



doi: 10.5281/zenodo.11178682

Vol. 07 Issue 04 April - 2024

Manuscript ID: #01315

STATUS OF IMPLEMENTATION OF GULAYAN SA PAARALAN PROGRAM (GPP) OF PUBLIC SECONDARY SCHOOLS IN THE DIVISION OF SORSOGON

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Abstract

The Status of Implementation of the Gulayan sa Paaralan Program (GPP) of Public Secondary Schools in the Division of Sorsogon was determined through descriptive-evaluative and documentary analysis. Multiple methods were utilized in analyzing implementation based on the policy which includes an online survey as the primary method and students' interview, Focused Group Discussion (FGD), documentary analysis, and observation were utilized to validate the result of the survey. There were 59 respondents composed of School Heads/Principals and School GPP Coordinators who answered the online survey. The results of the survey were validated by multiple methods. Data were statistically analyzed by computing the weighted mean (WM). Generally, GPP is implemented and sustained within the standard (2.84 General Weighted Mean) which means that it is anchored on the policy guidelines promulgated by Department of Education (DepEd). However, though the program is implemented there were two (2) objectives found moderately implemented which means implemented but lacks sustainability namely, establishing and maintaining the school garden as ready food basket/source of vegetables in sustaining supplementary feeding (2.52 WM) and showcasing small-scale food production model in schools for households/communities to replicate and purposely to promote family food security (2.83 WM). FGD confirmed problems met such as administrative/management, agricultural/technological, climate change, and socioeconomic problems so that schools opted to implement. The topmost problems with the highest frequency and percentage are lack of volunteers (97%), lack of support from the parents/stakeholders (94%), problematic soil/acidic (95%), time constraint teacher overloading (93%), socioeconomic (theft/garden destruction) lack of tools, equipment, and machinery (93%), lack of water/irrigation system (91%) and inappropriate time schedule for agriculture subjects (90%). To improve the status of implementation, a highly acceptable (with rating of 4.45 by jurors) GPP Action Plan was prepared.

Keywords

Implementation. Gulayan. School Garden. Food security. Secondary Public Schools. Sustainability.



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Introduction

The Philippines is among the 10 countries in the world with the highest number of stunted children and is ranked fifth (5th) in East Asia and Pacific according to the report of the World Bank in 2021. Bicol Region is one of the regions with the highest number of stunted children more than the average of 41% of the total population. The undernutrition facts of the country are disturbing, alarming, and critical for the government as reported by UNICEF (2019), the World Bank (2021), and the Global Nutrition Report (2021).

The persistence of very high levels of childhood undernutrition, despite decades of economic growth and poverty reduction, could lead to a staggering loss of the country's human and economic potential. To school children, poor health and nutrition result in low school enrolment, absenteeism, poor academic performance, and early school dropouts to the World Declaration on Education for All (Calub et.al. 2019). The Schools Division of Sorsogon Health Office reported that there is a significant decrease of about 4.11% in the cases of multiple malnutrition among learners in the past 3 school years from 2016 – 2017 to 2018 -2019. The Philippine Government stakes its resources to combat malnutrition and poverty reduction. Multiple interventions were implemented, however, issues on health are still prevalent, especially in less privileged communities.

In 2007, the Department of Education launched the *Gulayan sa Paaralan Program (GPP)* as one of the banner programs of the department for health and nutrition which primarily aims to promote food security in schools and communities through self-help food production activities and values among learners and appreciation of agriculture as a life support system. A series of policies have circulated that mandate all public elementary and secondary schools to strengthen and sustain the implementation of the program nationwide.

DepEd issued Memorandum No. 58, s.2011 "Creating Task Force on National Greening Program" under EO No. 26, 2011. In line with the Executive Orders and after establishing NGP Task Force, DepEd issued the guidelines integrating *Gulayan sa Paaralan*, Ecological Solid Waste Management, and Tree Growing and Caring as key components to attain the goals of DepEd on poverty reduction, food security, biodiversity conservation and climate change mitigation and adaptation. The government decided to extend and expand NGP until 2028 through Executive Order No. 193.

Moreover, GPP is designed to support hunger mitigation initiatives of the government, thus it is tied up to the School-Based Feeding Program (SBFP) of DepEd which encourages both elementary and secondary schools to implement it. However, the elementary level only has the fund for SBFP wherein malnutrition is also a problem in secondary but lacks a plan of action from the department. However, learners' nutrition is affected by several factors and so, overcoming malnutrition through GPP alone is unrealistic thus, together with other programs, it can influence learners' lifestyles.

GPP has been institutionalized under DepEd and the Department of Agriculture (DA) as partner agencies. The delivery system was provided by the department through national policy guidelines on nationwide implementation. Furthermore, according to the report of DepEd in 2016, there were only 63% of public schools successfully implemented GPP and mandated to sustain it. Thus, it manifests that there are factors that hinder GPP full implementation. Therefore, there is a need to determine the status of implementation wherein possible interventions be crafted and to be proposed to reinforce the policy.

Due to the lower level of implementation according to the report of the Department of Education, this study was conducted to determine the level of implementation of *Gulayan sa Paaralan Program (GPP)* in Public Secondary Schools in the Division of Sorsogon. This would help the department strengthen and improve implementation through a highly acceptable proposed action plan.

Materials and Methods

Research Design

Quantitative and qualitative research designs which use descriptive-evaluative and documentary analysis were applied to this study. Multiple methods of data gathering were implemented that includes an online survey, students interview, focused group discussion (FGD), documentary analyses, and observation.

Survey results on the extent of GPP implementation at the school level were consolidated quarterly and accomplishment reports at the Schools Division Office that include primary data on the GPP implementation as prescribed by the national policy were quantitatively presented. The data gathered from the FGD of the implementers and the guided interview for learners were qualitatively discussed. The qualitative results were used to support the findings of the quantitative analysis.

