



Constraints and Suggestions Perceived by teachers in School Vegetable Gardening

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ABSTRACT

Vegetables are an important source of food and nutrition. The study was conducted in Thiruvananthapuram district of Kerala to identify the constraints experienced by teachers in the course of engaging in school vegetable gardening programme. Ten schools were selected for data enumeration. A total of 130 respondent with 100 students comprising ten students each and 30 teachers comprising three each, from each school were selected for meeting the objectives of the study. The reaction to each constraint was obtained on a four-point continuum namely most important, important, less important and least important with the score 4, 3, 2 and 1 respectively. Mean rank cumulative index for each constraint was worked out and the constraints were ranked and catalogued. The major constraints as perceived by teachers in school vegetable garden projects were, high input cost followed by lack of student's participation, lack of protection implements, non-availability of implements, high labour cost, lack of student's interest and lack of knowledge about gardening.

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INTRODUCTION

The school vegetable garden movement originated in Europe and got widely popularized in United States in the 1890s. Vegetable gardens skimmed up at schools all over the country during the early 20th century, more recently, the popularity of school gardens as an educational tool steadily grew as a way to teach healthy eating behaviors and increase hands-on learning experiences in inter or multi disciplinary lessons. The vegetable garden considered as livelihood laboratory, engages teachers by providing an energetic environment for them to observe, discover, experiment, nurture, and learn. Lessons are internalized from real-life experiences rather than textbook examples, thus, allowing teachers to become active.

Interest in school gardening is increasing as the benefits of its use in an interdisciplinary curriculum are becoming positively described in the current educational journals. Educators who have implemented school gardening as part of their curriculum laud its benefits as a forum for student participation in the learning process. The growing of living plants in and out of the classroom allows students to observe and experiment with the aspects of plants and horticulture that can be expanded across the curriculum. Growing plants involves learning about the environment, botany, science, math, and nutrition. Growing plant activities and horticulture can also be used to teach language arts, history, geography, art, and music. The garden and gardening experiences provide a forum for students to investigate the interconnectedness that exists, both currently and historically, between man and the growing world.

Participants in the learning process. Vegetables that form an important dietary requirement for the healthy development of a child necessitate specific programmes to sensitize them on the art and science of vegetable growing. In case of Kerala, more than 70 per cent of the vegetable requirement is met from the neighbouring states like Tamil Nadu, Karnataka and Andhra Pradesh. Kerala also has the limitation of

land for agriculture owing to the high rate of fragmentation of land due to population pressure, increasing nucleotide family structure, and other demo-ecographic positioning Thomas, 2004[1]. One way to address the issue of vegetable shortage is to scale up its production in schools using the under or unused lands and the young energy. To address this, many projects have been initiated by the Kerala Government. The Vegetable and Fruits Promotion Council Kerala (VFPCCK) has initiated a programme to develop vegetable gardens in 1,000 schools as part of its *agri@school programme* aimed at cultivating interest in agriculture among school children wherein 15 cents of land was used for vegetable gardens in schools with an objective to produce 600 tones of vegetables harnessing the vibrant energy of teachers in schools. "Vegetable garden plants in school", 2006 [2].

MATERIAL AND METHODS

This study makes a significant contribution to the fields of elementary education, horticulture, and environmental education. A consolidation of factors as described by knowledgeable educators will lend structure to any school garden experience. This information should make possible specific recommendations toward reducing or eliminating barriers that constrain school gardening efforts. Solving or diminishing some of these problems may increase the acceptability of using school gardening in the curriculum. This study will provide the framework and focus for successful school gardening.

This chapter dealt with the reasons for the current increased interest in using school gardening within an elementary school curriculum. Individual teachers' understanding of learning theory and curriculum design determine how they would implement and use school gardening. Many educators have had success using a garden-based curriculum, but the processes by which they implemented their curriculum has not been defined. The valuable experiences of these educators need to be tapped to benefit other teachers who would like to use school gardening in their own curriculum. This study investigated the constraints and suggestion that determine the successful implementation of school gardening into an elementary school curriculum.

Ten best performing schools in vegetable gardening were purposively selected in consultation with the officials of Directorate of Public Instruction (DPI) of Thiruvananthapuram district. Ten active volunteers who were participating in the school vegetable gardening activities were selected at random from 10 schools after consulting with the respective school teachers. Thus a total of 30 teacher respondents were selected for the study.

