

MOBILITY

BUFFALO BICYCLES ELIMINATE FARMER TRANSPORTATION CHALLENGES

ASSESSMENT | FAO - CONSERVATION AGRICULTURE SCALING UP - ZAMBIA | 2017



60%

WITH A BICYCLE, FARMERS SPEND
60% LESS TIME ON TRAVEL



120%

LEAD FARMER VISITS TO FOLLOWER
FARMERS INCREASED 120%
WITH A BICYCLE



90%

90% OF RECIPIENTS USED
THEIR BICYCLES TO TRANSPORT
PRODUCE TO MARKET



The Food and Agriculture Organization of the United Nations (FAO) purchased 4,500 Buffalo Bicycles for distribution to lead farmers in the Conservation Agriculture Scaling Up (CASU) program in Zambia. World Bicycle Relief documented recipient farmers' experiences to measure the influence of bicycles on the transportation challenges faced in their day-to-day program support activities.

THE NEED

In Zambia, smallholder farmers face many challenges, including soil degradation, high supply prices, a small market for their produce, and limited transportation options for moving produce to market. Conservation agriculture can improve productivity and yields while preserving the land for long-term farming success, but it was not widely practiced by Zambian farmers.

The challenges in Zambia are complex and right in line with FAO's mission. FAO's three main goals are the eradication of hunger, food insecurity, and malnutrition; the elimination of poverty and the advancement of economic and social progress for all; and the sustainable management and utilization of natural resources.

THE OPPORTUNITY

The CASU program, implemented by FAO, aims to make Zambian farming more sustainable and profitable by training farmers in conservation agriculture practices. The four-year program trained 21,000 lead farmers, 40% of which are women, in conservation agriculture skills. Participants learned crucial techniques in land preparation, soil conservation, potholing, leaping, crop rotation, fertilizer application, herbicide usage, tree planting, and crop storage. Each lead farmer recruited 15 follower farmers, providing guidance, support, and training in the principles of sustainable agriculture. CASU program meetings and visits to follower farmers proved challenging due to distance and lack of reliable transportation. On average, lead farmers travel a distance of 7.5 km to visit follower farmers and 15 km to reach local markets. To ease the farmers' burden, FAO sought reliable, rugged bicycles suited for the demands of agricultural use. Before receiving the bicycles, 39% of the farmers walked to perform their CASU responsibilities.



Research assistants interview lead farmers about their Buffalo Bicycle use to discover the bikes' impact on their daily activities.

THE INTERVENTION

FAO purchased 4,500 CASU-branded Buffalo Bicycles to help the program's lead small-scale farmers more easily comply with the CASU program requirements. The bicycles were assembled and delivered within just 31 days. Lead farmers reported using Buffalo Bicycles for:

- Attending CASU meetings
- Making monitoring visits to follower farmers
- Mobilizing follower farmers for meetings
- Attending agriculture field days
- Visiting fellow lead farmers
- Making everyday household tasks easier



Focus group discussions with farmers (62% male, 38% female) help us measure the effects of Buffalo Bicycles on the challenges faced in day-to-day CASU activities.



THE IMPACT

With Buffalo Bicycles, lead farmers were able to increase their involvement in CASU-related activities at a lower cost.

FOLLOWER FARMER VISITS ↑

The average number of monitoring visits to follower farmers increased 120%, from 5 visits before receiving bicycles to 11 visits after receiving bicycles. 79% of lead farmers were able to visit more follower farmers per month after receiving a bicycle.

CASU MEETING ATTENDANCE ↑

70% of lead farmers were able to attend meetings regularly and on time with Buffalo Bicycles.

AVERAGE TRAVEL TIME & TIREDNESS ↓

The average time taken to cover the longest distance reduced 60%, from 120 minutes to 48 minutes. 57% of farmers noted that they felt less tired traveling by bicycle than on foot.

TRANSPORTATION EXPENSES ↓

41% of lead farmers spent less on transportation once they were provided with Buffalo Bicycles.

