Country Report

EXTENSION SERVICES for DOUBLING SOUTH INDIAN TEA PRODUCTION

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ABSTRACT

To understand the success story of doubling of South Indian tea production an in-depth review of technical support and information available from UPASI Tea Research Institute has been attempted. This paper also profiles the tea producer, extension worker and details the extension strategies adopted for reaching the current yield levels. The first part of this article largely reviews these specifics while the later part lists the newer types of extension services, which are considered to be fast and cost effective. An integrated approach of dovetailing the existing system with that of latest techniques is advocated. However, attention must now be drawn to an adjustment in extension strategy in this era of falling prices, which requires quality product to fetch remunerative returns.

INTRODUCTION

South Indian tea production trends

Among the different tea producing regions of the world, South India has been a trail- blazing region. In India, tea enjoyed organized research from early 1900's. The data given in Table I shows that, barring a group of tea estates in Papua New Guinea and organized sector in Kenya, where the yields are over 4000 kg per ha, the productivity of South Indian tea and its rate of growth, are the highest amongst the tea growing countries of the world, not withstanding reservation expressed in some quarters against the harvesting standards of South Indian tea and the need to improve them since in the current depressed market, only quality sells. Adjustment of the extension strategy is, therefore, called

Tea Production (in million kg) and productivity (Kg/ha*)

Years	N. India	S. India	Sri Lanka	
1970	317.3	(1122)*	101.2 (1371)*	212.2 (878)*
1980	438.5	(1429)	131.1 (1747)	191.4 (782)
1990	545.1	(1585)	175.2 (2266)	234.1 (1051)
1997	605.0	(1787)	205.6 (2335)	277.4 NA

* The productivity of South India is inclusive of small growers.
Source: International Tea Convention, 1999

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There are two Apex Planters' (Producers') Associations, The Indian Tea Association (ITA) for North India and United Planters' Association of Southern India (UPASI) for South India that have been financing tea research for well over 100 years and are running Tea Research Institutes at Tocklai (in Assam) and UPASI Tea Scientific Department in Tamilnadu. The statutory organisations such as Tea Board and research bodies like the Council of Scientific & Industrial Research (CSIR) and National Tea Research Foundation (NTRF) of India are co-financing these two Institutions on a regular and *ad hoc* basis. The Darjeeling Tea Research Center (DTRC) and the Institute of Himalayan Bioresource technology (IHBT) are other tea research organizations, which are constituent establishment of the Tea Board and CSIR, respectively . The scientific information generated by Tocklai and UPASI TRI is available to the members of the concerned Associations but does percolate to the non-members also which can be verified by parallel growth in technology utilization by members and non-members.

With the finances provided by the Tea Board, the Advisory Services of UPASI Tea Scientific Department and their technical assistance has been extended to small growers also in the region since 1970, free of charge.

The UPASI Tea Scientific Department runs Tea Advisory Service to carry the scientific information generated at its laboratories to growers through a network of extension workers. Tea advisory service in South India was put in place during the year 1968. It was enlarged during the year 1970 (Venkataram, 1979a). The fact that productivity of South Indian tea, in both small holder and corporate sectors, is the highest among the tea producing countries of the world, which indicates that the quality research work carried out at UPASI Tea Scientific Department on cultivation of tea, is available to all growers in South India. The yield gap between the best and average producer varies between regions and this gap is also being narrowed down by the efforts of extension workers.

PROFILE OF SOUTH INDIAN TEA PRODUCER

Two distinct classes of growers produce Plantation crops like Tea, Coffee, Rubber and Cardamom. These are large (corporate) and small holders depending upon the area they cultivate.

Large Growers

This group is the earliest that experimented / initiated tea planting and existed from the beginning of tea industry and is called "Planter" who grows and manages large areas say, from 100 to 1000 ha of the crop under one holding. Professional managers run these estates. Most estates subscribe to the tea research organizations; some have their own in-house research facilities also. But all of them look up to their respective Research Institute for technical guidance in most spheres of tea cultivation and show a high level of acceptance.

Small Growers

The second type of cultivators are small growers who own anything less than 8.0 ha of tea area. These small holders existed from 1930's, most of which (90%) are concentrated in the Nilgiris district of South India. During 1950's more small holders emerged in Nilgiris and other tea districts in South India, *viz.* Idduki District in Kerala and in Karnataka.

