

ONE ACRE FUND

2014 Annual Impact: Country Level
M&E Report







Anne Malemba, smallholder farmer, Kenya. Hailey Tucker/One Acre Fund.

Summary of Results

Total program: 2014 was a year of continued strong impact for our programs. The table below shows the total impact per farmer of our core agriculture program, as well as “add-on products” such as solar lights and trees. Across all of our country operations, farmers made an additional **\$89 USD** in agriculture profit compared to similarly situated farmers in the same agro-ecological zones. They also made, on average, another **\$27 USD** in profit from our add-on products.¹ Put together, this represents an additional **\$116.4 USD** in profit, which is equivalent to a **52 percent** income increase (from those activities) relative to non-One Acre Fund farmers.

The below table summarizes total program impact ²:

		Ag Impact \$/Farmer	Add-ons \$/Farmer	TOTAL Impact \$/Farmer	Total % inc. in income
Kenya		\$117.2	\$ 52.6	\$169.8	40%
Rwanda		\$64.0	\$5.8	\$69.8	53%
Burundi		\$65.7	\$1.8	\$67.4	99%
Tanzania		\$64.5	\$13.82	\$78.3	20%
WHOLE PROGRAM		\$89.1	\$27.30	\$116.4	52%

Agriculture program: Looking in more detail at our agriculture program, we see that the extra **\$89 USD** translates into a **33 percent** increase in agriculture income for a typical One Acre Fund client across all countries. This “impact per farmer” metric looks at *all* the land clients plant, including the land they do not use One Acre Fund inputs on, and compares this to a similar, non-client farmer (selected in a way that minimizes selection bias). This corrects for the potential measurement bias if a farmer were to shift her crop mix due to our programs.





Return on Investment (ROI) puts us in the farmer’s shoes. On average, One Acre Fund farmers saw a **181 percent** return on their investment in our agriculture program. This means for every incremental \$1 USD that farmers spent as a result of being in our program (compared to control), they earned an additional **\$1.81 USD** in profit (even after netting out their program payments). This varies widely by country, however, as some countries (like Burundi) have relatively less expensive programs and therefore a higher relative return.

¹ Add-on impact reflects the *average* farmer in our program. If an add-on product adds an estimated \$50 USD of impact per adopter but only 20 percent of farmers adopt the product, then the average impact per farmer = \$50 * 20% = \$10 USD.

² 2014 figures were revised downward in 2015 given improved market price information in Rwanda, inclusion of additional program fees in Tanzania and final estimate of solar impact in Tanzania.

Farmers First

The below table summarizes the impact of our core agricultural program:

		Ag Impact \$/Farmer	% Increase per Farmer	ROI per Farmer
Kenya		\$117	27%	124%
Rwanda		\$64	26%	145%
Burundi		\$66	72%	726%
Tanzania		\$65	16%	242%
WHOLE PROGRAM		\$89.06	33%	181%

Methodology in Brief

To generate our impact data, we survey thousands of One Acre Fund farmers and compare that data with similarly situated comparison farmers, who live in the same area and thus face similar agro-ecological conditions.³ We conduct two different surveys: In the first survey, we collect comprehensive farming input data on everything from fertilizer and seed costs to labor days expended. We also get an estimate of a farmer’s land size dedicated to One Acre Fund inputs and the farmer’s land size overall. In the second survey, we randomly select two small plots of land and harvest and weigh each crop. For most crops, we take a “wet” weight of freshly harvested crops and then a “dry” weight (after maize is shucked and dried, for example), which is the weight most relevant to both selling and consuming the grain. We then have all the data we need to calculate total farm profit of One Acre Fund farmers and compare it to similar, non-client farmers.

³ We have also run some methods experiments to try and isolate any selection bias issues (e.g. that farmers working with One Acre Fund could be different from their neighbors and would have different harvests without our program). In Kenya we did propensity score matching and a small RCT. Both found results similar to what we find in our regular impact assessment.

Kenya Impact 2014

Country context: The Kenya program, launched in 2006, is One Acre Fund's oldest program. We support farmers growing maize, millet, sorghum, and beans over one long season, with credit for both improved seed and fertilizer and frequent trainings. In 2013, we diversified our crop package in response to growing concern over a maize disease, and as part of an effort to promote a more resilient crop mix. We offer a range of additional add-on products, such as solar lights, vegetable seeds, and



*Anne Wafula, smallholder farmer, Chwele, Kenya.
Hailey Tucker/One Acre Fund.*

improved crop storage bags, which are trialed by our innovations team (Kenya has a robust innovations laboratory, and the team rigorously tests a large pipeline of new agriculture and other products). In 2014, we served 80,400 clients over the “long rains” growing season.