Documentary analysis was conducted along with the data analysis of the survey results to establish valid data. FGD and interviews were designed to validate the data gathered from the documentary analysis and survey results. This research design aimed to determine the status of the implementation of GPP in public secondary schools in the Division of Sorsogon.

Research Participants

There were 30 School Principals/Heads and 29 School GPP Coordinators who answered the survey questionnaires before the approved schedule of FGD. The students from all levels (Junior HS – Senior HS) Parent representatives and Government and Non-Government Organizations (NGOs) partners took part in the FGD respectively.

There were ten (10) jurors coming from different offices evaluated the level of acceptability of the action plan. They were, (1) SDO Sorsogon SGOD Chief, (2) Senior Researcher of the Division of Sorsogon, (3) Division GPP Coordinator, (4) District Supervisor, (5) President of the Principal's Association, (6) School GPP Coordinator, (7) Representative from LGU – Municipal Agriculture Office (MAO), (8) Municipal Health Office Representative, (9) SSG Official/Representative, and (10) Barangay Official Representative.

Research Instrument

Online Survey Questionnaire. Relevant questions were composed to extract and unveil the status of GPP implementation. It has three parts namely, (1) School Profile, (2) Extent of Implementation of GPP along with the six (6) specific objectives, (3) Problems Met and Interventions Taken. This tool was accomplished by the School Head/Principal and School GPP Coordinators of 82 secondary schools in SDO Sorsogon Province.

The survey used the rating scale as shown below.

Range	Interpretation	Descriptor
3.3 - 4.0	Highly Implemented	Highly implemented and sustained the implementation process above the standard
2.6 – 3.2	Implemented	Implemented and sustained within the standard
1.8 – 2.5	Moderately Implemented	Implemented but lacks sustainability
1.0 – 1.7	Not Implemented	Attempted to implement but failed or no attempt at all

The extent of implementation was determined by the respondents with a range from 1.0 – 4.0 where 1.0 – 1.7 is Not Implemented, 1.8 – 2.5 is Moderately Implemented, 2.6 – 3.2 is Implemented and 3.3 – 4.0 is Highly Implemented. A structured survey on problems met and interventions taken were included in the online survey.

Interview Guide Questions. This tool was used for students' interviews to validate GPP objective nos. 1.4 and 1.6 which were presented in this study as descriptive analyses. The objectives covered by this tool are as follows: GPP objectives 1.4: to produce vegetables in the school that is rich sources of protein, calorie, vitamins, and minerals and eventually increase vegetable consumption and improves learners' nutrition; GPP Objective 1.6 to inculcate among the learners the values of gardening, good health and nutrition, love of labor and caring for others. Students were asked about their personal experiences and knowledge of the school's GPP implementation. It has also been conducted to validate the result of the online survey. These guide questions were written in English, therefore, to extract valid responses from all types of learners, especially those who struggle with English communication, questions were translated into Bikol during the interview.

Focused Group Discussion (FGD) Guide Questions. A group of seven (7) with five (5) members was gathered in separate schedules to an FGD to validate the online survey result. It was conducted only to seven (7) best implementing secondary schools in the Division of Sorsogon. Questions were composed along with the six (6) GPP objectives and were responded to by the School Head, GPP Coordinator, Student Representative, GPTA Representative, and Stakeholder representative. Questions for GPTA and Stakeholder representatives were written in Bikol to contextualize and promote inclusiveness.

Documentary Analysis. Secondary data were collected from the office of the School Governance and Operations Division thru the Division GPP Coordinator. Terminal Reports and other relevant documents were analyzed to back up the result of the online survey.

Level of Acceptability of Action Plan. The tool for the evaluation of the Action Plan on its level of acceptability was adapted from the evaluation tool of the DepEd research funding committee. This was accomplished by pre-identified leaders, stakeholders, and prime implementers of GPP.

The evaluation for the level of acceptability of the proposed action plan used the rating scale as presented below.

Rating Scale for the Level of Acceptability of the Proposed Action Plan

Rating	Range	Interpretation	Descriptor
5	4.30 – 5.0	Highly Acceptable	The plan is comprehensive and very satisfactorily presented.
4	3.50 – 4.20	Moderately Acceptable	The plan is comprehensive and satisfactorily presented.
3	2.70 – 3.40	Fairly Acceptable	The plan is well-detailed and fairly presented.
2	1.90 – 2.60	Acceptable	The plan is detailed and presented.
1	1.00 – 1.80	Not Acceptable	The plan is uncomprehensive and unacceptable.

Questions for the FGD were crafted to back up and validate the result of the survey. Guide questions of the student's interview were anchored to the issued policy guidelines of the program which is paralleled to the online survey questions. The study covers the province of Sorsogon where the School Head/Principal and School Gulayan sa Paaralan Program Coordinator of 82 public secondary schools in the division were the respondents

Data Gathering Procedure

First, the researcher asked for the approval of the principal or school head at the start of the conduct of the study. Hence, the researcher thoroughly discussed what the research is all about, its objectives, and the expected outcomes. Second, participants were determined or purposely selected based on the established selection criteria of the researcher to the research participants. Furthermore, selected research participants underwent orientation and explain the study's objectives (third). This gave the participants a clear understanding of the current study, what is expected from them as the source of the research data, and if they want to be part of the study. Thus, the participants were given the informed parental consent and informed consent statement when they decided to participate in the study (fourth step).

Since the research participants are still minors, parental consent is an essential indicator for the researcher to get the parent's consent and ensure that there are no risks in the study, hence, securing

their identity. The last step in gathering data note the administration of the focus group discussion. In this regard, the role of the interviewer or the moderator is to follow the lead of the interviewee or the participants of the study. Moderator’s responses must be neutral or matter-of-fact to promote and encourage self-disclosure by the interviewee.

