

Chapter 4 Development of Tea: Enhancing productivity

Objective 2: Whether developmental activities undertaken by Tea Board had an impact on enhancing productivity of tea in India.

Surplus tea for Indian markets

4.1 The Tea Act, 1953 defines the following responsibilities of Tea Board in the field of development of tea:

- Regulating the production and extent of cultivation of tea;
- Improving the quality of tea;
- Promoting co-operative efforts among growers and manufacturers of tea;
- Securing better working conditions and provision/improvement of amenities and incentives for workers.

The position of production, import and export of tea and its domestic consumption in India during the last 13 years is given in the table below:

| Year | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------|------|------|------|------|-------|------|------|------|------|------|-------------|-------------|------------|
| Production | 810 | 874 | 826 | 847 | 854 | 838 | 878 | 893 | 946 | 982 | 986 | 981 (E) | 979 (E) | 966 (E) |
| Import | 3 | 9 | 10 | 13 | 17 | 25 | 10 | 31 | 17 | 24 | 16 | 20 (E) | 25 (E) | 20 (E) |
| Total availability | 813 | 883 | 836 | 860 | 871 | 863 | 888 | 924 | 963 | 1006 | 1002 | 1001 (E) | 1004 (E) | 986 (E) |
| Exports | 203 | 210 | 192 | 207 | 183 | 201 | 174 | 198 | 199 | 219 | 179 | 203 (E) | 198 | 193 (E) |
| Domestic consumption | 597 | 615 | 633 | 653 | 673 | 693 | 714 | 735 | 757 | 771 | 786 | 802 | 819 | 837 |
| Total absorption | 800 | 825 | 825 | 860 | 856 | 894 | 888 | 933 | 956 | 990 | 965 | 1005 | 1017 | 1030 |
| Surplus(+)/ Deficit(-) of availability vis-à-vis absorption | 13 | 58 | 11 | 0 | 15 | (-)31 | 0 | (-)9 | 7 | 16 | 37 | (-)4 | (-)13 | (-)44 |
| Cumulative overall surplus | 13 | 71 | 82 | 82 | 97 | 66 | 66 | 57 | 64 | 80 | 117 | 113 | 100 | 56 |

E – Estimated

In million kgs (mkg)

During the period from 1997 (start of the Ninth Five Year Plan) to 2010 (Third Year of the Eleventh Five Year Plan), the overall production of tea in India has increased by 19 per cent. The domestic consumption of tea has also been increasing steadily. However, the export of tea has been stagnant during this period and has shown declining trend after 2008. This has led to an overall surplus of 56 mkg tea in the Indian market as of 2010.

Tea Board stated that the reason for surplus tea was excess supply over demand. It further stated that tea being perishable item and the demand – supply being estimated for certain period, this surplus or excess supply over

demand remained in the trade chain and utilised by the absorption at the lower price.

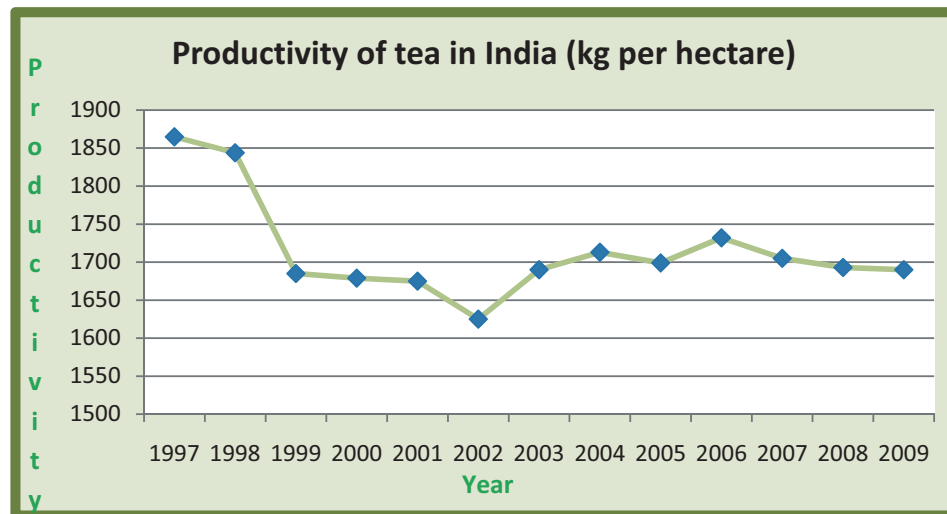
4.2 The stagnated exports despite surplus situation is also linked with the fact that cost of production of tea in India is relatively high, the quality is poor and productivity is low due to ageing plantations. Therefore, the tea industry needs to take concrete steps towards improvement in quality of tea as well as cost reduction which is, *inter alia*, related to the increase in productivity of tea.

As per Tea Board, the excess supply situation is likely to persist during major part of Eleventh Five Year Plan also and thus, it would be necessary for them to curtail unbridled expansion of tea area and to focus on enhancing the productivity in order to enhance returns, reducing the units costs through productivity gains, building capacity of small growers, streamlining marketing channels and improving infrastructure in the Eleventh Five Year Plan.

