Reform Needs of on Tea Research and Development Policy in Nepal

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Abstract

Tea is one of the exportable commodities of Nepal. Tea cultivation is a labour intensive agri-business and plays a multi dimensional role in income generation, fostering industrial and environmental protection. It is estimated that about 70 thousand people are employed and 9 thousand families are involved in tea industry in which 60% are women. It contributes more than 0.14% to AGDP. The production and area under tea plantation are in increasing trend. Although high numbers of private and public organizations are involved in tea industry, Nepalese tea industry is running in much slower pace compared to its competitors. The demand of tea is burgeoning worldwide due to its non-alcoholic and medicinal value. Although, the tea industry posses a bright scope in uplifting economic condition of people and nation. But the R&D policy and program implementation modality of tea industry needs restructuring for improvement of production, productivity and quality tea to compete fast changing global market. National Tea Research Institute (NTRI) needs to be set up for high quality tea production in sustainable way. This paper focuses on various existing issues on tea R&D and highlights some new thoughts for exploiting its full potentiality for economic growth of the nation and improving living standard of rural people.

Introduction

Tea is cultivated in more than forty countries of the world including Nepal. Tea is one of the highly profitable and exportable horticultural commodities of Nepal. Major tea producing districts are Jhapa, Ilam, Panchthar, Dhankuta, Terhathum. Tea plantation has been expanding to new districts like Lalitpur, Kaski, Dolkha, Sindhupalchowk, Solukhumbu and Nuwakot. The other potential districts for tea production are Taplejung, Ramechhap, Bhojpur, Gorkha, Dhading, Makawanpur, Rashuwa, and Khotang. There are 15 tea processing industries in the country. Total area under tea plantation is 16,420 hectare and total production is 151, 67,743 Kg in Nepal. The average productivity of tea in Nepal is low (867.Kg/ha). The productivity of tea in Sri Lanka is 1,400 Kg/ha (Agricultural Profile, 2003). One of the major reasons for low tea productivity in Nepal is slow pace of technology generation because of inappropriate organizational set up for the research of this commodity.

Global Tea Production

Tea is cultivated in about 25 countries of the world. As seen in Table 1 China and India are top leading countries in tea production. Although China continues to dominate global

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tea production, India is the biggest producer and consumer of black tea in the world. This dichotomy is mainly because India is mainly a black tea producing region, while China continues to focus on green teas. However, these countries get behind Kenya in export (Table 2). The cause of this situation is China's and India's high domestic consumption rate.

Table 1 Leading 10 tea producing countries and their production volume (tones)

China	536	719	315	422	560	9,345	5,500
India	000	000	000	000	750	730	220
Kenya	520	045	570	500	500	580	000
Sri Lanka	090	000	230	090	200	300	500
Turkey	900	000	300	563	520	500	505
Indonesia	068	194	318	200	700	000	000
Vietnam	00	00	300	500	525	300	000
Japan	00	00	00	700	000	00	00
Argentina	17	57	56	34	71	29	00
Bangladesh	00	00	00	30	30	00	00
World	3,072	2,030	3,676	1,055	0,194	7,786	1,339

Source: FAO 2009a.

Table 2. Leading tea exporting countries and their export volume (tones)

	2001	*2002*	*2003*	*2004*	*2005*	**2006**
Kenya	207,244	288,300	293,751	284,209	347,971	325,063
China	252,204	254,875	262,663	282,643	288,874	288,625
Sri Lanka	203,524	290,500	297,003	298,909	307,793	204,240
India	177,603	181,617	174,246	174,728	159,121	181,326
Vietnam	67,900	77,000	58,600	104,000	88,000	105,000
Indonesia	99,797	100,185	88,176	98,572	102,294	95,339
Argentina	58,110	57,643	59,062	67,819	68,270	72,056
World	1,450,128	1,580,485	1,529,678	1,634,575	1,716,261	1,629,184

Source: FAO 2009b

Tea Production in Nepal

Private tea estates, small tea planting farmers and Nepal Tea Development Corporation produce tea in Nepal. Majority of the area and production is shared by private tea estates however, number of small tea planters and their contribution in total tea production is increasing over the years. Table 3 presents the increasing trend of tea area and production over the years. In Nepal, mainly orthodox and CTC tea is produced (Table 4) .

