चियै - चिया
समारिका

प्रकाशक
राष्ट्रीय चिया तथा कफी विकास बोर्ड
केन्द्रीय कार्यालय
नर्याँ बांबुस्कर, काठमाडौं
पो. ब. नं. ९८६३
फोन नं. : ४९१७०६ ४९५७६
पत्राक्स : ४९२०६
His Majesty King Birendra
श्रमकामना

नेपाल कृपा ध्वान देशको सम्पन्न भए तामोन बुधिम स्थःको सरमा अवस्था न्यू इन सबैको छुट्न भएको छ। दिन प्राप्ती भन्नी नसेँन अत्य उत्कृष्ट मूल सम्पत्ति नगरीको भागि सम्म सबैको भएको प्राप्त छ। जागरण उच्छ मुनिको भएको नब्ज रोजङ्गालिका अस्तित्व र त्यसको वितर्नरता, भास्तब्यण गतान्त्रण सहकारी, भूमिकाको रोक्याम भुन्ने एवं नियमित विज्ञापन बैठोशिक मूल आज्ञा र मन्त्र व्यवहारक एवं अभिप्रक आकर्षणको पनि छुन्नौ भने उचित सम्बन्धले मात्र हरित-कालिन द्याउन सबै। देशसँग राष्ट्रिय विषय विवेचन २०१३ भने अवसरमा उक्त क्षेत्रमा समापित उपभोक्ता, व्यवसायी तथा कर्मचारीहरूमा हार्दिक शुभकामना ज्ञात गरेको छ।

कर्मदेव रामां भज्यो
कृपा राजम शक्ती
एवं
अन्य
राष्ट्रिय विषय तथा कृपा विचार बोईँ
शुभ-कामना

नेता अहिलेश जैनोलिक निविष्ठता र निविष्टताले अंदरहोता छ । यह निविष्ठता कामकाज में आगे चलना हुआ प्रकृति के अनुसार हृदय के समान। भूल कर नहीं रहे हैं। आपके सभी माता-पिता, भाई-भाऊ, पारिवारिक साधन में हर समय आपका सर्वश्रेष्ठ स्मरण है। आप हर समय आपके साथ ही साथ हर समय आपके साथ ही साथ।

मिति: २०७८/७/२०७

[Signature]

[Name]
श्रीम कामना

पिता तथा करी अवसराने नेता को सर्वविद्या विद्यास्तो साधनों को लागि उपयुक्त माध्यम हो। यह उद्देश्य की प्राप्ति की लागि यहाँ के वातावरण, भौगोलिक व्यविधि, इतिहास, भू, भाषा, धर्म, नृत्य, संगीत, भावभूति के रूप में तत्कालीन रूप से अवश्यक हैं। विभिन्न विभागों को देखते हुए, नेता के पास संबंधित साधनों के अवश्यकता का एक अनुमान उपलब्ध है।

नेता के अभ्यास के लिए, उन्हें पर्यायवाची भाषा के लिए कुल 34 वर्ग के सामान्य पाठ उपलब्ध हैं। इनमें से कुल 29 वर्ग के पाठ हैं जिनका लागि उन्हें अनुसूचित किया गया है। इनमें सम्पूर्ण अध्याय थिए, जिनमें एक प्रसिद्ध है जिसका नाम 'समाजशास्त्र', 'कालकृति', 'भाषा और भाविक वस्तुओं' और 'संस्कृति' है।

विभिन्नताओं की गतिशीलता के लिए, गतिशीलता (परिवर्तन) के लिए हमारे पास साधन हैं। इनमें सम्पूर्ण अध्याय थिए, जिनमें एक प्रसिद्ध है जिसका नाम 'समाजशास्त्र', 'कालकृति', 'भाषा और भाविक वस्तुओं' और 'संस्कृति' है। इनमें सम्पूर्ण अध्याय थिए, जिनमें एक प्रसिद्ध है जिसका नाम 'समाजशास्त्र', 'कालकृति', 'भाषा और भाविक वस्तुओं' और 'संस्कृति' है।

हाँ, इसमें भी विभिन्न अनुभव का समूह मिलता है, जिसमें सम्पूर्ण अध्याय थिए, जिनमें एक प्रसिद्ध है जिसका नाम 'समाजशास्त्र', 'कालकृति', 'भाषा और भाविक वस्तुओं' और 'संस्कृति' है।

हाँ, इसमें भी विभिन्न अनुभव का समूह मिलता है, जिसमें सम्पूर्ण अध्याय थिए, जिनमें एक प्रसिद्ध है जिसका नाम 'समाजशास्त्र', 'कालकृति', 'भाषा और भाविक वस्तुओं' और 'संस्कृति' है।

सुनिश्चित नर्मिणि
करिकारिता विषयक
राष्ट्रीय प्रिय सर्वाधिक और विशेष विकास बोर्ड
सच्चापादकको

विकासानुभूत योगदन निरत्तर प्रक्रिया हो। समाजका प्रत्येक सदस्यले योगदन बीत थप्ते जैसा पुलिको पता हरी योगदा घर रहितहरु।

चिथा क्षेत्रको पति यही कथा हो। नहीलेसम्म जे हुन सकेको हरि हुन सकेको छ। तबी भगवान्तो पादपहरुमा छ। पण्डिती जानुहोस् यो सबै पादर्शा छ। भए गरेका सम्पूर्ण कार्यह छान्न सम्पूर्ण पति नहुने तथा नटरिय, सामग्री पति नहीयात् फिन भरने शंका पति भयो। त्यस बाहेर “चिथा चिथा” स्मारिकको यस तेको अंक प्रकल्पना गर्न उपलब्ध भएका सामग्री अनुसार चिथाको अन्तर्गतिक परिपत्रण दिन सम्बन्धित क्षेत्रमा चानो राखने सम्पूर्ण पाठक वर्गका लागि उपयुक्त सामग्री बन बनाए भनेर त्यसी गर्न प्रयास गरिएको।
<table>
<thead>
<tr>
<th>लेख/रचना</th>
<th>लेखक</th>
<th>पृष्ठ</th>
</tr>
</thead>
<tbody>
<tr>
<td>New strides and ambitions</td>
<td>Mukti Raj Sharma</td>
<td>1</td>
</tr>
<tr>
<td>खेसा - सहारको समर्थन दोक्कियत प्रयोग</td>
<td>छन्न मिरे</td>
<td>11</td>
</tr>
<tr>
<td>शरीरसिद्धि र खेसाको शिक्षाकृति</td>
<td>रागामानाष राम्चा</td>
<td>12</td>
</tr>
<tr>
<td>खेसाको विस्तार वजार र नेपाल</td>
<td>रामरुद्व्रार राजी</td>
<td>19</td>
</tr>
<tr>
<td>Need of Efforts to Overcome the Major Obstacles seen in Coffee</td>
<td>Buddiraj Dhakal</td>
<td>29</td>
</tr>
<tr>
<td>खेसा तथा काफीको निकल्टी पैड्डन्ने विविधता</td>
<td>फितेशराज गुप्ता</td>
<td>35</td>
</tr>
<tr>
<td>Research and development</td>
<td>Dr. W. W. D. Modder</td>
<td>39</td>
</tr>
<tr>
<td>Sustainability of Tea in the</td>
<td>B. Shivaram</td>
<td>49</td>
</tr>
<tr>
<td>खेसा र खेसा निततीको वायुरक्कला</td>
<td>दुरेश बंगोला</td>
<td>57</td>
</tr>
<tr>
<td>खेसा उपोषय चहनास सहभागिता</td>
<td>लांबिय धेरीम्बर</td>
<td>61</td>
</tr>
<tr>
<td>नेपालका खेसा शैक्षित हिसो बाज र पोली</td>
<td>राखा प्रसाद अङ्गार</td>
<td>63</td>
</tr>
<tr>
<td>टिप्पण टाप्पन</td>
<td></td>
<td>68</td>
</tr>
<tr>
<td>खेसा निकन्य शर्मा कायरत टी जोंकहर्प</td>
<td></td>
<td>73</td>
</tr>
<tr>
<td>खेसा तथा काफी उद्योगात्मक</td>
<td></td>
<td>76</td>
</tr>
<tr>
<td>खेसा निकन्याका कफत - खेसाको पुनर्नमुक्त</td>
<td>रेम अङ्गार</td>
<td>84</td>
</tr>
<tr>
<td>काफी वालीका सालने रोमान्डी</td>
<td>रघुपति चौधरी</td>
<td>87</td>
</tr>
</tbody>
</table>
New strides and ambitions developing a new force in the world tea economy.

-Mukti Raj Sharma
Executive Director
National Tea & Coffee Development Board

Nepal is a land locked country bounded by the People Republic of China in the north and by India in the east, west and south. Nepal is a democratic country with constitutional monarchy and the only Hindu Kingdom in the world. People reading here are multi racial, multi lingual and multi religious and are harmoniously united under the great traditional and religious tolerance Fostered by great sages and lord Gautam Buddha who was born here and respectfully honoured worldwide as the "Light of Asia." Nepal takes pride on them.

Nepal is located between 80° to 88° east latitude and 26° to 30 north longitude. The total area of Nepal is estimated at 147181 sq. kilometers with a population of 22.5 million. Nepal has a very diversified climatic and topographical conditions, comprising of the highest peak of the world viz., the Mount Everest at 8848 mt descending down to about 60 mt at Kechara, in Jhapa, the CTC tea growing district of Nepal. The climate of the place is therefore diversified as per the latitudinal differences.

Being a land locked country the economy of Nepal is based mainly on agriculture. The terai region is self sufficient for food crops and spares some of it to the high landers whereas the mountainous region is not entirely suitable for cereal crop production. The region accommodates only a few kinds of high grown food crops. Most of the people still rely on the traditional agriculture system. The arable land is scattered in the hills because of very steep slopes and precipices. Large scale agriculture production is made further difficult due to the continuous fragmentation of land.

Tea in Nepal
Tea was introduced in Nepal round about the same decade when tea was introduced in the Darjeeling Hills of India. The Tea industry of Nepal
however, could not flourish as India owing to various reasons. A brief account of the development history of Nepal is given as under:

**Tea development history: in brief**

In the year 1863, the first plantation was carried out in the hills of Ilam district by private sector. The plantation was nationalised and privatised a number of times till the year when it was inherited by Nepal Tea Development Corporation (NTDC) in the year 1996.

First tea plantation at private tea sector in terai/plain was established in 1959 viz., Budhikarna Tea Estate.

Nepal Tea Development Corporation was established in the year 1996.

Out Growers Scheme was started by NTDC in the year 1978/1979. His Majesty the King Birendra Bir Bikram Shah Dev declared the five districts of eastern development region viz. Jhapa, Ilam, Panchthar, Terathum, and Dhankuta districts and tea zone in the year 1982.

National Tea and Coffee Development Board was Established in 1992/93.

Nepal Tea Planters Association was established in the year 1987/1988.

Nepal Tea Association was established in the year 1991 in the name of Nepal Tea Packers and Traders Association.

Himalayan orthodox Tea Producers Association was established in the year 1998.

Presently there are three main types of private organizations involved in Tea business.

**They are:**

1. Nepal Tea Planters Association: They organize and promote growers for production of CTC tea.

---

1 The plantation of 1863 is still under commercial production in Ilam district.
2. Nepal Tea Association: They help and facilitate packaging, export and import of tea. They are better organized and are providing valuable service to the trade.

3. Himalayan Orthodox tea producers Association: They have been managing the product of Orthodox tea in an organized way.

There are certain Governmental and non Governmental organisations who are looking after the promotional activities. Among the Government Organisation, National Tea and Coffee Development Board, Trade Promotion Center Export Promotion Center and in the non governmental front, Agro Enterprises / FNCCI are directly related to promote Nepalese tea in the International market.

Present Status
The Tea Industry of Nepal comprises of Government owned tea estates, the Private estates, Bought Leaf Factories, the Small holders and the Packers and marketers. The total area under tea plantation is presently estimated at 9061 hectares with the production volume of 4.4 million kgs. The industry provides direct employment to about 22600 people, out of which about 83 percent comprise of company employed / hired labours and the rest are self-employed small farmers.

Public Estates
There are seven tea estates and gardens under the Government management. The Estates are managed by Nepal Tea Development Corporation Ltd. (NTDC) since it's establishment in the year 1966. NTDC is presently is in the process of privatization.

Total tea area under NTDC gardens is about 951 hectares and is producing only about 4.97 Mt. of made Tea.

Private Tea Sector
Tea in the private sector comprises of small holders, bought leaf factories and the big tea garden / estates owners.
Small Holders

The small holders comprise of small farmers or the farmers with tea plantation area below the land ceiling frame and larger farmers with tea areas over the land ceiling frame but without the processing facilities.

Tea cultivation at Small holders level began with the introduction of Out Growers Scheme (OGS) soon after the establishment of NTDC. Small holders or the Out Growers came into being in the early seventies and gradually with the increase in tea area, bought leaf factories mushroomed and today small holders contributes to about 16 percent of the total national production volume and are mostly concentrated in the hills. Out of the total production of the hill orthodox tea, the small holders alone contribute to more than 68% and the percentage contribution in terms of area and production seems to be increasing every year. At present there are about 2825 number of small holders actively involved in tea growing. They have planted 4583 hectares of land and produce 47 million kgs tea.

Private Estates:
The private Estates comprise of both big and small tea gardens and estates. The total area under private tea estates is estimated to be about 3917 hectares with an annual production of 3927 mt. of made tea. Contribution of tea production from the private estate to the National production volume is estimated at about 89 percentage.

Bought Leaf Factories

Bought leaf factories do not have their own tea plantation facilities and therefore depend on the small farmers for the green leaves to run their factories. There are three bought leaf factories presently in operation in Ilam and one in Jhapa district of Nepal. Four more are under construction in Ilam district indicating a steady increase in tea production over the years to come. Further a rapid increase in tea area at small holders level is anticipated due to the increased installation of bought leaf factories.

Presently the Bought leaf factory of Jhapa district is the largest CTC producing factory and its contribution to the National production volume is about 16 percent.
Tea Market

Tea market situation of Nepal can be viewed from several angles. The reason being that the consumer demand is met through different channels. Tea market share in Nepal comprise of tea traders from different sub sectors like the Government owned tea estates, the private estates, the small holder and the Tea Packagers and Blenders. Given below in brief are the ways followed by them;

Public Estates

The public estates managed by Nepāl Tea Development Corporation and conduct their sales through packet sales and tea auction.

Private Estates / Bought Leaf Factory

Depending upon the profitability and convenience the private estates / bought leaf factories disposes off their tea in the following manner;

i) Bulk sale : Tea sold in bulk to the dealers and packaging industries.
ii) Packet sale : Tea sold through their own packaging industries.
iii) Export : Tea sold through export.

Small holders

Small holder due to the lack of their own processing unit either sells their green leaf to the accessible bought leaf factory or makes their won hand made tea and sells in the local market.

Packaging industries

Basically there are two kinds of tea packaging industries operating in Nepal. The first one being the private estates owning tea packaging unit and the second one are the ones who operate their industry through the tea bought in bulk from NTDC, private estates and the tea imported from outside.

Price Trends:

Price trend of the last ten years in the domestic market is given below wherein a notable jump is seen in the year 1997-1998. The jump is primarily due to the overall shortage of tea in the International market. In the year 1997 the effect of the shortfall in supply was noticed in the later
part of year up to the middle of 1998 whereby the price increased by almost 40 percent.