With the above background, we studied the activities undertaken by the Board towards enhancing productivity, improving quality, reducing cost of production and extending support to small growers with reference to individual cases under various schemes. These are discussed below and in Chapters 5 and 6 respectively.

Productivity of tea in India

4.3 Productivity is defined as yield of tea grown per hectare. The productivity of tea in India has declined over the years³¹ as can be seen from the graph below:



The above table shows that there is stagnation in production during last four years despite increase in area of tea plantation.

³¹ Figures after 2009 not available with Tea Board

Reduction in productivity of tea in India

4.4 We observed that while productivity in respect of all major tea-producing countries has been increasing over the years, productivity in India has been reducing as can be seen from the table below:

| Name of the country | 1994 | 1995 | 1996 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------|------|------|------|------|------|------|------|------|------|------|
| China | 519 | 528 | 538 | 636 | 662 | 692 | 718 | 707 | 731 | 735 |
| India | 1768 | 1770 | 1809 | 1690 | 1713 | 1703 | 1732 | 1705 | 1693 | 1690 |
| Indonesia | 998 | 1010 | 1078 | 1182 | 1095 | 1127 | 1083 | 1026 | 1077 | 1071 |
| Japan | 1584 | 1579 | 1683 | 1868 | 2059 | 2084 | 2087 | 1943 | 1958 | 1964 |
| Mauritius | 1681 | 1822 | 2251 | 2109 | 2199 | 2070 | 2278 | 2205 | 2376 | 2088 |
| Sri Lanka | 1300 | 1304 | 1349 | 1611 | 1633 | 1683 | 1648 | 1615 | 1692 | 1540 |

Age of tea bushes in India

4.5 One of the primary reasons for low productivity and substandard quality of tea produced in the country was ageing plantations. The area under tea plantation for the past ten years and quantum of aged tea bushes beyond 40 years which were not commercially productive can be seen from the following table.

| As on | Total area under tea (ha) | Area containing tea bushes aged over 40 years (ha) | | | | Replanting/ Replacement planting (ha) | | Total Replanting/ Replacement planting (ha) | |
|----------|---------------------------|--|-------|-----------|----------|---------------------------------------|----|---|------|
| | | NI | SI | All India | Increase | NI | SI | Total | % |
| 31.12.97 | 434294 | 128121 | 54484 | 182605 | | 2364 | 64 | 2428 | 1.33 |
| 31.12.98 | 474027 | 128582 | 54647 | 183229 | 624 | 2587 | 18 | 2605 | 1.42 |
| 31.12.99 | 490200 | 129968 | 55271 | 185239 | 2010 | 2141 | 92 | 2233 | 1.21 |
| 31.12.00 | 504366 | 129320 | 53777 | 183097 | -2142 | 1965 | 28 | 1993 | 1.09 |
| 31.12.01 | 509806 | 136068 | 54034 | 190102 | 7005 | 1577 | 15 | 1592 | 0.84 |
| 31.12.02 | 515832 | 140642 | 54168 | 194810 | 4708 | 1901 | 19 | 1920 | 0.99 |
| 31.12.03 | 519598 | 141422 | 54243 | 195665 | 855 | 2101 | 18 | 2119 | 1.08 |
| 31.12.04 | 521403 | 141474 | 54471 | 195945 | 280 | 733 | 0 | 733 | 0.37 |
| 31.12.05 | 556807 | 147982 | 54958 | 202940 | 6995 | 1451 | 0 | 1451 | 0.71 |
| 31.12.06 | 567020 | 180099 | 58230 | 238329 | 35389 | 2009 | 0 | 2009 | 0.84 |
| 31.12.07 | 578460 | 182050 | 58480 | 240530 | 2201 | NA | NA | 1820 | 0.75 |
| 31.12.08 | 579353 (E) | 188250 | 59360 | 247610 | 7080 | NA | NA | NA | -- |
| | | | | | 65005 | | | | |

Source: Tea Statistics, NI-North India, SI-South India, NA – not available with Tea Board, E-Estimated

³² Figures after 2009 not available with Tea Board

³³ Figures after 2008 not available with Tea Board

Area replanted abysmally low

4.6 As the above statistics show, in 1997 out of the total area of 4,34,294 hectares under tea cultivation, 1,82,605 hectares (42 *per cent*) of tea bushes were not economically viable as they were more than 40 years old. Further, as of 1 January 2009, the area under unproductive tea bushes has increased steadily from 1,82,605 to 2,47,610 hectares indicating increase of 36 *per cent*. As a result, the total area under commercially unproductive bushes increased from 42 *per cent* in 1997 to 57 *per cent* in 2009³⁴. These tea bushes continued to remain commercially unproductive and required replantation/ replacement planting for maintaining the productivity.