Table 3. Tea Plantation Area (ha) and production (kg) trend in Nepal (1998-2006)

	Area					Production			
FY	Private Tea estate	NTDC	Small Holders Farmers	Small Holders Area	Total	Private Tea estate	NTDC	Small Holder	Total
1998/99	6073.2	937.6	4915	3239	10249.6	3577857	496881	418242	44929180
1999/02	6073.2	937.6	4915	3239	10249.6	3577857	496881	1010499	5085237
2000/01	8179	-	5310	3818	11997	5089579	-	1548503	6638082
2001/02	8179	-	5575	4186	12346	5864720	-	1653855	7518575
2002/03	8321	-	5760	4314	12643	6478000	-	1720000	8198000
2003/04	8869	-	6252	6143	15012	7714669	-	3956535	11651204
2004/05	8312	-	6845	6989	15900	7789893	-	4816188	12606081
2005/06	8911	-	7154	7100	16012	8443907	524433	5244330	13688237
2006/07	9011	-	7593	7409	16420	9340656	-	5826989	15167743

Table 4. Area (ha) and production (kg) of different types of tea in Nepal in 2006/07

Particulars	Orthodox		C.T.C		Total		Productivity (kg/ha)	
	Area	Production	Area	Production	Area	Production	Orthodox	CTC
Garden	2904	656600	6107	8684154	9011	9340754		
Farmers	4520	1320149	2889	4506840	7409	5826989		
Total	7424	1976749	8996	13190994	16420	15167743	266.27	1469.58

Source: NTCDB ,2007

Exports and Imports trend

Tea is one of the exportable commodities of Nepal. Both volume and value of tea export are continuously increasing where as the import is in declining order (Table 5). Orthodox tea is exported mainly to Germany, Hong Kong, Netherlands and Japan while CTC tea is imported to Nepal from India

Table 5 Export and Import trend of Tea in Nepal

Year	Export (MT)	Export (000 Rs)	Import (Rs.)
1994/95	72.20	13574	65,208
1995/96	72.70	15516	52,171
1996/97	81.40	22617	86,971
1997/98	35.01	11745	60,218
1998/99	83.80	30081	27,831
1999/00	81.60	25722	73,277
2000/01	69.50	23084	98,000
2001/02	79.60	27987	8,838
2002/03	193.00	53908	468
2003/04	984.22	104822	992
2004/05	4316.00	438771	419
2005/06	834.00	98644	5,005
2006/07	832.00	12,36,42	19,000

Existing Strategies and Policy on Tea Industry

The history of tea plantation in Nepal is as old as in Darjeeling of India and possibly older than Sri Lanka. However, the tea industry in our country could not flourish as in India, Sri Lanka and China. Further more, other countries like Kenya and Vietnam are coming up aggressively in tea industry. The tea development history of Nepal can be divided in four parts as given below:

- B.S.1920 to B.S.1935: Ttea plantation in Ilam and Soktim Tea Estate initiated by NTDC.
- B.S. 2016 to 2030: Private entrepreneurs started tea plantation NTDC expanded tea plantation.
- B.S.2035 to 2046: Smallholders' tea plantation scheme was launched in Ilam around Kanyam Tea Estate. At the same time, 5 districts of eastern development region declared tea zone
- B.S. 2046 to 2057: National Tea and Coffee Development Board, Himalaya Orthodox Tea Planters Association, Nepal Tea Association, Nepal Planters Association were established
- Government of Nepal approved and implemented National Tea Policy 2000 for overall tea development. (Sharma, 2001).

