

8.2. Win for farmers

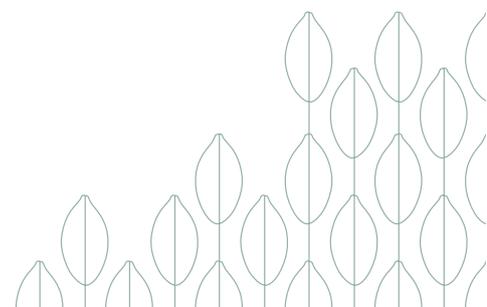
The objective of KT is simply to showcase profitable and sustainable farm practices. We promote the use of simple but effective agronomic techniques, including: land preparation, selecting varieties for agronomic and marketing traits, seedling production, field layout, trellising, soil conservation, nutrient management, pest and disease management, irrigation, weed management, and harvesting. We also train farmers on the soft skills they will need to get the full benefits of adopting improved production practices. This covers production planning, the use of market information, maintaining farm records, and calculating return on investment. Although simple, these practices are game-changers for most smallholder farmers in less-developed areas.

By offering farmers a wide “menu” of improved practices from which they can choose to adopt at their own pace, our activities put farmers on a positive path of change. Risk averse farmers adopt or adapt better practices step-by-step. The rate at which they adopt improved practices will depend on the intensity of exposure to the results of best practices and their socio-economic situation. It is our experience that adoption continues to grow significantly after direct project support is completed.

Increases in income will vary from farmer to farmer. However, in general we expect additional net income to increase year by year as farmers gain more experience. The figures below are projected average income gains accumulated across different groups of farmers.

	Year 1 farmer	Year 2 farmer	Year 3 farmer	Year 4 farmer	Year 5 farmer
Average income increase (U\$)	92	121	166	213	261

As this average includes new groups of farmers starting every year, the income increase for individual farmers is significantly higher as they gain experience (refer to tables below).



Key farmers (2% of our target group) are the first adopters. What can be done by key farmers can be copied by all other farmers. Within the first year, key farmers are able to double their productivity on smaller plots (1,250 sqm) by using improved practices. Compared to traditional practices, this earns them an additional U\$274 net income. By replicating better practices on increasingly larger plots of land every season, they are able to double their total net income from their full production area within four years.

	Baseline ⁽⁸⁾	Year 1	Year 2	Year 3	Year 4	Year 5
Total net income from vegetables (U\$)	869	1,143	1,280	1,527	1,692	1,856
Additional annual net income (U\$)		274	411	658	823	988

Core group farmers (20% of our target group) systematically follow all the key stages of crop production for several crop cycles through practical training on the demo farms. Within the first year they are able to increase productivity by 75% on smaller plots (1,000 sqm) using improved practices. Compared to traditional practices, this earns them an additional U\$165 net income. By replicating better practices on increasingly larger plots of land every season, they are able to double their total net income from their full production area within five years.

	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
Total net income from vegetables (U\$)	869	1,033	1,143	1,417	1,609	1,692
Additional annual net income (U\$)		165	274	549	741	823

Trained farmers (40% of our target) are those who join regular training events and select the topics that interest them the most. Within the first year they are able to increase productivity by 50% on smaller plots (750 sqm) using improved practices. Compared to traditional practices, this earns them an additional U\$82 net income. By replicating better practices on increasingly larger plots of land every season, they are able to achieve a 50% income increase over four years.

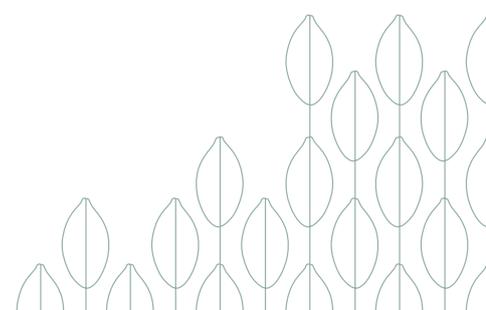
	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
Total net income from vegetables (U\$)	869	951	1,033	1,143	1,280	1,445
Additional annual net income (U\$)		82	165	274	411	576

Other farmers (38% of our target group) do not directly attend training events, but benefit from a wider range of better quality agri-inputs and improved access to knowledge and information through agri-input dealers and copying the practices of their neighbors. Without direct exposure to best practices in the field, we estimate that over the first year they are able to increase productivity by 50% on smaller plots (500 sqm) using improved practices. Compared to traditional practices this earns them an additional U\$55 net income. By replicating better practices on increasingly larger plots of land every season, they are able to increase the total net income from their full production by 50% within five years.

	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
Total net income from vegetables (U\$)	869	924	951	1,033	1,143	1,280
Additional annual net income (U\$)		55	82	165	274	411

By year five, the varying degrees of improved practices adopted by the 1 million farmers will generate an additional net income of U\$260 million every year at the farm gate level.

(8) Assumption; most farmers grow 2-3 crop cycles per year - using a total of 5,000 sqm over the year.



8.3. Win for vegetable markets and nutrition

As well as boosting rural incomes in very poor areas, the use of improved vegetable varieties alongside better farm practices has a huge impact on nutrition. Even combined with fruit, the per capita consumption of vegetables in many countries is often less than half of the 400g minimum recommended by WHO. The devastating effect this can have on physical and cognitive development is not only a health issue, it is also a severe constraint to long-term economic development in poor urban and rural communities. The urgent need to increase the availability and consumption of vegetables has been recently further highlighted by the COVID-19 pandemic. With steady

increases in yields as farmers gain more experience, by year five, the total volume of vegetables produced by the farmers we train will be enough to supply 126 million consumers at current rates of consumption. With a growing demand driven by improved access, affordability, and awareness of the benefits of vegetables, the additional volume produced would be enough to potentially double the per capita consumption of 25 million lower income consumers. As an increase in consumption is dependent on awareness and affordability, it may be that a larger group of consumers benefit from smaller increases to per capita consumption.

Impact to nutrition from <i>additional productivity</i>	Year 1	Year 2	Year 3	Year 4	Year 5
Accumulated No. of farmers trained	120,000	280,000	480,000	720,000	1,000,000
Total volume of vegetables produced (Ton/year)	844,421	1,429,764	2,509,859	3,867,779	5,521,338
Total additional volume produced (Ton/year)	46,086	141,549	331,196	639,166	1,088,227
Total consumers supplied at current consumption rate (million)	19	32	57	88	126
Total consumers able to increase consumption by 50% (million)	1	3	7	15	25

9. Our target group

We target farmers already producing vegetables, as well as introducing vegetables as a new economic opportunity. We only select areas that have a long-term potential to develop vibrant agri-input markets and that can become thriving hubs of vegetable production — supplying local, regional or even national vegetable markets at sufficient scale. Looking for areas of unnoticed or untapped potential, our work will take us to less-developed and often challenging areas such as Rakhine in Myanmar, Mindanao in Philippines, northern Nigeria etc. In some circumstances (for example northern Uganda) our approach brings alternative solutions in refugee crises.

Our focus on supporting farmers with the knowledge and information they need to supply wet markets (national and regional) will ensure that poorer populations are the main group to benefit from improved nutrition. Increased volume and regularity of supply will drive affordability. We also work with higher-end modern markets such as e-commerce, supermarkets and processing companies. Although their minimal requirements limit the number of farmers who can benefit, aligning to quality specifications (including branding and certification) can be a positive way to drive change in the sector.