Replanted Area

We observed that the percentage of replanting/replacement planting in the country as a whole was abysmally low and less than two *per cent*. The status of replanting/replacement planting in South India was negligible. At this rate, clearance of the backlog for replanting/replacement planting of 190102 ha as on 31 December 2001 would take another 114 years³⁵ and the backlog as on 31 December 2008 would take 149 years³⁶ to clear. This would have an adverse impact on the productivity of tea plantations in the country. This indicates that increasing age of tea bushes with tardy rate of replanting would pose a high risk to tea industry in future.

The Ministry agreed in October 2009 that the performance of the industry since inception of the scheme to subsidise

³⁴ Based on total area under tea plantation as on 31st December 1997.

³⁵ Average replanting/replacement planting done between 2001 to 2007 was 1663 ha. Thus to cover a backlog of 190102 ha, as on 31 December 2001, it would take another 114 years (190102/1663).

³⁶ Average replanting/replacement planting done between 2001 to 2007 was 1663 ha. Thus to cover a backlog of 247610 ha, as on 31 December 2008, it would take another 149 years (247610/1663).

**Investment
required in
replantation**

replanting/replacement planting has been tardy.

4.7 Replantation is a capital-intensive activity in tea cultivation as, apart from the capital investment, it takes at least five years before the new tea bush gives yield for tea production. The total cost for Tea-Grower for replantation comprises of capital investment considered by Tea Board for subsidy support and crop loss of more than five years during gestation period.

We observed that capital investment for replantation of 2,47,610 hectares of tea bushes aged more than 40 years (as on 1 January 2009) worked out to ₹6091.21 crore³⁷ (based on average unit cost) and cost of subsidy support at the rate of 25 *per cent* was ₹1522.80 crore for the Tea Board. We also observed that the unit cost was only an indicator of minimum amount required for replanting as it did not take into consideration the cost to be borne by the grower on account of temporary closure of business as a result of replantation during the gestation period. Against this huge requirement, Tea Board had spend yearly only ₹21.06 crore during Tenth Five Year Plan and yearly ₹18.87 crore in first four years (March 2011) of Eleventh Five Year Plan on all activities including replantation.

Therefore, intervention of Tea Board in replantation to bring tea bushes of more than 40 years to acceptable level (from 57 *per cent* as on 1 January 2009) to increase productivity was grossly inadequate as brought out in succeeding paragraph also.

We further observed that Tea Board did not realistically estimate requirement of funds for replantation and chalk out a plan for increasing the coverage of the activity. They also failed to mobilise funds from other agencies as suggested by the Ministry. Lack of sufficient funds was one of the main reasons for insufficient replantation.

The Ministry stated in October 2009 that the funds requirement for replanting/rejuvenating the old aged bushes had been worked out in consultation with National Bank for Agriculture and Rural Development (NABARD) which was responsible for fixing the unit cost of planting in various tea growing regions in the country. However, the fact remains that though the unit cost was worked out in consultation with NABARD, total requirement of funds as well as provision for adequate intervention was not made.

³⁷ 247610 ha x ₹2.46 lakhs [average of units cost of replantation per ha applicable in plains (₹2.10lakh), hills (₹2.50 lakh) and Darjeeling hills (₹2.77lakh)].

Tea Plantation Development Scheme (TPDS)

4.8 Tea Plantation Development Scheme was introduced for the Tenth Plan Period in order to achieve the objectives of replanting/replacement planting, rejuvenation pruning, creation of irrigation facilities, organising self-help groups amongst small growers for easy reach of extension services and ensuring fair price for the green leaf. Tea Board provided financial incentives in the form of subsidy for the following activities to be undertaken by the growers under the TPD scheme:

Subsidy under Tea Plantation Development Scheme

All growers (regardless of the size of their holdings)

- For replanting/replacement planting (Para 4.9)
- For rejuvenation pruning and consolidation by infilling of vacancies (Para 4.10)
- For creation of irrigation facilities (Para 4.11)

Small growers (holding up to 10.12 hectares)

- For new planting in the North Eastern states and Uttarakhand (Para 4.12)
- For setting up of pilot tea-producers' societies (Self-Help Groups) (Para 4.13)
- For usage of mechanical aids (Pruning Machines) for field operations. (Para 4.14)

A sum of ₹105.00 crore was received from Government of India during the Tenth Five Year Plan (2002-07) and Tea Board disbursed ₹105.28 crore as subsidy under TPDS. The subsidy was to be disbursed at the rate of 25 *per cent* of the approved unit cost per hectare in three installments for replanting by big growers and in two installments for replanting by small growers. In case of replacement planting, subsidy was to be disbursed in three/four installments for plains/hills.

In the Eleventh Five Year Plan, a Special Purpose Tea Fund (SPTF) has been set up. Under this, the applicant is allowed subsidy of 25 *per cent* by Tea Board along with 50 *per cent* loan from a commercial bank. For this, a line of credit of ₹150 crore has been secured by the Government from four commercial banks against security. The applicant may opt for either loan and subsidy or subsidy alone. A total sum of ₹35.50 crore was received from Government of India during 2007-08 to 2008-09 and Tea Board has disbursed ₹38.07 crore so far.

