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# Information Literacy Education in Organic Floriculture: Need of the Hour

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## Abstract

*The present study identifies the information needs of floriculturists in the Kalimpong district. The survey method was conducted with the interview schedule to collect the data from 140 nurseries and 336 floriculturists. The study finds that a floriculturist needs information in both print and electronic form monthly. The internet and discussion among the floriculturists are the significant sources of information. The library, government offices, and research institute visits are very minimal. Floriculturists of Kalimpong use organic manure but also use chemical pesticides to protect the flowers and plants from the pests. The use of heavy chemical pesticides affects the environmental balance, the health of human beings, and the degradation in the quality of products for foreign supply. There is a need for the information literacy program on the use of organic pest control and to avoid chemical pesticides for the benefit of quality management, human being, and the environment.*

**Keywords:** *Information Needs of Floriculturists, Organic Floriculture, Floriculture, Use of Pesticides in Floriculture.*

## 1. Introduction

Floriculture is one of the essential backbones of Indian rural economy. Floriculture is studied in the field of horticulture commonly conceptualised as cultivation, care and marketing of flowers and ornamental plants. The flower cultivators are known as floriculturist. The present study finds that the Floriculturists are from the various ages ranging from 20 years to 70 years (Table 1). Floriculturists' population includes a literate person, and some are low literate floriculturists (Table 2). Many floriculturists in Kalimpong district are dependent upon the income of floriculture (Table 3). In these cases, many floriculturists are aware of the various cultivation methods like organic cultivation, and many are not. Information literacy programmes are vital to make people aware of the ill effects on the use of chemical pesticides.

Information literacy actually refers to a set of abilities to search, evaluate, organise and use of information either in print format or electronic format for decision making. In the early 1990s, the term information literacy came into existence in the United States. The variant

term of information literacy is ‘infoliteracy’ ‘informacy’, ‘information competency’, ‘information literacy skills’ etc. The information literacy education today would bring the information literate society tomorrow (Danappa 2015). Association of College and Research Libraries defines that ‘Information literacy is a set of abilities requiring individuals to recognise when information is needed and can locate, evaluate, and use the needed information’ effectively (ACRL 2000).

Teaching and learning on information sources and system and use of information in a different format are important to be information literate. Abid states that to be "information literate" you need to know why, when, and how to use all of these tools and think **critically** about the information they provide”. Information literacy may use technology for information search and use, but at last, the term remains independent (Abid 2004).

## **2 Literature Review**

### ***Importance of Floriculture Information***

Zijp (1994) in a guide to the information use and transfer identified the causes that make information unreachable to the rural people which constraints to fulfil the information needs are the political and social barrier, lack of technological skills, low educational level, lack of human involvement.

The handbook of Agriculture on farming on hill areas states that the ‘Small farmers need location-specific information on technologies, contacts, lesson learnt and best practices, market and price information on agricultural inputs and outputs. Apart from the specific information, the sector needs expert systems for sustainable management of production system’ (ICAR 2008)

Lacasana, et.al. (2010), in her study on ‘Association between organophosphate pesticides exposure and thyroid hormones in floriculture workers’ conducted on 136 male subjects from the State of Mexico and Morelos, Mexico, occupationally exposed to organophosphate pesticides, during agricultural periods of high (rainy season) and low (dry season) levels of pesticide application has found that due to use of organophosphate pesticides many floriculture workers are harmed by its toxic chemicals and the result suggests that exposure to organophosphate pesticides may be responsible of increasing TSH and T4 serum hormone levels.

### ***Information Literacy of Floriculturists***

Sharma and Mandal (2017) in their pilot study on Information needs of floriculturists of Kalimpong district stated that the floriculturists needs information to keep abreast with the latest development in the field of information and to develop the nursery. The study finds that only 10% of the floriculturists use the library and they need information on using technology and information gathering to mitigate the challenges during involvement floriculture activity.

