

Report of National Seminar

## VISION AND STRATEGIES OF TEA DEVELOPMENT IN HILLY STATES

By

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*The International Society of Tea Science helped organize a National Seminar by the Uttarakhand Tea Development Board at Almora on May 29-30 after a field visit to the site of new tea plantations at Kausani, Uttarakhand, India. The meeting discussed the feasibility of introducing Clonal tea on the land that once supported a flourishing tea industry and then abandoned tea plantations for some reason which is still not clearly understood.*

### BACKGROUND

Tea plantations in Uttarakhand are located between 28° 30' and 30° 58' North. The British introduced tea in 1836. Wholly china hybrid plantations were spread between 1500 to 2100 meters elevation, which flourished in this area and brought accolades for quality in London auctions. The area under tea grew to 2000 hectares. But the tea industry went into decline. Presently old tea plantations exist in less than 1200 hectares, of which 500 hectares tea exists in Dehra Doon Valley in a rather indifferent shape. In the remaining area, abandoned tea patches are seen as cabbage shaped dwarf bushes or tall shrubs, ranging from a few dozen plants under scrub jungle to about 40 hectares in a compact area. Pockets of such tea exist in the districts of Pithoragarh, Champawat, Almora, Nainital, Chamoli and Rudrapur in Uttarakhand.

Considering the socio economic potential of employment generation and economic growth, as well as the need of greening of bare hill slopes, and in the background of the past performance of

tea in this region, the Government launched a tea development project for rural development in the hilly regions. In July 1994, consultancy was sought from (IHBT) Instt of Himalayan Bioresource Technology of the CSIR at Palampur, who also made available the services of a tea expert. First a seed nursery and later a clonal nursery was started. Tea was planted on land leased from smallholder growers who also found jobs for planting tea. Today 350 hectares of tea have been planted on an area of 9000 hectares identified as suitable for tea. Production per annum level is only 27000-kilo tea, valued at average of Rs. 300/ kilo but the highest price paid for specially made 3 kilo tea is US \$ 800 per kilo, indicating very high quality of this highly flavored tea.

To consider the factors that would make tea planting a viable proposition, the Uttarakhand Govt. decided to hold a national seminar and determine the best/ optimum system of organization, agro-technology package, processing and marketing. A summary of the discussion at the seminar from May 28- 30 2005 is reproduced below:

### SUMMARY OF ALMORA SEMINAR

1. Skeptics ask: why introduce tea? Why not another farming system – horticulture, arable

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- crops, cattle or sheep rearing? To establish the relevance of tea, socio economic and agro-ecological issues need to be examined.
2. **Socio Economic Issues:** Introduction of tea on hill slopes under sparsely populated pines or grasslands, provides employment (700 man days per hectare) for weaker sections of the society (women in particular), generates income (2000 kg/ha X Rs. 200/kg) amounting to Rs. 4 lakh per hectare per year, which primes the local economy. Intercropping with fruits and herbs could increase income. However, investment for planting tea at Rs. 2 lakh per hectare is heavy compared to other land use systems.
  3. **Agro-ecological Issues:** In the fragile ecosystem of Himalayas, the effect of tea on conservation of soil & water, flora and fauna is not well established. In-depth studies are needed to evaluate the impact of tea plantations on environment by GBPIHED and on alternative farming systems by The University at Pant Nagar, to compare tea against existing secondary forest, horticulture, arable farming, and animal raising.
  4. **Rejuvenation strategy:** Abandoned and dilapidated tea plantations can be rehabilitated either by rejuvenation or by replanting. In Kangra, rejuvenation of 2000 hectares producing 6 lakh kilos in 1984, recorded an increase in production to 18-lakh kilo in a decade. Uttaranchal preferred the route of new planting. Cost-benefit should be done for each situation.
  5. **Organization:**
    - (a) Present system in Uttaranchal for new plantations, allows the Government to take the land on lease and hire smallholder families to plant tea. When the production starts, the Govt sells the leaf at Rs. 13/ per kilo to a bought-leaf factory in Joint sector. In this system, the breakeven point is reached in 15 years. If the tea is manufactured by the grower himself, and sold at the same price, the leaf-price margin goes up and the breakeven point is reached in only 6 years. The Govt proposes to invite private entrepreneurs for a tripartite arrangement to buy leaf from the growers and process it in private factories for marketing. The alternative organization systems, which were discussed at the seminar, are described in the next paragraphs.
    - (b) Farmer's cooperative as adopted by Himachal Pradesh: Four cooperative factories were set up in Kangra valley to buy the leaf from smallholder growers, manufacture them in the cooperative factories, taking advantage of the scale of operation and sell tea through Calcutta auctions. Tea production of Kangra went up from 6-lakh kilo in 1984 to 18 lakh kilo in 1994 and the average prices increased from Rs. 7/- to Rs. 200/-. But decline started with supply of poor leaf standard, yielding low quality product that hit Calcutta auctions in depressed market. However, the cooperative continued to pay leaf price without linking payment to actual realization. With accumulated losses, three factories closed down. If these pitfalls are avoided,

the cooperative system is a viable alternative.