It is evident from Table 1 that the major constraints as perceived by teachers in school vegetable garden were, high input cost followed by lack of student's participation, lack of protection implements, non-availability of implements, high labour cost, lack of student's interest and lack of knowledge about gardening etc. Other constraints perceived by teachers in school vegetable garden included scarce water resource, school students and teachers involved in school vegetable gardening and also through relevant literature search, 25 constraints were identified and the responses of teachers were elicited through personal interview. The reaction to each constraint was obtained on a four-point continuum namely most important, important, less important and least important with the score 4,3,2 and 1 respectively. Mean rank cumulative index for each constraint was worked out and the constraints were ranked and catalogued.

RESULTS AND DISCUSSION

Teachers face a number of limitations in growing school vegetable garden and gardening activities. Constraints experienced by the teachers were identified, ranked and presented as a list. The constraint with the highest score was designated as the major constraint. The results of Constraints Perceived by the Teachers in Managing and Maintaining the School Vegetable Garden are presented in Table 1. High input cost, Lack of student's participation, Lack of protection implements, Non availability of implements and High labour cost are major constraints faced by teachers in school vegetable garden and remaining constraints are inadequate capital, lack of student's interest, Lack of knowledge about gardening, Lack of proper training, Scarce water resource, Non availability of credit, Lack of technology, Lack of time, Uneconomic holding, Wild animals destroy produce, Lack of extension service, Poor economic status, Surplus but insufficient for marketing, Lack of motivation, Non availability of labour, Poor storage facility, Difficult to work, Less profit, lack of plant protection implements and Pilferage of vegetables from school in the order of decreasing importance. It is evident from this discussion that teachers who use school gardening in the elementary school curriculum have found it to be an effective and useful teaching strategy for student learning of school subject material. These observations reflect that "the limitations of exploring fewer major issues, the unknown degree of project success, and the potential classroom and community constraints" make it difficult for sustainable continuance of the programme. findings of

Monroe & Kaplan [3] and Klein & Merritt [4].

The major strategies suggested by the students and teachers screened after discussing with subject matter specialists are presented in Table 2.

Table 1. Constraints Perceived by the Teachers in Managing and Maintaining the School Vegetable Garden (n -30)

Sl. No.	Items	Teachers	
		Score	Rank order
1	High input cost	107	1
2	Non availability of labour	55	21
3	High labour cost	80	5
4	Inadequate capital	77	9
5	Lack of student's interest	79	6
6	Uneconomic holding	70	15
7	Lack of technology	72	13
8	Lack of knowledge about gardening	79	7
9	Scarce water resource	75	11
10	Non availability of credit	74	12
11	Poor storage facility	78	22
12	Lack of teacher's involvement	89	10
13	Lack of student's participation	98	2
14	Non availability of implements	87	4
15	Lack of protection implements	77	3
16	Lack of extension service	64	17
17	Lack of time	72	14
18	Lack of motivation	59	20
19	Poor economic status	63	18
20	Surplus but insufficient for marketing	63	19
21	Wild animals destroy produce	67	16
22	Less profit	48	24
23	Lack of proper training	55	8
24	Difficult to work	49	23
25	Pilferage of vegetables from school	45	25

Table 2. Suggestions for Refinement for Sustenance of School Vegetable Gardening Programme

Sl. No.	Suggestions	F	%
1	Good quality inputs at required time and amount	29	96.92
2	Alternative arrangements for garden maintenances during summer vacations	27	90.00
3	Providing adequate number of training for knowledge enhancement of teachers and students on agricultural technology and its utilizations by competent subject matter experts	24	80.00
4	Follow up of government schemes/projects with increased outlay in school vegetable gardens	22	73.07
5	Making available of student friendly safe implements to be used for production and protection activities.	20	66.67
6	School vegetable garden as a compulsory subject in school curriculum	17	57.70

The results from Table 2 indicate that majority of the teachers (96.92%) opined that 'good quality inputs at required time and amount' should be made available at school for the un-interrupted and successful conduct of the programme. 'An alternative arrangement for garden maintenance during summer vacations' (90 %) was another felt requirement by both students and teachers. The school council should consider devising a strategy to engage labour and supervisory team during vacations so that the crops in field are not affected. Also, mechanism to provide incentives for teachers and students who come, attend and manage school vegetable garden could be thought of.

CONCLUSION

All the above cited measures would improve the overall scenario of school vegetable gardening. This will not only help the overall development of the individuals be it teachers or students, but also will help to

bring more area under safe vegetable production helping the socio-economic position of Kerala. There is a growing movement globally for the “greening” of schoolyards through gardens at school sites, and much enthusiasm for the potential of garden- based learning in promoting healthy youth development Hedley et al. [5] Kerala, one of the best performing states in India in terms of literacy should be an example in this case so that others emulate this practice developing both the teachers and society positively.

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