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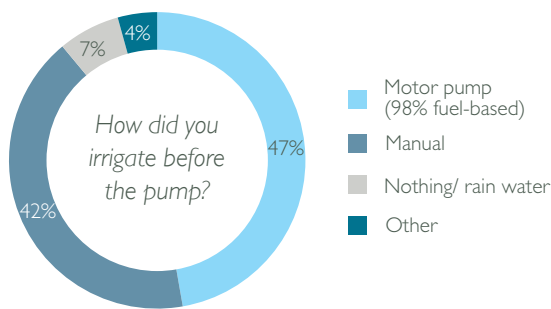


SURVEY OF MICRO-PUMP USERS

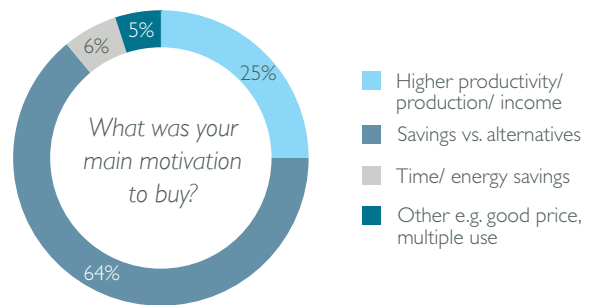
In order to better understand how micro irrigation pumps could improve rural livelihoods, Acumen conducted a survey using their Lean Data approach, through phone interviews with 163 Futurepump and SolarNow customers, in Kenya (128) and Uganda (35). 4% of respondents had purchased the pump in 2015 or earlier, 81% in 2016, and 13% in 2017. Respondents own between 0.1 to 18.5 acres of land (2.5 acres on average excluding outliers, and the largest number of farmers own 1 acre or less). 98% of respondents use the pump for irrigation, and 17% for multiple use (drinking water for home and animals). On average, the pump is used to irrigate ~1.5 acre. Respondents' family size is on average 6-7 members. About 51% of Kenyan households have a female head who had no primary education or only up to early secondary, and 31% of Ugandan households had a female head who could not read or write in any language.

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Finding 1: Solar pumps are mostly sold to farmers who had motor pumps or who used to irrigate fields manually

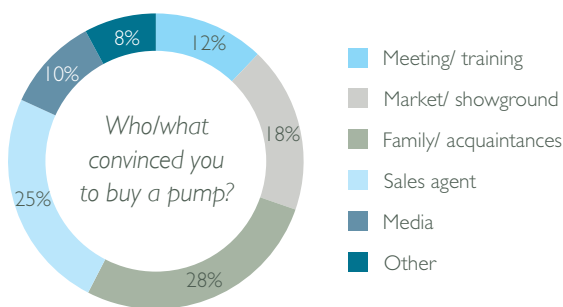


Finding 3a: Motivation to buy is mostly driven by anticipated savings vs. other irrigation alternatives



In contrast, 65% of buyers report higher production/ productivity/ income, ex-post

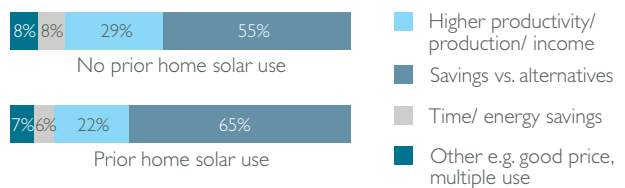
Finding 2: Farmers bought the pump after talking with family, acquaintances, or visiting a training meeting or market



- 44% had heard about the technology before
- 35% knew someone who had one pump or more
- Purchase decision made by male adults only in 88% of the cases
- 61% purchased on loan (rest on cash)

Finding 3b: Prior ownership of solar device also drives awareness about potential fuel savings

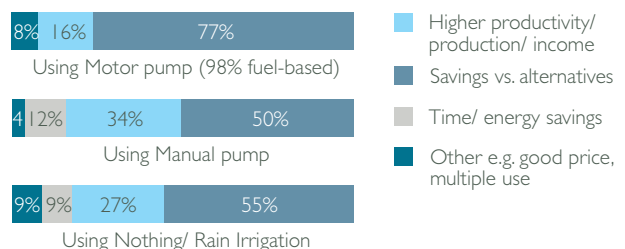
Motivation to buy depending on prior ownership of solar device



69% of respondents had a solar device at home (about half of those a SHS)

Finding 3c: Previous irrigation solution a clear determinant in motivation to buy

Motivation to buy depending on prior irrigation solution



Finding 4: Actual impact on farmers' lives are far reaching

What are the benefits brought by the pump?