Shortfall in sanction of activities

4.8.1 Some of the general audit findings relating to TPDS and SPTF are given below:

The status of activity-wise sanctions vis-à-vis targets as set by Tea Board under the Tenth Five Year Plan was as follows:

| Activity | Target | Sanctioned | Percentage shortfall |
|--------------|---------|------------|----------------------|
| New Planting | 2700 ha | 8444 ha | - |

| | | | |
|---|--------------|----------|-----|
| Replanting | 5000 ha | 15429 ha | - |
| Rejuvenation Pruning and infilling | 15000 ha | 10903 ha | 27 |
| Intensive Pruning in small holdings | 25000 ha | 0 ha | 100 |
| Creation of Irrigation facilities | 9000 ha | 169 ha | 98 |
| Setting up pilot tea producer's societies | 100 (in no.) | 37 | 63 |

We observed that under the Tenth Five Year Plan:

- Tea Board set a target of a mere 5000 hectares for replanting/replacement planting under the Tenth Five Year Plan, which was just 2.63 *per cent* of the 190102 hectares of commercially unproductive tea plantations at the beginning of the Tenth Five Year Plan.
- There were shortfalls even in sanctions as against the targets in four activities viz., rejuvenation pruning, intensive pruning in small holdings, creation of irrigation facilities and setting up of tea producers' societies.
- No funds could be disbursed for intensive pruning in small holdings, shortfall under the creation of irrigation facilities and setting up of pilot tea producer's societies was 98 and 63 *per cent* respectively.

We further observed that in the first four years (2007-08 and 2010-11) of the Eleventh Five Year Plan:

- There was 66 *per cent* shortfall in sanctions against a target of 54,524 ha area for replanting in the first four years (March 2011) as only 18,642 ha area was sanctioned for replanting. The area of 2,04,462 ha targeted to be covered under replanting/replacement planting in 15 years would take 43 years³⁸ to achieve at this rate of sanction. For rejuvenation pruning, Tea Board/Ministry fixed a target of 16,890 ha (@ 3378 ha per annum) during the Eleventh Five Year Plan i.e., 13,512 ha in the first four years of the Plan. Against this, only 5702 ha was actually sanctioned registering a shortfall of 58 *per cent*.

We observed that actual replantation achieved was substantially lower than the sanctioned as actual replantation was only 10,052 ha in six calendar years (2002 to 2007) against the sanction of 15,429 ha in Tenth Five Year Plan. Tea Board did not furnish actual achievement against sanctions for 2008-10.

The Ministry attributed shortage of manpower as one of the reasons for shortfalls in achievement of targets. It also agreed in October 2009 that the targets were set at the lower level due to reluctance on the part of

³⁸ $(204462)/(18642/4) = 43$ years.

Inadequate documentation

the industry in taking up replanting in larger areas as the activity demanded huge investment cost, immediate crop loss due to uprooting of old tea and almost nil return during the gestation period.

As such, Tea Board needs to increase funds allocation to the replanting activity to cover more area so that more and more tea planters come forward to avail the benefits of the scheme.

4.8.2 We observed that Tea Board did not maintain a list of parties to whom subsidies were paid and amounts disbursed there against under this scheme. As such, we could not ascertain as to how many gardens had availed subsidy out of the total 159190. We prepared a list of all payments of subsidy under replanting/replacement planting from the ledger book containing 2,565 payment cases amounting to ₹60.51 crore during 2002-07. Similarly, we also prepared list of all payments of subsidy under rejuvenation pruning containing 1320 payment cases amounting to ₹2.40 crore during 2002-07. These lists were used to select samples for review in audit (Refer **Annexure 1**).

The Ministry stated that every application was processed separately for each activity and payment made was reflected in cash book and the ledger and hence, no separate list of names of parties to whom the subsidy was paid had been maintained. The Ministry, however, stated that henceforth, a separate list would be maintained with all the particulars of disbursement made and the activity supported.

Delay in identification of area for replantation

4.8.3 Using the capabilities of multi-sensor, satellite data can be acquired in different wavelength bands and different seasons for tea crops. Health of tea crops can be analysed based on the Normalised Difference Vegetation Index (NDVI) ³⁹ techniques of satellite data processing. NDVI, with ground truth data, help in identifying the healthy crops as well as poor yielding crops and as such, age of the tea gardens can be worked out using satellite derived information and the areas for replantation can be located.

Tea Board undertook a project in October 2008 with Indian Space Research Organisation (ISRO) at a cost of ₹5 crore, which intended to use NDVI techniques of satellite data processing to map tea growing areas, analyse site suitability for new area, to identify degraded tea areas for uprooting and replantation, to identify small growers and to generate database for facilitating Tea Board to provide technical and marketing support etc.

We observed that though Tea Board was to provide all relevant maps and data pertaining to tea gardens (processing, production, labour management and other relevant data) and soil map/in-situ observations with respect to Tea gardens, the same was not provided to ISRO as of

³⁹ The Normalised Difference Vegetation Index (NDVI) is a simple numerical indicator that can be used to analyse remote sensing measurements, typically but not necessarily from a space platform, and assess whether the target being observed contains live green vegetation or not.

