STANDARD SECTOR INDICATOR CODE: AG-012 FTF (FTF 4.5.2-2)	**New Technologies and Practices - Area Impacted:** Number of hectares under improved technologies or management practices. (AG-012 FTF)	
AGRICULTURE SECTOR	**Sector Schematic Alignment** *Note: This indicator belongs to the "Ag Production and Improved Cultivation Practices" Project Area and "Soil and Water Conservation and Management" Project Activities/Training Package (PA/TP) within the AG Sector but is borrowed by the following Project Activities/Training Packages within the AG and ENV Sectors.* **AG Sector ("Home" of the SSI)** **PA/TP:** Soil and Water Conservation and Management **AG Sector** **PA/TP:** Staple Crops, Agroforestry, Gardens, & Small Animal Husbandry: Chickens/Beekeeping **ENV Sector** **PA/TP:** Agroforestry, Gardens & Soil and Water Conservation and Management	
Type: Outcome	**Unit of Measure**: Hectare	**Disaggregation** (None in FY13; Begins in FY14)**:** **Sex**: Male-applied, Female-applied, Joint, Association-applied **Technology type**: Crop genetics, Pest management, Disease management, Soil related, Irrigation, Water management , Climate mitigation or adaptation, Other, Total w/one or more improved technology **Duration**: New, Continuing

Definitions:

This indicator measures the area (in hectares) of land cultivated using USG-promoted (including Peace Corps) improved technology(ies) or management practice(s) during the current fiscal year. Technologies to be counted here are agriculture-related land-based technologies and innovations including those that address climate change adaptation and mitigation. Significant improvements to existing technologies should be counted.

Conversion factors
1 Hectare = 2.47 acres
1 Acre = 43560 square feet (ft^3)

Fiscal Year – October 1 to September 30

USG (including Peace Corps) assistance/training may include but is not limited to: financial aid, workshops, demonstrations, lessons, service delivery, or activities conducted by any agency or organization of the U.S. government or any contractor working at the direction of the U.S. government. These activities typically are conducted to provide

participants with knowledge and/or skills, technical assistance, learning opportunities, services or expand coverage for services, etc.

Technologies counted here are agriculture-related land-based technologies and innovations including those that address climate change adaptation and mitigation, and may relate to any products at any point on the supply chain. This includes innovations in productivity, efficiency, value-addition, post-harvest management, sustainable land management, forest and water management, managerial practices, and input supply delivery.

Improved technologies: in the Feed the Future context, any "newly" introduced technology is assumed to be an "improved" technology. This includes innovations in efficiency, value-addition, post-harvest management, marketing, sustainable land management, forest and water management, managerial practices, input supply delivery

Examples of relevant technologies include but are not limited to:

- Crop genetics: improved/certified seed that could be higher-yielding, higher in nutritional content (e.g. through biofortification, such as vitamin A-rich sweet potatoes or rice, or high-protein maize) and/or more resilient to climate impacts.
- Pest management: Integrated Pest Management (IPM); appropriate application of insecticides and pesticides
- Disease management: e.g. appropriate application of fungicides
- Soil-related fertility and conservation: Integrated Soil Fertility Management (ISFM), soil management practices that increase biotic activity and soil organic matter levels, such as soil amendments that increase fertilizer-use efficiency (e.g. soil organic matter); fertilizers, erosion control
- Irrigation: drip, surface, sprinkler irrigation; irrigation schemes
- Water management: non-irrigation-based e.g. water harvesting
- Climate mitigation or adaptation: conservation agriculture, carbon sequestration through low- or no-till practices no-till practices
- Other: planting density and other cultural practices, improved mechanical and physical land preparation and harvesting approaches,

Beneficiary – an individual who is engaged with a project activity or comes into direct contact with a set of interventions (goods or services) provided by the project or Peace Corps Volunteer. Individuals merely contacted or involved in an activity through brief attendance (non-recurring participation) do not count as a beneficiary.

Scenarios for counting a beneficiary for this indicator

1. If a beneficiary cultivates a plot of land more than once in the fiscal year, the area should be counted each time it is cultivated with one or more improved technologies during the reporting year. For example, because of access to irrigation as a result of a Feed the Future activity, a farmer can now cultivate a second crop during the dry season in addition to her/his regular crop during the rainy season. If the farmer applies Feed the Future promoted technologies to her/his plot during both the rainy season and the dry season, the area of the plot would be counted twice under this indicator. However, the farmer would only be counted once under AG-003 FTF.