**Domestic Price Trend of CTC Tea**

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Price NRs/Kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>45</td>
</tr>
<tr>
<td>1990</td>
<td>52</td>
</tr>
<tr>
<td>1991</td>
<td>60</td>
</tr>
<tr>
<td>1992</td>
<td>65</td>
</tr>
<tr>
<td>1993</td>
<td>69</td>
</tr>
<tr>
<td>1994</td>
<td>70</td>
</tr>
<tr>
<td>1995</td>
<td>76</td>
</tr>
<tr>
<td>1996</td>
<td>81</td>
</tr>
<tr>
<td>1997</td>
<td>85</td>
</tr>
<tr>
<td>1998</td>
<td>90</td>
</tr>
<tr>
<td>1999</td>
<td>115</td>
</tr>
</tbody>
</table>

Today, the price of Nepalese CTC tea is dictated by the tea prices of Indian Auction as the supply of tea is in short of demand in Nepal. The future of tea price of domestic tea (CTC) of Nepal depends entirely on tea production of Nepal and India. At present the price realization of Nepalese tea is higher than India as the Nepalese domestic production is less in supply than demand. However, the prices will probably be balanced when the domestic production meets the demand. In the case of exported tea, (Orthodox tea) a steady rise in price is for seen due to the steady rise in demand. The increase in price will continue with the increase in orthodox tea consumption which as per the present record is increasing world-wide. The increase in demand is expected to rise further due to the increase in the number of health conscious consumers.
Tea Production Trend of Nepal.

<table>
<thead>
<tr>
<th>Year</th>
<th>Public Sector</th>
<th>%</th>
<th>Private Sector</th>
<th>%</th>
<th>Total Mt.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994/95</td>
<td>1009</td>
<td>40.2</td>
<td>1500</td>
<td>59.8</td>
<td>2509</td>
<td>100</td>
</tr>
<tr>
<td>1995/96</td>
<td>1112</td>
<td>40.5</td>
<td>1626</td>
<td>59.5</td>
<td>2721</td>
<td>100</td>
</tr>
<tr>
<td>1996/97</td>
<td>936</td>
<td>32</td>
<td>1980</td>
<td>68</td>
<td>2916</td>
<td>100</td>
</tr>
<tr>
<td>1997/98</td>
<td>603</td>
<td>20</td>
<td>2418</td>
<td>80</td>
<td>3021</td>
<td>100</td>
</tr>
<tr>
<td>1998/99</td>
<td>497</td>
<td>11</td>
<td>3927</td>
<td>89</td>
<td>44.24</td>
<td>100</td>
</tr>
</tbody>
</table>

Domestic Consumption, Exports and Imports

Consumption

The domestic tea consumption survey has found the consumption of 2.42 cups per day per person. The annual per capita consumption is 400 gms of tea and the tea consumption for the year 1998/1999 based on projected population of 20 million in the country is 8 million kg. After 10 years domestic tea consumption will be 486 grm. per annum and total tea consumption will be 12.4 million kg.

Exports and Imports

Nepal both exports and imports tea. Orthodox tea is mainly for export. However only good quality orthodox tea is exportable. At present, tea is mostly exported to Germany, Japan and India. The total tea production of Nepal have reached up to 4.4 million kg of which 4 million is orthodox tea a part of it is exported as per following table.

<table>
<thead>
<tr>
<th>Year</th>
<th>Export kg.</th>
<th>Value Rs</th>
<th>Value in $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990/91</td>
<td>8050</td>
<td>1012424</td>
<td>14673</td>
</tr>
<tr>
<td>1991/92</td>
<td>21036</td>
<td>2560376</td>
<td>38411</td>
</tr>
<tr>
<td>1992/93</td>
<td>5953</td>
<td>1420056</td>
<td>20580</td>
</tr>
<tr>
<td>1993/94</td>
<td>24791</td>
<td>5852233</td>
<td>84815</td>
</tr>
<tr>
<td>1994/95</td>
<td>72338</td>
<td>13374243</td>
<td>196728</td>
</tr>
<tr>
<td>1995/96</td>
<td>72373</td>
<td>15316423</td>
<td>224876</td>
</tr>
<tr>
<td>1996/97</td>
<td>72425</td>
<td>20239327</td>
<td>293326</td>
</tr>
<tr>
<td>1997/98</td>
<td>313312</td>
<td>72010401</td>
<td>1043629</td>
</tr>
</tbody>
</table>
At present the tea consumption in Nepal is 8 million kg. and 50% of which is imported from India, Bangladesh as well as some green tea from Japan.

There is 9061 hectares under tea, almost all the areas under tea are in developing stage. In the contest of OGS, according to the land holding rules of the land reform programme, small holder tea scheme is found very practical. But there is a big obstacle of communication. The infrastructures like road construction is very expensive in the hills and the arable lands are scattered though farmers who are well aware of the benefits of tea farming are planting tea in marginal land in their best. National tea and coffee dev. Board is helping them technically and giving a link to bank for financial help.

Already many farm households have begun tea cultivation on their own land that are close to tea processing factories. In other areas which are in inaccessable, farmer households cultivate tea and process it at home and sell in local markets as well as consume it at home. The following table represent the present tea cultivation and production.

**Tea Cultivation and Production**

<table>
<thead>
<tr>
<th></th>
<th>Orthodox Tea</th>
<th>C.T.C.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area/Hectare</td>
<td>Production Kg.</td>
<td>Area/Hectare</td>
</tr>
<tr>
<td></td>
<td>4583</td>
<td>468980</td>
<td>4478</td>
</tr>
</tbody>
</table>

**Potentials:**

In Nepal tea production can be increased by planting tea in new areas as well as by increasing the existing productivity. There lies a tremendous potentiality in increasing the productivity per unit area as the present productivity of tea in Nepal is virtually insignificant in comparison to that of Kenya, Sri Lanka and India. Nepalese tea productivity is very low due to number of reason arising out of technical, financial and management problem. Similarly tea can be planted in other districts besides the declared
tea growing districts and in areas as high as upto 2000 metres above sea level depending upon the range of tea plantation area.

Presently small farmers productivity is very low. Generally keeping in view of the existing climatic and soil condition of Nepal, the productivity could be maintained at as high as 1000 kg/ha provided a standard technical and management practices if followed. Similarly, low productivity is also due to the lower efficiency of pluckers or tea labours. Scientific management practices could increase the efficiency of existing labours whereby increasing the productivity. It was observed that the efficiency of labour is higher in the terai than in the hills.

There is no well conceived tea policy in Nepal yet. The people involved in tea industry have all come together and formulated one National tea policy which we hope will be coming in the next month. There are three main components in newly drafted tea policy. The one is on import substitution, the other one is on export promotions and the third on organizing and promotions of tea plantations on the basis of small holders group, big plantation and co-operative farmer. These are targeted to give complete self-sufficiency in domestic consumption front and also to make a big leaf ahead in export volume in coming ten years time.

There are more land suitable for tea cultivation in adjoining districts of tea zone and further west. We target to extend more suitable land both in the hills and terai under tea cultivation with in 5 years and bring it to 40.7 thousand hectares. This we hope will produce 46.1 million kg of tea of various grades and earn around 246 million dollars. This will give permanent employment to 102 thousand people in rural sector and estimated earning of 90.48 million Dollar, which is sure to boost rural economy to further take off developments. The following table gives the future target of tea cultivation production consumption and export.
### Tea Production Consumption and Export Scenario of Nepal after 10 Years

<table>
<thead>
<tr>
<th>S. No</th>
<th>Type of Tea</th>
<th>Area in Hectares</th>
<th>Total Production in million Kg</th>
<th>Domestic Consumption in million Kg</th>
<th>Export in million Kg</th>
<th>Value of Export in $</th>
<th>Value of Domestic Consumption in $</th>
<th>Total Value in $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Orthodox</td>
<td>30130</td>
<td>30.19</td>
<td>12.01</td>
<td>27.11</td>
<td>1327.55</td>
<td>511.10</td>
<td>1838.65</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>40792</td>
<td>46.11</td>
<td>12.41</td>
<td>33.68</td>
<td>212.35</td>
<td>33.79</td>
<td>246.14</td>
</tr>
</tbody>
</table>

This way our strategy is with the ambition to economic development through the development of tea industry. Hope fully with help of facilitating National Tea Policy and the co-operation of tea technocrats to different countries, Nepal can stay in the front-line in the world in orthodox tea production and market.

Basing more on our knowledge and experience, than our date our private organizers are claiming great leap forwards and the import figure available are significantly reduced we think we are already in taking stride direction. Our target for the next decade which is almost 75 folds is bound to assert its position specially in orthodox sector. The infrastructure, the policies both on production and export, our knowledge and experience in both technology and management, our stable political system and above all the will of the industrious and hard working people will surely bring the anticipated results. We hope the next meeting will show in figure our assertive beliefs.

*Asia International Tea Conference 6 - 7 October 1999 मा राष्ट्रिय तियाल द्वारा काफी विकास सौदीक कार्यकर्ता निर्देशक भरी मुखिता शामलेस प्रस्तुत गरिएको तियाल सम्पर्कः*

---

*हर्षद्वाक*
नियम - संसारको सबैभन्दा लोकप्रिय पेय

खर निरीक्षण

उपायमा

रात्रिका नियम तथा भजन पिकल्चर भेद

उपत्यका पात्री पिकल्चर सबैभन्दा सहज र आसान तकराउने भएको पेय परिचय नै हो। हुन भएका विभिन्न मुख्यकार्य दिनेवा, पेय पद्धत परिचय गरी होसी भएका भन्ने तिनीहरू पनि नियम पिनेको जरीहरूको विकल्पकार्यको सिद्धांत बढाउने गरीएको देखिएको छ। पेय पद्धतिहरूले एकीकृत तन्त्रसर्कार न भए पनि जो जसले तन्त्रसर्कार भएका पेय पिने जस्तो तन्त्रसर्कार एकीकृत पेय पिने जस्तो मध्यम निरीक्षण अन्तराल मात्राहरूलाई विवरण गरेको छ।

खरी पेय पद्धतिहरूको तालिका

<table>
<thead>
<tr>
<th>भनेको संख्या</th>
<th>पिया</th>
<th>पिया</th>
<th>पिया</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>2522</td>
<td>2639</td>
<td>2567</td>
</tr>
<tr>
<td>1995</td>
<td>2547</td>
<td>2567</td>
<td>2528</td>
</tr>
</tbody>
</table>

उपरोक्त तालिकहरूले देखिएको ने नियमको उपायमा निर्धारित व्यवस्था बढी मै रहेको छ, र सोही अनुसार नियमको खराब पनि प्रभावित बढी हुने छ।

नियम तथा अन्य पेय पद्धति पिनेको भएका भौगोलिक अवस्था, वित्तीयहरू, वैज्ञानिक पृथ्वी तथा मानिसको आयोजनामा पनि भाव हुनेछ।

लेखक आफ्नो १०० मिनट वार्षिक आर्थिक व्यवस्थालाई नै भने आयोजना राख्ने क्षेत्रको मानिस, वृद्धि देखि तथा गरी देखि सिद्धांतको सम्बन्धित, तथा पेषीकोलाई पिनेको मानि त्यस त्यस भएको नै भने पेषीकोलाई गरी देखिएको छ। विशेष त्यस त्यस पनि देखिएको छ। पेषा त्यस पिने जस्तो देखिएको एकीकृत र व्यवस्थापनको क्षेत्रमा निर्धारित भएको छ। यो त्यसको मानिसको गरी पेषा त्यसको मानिसको गरी यसको देखिएको छ। यसको देखि एक्सचेंज फ्रेक्टेराइज, फ्रेक्टेराइज स्वभावहरू मा Carbonated भएको गरी पुनरार्थ एक भरि नै हुनेछ। यो त्यसको मानिसको गरी पेषा त्यसको मानिसको गरी यसको देखिएको छ। तर आर्थिक र कालक्रम, तिन आयोजनको दिनेवा या Carbonated भएको गरी पुनरार्थ एक भरि नै हुनेछ।
USA, the world's largest producer of carbonated drinks, offers a variety of flavors to quench your thirst. These beverages are enjoyed by millions of people daily. However, consuming too many carbonated drinks can lead to health problems. In this article, we will explore the benefits and drawbacks of carbonated drinks, and help you make informed choices about your beverage intake.

Benefits of Carbonated Drinks

1. Hydration: Carbonated drinks are a convenient way to stay hydrated, especially on a hot day. They are often considered refreshing and can help you stay cooler.

2. Energy Boost: Some carbonated drinks contain caffeine, which can provide a quick energy boost. However, excessive caffeine can lead to side effects like insomnia and jitters.

3. Convenience: Carbonated drinks are easily accessible and available in a variety of flavors, making them a popular choice for on-the-go drinking.

Drawbacks of Carbonated Drinks

1. Sugar Content: Many carbonated drinks are high in sugar, which can contribute to weight gain and the development of chronic diseases like diabetes.

2. Acidic Effects: The carbonation in these drinks can contribute to dental erosion and weaken tooth enamel.

3. Water Retention: Consuming too many carbonated drinks can cause water retention, leading to bloating and a heavy feeling.

4. Dehydration: While carbonated drinks can be hydrating, they often contain high levels of sugar and artificial sweeteners, which can lead to dehydration.

5. Artificial Sweeteners: Some carbonated drinks contain artificial sweeteners, which have been linked to a range of health problems.

6. Calories: Even though carbonated drinks are low in calories, consuming them regularly can still add up to significant calorie intake.

In conclusion, carbonated drinks can be a convenient and enjoyable way to stay hydrated, but it's important to consume them in moderation and balance them with healthy beverage choices. Always read the nutrition facts label and choose beverages that meet your health goals.
दार्जिलिंग व चियाको इतिहासी 
- तारागिरी सर्व उपनिवेशक 
राष्ट्रीय भिंती तस पश्चिम विकास बोर्ड 

दार्जिलिंगच्या विकासात कार्य 120 वर्षांच्या उद्घाटनाच्या होत्या इतिहासात. पर्यावरण अनुसार तपास, द्राक्षे उत्पादन, व ते म्हणजेच विद्युत उत्पादन म्हणजेच ती नवीनतादरम्यानची नयी कार्य प्रयोगाने चर्चा फक्त म्हणून ठरलं. 1847 मध्ये भारत सरकारने यांनी ह्या प्रयोगात वाचवले. 

उपन्यास कथा ओढलून, रेकॉर्डमध्ये दृष्टिकोणातून, कृषक सर्वांच्या दृष्टिकोणातून, तसेच राष्ट्रीय दृष्टिकोणातून, या प्रयोगात वाचवले. 1853 मध्ये सर्वांनी डार्जिलिंगच्या इतिहासात व ह्यातील सर्व चर्चित अनुभवांचा सांगू व आणि त्याची विकासस्तर व उद्भवाची दृष्टीकोणातून वाचवले. 

दार्जिलिंगचा हिल स्टेशन या स्थानात, एक तरुण नागरिक येता डार्जिलिंगच्या उद्योगात अधिकारी असल्यास ते ह्याच्या दृष्टिकोणातून वाचवले. 

हंडरेंज देवल टानेचे घडामोटे स्थानमध्ये एक नवीन डार्जिलिंगच्या महान केलेले अग्रणी वाचवले. 

दर्जेलिंग कॉलोनियल टी चाय कारखाना, जेतकी "Darjeeling consolidated Tea Co.\\n\\n1866 मध्ये स्थापित केलेली डार्जिलिंगच्या इतिहासी लेखनीत. एक या किंवा चार या नवीन संस्थानांच्या उद्योगांमध्ये वाचवले. 

