

No.5/4/2007-Plant-C (Pt.)
Government of India
Ministry of Commerce and Industry
Department of Commerce

New Delhi, dated the 20th March, 2008.

To

The Chairman,
Rubber Board,
Kottayam, Kerala.

Subject:- Implementation of the (i) Rubber Plantation Development Scheme and (ii) Scheme for Rubber Development in the North-East Region during the 11th Five Year Plan (2007-08 to 2011-12) – regarding.

Sir,

I am directed to convey the approval of the Government of India to the implementation of the (i) Rubber Plantation Development Scheme and (ii) Scheme for Rubber Development in the North-East Region during the 11th Five Year Plan (2007-08 to 2011-12) as per details given below:-

(A) RUBBER PLANTATION DEVELOPMENT SCHEME:- (i) Implementation of the Rubber Plantation Development Scheme by the Rubber Board during the 11th Five Year Plan with an outlay of Rs.240.39 crore as per the details of the scheme as at **Annexure-I**.

(ii) Payment of planting subsidy @ 20% (Rs.19,500/-) of the planting cost viz. Rs.97,500/- per hectare for replanting and new planting to the small growers in the traditional area who own up to 5 hectares of rubber area with financial assistance limited to an area of 2 ha only. For non-traditional areas, the scale of subsidy for replanting and new planting would be 25% (Rs.22,000) of the planting cost viz.Rs.88,000/- per hectare to the small growers who own up to 20 hectares of rubber area.

(iii) Payment of committed liability for previous years' planting amounting to Rs.33.26 crore (Rs.30.01 crore for traditional area and Rs.3.25 crore for non-traditional area).

(iv) Reimbursement of cost of planting materials @ Rs. 8/- per plant limited to 500 plants per ha. i.e., Rs.4000/- per ha. in one instalment along with the first instalment of planting grant and payment of transportation grant of Rs. 4000/- per ha for transporting plantation inputs in 6 annual instalments along with the planting grant to all small growers who own up to 20 hectares of rubber area in the non-traditional area.

(v) To implement a collaborative project for tribal development through rubber planting with the contribution of the Rubber Board, concerned State Governments and the tribal beneficiaries both in the immature phase and mature phase with an outlay of Rs.8.74 crore and Rs.2.50 crore respectively.

(vi) To incur an expenditure of Rs.14500/- per ha for holding meetings, collection of baseline data, day to day supervision and cost for adoption of agro-management practices like scientific fertilizer application, plant protection measures & rain guarding, training to the tappers, regular collection of data, etc. in rubber agro-management units.

(vii) To incur expenditure of Rs. 3,000/- per hectare for making silt pits @ 250 per hectare in small holdings for soil protection and water harvesting practices in farmers' fields.

(viii) Maintenance of one Central Nursery and 8 regional rubber nurseries in traditional and non-traditional region for generating quality planting material with an expenditure of Rs.5.00 crore.

(ix) To implement various programmes under the component of "Farmers Group Formation and Empowerment" viz. formation of new Rubber Producers' Societies (RPSs)/Self-Help Groups (SHGs), infrastructure support to RPSs and SHGs, educational programme and field training for farmers, technical and financial support to RPSs and SHGs for setting up of facilities for latex/sheet/scrap collection, etc. This also includes financial assistance @ 50% of the expenditure for setting up of Group Processing Centre (GPC) with a smoke house capacity of 1250 kg and effluent treatment plant in the RPS sector subject to a maximum of Rs.10.00 lakh per GPC. In addition, Rs.1.00 lakh per GPC will be paid as cost for land development. To provide financial support @ Rs.3000/- per grower for establishing bee-keeping units in rubber plantations.

(x) To carry out training programmes for staff especially for the extension officers in areas like participatory extension management, community based development, etc and to undertake consultancy studies by reputed external agencies to assess the impact of different programmes implemented by the Board.

(xi) To utilise Rs.8.00 crore from the revolving fund of Rs.10.00 crore sanctioned to Rubber Board towards purchase of the required inputs like Copper oxychloride, Spray oil, Copper sulphate, Ethephone, polythene sheet and adhesive etc. in bulk quantities and supply to small / marginal growers at a price concession of 30% through RPS in the traditional region and NT region other than NE.

(B) SCHEME FOR RUBBER DEVELOPMENT IN THE NORTH EAST REGION :-

(i) Implementation of the Scheme for Rubber Development in the NE region by the Rubber Board during the 11th Five Year Plan with an outlay of Rs.173.05 crore as per the details of the scheme as at **Annexure II**.

(ii) Payment of planting Subsidy @ 25% of the planting cost i.e., Rs.22,000/- per hectare for replanting and new planting, reimbursement of cost of planting materials @ Rs. 8/ plant limited to 500 plants per ha. i.e., Rs.4000/- per ha., and payment of a grant of Rs. 4000/- per ha for transporting plantation inputs to the growers who own up to 20 ha of rubber area.

- (iii)** Payment of committed planting grant for previous year's planting amounting to Rs.5.70 crore.
- (iv)** Assistance for revitalization @ Rs.13,500/- per hectare to be disbursed as Rs.9,000/- in the first year, Rs.2,500/- in the second year and Rs.2,000/- in the third year and that of re-stocking @ Rs.20,000/- per hectare to be disbursed in three annual instalments @ Rs. 11,000/-, Rs. 5,000/- and Rs. 4,000/- per hectare admissible to growers who own less than 2 hectares.
- (v)** Implementation of Block Planting project with 43% Rubber Board's share. 50% and 7% of the expenditure are to be contributed by the State Government and the beneficiaries respectively.
- (vi)** To provide financial assistance @ Rs. 3,000/- per hectare for establishing irrigation facilities and support fencing and boundary protection activities by extending financial assistance @ Rs. 12,500/- per ha. in an area of 4200 ha.
- (vii)** Maintenance of Nucleus Rubber Estate and Training Centre (NRETC), District Development Centres (DDCs), and Rubber Research and Training Centre (RRTC), setting up of demonstration plantations in farmers' fields, farmers' training programmes etc. with a total provision of Rs.12.20 crore.
- (viii)** To promote formation of new Rubber Producers' Societies and strengthening the existing ones for organized input procurement, farm operations, crop processing and marketing; formation and strengthening of Women SHGs and supporting them in undertaking various income generation activities including raising nurseries, apiculture etc.
- (ix)** To carry out various research programmes to identify problems relating to establishment, maintenance, harvesting of rubber plantations and processing of rubber.
- (x)** To set up group processing facilities with 50% assistance by the Rubber Board, 40% by the State Governments concerned /NEC and the remaining 10% of the expenditure to be met by the beneficiary growers by way of land/labour. The assistance is to support individual growers for purchase of hand-operated rubber sheeting rollers will be @ Rs.10,000/ per set. To provide subsidies @ Rs.20,000/- for construction of smoke house and Rs.8000/- for effluent treatment plants.
- (xi)** To carry out various market development and export promotion activities as well as human resources development activities like training, labour welfare and infrastructure development.
- (xii)** To utilise Rs.2.00 crore from the revolving fund of Rs.10.00 crore sanctioned to Rubber Board towards purchasing of fertilizers and materials required for rain guarding such as polythene sheets and adhesives.

2. **Evaluation:-** As the schemes are essentially subsidy schemes, the monitoring mechanism would be strengthened. Comprehensive evaluation of the schemes should be done by an expert and independent organisation based on base line data and indicators of initial conditions available with the Rubber Board. A comprehensive template should be worked out for proper evaluation.

3. **Organisational Set Up:-** While the 'Rubber Plantation Development Scheme' will be implemented by the Rubber Board during the 11th Five Year Plan without any additional staff, the proposal for strengthening Rubber Board's organisational set up in the NE region for implementation of the 'Scheme for Rubber Development in the NE Region' is now under consideration of the Staff Inspection Unit, Department of Expenditure.

4. This issues with the concurrence of Finance Division vide their Dy. No. 793/FD/2008 dated 19/3/2008.

Yours faithfully,

(Vijay Kapoor)
Under Secretary to the Government of India
Tel. 2306 2618

No. 5(4)/2007-Plant-C (Pt.)

dated 20th March, 2008

Copy to:

1. Shri K.L. Sharma, Director (Cabinet), New Delhi w.r.t. Cabinet Secretariat communication No. CCEA/ 07/2008 (i) dated 12th March, 2008.
2. Secretary, Department of Expenditure, North Block, New Delhi.
3. Secretary, Department of Financial Services, Jeevan Deep Building, New Delhi.
4. Secretary, Planning Commission, Yojana Bhawan, New Delhi.
5. Shri Kamal Dayani, Director, PMO, South Block, New Delhi.
6. Principal Director of Audit, AGCR Building, New Delhi.
7. Technical Director, NIC, Department of Commerce.
8. PPS to Commerce Secretary, Department of Commerce.
9. PPS to AS (Plantations), Department of Commerce.
10. Finance Division, Department of Commerce, New Delhi.
11. B&A Section, Department of Commerce, New Delhi.
12. Guard File.