2. If a group of beneficiaries cultivate a plot of land as a group, such as an association has a common plot on which multiple association members cultivate together, and on which improved technologies are applied, the area of the communal plot should be counted under this indicator and recorded under the sex disaggregate "association-applied", and the group of association members should be counted once under AG-036 FTF.

3. If a **lead farmer cultivates a plot used for training**, such as a demonstration plot used for Farmer Field Days or Farmer Field School, the area of the demonstration plot should be counted under this indicator, and the farmer counted under AG-003 FTF. However, if the demonstration or training plot is cultivated by extensionists or researchers, e.g. a demonstration plot in a research institute, neither the area nor the extensionist/researcher SHOULD be counted under the respective indicators.

New – this fiscal year is the first year the hectare has been under improved technologies or management practices applied the improved technology/practice

Continuing - this hectare was under improved technologies or management practices in the previous fiscal year and continues to be under improved technologies or management practices this fiscal year

Joint (sex disaggregation category) **-** Volunteers must determine that decision-making about what to plant on the plot of land and how to manage it for that particular beneficiary and targeted commodity is truly done in a joint manner by male(s) and female(s) within the household. Given what we know about gender dynamics in agriculture, "joint" should not be the default assumption about how decisions about the management of the plot are made.

Counting for Technology Type Disaggregation

If more than one improved technology is being applied on a hectare, count the hectare under each technology type (i.e. double-count). In addition, count the hectare under the total w/one or more improved technology category. Since it is very common for Feed the Future activities to promote more than one improved technology, not all of which are applied by all beneficiaries at once, this approach allows Feed the Future to accurately track and count the uptake of different technology types, and to accurately count the total number of hectares under improved technologies. See box for example.

Example: A project supports dissemination of improved seed, Integrated Pest Management and drip irrigation. During the reporting year, a total of 1,000 hectares were under improved technologies: 800 with improved seed, 600 with IPM and 950 with drip irrigation. FTFMS Technology Type disaggregate data entry would be as follows:

Technology type	
crop genetics	800
pest management	600
disease management	
soil-related	
irrigation	950
water management	
climate mitigation or adaptation	
other	
total w/one or more improved technology	1000

Rationale: Successful adoption of technologies and management practices can improve agricultural productivity, agricultural water productivity, sustainability, and resilience to climate impacts.

Measurement Notes:

1. **Sample Tools and/or Possible Methods (for Peace Corps staff use):** Volunteers should use data collection tools to measure progress against project indicators. A data collection tool to measure this indicator could be based on one of the following methods—survey, secondary data review of available farm records, observation, or interview—though there may be other data collection methods that are appropriate as well. For more information on the suggested methods, please see **Appendix I in the MRE Toolkit.** Also be sure to check the intranet page as sample tools are regularly uploaded for post use. Once a tool has been developed, post staff should have a few Volunteers and their partners pilot it, and then distribute and train Volunteers on its use.

2. **General Data Collection for Volunteer Activities:** All Volunteer activities should be conducted with the intention of achieving outcomes – knowledge change (short-term), skills demonstration (intermediate-term), and behavioral changes (intermediate to long term) as defined by the progression of indicators within the objectives of a project framework. The progression of measurement for all Volunteer activities should begin with baseline data being conducted prior to the implementation of an activity (or set of activities), followed by documenting any outputs of the activities and then later at the appropriate time, measurements of specific outcomes (see "Frequency of Measurement").

3. **Activity-Level Baseline Data Collection**: Activity-level baseline data should be collected by Volunteers/partners before or at the start of their activities with individuals or organizations. It provides a basis for planning and/or assessing subsequent progress or impact with these same people. Volunteers should take a baseline measurement regarding the outcome(s) defined in this indicator (i.e. determine whether or not a hectare is under improved technologies or management practices before the Volunteer works with the individual or organization responsible for the hectare) early in their work focused on application of improved technologies or management practices. The information for the baseline measurement will be the same or very similar to the information that will be collected in the follow-on measurement (see "Frequency of Measurement") after the Volunteer has conducted his/her activities and it is usually collected using the same data collection tool to allow for easy management of the data over time.