Results and Discussion

Extent of Implementation

Public elementary and secondary schools in the country are mandated to implement Gulayan sa Paaralan Program (GPP) as promulgated by the Department of Education (DepEd) and in partnership with the Department of Agriculture (DA) as stipulated in DepEd Memorandum No. 095, s. 2018 entitled “Sustaining the Implementation of the Gulayan sa Paaralan Program in Public Elementary and Secondary Schools Nationwide”.

This study analyzed the extent of implementation of the program of Public Secondary Schools in the Division of Sorsogon as shown in table 2. This had been validated through students' interviews and FGD.

Table 2. The extent of Implementation of GPP to Public Secondary Schools in the Division of Sorsogon along with the program objectives.

	OBJECTIVES	Weighted Mean	Interpretation
1	Promote vegetable production in public elementary and secondary schools	3.29	Implemented
2	Establish and maintain the school garden as a ready food basket/source of vegetables in sustaining supplementary feeding	2.52	Moderately Implemented
3	Serve as a laboratory for learners	3.01	Implemented
4	Produce vegetables in the school that are rich sources of protein, calories, vitamins, and minerals and eventually increase vegetable consumption and improve learners' nutrition	2.93	Implemented

5	Showcase a small-scale food production model in schools for the households/communities to replicate and purposely promote family food security	2.45	Moderately Implemented
6	Inculcate among the learners the values of gardening, good health and nutrition, love of labor, and caring for others	2.83	Implemented

Legend: 1.0 – 1.7 Not Implemented, 1.8– 2.5 Moderately Implemented, 2.6 – 3.2 Implemented 3.3 – 4.0 Highly Implemented.

Among the six program objectives, objective 2 which is to establish and maintain a school garden as a ready food basket/source of vegetables in sustaining supplementary feeding had a weighted mean of 2.52 while objective 5 which is to showcase small-scale food production model in schools for the households/communities to replicate and purposely to promote family food security had 2.45 weighted mean which is interpreted as moderately implemented. The results imply that the program is implemented but lacks sustainability.

Objective 2, based on the validation from students' interview and Focused Group Discussion (FGD) was affirmed by the learners and parents to be authentic. A learner said, "Haloy na po kaming may gulayan... napakaray mi po nin maray ang garden kan nag intra po kami sa contest" (We had our gulayan for quite some time... it was developed when we joined the contest). Parents, stakeholders, and even teachers shared that the GPP is being implemented in school but not that much intensified and maintained most of the time due to various reasons such as effects of climate change, lack of agricultural supplies, time constraints, poor school drainage system, school geographical location, and lack of fund. These findings are similar to the research results of Yu (2012) which the researcher analyzed that all these barriers and concerns are encompassed by two essential factors: a lack of broad-based support and a lack of strategic planning.

Public Secondary School Heads affirmed that feeding program is not mandatory in secondary schools for School-Based Feeding Program (SBFP). It is only for the elementary level. However, they said, "... malnutrition is also present in the high school, kaya we are encouraged to conduct feeding program kaso dai po nin fund para digdi kaya an mga gulay na pigproduce kan sa gulayan pigtatao mi sa mga estudyante" (...malnutrition is also present in high school, so we are encouraged to conduct feeding program). However, there is no fund allocation for such activity, so the option is to give the garden-produced vegetables to identified undernourished learners.

Learners attested that the gulayan serves as a source of vegetables in the supplemental feeding program, however, they said, "Nagkaigwa po kami minsan nin feeding kaidto... tapos nawara. Pero po, so nahaharvest mi po na mga gulay pigpapadara po samuya na mga estudyante lalo na po duman sa mga kulang sa timbang" (We had our feeding program before however, it was stopped. Nevertheless, school garden produced vegetables were given to us for our consumption most especially to underweight learners). It was also confirmed by program implementers that the vegetables produced are not enough to sustain the feeding due to a lack of funds and unplanned crop production. The results have been corroborated by Oro, et. al (2018) that the school-based nutrition program in the Philippines included supplementary feeding for undernourished school children and that vegetables and fruits in the gardens not used for feeding were distributed to children.

There were problems met in the implementation that makes program objective 2 not sustained. These problems are the inability to establish an external partnership, the absence of a planting calendar and Gantt Chart, and funds for the school feeding program.

GPP Objective 5 is also moderately implemented due to limited time, funds, volunteers, and support from the stakeholders as indicated in the interview results of the learners and the FGD. The identified problems made the schools not able to scale up the production to become more scientific and systematic that can be replicated by communities. However, some parents and learners were asking for seeds and seedlings to be planted at home but the technologies and practices in a small-scale food production model are limited to learners. Thus, there is a need to conduct activities for technology transfer to parents and communities to fully implement and also sustained objective 5.

Parents and learners of the community attested that seeds, technologies, and farming practices in school were adopted by some households that opted to establish home and backyard gardens influenced by the school GPP. This result is validated by the study of Molijon et., al. (2014).

The non-sustainability of the program due to the mentioned problems experienced by implementers was also attested in the studies of Huys et al (2018), Ruiz et al (2018), Ohly et al (2016), Doyle (2014), Webb et al (2014). GPP Objectives 1, 3, 4, and 6 are all implemented and sustained within the standard. It has been observed and disclosed on the interview and FGD that secondary school learners were already involved in implementing the program since elementary and eventually boosted their participation and involvement in high school. Learners interviewed were most likely influenced by their vegetable intake by the program. Much influenced are considered by learners who grew up in barrios where vegetables are common viand. Along with the implementation, learners attempted to explore and eat vegetables such as lady finger (okra) and bitter melon (ampalaya). The learners said, “dati, di ako kumakain ng ampalaya... yun! triny ko... okay naman pala.” (Before I engage in the program, I don’t eat bitter melon... then, I tried... I found that it tastes good). There is a mind conditioning effect to learner’s vegetable intake, “Kapag kumakain ako ng gulay, parang malakas na (ko) na hindi na makakaramdam ng pagod, (and) ... na inspire na lalo magwork” (Every time I eat vegetables, I feel so strong and seemed not to get tired and found myself more inspired to work).