(Vijay Kapoor)
Under Secretary to the Govt. of India

ANNEXURE - I

DETAILS OF THE RUBBER PLANTATION DEVELOPMENT SCHEME FOR IMPLEMENTATION DURING THE 11TH FIVE YEAR PLAN (2007-08 TO 2011-12)

I. BACKGROUND

Natural rubber, obtained from the latex of the tree, *Hevea brasiliensis*, is a vital raw material used in the production of around 35000 items of industrial importance in this country. Major portion (50.2%) of Natural Rubber (NR) in India is consumed by the automotive tyre sector, specifically the large tyre sector, the growth of which is directly related to the transportation sector. A higher GDP growth and industrial growth in the country will result in increased volumes of freight transport and consequently higher consumption of NR. The substitutes of natural rubber are synthetic rubbers which utilize petroleum products as their feed stock. The production of SR is highly energy intensive and not an environment friendly process, whereas NR is an environment friendly raw material and renewable resource. For certain specific uses NR is indispensable. For example in products such as aviation tyres, truck tyres etc in which heat build up is considerable while in use, NR is preferred because of its property to withstand heat build up. The synthetic poly isoprene, which can nearly simulate NR, is expensive and in our country it is not produced in the required quantity. It is also not comparable with NR environmentally. Therefore it is only logical to assume that NR will be a much needed commodity in our country.

With industrial growth rate picking up, consumption of NR is on the increase and at the end of the terminal year of the XI th Plan Period i.e., 2011-12, the production is estimated to be less by 68,000 MT than the consumption.

The widening gap between production and consumption points to the need for increasing the production of NR in order to (1) meet the internal demand of the commodity; (2) save large amount of foreign exchange that would otherwise be required to import the needed quantity of NR; and (3) earn foreign exchange through export of Natural Rubber.

During the 11th plan period, a three pronged strategy as indicated below is to be adopted for increasing the production of NR in India:-

- a) Replanting of old and uneconomic plantations with high yielding varieties adopting latest agro management practices.
- (b) Expansion of rubber area to a limited extent through new planting especially in the non-traditional region.
- (c) Taking steps to increase productivity from existing plantations.

Though rubber was mainly cultivated as large plantations initially, much structural transformation took place in the sector subsequently and now, 89 % of the area and 92% of the production come from small holdings with an average size of 0.50 ha. Rubber being a crop with a gestation period of about 7 years, planting has to be carried out well in advance to produce the required quantity of NR in the coming years. For achieving the production levels to meet not only country's demand of NR but also to export some quantity to enable India to be a regular player in the international market, production has to be

ensured on a sustainable basis. Increase in production can be sustained only through expansion of area and increase in yield per hectare. Increase in yield per hectare is highly price sensitive and therefore is subjected to fluctuations based on price. This points to the fact that dependence on productivity increases alone will not help sustain production to meet the demand of NR on a long term basis.

Therefore, it is imperative that expansion of area and replanting of old uneconomic plantations also should receive thrust during the eleventh plan.

II. Activities Envisaged under the Rubber Plantation Development Scheme during the 11TH Five Year Plan.

II.A. Replanting

It is to cover 31,750 ha under the replanting programme with subsidy during the XI Plan period in the traditional and NT regions other than NE. As the small / marginal growers will be deprived of any income during the gestation period of rubber ie. 6 to 7 years, they have to be financially supported to carry out the replanting operations with high yielding varieties adopting scientific agromanagement practices. In the *traditional area of Kerala and Tamil Nadu*, a planting grant of Rs. 19,500/- per hectare which comes to 20 % of the current cost of cultivation (Rs. 97500/- per hectare), will be given for **replanting**. The amount will be paid in 6 annual installments. This financial support is to be given to only those small growers who own up to 5 hectares of rubber area and the financial assistance will be limited to an area of 2 ha only in the traditional region. Every installment of planting grant will be paid only after ensuring satisfactory maintenance of the holding which is measured using fixed growth parameters and other maintenance indicators. **Replanting in the estate sector will not be eligible for any financial assistance.**

In the non-traditional regions, the plantations are highly scattered and located in very remote areas with poor communication and infrastructure facilities. So they need some extra support than in the traditional region. In the *non-traditional area*, a planting grant of Rs. 22000/- per hectare which comes to 25% of the current cost of cultivation (Rs. 88000/- per hectare), will be given for **replanting**. Considering the high cost of planting materials and the cost involved for long distance transportation of all plantation inputs, the following additional incentives are to be given to growers in the non-traditional region:-

- a) Reimbursement of cost of planting materials @ Rs.8.00 Per plant limited to cost of 500 plants per ha. ie. Rs. 4000/- per ha. This will be given in one installment along with the first installment of planting grant.
- b) Transportation grant of Rs. 4000/- per ha for transporting plantation inputs to the site. This amount will be paid in 6 annual installments along with the planting grant.

In the non-traditional region, all the above said financial assistance, which comes to a total of Rs. 30,000/- per ha is to be given to all small growers owning up to 20 ha. of rubber area.

Out of the total targeted 48250 ha of replanting, **only 31750 ha (30000 ha in traditional region and 1750 ha in the nontraditional region)** is estimated to be covered under planting grant. Remaining area will not be eligible for financial assistance because of larger holding size, non-compliance of scheme rules, lack of ownership records etc.

The total outlay for providing financial assistance for replanting is Rs.35.53 crore of which Rs.32.23 crore is for traditional region, Rs.3.30 crore for non-traditional region other than NE.

II.B. New planting

With regard to new planting, the traditional rubber growing region of Kerala and Tamil Nadu is having only very little land left for planting with rubber. So large scale newplanting may not be possible in this region. However, land is available in identified pockets in the non- traditional region comprising the states of Karnataka, Orissa, Andhra Pradesh, Goa, Maharashtra etc. The target for new planting in the project is 7500 ha, in the traditional region and 2500 ha. in the non-traditional region. The rate of financial assistance and eligibility criteria for new planting is the same as that for replanting indicated above. The total outlay for new planting is Rs. 12.81 crore of which Rs. 8.11 crore is for traditional region and Rs.4.70 crore for NT region other than NE.

The details showing the year-wise new planting and replanting envisaged during the 11th plan period are as under:-

Activities	2007-08	2008-09	2009-10	2010-11	2011-12	Total
New Planting (ha)						
a) Traditional	1500	1500	1500	1500	1500	7500
b) Non traditional	500	500	500	500	500	2500
Total (New Planting)	2000	2000	2000	2000	2000	10000
Re Planting (ha)						
a) Traditional						
(i) with subsidy	5000	6500	6500	6000	6000	30000
(ii) without subsidy	1000	3875	3875	3875	3875	16500
Total	6000	10375	10375	9875	9875	46500
b) Non traditional	350	350	350	350	350	1750
Total (Replanting)	6350	10725	10725	10225	10225	48250
Total	8350	12725	12725	12225	12225	58250

II.B.1. Provision of loan from Banks

Regarding financial arrangement for undertaking planting activities, 25% and 30% of the expenditure will be met by way of grower's contribution. Growers' contribution will be in the form of family labour in the case of tiny/marginal growers and hired labour in the case of relatively large growers in non-traditional and traditional areas respectively. It may be noted that when old rubber trees are cut and sold for plantations, the growers would be getting some amount as value of the trees. The value depends on various factors like size of the tree, location of the plantation, prevailing labour wage rate, transportation expenditure, demand for rubber wood, etc. Though the growers need the value on rubber wood for their subsistence during the immaturity period of seven years after replanting, they can utilize a part of it for meeting a portion of the replanting expenditure.

For the remaining 75% and 70% of the planting expenditure, 25% and 20% will be in the form of subsidy from the Board. For traditional area the planting subsidy is 20% and for non-traditional area, the planting subsidy is 25%. Growers with larger size of their holdings will themselves contribute 50% of the expenditure and they can also arrange money from their own sources also. Remaining 50% of the planting expenditure can be met by the growers as loan from Banks. Subsidy and loan components go to growers directly from Rubber Board and Banks respectively.

II.C. Committed payment for previous years' plantings.

As the planting grant is being paid in 6 annual installments after attaining the specified growth standards, there is a committed payment to be effected to plantations raised during the X plan period. Such payments are due to be effected during the entire XI plan period though the amount will be declining from the first to the terminal year of the plan. An outlay of **Rs. 32.26 crore** is provided in the scheme for this purpose including Rs.3.25 crore for non-traditional area.

II.D. Rubber plantation for tribal development.

II.D.1 Immature phase

The Board has been successfully implementing a scheme for tribal development through rubber planting with the financial support of the State Governments. M/s. Centre for Management and Development (CMD), Trivandrum who conducted the impact assessment of this component has observed that the AKTDRP (All Kerala Tribal Development Rubber Plantation) Project emerged to be a worthwhile contributor in reducing the poverty of the tribal participants. These types of projects are being successfully implemented in other states like Karnataka, Orissa and Andhra Pradesh also.

Based on the impact assessment study report, there is a strong case for continuing this scheme aimed at the development of tribal people through rubber cultivation. The component is to be implemented as a collaborative project of the Rubber Board, the concerned State Governments and the Tribal beneficiaries. In the traditional region, an area of 800 ha and in the NT region an area of 500 ha is to be covered under the scheme in a phased manner. The total outlay for this project is **Rs.8.74 crore (Rs.5.84 crore for Traditional Area and Rs.2.90 crore for NT area)** as Board's share.

II.D.2 Mature Phase.