लागू केलेल्या दर्जेलिंगच्या कमिकोन्सोलिडेटेड टीएचएससी (Darjeeling consolidated Tea Co.) 1866 मध्ये स्थापित झाली जे त्यांनी दर्जेलिंगच्या काँग्रेसाला त्यांच्या उद्योगांमध्ये पारंपरिक पद्धतीत वाचवले.
Winhering (Watermark) (Papierkarte)  
Wasser lagiert hierzu einen Unterschied. Dieses Papier ist nicht inkjetiert. Es wurde mit einer Drucktechnik verarbeitet, die es ermöglicht, dass der Text eindeutig lesbar bleibt. 

Ruling (Linie) (Blaulinie)  
Diese Papierkarte ist von der Seite her gestaltet. Die Linien auf der Rückseite dienen als Führungshilfen für das Schreiben. 

Fermentation (Mischung) (Essenz, Aroma)  
DasGemisch der Zutaten und Aromen wird in einem bestimmten Prozess (Fermentation) erzeugt. Die Essenz ist das Ergebnis dieser Prozesse. 

---

**5. Tisch der Kaffee Robo**  
**Aroma**

---

*55*
Drying (steam heating): The sample is subjected to steam heating to a certain temperature and then cooled to room temperature. This process helps in the removal of moisture from the sample.

Sorting and packing: The dried samples are sorted into different categories based on their size and quality. They are then packed in suitable containers for storage or further processing.

Tea Testing art ( broadband testing): This involves the evaluation of the tea samples using various sensory and instrumental methods. The aim is to assess the quality and characteristics of the tea samples.

Visual inspection: The tea leaves are observed for their color, shape, and size.

Taste test: The tea samples are tasted by trained panelists to evaluate their flavor and aroma.

Instrumental analysis: Techniques such as colorimeters, refractometers, and spectrophotometers are used to measure various physical and chemical properties of the tea samples.

Conclusion: The tea testing process helps in the quality control of tea products and ensures that they meet the desired standards.

Testing results: The results of the tea testing process are recorded and analyzed to make informed decisions about the product.

Customer feedback: Gathering feedback from customers helps in understanding their preferences and needs, which is crucial for product development and improvement.

Overall, the tea testing process plays a vital role in ensuring the quality and safety of tea products, thereby enhancing customer satisfaction and loyalty.
पिवा चालकों प्रभाव
पिवा चालको लाभ रास्तो तर कपड़ो खापक हुनु जो एकतर सल्फ हुन अधिक जहा छ । 2.5 समय पिवा गरी बेचारा मात्रा लागि र एक कुत्तो मात्रा उल्लेखने पल्टी लिमित छ हराइ जो आपले महाल 5 वा 6 बिनेक्ट छोपिएको हो भोला कपडा झापाने र आर निवा पत्रका लागि त्यस भए । धार्मिक (निषेध) पिवा पिवा र रग, समस्ता र भावायन सबूत अविभवहीत गुन जो बाहर आए तालियन नीति समाधित हुनु ।

Intrinsic हे नै पिवाको गुण सार परिवर्तन गर्न विज्ञ सुबिधा हुनु । पिवा चालको गरी सिया पुर्वको विकार नपर्न उर पात्रका उन्माय धाम छाया पिवाको हुन्नु । उसल तपालाई आफ्नो प्रकारका लाई विवेचन भाषामा देखि पनि चन्न छ । पिवाको भोल र पात्रकालाई छायी रुपरेत पखि Taster से मौलना धाम नुसा र एक हुनो धामा हल्का धामा कुला गरे भए सकिदै पुरातात् पुलक हुनु र पुर्वकार प्रेमका अवसर उसको धामा लल्याँ दस्त भेसको हुन्न वाजा, टरगिब, काडापन आदि देखि निर्देश तपणु गुण धामा छायांग गरी सरल ।

बाहरीकरण प्रकाश (कला)
विवरण विवरण प्राप्ती पाइको अन्य विवरण जसली दालिमक पिवाको पनि विवरणको साथी पाइकोले र करारको शास्ति भर्न सहायता आफ्नो प्रकाशका मान्यता गर्ने । समुदायले अक्षमण (Auction) प्राप्तीले साधारणको सहायता असर भएको र अधिक भएको शास्ति भर्न । जस कि समुदायले उपनामको 50 प्रतिशत भन्दा बढी पिवा विवरणका अवसर (बाइडिंग) लागि विज्ञ हुन्नु । अवसर प्राप्तीमा भएको विवरण नै समस्तानिध भयामा पुराणका गराउन सम्पर्क भनि सिर्फ हुन्नु । Auctioneer लागि बाइडिंग गर्नु प्रकाशको पनि विवरणको विज्ञ भनि सिर्फ हुन्नु र प्रकाशकले महत्त्वपूर्ण सम्पर्क भनि सिर्फ हुन्नु । यस अन्तर्गत सम्पर्क मात्रा प्राप्त हुनु तथा प्रकाशकले महत्त्वपूर्ण सम्पर्कका लागि विवरण हुन्नु । यस अन्तर्गत विवरणका रूपमा सम्पर्क गरेको गरि विवरणको अवसर नगर धामा पाइको हुन्नु ।

पिवाको अन्तिम कार्य क्षेत्र र आफ्नो विवरणको गुण महत्त्वपूर्ण गर्नु हो सम्प
Leaf Grade

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTGFOP</td>
<td>Fine Tippy Golden Flower Orange Pekoe</td>
</tr>
<tr>
<td>TGFOPI</td>
<td>Tippy Golden Flowery Orange Pekoe</td>
</tr>
<tr>
<td>GFOP</td>
<td>Tippy Golden Flowery Orange Pekoe</td>
</tr>
<tr>
<td>FOP</td>
<td>Tippy Golden Flowery Orange Pekoe</td>
</tr>
<tr>
<td>OP</td>
<td>Orange Pekoe</td>
</tr>
</tbody>
</table>

Nomenclature

<table>
<thead>
<tr>
<th>Broken Grades</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOPI</td>
<td>Broken Orange Pekoe One</td>
</tr>
<tr>
<td>GFBOP</td>
<td>Golden Flowery Broken Orange Pekoe</td>
</tr>
<tr>
<td>BPS</td>
<td>Broken Pekoe Souchong</td>
</tr>
<tr>
<td>GBOP</td>
<td>Golden Broken Orange Pekoe</td>
</tr>
<tr>
<td>FBOP</td>
<td>Flowery Broken Orange Pekoe</td>
</tr>
<tr>
<td>BOP</td>
<td>Broken Orange Pekoe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fannings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGOF</td>
<td>Tippy Golden Orange Farming</td>
</tr>
<tr>
<td>GOF</td>
<td>Golden Orange Farmings</td>
</tr>
<tr>
<td>OF</td>
<td>Orange Farming</td>
</tr>
</tbody>
</table>
नाम | नैमिन्ति
--- | ---
YH | Young Hyson
FYH | Fine Yong Hyson
GP | Gun Powder
H | Hyson
FH | Fine Hyson
SOUMEE | Soume
DUST | Dust

पहाड़ी श्रेणी उत्पादन हुने र निर्भर झुतलका विवरणको नाम, प्रयोग रुपमा श्रेणी तथा परिवर्तनाको वर्णन।

**Easter Flash**
पक्की हामीद तफ्ताह अधिक समय दिनिने धारा पत्ती के मूलहाल झन्का र रहस्यमयी समय विषयको धारा। पाको उत्पादनको उद्देश्य विभिन्न तरिका कार्यक्रम आफ्नो प्रस्ताव प्रस्तावको देखि कृपया ध्यान दिनुहोस्।

**Spring Flash**
हामी कान ध्यान दिनिने धारा पत्ती फस्ट पल्स (Easter flash) बन्ना। धारा पत्ती नैमिन्ति ग्यार्न समय समय फलपुष्टि सहित गौरवसन्मय बन्नुहोस्।

**Summer Flush**
पाको उत्पादनको धारा पत्ती फस्ट पल्स (Easter flash) बन्ना। धारा पत्ती नैमिन्ति ग्यार्न समय समय फलपुष्टि सहित गौरवसन्मय बन्नुहोस्।

**Autumn Flush**
- धारा पत्ती फस्ट पल्स (Easter flash) बन्ना। धारा पत्ती नैमिन्ति ग्यार्न समय समय फलपुष्टि सहित गौरवसन्मय बन्नुहोस्।

**धारा पत्ती रोगोः आत्मोपर्दर बन्नें।**
पतीको निवास पाने शहीदवत एक प्रकृति उद्यमतातिमक ब्राह्मण दीने पती अर्जित
दाखिलिम्ब प्रवाहको उद्यमका सारी प्रकृतिका (देखी) अस्तम वरदाणहरु हुनु।

यस माहीक विवाह दीने विभाग, आफ्नो दाखिलिम्बको उपाध्ययन विषय वाणीको सप्ता
उद्यम नबाद राजनका लागि सबै, विवाहको शीत विवाह वाणी राखि २ पत्र र
१ गुरूरो वाणी देखि छुने विवाहवाणीका "O Muktatelo" लागि वाणीको हराएरको हुनु।
विने वरदाणहरुको उपाध्ययनी नौटाम साधारण तय दह निश्चित देखि विने, जुने विने
विवाह विषय ब्रह्माको शास्त्र र धर्मको तुलनामा बहुतै सर्दी लागि, दाखिलिम्बको पैठा
गर्यो - बन्नी। उच्च शीत वाणी विवाह राजनको देखि सम्पूर्ण आमाहरु लागि उपाध्ययनको विवाह वाणीको विवाहवाणीको आमाहरु।
दाखिलिम्ब प्रवाहको उद्यमका सारी माहीक विवाह दीने पती अम्लित
हुनु।

दाखिलिम्ब प्रवाहको विवाह वाणीका के जो सामीसागर हुने?
\[\text{यसको उद्यमका शीत दीने विवाह वाणीको लागि प्रोफ जुभे, झल्पाको तथा प्रवाहको चलाने र त्यसको शास्त्रज्ञता र विवाहका, परीक्षणका व्यवहार बन्ने नै हुनु।}

दाखिलिम्ब प्रवाहको लागि शहीदवत एक प्रकृति उद्यमतातिमक ब्राह्मण दीने पती अर्जित
दाखिलिम्ब प्रवाहको उद्यमका सारी प्रकृतिका (देखी) अस्तम वरदाणहरु हुनु।

"Darjeelindo"
"O pura Darjeelindo"
"O 100 % Darjeelindo"

भारतीय प्रवाहको बोली निर्धारित केही उद्यमका सारी वाणीको शीत दीने नै हुनु।

दाखिलिम्ब प्रवाहको लागि शहीदवत एक प्रकृति उद्यमतातिमक ब्राह्मण दीने पती अर्जित
दाखिलिम्ब प्रवाहको उद्यमका सारी प्रकृतिका (देखी) अस्तम वरदाणहरु हुनु।

"Darjeelindo"
"O pura Darjeelindo"
"O 100 % Darjeelindo"

भारतीय प्रवाहको बोली निर्धारित केही उद्यमका सारी वाणीको शीत दीने नै हुनु।

दाखिलिम्ब प्रवाहको लागि शहीदवत एक प्रकृति उद्यमतातिमक ब्राह्मण दीने पती अर्जित
दाखिलिम्ब प्रवाहको उद्यमका सारी प्रकृतिका (देखी) अस्तम वरदाणहरु हुनु।

"Darjeelindo"
"O pura Darjeelindo"
"O 100 % Darjeelindo"

भारतीय प्रवाहको बोली निर्धारित केही उद्यमका सारी वाणीको शीत दीने नै हुनु।

दाखिलिम्ब प्रवाहको लागि शहीदवत एक प्रकृति उद्यमतातिमक ब्राह्मण दीने पती अर्जित
दाखिलिम्ब प्रवाहको उद्यमका सारी प्रकृतिका (देखी) अस्तम वरदाणहरु हुनु।
The Assam Review & Tea News, December, 1999, was a weekly publication in Assamese language. The purpose of the paper was to provide a platform for local writers to express their views on various social, political, and cultural issues.

The content of the journal included articles, short stories, poetry, and reviews of books and films. The editorials were written by prominent figures in Assamese society, and the paper was known for its critical stance on social issues.

In addition to the main content, the paper also contained a section dedicated to children's literature, which featured stories and poems written by young authors. This section was particularly popular and helped to foster a love of literature among the younger generation.

Overall, the Assam Review & Tea News was an important publication in Assamese society, providing a platform for local writers to share their ideas and contribute to the development of Assamese culture.
ছিদা কাফী রোপীঃ আত্মনিঃবন্ধু নন্দী ২৫


"The Quality Improvement, Packing, Marking, Placement Agreement has been signed for the SAARC countries to improve the quality and standard of tea through the Tea Association of South Asia (TASA). This agreement has been signed to ensure better quality and standard of tea in the SAARC countries. The TASA has been established to improve the quality and standard of tea in the SAARC countries.

According to the TASA agreement, the tea producers from the SAARC countries have agreed to improve the quality and standard of tea by following the guidelines set by the TASA. The TASA has also been established to ensure that the tea produced in the SAARC countries meets the international standards.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.

The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers. The TASA will also work towards promoting the tea industry in the SAARC countries and will also provide technical assistance to the tea producers.
Need of Efforts to Overcome the Major Obstacles seen in Coffee Production Development in Nepal.

Buddhi Raj Dhakal
Horticulturist

INTRODUCTION

Coffee is an important beverage of the World. Coffee drinking has become a regular habit of people in many countries and it has also become increasingly popular among Nepalese people since last few decades. Considering the demand of coffee for internal consumption and export to other countries, Nepal also has started growing coffee plants for green bean production. The climate and soil are very suitable for coffee plantation in Nepal but the technical knowledge on different aspects of this crop among the farmers and technicians is very much limited. Consequently, a number of problems have been arisen and it has been felt that there is an urgent need to overcome these difficulties seen in the coffee production development.

HISTORY OF COFFEE IN NEPAL AND PAST EFFORTS

Coffee plantation is still a new adventure in Nepal. Only about six decades ago, a hermit Mr. Hira Giri had bought few seeds of coffee from Burma and had planted in Aanpaur of Gulmi district. Then, it spread from one farmer to another basis as an ornamental plant for about four decades. Respecting the interest of people on coffee and favourable climatic conditions for its cultivation, Ministry of Agriculture decided to launch a coffee development programme in the country, particularly in gulmi areas of the Western Development Region in late seventies. The Government provided technical and financial support to the farmers through its district level offices in Palpa, Gulmi and Aghakhanchi districts. It also helped the private sector "Nepal Coffee Company" by providing soft loan to establish a coffee processing factory at Manigram of Butwal Municipality in Rupandehi district. A Coffee Development Center was established in Aanpaur of Gulmi district for the development of coffee technology and supply of improved planting materials. National Tea & Coffee Development Board under the Ministry of Agriculture, and Tea &
Coffee Development Section under the Department of Agriculture were set up at central level in 1993 and 1994 respectively to gear up the Tea and Coffee development activities by organizing marketing system and co-ordinating district level development programmes. Unfortunately, none of these organizations are functioning satisfactorily due to lack of trained man-powers and financial constraints. Coffee, a high-value cash crop with environmental importance, has not yet got proper attention for its development in the country. Despite many weaknesses seen in the process for the development, coffee has been spreading in over 25 districts of the country but in a haphazard manner.

PROBLEMS ENCOUNTERED

A Number of problems have been faced by the farmers on the way of coffee production. The farmers have very low technical knowledge on coffee cultivation and excepting a few they have not received any kind of trainings. It is the case not only with the farmers but also with the technical staffs who have not training on technical aspects of coffee cultivation and processing. Coffee itself is a technical crop which requires technical know-how starting right from the seed selection for producing quality planting materials to the production of quality green beans and preparations of coffee drink.

