Technological needs of banana growers of Cuddalore district

Vengatesan D, Ramesh P and A Arulraj

Abstract
Technological base for improving productivity and income of the rural population in the field of agriculture has broadened with the success of Green revolution that the country witnessed during mid sixties. Various technological innovations have been released claiming spectacular yield potential at research stations. As a result of this research and transfer of technology programmes, the national production has increased over time in the decades, thus balancing the population growth and food production of our country. Only few studies are available on the transfer of technology of banana growers. Hence, the present study was formulated to understand the technological needs of banana growers of Cuddalore district. The study was conducted in Cuddalore district of Tamil Nadu state. Cuddalore district has seven taluks. Banana is being grown in all the seven taluks. Among them, Cuddalore is the principal banana growing taluk. Six revenue villages viz., Vellakarai, Ramapuram, Annavalli, Vazhisothanaipalyam, Karaikadu and Thirumanikuzhi occupied the first six places under banana cultivation. Hence, they were selected on the basis of maximum area under banana cultivation. A sample size of 120 was fixed for the study. The respondents in banana cultivation expressed high level of technological needs in the major subject matter areas of farm implements (3.600), plant protection (3.389), fertilizer management (3.341), plant growth regulator (3.183), post – harvest management (3.166), weed management (2.975) and varieties (2.950).

Keywords: banana growers, technological base, green revolution.

Introduction
Technological base for improving productivity and income of the rural population in the field of agriculture has broadened with the success of Green revolution that the country witnessed during mid sixties. Various technological innovations have been released claiming spectacular yield potential at research stations. As a result of this research and transfer of technology programmes, the national production has increased over time in the decades, thus balancing the population growth and food production of our country. Only few studies are available on the transfer of technology of banana growers. However, the benefits of the new production technology have accrued mostly to big farmers while the marginal and small farmers have been bypassed in the development process. At present in the Indian Institute of Horticultural Research Bangalore, research on banana is directed towards increased production and productivity. Considering the problems and need for strategic and basic research, a National Research Centre for Banana has been established at Tiruchirapalli to meet the challenges of banana in the country. Hence, the present study was formulated to understand the technological needs of banana growers of Cuddalore district.

Methodology:
The study was conducted in Cuddalore district of Tamil Nadu state Cuddalore district has seven taluks. Banana is being grown in all the seven taluks. Among them, Cuddalore is the principal banana growing taluk. There are 77 revenue villages in Cuddalore block. These revenue villages were arranged in descending order based on the maximum area under banana cultivation. From the list, 6 revenue villages viz., Vellakarai, Ramapuram, Annavalli, Vazhisothanaipalyam, Karaikadu and Thirumanikuzhi occupied the first six places under banana cultivation. Hence, they were selected on the basis of maximum area under banana cultivation. A sample size of 120 was fixed for the study considering the limitations of time and other resources. From the list of farmers in each selected villages, farmers cultivating banana were identified. A total number of 120 respondents were identified from selected six villages by using the proportionate random sampling technique. Based on the average mean score obtained the major subject matter areas were assigned ranks in the ascending order of technological needs.
They were further classified into two categories of high and low technological needs. The major subject matter areas having the average mean score above the overall mean score fell under 'High technological need' while those subject matter areas having the average mean score below the overall mean score fell under 'Low technological need category'. Based on the mean score obtained, each specific technology was classified into three, categories viz., 'High level of technological need', 'Moderate level of technological need' and 'Low level of technological need' based on cumulative frequency method. The data collection was done with the use of a well-structured and pre-tested interview schedule.

Findings and Discussions
Technological needs of banana growers in banana cultivation
The information on the technological needs as perceived by banana growers in banana cultivation was gathered and the results are given in Table 1.

<table>
<thead>
<tr>
<th>Table 1: Technological needs of banana growers (n=120)</th>
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From the data in Table 1, it could be observed that the
respondents in banana cultivation expressed high level of
technological needs in the major subject matter areas of farm
implements (3.600), plant protection (3.389), fertilizer
management (3.341), plant growth regulator (3.183), post –
harvest management (3.166), weed management (2.975) and
varieties (2.950) which ranked from I to VII. This is evident
from their respective average mean scores which were found
to be above the overall mean score of 2.857. This finding is in
line with the findings of Vengatesan (2005) [3].
The average mean score in the range of 1.725 to 2.800
indicated low level of technological needs in the areas viz.,
sucker and planting (2.800), irrigation management (2.772),
harvesting (2.475), field preparation (2.032) and inter-cultural
operation (1.725).
It is quit interesting to know the results from Table 1, that out
of thirty seven specific subject matter areas studied for
assessing the technological needs of respondents in banana
cultivation a high level of technological need was observed in
fifteen technologies with there mean score ranging from 3.196
to 3.916, the specific technologies identified with high level
of technological needs were viz., drip irrigation (3.916),
labour saving implements (3.800), recommended fungicides
and pesticides (3.700), method of fertilizer application
(3.666), identification of disease (3.646), identification of pest
(3.600), maintenance of farm implements (3.600), application
of required inorganic fertilizers (3.400), method of using
implement (3.400), grading the banana (3.333) application of
bio-fertilizer (3.300), method of application of herbicides
(3.300) recommended plant growth regulator (3.266), method
of sucker treatment with fungicides (3.200) and herbicides
(3.300). These technologies are the major components in
enhancing the productivity. Hence, high level of technological
need would have been expressed for these specific subject
matter areas. The outcome is in accordance with that of
Vengatesan (2005) [3] who reported that majority of the
respondents were in need of farm implements techniques and
maintenance. This finding is in line with the findings of
Deshpande and Ali (2010) [1].
However, some of the technologies like characteristics of
recommended varieties (3.100), ETL for various pest and
disease (3.100), method application of plant growth regulator
(3.100), method of storage (3.000), nutrient deficiency in
banana (3.000), preparation of spray fluid (2.900), time of
weeding (2.800), varieties recommended in the area (2,800),
hand weeding (2.600), maintenance of plant population
(2,600) and method of harvest (2.500) belonged to medium
level of technological needs category with the mean score
value ranging from 2.473 to 3.195.
For the rest of the technologies, low level of technological
needs was observed with the mean score value ranging from
1.700 to 2.472. The technological mean score in the table
revealed that the respondents expressed low level of
technological need in the specific subject matter areas viz.,
time of harvesting (2.446), method of planting (2.400), time
of irrigation (2.300), quantity of FYM to be applied (2.200),
cleaning of filed boundaries (2.128), economic use of water
(2.100), stubble collection (2.000), time of land preparation
(1.800), propping (1.750) and desuckering (1.700). Most of
these technologies were traditionally followed practices by the
respondents. Further, the respondents had adequate
knowledge and skill on these technologies. Vengatesan and
Santha Govind. (2014) [3], expressed that majority of the
respondents needed production tools and post-harvest
operation machines.

**Conclusion**

Technological needs of banana growers in the study have
been amply analysed and the results showed that respondents
differed in their adoption and performance under varied
conditions. Labour and energy saving technologies are
farmers greatest need. In addition, they required production
technologies for their commodities, constraints and
objectives. The strategy developed in this study on
technological needs of banana growers can serve as an
empirical blue print for developing appropriate technologies
for empowering farming communities on a sustainable basis.

**Reference**

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<table>
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<tr>
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<th>Average mean score</th>
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<tr>
<td>(i) Labour saving implements</td>
<td>3.800</td>
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<td>(ii) Method of using implements</td>
<td>3.400</td>
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<td>(iii) Maintenance of farm implements</td>
<td>3.600</td>
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<td>(i) Grading the banana</td>
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