Under the tribal rubber plantation project, so far a total area of 2845 ha. has been raised in the different States of Kerala, Orissa, Andhra Pradesh and Karnataka.

When such plantations become ready for harvesting, training in tapping has to be given to the beneficiaries; common processing facilities such as rubber sheeting rollers, smoke house; etc have to be established. Common marketing arrangements of processed rubber sheets have also to be arranged. The Board is to form exclusive Rubber Producers Societies of beneficiaries under this scheme and entrust group processing and marketing of their produce through these RPSs. Support for community processing facilities which involve civil construction, purchase of motorized rubber sheeting rollers, aluminium dishes, facilities for dry rubber content (drc) testing, computerized accounting of transactions etc will be provided by the Board.

The ultimate objective of this scheme is to ensure that the plantations raised for the benefit of tribal people are not alienated and the benefits really go to them avoiding exploitation by intermediaries. This is also to be implemented with financial support from the concerned state Governments. A total outlay of Rs.2.50 crore is provided for this component.

II.E. PRODUCTIVITY ENHANCEMENT

Productivity enhancement measures are to be popularized and encouraged among the small/marginal growers because these are programmes aimed at increasing production from existing plantations quickly. When productivity is increased, the cost of production from the holdings will come down and

that will lead to increase in the growers' net farm income. The different activities envisaged under productivity enhancement in the small holding sector are:

II.E.1. Supply of inputs

Improvement in yield can be brought in through intensive extension activities for effective transfer of technology, ensuring adoption of technology and timely use of appropriate inputs leading to productivity enhancement. Major areas where technology adoption level is low are:

- Rain guarding;
- Scientific disease control measures; and
- Scientific tapping practices.

Each of the above measures can increase productivity varying from 15-50 per cent.

a) **Rain-guarding** – This measure helps to permit tapping of rubber trees during rainy days and as a result of rain-guarding about 15% of increase in productivity can be ensured. The level of adoption of this technology in the small holding sector at present is about 30% only. Polythene sheet and adhesive are required for rain guarding rubber trees. Only trained workers can do rain guarding.

b) **Plant protection measures** – The proposal includes distribution of copper oxychloride, copper sulphate and spray oil for spraying mature rubber plantations against the most common disease namely the abnormal leaf fall disease caused by *Phytophthora palmivora*. Lack of plant protection measures can lead to yield loss to the tune of 15%. Workers have to be trained in the mixing of fungicides and use of sprayers.

c) **Adoption of scientific tapping practices** and application of the stimulant Ethephone, on the bark of rubber trees in limited quantities is proven to increase the yield of rubber.

Providing inputs at the doorstep of the growers is one way of motivating them to follow appropriate cultural practices. The scheme envisages to purchase the required inputs like Copper oxychloride, Spray oil, Copper sulphate, Ethephone, polythene sheet and adhesive etc. in bulk quantities and supply to small / marginal growers at a price concession of 30% through RPSs. The Board has been provided with a revolving fund of Rs. 10 crore during the X plan for this purpose. The same amount will be utilized during this plan period also. Out of the Rs.10 crore, Rs.8 crore will be utilized in the traditional area and NT area other than NE. Remaining Rs. 2 crore will be utilized for purchase of critical input items in the NE region. A provision of Rs. 12.crore is made for allowing price concession @ 30 % in the traditional region and NT region other than NE.

Details of critical plantation inputs, area covered, quantity and cost per year are as under:-

Sl. No	Inputs	Area to be covered	Quantity required	Unit cost	Total Expenditure
1	Polythene sheet for Rain guarding (12kg/ha)	20000 ha	240 MT	Rs 90/ kg	216 lakh
2	Rain guarding compound (38 kg/ha)	20000 ha	760 MT	Rs 22/ kg	168 lakh
3	Copper Oxy Chloride (8 kg/ha)	10000 ha	80 MT	Rs 300/ kg	240 lakh
4	Spray Oil (40 litre/ha)	10000 ha	400 KL	Rs 44/litre	176 lakh
	Total				800 lakh

II.E.2 Rubber Agro management Units

In the mature phase, the level of adoption of different agro techniques by small /marginal farmers is only 30 to 50 % as per an earlier impact assessment study carried out by M/s. CMD, Thiruvananthapuram. Due to the low level of adoption of technology, yield obtained by the small growers is much less than the potential yield. Though the average yield is 1796 kg per ha, the yield actually realized by many holdings is below this level. There is considerable difference between the realized yield and the potential yield of 3500 kg per ha for the most popular clone, RRII 105.

Agro-management units are to be set up in farmers' fields with the twin objectives of demonstrating (a) participatory approach in problem identification and problem solving; and (b) the advantages and cost effectiveness of adopting scientific agro-management practices.

Extension officers will identify around 40 adjacent small holdings under one RPS in their jurisdiction. The officers along with the RPS president and 5 adjacent growers will meet in each of the 40 holdings and analyze the current maintenance status of these holdings. A baseline survey report of the current cultural practices followed and the yield obtained from each holding will be prepared. The group will then identify the real problems in the holdings in respect of scientific agro-management practices like manuring, spraying, rain guarding and tapping systems. An action plan for undertaking the correct practices to be followed in each of the units in respect of the above said items will also be prepared.

Then, under the direct supervision of the extension officers, all cultural operations in such holdings will be carried out using the labour force available with the labour bank maintained by the RPS. Yield data from such holdings will be recorded regularly and at the end of one year, it will be compared with the yield of the previous year. Much improvement in yield is expected and thereby substantial reduction in cost of production will also be achieved. The selected plots will be maintained as demonstration plots for the benefit of neighbouring small growers. Rubber Agromanagement Units will be used as an effective extension tool to educate and motivate the growers to adopt appropriate technology. Good results obtained in a neighbour holding will be more convincing to the small growers than what they read in publications.

An expenditure of Rs.14500/- per ha is estimated for holding meetings, collection of baseline data, day to day supervision and cost for adoption of agromanagement practices like scientific fertilizer application, plant protection measures & rain guarding, training to the tappers, regular collection of data, etc. in these units. As the rubber Agro-management units are to be maintained as demonstration plots for teaching purpose and the scientific cultural operations are to be carried out in a group approach through RPSs, the full cost is to be met under the scheme. An extent of 15000 ha. (30000 units) in the traditional region and 1000 ha (2000 units) in the NT region are targeted to be covered during the 11th plan period.

This programme will provide daily activity to the RPSs also. An amount of Rs.23.20 cr. is set apart for this activity including Rs.1.45 crore for the NT area.

II.E.3 Soil protection and water harvesting

Demonstration of soil protection and water harvesting practices in farmers' fields is envisaged as an activity under RPD scheme during the XI plan. Every year, an area of 4000 ha. (8000 units) in traditional region and 200 ha (400 units) in the NT region are to be covered under this programme. A financial assistance of Rs.3,000/- per hectare is for making silt pits @ 250 per hectare in small holdings. A total outlay of Rs.6.30 crore including Rs.0.30 crore for NT region is provided under the scheme.

II.E.4 Quality planting material generation

The Rubber Board is maintaining one Central Nursery and 8 regional rubber nurseries in different parts of the country including the nontraditional region other than NE. These nurseries scientifically produce good quality budded plants and are the sources of genuine bud wood material required by private nurseries to produce budded plants. Even though the Board is in a position to meet only around 10% of the total planting material requirement in the country, it is very much necessary to maintain the nurseries already established by the Board in order to ensure quality control and check unscrupulous trading practices by the private nursery owners. Periodic incorporation of organic manure in bulk quantities for enrichment of soil fertility, augmentation of irrigation facilities, repairs to civil construction, etc. are the major items of work envisaged in the nurseries during the next 5 years. For implementing this component in the traditional and non-traditional region during the plan period, the expenditure works out to Rs.5.00 crore.

II.F. FARMER GROUP FORMATION AND EMPOWERMENT

Considering the very large number of tiny holdings in the rubber sector and the very low staff strength of the extension machinery in the Board, individual approach for modernisation and improvement of the small/marginal holdings is not practical. In a sector where the producers numbering over 10 lakh are small /marginal farmers with very small holding size, a group approach is needed to bring in any positive change in the production and productivity scenario. So for the last few years, the Board has been striving to form farmer groups in the name of Rubber Producers Societies (RPSs). The Board is also promoting formation of Self Help Groups (SHGs) in the sector.

The Board aims to support the RPS and SHG through special projects aimed at the socio-economic development of the resource poor farmers and their families. The objective is to assist farmer groups and SHGs to stand on their own legs and to function as positive change agents in the sector.

Technical and financial support to RPS/SHGs is to be given for taking up activities like:-

- Construction of office buildings.
- Construction of latex collection centres.
- Setting up input distribution facilities.
- Purchase of computers.
- Setting up Common Service Centres.

- Pollution control and environment protection programmes.
- Running nurseries for production of quality planting materials.
- Setting up labour banks.
- Rubber Wood based furniture /handicrafts units.
- Group management of small plantation units.
- Tapping ancillary income sources from rubber plantation like honey, cover crop seeds, rubber seeds etc.
- Carrying out plant protection operations, rain guarding, scientific manuring etc. in rubber plantations on contract basis.
- Honey processing/rubber seed oil production/ mushroom cultivation, intercropping etc.
- Social welfare programmes / Health and hygiene improvement programmes for small growers/workers and their families.