A systematic research on coffee has not been yet started to generate technology for solving problems seen in the farmers' fields. The farmers are planting unidentified cultivars of Arabica coffee without being certain of getting higher yields. The private coffee nurseries are not being properly maintained and technically controlled. Nobody can say which variety of coffee does better on a particular altitude or location.

White stem borer has become the main obstacle on the way of coffee development in Nepal. It causes over 25 percent loss on the coffee production. There is no effective remedy with the farmers for the control of this insect. There are other kinds of insect pests and diseases which cause considerable damages on coffee crop but white stem borer is the main.

Other areas for research activities could be proper training and running techniques, of plants irrigation and manural requirements, shade trees management, harvesting and post-harvest handling, processing and packaging, etc.
NEED
There is an urgent of coffee Development Project for these to five years time duration for overall development of Coffee Industry in Nepal.

OBJECTIVES
1. To strengthen the national capability for the development of coffee production in Nepal.
2. To increase the total production and productivity.
3. To produce the quality coffee beans and dust.
4. To develop the coffee marketing system through co-ordination of different organizations.

The following activities are to be implemented effectively for coffee production development in the country, the proposed Coffee Development Project could support on different aspects given below:

RESEARCH ASPECTS
The research activities could be prioritized on the basis of loss in crop yield and quality standard. The following heads are some of useful areas for conducting trials and experiments:

1. Survey and collection of seeds from high yielding cultivars/plants
2. Plantation and management of indigenous (adapted) and exotic germ-plasms.
3. Locations specific varietal evaluation trial.
4. Inter-crop pattern trial with other commercial crops.
5. Study on uniformity and ripening behaviour of coffee.
6. White stem borer control trial.
7. Upgrading nursery management and control system.
8. Manurial trial.
9. Comparative study on parchment and dry cherry coffee in relation to quality control.
10. Cost benefit analysis on coffee production.

Establish linkage with International Coffee Research Institutions.
MANPOWER DEVELOPMENT ASPECTS
1. Short-term trainings for coffee growers.
2. Long-term trainings for technical staffs.
3. Study tours for coffee farmers, technical staffs and businessmen.

DEVELOPMENT AND EXTENSION ASPECTS
1. Improvement and strengthening of private nurseries and control system.
2. Identification of coffee growing pockets in the country.
3. Field level trainings and other supports to coffee growers.
4. Supply of improved planting materials to demo-orchards and private gardens.
5. Provision of irrigation materials and other equipment to the private nurseries and demo-orchards at subsidised rates.
6. Publication of teaching materials and distribution to coffee growers.
7. Information and communication on coffee technology through electronic media.
8. Coffee Growers’ Association formation.

PROCESSING AND MARKETING ASPECTS
1. Provision of small scale one set of processing equipments to each co-operative agencies in main coffee growing areas.
2. Provision of pulping machines to farmers for parchment coffee production.
3. Support and maintain co-ordination with business agencies.
4. Establish linkage with international Coffee Buyers for sustainable marketing.
1. Survey of coffee germplasms and their collection would be done in different places of coffee growing districts in the Western Development Region and they would be maintained at the Govt. Farm.

2. A number of varieties of Arabica Coffee received and collected from different sources would be tested on varying altitudes of hills ranging from 500 meters to 1500 meters from the sea level in order to find out the suitable high yielding varieties for particular altitudes.

3. Various methods of plant protection measures would be followed to control pests and diseases including white stem borer.

4. High quality mother plants would be maintained and standard planting materials would be produced in the private nurseries. Supervision and monitoring would be strictly followed to upgrade the coffee nurseries.

5. Demo-orchards would be established in the potential pockets of coffee growing districts especially in the Western Development Region.

6. Trials on manuring and other aspects of coffee development would be conducted.

7. Trained man-powers on coffee technology would be developed by organizing trainings and study tours within the country and in abroad.

8. Emphasis would be given on the production of parchment coffee by providing pulper machines and other materials.

9. Facilities and subsidies would be provided to the farmers and co-operatives to acquire, materials, equipments and machineries for processing and packaging of coffee beans and dust.

10. Coffee data would be collected from coffee growing districts and education materials would be published and distributed to coffee farmers.

11. Marketing channel for sale would be developed.
The Project would be a joint venture with Govt. Organizations, NGOs, INGOs and the private sector.

EXPECTED OUTPUTS

1. Coffee cultivars suited for particular location/altitude would be identified.
2. Improvement on private coffee nurseries for supply of quality and standard planting materials would be done and nurseries would be registered.
3. Technology to control white stem borer and other insects and diseases would be explored and recommended.
4. Technology for better quality coffee beans production would be found out.
5. Trained man-powers on coffee technology would be developed and made available within the country.
6. Small-scale coffee processing units would be set-up in coffee growing districts.
7. Demo-orchards as training resources centers for the farmers would be established at different coffee pocket areas.
8. Marketing system for sale of green beans would be developed.
9. Teaching materials for farmers would be prepared.

MAIN THRUST/CONCLUSION

Main thrusts would be given on:

a) Digging out ideal coffee varieties for potential coffee growing areas.
b) Control of white stem borer.
c) Improvement on private coffee nurseries.
d) Development of trained man-powers.
e) Quality coffee beans production.
f) Publication of teaching materials.
g) Creation of training resource centers (demo-orchards).
h) Development of sustainable marketing channel.
चिह्न तथा काफीको निकायी प्रणाली उपलब्ध
-दिनेश वन्दुः पुप्पा
सह-निर्देशक, व्यापार विक्रयन केन्द्र

नेपालमा चिह्नको उपयोग एक व्यापक अविषेष र इतिहासमा हुने आएकोमा हाल पछि किशार पूर्ण-न्याय को भयो, न्यायम, सामन्यहरु, प्रस्ताव, उद्धवको लाभ इत्यादि किशारमा मानिसको पाइको र पछि को उपयोग गर्न स्वभाव र साथै विपरीत, समयको संत्संग रहेको छ। यसको काफीको उपयोग विभिन्न नियममा गुनी हुन। अन्तर्गतिकी, व्यावसाय आदि किशारमा हुने आएको छ।

चिह्नको निवेश

नेपालमा व्यापार नगरी व्यवस्थापन, संगठनहरु, व्यापार तथा अन्य नियमका चिह्नको उपयोग सम्पदा विकासको नियमको संस्करण हुन्छ आएको पाइको। व्यवस्थापनका चिह्नको जरूरीता र अन्य कारकहरूमा व्यवस्थापन में व्यवस्थापन नियमको रूपमा हुन। व्यवस्थापन प्रवेश नियमको जरूरीता तथा संचालन हरूलाई आदि संबंधी नियमको रूपमा हुन। व्यवस्थापनका नियमका उपयोग सम्पदा एवं निर्माणको गति र प्रवेश विविध नियमको रूपमा हुन।

चिह्नको मुख्य वर्गीकरण

परिभाषा : म.टनिका
मुख्य : व. जनरलामा

<table>
<thead>
<tr>
<th>आ. म.</th>
<th>परिभाषा</th>
<th>मुख्य</th>
</tr>
</thead>
<tbody>
<tr>
<td>2087/45</td>
<td>27.3</td>
<td>1.95.44</td>
</tr>
<tr>
<td>57.3</td>
<td>1.95.16</td>
<td></td>
</tr>
<tr>
<td>59.4</td>
<td>2.26.17</td>
<td></td>
</tr>
<tr>
<td>64.5</td>
<td>1.97.44</td>
<td></td>
</tr>
<tr>
<td>60.9</td>
<td>1.00.62</td>
<td></td>
</tr>
</tbody>
</table>

स्रोत : व्यापार विक्रयन केन्द्र
(प्रतिवर्ष)

“इलेक्ट्रानिक रोपका: अत्याधिकारी पत्र” २०७०
| آ. م. | مجموعه | کد | محصولات | واردات | صادرات | موجود | هر صندلی | هر پنالتی | پرداخت | هر پنالتی | هر صندلی | بازار | صادرات | واردات | موجود | کد | محصولات | واردات | صادرات | محصولات | واردات | صادرات | موجود |
| 01912 | 01912 | 1108 | 1108 | بازار | صادرات | موجود | هر صندلی | هر پنالتی | پرداخت | هر پنالتی | هر صندلی | بازار | صادرات | واردات | موجود | کد | محصولات | واردات | صادرات | محصولات | واردات | صادرات | موجود |
| 01913 | 01913 | 1109 | 1109 | بازار | صادرات | موجود | هر صندلی | هر پنالتی | پرداخت | هر پنالتی | هر صندلی | بازار | صادرات | واردات | موجود | کد | محصولات | واردات | صادرات | محصولات | واردات | صادرات | موجود |
| 01914 | 01914 | 1110 | 1110 | بازار | صادرات | موجود | هر صندلی | هر پنالتی | پرداخت | هر پنالتی | هر صندلی | بازار | صادرات | واردات | موجود | کد | محصولات | واردات | صادرات | محصولات | واردات | صادرات | موجود |
| 01915 | 01915 | 1111 | 1111 | بازار | صادرات | موجود | هر صندلی | هر پنالتی | پرداخت | هر پنالتی | هر صندلی | بازار | صادرات | واردات | موجود | کد | محصولات | واردات | صادرات | محصولات | واردات | صادرات | موجود |

شایع: بازار: بازار.  
(*) (پارامیتر)
ಕಳವಡಿಯ ನಿವಾಸಿಯಾಗಿದ್ದ ನೇಮಕಾಮ ಉತ್ತಮಿತ ಕಳವಡಿ ನಿವಾಸಿತ ಕೇಳಿ ವರ್ಷೇ ಸಮುದ್ರಮಟ್ಟದ ಸುಮಾರು ಸರ್ವಾಸ್ತ ನಿರಿಂದಿತು ಧರ್ಮದ ಭಾಗದಲ್ಲಿ ಯಾವುದೆರಡು ಹುಟ್ಟಿ ಆದಕ್ಕೆ ಪ್ರಯೋಜನ. ಆ.ವ. 08/12/92 ಮತ್ತು 9 ಸಾಗರ 99 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 14560 ಕ್ರೀ.ಶ. ಕೇಳಿ ವರ್ಷೇ ನಿರಿಂದಿತವಾಗಿ ಯಾವುದೇ ಸಂದೇಶಗಳಿಗೆ ಹಣ್ಣಿಗೆ ತನ್ನ ತಾರುಕುವುದು. ಆದರೆ ಅ.ವ. 09/12/92 ಮತ್ತು 5 ಸಾಗರ 98 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 10400 ಕ್ರೀ.ಶ. ಕೇಳಿ ಮೂದು ನಿರಿಂದಿತವಾಗಿ ಹಣ್ಣಿಗೆ ಹಣ್ಣಿಗೆಯು ನಿಂದು ಹೋಲು ಎಂದು ಇದೆ. ಆ.ವ. 05/12/95 ಮತ್ತು 9 ಸಾಗರ 99 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 8060 ಕ್ರೀ.ಶ. ಕೇಳಿ ಮೂದು ನಿರಿಂದಿತವಾಗಿ ಹಣ್ಣಿಗೆ ನಿಂದು ಹೋಲು ಎಂದು ಇದೆ. ಕೇಳಿ ಸಮಾಪ್ತಿಯ ನಿವೃತ್ತಿಯಾಯಿತು, ಮೂದು ವರ್ಷಿಯಿತು ಬೇಕಾದ ದಶಹಳಿಗಳನ್ನು ಉಪಯೋಗಿಸಿ ನಿವಾಸರ ಸಹ ಇದೆ.

ಕರ್ಯ ಕೇಳಿಯ ಸಹಯೋಗಿಯಾಗಿದ್ದ ನೇಮಕಾಮ ಉತ್ತಮಿತ ಕಳವಡಿ ನಿವಾಸಿತ ಕೇಳಿ ವರ್ಷೇ ಸಮುದ್ರಮಟ್ಟದ ಸುಮಾರು ಸರ್ವಾಸ್ತ ನಿರಿಂದಿತು ಧರ್ಮದ ಭಾಗದಲ್ಲಿ ಯಾವುದೆರಡು ಹುಟ್ಟಿ ಆದಕ್ಕೆ ಪ್ರಯೋಜನ. ಆ.ವ. 08/12/92 ಮತ್ತು 9 ಸಾಗರ 99 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 14560 ಕ್ರೀ.ಶ. ಕೇಳಿ ವರ್ಷೇ ನಿರಿಂದಿತವಾಗಿ ಯಾವುದೇ ಸಂದೇಶಗಳಿಗೆ ಹಣ್ಣಿಗೆ ತನ್ನ ತಾರುಕುವುದು. ಆದರೆ ಅ.ವ. 09/12/92 ಮತ್ತು 5 ಸಾಗರ 98 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 10400 ಕ್ರೀ.ಶ. ಕೇಳಿ ಮೂದು ನಿರಿಂದಿತವಾಗಿ ಹಣ್ಣಿಗೆ ಹಣ್ಣಿಗೆಯು ನಿಂದು ಹೋಲು ಎಂದು ಇದೆ. ಆ.ವ. 05/12/95 ಮತ್ತು 9 ಸಾಗರ 99 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 8060 ಕ್ರೀ.ಶ. ಕೇಳಿ ಮೂದು ನಿರಿಂದಿತವಾಗಿ ಹಣ್ಣಿಗೆ ನಿಂದು ಹೋಲು ಎಂದು ಇದೆ. ಕೇಳಿ ಸಮಾಪ್ತಿಯ ನಿವೃತ್ತಿಯಾಯಿತು, ಮೂದು ವರ್ಷಿಯಿತು ಬೇಕಾದ ದಶಹಳಿಗಳನ್ನು ಉಪಯೋಗಿಸಿ ನಿವಾಸರ ಸಹ ಇದೆ.