The Tenth Five Years Plan (2002-2007) emphasized modernization, diversification, and commercialization of agriculture through the use of improved technologies. The plan also puts thrust in adopting policy and activities conducive to carrying out research and development (NPC, 2003). The research institution such as NARC and concerned stakeholders has to play an active role on the research and technology development of commercial crops. This will be a formidable challenge for all of us and requires appropriate policy, strategy and interventions on program level especially in management and development of human resources, physical facilities and financial resources. The objectives and guidelines of periodical plans should be followed with trust and honest commitment.

As envisaged by National Tea and Coffee Development Board Act, 2049 National Tea Policy 2057 (2000) was formulated. The policy has envisaged that (1) make the area under tea cultivation up to 40,875 hectares in the coming five years (2) make the gross tea production up to 4,61,11,000 kilogram in the coming ten years (3) avail the employment opportunities for the additional 79,310 Nepalese people in the first five years period (4) make the orthodox tea production up to 65 percent out of total tea produced. The policy also states that (1) a Tea Research and Training Centre shall be established with the participation of Nepal Agricultural Research Council and (2) international cooperation established for manpower development. The policy has given various types of provision and facilities to tea planters such as concession of land ceiling, 80% bank loan of total project cost, grace period, custom duty on importation of equipments, infrastructure development (road, irrigation, electricity, communication, education and health), and exemption of 75 % land registration fee and so on. (Sharma, 2001)

Issues and Challenges of Tea R & D

Nepalese tea industry is passing through a very tough period. The issues and challenges are being raised in different forums by politicians, policy planners, bureaucrats, horticulturalists, tea planters, tea associations, traders and industrialists. Despite repeated presentation of such issues by pertinent stakeholders, they are not properly addressed in government planning and implementation. Even the appreciated policy document like Agriculture Perspective plan (APP) has also not been implemented effectively in case of tea. There should be broad consensus, promptness and commitments from all stakeholders for development of the tea industry. The followings are the major issues and challenges related to tea R & D which are generally talked and discussed in different forums:

- Poor policy support and ineffective implementation of policy and programs
- Lack of research and training institute and accredited laboratories.
- Lack of location specific research centers.
- Insufficient human resources
- Lack of multidisciplinary research approach in tea.
- Inadequate budget and improper utilization of available resources.
- Centralized organizations and duplication in programs among government organizations
- Poor accessibility of technology to stakeholders (end-users)
- Lack of coordination, collaboration and linkage with national and international organizations.
- Poor participation of tea planters in research and development
- Over and/or unproductive administrative staffs
- Inadequate marketing infrastructures, monopolistic marketing and lack of cooperative marketing of green leaf and made tea
- No quality control mechanism
- Misuse of Agriculture Development Bank soft loan
- Misuse of concession of land ceiling
- Underutilized post harvest infrastructures.
- NTCDB is responsible body but insufficient (technical human, finance, infrastructure)

Challenges:

- Poor national research system on tea
- Lack of honest commitment, willingness among political leader, bureaucrats and stakeholders to improve tea industry
- Lack of public-private partnership approach, cooperation, collaboration and linkage network
- Lack of policy and programs support in location specific high value low volume tea crop.

- Climate change

Opportunities:

- Rich in climatic variation, suitable geophysical conditions and enormous area suitable for organic tea farming from east to west in mid hill.
- Self grown private tea gardens
- Demand of organic tea is increasing globally
- Tea has been considered as profitable and exportable commodity
- Large area available for plantation expansion
- Eco-friendly perennial crop and sciophyte
- Tea planters and cooperatives are willing to work together
- Provides employment to rural people.
- Possibility of public and private partnership

The Need of Tea Research Institute

Tea cultivation is labour intensive agribusiness. In tea industry, about 2.43 people/per hectare/per day are employed year the year in Nepal while it is 3.5 in Sri Lanka and 3 in Kenya (Yadav. 2004). Nepal has tremendous national and international market potentials of tea. It also plays vital role in income generation and eco-tourism. It provides regular employment opportunities and helps reduce outward migration from hill to the plains and town. Tea can also be grown in marginal and fallow lands which are unproductive otherwise. The demand of Nepalese tea is increasing worldwide because of its aroma and flavor. Because of such reasons tea (especially organic product) has very high potentiality in Nepal provided appropriate technological and other supports are provided to the growers. In the context of very competitive global market, technology is very critical.