Most learners appreciated the program since it encourages them to try some other vegetables such as cabbage, carrots, and other High Valued Crops (HVC). On the other hand, indigenous crops such as lubi-lubi (mountain cabbage), natong (gabi), ugbos balingoy (young cassava leaves), ugbos kamote (camote tops), malunggay, sigadilyas (winged beans) and langka (jackfruit) are common vegetables that they eat with their families. They got to know more about the crops thru class discussions and nutrition education activities, especially during the Nutrition Month Celebration in July wherein the promotion of a healthy lifestyle is strongly highlighted.

Objective 6 is statistically identified as implemented with a weighted mean of 2.83. Learners value vegetables as the most nutritious group of food that makes them "feeling fresh", and gives them energy, a healthy body, and happiness. Although some of the respondents said, "walang nabago" (no changes), "Kumakain ako ng gulay dahil pinipilit" (I eat vegetables due to (parent) pressure), "Minsan lang kumakain ng gulay" (I eat vegetables sometimes/irregularly), “Kumain ako ng gulay kasi walang choice – yun lang ang natira” (I eat vegetables because I have no choice – the only viand left). The study by Christian, et., al. (2013) found very little evidence to support the claims that school gardening alone can improve children's daily fruit and vegetable intake.

There were learners interviewed who stated that the most common reason why they eat vegetables is because of the family's economic status which most likely prefers to prepare low-cost food but highly nutritious. Peer pressure is a common response by the learners interviewed. Learners feel uncomfortable when most of their friends eat vegetables during meals in-school and then eventually tried to eat some. To some learners, eating vegetables is a single option since it is the only available viand and cannot ask for meat or other viands.

Another factor that influences vegetable consumption is the family lifestyle. When parents live a healthy lifestyle, children will most likely adopt their practices. And lastly, an annual measure of Body Mass Index (BMI) in school at the beginning of the school year through Health in MAPEH subject gives learners brighter knowledge of their nutritional status that they just worked on. Learners believed that through active engagement in agricultural works in the implementation of the GPP and multiple attempts to eat vegetables, learners can successfully achieve normalcy in their nutritional status.

Learners are most likely influenced by the GPP, “Yes po... this program helps me kung paano kumain ng maayos... ng gulay... para maging masigla. Yung weight ko po, tumaas, tumangkad ako.” (Yes, this program helps me how to choose better food options such as vegetables to become more energized. My body weight and height eventually increased) ”Na enganyo po akong gumawa ng gulayan sa bahay” (I was encouraged and motivated to establish vegetable garden at home).

The study of Diaz, et., al. (2018) identified three (3) term outcomes. In the short term, school gardens should increase knowledge of food systems, of healthy eating while nurturing a love of gardening among students. For the medium-term, school gardens should promote a connection to nature, more engaged students, and sharing of gardening information. In the long-term, school gardens should result in better outdoor environments, improved access to healthy produce, and sustained school gardening program

“I feel so happy at maganda sa feeling na nakakatulong sa earth/environment”, (I feel so happy and fulfilled when I am able to protect the earth/environment), “Pag nasa garden ako, nawawara ang stress ko... nakakalanghap nin sariwang hangin at tsaka may time kaming magbonding na magbabarkada” (Whenever I'm in the garden, stress and anxieties are relieved). During gardening activities, I was able to grasp fresh air and have quality time with my friends), “Refreshing, healthy... para sakin, hindi siya (fruit/crop) polluted at makikita ang difference sa market... nakakatipid” (I feel refreshed, healthy... [vegetables from the school garden] are naturally grown and cost-efficient).

Learners are fully aware that producing their own food is cost-effective and beneficial to health since it is chemically free and naturally grown. At first, they see GPP as just merely a requirement that needs to comply. However, along with the program implementation, the spirit of volunteerism is instilled in every learner. Although, “Minsan, makasawa naman” (Although, sometimes [gardening] exhausting) “... pero maski na nagkakairinitan kami, grabe an daplos, saka nakakaralapak pa an kamot mi, maogma po kami ta nakakatabang kami sa pagpagayon kan eskwelahan tapos naiiexercise kami” (... though we were under the scourging heat of sun, perspired and even got some scars and wounds in the hands, we were joyful having the chance to partake in beautifying our school environment and at the same time had the chance to exercise through farm activities).

As observed, learners value gardening as essential when teachers and school administration together with other stakeholders actively engaged in the implementation. Sharing the objectives and allowing them to realize that they are co-responsible and beneficiary of the program, adaptation, and change happens. In schools that institutionalized the program and concretely established its functional organization, learners had the chance to deeply understand GPP's nature and scope which leads to more motivated learners to strengthen and sustain implementation.

The values of gardening gained by learners were not only influenced by the program but also by their families whose lives were devoted to farming and in advantage, the school enriches their passion, enthusiasm, and interest in farming.

Love of labor is qualitatively described in this study. Captured from the students' interview, learners love their tasks during the implementation. Learners' low interest in agricultural works shifted due to strong bonds and meaningful relationships among learners during farming, they have learned to love what they do. Eventually, caring for others is gained through the interaction experienced by learners on the implementation. The results validated the findings of Doyle (2014), that school gardening remarkably enhances i. sense of ownership, ii. sense of responsibility, and iii. learning. Gardening

developed confidence and a sense of responsibility and strengthens memory foundation. Importantly, students' level of bonding or connection to schools has been related to health and achievement outcomes. A school garden can impact students' feelings of attachment, pride, and belonging to their school. Additionally, adolescents who report feeling more connected to school show lower levels of emotional distress, risky behavior, and aggression.