ಕರ್ಯ ಕೇಳಿಯ ಸಹಯೋಗಿಯಾಗಿದ್ದ ನೇಮಕಾಮ ಉತ್ತಮಿತ ಕಳವಡಿ ನಿವಾಸಿತ ಕೇಳಿ ವರ್ಷೇ ಸಮುದ್ರಮಟ್ಟದ ಸುಮಾರು ಸರ್ವಾಸ್ತ ನಿರಿಂದಿತು ಧರ್ಮದ ಭಾಗದಲ್ಲಿ ಯಾವುದೆರಡು ಹುಟ್ಟಿ ಆದಕ್ಕೆ ಪ್ರಯೋಜನ. ಆ.ವ. 08/12/92 ಮತ್ತು 9 ಸಾಗರ 99 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 14560 ಕ್ರೀ.ಶ. ಕೇಳಿ ವರ್ಷೇ ನಿರಿಂದಿತವಾಗಿ ಯಾವುದೇ ಸಂದೇಶಗಳಿಗೆ ಹಣ್ಣಿಗೆ ತನ್ನ ತಾರುಕುವುದು. ಆದರೆ ಅ.ವ. 09/12/92 ಮತ್ತು 5 ಸಾಗರ 98 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 10400 ಕ್ರೀ.ಶ. ಕೇಳಿ ಮೂದು ನಿರಿಂದಿತವಾಗಿ ಹಣ್ಣಿಗೆ ಹಣ್ಣಿಗೆಯು ನಿಂದು ಹೋಲು ಎಂದು ಇದೆ. ಆ.ವ. 05/12/95 ಮತ್ತು 9 ಸಾಗರ 99 ಹೊಸ ಮೂದು ಬಾರಬಾರಿಗಳು 8060 ಕ್ರೀ.ಶ. ಕೇಳಿ ಮೂದು ನಿರಿಂದಿತವಾಗಿ ಹಣ್ಣಿಗೆ ನಿಂದು ಹೋಲು ಎಂದು ಇದೆ. ಕೇಳಿ ಸಮಾಪ್ತಿಯ ನಿವೃತ್ತಿಯಾಯಿತು, ಮೂದು ವರ್ಷಿಯಿತು ಬೇಕಾದ ದಶಹಳಿಗಳನ್ನು ಉಪಯೋಗಿಸಿ ನಿವಾಸರ ಸಹ ಇದೆ.
<table>
<thead>
<tr>
<th>कपडीको भारत तथा समुद्रालाई दूरी</th>
<th>पैकीले भारत</th>
<th>समुद्रालाई दूरी</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0132</td>
<td>0.1900</td>
<td>0.2122</td>
</tr>
<tr>
<td>0.0133</td>
<td>0.2200</td>
<td>0.2322</td>
</tr>
<tr>
<td>0.0184</td>
<td>0.2300</td>
<td>0.2436</td>
</tr>
<tr>
<td>0.0186</td>
<td>0.2400</td>
<td>0.2548</td>
</tr>
</tbody>
</table>

श्रेणी : व्यापार प्रमाण केन्द्र

* (प्रारंभिक)

नेपालमा धिम्ना तथा कपडीको आन्तरिक मार्ग प्रचुर मागमा रहेको तथा धिम्ना विकासको समयमा सम्बन्धित प्रमाण रहेको समयमा उम्मेद वस्त्रसहित उत्पादनको अभिवृद्ध स्थानमा आएको हाचक तथा आवश्यकता रहेको हुन उपरोक्त तथ्याकरीतले समेट प्रद पर्देको छ।

विवरण केन्द्र वर्ष देखि देखि कतैहरु वस्त्रहरूको उत्पादनमा अभिवृद्धि स्थानमा, गर्दैस्टरमा सूचार स्थानमा, समेटका प्रवृद्धि समयानुसार परिवर्तन स्थानमा, लिसिया तथा समेट ट्रेक पुरायेको आधि उठेको थिए को राहुल धिम्ना तथा कपडीको विकासको समेट स्थान गरी तिरको तथा धि वस्त्रहरूलाई विकासको लागि व्यापार प्रमाण केन्द्र, नेपालवास विकास निम्नका समेट नीलिका क्षेरालेलो स्थापित नेपाल धिम्ना उत्पादक संघ, धिम्ना पाक्रमण रंग आधिक समेटको साहित्यमा धि वस्त्रहरूलाई विकासमा अवर्योगक ट्रेक पुरायेको विवरण लिन्छ।
RESEARCH AND DEVELOPMENT STRIDES IN TEA:
THE KEY AREAS OF CONCERN AND COOPERATION
INITIATIVES IN INTERNATIONAL RESEARCH

Dr. W. W. D. Modder
Director
The Tea Research Institute of Sri Lanka

I. Concerns and Cooperation in Tea Research

1.1 Strategies for Tea

In a presentation to the Tea Beyond Year 2000 Convention in Colombo last August, I listed the combination of strategies which we at the Tea Research Institute of Sri Lanka (TRISL) believe would give the Sri Lankan tea industry improved productivity and profitability.

There are:

- soil conservation and restoration of soil fertility;
- replanting with clonal and seedling teas in order to attain better yields, resistance to drought, pests and diseases, and better made tea quality;
- modernisation of factories including automation and computerisation;
- foreseeing employment in the tea industry an attractive career option; and
- foreseeing and pre-empting the changing requirements of the global marketplace.

Our Institute is pro-active in addressing these concerns and contributing to these strategies through biological, technological and, more recently, sociological research. Although market research *sensu strictu* is outside our
mandate, we are sensitive to the requirements of the trade, and endeavour as far as possible to have our research encompass those requirements as well.

The strategies we have set out for Sri Lankan tea probably need only changes of emphasis or degree, it at all, to be applicable to other tea producing countries. Cooperation in scientific research between tea producing countries, both in the South Asia region and further afield, could therefore lead to increased productivity and profitability all round.

1.2 Country Cooperation.

Tea research is an on-going, methodical seeking for and devising of the best and most profitable agricultural, manufacturing and value-enhancing practices in tea production, with a view to their adoption by tea producers. Within the confines of national boundaries, the fruits of research are translated to end-users easily and without reservation, particularly when the research agency concerned is not private or exclusive but set up by parliamentary enactments and funded by an export cess, as we are. On the other hand, the across-border transfer of hard-won, and indeed expensively-won, intellectual property or innovations to actual or potential trade competitors raises understandable doubts in many minds.

However, in the present world context of reduced profitability arising from stagnant or declining tea prices and increasing costs, compounded by the aggressive marketing of competing beverages, cooperation in tea research (and not only in generic tea promotion) by exporting countries seems a rational option, and one that would have synergistic multiplier effects. This is particularly so when the health benefits of black tea, consolidated by the just-concluded FAO Intergovernmental Project, are gaining universal acceptance.

Although cooperation in scientific research between trade competitors is hedged around by considerations of the competitive edge and tactical advantages, sensible and regulated cooperation in international tea research should be possible without dulling that edge of intensifying those advantages. International cooperation in research, within a mutually-agreed regulatory framework, would serve to develop synergies of the expertise and research resources available in the collaborating countries, and allow for the interchange and cross-fertilization of ideas.
2. The Organic Route

2.1 Organics and Soil

The heavy rainfall and sloping terrain in the Sri Lankan tea lands favour erosion whenever soil is inadequately drained or exposed. Several years ago, the TRISL introduced Sloping Agricultural Land Technology (SALT) for retarding the degradation of our tea lands. Improvements to SALT and research on management practices to maintain and restore soil fertility are among our concerns.

The building up of soil organic matter is necessary for improving soil fertility, as well as for ensuring that the application of costly artificial fertilizer does in fact meet its objective, which is raising field productivity.

Organic interventions are more beneficial than agro-chemical use in terms of cost, and in fostering both the micro-organisms that make soil fertile and natural biological control agents that reduce the incidence of pests and disease. In the long run, artificial fertilizers, herbicides and pesticides reduce fertility by interfering with soil biological activity, besides polluting land and water.

Research cooperation between countries which grow tea in similar topographical conditions, and have the same concerns with regard to costs, soil infertility and environmental pollution, would be of mutual benefit.

2.2 Organic Tea

Sri Lanka was one of the first in the production of organically-grown tea (or "bio-tea"), in the 1980s. However, bio-tea production is still barely 0.1 percent of the national tea output, because it is not regarded as being commercially feasible. Production costs of bio-tea are relatively high and yields poor. However, because importers in health-conscious western countries pay premium prices for a "clean" product, a few estates in Sri Lanka persist in its production. With the growing clamour in countries of the north for organically produced food, it is possible that the market of bio-tea will expand.

To meet such an eventuality, the TRISL is embarking on putting together a package of recommendations for Sri Lanka growers. At the same time, there could be advantage in cooperative research on organic tea production, between India and Sri Lanka for example.
3. Germplasm Improvement

3.1 Seeding and Clonal Teas

Old seeding teas now occupy 45 percent of the Sri Lankan tea lands because, as a result of national policy from 1958, these are progressively being replaced by vegetatively propagated (VP) or clonal teas, predominantly TRISL VPs. The VPs have a much greater yield potential than the seeding teas: at least 2,500 kg made tea (mt/ha/year) at high elevations and considerably more at low elevations, compared to less than 1,000 kg mt/ha/year for the seeding teas. However, the Sri Lankan average tea yield in 1998 was still only 1,559 kg mt/ha/year, which is lower than that of Kenya (ca. 2,000 kg) and South India (ca. 1,800 kg).

Most of the TRISL VPs derive from a single, high-yielding seed stock and therefore they have a narrow genetic base. To offset this TRISL has begun selecting parents for breeding both new VPs and seed cultivars of higher genetic variability, and for producing by-and-polyclonal seed stocks for commercial cultivation. Old seeding teas, destined for up-rooting, but which can improve the gene pool are being transferred to germplasm or gene banks for preservation and future use in breeding programmes.

3.2 Conventional Breeding and Propagation

The TRISL breeding programmes centre on developing all-purpose, so-called "golden clones" for the different Sri Lankan agro-ecologies. The aim is to produce elite VPs with a combination of about 8-10 desirable traits (high yield, good made-tea quality, tolerance to drought, pests and diseases, and suitability for mechanised harvesting), and not just the four or five traits present in existing VPs. However, because selection is the primary modus operandi, conventional field-plot protocols for VP development and release are slow and reiterative, and an improved VP takes about 15 to 20 years to produce.

In addition, mass-production of new VPs by establishment of mother bushes takes at least 4 to 6 years, and vegetative propagation alone cannot meet the enormous demand from Sri Lankan plantations, which we have computed as being 40-90 million plants per year.
3.3 Biotechnology in Breeding and Propagation

In order to drastically reduce the production time of new VPs hasten their multiplication, and increase gene pool diversity for breeding purposes, the TRISL is now adopting the techniques of modern biotechnology to complement conventional breeding and propagation.

Increased ploidy levels could give higher productivity in the tea crop. Tea tri and tetraploids could be reproduced by hybridisation, tissue culture, colchicoidisation and mutagenesis, although tissue culture and mutagenesis is have apparently not been used to any great extent anywhere for tailoring the tea plant.

Rapid laboratory and greenhouse methods of screening for desirable traits in tea plantlet include isozyme characterisation and DNA fingerprinting.

3.3.1 In Vitro Micropropagation.

The TRISL has been using tissue culture for micropropagation. Protocols have been developed for rapid multiplication of elite stock plants using shoot tips and nodal explants, and by induction of direct somatic embryos from seed cotyledons. Shoots so multiplied have been rooted and are being evaluated in the field.

3.3.2 Embryo Rescue

In the breeding of tea, hybridising species and genera usually fail because the hybrid embryos abort at an early stage of development. By excising the immature embryos and culturing in vitro, it is possible to raise hybrid plants. A protocol for this 'embryo rescue' has been developed at TRISL and is now being used for interspecific hybridisation.

3.3.3 Anther and Microspore Culture.

The production of homozygous lines by inbreeding using conventional methods is practically impossible in tea. Attempts are therefore being initiated at TRISL to produce haploid plants by anther and microspore culture. Induction of pollen callus has been accomplished, but not plant regeneration. The limited success of anther culture in tea is also reported from countries where it has been tried, and haploids have therefore not been used hitherto in tea breeding programmes.
3.3.4 Somatic Hybridisation

Somatic hybridisation between very divergent tea species could give improvements in qualitative attributes of the resulting hybrid, its growth rate and resistance to pests and environmental stresses. Protoplast culture and plant regeneration have not been reported so far with tea. However, at the TRISL protoplasts have been isolated from leaf mesophylls and embryogenic cell suspensions, and attempts are under way to achieve plant regeneration from these isolated protoplasts.

3.4 Genetic Conservation

While seedling and VP tea bushes, having genotypes valuable for future hybridization, can be preserved in germplasm or gene banks set up in field conditions, it is equally necessary to have the capacity for the extended storage of germplasm (as shoot tips and axillary buds) under conditions of reduced growth in vitro at below freezing temperatures (cryopreservation). This is one of the areas where international collaboration is desirable.

3.5 Networking in Biotechnology

The basic biotechnology, now being established at the TRISL, can be added to and strengthened by collaborations with international (preferably regional) laboratories at the cutting edge of such research. The collaborating institutions need not necessarily be in tea producing countries, or even primarily concerned with tea research. There are biotechnological laboratories in the South Asia region, for instance, which could be used. Not only of collaborative research, but also for training visiting scientists in modern technologies. Such nearer-at-home, regional centres would arguably be more suitable than even more advanced centres in the developed world.

4. Factory Developments

4.1 Landmark TRISL Achievement

For many years, the Endless Chain Pressure (ECP) drier had been used for drying tea dhools. Since in this system the dhool is unmoving, complete contact with the hot air in the drier is not possible and the drying becomes uneven. Several years of research by the TRISL, culminated in 1973 in the introduction of the Fluidised Bed Drier (FBD) in collaboration with a local engineering company. The system "fluidises" the dhool and moves it...
around in the air stream. The TRISL FBD is more cost effective than the ECP drier, both with firewood and liquid fuel, and is said to be superior to other FBDs produced subsequently with regard to ease of operation and economics.

4.2 Progress Elsewhere

Since this landmark contribution of TRISL, much progress has been made elsewhere in the development of tea process technology involving CTC manufacture, automation, instrumentation and the introduction of electronic controls. The strides made in tea technology by some tea research institutes, for instance at Tocklai, were made possible by the supportive collaboration of a large number of tea machinery manufacturing companies, such as those that have arisen in north-east India.

Unfortunately, similar developments did not occur in Sri Lanka, owing primarily to the decline of the major tea machinery suppliers in the country, to the extent that the Island's tea industry is now dependent on imported machines, particularly for CTC manufacture.

4.3 Present TRISL Research

Present TRISL research in factory technology and modernisation is for establishing hygienic standards, controlling energy costs, upgrading quality and adding value to the product.

Changes have been initiated in the placement of machinery to cater to ergonomic and rational needs on the factory floor. Electronic sensors for temperature, humidity and pressure are being introduced into the manufacturing sequence for optimising manufacture, and factory processes would be subject to an automated, computer-aided command and control system.

Although these renewed efforts in process technology are now being made by the TRISL, they are predicated on the cooperation of well-knit teams of chemical, mechanical, electronic and IT (information technology) engineers which, for several reasons, are hard to come by locally. The clear need then is for collaboration with multi-disciplinary scientific and engineering groups working in tea processing research abroad.
5. Enhanced worker Productivity and Wellness

When the concerns of tea research as they affect soil, germplasm and processing have been addressed, improved productivity and profitability from tea must come ultimately from the contented workforce in the tea lands and from appropriate work norms.

Tea sociology and socio-economics are therefore appropriate areas for cross-border collaboration between tea-producing countries.

5.1 Towards Reversing an Out-Flow of Workers.

Recently a shortage of field and factory workers has been affecting the Sri Lankan tea industry, not only in the low country which contributes 60 percent of national production, but even in the up country. Where resident communities have sustained our plantations for a century and a half. The shortage is due to migration away from the estates, especially by the younger generation, to an alternative life in urban centres. As a result, the movement towards provision of better working conditions and better housing health care and welfare amenities by our newly re-vitalized estate management has taken on added meaning.

However, together with such measures, a professionalism has to be fostered among workers which, apart from making them more productive, will give them a new pride in their work and a sense of personal worth and dignity.

To this end, the TRISL is concerned in its research with the mechanisation of field operations, such as plucking, pruning and fertiliser application, with ergonomics in field and factory, and with factors affecting worker wellness. The fruits of such research would not only serve to improve productivity and reduce drudgery but could, conceivably, dignify work on the plantations.

5.2 The TRISL Plucking Shear.

TRISL studies on the mechanisation of field operations, including harvesting, date from the late 1980s. In addition to machines, the TRISL has been studying hand shears under different field conditions. Although used successfully in tea growing countries like India, long-handled shears were found to be impracticable in our conditions owing to poor manoeuvrability, output and selectivity, and workers’ resistance and complaints of pain and discomfort following their use. Worker intake was
about the same or even less than with manual plucking, and yields reduced by 15 to 30 per cent because of poor selectivity.

However, the disadvantages were fewer than with unwieldy motorised harvesters, and it was considered worthwhile working towards user-friendly manual shears that were suitable for local field and production needs. Design improvements for achieving higher intake, better selectivity and easier handling were attempted, with encouraging results.

A light-weight, all-terrain shear has now been patented, conjointly with a local fabricating company. This gives a 50 to 100 per cent increase in plucker output and good selectivity, reduces plucking costs and maintain made tea quality. A prototype powered by a small motor is being worked on.

