

Short Communication

A study to identify research priorities in the area of conservation of vegetable germplasm and variety development

Shubhadeep Roy*, Neeraj Singh, RN Prasad, Sunil Gupta and B Singh

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Vegetables are rich source of minerals, vitamins, vegetable fiber and contain fair amount of carbohydrate and protein (Singh *et al.* 2012). Vegetables contain high amount of nutraceuticals which helps fight diseases, hence called protective food. Over the last two decades it has been observed that, there is a change and shift in food habits of Indian population and consumption of fruits and vegetables have been increased, but the productivity of vegetables is 17.3 t/ha which is not sufficient to meet projected requirement of producing 225 mt of vegetables by the year 2030 (Roy *et al.* 2016). To increase productivity superior varieties of vegetables are required which are resistant to disease pest and other abiotic and biotic stresses and contain high nutritive value. Conventionally cultivated and wild species of vegetables are known to be good carrier of genes responsible for disease-pest resistance, climate resilience and enriched with high amount of nutraceuticals. But in modern times farmers have stopped cultivating conventional vegetable varieties as they yield less, even many varieties have been extinguished. It has become a threat for future vegetable breeding programme. So conservation of vegetable genetic resources and development of superior varieties is very important in vegetable sector. Research organizations are conducting research in this line in our country. But the researches are unorganized. Database is not maintained properly, accession of information regarding genetic information and accession of germplasm is not easy. Repetition of same research conducted which results in exploitation of resources and energy. With this background, a study was designed with the objective to identify the priority issues in the sector of conservation of vegetable genetic resources and variety development.

The study was conducted through online survey. The survey questionnaire had been sent to 50 scientists of ICAR institutes, 50 teachers of SAUs and 50 subject matter specialists of KVKs sampled purposively who deal with vegetable crops, for their response. Among them 75 respondents replied from 22 different states representing different agro-climatic regions of India (Table 1). The questionnaire contained objective type of questions related to problems in conservation of plant genetic resources and variety development in vegetable sector and the respondents were asked to score each problem in a five point continuum ranging most important (5), important (4), undecided (3), less important (2) and not important (1) as they perceived. The total score for each problem was obtained by summing the scores given by 75 respondents.

For obtaining weightage of each problem, 10 subject experts sampled randomly from the concerned fields were asked to score the problems in a three-point continuum ranging most urgent, urgent and less urgent and give a score of 3, 2 and 1 respectively. Those 10 Subject experts had not been selected as respondents in the study. The weightage for each problem was calculated with the following formula:

$$\text{Weightage} = \frac{\text{Obtained score}}{(\text{Maximum possible score}) - (\text{Minimum possible score})}$$

Weighted sum was calculated by multiplying weightages of the individual problems with the total score obtained and the weighted average (WA) was obtained by dividing the weighted sum with the total number (75) of respondents. Linear Regression analysis was done among the problems considering rank 1 problem as dependent variable while others as independent to know in what proportion (R^2 value) the independent variables influence the dependent variable. The \hat{a} -value represents 1 unit change in the corresponding independent variables will change the dependent variable equal to the corresponding \hat{a} -value.