- (c) KTDA (Kenya Tea Development Authority) model was suggested by one speaker. Half of Kenyan Tea is produced in this system, which makes better quality tea than that produced in the Estate sector. Commitment to fine leaf standard, advantage of large scale processing in modern factories, and leaf payment in two installments, linked to receipts, has made this cooperative organization a success story, like Amul Cooperative in India.
- (d) Mini factories by Japanese smallholder growers produce raw tea, which is then refined and packed in large re-processing factories.
- (e) Small-scale computer controlled processing by each grower is suggested by developing 50-100 kg capacity machines, which are linked to a network of computers and centrally guided by Master computer. Quality will be excellent. But marketing needs to be centralized. Funds need to be allotted for design of mini machines. CSIO funding is required for to develop this system fully.
- (f) Bought leaf factories: In South India (and Assam), private bought leaf factories receive the leaf from a group of small growers who are supported in technological improvements by the factory staff. The entrepreneur handles manufacture and marketing.
- (g) PSU style of TANTEA organization where tea plantations were raised by employing Srilankan repatriates does not appear to be suitable for Uttaranchal.

#### 6. Young Tea Management:

Tea in South India is closer to the equator. Young tea yields and input needs are very high but the prices are low (Rs.60/). Nilgiris has much more steep slopes. Cost of putting up soil conservation structures is very high. Rainfall is high and tea does not need irrigation. Vetiver is planted in a big way for soil conservation.

Tea in Darjeeling: Planting quality clones is critical for raising Young tea in Darjeeling. Close attention needs to be paid to soil conservation and weed control. Low frame formation is important. Darjeeling is fast converting to Organic for premium quality tea.

Cachar Teelahs are a very good example of growing 5-ton yielding young tea in low hills of North India. One speaker detailed young tea management. Cachar grows Assam quality and not flavory tea.

- 7. Water harvesting was considered essential for establishment of young tea with irrigation in the low rainfall of this region. At present, most of the rainwater is lost as runoff. Sprinkler, drip and open channel systems of irrigation need to be compared for their cost-benefit ratio.
- 8. Soil-conservation on slopes: is essential for long-term health of tea plantations in Uttaranchal. Stone structures alone or in combination with vetiver plantation may be practiced, as in South India.
- 9. Machinery: Modern Machinery for quality manufacture is essential requirement for sustainable tea industry in Uttaranchal. Computer controlled machinery design has been already discussed under organization at # 5 (e)

10. Organic Tea: was considered a panacea for smallholder growers who practice low-input agriculture. Mr. Sanjay Bansal has offered to set up three factories to manufacture organic tea, which will be marketed by him. Inputs like vermiculture and microbial fertilizers were discussed.
11. Certification of organic was discussed to make it available for small grower manufacturers.
12. Role of biotechnology for development of elite clones was focused.
13. Training: was identified as the most important input for success of a new plantation. Training of smallholder growers, staff of the Tea Development Board and all others concerned is suggested at Tocklai with the help of the Tea Board of India. UPASI training may be considered if the language barrier can be overcome.
14. Marketing is considered most essential for success of this venture. The Matrics analysis showed that in the modern times, this should be starting point of any new enterprise. Unfortunately no practical marketing system was proposed at the seminar. However, an auction and a blending retail-packing center for Himalayan flavory teas were suggested. It is essential to evolve a market policy by discussion with well-wishers of Uttaranchal tea — Mr. Sanjay Bansal, Mr. Sanjay Kapur and Mr. Piyush Bhai Desai.
15. Research into the failure of erstwhile successful plantations will throw up useful pointers to the flaws in management system. Research into

socio economic and ecological factors can be entrusted to GBPIHED while alternative farming systems are the forte of GB Pant university of Agriculture at Pant Nagar. However, research on selection of suitable local varieties and development of agro-technology to meet the local needs of Kamaon Hills must be attended to by a small group of scientists under an R&D Center at Kausani on the pattern of DTRC of the Tea Board at Darjeeling

**PROPOSAL for SPECIAL ISSUE OF International Journal of Tea Science on Vision & Strategy Of Tea Development in Hills**  
With Special reference to Uttaranchal in India  
Editors: Dr. R.S. Tolia, Dr. N. K. Jain

**Prologue:** It has been decided to add to the presentation and invite special papers for publishing in an all inclusive special issue of the International Journal of Tea Science “ Development of Smallholder Tea in Hills” The readers of IJTS are requested to send their suggestion of topics and specialist authors to ad in the list given in the format below:

**Part I: THEME PAPERS**

(Editor - V.G. Dhanakumar)

