Climate and Nutrition Smart School Gardens

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Project title:
Improving Food and Nutrition Security in the Philippines through School Interventions

Project Implementation:
2016-2018
CLIMATE and NUTRITION SMART SCHOOL GARDENS

KEY FINDINGS

METHODS

- 58 public elementary schools within Region 4A were selected for the implementation of GarNeSup model (also referred as “lighthouse schools” [LS]) where 17 are part of Phase 1. Three schools were designated as research sites.

- Factors affecting the adoption, sustainability, and scalability of the set of BIG standards, garden size, productivity per unit area, extent of crop biodiversity achieved, utilization of garden produce, use of gardens as learning laboratory, and the link between garden and feeding were studied. Survey forms and questionnaires were developed and distributed to teachers; and school visitations were conducted to support data collection.

- Descriptive analysis was employed to analyze various variables profiling the different characteristics of school gardens. The McNemar’s change test was used to analyze the adoption of the standards set in gardening before and after the intervention.

RESULTS

- **Improved soil health.** There was an increase in the amount of nitrogen, phosphorus, and organic matter in the soil. The various soil and water conservation techniques implemented contributed to a healthy garden environment.

- **Garden diversity.** An average of 26 crops with 82% and 18% distribution of indigenous and exotic crops grown in 37 schools. Crop diversification provided a diverse food production across the year.

- **Improved yield.** An extreme range—101.07 to 818.11 kilograms was reported in the three research schools with 200-m² garden size.

- **Food source for feeding.** 21 schools showed garden produce distribution: feeding (42%); given free to parent volunteers, students, and teachers (24%); used in the canteen (17%); and sold (17%). Planning and coordination between the GPP and SBFP coordinators taking into consideration climate, season, and feeding requirements improved the utilization.

- **Potential savings.** Utilization of garden produce in feeding of around 270 kilograms can reduce feeding cost and will generate PhP0.53 per capita savings.

- **Formal integration of garden as learning laboratory.** EPP (100%), Science (100%), and EsP (93.6%) are the regular subjects that use gardens as demonstration and learning venue. Formal integration of garden as laboratory shows teaching methods that reinforce learning and improved learning.

- **Conservation of Agrobiodiversity.** Schools served as crop museums in conservation and propagation of nutritionally relevant, and climate-resilient indigenous vegetables. IEC materials contributed to familiarization and interest of parents, students, and community. Seed exchanges contributed to improved agrobiodiversity and maintenance of a diverse pool of indigenous seeds in the school districts.
CONCLUSIONS

- A garden set of standards using the BIG approach, accompanied by capacity building and regular monitoring, can result in productive and sustainable school gardens throughout the school year.
- Maintaining crop diversity with emphasis on climate-hardy and nutritionally relevant indigenous vegetables that can thrive under extreme weather conditions can provide a diverse range of vegetables for the feeding program year-round in which can result to reduced feeding cost and can generate savings.
- Schools can serve as crop museums in conserving and propagating heritage crops; with the conduct of seed exchanges to maintain agrobiodiversity.
- School gardens are used as a platform for learning and education of nutrition and environment-related topics. Using school gardens as learning venue for education is an effective way to engage students and parents to become food and nutrition literate consumers and stewards of the environment.

RECOMMENDATIONS

- Schools should allocate at least 200m2 for school garden to provide fresh, safe, and variety of vegetables to supplement feeding activities. Coordinators have to contextualize the bio-intensive gardening standards to ensure garden sustainability and functionality.
- Formal integration of gardens as a learning laboratory in the curriculum of EPP can be expanded to Science, MAPEH and other learning areas, which can then lead to better teacher compliance in incorporating nutrition and science topics.
- The establishment of crop museums, at least one per district, is fundamental in saving the underutilized but nutritionally relevant heritage crops that are slowly diminishing. School districts should conduct seed exchanges at least once a year to improved agrobiodiversity of schools and community.
- Schools are encouraged to secure information, education and communication materials (posters, recipes booklets, etc.) from other government agencies as these captivated the interest of parents, students, the community, and nearby schools.
- Recipe development participated in by school members and the community can improve the utilization of garden produce for feeding as parents’ involvement in school activities is enhanced.
- Garden teachers are tied up with their teaching load and other school activities such as sports contests, camping, and academic contests. Specific budget allocations and partnerships with stakeholders for funding and other forms of support should be considered especially for schools with low resources. Long term commitment and support of community members and school members is crucial to help ensure the availability of resources needed for school garden interventions.
- A multi-level capacity building, mentoring, monitoring, and evaluation should be done on a regular basis to sustain the interest of teachers and motivate them to adhere to programs of DepEd.