The programmes to be implemented under the component of “Farmers Group Formation and Empowerment” during the XI plan period are the following:

- (1) Formation of new RPSs / SHGs – 750 new RPSs / SHGs are to be formed during the plan period.
- (2) Farmer education programmes and field training – Farmer education programmes and field training of growers is to be continued as an extension programme to update the knowledge level of the growers in matters relating to planting, harvesting, processing, marketing, etc. with special reference to cost reduction and increase of net farm income.
- (3) Infrastructure support to RPS / SHG – Performing RPS / SHG will be supported partly to construct office building, purchase of furniture and computers, agricultural implements, plant protection equipments, acquire facilities for collection of rubber seeds and cover crop seeds, setting up input distribution centers, etc.
- (4) Group Processing Centres – Community processing centers are to be set up in the RPS sector for processing the latex produced by member growers into good quality sheets. Often the sheets produced by small / marginal growers are poor or inconsistent in quality. Community processing centers provide facilities for processing latex of small growers into superior grades of RSS, thereby fetching better price. Group processing is cost effective and the profit obtained will be shared among the member growers. For Group Processing Centres the RPS should possess at least 20 cents of land of its own. In the traditional region the cost of land is so high that even in remote locations where rubber plantations are concentrated, the price of 20 cents of land will be minimum Rs.2.00 lakh. The land available at this price will require a lot of development work such as construction of retaining walls, improvement of road to the center, raising of land level by filling with soil, etc. The land development work will have to be undertaken by the RPS for construction of GPCs. This land development cost estimated at Rs.1.00 lakh per GPC is to be met by the Board in full. The estimated cost for setting up a group processing center with a smoke house with capacity of 1250 kg. and effluent treatment plant comes to Rs.20.00 lakh. It includes Rs.10.00 lakh towards Processing shed & Smoke House, Rs.3.12 lakh towards training hall, Rs.2.45 lakh towards Effluent Treatment Plant and aeration tank, Rs.3.80 lakh towards processing equipments and Rs.0.83 lakh towards training facilities. In the 10th Plan the capacity of smoke house attached to GPCs was 1000 kg. only and this capacity was found to be quite insufficient in many cases. So the capacity of smoke house has been increased to 1250 kg in the XI Plan. The GPCs will have facilities for conducting training classes of different types. This facility can be utilized for conducting seminars / meetings / discussions on subjects of common interest to the members of the RPS. Effluent treatment plants are needed for purification of the effluent formed while processing

latex into sheet rubber. Biogas will be produced as a result of treatment of the effluent and the gas thus obtained can be used in the smoke house of GPC for drying rubber sheets. The water coming out of the effluent treatment plant is fit for irrigation in neighbouring agricultural fields. The major processing equipment required in GPC is motorized rubber sheeting roller, aluminium coagulating pans (2500 pans are needed to coagulate 1250 kg DRC of sheet rubber) weighing machines, DRC testing equipments, etc. Training facilities include chairs and furniture items, audio visual aids, etc. needed for taking classes and providing seating arrangements for the trainees. It is to provide 50% of the expenditure for setting up Group Processing Centres subject to a maximum of Rs.10 lakhs per GPC. Rs.1.00 lakh per GPC will be paid as cost for land development in addition to the above said 50% subsidy of Rs.10.00 lakh. So the total financial assistance for setting up Group Processing Centres in RPSs is Rs.11.00 lakh for GPC. 80 such GPCs are to be established in the XI Plan and the total estimated expenditure is Rs.8.80 crore.

(5) Latex / Sheet / Scrap collection support – RPSs / SHGs are to be supported technically and financially for setting up facilities for latex / sheet / scrap collection from member growers. This will facilitate member growers to fetch better price for their produce avoiding intermediaries. The facilities mostly include weighing balance, equipments to test the DRC of latex, allowance for transportation of latex from small holdings to the collection centers, etc. One of the difficulties faced by RPSs in processing / trading in latex is that they have to incur a large amount on transportation of latex from farmers' fields to the collection centers. Growers are also finding it difficult to bring their latex to the processing / collection centers in view of the transportation expenditure involved. So the desired results of latex collection by RPS / SHG are not achieved in full. Therefore, a transportation subsidy of Ps.25/- per kg DRC of latex will be given to all RPSs engaged in collection of latex from growers. This would help the RPSs collect more latex from growers and the trading share of RPSs in latex will increase.

(6) Apiculture - Extra income generation activity from rubber plantations– Rubber plantations are good sources of honey and bee keeping in rubber estates will add to the financial viability of the plantations. In fact this potential of rubber plantations is only sparingly utilized now. This activity will help the growers increase their net farm income in addition to providing extra employment opportunities. Financial support to 3000 growers @ Rs. 3000/-per grower will be provided for establishing bee-keeping units in rubber plantations. The financial provision made is Rs. 4.50 crore.

The total financial outlay for activities under 'Farmer Group Formation and Empowerment' in the traditional and NT areas together is Rs.31.50 crore. (Traditional Area – Rs.29.30 crore and NT Area – Rs.2. 20 crore)

II.G STAFF SKILL UPGRADATION AND CONSULTANCY

Around 10.5 lakh smallholdings, the average size of which comes to around 0.50 ha only, dominate the natural rubber sector in India. Due to the very small size of the holdings, many farmers are engaged in other activities also for their livelihood. The small / marginal farmers are resource poor and they need strong extension support from the Board to keep their plantations economically viable. Extension officers have to be in the field for strongly supporting RPSs, interacting and educating the growers.

For this, the skill and capability of extension officers have to be upgraded, especially in areas like participatory extension management, community based development, etc. There are national and

international organizations providing training in these matters with a practical orientation. Extension officers are to be trained appropriately in selected institutes. Similarly consultancy studies are to be got undertaken by reputed external agencies to assess the impact of different programmes implemented by the Board and suggest corrective measures to be taken so that the desired results would be obtained by implementing the programmes. An amount of Rs.2.95 crore is set apart for staff skill upgradation including overseas training and consultancy.

III. Special schemes for non-traditional region other than north eastern region

The agro climatic conditions prevailing in the non traditional region other than NE, comprising the states of Karnataka, Andhra Pradesh, Goa, Orissa, West Bengal, etc. are not ideally suitable for growing rubber. However, certain pockets in this region like South Canara district of Karnataka, East Godavari district of Andhra Pradesh, Mayurbhanj district of Orissa and adjoining areas have been identified as moderately suitable for rubber. It has been proved that under scientific agro-management practices, rubber can be grown as an economically viable crop in these regions.

During the XI Plan period, it is to cover another 2500 hectare in this region. Old plantations, mainly in the states of Karnataka and Goa will have to be replanted with high yielding clones. The area targeted for replanting is 1750 hectare. Block plantations in an area of 500 hectare is to be raised in the region for the exclusive benefit of SC/ST category of growers with the financial support of the concerned State Governments. Sick plantations established during the last 4 years are to be revitalized / restocked under the Integrated Village Level Rubber Development Programme. This programme also provides for productivity enhancement measures in mature plantations.

Severe draught for 2 – 3 months is a peculiar climatic feature in this region. So life saving irrigation will have to be provided for rubber plants during the first 3 years of planting. Similarly, cattle are generally let loose in this region and they may destroy the rubber plants in young age. So boundary protection also has to be provided. Financial provisions are made for these activities also @ Rs.3000/- per hectare for irrigation and Rs.12,500/- per hectare for boundary protection.

Other activities like Farmer Group Formation and Empowerment, Soil Protection and Water Harvesting, Rubber Agro-management Units, etc. in the traditional region will be taken up in the NT region also on a limited scale. The Nucleus Rubber Estate and Training Centre in South Andamans will be maintained during the XI Plan period also. The outlay for all these activities in the NT region during the XI Plan period is Rs.24.60 crore, the details of which are as under:-

Sl. No.	Activity	2007-08		2008-09		2009-10		2010-11		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
I Planting													
1	New planting	500	0.45	500	0.80	500	1.00	500	1.15	500	1.30	2500	4.70
2	Replanting	350	0.32	350	0.56	350	0.70	350	0.81	350	0.91	1750	3.30
3	Committed Payment		0.88		0.82		0.80		0.48		0.27		3.25
4	Rubber Plantation Project for Tribal Development												
	Tribal Development planting	100	0.40	100	0.50	100	0.55	100	0.65	100	0.80	500	2.90
	Integrated village level Rubber Development		0.50		0.50		0.50		0.50		0.50		2.50
	Irrigation & Boundary Protection		0.10		0.10		0.10		0.10		0.10		0.50
II Productivity Enhancement													
3	Rubber Agro-management Units	200	0.29	200	0.29	200	0.29	200	0.29	200	0.29	1000	1.45
4	Soil Protection & Water Conservation	200	0.06	200	0.06	200	0.06	200	0.06	200	0.06	1000	0.30
III Farmer Group Formation and Empowerment (includes programmes for RPS /SHG formation & support, apiculture, etc,)													
			0.44		0.44		0.44		0.44		0.44		2.20
IV	NRETC, Andamans		0.70		0.70		0.70		0.70		0.70		3.50
	Total		4.14		4.77		5.14		5.18		5.37		24.60

{Physical target (in hectares) and financial target (Rs. in crore) during the 11th Plan in the Non-Traditional Area

IV. Benefits of the scheme

The scheme will be in operation in the traditional rubber growing region of Kerala and Tamil Nadu and also in the non-traditional regions other than the North-Eastern states. For rubber development in the Northeast a separate scheme is envisaged. The major development **outputs** of this scheme are the following:-

- Rubber will be newly planted in 10000 ha.
- Worn out plantations in 48250 ha. will be replanted
- Adoption of productivity enhancement measures in mature plantations will be supported.
- Settlement of tribal people through rubber cultivation
- Community based participatory and sustainable developmental activities in the rubber small holding sector will be supported.
- Technical and financial support will be extended for setting up Group Processing Centres and common centers for latex/ sheet/ scrap collection from small and marginal growers.