1. Vision & Strategy of Tea Development in Hills: R.S. Tolia
2. Uttaranchal Tea in the National Context: N.K. Das
3. Profile of Uttaranchal Tea: M.B. Tamang
4. Role of R&D in developing Abandoned Teas in Hills: F. Rahman
5. Role of CSIR in Development of Kangra Abandoned Tea Plantations: N.K. Jain, R.D. Singh

6. Three paths to Development of Tea Industry: Subhash Sharma
7. Total Quality Management: V.G. Dhanakumar
8. Potential of Biotechnology/Microbiology in Hill Areas Tea: L.M.S. Palni
9. Employment Potential of Small grower Tea Industry: G. Boriah
10. Women Empowerment & Development of Backward Communities with introduction of tea in Uttaranchal: CS Bisht.
11. Training Needs of Green Field Tea Plantations: Dr. Ramu of KVK/ Director TRA
12. Funding Needs of Plantations in Hills: V.S. Motial
13. Impact of Tea on Hill Environment: G.C. Negi/ Alternate
14. Tea Tourism: Sudhir Prakash/ Indonesian Experience A. Dharmadi

## **Part II: ORGANIZATION SYSTEMS FOR SMALL GROWERS OF TEA**

(Editor: M.B. Tamang)

1. Kenya Tea Development Authority for smallholder growers.
2. Kangra Smallholder Co-Operative: B.B.L. Butail
3. Worker- owned joint Stock Company: Tata Tea: T.V. Alexander/P.Haridas
4. TANTEA-PSU Developed for Sri Lanka Repatriates: G.S. Rawat
5. Nilgiris Smallholder Growers under Bought Leaf Factory: T. Jayaram

### **Sharing Experience of Small holder tea growers in different situations:**

6. Srilanka: Problems & Prospects of Smallgrowers: TRI Srilanka
7. Kangra tea industry – Problems & Prospects: K.K. Sood

8. Darjeeling: integrated Small Tea Estate: Ashok Kumar
9. Darjeeling Makai Bari Tea Estate: Raja Bannerjee
10. Problems & Prospects of Darjeeling Tea: B.K. Dutta
11. Sustainable Smallholder Tea Farmers in Kenya – P.O. Owuor

## **Part III: ORGANIC TEA IN HILLS**

(Editor N. Ghosh Hajra)

1. Field and Factory Management of Organic Tea Plantations: Ashok Lohia or alternate author
2. Certification and Marketing of Organic Tea: Sanjay Bansal
3. IMO Certification of Organic Tea: Vasudeva
4. Vedic Organic Farming – Relevance to Tea: P.S. Pathak
5. Constraints in Nutrition of organic tea Farming System: DP Verma
6. Organic Experience in Darjeeling: Ghosh Hajra
7. Organic Tea Growing in Hilly Tract of Peermade, Kerala: Stanley Pareira
8. Organic Tea Growing in Hilly Regions of China: Chen Zong Mao
9. Biological Control of Tea Pests: N. Muraleedharan/ L.K. Hazarika
10. Control of Tea Diseases through Microbials: Dileep Kumar
11. Microbial fertilizers in Uttaranchal for Organic Tea: Anita Pandey
12. Bio-remediation through Vermi-composting: B.C. Ghosh & G. Sharma

## **Part IV: AGROTECHNOLOGY OF HILL TEAS**

(Editor F. Rahman)

1. Brining up young tea

- Principles of Brining up young tea: B.C. Barbora
  - Young Tea in Darjeeling: Bawa Kuldip Singh
  - Young Tea in Nilgiris: Prashant Bhansali
  - High Yielding Young Tea in Cachar Teelaha: Dileep Syam
  - Performance and problems of Young Tea in Terai T.E. Sikkim:
  - Technology Package for Rehabilitating Kangra Tea: Rakesh Sood
2. Soil and Climate on Tea productivity: B.C. Saini
  3. Universal Soil Conservation in Tea with Vetiver Grass: P. Haridas
  4. Water Harvesting Techniques in Tea in Hills: Acharya (WMI Project)
  5. Multiple Cropping of Smallholder tea for Profit in Bengal: B.C. Ghosh
  6. Nutrition of Tea in Hills: D.P. Verma

7. Irrigation of Tea in Hills: M.J. Pook/ N. Prasad

## **Part V: MANUFACTURE AND MARKETING**

(Editor - Pawan Kapur)

### **MANUFACTURE**

1. Machinery for micro processing quality tea: Pawan Kapur
2. Japanese Small Tea Factory: T.C. Choudhury
3. Standardization of Tea Processing in Himachal: D.K. Sharma
4. Gaps in adoption of improved technologies: Pramod Verma

### **MARKETING**

1. Marketing of Organic Tea: G.C. Motwane
2. Marketing Experience of Uttarakhand Tea: Nishit Rawat
3. Niche Marketing of Himalayan High Quality Tea – Sanjay Kapur.