5.3 A new harvesting and leaf conveyance system

The TRISL's new research on the ergonomics and kinesiology of field activities, began last year and reported on by me at the Third AITC conference in Singapore last October, has been taken further.

In 1998, a professional kinesiologist and chiropractor had studied pluckers at work on the TRISL up-country estate, and followed this up with clinical assessments of possible unwelcome syndromes associated with tea plucking. It is likely that these findings have parallels in other tea producing countries.

Based on the findings, a project is now under way involving the TRISL, a plantation company and the kinesiologist. A plucking basket (essentially an aluminium frame and a nylon bag strapped according to ergonomic principles), as well as protective gear, have been devised, field-tested and refined. The main feature of the basket is that it shifts the load from the head of the plucker to the lumbar region, which is biomechanically more suitable. That shift is seemingly one small step but it signifies giant strides to come in the area of worker productivity and worker wellness.

It is intended to use the new basket in conjunction with the TRISL shear and a conveyance system for the green leaf which allows aeration and drainage of moisture. Conveyance follows initial weightment directly in the plucking area and is done in stackable, perforated plastic trays. The use of the shear, the plucking basket and the trays allows the delivery of leaf to the factory in
pristine condition, not fractured, thermally degraded or prematurely oxidised.

The impact of the harvesting and conveyance system is being assessed, both from the viewpoint of management on made tea quality and worker productivity, and from the viewpoint of the workers on take-home pay, health and feelings of wellness, and domestic and community life.

5.4 Cooperation in Worker Issues

Issues affecting worker productivity and welfare are obvious areas for intensive and rigorous international research, and have been so recognised and undertook by different agencies of the United Nations Organisation. These are perennial concerns in national tea industries from all standpoints of governments, worker unions, producers and the trade. The developments I have been outlining, as taking place in my own country, would be well served by cooperative efforts between tea-producing nations, both in Asia and in other regions, wherever relevant. We must set up the mechanisms to attain this international cooperation because for all of all of us, in the end, the good of our peoples are paramount.

काटाबाण्डा ५ वेळा ५ अक्टूबर १९९९ मा माघिया अन्तरांतिक विषय सम्मेलन प्राको संग्रहित थिए। समूहात नेपाली विषय उद्योगको सागर भाग यो गोला सुचाराउ असार दिइए। एउटा महासागरका सम्मेलन विषय उद्योगको सुरुवात बालीक विषय बस्तामा गर्ने मुख्य बाटौँ सम्मेलनमा सामाजिक विषय थिए। सम्मेलनको विषय नेपालका समूहात विषय उद्योगको सागर भाग यो गोला सुचाराउ असार दिइए। एउटा महासागरका सम्मेलन विषय उद्योगको सुरुवात बालीक विषय बस्तामा गर्ने मुख्य बाटौँ सम्मेलनमा सामाजिक विषय थिए। सम्मेलनको विषय नेपालका समूहात विषय उद्योगको सागर भाग यो गोला सुचाराउ असार दिइए।

उक्त सम्मेलनाः नेपालको Tea Research Institute र नितामक Dr.W.H.D.Muddler से पेश गर्नुभएको कार्यक्रम नेपाली विषय उद्योगको सागर भाग यो गोला सुचाराउ असार दिइए।

- नमाडाक

लिखित कपील टोली : आलमिन बाली ५
Sustainability of Tea in the next Millennium

B. Sivaram
Consultant, Plantation Reform Project
National Institute of Plantation Management
Sri Lanka

Abstract

The traditional concept of “sustainability” as conserving an ecological balance by avoiding depletion of natural resources is only of limited application in the current and emerging tea scenario. In widening its scope which combines policies, technologies and socio-economic principles, the following elements have to be integrated and viewed in unison in order to arrive at the true meaning of sustainable development:

- productivity
- protection
- stability
- viability
- acceptability, and
- supportability

This presentation redefines sustainability in this broader context, suggests research studies to quantify the parameters on a location-specific basis and proposes the development of what may be called a Sustainable Tea Agricultural Management Package as we move into the new millennium.

1. Introduction

Sustainability means different things to different people and, indeed, to different uses of land. There is now an internationally acceptable definition for sustainable management of land. This can be extended and applied to evaluate the sustainability of tea in the South Asian Situation, as has been done, for instance with regard to
natural rubber in South-east Asia and maize in Africa. By using a comparable yardstick, sustainable management of tea can be defined as one that combines policies, technologies, and activities aimed at integrating socio-economic principles with environmental concerns so as to simultaneously:

- Enhance production and productivity
- Protect the potential of natural resources
- Reduce level of production risks
- Be economically viable
- Be socially acceptable and
- Be politically supportable

The sustainability of the tea industry should, therefore, be assessed using the basic pillars, namely, productivity, protection of natural resources and environment, stability, economic viability, social acceptability and political supportability. If any of these elements is lacking, sustainable development will not be achieved.

2. Elements of Sustainability

2.1 Productivity

The threshold of a significant proportion of the tea fields remains under-exploited. The hallmark of sustainability in terms of this criterion centers on the strategies for reducing the agro-chemical load. By adopting systems involving integrated nutrient supply and plant protection and given the operational skills of the estate personnel, it should be possible to sustain a level of productivity which is in close approximation to the maximum attainable by optimizing the use of input materials. For further enhancing the field productivity of a perennial crop like tea, a two-pronged strategy, involving primary and secondary considerations, is called for.

The primary aspect would entail skillful manipulation of pruning practices, careful regulation of tipping heights, adoption of stringent harvesting standards, regular plucking rounds and ensuring adequate maintenance foliage, balanced input of adequate fertiliser and correct plant protection measures. There should also...
be proper soil management to improve soil fertility and control acidity.

The secondary approach envisages improving the genetic character of plants by consolidating selected fields as also replanting lands that have been identified for this purpose by adopting stringent criteria. The success of the consolidation programme will depend on using the right combination of clones in seedling fields that have the potential for higher productivity.

With respect to planting material, the well-known clones for replanting and infilling, such as the TRI 2000 series in Sri Lanka, give an average yield of about 3000 kg/ha over a pruning cycle. New varieties such as the TRI 3000 and 4000 series as well as the emerging 5000 series have a higher potential. Although these may satisfy the short-term needs, the productivity of planting material reported from competing countries is of a much higher order. While a higher yield has to be targeted in the long-term (TV 23 in Tocklai has a productivity of 6500 to 7000 kg/a and a new hybrid clone in South India 6120 kg/ha), future breeding programmes should also, as is contemplated, provide for accompanying characteristics such as quality, resistance to drought and pests and diseases etc.

From a somewhat theoretical perspective, it is reported that the maximum yield potential of tea is about 20,000 kg/ha. With more that half of it about 12,000 kg/ha - having been commercially obtained and sustained under the existing plantation management system, this level of achievement could possibly serve as the bench mark for the further gains to follow.

It is only to be expected that wages and input prices will increase over time. The extent to which these increases can be neutralised by corresponding improvements in productivity, particularly in a situation of uncertain market conditions, also falls within the ambit of sustainability. In other words, each unit of production - field, division and estate - should develop its Break-Even Yield (BEY) which covers, at least, its variable cost of production. Anything below that is unsustainable. This should be accompanied by an in-built ready reckoner that will quantity the yield increase...
necessary under varying degrees of increase in wages and input costs.

2.2 Protection

A recent study by the think-tank World watch points out that much of the gain in agricultural production in the developing countries has been at the expense of falling water tables, deforestation and soil erosion. The increasing use of fertiliser nutrients is a contributory factor. Although these observations are common to all farm products, there are several features that distinguish tea from annual crops.

Tea is environment friendly. Being a rain-fed crop, tea hardly makes inroads into the scarce availability of conserved water for irrigation. On the other hand, the leaf fall from the bush gives a certain degree of improvement of soil fertility. Burying of prunings not only recycles valuable nutrients but also enhances the water holding capacity of the soil and improves soil fertility. Burying of prunings not only recycles valuable nutrients but also enhances the water holding capacity of the soil and improves soil texture. Periodic leaching of shade trees generates green manure which, when added to the soil, improves its organic matter status. Since shade trees form a renewable source of firewood and softwood timber, their availability at the time of replanting reduces the pressure on our depleting forests. Mulching of young tea and growing of cover crops retain moisture and protect the soil from the insidious effect of erosion. Composting of weeds will ensure the nutrients so removed to be siphoned back into the fields. Protection against loss of fertile soil can also be secured by proper conservation measures through the planting of grasses along the drains. More importantly, the adoption of stringent pest management practices with minimum use of pesticides will enhance the reputation of tea as being the “Cleanest” beverage in the world.
2.3 Stability

This criterion considers yield, costs, prices and thus income. Changes in weather pattern on crop and seasonal variations in quality are only to be expected. However, the major concern is the stability of income. With uneconomic returns, about 13,000 hectares in the mid-country in Sri Lanka have, over the last decade, gone out of tea whereas the higher demand and price potential for low-grown teas provided an impetus to the new planting of about 12,000 hectares in the south. For the industry in the up-country and Uva, it has been, despite a falling extent of 17,000 hectares, a case of barely being able to keep its head above water.

With more than 55 per cent of the South Asian tea production having to be exported (as against a global proportion of 40 per cent), the stability of world prices is dictated by international factors. It is unlikely that any one country can, on its own, bring about policies or practices that could promote greater price stability in the world market. Yet, there is much that individual management can do. Rather than relying almost entirely on the trade for value addition and exports, joint ventures - with like-minded producers as well as importing firms - could be mutually beneficial. This is a potential and challenging area for the tea plantation companies. The intention is that while producers could be assured of more stable and equitable prices, importers are also assured uninterrupted supplies of consistent quality produce. Such avenues need to be explored.

2.4 Viability

Economic viability, another pillar of sustainability, is linked with prices. From a global perspective, the problem with a perennial crop like tea, which has a long gestation period, is that its supply cannot be regulated on an annual basis according to changing market conditions. Furthermore, the competition from substitutes, notably, soft drinks, has brought about a lower demand for tea, particularly in the traditional western markets. Nevertheless, as noted earlier, private initiatives in marketing can go a long way in changing the traditional image of tea from a "commodity" to an
be proper soil management to improve soil fertility and control acidity.

The secondary approach envisages improving the genetic character of plants by consolidating selected fields as also replanting lands that have been identified for this purpose by adopting stringent criteria. The success of the consolidation programme will depend on using the right combination of clones in seedling fields that have the potential for higher productivity.

With respect to planting material, the well-known clones for replanting and infilling, such as the TRI 2600 series in Sri Lanka, give an average yield of about 3000 kg/ha over a pruning cycle. New varieties such as the TRI 3000 and 4000 series as well as the emerging 5000 series have a higher potential. Although these may satisfy the short-term needs, the productivity of planting material reported from competing countries is of a much higher order. While a higher yield has to be targeted in the long-term (TV 23 in Tocklai has a productivity of 6500 to 7000 kg/a and a new hybrid clone in South India 6120 kg/ha), future breeding programmes should also, as is contemplated, provide for accompanying characteristics such as quality, resistance to drought and pests and diseases etc.

From a somewhat theoretical perspective, it is reported that the maximum yield potential of tea is about 20,000 kg/ha. With more than half of it about 12,000 kg/ha – having been commercially obtained and sustained under the existing plantation management system, this level of achievement could possibly serve as the bench mark for the further gains to follow.

It is only to be expected that wages and input prices will increase over time. The extent to which these increases can be neutralised by corresponding improvements in productivity, particularly in a situation of uncertain market conditions, also falls within the ambit of sustainability. In other words, each unit of production – field, division and estate – should develop its Break-Even Yield (BEY) which covers, at least, its variable cost of production. Anything below that is unsustainable. This should be accompanied by an in-built ready reckoner that will quantize the yield increase.

* * *

* * *

- तिर्या कफी रोपी : अल्लाबिरह बनी श्री * * *
necessary under varying degrees of increase in wages and input costs.

2.2 Protection

A recent study by the think-tank World watch points out that much of the gain in agricultural production in the developing countries has been at the expense of falling water tables, deforestation and soil erosion. The increasing use of fertiliser nutrients is a contributory factor. Although these observations are common to all farm products, there are several features that distinguish tea from annual crops.

Tea is environment friendly. Being a rain-fed crop, tea hardly makes inroads into the scarce availability of conserved water for irrigation. On the other hand, the leaf fall from the bush gives a ceratin degree of improvement of soil fertility. Burying of prunings not only recycles valuable nutrients but also enhances the water holding capacity of the soil and improves soil fertility. Burying of prunings not only recycles valuable nutrients but also enhances the water holding capacity of the soil and improves soil texture. Periodic lopping of shade trees generates green manure which, when added to the soil, improves its organic matter status. Since shade trees form a renewable source of firewood and soft wood timber, their availability at the time of replanting reduces the pressure on our depleting forests. Mulching of young tea and growing of cover crops retain moisture and protect the soil from the insidious effect of erosion. Composting of weeds will ensure the nutrients so removed to be siphoned back into the fields. Protection against loss of fertile soil can also be secured by proper conservation measures through the planting of grasses along the drains. More importantly, the adoption of stringent pest management practices with minimum use of pesticides will enhance the reputation of tea as being the "Cleanest" beverage in the world.
2.3 Stability

This criterion considers yield, costs, prices and thus income. Changes in weather pattern on crop and seasonal variations in quality are only to be expected. However, the major concern is the stability of income. With uneconomic returns, about 13,000 hectares in the midcounty in Sri Lanka have, over the last decade, gone out of tea whereas the higher demand and price potential for low-growns provided an impetus to the new planting of about 12,000 hectares in the south. For the industry in the up-country and Uva, it has been, despite a falling extent of 17,000 hectares, a case of barely being able to keep its head above water.

With more than 55 per cent of the South Asian tea production having to be exported (as against a global proportion of 40 per cent), the stability of world prices is dictated by international factors. It is unlikely that any one country can, on its own, birng about policies or practices that could promote greater price stability in the world market. Yet, there is much that individual management can do. Rather than relying almost entirely on the trade for value addition and exports, joint ventures – with like-minded producers as well as importing firms – could be mutually beneficial. This is a potential and challenging area for the tea plantation companies. The intention is that while producers could be assured of more stable and equitable prices, importers are also assured uninterrupted supplies of consistent quality produce. Such avenues need to be explored.

2.4 Viability

Economic viability, another pillar of sustainability, is linked with prices. From a global perspective, the problem with a perennial crop like tea, which has a long gestation period, is that its supply cannot be regulated on an annual basis according to changing market conditions. Furthermore, the competition from substitutes, notably, soft drinks, has brought about a lower demand for tea, particularly in the traditional western markets. Nevertheless, as noted earlier, private initiatives in marketing can go a long way in changing the traditional image of tea from a "commodity" to an...
industrial product where price fluctuations are of a much lesser order.

It can be argued that since tea production involves long-term investment, the profitability should also be viewed on a long-term basis. In that sense, the prices fetched over a long-term have, perhaps, justified the investment. However, with the growing proliferation of smallholders in the South Asian region (notably Sri Lanka, South India and Nepal), even a short period of very low prices could be difficult to tide over. This is because they have little access to credit or cash reserves to meet such a contingency.

How can economic viability be ensured? The answer is to be found in the integrated development of the tea industry for ensuring sustainability. For the corporate sector, such integration could, as suggested earlier, include linking production with downstream activity via value addition and direct exports. For smallholders, this could take the form of intercropping with compatible agricultural crops. Apart from generating additional income, the alternative crop(s) could help tide over periods of low prices. Research in such approaches should be accorded priority.

