

Indicator: # of individuals who adopt sustainable soil and water improvement and conservation practices (ENV_031)**ENVIRONMENT SECTOR** **Type:** Outcome**Unit of Measure:** Individual**Disaggregation:** Male, Female;
Age: 0–9, 10–14, 15–19, 20–24,
25+**Outcome Measured:** Individuals adopt sustainable soil and water improvement and conservation practices**Precise definitions****Sustainable soil and water improvements and conservation:**

- **Soil improvements** refer to practices that sustainably improve soil’s productivity (e.g., soil fertility, texture, pH, and water-storage capacity).
- **Soil conservation** refers to measures that prevent soil erosion.
- **Water improvements** refer to measures that improve the quantity and quality of accessible water.
- **Water conservation** refers to measures that store water.
- Most, if not all, soil improvement and conservation measures also inevitably contribute to water improvements and storage.

Requirement for demonstrating the adoption of sustainable soil and water improvement and conservation

practices: Individuals must be able to articulate, and optimally show, that they have adopted sustainable soil and water improvement and conservation practices by doing one or more of the following:

1. **Constructing berms and swales:** A berm is an artificial embankment that holds back flowing water and soil. A swale is a low place that retains water, usually built alongside a berm.
2. **Plowing on the contour:** Plowing furrows and ridges that are perpendicular to slope direction. This retards soil and water moving downhill.
3. **Planting legumes:** Most legumes harbor special bacteria in their roots that take nitrogen from the atmosphere and convert it into a form that plants can use as a vital nutrient. Planting legumes can fertilize fields with nitrogen.
4. **Rotating crops:** Rotating the kinds of crops planted in a field can prevent exhaustion of soil nutrients and replenish them, especially if some rotations include legumes.
5. **Employing agroforestry:** Interspersing trees and woody shrubs among crops can provide benefits that include protection from wind and water soil erosion, provision of soil nutrients—especially if the trees and shrubs are legumes—mulch, shade, and food and habitat for crop pollinators and pest predators.
6. **“Check dams” for small gullies:** A check dam is a small, sometimes temporary, dam constructed across a swale, drainage ditch, or waterway to counteract erosion by reducing water flow velocity.
7. **Planting vetiver grass, tree seedlings, and other plants:** Plant stems and roots hold soil in place, particularly on slopes, reducing erosion.
8. **Constructing windbreaks:** Windbreaks are rows of plants—trees, shrubs, grasses, etc.—planted perpendicularly to predominant wind direction. Windbreaks reduce the wind velocity, reducing its ability to blow soil away.

9. **Strip-cropping:** Alternating bands of soil planted with crops on slopes with bands of grasses and herbs prevents soil from washing downslope.
10. **Constructing streamside buffer strips:** Buffer strips are bands of natural vegetation (trees, shrubs, grasses, etc.) that prevent soil and water from washing into streams. They also permit rain water to percolate through soil and enter streams gradually rather than all at once, which would create flood and drought conditions.
11. **Composting:** Creating conditions in which organic waste converts to fertile soil that also is efficient at storing water for productive plant growth.
12. **Mulching:** Covering soil with wood chips, leaves, and other plant debris. This holds soil in place, prevents weeds from becoming established, and reduces evaporation from the soil, thus increasing its moisture content.
13. **Harvesting rainwater:** Various methods exist for capturing and storing rainwater (e.g., rain barrels, small check dams, and swales).
14. **Other:** Any additional sustainable soil and water improvement and conservation practice that is not listed above. If you have questions as to whether or not an activity counts as a sustainable soil and water improvement and conservation practice, contact your PM/APCD.

Data collection

Tool: Section 2 of the “Individual Environmental Survey”. The survey prompts individuals to identify what they currently do to improve or conserve soil and water. The survey also asks Volunteers to verify via observation. Note: The Environmental Survey tools consist of two sections that are used to measure two different indicators.

Note: Determine if both sections are relevant to a post’s particular project. If not, the tool and this Indicator Reference Sheet should be updated to include only the relevant section(s).

Frequency of data collection and tracking:

Time 1 (T1)—During the needs assessment activity/beginning of the intervention: At the beginning of the intervention, as part of the needs assessment activity, the Volunteer will conduct the Individual Environmental Survey with all individuals he/she expects to work with on soil and water conservation practices. The surveys will consist of a series of questions as well as observations. Following the survey, record the individual’s name and which practices are demonstrated under the T1 score column in the Soil and Water Conservation Tracking Sheet (below). If an individual demonstrates all practices at T1, *do not* include them in the measurements. This individual already meets the requirement for adoption of soil and water conservation practices and should *not be* further recorded on the tracking sheet.

Time 2 (T2)—Three to six months after beginning the intervention: After three to six months, PCVs will administer the same survey with all individuals who meet the minimum requirements described below (see “Who to measure”). Record the individuals’ T2 scores in the tracking sheet.

Time 3 (T3)—Three to six months after T2, if applicable: Some individuals groups may not demonstrate adoption of soil and water conservation practices after only three to six months of work with a PCV. If an individual has *not* adopted new practices at T2 and if the individual meets the minimum requirements described below (see “Who to measure”), then the PCV should assess the individual again and record the T3 score in the tracking sheet.

Who to measure: Volunteers should only include individuals for this outcome measurement they have worked with in the following ways to adopt sustainable soil and water improvement and conservation practices: Teach individuals to implement sustainable soil and water improvement and conservation practices



Reporting

Measuring progress toward the outcome: An individual is considered to have adopted sustainable soil and water improvement and conservation practices if at least one new practice is demonstrated at T2 or T3 (if applicable).

- For all individuals who have adopted at least one new practice at T2, place a Y in the corresponding cell. Record an N for individuals who have not adopted at least one new practice.
- Record the sum of all Ys + Ns in the row titled “TOTAL REACHED” and the sum of Ys only in the row titled “TOTAL ACHIEVED.” Report both column totals in the VRF.
- If an individual did not demonstrate adoption of a new practice at T2, use the second tracking sheet with the T3 column to repeat the assessment and reporting process after an additional three to six months.

Note: *An individual may only be counted once as part of the “TOTAL ACHIEVED” in a Volunteer’s service for this indicator. If the same individual or community group is eligible for measurement for another indicator, they may be counted for that indicator according to the guidelines in that indicator’s definition sheet.*