The major development **outcomes** expected by implementing the scheme are the following:-

- Rubber production in this country will go up by around 129200 MT per annum, resulting in import substitution and saving on foreign exchange to the tune of around Rs. 1033.60 cr.
- Rural development through employment generation. Around 5.25 lakh people in the rural area will get direct employment in the sector in the immature phase and thereafter another 43700 people will get permanent job in the mature plantations for the next 25 years.
- Quality upgradation of small growers' rubber will be achieved.
- Around 2600 tribal families will earn an effective settlement project for permanent source of income through rubber cultivation.
- Empowerment of small / marginal growers through Rubber Producers Societies and SHGs in the sector will be achieved and they will be made self reliant.
- 58250 ha (new and replanting together) of lush green rubber plantations established during the project period will help in carbon sequestration and environment protection.

V. Operational modalities

The Rubber Board through its extension set up had been successfully implementing a host of rubber development programmes from the year 1957 onwards. As a result, there has been phenomenal increase in the area new planted / replanted with rubber. The total rubber area, which was 111,027 hectares in 1957-58 has gone up by many fold to reach about 615,200 hectares in 2006-07. Similarly the average yield per hectare has also increased from 345 kg. in 1957-58 to 1879 kg.in 2006-07. Successful implementation of such projects has attracted appreciation from outside agencies like the World Bank, Govt. of Tripura etc.

As per the Scheme, rubber planting is to be got done by small farmers (and not by the Board directly), whose number is around 10.7 lakh and the only agency having direct link with the rubber farming community is the Rubber Board. From 1985 onwards the Board has been supporting small rubber growers to form village level groups of their own. Once such groups are formed, they are further supported for capacity building, infrastructure development etc. Already around 2184 such groups (Rubber Producers Societies) have been formed and the Board is implementing different developmental programmes through them.

Certain components like Tribal rubber plantation projects and Integrated Village level rubber development in non-traditional region etc. are to be implemented with the financial involvement of the concerned State Governments. The Rubber Board has already established links with the State Governments in these matters.

No agency other than the Rubber Board has the operational capability and infrastructure to implement the project with the involvement of rubber growers.

The scheme also includes a provision of Rs. 60.10 crore towards operating expenses during the 11th Five Year Plan for effective implementation of the various programmes/activities.

Physical and financial targets for the 11th Plan

The physical and financial targets for various activities under the Rubber Plantation Development Scheme from 2007-08 to 2011-12 are as follows:-

(Rs. In crore)

Sl. No.	Activity	2007-08		2008-09		2009-10		2010-11		2011-2012		TOTAL	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
I Planting													
1	New planting (ha)	1500	0.75	1500	1.28	1500	1.65	1500	2.03	1500	2.40	7500	8.11
2	Replanting (a) With Subsidy (ha)	5000	2.50	6500	5.00	6500	6.78	6000	8.16	6000	9.79	30000	32.23
	(b) Without Subsidy (ha)	1000		3875		3875		3875		3875		16500	
3	Committed Payment (10th Plan)		7.80		7.98		6.45		4.68		3.10		30.01
4	Rubber Plantation Project for Tribal Development												
	(a) Immature (ha)	100	0.40	100	0.70	200	1.20	200	1.64	200	1.90	800	5.84
	(b) Mature		0.50		0.50		0.50		0.50		0.50		2.50
	Total (I. Planting)		11.95		15.46		16.58		17.01		17.69		78.69
II Productivity Enhancement													
1	Input supply & Price concession (ha)	20000	2.40	20000	2.40	20000	2.40	20000	2.40	20000	2.40	100000	12.00
2	Rubber Agromanagement Units (ha)	2000	2.90	3250	4.71	3250	4.71	3250	4.71	3250	4.72	15000	21.75
3	Soil Protection & Water Conservation (ha)	2000	0.60	4500	1.35	4500	1.35	4500	1.35	4500	1.35	20000	6.00
4	Quality Planting material Generation		1.00		1.00		1.00		1.00		1.00		5.00
	Total (II. Productivity Enhancement)		6.90		9.46		9.46		9.46		9.47		44.75
III Farmer Group Formation and Empowerment													
1	Formation of new RPS/SHGs (Nos.)	150	0.30	150	0.30	150	0.30	150	0.30	150	0.30	750	1.50
2	Farmer education programmes and		0.90		0.90		0.90		0.90		0.90		4.50
	Field training												
3	Group Processing Centres (Nos.)	10	1.10	16	1.76	16	1.76	16	1.76	22	2.42	80	8.80
4	Infrastructure Support to RPS/SHG		1.00		1.00		1.00		1.00		1.00		5.00
5	Latex/ Sheet/Scrap collection support to RPS/SHG		0.50		1.10		1.10		1.10		1.20		5.00
6	Apiculture (No. of growers)	3000	0.90	3000	0.90	3000	0.90	3000	0.90	3000	0.90	15000	4.50
	Total (III. Farmer Group Formation & Emp)		4.70		5.96		5.96		5.96		6.72		29.30
IV	Staff skill upgradation & consultancy		0.15		0.50		0.70		0.70		0.90		2.95
	RPD- Traditional- Toal (I to IV)		23.70		31.38		32.70		33.13		34.78		155.69
V	RPD -Non-Traditional Area- Total		4.14		4.77		5.14		5.18		5.37		24.60
VI	Operational Expenses		9.80		11.50		12.40		13.00		13.40		60.10
	GRAND TOTAL		37.64		47.65		50.24		51.31		53.55		240.39

Phy.- Physical and Fin.- Financial.

THE SCHEME FOR RUBBER DEVELOPMENT IN THE NE REGION FOR IMPLEMENTATION DURING THE 11TH FIVE YEAR PLAN (2007-08 TO 2011-12)

Background

Planting of rubber in North East was attempted even from the early 1900s and now a few trees planted in 1913 are reported to exist in Hailakandi District of Assam. However, planting of rubber on a larger scale started in 1963 when the Forest Department of Government of Tripura started raising rubber plantation on a commercial scale. Rubber Board started its activities in Northeastern Region during 1967. The Board strengthened its infrastructure in NE by upgrading the office of the Field Officer to a Regional Office in 1979. Simultaneously research efforts were also started by setting up a Regional Research Station in Tripura during 1979. With these efforts, significant progress in development of rubber plantation in the region could be achieved. *However, substantial progress has been achieved only from the seventh plan period onwards, when Government of India sanctioned a project for Accelerated development of rubber plantation in NE region during 1984.* Agro-climatically NE region is moderately suitable for rubber. An assessment made by Rubber Board indicates that in about 4,50,000 ha rubber could be cultivated in NE

Major thrust is given for increasing the economic viability of rubber plantations by increasing the net farm income. This is to be achieved through better adoption of scientific agro-management practices, exploring extra income generation activities like apiculture and collection of rubber seeds, cover crop seeds etc from plantations. These activities are to be promoted leading to large-scale adoption, which is at present very low.

POLICY INITIATIVES

In the 3rd Summit and special meeting of North Eastern Council (NEC) held at Guwahati on 9th March 2007, it was decided that rubber should be newly planted in 60000 ha during the next 10 years to cover around 25% of the potential area of 450000 ha. Accordingly, targets for planting and related activities in different NE states during the XI plan period are listed below:-

XITH PLAN ACTIVITIES FOR RUBBER DEVELOPMENT IN NORTH-EAST

The scheme for Rubber Development in North-East will have 5 components and the activities envisaged in the 11th Five Year Plan period under each component, are as under:-

I. Rubber Plantation Development

A. New planting

Compared to rubber plantation development in Tripura, the performance in other NE States has been less impressive. Therefore, the socio-economic and ecological benefits achieved in Tripura need to be highlighted to promote the cultivation in other states. It needs to be stressed that insurgency has declined in localities where people have taken up rubber cultivation as a way of livelihood. Greater focus needs to be given in extending rubber cultivation to new areas in Assam and other NE States. Taking a cue from the active participation of the Government of Tripura in the rubber development programmes in Tripura, the active participation of other State Governments also has to be ensured in promoting rubber cultivation.

As per the project for large scale expansion of rubber cultivation in northeast prepared on the basis of directions of the third Summit and Special Meeting of NEC held at Guwahati on 09-03-2007, it is to new plant rubber in 60000 ha in the north-east over a period of 10 years commencing from 2007-08. Thus, an area of 25,000 hectares is to be covered under new planting in the NE Region during the 11th plan period i.e. from 2007-08 to 2011-12.