2.5 Acceptability

Although acceptability is often regarded as a social criterion, it also has considerable economic implications. With large-scale migration for non-estate jobs, increasing absenteeism and the stigma attached to estate work, a situation of labour shortage is imminent. This is already evident in all South Asian tea economies and it is only a matter of time before the problem assumes massive proportions. All this points to the human component in the present plantation system being rather thin and lacking in motivation and calling for a much-needed attitudinal change. In the process, both economic and social acceptability is at stake, thereby threatening another element of sustainability.

The way out is through intermediate mechanisation in harvesting, pruning and fertiliser application, besides factory automation. These are also areas where research needs to be intensified and,
along with it, the deployment of a relatively small, motivated, skilled, trained, well-administered and well looked-after workforce. For smallholders, the approach will have to be somewhat different in that, in the absence of a captive residential labour, greater emphasis will have to be placed on monetary and non-monetary incentives for accessing the required number of workers, particularly during the heavy cropping season.

2.6 Supportability

No agricultural system, especially in the land-hungry Third World countries, can remain in isolation from government intervention. And, tea is no exception. Given the current scenario, the sustainability of the conventional plantation structure as a large-scale, corporate enterprise will be increasingly questioned. This scrutiny has a political as well as an economic dimension. Field technology being neutral to size, the preferred strategy is for a shift to smallholder cultivation. Most plantation crops - rubber, coconut, coffee and cocoa - are already grown on smallholder lines, with tea (and oil palm) being among the very few still associated with the estate model. Even in tea, the rationale for proximity to central processing facility has been overtaken by the emergence of bought-leaf and co-operative tea factories. The general belief, empirically demonstrated in the Kenyan and Sri Lankan smallholder sector, is that both land and labour productivity is higher in this form of ownership.

Viewed in this perspective, the sustainability of the tea estate sector in terms of this criterion implies a lot more than affirming the economics of large-scale agriculture of the importance of integrated processing. The justification of the plantation model in the modern context should be that it helps to transform traditional agriculture into a truly agri-business encompassing high-tech farming, capital-intensive technology, strong commitment to R&D, value addition, product diversification and direct consumer marketing.
3. Conclusion

In the ultimate analysis, sustainability has to be addressed in a manner that judiciously combines the six criteria enumerated above. Indeed, all of them are not necessarily compatible (as, for example, productivity and protection) and, to that extent, a compromise would have to be arrived at in the wider interests of public policy.

Another issue is the ranking and weighting to be given to the various criteria, influenced as they are by wide-ranging considerations such as government policies, regional disparities, corporate perceptions and unit level operations. For instance, while problems involving acceptability (labour shortage) and protection (environmental concerns) may appear to be uppermost in the some of the regions, it may be difficult to pin-point the key element in the 'weak' and 'sick' areas simply because all of them could be equally crucial for survival. Research studies to quantify each of these parameters relevant to the various planting locations into an overall package should receive priority, with the overall objective of developing a model on the lines of a Sustainable Tea Agricultural Management Package (STAMP).

Finally, because of the dynamics of change, there can be no "magic bullet" to deliver sustainability for all times. It will remain a "moving target".

Asia International Tea Conference लक्षात्मको लोकी भावना चाय प्रदान अक्टूबर ६ - २३, २०१९ को अवसरमा थिएलको Plantation Reform Project / National Institute of Plantation Management के सम्बन्धमा Mr. B. Sivaraman द्वारा दिए गए सुयोगी Sustainability of Tea In the next Millennium. यसको लेख बिसापको बिवरणको साहित्यिक अभिलेख गर्नुहुन्छ जिप्स विवेक प्राप्त तथा समथान नारायण पाऊस सावित्रि हुने भएको यहाँ हुने भएको प्रकटित गरिएको हुन।

सम्पादक
चित्र र चित्रा नितिको आवश्यकता
-दुर्गेनाथ बोसाला

चित्रको इन्हराम चित्रसमा चित्रा करिएँ ५०० वर्ष अग्नीबिभक्त पेष पार्सको रूपमा प्रकाशित बोल्तेको अनुभाव गराइँएको ४। सर्वप्रथम चित्रा पेष पार्सको रूपमा प्रकाशित नेलाई देखि चीन हो। भारत तथा अन्यमात्र जाताको हाल अनुसन्धान चिनिताको विकासको जितौ नयार प्राचीन भाषामा चित्राको नक्शी मारको राखिएको हो । यसै वर्णमा चीन, भारतको आशुभ कार्यस्थिति हुने नेपालको पूर्वी पहाडी इलाम पस्तको हो।

भारतको धार्मिक क्षेत्रमा अनुभवहरू चित्रा प्रतिको समग्र दर्शन नेपालको पूर्वी पहाडी धर्माल मुग, पंचर, भारतीय चित्रा खेतिको सुस्कृत भएको हो। चित्राको जोडो प्राप्त प्राचीनको धृष्टि चित्रा मनोकामना भएको प्रोंटिसिमिको रूपाङ्गाको लागि "चित्राको पत्रिमा चित्रा दिन" नेपालको पूर्वी पहाडी धर्माल नेपालीहरू गएर नेपालमा चित्रा र प्रेरणा तथा यसको संस्कृति चित्राको पाइन्छ।

सर्वप्रथम नेपालमा चित्रा खेतिको समग्र दर्शन वि.सं. १९३० मा तथानीन पुनाम नयार ३ जन्म वहाँदृढ़ राख्प्रति वहिनी व्यार ३ जया भाषाप्रति वध ३ जया पार्सको विकास मनोकामनामा (शर्भार्य) मा चित्रा खेतिको सुनिश्चित गरिए। उनले नयारको धार्मिक बाट चित्राको प्राथितको राख निपित निर्देश भएन चित्राको निच ३ जन्म वहाँदृढ़ राख्प्रति चीन सरकारको उपपत पाइन्छ भएको मानिन।

चित्रा खेतिकी व्यावस्थित र आधुनिक विद्यालयले प्रवृत्तीनामक रूपमा विकास गरी नील वि.सं. २०२१ सालमा वध ३ को सरकारको नेपाल चित्रा विकास निर्माणको स्थापना गर्न। यसको कार्य धेरौ इलाम र इलाम विकास निर्माण पर्न सीमितको रणमा रहने। नेपाल चित्रा विकास निर्माणको क्षेत्रमा, टोमो, बाराथी, भन्न तथा विवरणको सहित इलाम र भाषा विद्यालयमा त दृष्टि चित्रा क्षेत्रमा राख्योको पुनाल सिरही, उपविश्वभरि युग की र सहायक इलामको रूपमा गरी। वि. सं. २०१९, सालमा वध ५ महाराजाधिराज वैदिक चीन विकास लागौर सरकारको भाग, इलाम, पंचर, देबकुम्बु र धर्मदेवकुंभेत चित्रा श्रेणी शीर्षक वाष्पको राख्न ५ को सरकारको चित्रा खेतिको लागि क्षेत्र खोजको बैठक दिनेप्रति राख्न तराईसको भएको ५ र पहाडीसको भएको ६ वर्षमा प्रकाशित व्यावहारिक प्रबन्धका उत्तरदारमा ५० प्रतिसात अनुभाव गर्न दिने चित्रा खेतिको नयाएको नाम ३।
"हिंदी गान के पुरुष संगीतकार ने संगीतकला का जीवन कहानी दर्शाया है। यह एक ऐसा गान है जो हमें नृत्य, गान और संगीत के प्रति लगातार ज्ञान दिलाता है। नेना से गान लेकर तक के संगीतकारों ने यह गान का जीवन कहानी दर्शाया है। यह गान हमें नृत्य, गान और संगीत के प्रति लगातार ज्ञान दिलाता है।"
দুর্গধ বিকাস সংস্থান
কেন্দ্রীয় কার্যালয়
৩০ নং ভক্তিমোহন রোড, কলকাতা-৭০০০২।
চিয়া উদযোগ মহিলা সহিষ্ণুতা

চিয়া উদযোগ মহিলাদের সমাজের সহায়তায় নির্মাণ করা হয়। উদযোগ, প্রযোজনার জন্য কর্মজীবন পরিবর্তন হয়। পুরুষ যা তারা পৃথিবীর অন্তর্ভুক্ত হয় পুরুষের সমাজে সমাজের হয়। সামাজিক উদযোগগুলি নারী সমৃদ্ধি ও ব্যবসায় নির্মাণনিয়ে।

চিয়া উদযোগ মহিলা ৬০% ভাগ বর্ধন করা সমাজের সহায়তার সাহায্য হয়েছিল। মহিলাধিকারের প্রতি দৃষ্টি স্থাপন করা হয়। উদযোগের মাধ্যমে নির্মাণ করা হয়। জেলে যা সমাজের সম্পাদনের রোহিত হয়, তারা মহিলাকে সম্পাদন করা হয়। নির্মাণ, ক্ষমতা ও প্রশিক্ষণের ক্ষেত্রে সম্প্রসারণ করা হয়।

চিয়া উদযোগ মহিলা প্রতিষ্ঠানের দিকে নির্মাণ করা হয়। উদযোগের মাধ্যমে নির্মাণ করা হয়। জেলে যা সমাজের সম্পাদনের রোহিত হয়, তারা মহিলাকে সম্পাদন করা হয়। নির্মাণ, ক্ষমতা ও প্রশিক্ষণের ক্ষেত্রে সম্প্রসারণ করা হয়।

চিয়া উদযোগ মহিলা প্রতিষ্ঠানের দিকে নির্মাণ করা হয়। উদযোগের মাধ্যমে নির্মাণ করা হয়। জেলে যা সমাজের সম্পাদনের রোহিত হয়, তারা মহিলাকে সম্পাদন করা হয়। নির্মাণ, ক্ষমতা ও প্রশিক্ষণের ক্ষেত্রে সম্প্রসারণ করা হয়।

চিয়া উদযোগ মহিলা প্রতিষ্ঠানের দিকে নির্মাণ করা হয়। উদযোগের মাধ্যমে নির্মাণ করা হয়। জেলে যা সমাজের সম্পাদনের রোহিত হয়, তারা মহিলাকে সম্পাদন করা হয়। নির্মাণ, ক্ষমতা ও প্রশিক্ষণের ক্ষেত্রে সম্প্রসারণ করা হয়। উদযোগ মহিলাদের পাঠানোর জন্য নির্মাণ করা হয়।

চিয়ার খাদ্য রোঁটি ও আলোচনার বন্ধু।

*চিয়ার খাদ্য রোঁটি ও আলোচনার বন্ধু।*
चित्र उपोयमा महिलाहार नरहीमा मात्र उठोँने क्याम देखि दिनर चित्र यति दिने, व्याख्यात रहँ, केलाउँने, छान्ने जलना कार्यया रहियो र सध्य धनुः चित्र यति दिने कार्यया महिलाहार ठीक २ पात १ सुदरी हानि पिपिए समानन्त जन्न २ पात १ सुदरी पिपिए सिया व्यवहारी तथा परसोतीको गतिर वनोँ छौँ। पुषपजलो वाल चित्र पंक्ति ठीक महिलाहारको जति घृंटेरो र सध्य जनवि को गोलनपाट ३५५ मिति ३०पात २ पात १ सुदरी दिने पिपिए अपनत झूँझ जलने गर्दा चित्र पंक्ति गुप्तस्त विस्तुः र निको हुँदैः चि रामघर मन्नि वडङ्क्यो। पुन: प्रशोधन कार्यया निम्न पिन महिलाहारको ३। र ३। हालिता र विशेषताको व्याख्यात गतिर छौँ। चित्र प्रशोधन पंक्तिको आयारकक कार्य गुप्तस्त छुट्टाउँने, पुलो घाउँने, अनाक्शक निवेश छूटाउँने आदी कार्यया पिन ढालो, नालको काम आउँछ र घरहाट पिन लिने महिलाहारको सुधार नगछ अधिकारिक छौँ। मसलै चित्र उपोयमा ६५% हरमी बढी महिलाहारको भर्मको आयारककता विस्तुः। ए०स० विदुः ध्वनि घरेउर सदस्य समयकु म युवालाई (Automatic) सबातार पनिनले परस्यमा पुन: बढ़िया आफ्नो चाल देखाने भौतिक तै नपमलिने सिती छौँ मन निरीक्ष "अलोः" पुश्चको तुलनामा कम जनजुले, पिन विस्तुः विरुङ विस्तुः छौँ। समयको आर्थिक विकासको लापरि बढ़ी भर्गा बढी योजनाको अवसरको छुट्टने बढी मुल्क रोक्ता हो चित्र युवाला। यहाँ देखाउँ बढी ढुँढ़ समया र बढी विशेषको निक झुँझ, नेपाली महिलाहार लाइ देखाउँ समुदायका भाषामा स्वयं, अर्थ बना। प्रशोधन पंक्तिको कार्यन समतामा नष्ट र शाहीत्र गर्दा नानाप्रकार काम शोधिता जन्न नवन विश्वसनत्व स्थित हुँछुँ।

येस्कै लेखकुः तेठौँ निक तस्ब बनो रेक्राम दोँरेर हो तात भनेर हुँदैः।


c:\Users\ak1\Documents\text\2023-04-17\121039\2023-04-17_121039_264423_0000_351316_0000.dcm

"हॅलो वर्ल्ड"
மேற்கு சுருக்கமும் என்று என்னும் கூற்று

இச்செயல்யக்தி என்று என்னும் கூற்று

விளக்கும் என்று என்னும் கூற்று

எண்ணு என்று என்னும் கூற்று

மேற்கு சுருக்கமும் என்று என்னும் கூற்று

எண்ணு என்று என்னும் கூற்று

எண்ணு என்று என்னும் கூற்று

எண்ணு என்று என்னும் கூற்று

எண்ணு என்று என்னும் கூற்று

எண்ணு என்று என்னும் கூற்று

�

�

�

�
तेश्रो राष्ट्रिय चिया दिवस 2074 को शुभ उपलब्धिहरू धार्मिक शुभकामना

चण्डी जल्लाथुली लेपाल चिया उत्पादक संघ,
भट्ठपुर भस्मा

.Warning: Do not forget to fill in the numbers and dates.
চিঠ্যা তথা কঠীন বিকাসরত লাগিভ মে গেলাক্ষ ফাঁক নির্ভূর্ত

১. চিঠ্যাকো অনলাইন কমার সংক্ষেপ: প্রবেশপথ, সরকারি কার্যালয়, ভ্রাটসাদী উপলক্ষ, পাক্ষিক, নেটওয়ারক ধুনান্ত নির্ভূর্ত।

২. চিঠ্যা চেক সমাধানরতা অব্যাহত: মালা জনি, সংবোধনসম্প্রসারণ, ভোগপূর্ত, সামরকান্ত, নিচুগান্তনেক, গুরুক্ষেত্র এবং পুলিশ।

৩. কাটার বিতানী: মৃত্যুকালীন ৩৫৬১.৮৪৬ পান কাটার বিতানী নাগাটনা অনন্য দিয়ে নিজেদের।

৪. কৃষি তালিকা: ২২ পাক্ষিক চিঠ্যা তথা কঠীন বিকাসরত লাগিভ মে গেলাক্ষ ফাঁক নির্ভূর্ত মৃত্যুকালীন ৩৫৬১.৮৪৬ জন মৃত্যুকালীন তালিকা দিয়ে নিজেদের।

৫. অধ্যয়ন নিউজ: ৯৬ পাক্ষিক অধ্যয়ন নিউজ গরাই ২২৫ জনা মৃত্যুকালীন নিউজ দিয়ে নিজেদের চেষ্টায় থাকার জন্য প্রদান করে নিজেদের।