Impact results and trends: On average, we added an additional **\$117 USD** in agriculture profit over the season we worked with farmers in Kenya. Add-on products (tree seeds, vegetable seeds, and solar lamps) add another **\$52 USD** to our average impact. Given high energy expenditures, solar lights are a terrific investment in Kenya, and we had a high adoption rate of nearly half of all farmers buying a solar lamp. All together, this represents a **40 percent** improvement in profits relative to a comparison group.

Kenya's impact in 2014 was very similar to the previous year's impact, with overall dollar impact decreasing slightly from \$179 USD to \$170 USD. A fair amount of our income increase in 2013 was due to improvements in the impact and adoption of add-on products. For instance, our innovations lab greatly increased the survival rate of our trees and more rigorous studies showed an even greater impact of solar lights than we had previously estimated.

Rwanda Impact 2014

Country context: The Rwanda program, launched in 2007, is One Acre Fund's second-oldest program. We serve farmers across a broad swath of the country, providing fertilizer on credit and frequent trainings over two growing seasons. The most common crops clients grow are maize, climbing beans, bush beans, potatoes, and rice. We offer a range of additional add-on products, such as solar lights, coffee, and trees. In 2014, we served a total of 88,000 clients over both seasons.

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Impact results and trends: On average, we added an additional **\$64 USD** in agriculture profit over the two growing seasons. Add-on products (trees and solar lamps) add another **\$6 USD** to our average impact. Impact from these products is not as high as in Kenya, mostly due to comparatively lower energy costs (and smaller energy savings from solar lights), and the fact that fewer trees are distributed. All together, this represents a **53 percent** improvement in profits relative to a comparison group.



Farmer Beatrice Uzamukunda hangs maize for drying in Rwanda. Hailey Tucker/One Acre Fund.

As we increasingly partner with the Rwandan government to distribute fertilizer through agro-dealers and deliver trainings through their extension program, we will reach more farmers outside of our core agriculture program. This means our comparison group should be improving, so the relative impact of our program could decrease. While this is a measurement challenge, and could initially result in decreased impact numbers in Rwanda, we celebrate the prospect of improving more farmers' lives.

Burundi Impact 2014

Country context: The Burundi program, launched in 2010, is One Acre Fund's third country operation. We support farmers in growing maize, beans, and potatoes, with credit for fertilizer and trainings over two growing seasons. Fertilizer is subsidized by the government, so its use is common. Our primary programmatic advantage is therefore our intensive training. We also offer solar lights on credit and have started a tree program. In 2014, we served 9,600 clients in the first growing season, and a record 21,000 clients in the second growing season.



Farmer Joselyne Nshimirimana with her daughter Marie in Burundi. Hailey Tucker/One Acre Fund.

Impact results and trends: On average, we added another **\$65 USD** in agricultural profit over the two growing seasons. Add-on products (trees and solar lamps) add another **\$2 USD** on average per farmer.

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Impacts from add-on products are relatively small, as Burundians spend less on energy than other countries, so it takes them longer to realize the returns from investing in a solar lamp, and adoption of these products is relatively low. Still, together this represents a **99 percent** improvement in profits relative to a comparison group.

This was a big improvement over 2013, in which our annual agricultural impact was a modest \$21 USD. Part of this increase was due to our efforts to standardize costs and impact calculations across countries, but much of it was also due to a very strong bean harvest in the second growing season. One Acre Fund farmers received their fertilizer earlier, planted earlier, and were not hit as hard by a shorter-than-average rainy season as their neighbors.

Tanzania Impact 2014

Country context: The Tanzania program, launched in 2013, is One Acre Fund's newest program. We support farmers in growing maize and sunflower seeds over one long season, with credit for both improved seed and fertilizer and frequent trainings. Average farm size in Tanzania is greater than in our other countries and oxen use is more common, which means we had to think creatively about our planting training. In 2014, we served 4,300 clients, quadrupling our size from the previous year.



Farmers prepare the land for planting in Tanzania. Hailey Tucker/One Acre Fund.

Impact results and trends: On average, we added another **\$65 USD** in agriculture profit over the season we worked with farmers in Tanzania. Add-on products (sunflowers and solar lamps) add another **\$14 USD** to our average impact. For each solar light adopter, we estimate an annual impact of **\$30 USD** (savings from reduced batteries and kerosene expenditures, and income from charging neighbors' phones using the charger in the lamp). For each sunflower adopter, we estimate another **\$60 USD** in impact. As our adoption of these products increases, so will our overall impact. Altogether, this represents a **20 percent** improvement in profits relative to a comparison group. The percent increase is relatively lower than in our other countries, as our Tanzanian farmers farm much more land. The proportion of land planted with inputs from One Acre Fund, relative to their whole farm, is smaller. In 2015, we will be offering larger packages of farm inputs.