### ***Involvement of Public Libraries***

Karkee (2012) has studied the Community information service and Public library service in the hill areas of Darjeeling district and Kalimpong district and found inadequacies in terms of resources and services. He has suggested that to provide community information service by the Public libraries, the development of the area profile is necessary. The public library must move forward in the community planning process and in supporting the preservation of rare indigenous knowledge of different cultural practices available in the society. Public library and community information centre should organise an information literacy programme and extension of help and support in lifelong learning and distance learning.

### **3. Research Questions**

The following research question strikes the researcher to set the objectives of the study:

*RQ1 What are the information needs of the floriculturists?*

*RQ2 What type of manure and pesticides are using by the Floriculturists of Kalimpong?*

*RQ3 Do the floriculturists of Kalimpong district need information literacy education in organic cultivation?*

### **4. Objectives of the study**

To find out the information needs of the floriculturists

To know about the use of organic cultivation in Kalimpong district

To understand whether the Floriculturists needs information literacy education or not

### **5. Methodology**

The survey method is used for the research purpose with an interview schedule to collect the data of 336 floriculturists from 140 nurseries of Kalimpong district. There were 152 female and 184 male floriculturists in these 336 floriculturists. There were no floriculturists' data from the Darjeeling district, so this research work is limited to the district of Kalimpong, West Bengal.

### **6. Data Analysis and Findings**

#### **6.1 Age, Qualification and Economic dependency as a factor for Information literacy**

##### *Age groups of floriculturists*

Age groups	Female		Male		Total	
20-30	12	(3.57%) 4%	15	(4.46%) 4%	27	8%
31-40	30	(8.93%) 9%	49	(14.59%) 15%	79	24%
41-50	92	(27.38%) 27%	78	(23.21%) 23%	170	50%
Above 50	18	(5.35%) 5%	42	(12.50%) 13%	60	18%
Total	152	(45.23%) 45%	184	(54.76%) 55%	336	100%

Table 1: Age groups of Floriculturists

Source: A field study

### *Educational Qualification of Floriculturists*

Qualification	Female		Male		Total	
Masters	02	(0.60%) 1%	06	(1.79%) 2%	8	2%
Bachelor	20	(5.95%) 6%	70	(20.83%) 21%	90	27%
Class XII	71	(21.13%) 21%	65	(19.35%) 19%	136	40%
Class X	31	(9.23%) 9%	28	(8.33%) 8%	59	18%
Below Class X	28	(8.33%) 8%	15	(4.46%) 5%	43	13%
Total	152	(45.24%) 45%	184	(54.76%) 55%	336	100%

Table 2: Educational Qualification analysis of Floriculturists

Source: Field study

### *Dependency upon the income of floriculture activity*

Sl.	Dependency	Female		Male		Total	
1.	Yes	117	(34.82 %) 35%	142	(42.26%) 42%	259	77%
2.	No	35	(10.42%) 10%	42	(12.50%) 13%	77	23%
	Total	152	(45.24%) 45%	184	(54.76%) 55%	336	100%

Table 3: Dependency level of Floriculturists on the income of Floriculture activity

Source: A field study

The table 1,2 and 3 depicts that the floriculturists age group starts from 20 to above 50. It is observed during field visit that few of the floriculturists are above 60. The 102 (31%) floriculturists are class X passed or below than that. The total 259 (77%) of floriculturists are totally dependent upon the income from the floriculture. This suggests that the Floriculturists are in need of the information literacy programme on using technology, e-marketing and personalised service.

## **6.2 Information Needs**

In reply to information need the 281 number (84%) of floriculturists of Kalimpong district explicitly expressed that they need information to carry out the floriculture activity. The 55 number (16%) of floriculturists could not express explicitly that they need information but while proceeding with motivation, examples and helping floriculturists to express researcher found that they require information to carry out the floriculture activity. Another question which put to floriculturists is for information needs field and the reply is analysed in Table 4.