THE INFLUENCE OF BUFFALO BICYCLES ON FARMER EFFICIENCIES

Lead farmers benefited from using bicycles for additional daily tasks:

- 90% transported farm produce to market
- 57% transported maize to the hammer mill
- 40% visited a health center by bicycle
- 36% transported water
- 22% purchased and carried household commodities
- 18% transported milk to the cooperative



"We had a big challenge when it came to transportation, it was difficult for us to perform our duties; for example, some of my follower farmers live more than 6 kms from my house and its very difficult to regularly visit [them] without a reliable transport. Now that we have been provided these bicycles, it is easier to constantly check on farmers, and I am able to visit all of them in one week." —A LEAD FARMER ON THE EFFICIENCY OF HIS BUFFALO BICYCLE

"If you look at the settlement pattern, people are scattered all over, and it's even worse for farmers because they have to settle near fertile land. This means that, on average, farmers live quite far from the central business area. The need for an [inexpensive] and safer transportation such as a bicycle or oxcart is therefore greater." —AGRICULTURE CAMP OFFICER ON THE BUFFALO BICYCLE AS A TRANSPORTATION TOOL



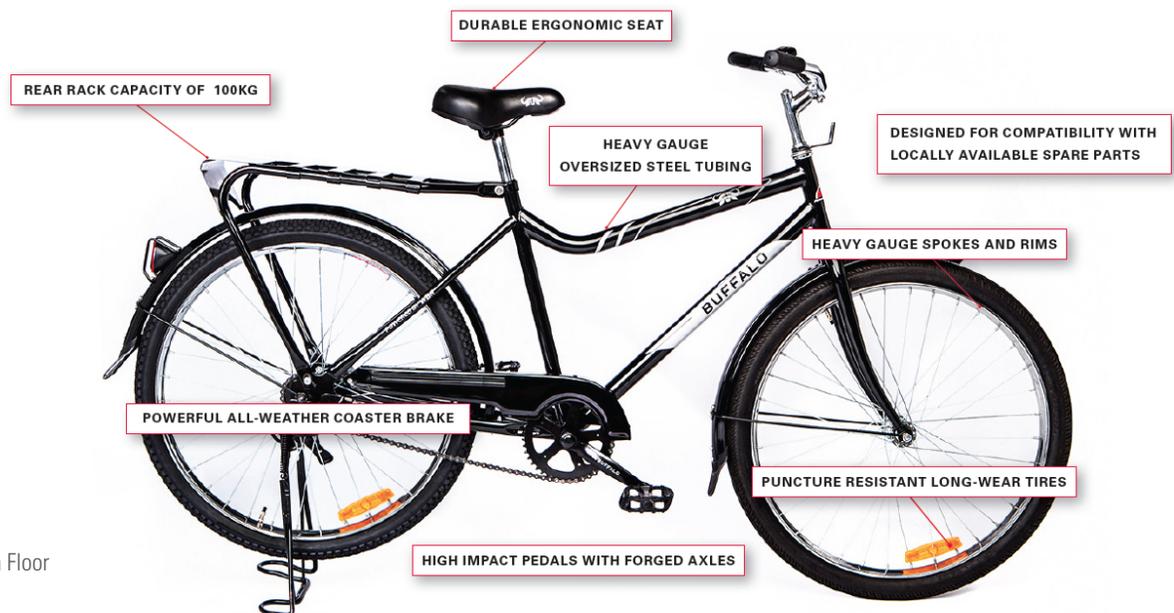
RESEARCH STUDY METHODOLOGY

210 lead farmers from the Monze and Mumbwa districts of Zambia participated in a study to document the experiences of and impact on farmers who received Buffalo Bicycles through CASU. 62% of the studied farmers were male and 38% were female. Through survey questionnaires, interviews, and focus group discussions, research assistants examined bicycle ownership, the farmers' transportation gap, brand awareness, product and maintenance, and cost of ownership.

WHY WORLD BICYCLE RELIEF?

World Bicycle Relief mobilizes people through The Power of Bicycles. Our innovative model combines philanthropic distributions with social enterprise sales that enable us to achieve greater efficiencies of scale, distribute more bicycles per donor dollar and create deeper impact where we work.

We work closely with our partners, supporters and end-users to design and implement sustainable programs, leveraging best practices and local expertise. World Bicycle Relief oversees the philanthropic programs and Buffalo Bicycles, Ltd. produces the bicycles that enable individuals to achieve mobility and thrive. We envision a world where distance is no longer a barrier to independence and livelihood.



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