Taken to the study by Huys, et., al. (2017), giving exposure and opportunity to learners in growing healthy food and influencing their consumption behavior, improves children's health. Cooperation, embracing responsibility, volunteerism, love of nature, collaboration, and unity manifests the love of labor among learners. "Happy po ako na nakakatabang sa paglinig, pagsaribo ki tinanom tapos paghawan sa area mi, tapos nagpapagayon sa eskwelahan," (I'm happy that I was able to help in cleaning, watering the plants and perform weeding to our assigned area, which eventually beautifies our school), "Sobrang happy po pag nagtatrabaho sa field ta nag-iiristoryahan kami dangan nagtatarabangan tapos naka help man po sa environment" (I was so elated and enjoyed whenever I work in the field because it allows us (with my classmates) to engage in meaningful conversation and build up cooperation among us which also serves as our contribution for the environment).

From the perspective of learners, they help build, maintain, and strengthen gulayan in school and at home to help their parents improve technologies as well as to inspire fellow young people to do the same. Learners are motivated to work when they clearly understand its purpose. They are inspired to perform tasks when the teacher works with them because shared responsibility builds a stronger foundation to live. This is one of the purposes of the program which is to inculcate a love of labor and caring for others. This is backed up by the result of the studies of Inocian et., al (2016) and Calub et., al. (2019) that there must be an empowered focal person/in-charge who will lead, facilitate, and immerse with other implementers in achieving once goal. The partnership among implementers and stakeholders is also highlighted.

Based on the interview, the school garden offers a wide range of opportunities that serves as a multifunctional program to improve nutrition, environment, and sustainability. This is validated by the study of Calub et., al. (2019) and the study of Schmutz (2014) on the impact on people's health and well-being (mental health).

Overall, the Gulayan sa Paaralan Program to Public Secondary Schools in the Division of Sorsogon is implemented with a General Weighted Mean of 2.84 which signifies that the program is implemented and sustained within the standard. However, despite the program being implemented, the Division failed to achieve a high level of implementation due to various problems met by implementers that leads them to generate interventions.

Problems Met and Interventions Taken

Public Secondary Schools were affected by various factors in the full implementation of the program. This study identified several problems met and interventions taken by the implementers classified as Administrative/Management Issues shown in table 3.1, Agricultural/Technological Issues shown in table 3.2, Climate Change Issues in table 3.3, and Socio-economic Issues in table 3.4.

The table below shows administrative/management problems and interventions taken by secondary schools.

Table 3.1 Administrative/Management Issues and Interventions Taken

Problems Met	f	%	Interventions Taken	f	%
1. Inappropriate time schedule for agriculture subjects	53	90	Designed class schedule in consideration of the GPP implementation.	40	76
			A consultative meeting was conducted with the school Principal and TLE Teachers.	30	57

			Strategically and collaboratively designed the school GPP Implementation Plan.	20	38
2. Lack of research studies on the impact/benefits of GPP	44	75	Presented studies to colleagues on the benefits of the school garden.	33	75
Lack of support from parents/ stakeholders.			Conducted school-based and district-based research on GPP.	17	39
3. Lack of support from parents/ stakeholders.	56	94	Discussed GPP benefits and potentials to parents during GPTA conference/SGC Meetings to gain support	38	68
			Presented GPP during General Barangay Assembly.	22	39
			Strengthen the linkage and partnership to 4Ps beneficiaries.	47	84
			Provided contextualized IEC materials for parents featuring the benefits and potentials of GPP on the 4 Sustainable Development Goals (SDGs), no hunger, no poverty, good health, and well-being and environment.	16	29
4. Time constrained/ Teacher's overloading	55	93	Designed class schedule with time allotted for gardening.	37	67
			Designated GPP Coordinator with enough time/units for GPP implementation as an ancillary.	34	62
			Conducted consultative meetings among teachers on the class schedule.	25	46
5. Lack of interest in agriculture among learners	53	89	Planned and implemented lessons with innovative teaching approaches and strategies.	38	72
			Developed innovative interventions to attract learners to agriculture.	34	64
			Intensified career guidance to learners that focused on the potential of agriculture in local and global development.	23	43
			Conducted programs such as Agri-Fair or contests that enhance learners' creativity through agriculture.	18	34
6. Lack of interest in agriculture among learners	52	88	Involve teachers in the planning, establishment, maintenance, and sustainability of the school garden in their assigned areas.	47	90
Lack of interest among teachers			Reinforce teachers through a school-based GPP implementation plan crafted by various stakeholders and school representatives.	26	50
			Conducted orientation to teachers on the policy guidelines and the potential of GPP for the school's improvement.	24	46
7. Lack of monitoring and evaluation at the School/Cluster/ Division Level	48	82	The Division level conducted re-orientation and re-organization of GPP Coordinators at the Cluster level.	26	54
			Crafted mechanism indicated at the School GPP Implementation Plan on the conduct of monitoring and evaluation.	26	54
			Conducted quarterly monitoring and evaluation at the school level	20	54