There are number of public and private organizations involved in tea research and development which include National Tea and Coffee Development Board (NTCDB), Agricultural Research Council (NARC), Department of Agriculture (DoA), Himalayan Orthodox Tea Association-Nepal (HOTPA), Nepal Tea Producers Association (NTPA) and Nepal Tea Association (NTA). There is also a group of tea alliance partners to develop and promote orthodox tea called as Nepal Tree Crop Global Development Alliance (TCGDA) that consist of members from NTCDB, AEC/FNCCI, Winrock International, JICA,GTZ, HOTPA, industrialist and concern stakeholders. Despite the existence of significant number of organizations in tea industry promotion, none of them have research and training institute. As a result, research and technology generation has been at low priority in Nepal.

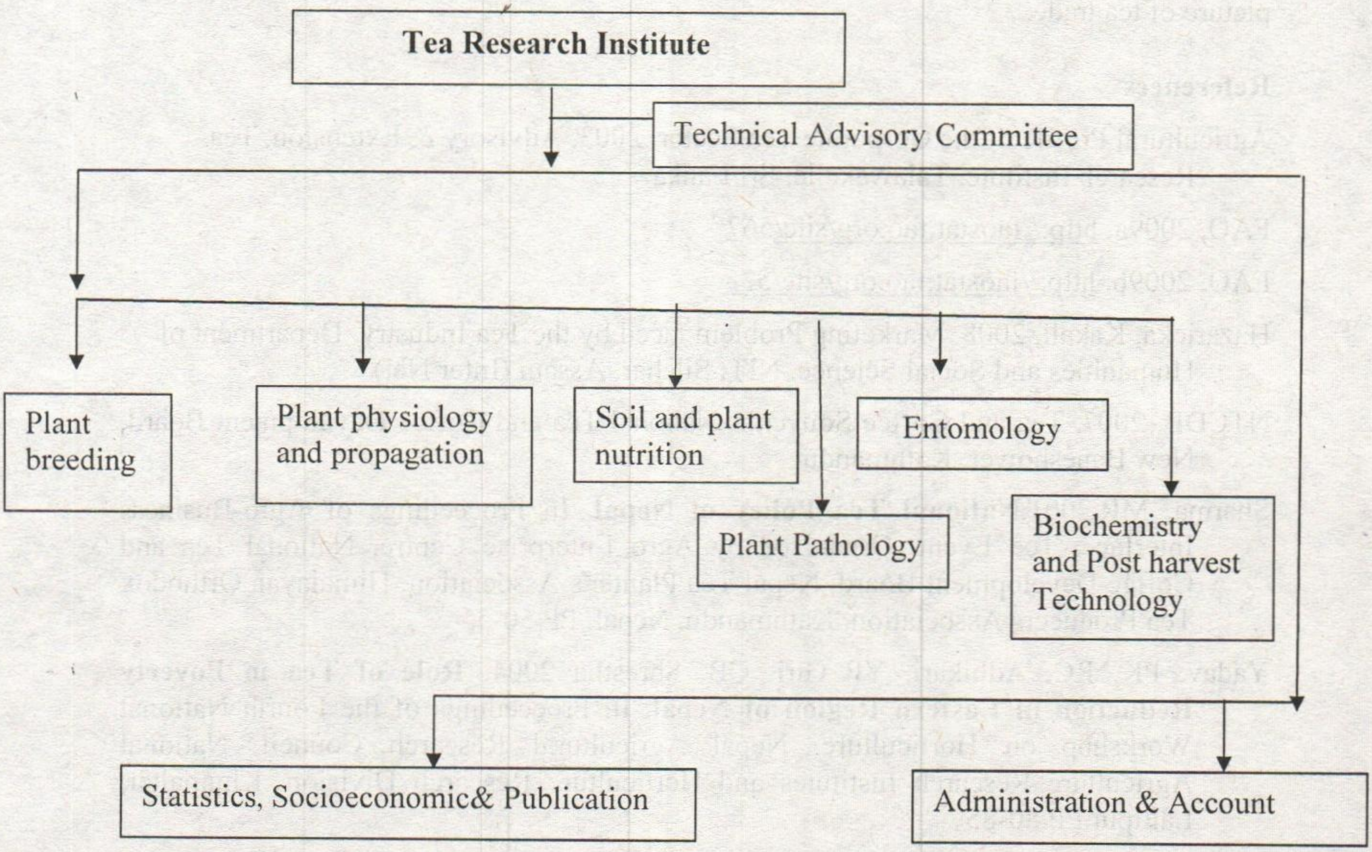
It is well know that, no country has developed without agriculture development and agriculture has not developed without technology generation. In the changing context of Federal Republic of Nepal and world scenario, the Tea Research Institute (TRI) is urgent need for tea industry under central government. TRI will identify the technological need of private sector, conducts researches by establishing an effective funding and human resource management with the involvement of public and private sector.