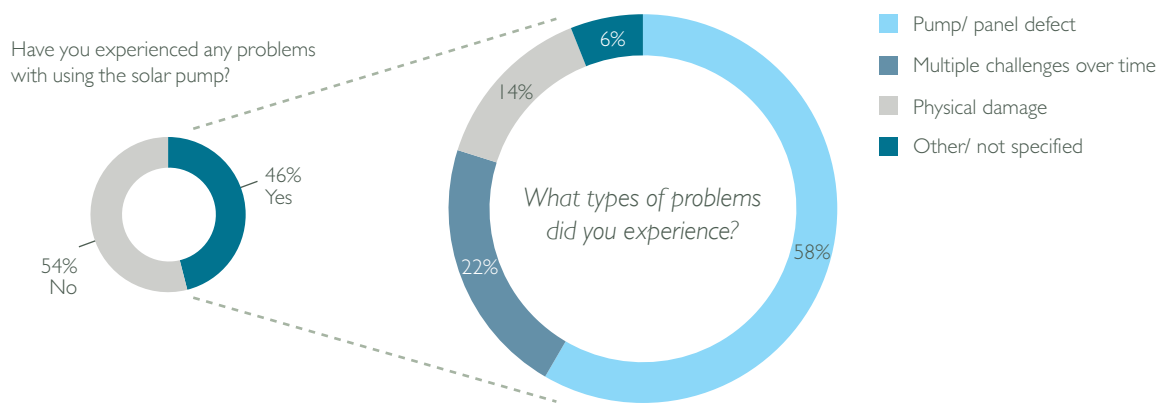
Fuel savings	Higher production/ productivity**	Other benefits
<ul style="list-style-type: none"> - About 56% of buyers stated they used to spend money on irrigation - Out of the 56%, 47% still complement with motor pumps, and 10% fell back on motor pumps - Out of the 56%, savings amount to \$51 per household member per year or \$268 per acre/ year* 	<ul style="list-style-type: none"> - 65% buyers report higher yields, 23% say it is too early to tell, 7% report no improvement (poor advice, maintenance), 4% had problems with crops/ source of water 	<ul style="list-style-type: none"> - 10% buyers lent the pump to others, including half for a fee (for about \$22 per week)

* Assuming 26 weeks irrigation time per year

** 94% of buyers were cultivating vegetables (i.e. cash crops), often coupled with fruits and other crops

Finding 5: A high share of users experience technical issues, mostly driven by equipment defects.

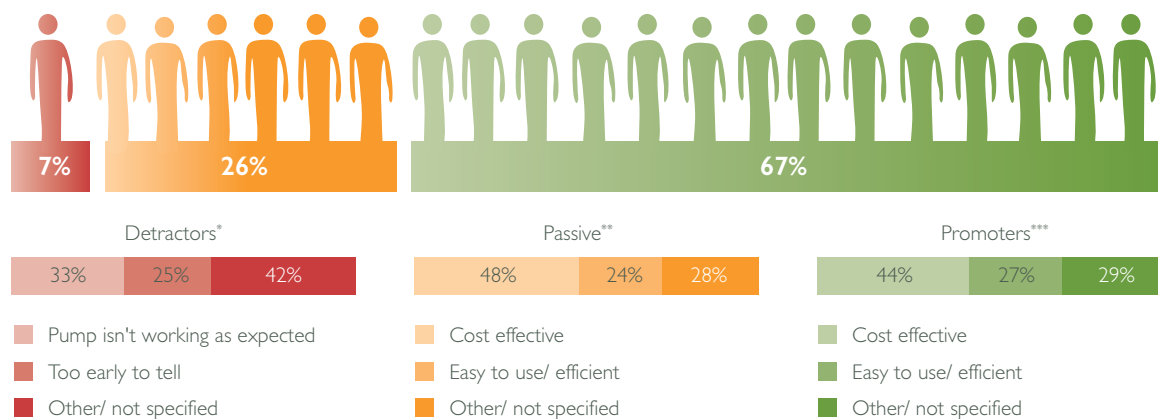
Poor usage of pumps is also a concern



Note: A number of surveyed customers were early adopters, who experienced earlier versions of the pump. The pump design has been improved since. Only 2% of customers reported that their pump is not working as expected, pointing at a high resolution rate in after-sales support

Finding 6: Despite high share of issues, a relatively high number of users are ready to recommend the pump

What are the benefits brought by the pump?



* Likelihood to recommend pump based on rating from 0 to 6

** Favorable of the pump (rating 7-8) but would not proactively recommend it

*** Very favorable of the pump (rating 9-10) or lower rating (7-8) but would proactively recommend it