			by internal evaluators.		
8. Lack of communication among GPP Coordinators due to unstructured organization	49	83	Define roles and functions of the School GPP Coordinators through an orientation/seminar training on setting up GPP.	33	67
			Conducted GPP Coordinators' Profiling for efficient and effective information dissemination.	22	45
			Creation of a GPP Organization Association at the Cluster level that will facilitate information for discussion at the Division/Regional level.	17	35
9. Lack of communication among GPP Coordinators due to unstructured organization	49	83	Define roles and functions of the school GPP Coordinators through an orientation/seminar workshop	33	67
			Conducted GPP Coordinators' profiling for efficient and effective information dissemination	22	45
Lack of tools, equipment, and machines			Creation of a GPP Organization/Association at the Cluster level that will facilitate information for discussion at the Division/Regional level.	22	45
			Creation of social media platforms where GPP Coordinators post valuable and adoptable technologies, share relative information, and discuss queries, comments, and suggestions on how to improve the GPP implementation.	17	35
10. Lack of volunteers	57	97	Conducted "Bayanihan" at the school level involving the students, parents, and other stakeholders.	51	90
			A strengthened partnership among stakeholders through the distribution of IEC materials and posting tarpaulins to strategic places as part of the campaign and advocacy.	27	47
11. Lack of learning resources/ reading materials/IECs	51	87	Conducted a school-based contextualization of learning materials for school gardening	33	65
			Access to possible online sources for references such as IIRR, DA-ATI, and other agencies relevant to the program.	24	47
			Established partnerships with government and non-government agencies and other identified partners.	21	41
12. Lack of technical support/training to GPP Coordinators especially to non-agriculture and fishery arts specialized	46	78	Invited resource speakers/facilitators on the enhancement training of GPP coordinators in the district.	31	67
			Conducted GPP Coordinators' profile	26	57
13. Unavailability of materials such as rice hull due to limited farm establishments nearby the school	53	89	Utilization of compost and other types of fertilizers/inputs	41	77
			Indigenizing materials available in the area	34	64
			Identify person/s in the nearby barangay to transfer/deliver materials (rice hull, rice straw, etc.)	23	43
			Send requests and project proposals to government and non-government agencies.	15	28

14. Lack of fund/source of fund	53	89	Established partnerships with government and non-government organizations.	29	55
			The excess garden produced were sold to raise fund	21	40
			Parent-Teacher Association (PTA) voluntary contribution	19	36
			A student-initiated project such as selling herbs, landscapes, and others.	11	21
			Discuss with Alumni Association how to raise fund	7	13
			Solicit labor force to the 4Ps recipients.	1	2
			Collaborate with Brigada Eskwela	1	2
15. Lack of Support from the Principal/School Head	51	86	Submitted project proposals on the establishment of GPP to the Principal.	37	73
			Conducted school-based research on the positive impact of GPP on students, teachers, and the general environment.	22	43
			Presented benefits, potentials, and research results during Learning Action Cells (LAC) Session.	21	41
16. Lack of tools, equipment, and machines	55	93	Improvised tools, equipment, and machinery	43	78
			Sent letter of request with a project proposal to identified sponsors (Alumni, Private Individuals, Government Non-Government Agencies)	35	64
			4P's recipients are requested to bring their own garden tools	1	2

Among the problems encountered, there were five (5) top administrative/management issues and interventions taken with the most frequent responses and highest percentage namely, 1) lack of volunteers, 57 (97%) which was solved through strengthening partnerships among stakeholders, 27 (47%) 2) lack of support from parents/stakeholders, 56 (94%) in which they intervened through strengthened linkage ad partnership to Pantawid Familyang Pilipino Program (4Ps) beneficiaries, 3) time constrained/teacher overloading, 55 (93%), lack of tools, equipment, and machinery, 55 (93%), and inappropriate time schedule for agriculture subjects, 53 (90%).

The identified problems validate the study conducted by Huys et.al. (2017), Lemanskie et.al. (2017), Doyle (2014), Webb (2013), and Yu (2012).

There are also agricultural/technological issues as shown in table 3.2 and its interventions.

Table 3.2. Agricultural/Technological Issues and Interventions Taken

Problems Met	f	%	Interventions Taken	f	%
17. Problematic soil/acidic soil	56	95	Utilization of recycled materials (tires, pants, gallons, bottles, etc.)	38	70
			Application of organic agriculture system and other relevant activities.	37	66
			Adaptation of urban and vertical gardening technology.	30	54
			Maximization the naturally based materials as fertilizers.	27	48

			Conducted Soil testing and analysis through the Regional Soils Laboratory.	13	23
			Adaptation of Bio-Intensive Gardening (BIG) of IIRR.	11	20
18. Flooded Garden due to geographical location	53	89	Establishment of plant box made of indigenous/recycled materials	39	74
			Technology adaptation such as urban and vertical gardening	27	51
			Improvement of the drainage canal	23	43
			Contouring	1	2
19. Limited space/land area	44	75	Vegetable production through a vertical and urban gardening model.	37	84
			Consignment/MOA signing to private individuals for land utilization.	15	34
			Combination of direct planting in the area and urban gardening model.	1	2
20. Lack of water/irrigation system	54	91	Establishment of deep well/Bomba at the school.	26	46
			Asked for assistance from the Barangay Council.	23	43
			Allocated funds for the construction of an irrigation system.	19	35
			Innovate irrigation system through student-led project/research.	11	20

Vegetable gardens are affected by agricultural/technological problems. The problematic soil and lack of water/irrigation are the topmost with 95% or 56, lack of irrigation, 91% (54), and flooded garden due to geographical location, 89% or 53 responses. Based on the FGD in which the GPP coordinator said, “*baras an daga kaya dai kami maray nakapatubo nin gulayon*” (production of vegetables was limited due to poor soil structure) which confirms that they have difficulty in growing vegetables.

Problematic soil /acidic soil had been observed specifically in schools located in coastal communities and as reported by the Division GPP Coordinator. The solutions they made was through the utilization of recycled materials (tires, pants, gallons, bottle, etc.) with 68% (38) response, application of organic agriculture (66% or 37), and adaptation of urban and vertical gardening (54% or 30). However, the recommendation of DA is soil testing to equip implementers on soil treatment but only few (43% or 23) practices it much more than the recommended policy guidelines on the adaptation of bio-intensive gardening (20% or 11).

The interventions taken for the problem of lack of water/irrigation system is to establish a deep well and ask assistance from the barangay council with 46% or 26 and 43% or 23 responses respectively.

The third problem experienced is garden flooding in schools due to geographical location. According to implementers it had occurred over the years due to the construction of school buildings and other facilities. This had been remedied by making plant boxes made of indigenous/recycled materials as reflected by 74% or 39 responses, technology adaptation such as urban and vertical gardening with 51% or 27, and the improvement of the drainage canal, with 43% or 23 responses.

Table 3.3 shows the climate change issues met by the implementers and how they overcome the problem.