**Replanting/
Replacement
Planting**

January 2010. As such, the work could not be commenced effectively.

Audit findings specific to the activities covered under the above schemes are discussed below.

4.9 The salient features of the scheme for Replanting/Replacement Planting were:

Terms and conditions for subsidising replanting/ replacement planting

- During pre-approval inspections, Tea Board was to evaluate the impact of the past activities on production, productivity, quality improvement etc., and verify past performance of the applicant, for which the garden was to provide necessary documents.
- A monitoring mechanism was put in place to ensure that the requirements of the earlier step were fulfilled before approving the next installment.
- The field activities undertaken prior to pre-approval inspection were not eligible for financial assistance. After the inspection, a no objection certificate (NOC) was to be issued by the field office to the applicant for proceeding with the field work. The condition was relaxed if NOC was unduly delayed or field activity had been undertaken after 75 days from the date of submission of application to Tea Board.
- Similarly, three further inspections were to be carried out.
- The applicants were eligible for subsidy only if their Provident Fund (PF) dues were less than ₹10000. For dues more than ₹10000, they were to submit a Court decree or written consent from the PF authorities for allowing the payment of arrears of PF dues in installments. Tea Board was required to verify the correctness of PF dues from the challans of payment of current PF subscription.
- Specific conditions in respect of rehabilitation⁴⁰ were to be adhered to by the applicants.

Of 2565 payment cases of Replanting/Replacement Planting during the Tenth Five Year Plan, we selected a sample of 701 cases (27 per cent) covering 309 gardens and 430 sections. Of ₹38.07 crore disbursed to 156 producers during 2007-09, we selected the records of 18 producers (12 per cent) who received subsidy of ₹5.49 crore relating to 57 gardens. In this regard, we observed the following:-

**Impact of past
activities not
evaluated**

4.9.1 Of the 309 gardens test checked, in 192 gardens, the Tea Board had also paid the subsidy earlier, but did not evaluate the impact of the past activities on production, productivity and quality improvement etc.,

⁴⁰ After a prolonged period of monoculture under tea, the physio-chemical as well as biological properties of the soil deteriorate considerably. Rehabilitation adds organic matter and nutrients to the soil, helps in improving soil structure and thereby better aeration and moisture storage, draws nutrients from deeper soil layers and added to the top soil through the lopping, increases the activity of micro organisms and conserves the top soil and breaks the food chain of the primary root diseases.

| | |
|--|---|
| | <p>while conducting pre-approval inspection in these cases. In the remaining gardens, either the subsidy was granted for the first time or the fact was not recorded in the application forms. By allowing subsidies without assessing the impact of past activities, the effectiveness of the scheme was compromised. The Ministry stated that the impact of replanting was assessed by AF Ferguson and the productivity gain ranged between 42 to 74 <i>per cent</i> when compared with yield prior to replanting. We observed that AF Ferguson evaluated the impact only for an area of 299.98 ha, which was a mere 1.94 <i>per cent</i> of the total area of 15,429.44 ha covered under replanting/replacement planting during 2002 to 2007. Furthermore, the scheme conditions required evaluation of impact in all cases during the pre-approval inspections.</p> |
| <p>Subsidy granted for sections with productivity higher than the average</p> | <p>4.9.2 In the first two years of the Eleventh Five Year Plan, out of 57 gardens test checked, in 20 gardens, Tea Board granted subsidy for replantation to sections where the sectional yield was higher (up to 3,170 kg per ha) than the average yield of tea gardens in India. As such, despite such a large area of old tea bushes yet to be replanted, Tea Board gave priority to tea bushes with high productivity.</p> |
| <p>Delay in conducting inspections</p> | <p>4.9.3 There were delays in conducting various inspections by Tea Board. In 76 <i>per cent</i> cases, there were delays ranging from 31 to 1161 days in conducting pre-approval inspections. Delays of 32 days to seven years were noticed in conducting first, second and third inspections in 92 <i>per cent</i>, 93 <i>per cent</i> and 69 <i>per cent</i> of the cases respectively. Further, two or more inspections were done on the same day in many cases. Delays in conducting inspections defeated the very purpose of putting in place a detailed and purposeful monitoring mechanism. The Ministry stated that the major cause for delay in carrying out field inspections was the limited manpower at the disposal of the Board. However, the fact remained that as of January 2010, there were no serious shortages (Sanctioned Strength: 56, Men-in-Position: 51) of Inspecting officers in the Development wing. Thus, delay in inspections had adversely affected the achievement of actual replantation which impacted productivity.</p> |
| <p>Release of subsidy without adhering to scheme conditions</p> | <p>4.9.4 (a) In respect of 116 out of 309 tea gardens, the Board paid subsidy on the basis of statement of PF dues submitted by the tea garden owners without verifying the same through the challans. In 11 cases, no clearance certificate was produced by the applicant and in six cases, no declaration regarding outstanding dues of PF were submitted. Tea Board disbursed subsidy amounting to ₹4.82 lakh to Simulbarie Tea Estate despite outstanding dues of ₹11.99 lakh towards the Employer's share of Provident Fund and no court decree or written consent from the PF authorities was available. The Ministry stated that specific cases pointed out by the Audit would be revisited and if the PF liabilities continued beyond the admissible level, the subsidy paid would be recalled. It further stated that serious efforts would be made to avoid such lapses</p> |

Grant of subsidy despite deficiencies in adherence to conditions for rehabilitation

hence forth.