Rubber is propagated through polybagged bud grafted plants with 2-3 whorls of mature leaves. It takes about 1 – 1 ½ years to raise the seedling nursery, bud graft the seedling with bud wood of high yielding varieties and growing the bud grafted plants in polythene bags to attain the level of transplantable growth. Therefore, generation of required planting materials is to be thought of and planned well in advance. One hectare of plantation needs 500 polybagged plants and at this rate 300 lakh plants have to be raised in NE region to cover 60000 ha. of plantation. During the XI Plan period 125 lakh plants are needed to cover 25000 ha.

Rubber plants, especially when young, have to be protected against stray cattle and other animals. So boundary protection measures have to be taken before undertaking planting. Permanent fencing with 6 strands of barbed wire on concrete poles is ideal. Where it is not possible, fencing with other materials like bamboo can be undertaken.

B. Replanting

Some of the earlier plantations, mostly those raised by Rubber Sector companies have now become ready for replanting due to the low productivity of the planting material and also the age of the trees. These have to be replanted to make them economically viable. Replanting will be done in 1750 ha during the 11th Five Year Plan.

For new planting as well as replanting, growers in the region have to be financially supported in addition to rendering all technical assistance free. In 10th plan period assistance for new planting and replanting was given in the form of planting grant @ Rs.20,000/- per ha for holdings up to 5.00 ha and Rs.16,000/- for holdings between 5 & 20 ha. In addition to this cost of planting materials @ Rs.8/- per plant is reimbursed subject to a maximum of Rs.4000/- per ha.

Considering the escalation in plantation cost the rate of planting grant, the planting grant is to be increased to 25% of the planting and maintenance cost up to maturity. In the NE region the average development cost comes to Rs.88,000/- per ha though it varies from State to State.

The planting grant is 25% of Rs.88,000/- ie Rs.22,000/- per ha. In considering the high cost of planting materials and the cost of long distance transportation of materials the total financial assistance for new planting and replanting for NE region is Rs.30,000/- as shown below:-

- (i) Planting grant @ Rs.22,000/- per ha.
- (ii) Reimbursement of cost of planting materials @ Rs. 8.00 per plant limited to cost of 500 plants per ha. ie. Rs.4000/- per ha. This will be reimbursed in one installment along with the first installment of planting grant.
- (iii) Transportation grant of Rs. 4000/- per ha for transporting plantation inputs to the site. This amount will be paid in 6 annual installments along with the planting grant.

Financial assistance as said above is to be given to all growers who own up to 20 ha of rubber area with a view to attracting more people to take up rubber planting. The planting grant and other assistance will be disbursed only after ensuring that the plantations are really established in the field and the plants attain the specified growth standards.

The State-wise details of target for new planting as well as replanting during the 11th Five Year Plan period are as under:-

(Area in ha)

State	2007-08			2008-09			2009-2010			2010-2011			2011-2012			Grand Total		
	NP	RP	Total	NP	RP	Total	NP	RP	Total	NP	RP	Total	NP	RP	Total	NP	RP	Total
Tripura	1700	200	1900	2000	200	2200	2700	200	2900	2750	200	2950	3250	200	3450	12400	1000	13400
Assam	600	50	650	1000	50	1050	1500	50	1550	1600	50	1650	2000	50	2050	6700	250	6950
Meghalaya	175	20	195	300	20	320	750	20	770	750	20	770	750	20	770	2725	100	2825
Nagaland	100	20	120	150	20	170	250	20	270	250	20	270	300	20	320	1050	100	1150
Manipur	50	20	70	100	20	120	150	20	170	150	20	170	200	20	220	650	100	750
Mizoram	25	20	45	100	20	120	150	20	170	150	20	170	200	20	220	625	100	725
Arunachal Pradesh	50	20	70	100	20	120	200	20	220	200	20	220	300	20	320	850	100	950
Total	2700	350	3050	3750	350	4100	5700	350	6050	5850	350	6200	7000	350	7350	25000	1750	26750

NP-New Planting, RP-Replanting.

B.1. Provision for loan from Banks

Regarding financial arrangement for undertaking planting activities, 25% of the expenditure will be met by way of grower's contribution. Growers' contribution will be in the form of family labour in the case of tiny/marginal growers. In the case of relatively large growers, contribution will be in the form of hired labour. It may be noted that when old rubber trees are cut and sold for plantations, the growers would be getting some amount as value of the trees. The value depends on various factors like size of the tree, location of the plantation, prevailing labour wage rate, transportation expenditure, demand for rubber wood, etc. Though the growers need the value on rubber wood for their subsistence during the immaturity period of seven years after replanting, they can utilize a part of it for meeting a portion of the replanting expenditure.

Out of the remaining 75% of the planting expenditure, 25% will be in the form of subsidy from the Board. Growers with larger size of their holdings will themselves contribute 50% of the expenditure and they can also arrange money from their own sources also. Balance 50% of the planting expenditure can be met by the growers as loan from Banks. Subsidy and loan components will go to growers directly from Rubber Board and Banks respectively.

C. Integrated village level rubber development

During the XI Plan, the scheme envisages to have an integrated approach to rubber based development on a village basis, wherein programmes for revitalization of the sick plantations, established after 2002, replanting of poor plantations, and implementation of productivity enhancement measures for mature plantations have to be carried out.

It is estimated that about 1,000 ha. would require additional support for bringing into normal standards of growth and stand per hectare through revitalization. This is out of the area planted during the X Plan Period in the North-East. Apart from this, an area of about 750 ha has to be completely restocked since the present stand per hectare is far below the accepted norms. Such poor plantations will have an adverse effect on rubber development itself in the NE Region, as the beneficiaries would find it difficult to conduct tapping and processing operations economically. Tribal and other socially backward sections mostly own these two categories of rubber plantations. The revitalization of plantations is to be supported by meeting the cost for vacancy filling, providing assistance for establishing leguminous ground cover crop, providing fencing, application of fertilizers and plant protection measures. The assistance will have to be extended for 2-3 years depending upon the situations. The Board's share of expenditure for revitalization is estimated to be Rs.13,500/- per hectare to be disbursed as Rs.9,000/- in the first year, Rs.2,500/- in the second year and Rs.2,000/- in the third year. An area of 500 hectares per year is to be covered under this activity. For re-stocking an area of 300 hectares is to be covered every year. The assistance for re-stocking will also be spread over a period of 3 years. The total cost to be borne by the Board for this activity is Rs.20,000/- per hectare to be disbursed in three annual installments @ Rs. 11,000/-, Rs. 5,000/- and Rs. 4,000/- per hectare. The assistance is to be made available to growers who own less than 2 hectares.

Of the 58,432 ha of planted area in the NE, about 45,820 ha is in the small holding sector and about 18,000 ha is under tapping. It is to cover holdings below 2 ha under a productivity enhancement scheme as implemented in the traditional region popularizing adoption of scientific methods of cultivation viz., discriminatory fertilizer application, disease control measures, controlled upward tapping and soil conservation measures and making available the essential inputs. The critical inputs which are not generally available in the North-East are also to be distributed through the Rubber Producers' Societies

(RPS) and groups established on a village basis. An area of 25,000 hectares is to be covered under the scheme in all the states of NE region. The proposal envisages supplying inputs at a price concession of 50% to small growers. The inputs to be distributed are fertilizers and materials required for rain guarding such as polythene sheets and adhesives. For the purchase of fertilizers and other inputs, an amount of Rs.2.00 crore is to be used from the revolving fund of Rs.10.00 crore sanctioned to Rubber Board and now available with the Board. An amount of **Rs.5.00 crore** is earmarked for allowing price concession including transportation and handling charges.

Block Planting

The Rubber Board has been implementing special programmes for economic rehabilitation of the tribal people in the NE Region. The Board in collaboration with the Tribal Welfare Department of the Government of Tripura is implementing the Block Planting Project in which large blocks of tribal land are planted with rubber initially engaging beneficiaries as wage earners. The plantations on attaining maturity will be parceled out and handed over the beneficiaries and they will be collectively helped to produce and market the rubber from their individual holdings. The programme is proved to be highly successful and popular for socio economic upliftment of tribal families in NE Region. Since the programme implemented in Tripura was found very effective in meeting the objectives envisaged, the project is to be implemented in Assam, Arunachal Pradesh and Meghalaya also during 11th plan period. The scheme envisages to plant 5075 hectares under Block Planting Project in NE Region during the XI plan period.

The scheme will be implemented in collaboration with the concerned State Governments. Beneficiary participation by way of labour is also to be ensured as their share to the cost of maintenance. The funding pattern for the implementation of Block Plantation Projects is as given below:-

Contribution of State Government	-	50%
Rubber Board's share	-	43%
Beneficiaries' contribution	-	7%

The total cost of establishing rubber plantation in one hectare as per the existing approved unit cost is Rs. 73,100/- in Tripura, Rs. 89,970/- in Assam and Rs. 1,00,770/- in Meghalaya. Average cost of planting and maintenance of 1.00 ha. of rubber plantation in NE region is Rs.87947.00 ie. Rs.88,000/-. In addition to this, extra expenditure is required for infrastructure development. The total cost for the overall maintenance up to maturity for Block Planting will be shared among Rubber Board, concerned State Governments and the Beneficiaries as shown above. The expenditure for Block Planting and Group Planting, over and above the assistance under Rubber Plantation Development Scheme is to be met from Integrated Village Level Rubber Development and other components like Irrigation and Fencing. Beneficiary contribution will be in the form of labour only. Block planting project is implemented mostly for tribal people.