   Because Volunteers are expected to implement relevant and focused activities that will promote specific changes within a target population (see the "unit of measure" above), taking a baseline measurement helps Volunteers to develop a more realistic snapshot of where the individuals and organization programs within the target population are in their process of change applying new technologies or management practices instead of assuming that they are starting at "0." It also sets up Volunteers to be able to see in concrete terms what influence their work is having on the application of improved technologies and management practices they work with during their service. Please note that data collection is a sensitive process and so Volunteers will not want to take a baseline measurement until they have been able to do some relationship and trust-building with the person/people the Volunteer is working with, and developed an understanding of cultural norms and gender dynamics.

4. **Frequency of Measurement**: For reporting accurately on this outcome indicator, Volunteers must take a minimum of two measurements with the individuals and organization of the target population reached with their activities. After taking the baseline measurement (described above), Volunteers should take at least one follow-on measurement with the same individuals or organizations typically after completing one or more activities focused on achieving the outcome in this indicator and once they have determined that the timing is appropriate

to expect that the outcome has been achieved. Please note that successful documentation of a behavior change or new practice may not be immediately apparent following the completion of activities and may need to be planned for at a later time. Once Volunteers have measured that at least one hectare has been placed under improved technologies and management practices, they should report on it in their next VRF.

Volunteers may determine to take more than one baseline and one follow-on measurement with the same individual(s) or organization(s) for the following valid reasons:

a. Volunteers may want to measure whether or not an individual or organization has placed additional hectares under improved technologies or management practices who were initially reached by the Volunteer's activities, particularly for any activities that are on-going in nature (no clear end date);
b. Volunteers may want to enhance their own learning and the implementation of their activities by using the data collected as an effective monitoring tool and feedback mechanism for the need to improve or increase their activities;
c. A Peace Corps project in a particular country may choose to increase the frequency of measurement of the indicator and Volunteers assigned to that project will be required to follow in-country guidance.

In all cases, any additional data collection above the minimum expectation should be based on the time, resources, accessibility to the target population, and the value to be gained versus the burden of collecting the data. Following any additional measurements taken, Volunteers should report on any hectares under improved technologies or management practices in their next VRF.

5. **Definition of Change**: The minimum change to report against this indicator is a hectare being placed under improved technologies or management practices, as compared to what was measured initially at baseline. In the case of this indicator, if the individual the Volunteer/partner works with already using drip irrigation on 2 hectares of his/her farm before beginning to work with the Volunteer/partner, then the Volunteer would <u>not</u> be able to count it for this activity because the Volunteer's work did not actually lead to the desired change. However, if as a result of working with the Volunteer/partner, the individual expands his drip irrigation system to 3 additional hectares, that would count because the Volunteer's work influenced the expansion of the drip irrigation system to the 3 additional hectares.

6. **General Reporting in the VRF**: For this indicator, Volunteers will only report one number in the "total number" section of the VRF; the total number of hectares under improved technologies or management practices.

7. **Reporting on Disaggregated Data in the VRF:** This indicator is unique. It is disaggregated by multiple categories; "Technology Type", "Sex", and "Duration". The "Technology Type" disaggregation allows for double-counting, so the "Total" for the "Technology Type" **<u>does not</u>** have to equal the total for the other two disaggregation categories; "Sex" and "Duration". The "Technology Type" disaggregate "Total w/one or more improved technologies" should be equal the totals of the "Sex" and "Duration" categories.

   Due to the functionality of the VRF, the Volunteer will see a table to enter the disaggregated data for the "Technology Type" category. Then the Volunteer will see a box to enter disaggregated data for the "Sex" (male, female, joint, and association-applied) and "Duration" (new and continuing). As stated above, the totals for the "Sex" and "Duration" categories **MUST** be equal. **PLEASE NOTE**: Volunteers should check, before submitting their VRF to see if the totals are equal.

   PLEASE NOTE: <u>After a Volunteer submits their first VRF</u>, the data entered into the for "Sex" (male, female, joint, and association-applied) and "Duration" (new and continuing) will be editable, so a Volunteer should make sure

that the sum of the "Sex" (male, female, joint, association-applied) and "Duration" (new and continuing) **REMAINS** equal.
Data Quality Assessments (DQA): DQAs are needed for each indicator selected to align with the project objectives. DQAs review the validity, integrity, precision, reliability, and timeliness of each indicator. For more information, consult the Peace Corps MRE Toolkit.
Alignment with Summary Indicator: ENV. LAND MGMT (HECTARES)