4.9.4 (b) Tea Board released subsidy of ₹ 52 lakh to 12 gardens which had started conducting field activities before the pre-approval inspection, thereby, not ensuring the status of physical suitability of soil through soil analysis report. Tea Board also made irregular payment of subsidy of ₹ 48 lakh to eight gardens, where field activities were undertaken prior to issue of NOC and in these cases, the criteria of 75 days was not adhered to. The Ministry stated in October 2009 that in few cases where soil has been analysed after commencement of planting, subject to soil suitability analysis report and based on the satisfactory growth of the tea plants, the lapse on the part of the garden is condoned. We, however, observed that condonation of non-adherence to such scheme conditions, were not kept on record in individual cases.

4.9.5 The scheme prescribed minimum rehabilitation period of 18 months for plains and 12 months for hills before replanting and ensuring physical and chemical suitability of soil before replanting. We reviewed cases of 430 sections and observed that:

- ✓ In 14 *per cent* sections, no rehabilitation was done despite the fact that there was no certificate/recommendation from Tea Research Association/United Planters Association of South India (TRA/UPASI) that the same was not required.
- ✓ Of 318 sections where rehabilitation was undertaken, in 32 *per cent* (100 sections), dates of completion of rehabilitation were not recorded. As such, adherence to the prescribed period of rehabilitation could not be verified in audit.
- ✓ In 29 sections, the Tea Gardens did not adhere to the minimum time period of rehabilitation before replanting.
- ✓ In 12 *per cent* sections, the soil analysis test reports were not submitted by the Tea Gardens.
- ✓ In 114 sections, though recommendations were made by soil-testing laboratories to make the soil suitable for plantations, the Board released the subsidy without ascertaining the action taken by these Tea Estates/Gardens in this regard.

Therefore, Tea Board released payments for subsidy without ensuring adherence to the laid down scheme conditions. The Ministry stated in October 2009 that though 12-18 months rehabilitation period had been prescribed, it was not sacrosanct to adhere to this period and replanting was permitted on the basis of merits of soil analytical report. Though we agree that the same could be decided on the basis of merits of soil analytical report, Tea Board should ensure adherence to the laid down terms and conditions by the applicants where need for rehabilitation has been felt and the same has been commenced.

Thus, monitoring was lax and weak as prescribed inspections were not carried out on time or not carried out at all. While disbursing subsidy, Tea Board could not adequately ensure that the growers were adhering to the various laid down conditions. The Board also allowed further

Rejuvenation pruning

subsidies without assessing the impact of earlier subsidies to the same growers. Thus, the focus of Tea Board was on the disbursement of subsidy rather than on ensuring completion of actual replantation which could enhance the productivity.

4.10 Rejuvenation pruning is one of the most important operations, next to planting, which directly determines the productivity of tea bushes. It has to be carried out periodically in spite of huge crop losses it results in. Tea Board subsidises the activity of rejuvenation pruning under TPDS. The salient features of the scheme were as under.

Terms and conditions for subsidising rejuvenation pruning

- Tea Board was to evaluate impact of rejuvenation on productivity (long term performance).
- To be effective, rejuvenation pruning should be carried out only on potentially healthy bushes.
- The prescribed period of undertaking the activity of pruning was from 1st April to 30th September. The application specifies that if the rejuvenation pruning is not done in the prescribed period, the application is liable to be rejected.
- Specific time schedule was laid down for inspections by Tea Board officials.
- All the beneficiaries should be registered with Tea Board.

Of 1320 payment cases, we selected a sample of 414 cases (31 *per cent*) covering 187 gardens and 220 sections. In this regard we observed that :

Failure to evaluate long-term impact of rejuvenation

4.10.1 Tea Board did not evaluate the impact of rejuvenation on productivity in any of the cases test checked. The Ministry stated in October 2009 that as per the evaluation report of AF Ferguson, the fields rejuvenated during the Tenth Plan period have registered productivity increase of about 47 *per cent* as compared to the pre-pruning average yield. However, we observed that total area selected as sample by AF Ferguson was only 124.77 ha (1.14 *per cent* of the total area under rejuvenation pruning).



Pruned tea bush

Prescribed period for rejuvenation not adhered to

4.10.2 Though Tea Board prescribed undertaking the activity of pruning during the period from 1st April to 30th September, rejuvenation pruning was conducted beyond the above period in 167 sections (76 per cent) out of 220 sections.