The physical and financial details of this component are as under:-

(Physical target in hectares/nos. and Financial outlay in Rs. crore.)

Sl No	Scheme	2007-08		2008-09		2009-10		2010-11		2011-12		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy.	Fin
1	Revitalisation	200	0.18	200	0.23	200	0.27	200	0.27	200	0.27	1000	1.22
2	Restocking	150	0.17	150	0.24	150	0.30	150	0.30	150	0.30	750	1.31
3	Committed Payment		0.68		0.55		0.48		0.37		0.28		2.36
4	Block Planting	200	0.64	475	1.81	650	2.80	650	2.93	3100	15.19	5075	23.37
5	Price concession for inputs		1.00		1.00		1.00		1.00		1.00		5.00
	Total		2.67		3.83		4.85		4.87		17.04		33.26

Phy.- Physical, Fin.-Financial

D. Demonstration of agro-management practices

Rubber being a relatively new crop in the non-traditional region, strong extension support is required to make the farmers adopt scientific agro-management practices in their plantations. In Tripura, the Rubber Board has already established Nucleus Rubber Estate & Training Centre (NRETC). In the other North Eastern States, District Development Centres (DDCs) have also been set up as Mini NRETCs. A Rubber Research & Training Centre is also established at Hahara (Guwahati) in Assam. The centre is maintained as a model rubber plantation for demonstration and training purposes. Three Tappers' Training Schools are also maintained in North East. These centres are to be maintained properly. Considering the serious inadequacy of required amenities and resource persons for organizing the various training programmes to growers, Plantation executives and workers on various farm-management practices, it is to incorporate sufficient provision for strengthening the existing demonstration and training facilities in these centres.

For extending the demonstration facility to the grass roots level, it is to set up demonstration plantations in farmers' own fields and maintain the existing ones.

A total financial provision of Rs.12.20 crore is provided for maintenance of NRETC, DDCs, & RRTC, setting up of demonstration plantations in farmers' fields, farmers' training programmes etc. during the 11th plan.

E. Irrigation

In the north-eastern region, dry spell followed by planting, especially late planting is a limiting factor for proper establishment of rubber plantations. Providing irrigation as a life saving mechanism for

the first 3 years will ensure proper establishment of such plantations. Financial assistance @ Rs. 3,000/- per hectare is to be provided for establishing irrigation facilities in 500 ha. of plantations. A provision of **Rs.0.15 crore** is ear-marked in the programme for providing assistance. This provision will be sparingly used mostly in the case of late plantings depending upon the season.

F. Fencing

Letting cattle loose is quite common in the non-traditional region. These cattle destroy young plants, which necessitates frequent vacancy filling thereby increasing the cost of plantation development and the gestation period, which will ultimately reduce the financial viability of plantations. Therefore, the scheme envisages to support fencing and boundary protection by extending financial assistance @ Rs. 12,500/- per ha. for an area of 4200 ha. A provision of **Rs.5.25 crore** is made under the scheme for boundary protection during the 11th plan period. Only barbed wire fencing will be encouraged. Where other types of boundary protection like bamboo fencing is practiced, assistance will be reduced proportionately.

G. Farmers' Education and Group Formation

Taking into account the difficulties in carrying out extension services in an atomized manner, formation of voluntary association of small rubber growers, called Rubber Producers' Societies (RPSs), have to be promoted. For organized input procurement, farm operations, crop processing and marketing, the scheme envisages promoting formation of new Rubber Producers' Societies and strengthening the existing ones. Formation and strengthening of Women SHGs and supporting them in undertaking various income generation activities including raising nurseries, apiculture etc are also covered under the scheme. A provision of **Rs.3.00 crore** is made for such activities aimed at empowering small farmer groups during the plan period.

H. Quality planting material generation

The Rubber Board is maintaining its own rubber nurseries in different parts of the NE region. These nurseries scientifically produce good quality budded plants and are the sources of genuine bud wood materials required by private nurseries to produce budded plants. Since the Board is in a position to meet only around 10% of the total planting material requirement in the country, it is very much necessary to maintain the nurseries already established by the Board and to start additional nurseries in order to ensure quality control and check unscrupulous trading practices adopted by the private nursery owners. Three new nurseries are also to be opened to meet the planting material requirements.

The scheme also envisages supporting local collection of rubber seeds in the NE region so that the existing practice of bringing rubber seeds from Kanyakumari (Tamil Nadu) can be discontinued.

It is also envisages to support RPSs, Women SHGs and other Non Governmental Organizations (NGOs) for raising nurseries by free supply of assorted rubber seeds, bud wood, budded stumps, budding tape and polythene bags. The outlay for the above proposals is **Rs. 5.00 crore**.

I. Soil survey and Mapping

In Tripura a scientific soil mapping was carried out by NBSS & LUP under a World Bank Aided Rubber Project in mid 1990's. Their study confirms that 1.00 lakh ha. of land suitable for planting rubber is available in Tripura, as estimated earlier by the Rubber Board. In other States of the NE region, such a study is yet to be undertaken. Thus, such a scientific soil survey and mapping may be undertaken in all

the remaining 6 NE states also to ascertain the exact area available for planting rubber. The data will be useful for the Rubber Research Institute of India to come out with specific recommendations on agro-management practices to be adopted in the different rubber growing regions in the north-east. A total amount of Rs. 2.00 crore is earmarked for this item.

J. Committed Payment for previous year's planting

As the planting grant is being paid in 6 annual installments after attaining the specified growth standards, there is a committed payment to be effected to plantations raised during the X plan period. Such payments are due to be effected during the entire XI plan period though the amount will be declining from the first to the terminal year of the plan. An outlay of **Rs. 5.70 crore** is provided in the scheme for this purpose.

II. Research

Rubber being a relatively new crop in the north-eastern region and the NE region being located far away from the traditional rubber growing tract, special attention has to be given to identify problems relating to establishment, maintenance, harvesting of rubber plantations and processing of rubber in that region. The identified issues have to be addressed and scientific recommendations evolved through research activities have to be adopted to increase the financial viability of rubber plantations in the NE region.

In order to evolve location specific rubber clones suitable for the NE region and to maximize rubber production and productivity in that area, appropriate agro management recommendations have to be evolved for which scientific research is highly essential. Rubber Board has already set up regional research stations in important locations and many of the problems could be understood through intensive research effort only. Continuation of research activity on a long-term basis will result in addressing all problems of these areas. Hence the research programmes like crop improvement, crop management, etc. have to be intensified in the NE region during the XI Plan.

Estimated outlay for the implementation of the above proposals is **Rs. 8.80 crore** .

III. Processing, Quality upgradation &Product Diversification

In the north-eastern region, excepting the 3 public sector plantations and the block plantation units, almost all rubber plantations in the private sector are smallholdings. Adequate attention has to be paid in the primary processing of latex into the marketable form of sheet rubber to ensure better quality. The Board has already assisted 3 model Rubber Producers' Societies to develop the infrastructure required for community processing of latex, 2 in Tripura and 1 in Assam, under the World Bank Assisted Project. A few more societies were also supported for setting up such facilities on a miniature scale in different parts of the northeast. Community processing has to be further encouraged and supported strongly in the northeast where individual growers are handicapped with lack of experience as well as funds for setting up the required facilities by themselves.

The Scheme envisages to support 25 selected Rubber Producers' Societies to set up group processing facilities. Each RPS will have to be provided technical and financial assistance for:

- a) construction of a processing shed and smoke house,
- b) purchase of machinery like power operated sheeting batteries, aluminium dishes and other utensils and

- c) construction of a biogas plant for treatment of the effluent discharged during processing of latex. The biogas generated in the plant will be utilized for drying rubber sheets in the smoke house.

The estimated expenditure for setting up group processing facilities in one RPS will be Rs.14.00 lakhs . Out of this, 10% of the expenditure will be met by the beneficiary growers by way of land / labour, 40% of the expenditure will be met by the State Governments concerned /NEC and the balance 50% by the Board.

All the growers in the north-eastern region cannot be covered under the umbrella of group processing. Individual growers who have taken up rubber planting have also to be supported for processing their latex into good quality rubber sheets. They will require one set of hand-operated rubber sheeting rollers. A smoke house has also to be constructed in their premises for curing the sheets produced from their plantations. A small biogas plant has also to be installed near the smoke house for treatment of the effluent produced while processing the latex. The biogas generated can be used for domestic purposes as well as drying rubber sheets in the smoke house. It is also to support individual growers financially and technically for purchasing hand-operated rubber sheeting rollers, construction of smoke house and installation of biogas plants.

It is also to supply hand-operated rubber sheeting rollers, free of cost to poor small rubber growers in NE region who are not capable to purchase it on their own. Free supply is to be strictly restricted through Rubber Producers' Societies, Rubber Growers' Societies and Non Governmental Organizations representing a group of growers of a particular centre/locality where the potential is lacking to organize a group processing centre.