The introduction of INDCO factories (Industrial Tea Co-operative factories and their Apex body "Incoserve") particularly in the Nilgiris during 1970's (Venkataram, 1979b) enabled a sudden surge of small holders. The area under smallholdings today is estimated at about 30,000 ha producing 95 million kg of made tea in the revenue district of Nilgiris alone. How-

ever, in the national context, production from smallholdings would be about 25 per cent, after the explosive growth of smallholders in Assam and Bengal since the eighties, which are estimated to number 1,15,000.

Among small tea growers, there are two distinct groups; the first one is the traditional grower who had inherited his tea holdings. The others took to tea cultivation in the current generation. The classification into two distinct groups provides the backdrop for the discussion of "transfer and adoption of technology" among small tea growers since their aptitude and attitude to knowledge of tea growing vary markedly.

Among the traditional growers, there were only a small percentage of receptive growers and the rest belonged to a hard-to-convince group. On the other hand, the new entrants were "knowledge seekers" and were keen listeners and doers. Among the new entrants, it was difficult to find an illiterate. The traditional grower hardly invested in modem techniques of managing tea as it was considered a high-tech and high input crop. On the other hand, such attitude among the newer generation of tea growers was very minimal and they are all users of knowledge in managing their tea. All may not agree with the observation that among the growers of plantation crops, in general, and tea in particular one does not encounter poverty or illiteracy in its crudest form as is seen among the small growers of field crops.

PROFILE OF A TEA EXTENSION WORKER

The extension worker, in tea crop, most often has to function in contrasting ambiences displaying basically different skill sets - agronomist to economist, all in one. At corporate estates, he meets with ever demanding professional managers endowed with versatile skills and resources. On smallholdings an extension workers meets growers with native intelligence combined with innate intuition on his profitability arising out of any yield - improving or cost - reduction technology.

Production, productivity and levels of real income - three components of profitability appear logically to be successive or sequential, but, a closer examination would indicate that in fact the situation is not universally true. When a production technology nets a profit nearer to super-tax level, only real net income matters. At this stage interests of corporate and small grower differ. When a procurement price ceiling is imposed on the crop (in case of INDCO and bought leaf factories) productivity and production alone matter and quality of produce takes a back seat. Hence, while catering to the needs of corporate and small grower, extension worker has to tailor his delivery of different production technologies. He should be able to help to improve the efficiency and productivity of existing resources rather than look for increasing the resource base itself.

EXTENSION STRATEGIES

The extension strategies involved in the transfer of technologies adopted for large and small holders of tea are different to suit different classes of tea growers.

Small growers

It was production explosion from small grower front that helped in doubling South India's tea production. During the initial years, early 1970's, extension strategies of UPASI Tea Scientific Department (Venkataram, 1979c) to small growers involved the Industrial Co-operative (INDCO) factories, which came into existence just then: the infrastructure available there was utilized. A demonstration plot and a nursery were set up in the premises of each of the INDCO tea factories for the benefit of small holder members of the factories who frequent the factory for delivering green leaf or for col-

lecting the sale proceeds of green leaf.

Directors of these INDCO factories were persuaded to be the lead link farmers. The demonstration plots were also set up in their tea fields along with others within INDCO factory premises. These plots largely erased the long standing, lingering doubt of a large section of small holders, particularly the traditional ones, that their tea bushes (mostly raised from seeds from fields of corporate sector estates) planted in their fields were incapable of performing like those planted in corporate estates. The demonstration plots proved that productivity levels of even their tea bushes under their conditions could be improved substantially.

Field demonstration and development and commercial release of the star-clone, B/6/61 (UPASI-9/ 'Athrey') (Anon.,1974) by the then Director of UPASI Tea Scientific Department, Dr. K.S. Venkataramani, was a significant and inspiring contributory factor for new planting and replanting in South India. He also proved to small growers in particular that vegetatively propagated, select clonal plants, though without tap root system, had longer field life and greater drought hardiness compared to seedling plants and thus, helped to remove the bias against clonal plants. The performance of the clone B/6/61, plants of which were distributed almost at no cost and with great persuasion to plant, proved to be the turning point towards an increase of small grower area. In fact, it proved to be the most important factor responsible for the increase of small grower area under tea from just 8,000 ha in 1970's to 33,000 ha in the late 1990's and from a mere 20,000 to 58,000 growers.