Delay in conducting inspections

4.10.3 Though the scheme stipulated specific time schedule for each inspection, there were delays of one to five years in conducting first inspection in 50 per cent (110 out of 220 sections) sections test checked in audit. The Coonoor office conducted pre-approval and first inspection on the same date in 40 per cent cases. It stated that the major cause for delay in carrying out field inspections was the limited manpower at the disposal of the Board.

Subsidy released to non-registered growers

4.10.4 In Coonoor office, all the beneficiaries examined in audit were small growers, who were not registered with the Tea Board. As such, the Board paid a subsidy of ₹12 lakh to the unregistered growers who were not eligible to receive subsidy.

Thus, Tea Board did not assess the impact of rejuvenation pruning on productivity. Delayed inspections and non-adherence to prescribed period (April to September) for carrying out rejuvenation (in 76 per cent of cases) added to the ineffective implementation of the scheme. The deficiencies in implementation of rejuvenation pruning need to be addressed to ensure enhanced productivity. The Ministry stated that the deficiencies highlighted and the recommendations made by Audit have been taken note of for better administration of the scheme.

Creation of

4.11 The salient features of the scheme for creation of irrigation

irrigation facilities

facilities were:

Terms and conditions for subsidising creation of irrigation facilities

- Tea Board was to subsidise (25 *per cent* of the total cost including cost of creation of Irrigation sources or @ ₹10,000 per hectare whichever was less in one installment) procurement of various items like sprinkler equipment, drip irrigation system, pipelines, motors, pump sets and creation of irrigation source such as check dams, tube wells etc.
- Tea Board was to conduct pre-approval inspection and issue a “No Objection Certificate” for installation of machinery procured.
- If the No Objection Certificate (NOC) was not issued within 75 days from date of submission of application, the applicant could go ahead with the activity.
- A post-installation inspection was also to be done.

Deficiencies in disbursement of subsidy

4.11.1 Tea Board fixed an overall target of 9000 ha for coverage under the scheme during the Tenth Plan Period. We observed a shortfall of 98 *per cent* against this target. 25 beneficiaries were disbursed subsidy of ₹1.09 crore during 2002-07. In this regard, we examined 20 cases and observed that:

(a) Tea Board did not conduct pre-approval inspections in seven cases due to lack of manpower. In these cases, post installation inspections were conducted after a time gap of 237 to 736 days.

(b) In eight (40 *per cent*) cases, the Tea Board disbursed subsidies although applicants were not eligible for grant of subsidy due to reasons like installation of machinery before submitting application/before issue of NOC, default in payment of PF, loan etc.

(c) Though Ministry assured during 2009 that a list showing the names of the beneficiaries would be prepared, no such list was prepared as of March 2010.

Due to the substantial shortfall of 98 *per cent* in creation of irrigation facilities, this scheme could not have any positive impact on productivity. Tea Board however, intimated in May 2011 that they have achieved the target during Eleventh Five Year Plan.

New Planting in North Eastern

4.12 The salient features of the scheme for New Planting in North Eastern States and Uttarakhand were:

States and
UttarakhandDeficiencies in
execution of the
scheme

Terms and conditions for subsidising new planting

- Subsidy was allowed for new plantations (up to 10.12 ha) in North Eastern states and Uttarakhand as a part of TPDS.
- Applicant should have title over the land proposed to be planted and should be registered with Tea Board.
- The soil should be suitable for tea cultivation.
- Only approved planting materials to be used for planting.
- All culture operations and soil conservation measures should be undertaken.

4.12.1 Guwahati office disbursed ₹22.78 crore during 2002-07 to 1563 beneficiaries in North Eastern states. In this regard, we examined 10 per cent cases (163 beneficiaries containing 163 sections) and observed that:

(a) In 90 per cent (147 out of 163) sections, Tea Board disbursed subsidy even though the applicants had completed planting before submission of applications under the scheme.

- In 40 sections (27 per cent), planting was done prior to April 2002 and in some cases as early as 1998. These cannot be considered as cases of 'new planting'.
- In balance 107 sections where planting was completed after April 2002, but before submission of application, Tea Board did not conduct pre-approval inspections and did not assess physical suitability of soil.

(b) Tea Board delayed the first inspection from 33 to 1526 days. The delay was more than one year in 69 of these cases.

(c) Though Ministry assured during 2009 that a list showing the names of the beneficiaries would be prepared, no such list was prepared as of March 2010.

The Ministry did not furnish specific reply in this regard. As Tea Board has kept a target of 7450 ha with an outlay of ₹36 crore in the Eleventh Five Year Plan for new planting in North Eastern States and Uttarakhand, these deficiencies need to be addressed.

Thus, Tea Board disbursed the subsidy in the cases where the plantation was completed even before the submission of the applications and, therefore, the adequacy of pre-requisite conditions like soil suitability, adherence to the proper culture operation and soil conservation measures were not assessed.

4.13 The salient features of the scheme for setting up of pilot tea-producers' societies were:

Terms and conditions for subsidising self-help groups

- SHGs were to be provided subsidy on their collective efforts towards tea development. Each society was to have at least 50

Setting up of pilot
tea producers
societies (Self help)

groups - SHGs)

small grower members and registered as per the provisions of the Societies Act.