Sl	Information needs field of floriculturists	No. of Respondents	Percentage
a.	Raw Materials	162	48%
b.	Training	158	47%
c.	Cultivation pattern	174	52%

d.	Use and handling of Insecticides	154	46%
e.	Weather and climate	98	29%
f.	Marketing	178	53%
g.	Pest Control	130	39%
h.	Credits and cooperatives	154	46%
i.	Organizing floriculture Organization	104	31%
j.	Information gathering	162	48%
k.	Others	18	5%

Table 4: Response to the Information needs in related fields

Source: A field study

The 154 (46%) floriculturists replied that they need information in relation to use and handling of insecticides and 130 (39%) floriculturists needs information for controlling pests. In this field, floriculturists are given an open chance to express themselves about their information needs. The finding suggests that the floriculturists do need information literacy education in the use and handling of insecticides.

### 6.3 Use of Library by Floriculturists

Use of Library by the floriculturists	Yes	No	Types of Library Visited				
	08	328	<i>School Library</i>	<i>College Library</i>	<i>Univ. Library</i>	<i>Rural Library</i>	<i>Town Library</i>
	2.4%	97.6%	00	00	00	06	02
Total	08	328	00	00	00	06	02

Table 5: Use of Library by the Floriculturists

Source: Field study

The study finds that only 8 (2.4%) floriculturists use the library. It is very important task from the Public library to provide the information literacy programme so that the floriculturists also feel the importance of Public library according to Public Library Manifesto.

### 6.4 Constraints to use the information

Sl.	Constraints felt by floriculturists while obtaining information from various sources		
A	Lack of time	234	69.6%
B	Lack of awareness on new information and technology	207	61.6%
C	Long distance of Library and Information center	102	30.4%
D	Lack of guidance	12	3.6%
E	Information overload	21	6.3%

Table 6: Constraints felt by floriculturists while obtaining information from various sources

Source: Field study

Information Literacy is a set of abilities to find, evaluate, organise and use of information from various media. The Table 6 finds that 207 (61.6%) floriculturists feels that lack of awareness on new information and technology is the constraints for obtaining information

from various sources. The finding suggests that information literacy to floriculturists is indispensable.

### 6.5 Manure and Pesticide used by floriculturists

The study is based on 140 nurseries and 336 floriculturists in two sets of interview question and findings. The previous findings are on the basis of an interview taken to 336 floriculturists, and table 7 is based on the interview of 140 nurseries.

Sl.	Types of Manure used			Types of Pesticide used		
	1	Organic	140	100%	Organic (4)	09
2	Chemical	00	00	Chemical (2)	57	40.7%
3	Mixture of both	00	00	A mixture of both (1)	60	42.9%
4	Any other	00	00	Any other (none) (3)	14	10.0%
Total		140	100%	Total	140	100%

Table 7: Types of manure and insecticide used by the nurseries of Kalimpong district  
Source: Field Survey

Table 7 states that the nurseries of Kalimpong are using organic manure for flowers. The flower nurseries are not taking much care in using organic pesticides. The 9 (6.4%) are using organic pesticides in comparison, 57 (40.7%) uses chemical pesticides. The mixture of both chemical and organic pesticides are using by 60 (42.9%) floriculturists. There are 14 (10%) floriculturists who do not use any kind of pesticides. There is a total of 117 (83.6%) are using chemical pesticides. In the field survey, it is observed that there are fewer precautions are taking by the floriculturists in sprinkling the chemical pesticides. It is evident in the study of Lacasana, et al. (2010), that the uses of chemical pesticides are very harmful to health. The study meets the objectives set by the researcher by stating that there is a need for information literacy education to floriculturists in relation to the use of pesticides.

### 7. Conclusion and Suggestion

The information needs of floriculturists are expanded in various aspects. The study finds that the floriculturists are less aware of information skills and the use of modern technology. The use of library is very minimal. Most of the floriculturists are unaware of the use and handling of insecticides and ill effects of chemical pesticides. The proper use of pesticides is very important. It is very important to take precaution while using pesticides, even in using organic pesticides; also, there are certain precautions that the floriculturists must be aware of. The use of chemical pesticides is harmful to the flowers in the long run as well it affects human health also. The global market also demands the organic product for import and export. The study calls for the emergent need for rigorous training and information literacy education in relation to the use of pesticides to the floriculturists from the Government organisations, Nongovernmental organisations and Public Libraries stakeholders.

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