Intervention for Improvement of Current Strategies and Policies

Nepal is going to adopt Federal Republic model of government. In line with the change in government system reformation in tea R & D organizational set up is also needed. Followings are reasons for reformation:

- Restructuring of duplicating organizations based on need
- Location specific, need based research policy and program formulation and effective implementation.
- Human resources development and management (Higher studies, regular training, promotion, salary and allowances, recruitment and other facilities.)
- Efficient management of allocated financial resources
- Strengthen infrastructure facilities

National Tea and Coffee Development Board (NTCDB) is responsible and mandated organization for tea industry development. Technology generation is one of the responsibilities of NTCDB. Other functions of NTCDB are human resource development, marketing, planting materials distribution, code of conduct implementation and so on. On the other hand Nepal Agricultural Research Council (NARC) is mandated for agricultural research. National Agriculture Research and Development Fund (NARDF) also provides funds to private sector to conduct agriculture research including tea. But none of these organizations have qualified human resources and tea research and training centre. Research, training and extension service delivery is scattered and duplicated due to self centered programs among organizations. Thus there is a need of establishment of National Tea Research Institute with combined research, training and extension service delivery mandate so that stakeholders get services from one door. The proposed organizational set up of TRI is given below: It consist of multidisciplinary group of scientists like plant breeding, plant physiology and propagation, soil and plant nutrition, plant pathology, entomology, socio-economy and biochemistry & post-harvest technology at one platform.



The proposed TRI will have following functions:

- Development of skilled human resources.
- Research and technology development
- Improvement of tea quality and development value added tea products
- Provide technical services to tea growers.
- Develop sanitary and phytosanitary (SPS) standards
- Develop Nepal an leading organic tea producing country of the world.

Conclusion

The tea industry occupies a broad areas and posses a bright future in supporting livelihood of the people. Tea is a profitable and export commodity. It is an economically viable and labour intensive agribusiness that plays a multi dimensional role in income generation, eco-tourism, fostering industrial and economic development, provides regular employment opportunities and helps in poverty reduction. Although there are a number of private and public organizations, Nepalese tea industry is passing through a very tough period. Now we have to work with challenges and opportunities of WTO and IPR. Nepal has to prioritize research problems for technology development with stakeholders' active and honest participation. Existing R & D policy, programs and organization of tea sector need to be restructured so that we can harness its potentiality and show Nepal in global picture of tea trade.

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