Table 3.3. Climate Change Issues and Interventions Taken

Problems Met	f	%	Interventions Taken	f	%
21. Heavy rains and typhoons	47	79	Planted climate-resilient crops (indigenous/vanishing vegetables) such as Alugbati, Kadyos, Patani, Sigadilyas, etc.)	33	70
			Designed GPP implementation plan with contingency actions in times of calamity.	24	51
			Adaptation of Bio-Intensive Gardening (BIG) of International Institute of Rural Reconstruction.	11	23
22. Extreme hotness and drought	49	83	Planted climate-resilient crops (indigenous/vanishing vegetables) such as Alugbati, Kadyos, Patani, Sigadilyas, etc.)	38	78
			Strengthened irrigation system	18	37
			Adaptation of technology such as self-supporting potting technology and the like.	13	27

Based on the table above, 49 (83%) of the schools experienced extreme hotness and drought while 47 (79%) heavy rains and typhoons. This climate change problem had been solved by planting climate-resilient crops with a high percentage of response and have been affirmed by the results of the FGD since indigenous crops can withstand extreme weather condition at the same time highly nutritious.

The table below shows the socio-economic issues met by implementers and the solutions undertaken.

Table 3.4 Socio-economic issues and Interventions Taken

Problems Met	f	%	Interventions Taken	f	%
23. Socio-economic factor (theft/destruction of the garden)	55	93	Establishment of fences around the garden	47	86
			Strengthened home gardening through GPP as a model garden.	26	47
			Requested security assistance from Sangguniang Barangay.	23	42
			An awareness campaign was conducted during the Barangay Assembly.	19	35

The study shows 55 of 93% of public secondary schools have experienced theft and destruction of the garden. This had been solved through the establishment of fences around the garden with 47 or 86% response, strengthening the home garden with 26 or 47%, and 23 or 42% requested assistance from the Sangguniang Barangay.

Proposed Gulayan sa Paaralan Program (GPP) Action Plan

To improve the status of the implementation of the Gulayan sa Paaralan Program (GPP) in Public Secondary Schools in the Division of Sorsogon, a proposed action plan was made. Objectives were derived from the policy guidelines and suggested activities and methodologies were taken from the results of the online survey, students' interview, focused group discussion and observations. Table 4 shows the proposed action plan to enhance the status of GPP implementation.

Table 4. Proposed GulayansaPaaralan Program (GPP) Action Plan

Objectives	Activity	Person Responsible	Timeframe	Methodology	Implementing Agency	Funding Source	Funding Requirements	Monitoring and Evaluation	Expected Output
1. To promote vegetable production in public elementary and secondary schools	Utilize quad media, TV, Radio, and other social media platforms in the promotion of the program.	School Administrator, School GPP Coordinator, School ICT Coordinator	Quarterly	Develop commercials, memes, short video clips, posters, promotional videos.	DepEd	MOOE	100,000.00	Survey report on audience reached. Social media analytics.	Promotional multimedia materials.
	Create a school-based students' organization with CBL and functional structure.	School GPP Coordinator and learners	Annually	Recognize the capacity of the learners to lead	DepEd	MOOE	100,000.00	Organizational structure of the newly elected officers. Duly approved Constitution and by-Laws	Effective and functional school-based GPP Student organization.
	Celebrate in school agriculture related events such as Organic Agriculture Month and Agri-Fair/ Summit	School Administrator, School GPP Coordinator, School Health and Nutrition Coordinator, School-Based GPP Organization	Annually	Collaborate with the Department of Agriculture and other NGOs and GOs with common program.	DepEd	MOOE and Outsourced fund	100,000.00	Accomplishment reports with complete attachments such as attendance sheets, minutes of meeting, pictures, narrative, etc.	Achieve at least 80% level of students and stakeholders' engagement in school.
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Objectives	Activity	Person Responsible	Timeframe	Methodology	Implementing Agency	Funding Source	Funding Requirements	Monitoring and Evaluation	Expected Output
2. To establish and maintain school garden as ready food basket/ source of vegetables in sustaining supplementary feeding;	Establish and adopt the crop museum technology of the International Institute for Rural Reconstruction (IIRR)	School Administrator, School GPP Coordinator	Annually	Utilization of indigenous crops such as Patani, Sigadliyas, etc., to diversify the site.	DepEd	MOOE and out-sourced fund	75,000.00	Accomplish-report with complete attachments such as attendance, minutes of the meeting, picture-narrative, duly approved farm layout.	Increase supply of crops and vegetables for supplemental feeding program.
	Conducts regular monitoring of the establishment and maintenance of school garden.	School Administrator, School GPP Coordinator, SDO GPP Division Coordinator	Quarterly	Primary data on the activities, interventions, and best practices along with the GPP objectives must be collected from the school level through online or offline monitoring tool.	DepEd	MOOE and out-sourced fund	20,000.00	School Monitoring tool on GPP implementation along with the policy objectives.	Data analyzed on how to improve the implementation process.
	Prepare and implement crop planting calendar suited to the school location	School Administrator, School GPP Coordinator	Annually	Refer to the Department of Agriculture published Crop Planting Calendar.	DepEd	MOOE and out-sourced fund	100,000.00	GPP evaluation tool for crop planting calendar.	Approved crop planting calendar suited to the school location.
Continue to next page...									