- The specific activities included extension – technology and information dissemination, leaf collection, storage and transportation and procurement and supply of inputs such as fertilisers, plant protection chemicals, sprayers, pruning machines, irrigation equipment etc. to the members of the society.

Shortcoming in implementation of the scheme

4.13.1 We observed that there was a shortfall of 63 *per cent* in achieving the target of setting up 100 SHGs during the period 2002-07. Tea Board disbursed ₹2.27 crore to 37 SHGs. We examined case files of 21 SHGs (57 *per cent*) and observed that:

- No SHG was registered as per the provisions of Societies Act.
- No documentary evidence was found in support of activities of these SHGs such as technology and information dissemination, leaf collection, storage and transportation etc., to the members of the society.

The Ministry stated that as there was considerable difficulty in bringing together large number of growers, it was decided to limit the minimum size of the membership to 20 per SHG and to recognise such SHG provided the group had an affiliation to the All Assam Small Tea Growers Association which was a registered apex body for the small tea growers in Assam.

Tea Board may ensure adherence to laid down terms and conditions in the Eleventh Five Year Plan as they have a target of setting up 212 SHGs to achieve and disburse subsidy of ₹6.80 crore.

Tea Board stated in May 2011 that they have achieved the target for the first four years of Eleventh Five Year Plan.

Non-usage of mechanical aids (Pruning Machines) for field operations

4.14 We further observed that though the Board targeted 25,000 hectare tea cultivated land for use of Pruning Machines for field operations, no field operation was conducted using such machines and the activity registered 100 *per cent* shortfall during 2002-11. Though the above practice is prevailing in major tea producing countries like Sri Lanka, Japan and Africa, Tea Board could not popularise this practice amongst the planters with the aid given by the Ministry. The Ministry attributed the shortfall to lack of adequate manpower for close supervision.

Our Recommendations and response of Tea Board

4.15 We recommended in November 2009 that there was a need to strengthen documentation both in individual cases as well as for overall scheme implementation. There was also need to identify mandatory terms and conditions for various developmental schemes to ensure their strict compliance. We also recommended the need to conduct inspections on time and evaluate the impact of the subsidies disbursed.

There was a need for Tea Board to devise a mechanism to ensure that subsidy for new planting was given only in genuine cases involving 'new planting' and non-adherence to laid down conditions should result in calling back of the subsidy.

Tea Board accepted these recommendations in December 2009 and October 2010 and stated that:

- *Documentation process in Head Office, Zonal and Regional Offices would be strengthened by computerising the data entry process for easy generation of Management Information System for getting snapshot of the progress of implementation of the scheme as well as particulars of payments made to individual tea gardens at any given point of time by March 2012.*
- *Fresh directions had been issued (August 2010) to the field offices to evaluate the physical performance in the areas for which assistance had been provided in the past while carrying out new inspections in respect of fresh applications, ensure fulfillment of the important mandatory conditions by the gardens to become eligible for the financial assistance by March 2012.*

Conclusion 4.16 One of the primary reasons for low productivity of tea cultivation in the country was ageing plantations. Therefore, programmes for replantation/replacement plantation, rejuvenation pruning etc., are necessary for enhancement of productivity which has declined substantially over the years. The total area under commercially unproductive bushes increased from 42 per cent in 1997 to 57 per cent in 2009. As of 2009, the capital investment and cost of subsidy support for replantation is estimated at ₹6091.21 crore and ₹1522.80 crore respectively. Against this huge requirement, yearly spending of Tea Board was mere ₹21.06 crore during Tenth Five Year Plan and ₹18.87 crore in first four years of Eleventh Five Year Plan on all activities including replantation.

The targets for replanting/replacement planting were set very low and area covered during the Tenth Five Year Plan was a mere 2.63 per cent of the commercially unproductive bushes as on 31 December 2001. At this rate, the backlog for replanting/replacement planting up to 2007 would take another 145 years to wipe off. Interventions by Tea Board to increase productivity by replantation of commercially unproductive bushes were thus grossly inadequate. There were also deficiencies in implementation of various other activities aimed at increasing productivity. **Continuously increasing commercially unproductive bushes which became 57 per cent of total bushes at the end of 2008 is a serious threat and may pose major risk for the tea industry in the immediate future unless appropriate and timely interventions are made for arresting increasing trend of commercially unproductive**

bushes along with exploring areas for new plantations. This would require massive efforts in terms of finances and manpower.

Considering the poor performance of Tea Board in enhancing productivity of tea in India by replacement of unproductive tea bushes, we are of the view that Tea Board is not fully equipped to effectively deal with this critical situation threatening the Tea industry. Tea Board's proposed course of action and timelines for enhancing productivity, even if implemented, may only impact on improving effectiveness of the schemes already designed. The Government thus needs to take a holistic view of this critical situation and take major structural and strategic decisions like redesigning of programmes, schemes, delivery mechanisms and much higher financial outlays.