the “shepherds’ eye in the sky” helping to improve climate-smart management of drylands and the lives of the people and livestock that rely on them.

511,709 KM²
GRAZING
LAND

33
MAPPED
AREAS

9,600+
APP
USERS



DATA-DRIVEN RESILIENCY

\$4,639 change in value

An external study by Fordham University found that over three years, overall herd value increased by \$4,862 for map users from baseline (\$13,582) to endline (\$18,444). Less the change for non-users (\$222), the sum of the attributable benefits is \$4,640 for a typical herdsman in Tanzania.²

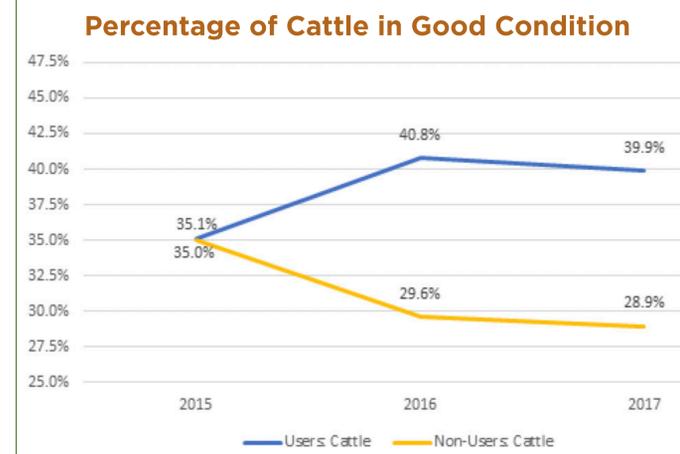
36:1 Benefit Cost Ratio

In other words, for every dollar invested, \$36 was accrued in value.

Improved herd condition

Despite drought conditions, map users saw improvements in herd condition over time whereas non-users observed deterioration over time.

² Principal Impact Evaluation: Satellite Assisted Pastoral Resource Management (SAPARM). Andrew Simmons & Helene Purcell. Fordham University (January 2019)



FROM THEIR PERSPECTIVE

97%

said the decisions they made based on the maps were significantly different than before.

76%

said the maps are now their most important source of information for migration decisions.

74%

said the maps saved them time spent scouting for pasture and water.

69%

said the maps improved their ability to better manage grazing areas.

42%

said that using AfriScout maps reduced conflict related to pasture.

“Previously, we have been moving with livestock for long while from place to place. In the midst of that journey our cows and calves used to die. Moreover, those of us with the animals would get thirsty and hungry. So, these maps have enormous benefits. Now, we have ridden ourselves of those challenges. Our cattle, calves and children are safe.”

- KEDIR JIBRIL
BALE ZONE, ETHIOPIA

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