

Diversity of vegetables and fruits and their utilization among the Kashmiris

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ABSTRACT

Mountains are extraordinarily different and internationally important as centers of diversity. A wide variety of both vegetables and fruits can be grown in small plots. Many farmers had several crop species on their farms. There can be more vegetable species than fruits. Most vegetable species are the leafy type. There are a general scarcity of these products especially fruits. It can be concluded that some measures should be taken to increase productivity and consumption of these crop products.

Key words: *Diversity, Vegetables and fruits.*

INTRODUCTION

Crop diversity is the variance in genetic and phenotypic characteristics of plants used in agriculture. Crops may vary in seed size, branching pattern, in height, flower color, fruiting time, or flavor. They may also vary in less obvious characteristics such as their response to heat, cold or drought, or their ability to resist specific diseases and pests. It is possible to discover variation in almost every conceivable trait, including nutritional qualities, preparation and cooking techniques, and of course how a crop tastes. And if a trait cannot be found in the crop itself, it can often be found in a wild relative of the crop; a plant that has similar species that have not been farmed or used in agriculture, but exist in the wild. Within-crop diversity, a specific crop can result from various growing conditions, for example a crop growing in nutrient-poor soil is likely to have stunted growth than a crop growing in more fertile soil. The availability of water, soil pH level, and temperature similarly influence crop growth (1).

Kashmir is valley which is bounded by mountains on all sides where the people land management and environmental change project has activities. The area has a bimodal pattern of rainfall that comes in March to May and October to December. Farmers in the area are small scale farmers with high dependence on farm activities. The majority of farms range 0.25 acre to 1 acre. The farmers grow rice and maize as major food crops while potato, onion and apple are grown as cash crops. Live stock is kept under no grazing and semi grazing. The main live stock are dairy cattle and poultry. Horticultural crops are grown as secondary crops . The

objective of this survey was to carry . The objective of this survey was to carry out an inventory of vegetables and fruits, determine how these crops are utilized and the behavior of the farmers during the times of glut and shortage of these crops.

II.RESULTS AND DISCUSSION

Diversity of Crops

Farmers grew both exotic and local types of vegetables (Table 1). The most widely grown vegetables included kales, onions, potatoes, tomatos, bottle gourd, pumpkin, pea and cabbage. Over fifty percent (50%) of farmers grew these vegetables. It can be observed that every home had a portion of kale that was used both as a vegetable. The crops are scattered in the farms on plots estimated to be around 20 m². Some vegetables were planted in a few lines across the farms where grain crops were grown.

The most widely grown fruits were apple, pear, walnut, almond (Table 1). These fruits are popular in many parts of the country (2). These were grown by the farmers but some of them can observed as individual plants scattered in the farms and in the forest areas.

Table 1. List of vegetables and fruits grown on the farms

Vegetables	No. of farmers growing	Fruits	No. of farmers growing
Onion	19	Apple	13
Potatoes	20	Pear	5
Pumpkin	13	Walnut	8
Cabbage	17	cherry	7
kale	20	Plum	6
Pea	12	Peach	2
Amaranthus	9	Almond	5
Chillies	16	Pomegranate	2
Spinach	8	Kiwi	1
Carrot	6		
Beans	15		
Turnip	3		
Raddish	11		

Knol khol	8		
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Farmers had up to ten species of vegetables and six of fruits grown in their farms (Table 2). The frequent number of vegetables was four to six whereas fruits were three to five. There were no farmers with less than three species. More species of vegetables were generally found in the farmer's fields as compared to fruits.

Table 2. Diversity of Vegetables and Fruits grown per farm

No. of Species per farm	No. of farmers in the category	
	Vegetables	Fruits
1	0	0
2	1	0
3	4	8
4	7	3
5	6	6
6	5	1
7	3	
8	1	
9	3	
10	2	

Crop preference farmers ranked vegetables and fruits according to their production, liking and utilization (Table 3). Onion, potatoes, kale and beans were the most highly ranked vegetables whereas apple, plum, walnut and almond were the most highly ranked fruits.

Table 3. Ranking of crops by the farmers (crops appearing in the top 3 categories):

Vegetables	No. of times the crop was ranked	Fruits	No. of times the crop was ranked
Onion	18	Apple	18
Potatoes	19	Pear	7
Pumpkin	10	Walnut	14

Cabbage	11	cherry	4
kale	17	Plum	13
Pea	9	Peach	11
Amaranthus	2	Almond	12
Chillies	13	Pomegranate	4
Spinach	5	Kiwi	2
Carrot	8		
Beans	13		
Turnip	4		
Raddish	10		
Knol khol	4		

III.UTILIZATION OF FRUITS AND VEGETABLES

Although the production of fruits was low, more than three- fourth of the fruits produced were sold while remaining was consumed at home. The commonly sold fruits were apple, almond, plum and walnut. Fruits utilized at home were either eaten direct, together with other foods or processed into juice, jam or other products. Most of the vegetables were utilized at home (75%). Tomatoes were used for stewing vegetables and meats. They could also be eaten as salad or making tomato sauce. Onion is used both as spice as well as vegetable.

IV.CONCLUSIONS

Farmers grew a diversity of vegetables and fruits in their farms. Although these crops are widely grown in this area they were considered as minor crops and the production levels were low. Indeed the crops were normally weeded last. There was a general shortage of products most time of the year and thus low consumption. Strategies should be laid down to have adequate vegetables and fruits most of the year, considering that these crops are nutritionally essential. The survey showed that the exotic vegetables were replacing the traditional ones in the diet. There were many traditional wild and semi wild species that have potential economic value as fruits, vegetables or medicinal plants. Some of these species were available as early as 1960's but are now considered as weeds and were in danger of being extinct. There seems to be a place for some of the indigenous vegetables, considering the percentage of farmers who had them on their farms. Growing of these vegetables should be encouraged as a way of conserving agro-biodiversity.

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