Objectives	Activity	Person Responsible	Timeframe	Methodology	Implementing Agency	Funding Source	Funding Requirements	Monitoring and Evaluation	Expected Output
3. To serve as laboratory for learners	Contextualized teaching-learning materials integrating Gulayan sa Paaralan Program (GPP)	School GPP Coordinator, TLE-AFA Specialized teachers	Quarterly	Collaborate with other GPP Coordinators and TLE-AFA Teachers in contextualizing learning materials	DepEd	MOOE	100,000.00	Learning Materials Development tool.	Contextualized Learning Materials in Technology and Livelihood Education (TLE) and Technical Vocational and Livelihood (TVL) specialized in Agriculture and Fishery Arts (AFA) with GPP
4. To produce vegetables in the school that are rich sources of protein, calorie, vitamins, and minerals and eventually increase vegetable consumption and improve learners' nutrition	Integrate nutrition education program to Gulayan sa Paaralan Program (GPP)	School Administrator, School GPP Coordinator, School Health and Nutrition Coordinator	Quarterly	Administer nutrition education in partnership with other agency.	DepEd	MOOE	75,000.00	Evaluation tool for project proposal. Accomplishment Report with complete attachments such as attendance sheets, & picture-narrative.	Conducted nutrition education thru school gathering such as GPTA Conference, Brigada Eskwela, etc.
	Designate a space in the classroom and in school for nutrition information.	School Administrator, School GPP Coordinator, School Health and Nutrition Coordinator	Annually	Developed posters and IEC materials for GPP can be displayed and be accessible to learners and	DepEd	MOOE	50,000.00	Monitoring checklist.	Nutrition Education Corner or Wall

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Objectives	Activity	Person Responsible	Timeframe	Methodology	Implementing Agency	Funding Source	Funding Requirements	Monitoring and Evaluation	Expected Output
5. To showcase small-scale food production model in schools for the household/communities to replicate and propose to promote family food security	Conducts technology transfer activity such as workshop, seminar, training, field work to parents and other community stakeholders	Administrator, School GPP Coordinator, School Health and Nutrition Coordinator	Quarterly	In collaboration with the Department of Agriculture, schools extend relevant and essential technologies on agriculture thru GPP	DepEd	MOOE	150,000.00	Project Proposal with complete attachments such as training matrix, attendance, picture, narrative, etc.	Crafted farm plan layout, processed concoctions and extracts, and other technologies.
6. To inculcate among the learners the values of gardening, good health and nutrition, love of labor and caring for others.	Organize a school-based team/organization for GPP Strengthen implementation of Career Guidance Program	Administrator, School GPP Coordinator, School Health and Nutrition Coordinator, Supreme Student Government (SSG) Administrator, School GPP Coordinator, School Career Guidance Advocates, TLE-AFA Teachers, and Class Advisers	Annually Quarterly	Student empowerment thru school-based students organization focused on agriculture, health and environment. Modified lecture and field school day can be carried out for learners to know more about their career path.	DepEd	MOOE	50,000.00 20,000.00	Organizational structure of the newly elected officers. Accomplishment report with complete attachments such as attendance sheet, picture, narrative, learners' output, etc.	Organized school-based student team/organization for GPP. Duly accomplished Student Career Plan
TOTAL FUND ALLOCATION							990,000.00		

GPP Proposed Action Plan includes monitoring and evaluation and expected outcomes respectively to enable implementers strategically and systematically implement the program. The funding agencies found in the proposed action plan are not limited to DepEd's MOOE since the partnership is vital in implementing the program. Many public and private agencies provide support for the project since it is one of the direct responses to UN Sustainable Development Goals. Outsourcing of funds to partner agencies such as the Department of Agriculture (DA), DA – Agricultural Training Institute (ATI), Regional Dairy Production and Technology Center (RDPTC), Pilipinas Shell Foundation Inc. (SPFI), Local Government Unit thru Municipal Agriculture Office (LGU-MAO), and other private and public agencies/organizations that venture in agriculture and fishery arts. This proposed action plan includes funding requirements that could change due to inflation.

Level of Acceptability of Proposed GPP Action Plan

The proposed GPP action plan was subjected to evaluation by the jurors to determine the level of acceptability and identify areas for enhancement. Jurors were asked to provide comments and suggestions for improving the plan. The result is shown in table 5.

Table 5. Evaluation Result on the Acceptability of Proposed GPP Action Plan

CRITERIA	WEIGHTED MEAN	INTERPRETATION
Activities	4.80	Highly Acceptable
Time frame	4.80	Highly Acceptable
General Structure	4.74	Highly Acceptable
Persons Involved	4.80	Highly Acceptable
Methodology	4.70	Highly Acceptable
Monitoring and Evaluation	4.70	Highly Acceptable
Expected Output	4.70	Highly Acceptable
GENERAL WEIGHTED MEAN	4.75	Highly Acceptable

Legend: 1.00-1.80 Not Acceptable, 1.90 – 2.60 Acceptable,

2.70 – 3.40 Fairly Acceptable, 3.50 – 4.20 Moderately Acceptable,

4.30-5.0 Highly Acceptable

Jurors from various offices as shown and discussed in table 1 thoroughly evaluated the action plan. They commented that the action plan is comprehensive because it includes monitoring and evaluation and other aspects of an action plan. They also recommended the introduction of organic farming and good agricultural practices. Moreover, jurors suggested to include needs specifics on funding requirements/amount per activity. The proposed action plan has a general weighted mean of 4.75 interpreted as highly implemented and that the plan is comprehensive and very satisfactorily presented. It can be adopted and implemented at all levels which only needs to be contextualized on the settings suited for the implementer.

It is affirmed by the study of Calub et., al (2019) GPP and other programs are complimentary with other existing school programs. Harmonizing, integration, strategies, and other activities are areas to be developed to achieve greater impact.

Conclusions

This study concludes that

1. Gulayan sa Paaralan Program (GPP) is implemented and sustained within the standard by Public Secondary Schools in the Division of Sorsogon.
2. Secondary schools in the Division of Sorsogon failed to achieve the highest extent of implementation due to several problems met in terms of administrative/management, agricultural/technological, climate change, and socio-economic wherein interventions were undertaken.
3. Proposed GPP action plan that includes monitoring and evaluation and expected output was made.
4. The plan is highly acceptable thus, can be adopted and implemented.

Acknowledgment

The author thanks the project advisory board and colleague for the helpful guidance and suggestions.

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