It is also to provide additional facilities to group processing centers already set up, when existing facilities are found to be inadequate to meet the increasing demand for processing high volume of latex.

The financial assistance to support individual growers for purchase of hand-operated rubber sheeting rollers is @ Rs.10,000/ per set. A Subsidy of Rs.20,000/- for construction of smoke house and Rs.8000/- for effluent treatment plants are to be given.

By implementing this component, quality of the rubber sheets produced in the small holding sector will be improved and thereby the farmers will fetch better price for their produce, thus enhancing the financial viability of plantations. Treating the effluent in biogas plants will control environmental problems resulting out of the effluent of processing latex. Estimated outlay for the above proposals is **Rs.2.85 crore.**

IV. Market Development and Export Promotion

Unlike the traditional region, the north-eastern states do not have a well established network of rubber dealers, especially at the village level. Instances have come to the notice of the Board where the dealers have exploited the growers at village level by not paying the market price for rubber sheets. As an arrangement to check this type of exploitation by private dealers, a joint sector company owned by the Rubber Board and Rubber Producers' Societies has opened their depots in Tripura, Assam and Meghalaya and started purchase of rubber from farmers.

In the north-eastern region, rubber production mostly takes place in rural areas and the rubber produced by the farmers has to be brought to the towns for marketing. Farmers will have to incur heavy expenditure on transport of rubber to the selling points. As a measure to bring competition and improve

efficiency of rubber markets in the NE region, the scheme envisages to support Rubber Producers' Societies (RPSs) for group transportation of the rubber of member growers to the selling points.

The existing marketing facility provided by M/s. Manimalayar Rubbers (P) Ltd., a trading company jointly promoted by the Rubber Board and RPSs in Tripura, Assam and Meghalaya, is to be maintained and similar facilities are to be extended to other areas in NE region as market development activity.

Rubber being a relatively new crop in the NE region, a distribution network for the inputs required for rubber has not been developed so far. To overcome this constraint, it is to entrust distribution of critical plantation inputs through farmer groups registered as Rubber Producers Societies. The service of M/s Manimalayar Rubbers Pvt. Ltd., Kottayam, who had already opened depots in the North East for the procurement of sheet rubber and also to supply inputs, will be utilized for the purpose. Since the transportation cost is very high, to enable the company to supply inputs at reasonable price to the growers it is to reimburse 75% of the transportation cost to the company. By implementing the scheme, it is possible for the company to provide inputs on a regular basis to the growers at reasonable price.

Considering the importance of grass roots level availability of market information in ensuring efficiency of market, daily prices of major traded forms of rubber from important markets in the NE will be collected and disseminated through mass media. Board will participate in trade fairs, exhibitions etc. in the region also to promote rubber and rubber wood.

An amount of **Rs.1.00 crore** is estimated as expenditure under market support and expert promotion activities to small farmers in the north-east during the 11th plan period

V. Human Resource Development

i) Training

In rubber plantations, tapping is the most skilled job and the tappers have to be provided with scientific training to undertake the job without damaging the trees. With the objective of training rubber tappers, the Board has established Tappers' Training Schools in different parts of the northeast. In these schools, regular one month residential training programmes are being conducted continuously. In addition, the Board also undertakes 8 days' short duration intensive training programmes for training rubber tappers in selected plantations in the field. Considering the increasing need of rubber tappers in the region, these activities are to be continued during the 11th plan period also. Sasthradarsan programme is also to be conducted as usual for the exposure visit of potential farmers to the traditional region.

The Regional Rubber Training Centre (RRTC) at Agartala will be maintained properly. Rubber Research and Training Centre at Hahara (Guwahati), is to be equipped with the required amenities and sufficient number of skilled personnel for the design and organization of various training programmes for growers, tappers, RPSs, plantation executives etc. Demonstration plantations are also raised in the RRTC, Guwahati.

Presently the trainees attending the various training programmes organized at RRTC, Agartala are being sponsored by the Tribal Welfare Department of the Government of Tripura. As there is no sponsoring agency for the trainees identified by the Board through its Regional Offices and RPSs, the expenditure for training programmes organized in these centers are to be met by the Board.

Taking into account the remoteness of the region and the specific custom of the dominant tribes, it is to provide the extension personnel with appropriate skills development programmes to manage

situations specific to the region, short duration course on local languages and refresher programme on extension tools.

ii) Labour Welfare

The scheme envisages to implement various welfare measures for the benefit of rubber plantation workers and their families in the NE region also as in the traditional region like Educational stipend scheme, Merit award scheme, Housing subsidy schemes for the un-organized sector, Housing and sanitary subsidy scheme for the SC/ST rubber tappers, Sanitary subsidy scheme, Medical attendance scheme and Group insurance-cum-deposit scheme.

iii) Infrastructure Development

The existing buildings and other infrastructure amenities are to be maintained. Infrastructure facilities have to be established for R.R.T.C. Guwahati during the 11th plan period. Equipping the training centers at Agartala and Guwahati and expansion of office space and residential buildings in the NE region are also envisaged. Staff quarters are to be constructed for the officers and staff of the Rubber Board working in Guwahati.

The estimated expenditure for implementing the activities under HRD Component including training, labour welfare activities and infrastructure development is **Rs. 21.85 crore**.

VI. Operating Expenses

The scheme also includes a provision of Rs. 25.96 crore towards operating expenses during the 11th Five Year Plan for effective implementation of the various programmes/activities.

VII. Physical and financial targets for the 11th Plan

The physical and financial targets for various activities under the Scheme for Rubber Development in the NE region from 2007-08 to 2011-12 are as follows:-

(Physical target in hectares/nos. and Financial outlay in Rs. crore.)

Sl No	Activity	2007-08		2008-09		2009-10		2010-11		2011-12		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
1	New Planting	2700	2.43	3750	5.27	5700	8.84	5850	11.57	7000	14.62	25000	42.73
2	Replanting	350	0.32	350	0.56	350	0.70	350	0.81	350	0.91	1750	3.30
3	Planting grant for previous year's planting (prior to 2007)		2.00		1.50		1.00		0.75		0.45		5.70
4	Integrated Village Level Rubber Development (board's share) - Revitalisation, Restocking & Block planting	550	1.67	825	2.83	1000	3.85	1000	3.87	3450	16.04	6825	28.26
5	Productivity Enhancement- Input supply & Price concession	5000	1.00	5000	1.00	5000	1.00	5000	1.00	5000	1.00	25000	5.00
6	Agro-management demonstration, Nucleus Estates in Tripura, RRTC, Assam and District Development Centres in the NE Region		2.15		2.25		2.40		2.60		2.80		12.20
7	Irrigation	100	0.03	100	0.03	100	0.03	100	0.03	100	0.03	500	0.15
8	Boundary protection	200	0.25	1000	1.25	1000	1.25	1000	1.25	1000	1.25	4200	5.25
9	Farmer education and group formation.		0.40		0.50		0.60		0.70		0.80		3.00
10	Soil survey and mapping		0.40		0.40		0.40		0.40		0.40		2.00
10	Quality planting material generation		0.70		0.80		1.00		1.20		1.30		5.00
11	Research		1.25		1.25		1.55		2.25		2.50		8.80
12	Processing & Quality upgradation		0.57		0.57		0.57		0.57		0.57		2.85
13	Market Development & Export promotion		0.20		0.20		0.20		0.20		0.20		1.00
14	Human Resource Development		3.55		4.20		4.50		4.70		4.90		21.85
15	Operating expenses		3.40		4.10		5.00		5.65		7.81		25.96
	Total		20.32		26.71		32.89		37.55		55.58		173.05

VIII. OUTPUTS AND OUTCOMES

The major development **outputs** are the following:-

- Rubber will be new planted in 25000 ha. in the region.
- Worn out plantations in 1750ha will be scientifically replanted.
- Rejuvenation of sick immature plantations in 1750 ha will be taken up.
- Tribal settlement programmes through rubber planting in 5075 hectares will be taken up.
- Productivity enhancement measures will be adopted in 25000 ha.
- Research, Processing & Quality upgradation, market development and HRD progress will be taken up for the development of rubber sector in NE region.

The **outcome** expected as a result of implementation of Rubber Development progress in NE region are

- Rubber production from NE region will go up by 43250 MT per year resulting in import substitution and saving of foreign exchange worth its value ie Rs. 346.00 crore per annum.
- Rural development through employment generation. Around 276.25 lakh direct employment opportunities will be created in rural areas during the immaturity period of rubber. Thereafter 19950 people will get permanent employment in mature rubber plantations for the next around 25 years. These are direct employment opportunities. In addition to this, an almost equal number of labour opportunities will be generated indirectly, for raising nurseries, felling old trees for replanting, rubber wood processing and furniture making, dealings in plantation inputs, procurement and sale of rubber etc
- Around 5075 Tribal families will be settled through rubber planting and they will earn permanent income from their plantations. Shifting cultivation will be prevented to that extend.
- Location specific agro management and processing problems in rubber plantation sector in the region will be solved through research activities.
- Quality upgradation of natural rubber will be effected and the farmers will get better price for their produce.
- Empowerment of small farmers will be achieved through group formation and strengthening.
- Environment and soil protection will be achieved.

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