Role of UPASI - ICAR KVK

This explosion of tea area coincided with the setting up of UPASI - ICAR KVK Center in the year 1983, which imparted training on improved technologies of tea cultivation, helping thousands of small growers to exceed the productivity levels of even corporate sector estates. Simultaneously, the Government of Tamilnadu had posted one Agri-Extension Officer in each of the INDCO Factories. Later, these Agri-Extension Officers were trained by UPASI - KVK Center. Alongside, INDCO factories also launched an input distribution system. All these measures although functioned effectively only for a short time, gave the much needed initial impetus for the expansion and growth of small grower tea area and production in the Nilgiris from a mere ten percent to 75 percent of district's total tea production. UPASI - KVK small grower development strategies effectively catalysed the expansion of tea area and resultant production explosion.

UPASI - KVK's main extension activities covered the following areas (Anon., 1984).

- Tea cultivation techniques in local language through All India Radio coverage.
- Village level Farm Science Clubs.
- Village adoption and establishing demo plots
- Field visits and field activity demos
- Establishment of clonal nurseries at farmers' holdings
- Supply of clonal plants at subsidized cost
- Bi-monthly news letter, Hand book on tea culture in vernacular
- Awards to best cultivated holdings
- Conferences and meetings

Large growers / Corporate sector estates

Field visits and personal contacts have been the principle modes through which much of the transfer of technology is affected by UPASI Tea Scientific Department to their member tea estates in the corporate sector (UPASI Tea Scientific Department., 1976).

Like small holders in the Nilgiris, corporate sector estates in South India also increased the productivity levels of their widely spaced aged

seedling tea from 2000 to 3400 kg made tea per ha during a span of 30 years from 1970's to 2000; some estates have even crossed 4000 kg per ha. This phenomenal increase, despite tea crisis and less hospitable weather conditions is largely due to research improvements effected in Tea Agronomy which were translated effectively into crop by the sustained efforts of extension network and ever-innovating planters. Core extension activities of periodical field visits, personal contacts and one to one interaction have been responsible for transfer of improved crop production technologies to large growers for the success achieved in the production front. In addition the following information flow channels contributed significantly in reaching the crop production technologies to planters (Venkataram, 1979c).

- Area and Joint Area Scientific Conferences
- Annual Conferences
- District level Group discussions
- Annual reports and News letters from regions as well as from Research Institute
- Subject specific Technical Bulletins

NEED FOR FASTER AND COST EFFECTIVE EXTENSION STRATEGIES

Today's planter wants his information requirements met at a faster pace than what his predecessors were used to. He knows that "information" is wealth and timing and delivery of information is as important as information itself, and that delayed information is depreciated information. Extension literature in the print form has some limitations like cost, speed of reach and time lag in updating of information. Internet offers much scope and flexibility as a channel for technology transfer (Muralidharan, 2006).

With fast growing communication facilities and better understanding on the part of planter himself, the Research Institutes must develop and deliver different technological modules to all sections of users in a manner that the user could easily access at least cost.

Crop improvement strategies, although basically the same, need to be tailored in their mode and delivery to the consumers depending upon tea producers' class, their attitude and ambience. Although villages are individual units but many growers stay outside the core area. Therefore, a direct-to-home delivery information system would become increasingly important. Presently, many TV channels are broadcasting information on farm operations mostly related to field crops. Specific days and timings could be set apart for plantation crops. As an attempt in making home delivery of information, the Tea Research Institutes should launch interactive portals incorporating all available information with supportive visuals on cultivation of tea with timely updating. Dissemination of location specific technologies with visuals will have telling effect on the quality of information provided.

The whole tea literature cannot be put into cyber space and explained adequately, as in the case of subjects like pruning heights and interaction of Jat of tea with pruning height. Thus loading information into cyber space in itself is not the end of extension activity; it has to be dovetailed with field visits for field demonstrations and one to one interaction for effective transfer of technologies.

Editor's note: The declining prices of South Indian teas are attributed in certain quarters to the past emphasis on crop at the expense of quality product, as described in the foregoing text in respect of small growers who received payment from INDCOSERVE factories on the basis of volume supplied and not the intrinsic quality of the leaf. In the depressed international tea pricing scenario, which is likely to continue unabated (Jain et.al., 2007) there is a

need to adjust the UPASI advisory policies to shift emphasis from crop volume to tea quality that may be a major step for making the product saleable at higher prices and perhaps would see the small growers emerge from the present economic crisis. The matter needs to be debated in informed quarters. If the diagnosis does throw up quality question to the fore, our Himachal experience shows that economic incentives are available to promote tea quality. In that case, a re-adjustment in the extension strategy will be called for, which the UPASI TRI is capable of, as its track record shows.

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