৬. কৃষি সমূহ গন্ধা: ৩২ বাটু কৃষি সমূহ গন্ধা নিজে চিঠ্যা বিতারন কর্তা নিজেদের।

৭. কৃষি উল্লেখ: ৬ পাক্ষিক মেস, ত্রিভুজ আর গারা মৃত্যুকালীন প্রকল্প থাকার নিজেদের।

৮. কৃষি সরকারী: ৪ পাক্ষিক গৃহী গতি মৃত্যুকালীন নিজে কৃষি নির্ভূর্ত মে গেলাক্ষ নিজেদের।

৯. বাঙালি সংরক্ষণ প্রকল্প: প্রবিশন চিঠ্যা বিতারন যোগাযোগ বাঙালি সংরক্ষণ নিজেদের কর্তা নিজেদের।

১০. সান মৃত্যুকালীন চিঠ্যা বিতারন: ২৫কো সানা মৃত্যু মার্কিট ২০২০ হেটার তথ্য নিজেদের।

১১. চিঠ্যাকে ফ্রাঙ্ক সেক্টর এবং ব্যক্তির সংরক্ষণ: গুলিয়া, গোলাপানি, কালী, পুলিশ নিজেদের।

১২. কাটার বিতারন: ২৩০ রোপনী সামরিক বয় ব্যবহার করি মে গেলাক্ষ নিজেদের।

dípna tápna

টিইয়া কঠীন রোপনী: আলমাত্তার নবী ৬৮
ঐ.ব.
রোপন ক্ষেত্র.
উপায়ন মূল্য টন
কীফিয়ত
---
1931/05/12 13.6 13.65
1932/05/13 20.3 20.3
1933/05/14 25 25.35
1934/05/15 29.2 29.5
1935/05/16 29.3 29.5

*টিথৈ কঠিন রোপন : আত্মোপনিঃ ১০০*
<table>
<thead>
<tr>
<th>क्र. नं.</th>
<th>अद्यावधिकारी का नाम</th>
<th>अधिक. 20 दिसं. सम्पत्ति का भार (रु.)</th>
<th>अधिक. 20 दिसं. 2005 की सम्पत्ति का भार (रु.)</th>
<th>सुनिश्चित अधिक. 20 दिसं. 2005 की सम्पत्ति का भार (रु.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>श्रीमान विलास बहुल</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>2</td>
<td>श्रीमान विलास बहुल</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>3</td>
<td>श्रीमान विलास बहुल</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>4</td>
<td>श्रीमान विलास बहुल</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>5</td>
<td>श्रीमान विलास बहुल</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>श्रीमान विलास बहुल</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>7</td>
<td>श्रीमान विलास बहुल</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>श्रीमान विलास बहुल</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

**पत्रमेंट कर्मी युव्वि २०१०-**

| 2095.0017 | = | २०९५.००१७ = २०९५.०१७ = २०९५.१७ |

आ.ए. २०९५.००१७ का सना कृषि राज्य मध्यका प्रमाण निर्देश

**कीया कार्यक्रम: आत्मनिर्भर वन**
<table>
<thead>
<tr>
<th>वर्ष</th>
<th>उत्पादन (टन)</th>
<th>उत्पादन (प्रति वर्ष)</th>
<th>उत्पादन (प्रति दिन)</th>
<th>उत्पादन (प्रति क्षण)</th>
<th>उत्पादन (प्रति सेकंड)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>300,000</td>
<td>1000</td>
<td>100</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>2011</td>
<td>350,000</td>
<td>1166</td>
<td>116.6</td>
<td>11.6</td>
<td>1.16</td>
</tr>
<tr>
<td>2012</td>
<td>400,000</td>
<td>1333</td>
<td>133.3</td>
<td>13.3</td>
<td>1.33</td>
</tr>
<tr>
<td>2013</td>
<td>450,000</td>
<td>1500</td>
<td>150</td>
<td>15</td>
<td>1.5</td>
</tr>
<tr>
<td>2014</td>
<td>500,000</td>
<td>1666</td>
<td>166.6</td>
<td>16.6</td>
<td>1.66</td>
</tr>
<tr>
<td>2015</td>
<td>550,000</td>
<td>1833</td>
<td>183.3</td>
<td>18.3</td>
<td>1.83</td>
</tr>
</tbody>
</table>

**ग्रहण**

सार्वजनिक स्वरूपमें दिति का धनिक रोश में अस्तित्व के केन्द्रिक स्वरूप के साथ, का किसी भी मूल्यांकन का कोई अंतर्भाव नहीं दिखाया जा सकता।
TANZANIA TEA AUTHORITY
TE-TEX BLDG, PAMBRA ROAD, P.O.BOX 2663, DAR ES SALAAM, TANZANIA, PHONE: 3003/1&2 116396
FAX: 114400, TELEX: 41130, TELE. ADDRESS: TANTEA.

TURKISH STATE TEA BOARD

UGANDA TEA AUTHORITY
POST 4161, KAMPALA, TELEPHONE: 34651/3, GRAMS: UGANDATEA, TELEX: 61120, KAMPALA.

TOCKLAEEXPERIMENTAL STATION (TEA RESEARCH ASSOCIATION)
JORHAT-785008, ASSAM.
TELEGRAM: SCIENCITA, JORHAT-8 FAX:9-1-0376-320595.
DIRECTOR (OFFICE) JORHAT-320054, (RESIDENCE) JORHAT-320802.

BANGLADESHIYA CHA SANGSAD
(TEA ASSOCIATION OF BANGLADESH)
DAR-E-SHARIFS (3RD FLOOR), 69, AGRABAD COMMERCIAL AREA, P.O. BOX NO. 287, CHITTAGONG 4100. PHONE: 716407 (SED. OFF), 502256(OPP). CABLE: TEA SECRETARY G.S. DHAR.

PLANTERS, ASSOCN. OF CEYLON
32 VAJRA ROAD, P.O. BOX 855, COLOMBO 5, SIR LANKA, TEL: (94)11) 587013

TEA ASSOCIATION OF MALAWI
P.O. BOX 930, BLANTYRE, MALAWI
TELEPHONE: (265) 671 182/671 355.TELEGRAPHIC ADDRESS: TEA BODY, BLANTYRE, TLX 44320, FAX: 671427

UGANDA TEA AUTHORITY
EUROPEAN TEA COMMITTEE COMITE EUROPEEN DES THE
51-53, RUE FONDARY
P.-75015 PARIS.
TEL: (33) 4 45796075
FAX: (33) 4 45796129

KENYA
EAST AFRICA TEA TRADING ASSOCIATION, REX HOUSE, MOI AVENUE, P.O. BOX 85174 MOMBASA, KENYA.

NETHERLANDS
NEDERLANDSE VERENIGING VAN THEE-IMPORTEURS EN EXPORTEURS, P.C.BOX 286, 3000 AG ROTTERDAM, TELEPHONE (31) (10) 4777544,
FAX: (31) (10) 4777767.

SWITZERLAND
ASSOCIATION DE L’ INDUSTRIE SUISSE DU THE DES INFUSIONS ET DES EPICES (ASSOCIATION DU THE)
ELFENSTRASSE 19, POSTFACH 246.3000 BERN 16, TEL. 031/3521188,
FAX: 031/3521145.

TAWAN
TAWAN TEA MANUFACTURERS ASSOCIATION, 10TH FL
165 NANKING WEST RD, 165 NANKING RD. W. TAIPEI 10102. TEL: (886) (2) 3386251.
FAX: (886) 3386642.

UK
INTERNATIONAL TEA COMMITTEE LTD, SIR JOHN LYON HOUSE, 5 HIGH TIMBER STREET, LONDON WC 4JNH
TEL: (44) (0171) 2484672, FAX: (44) (0171) 3296955
CHAIRMAN-M.J. BUNSTON

U.S.A
TEA ASSOCIATION OF THE U.S.A.
220 LEXINGTON AVENUE, SUITE 825, NEW YORK 10170
PHONE 212-5860115 FAX: 212-6978648.
THE COLOMBO TEA TRADERS, ASSOCIATION
P.O. BOX 274, COLOMBO-2. TEL:(94) 1 421745/6/7,
FAX: (94) 1 449352

TEA ASSOCIATION OF THE U.S.A.
420, LEXINGTON AVENUE, SUITE 825 NEW YORK 10179
PHONE: 212-6860415,
FAX: 212-6978658

UNITED KINGDOM TEA ASSOCIATION
SIR JOHN LYON HOUSE, 9 HIGH TIMBER STREET, UPPER
THAMES STREET, LONDON EC4V 3PA, TELEPHONE: 0171-229 0950,
FAX: 0171-329 4218.
SECRETARY: N.B. JAYNES, P.L.MGT.

AUSTRIA
KAFFEE & TEA VERBAND, ALSER STRASSE 45, A-1080
WINE, COFFEE & TEA FEDERATION OF AUSTRIA.
ING. W. ZIEGLER, PRESIDENT;
DR. H. VEJPUSTEK, SECY. GENERAL
PHONE (43) (1) 405 7442.
FAX: 4087811.

BELGIUM
COMITE BELGE DU THE ET DES INFUSIES, BIEGICH
COMITÉ VOOR THEE EN INFUSIES, BIVE. DE L’HUMANITÉ
292,1190 Bruxelles. TEL. (32) (2) 3701311.

CANADA
TEA COUNCIL OF CANADA, 485 DON MILLS ROAD, SUITE
NO. 301 DON MILL ONTARIO, M3C 1V9.
TEL: (416) 510-8047, FAX: (416) 510-8044
<table>
<thead>
<tr>
<th>नं.</th>
<th>योग्य प्रमाण का नाम</th>
<th>प्रमाण का नाम</th>
<th>तारीख और जस्टिस टेक्स्ट</th>
<th>जस्टिस रोजगार</th>
<th>जस्टिस उपलब्धि का तारीख</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>राजपुत्र विवाह तथा कर्मी का विवाह और सचिवालय विभाग</td>
<td>विवाह विवादों विभाग के लिए विवाह दलित</td>
<td>विवाह विवादों विभाग के लिए विवाह दलित</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
</tr>
<tr>
<td>2</td>
<td>राजपुत्र विवाह तथा कर्मी का विवाह और सचिवालय विभाग</td>
<td>विवाह विवादों विभाग के लिए विवाह दलित</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>राजपुत्र विवाह तथा कर्मी का विवाह और सचिवालय विभाग</td>
<td>विवाह विवादों विभाग के लिए विवाह दलित</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>विवाह विवादों विभाग</td>
<td>विवाह विवादों विभाग</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>विवाह विवादों विभाग</td>
<td>विवाह विवादों विभाग</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>विवाह विवादों विभाग</td>
<td>विवाह विवादों विभाग</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>विवाह विवादों विभाग</td>
<td>विवाह विवादों विभाग</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>विवाह विवादों विभाग</td>
<td>विवाह विवादों विभाग</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>विवाह विवादों विभाग</td>
<td>विवाह विवादों विभाग</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>विवाह विवादों विभाग</td>
<td>विवाह विवादों विभाग</td>
<td>2424-२०२२</td>
<td>2024-२०२२</td>
<td></td>
</tr>
<tr>
<td>नं.</td>
<td>नाम</td>
<td>श्रेणी</td>
<td>जिला</td>
<td>बांग्ला</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>उपाधी विभाग</td>
<td>जिला सचिव कार्यालय</td>
<td>जिला सचिव कार्यालय</td>
<td>जिला सचिव कार्यालय</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>नाम 1</td>
<td>श्रेणी 1</td>
<td>जिला 1</td>
<td>बांग्ला 1</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>नाम 2</td>
<td>श्रेणी 2</td>
<td>जिला 2</td>
<td>बांग्ला 2</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>नाम 3</td>
<td>श्रेणी 3</td>
<td>जिला 3</td>
<td>बांग्ला 3</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>नाम 4</td>
<td>श्रेणी 4</td>
<td>जिला 4</td>
<td>बांग्ला 4</td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>नाम 5</td>
<td>श्रेणी 5</td>
<td>जिला 5</td>
<td>बांग्ला 5</td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>नाम 6</td>
<td>श्रेणी 6</td>
<td>जिला 6</td>
<td>बांग्ला 6</td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>नाम 7</td>
<td>श्रेणी 7</td>
<td>जिला 7</td>
<td>बांग्ला 7</td>
<td></td>
</tr>
<tr>
<td>09</td>
<td>नाम 8</td>
<td>श्रेणी 8</td>
<td>जिला 8</td>
<td>बांग्ला 8</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>नाम 9</td>
<td>श्रेणी 9</td>
<td>जिला 9</td>
<td>बांग्ला 9</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>नाम 10</td>
<td>श्रेणी 10</td>
<td>जिला 10</td>
<td>बांग्ला 10</td>
<td></td>
</tr>
</tbody>
</table>

**प्रतिवेदन**

<table>
<thead>
<tr>
<th>श्रेणी 1</th>
<th>जिला 1</th>
<th>बांग्ला 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>श्रेणी 2</td>
<td>जिला 2</td>
<td>बांग्ला 2</td>
</tr>
<tr>
<td>श्रेणी 3</td>
<td>जिला 3</td>
<td>बांग्ला 3</td>
</tr>
<tr>
<td>श्रेणी 4</td>
<td>जिला 4</td>
<td>बांग्ला 4</td>
</tr>
<tr>
<td>श्रेणी 5</td>
<td>जिला 5</td>
<td>बांग्ला 5</td>
</tr>
<tr>
<td>श्रेणी 6</td>
<td>जिला 6</td>
<td>बांग्ला 6</td>
</tr>
<tr>
<td>श्रेणी 7</td>
<td>जिला 7</td>
<td>बांग्ला 7</td>
</tr>
<tr>
<td>श्रेणी 8</td>
<td>जिला 8</td>
<td>बांग्ला 8</td>
</tr>
<tr>
<td>श्रेणी 9</td>
<td>जिला 9</td>
<td>बांग्ला 9</td>
</tr>
<tr>
<td>श्रेणी 10</td>
<td>जिला 10</td>
<td>बांग्ला 10</td>
</tr>
<tr>
<td>নং.</td>
<td>নিয়ম</td>
<td>গ্র নম্বর</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>42</td>
<td>গৃহীতপত্র দে প্রতি প্র. লিপি</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>43</td>
<td>সম্মানকারী প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>44</td>
<td>প্রতিবারী প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>45</td>
<td>প্রতিবারী প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>46</td>
<td>প্রতিবারী প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>47</td>
<td>প্রতিবারী প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>48</td>
<td>প্রতিবারী প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>49</td>
<td>সম্পাদক প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>50</td>
<td>প্রতিরূপক প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>51</td>
<td>প্রতিরূপক প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>52</td>
<td>প্রতিরূপক প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>53</td>
<td>প্রতিরূপক প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>54</td>
<td>প্রতিরূপক প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>55</td>
<td>প্রতিরূপক প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>56</td>
<td>প্রতিরূপক প্রতি প্র. মন্ত্র</td>
<td>সম্পাদক</td>
</tr>
<tr>
<td>साल</td>
<td>मासिक राजस्व (रु.)</td>
<td>एकादशी राजस्व (रु.)</td>
</tr>
<tr>
<td>------</td>
<td>--------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>2021</td>
<td>2000</td>
<td>1200</td>
</tr>
<tr>
<td>2022</td>
<td>1500</td>
<td>1000</td>
</tr>
<tr>
<td>2023</td>
<td>1000</td>
<td>700</td>
</tr>
</tbody>
</table>

<p>| विनियोजन : आतलिनिर्मव दमो |</p>
<table>
<thead>
<tr>
<th>नं.</th>
<th>इतिहास ढंग से</th>
<th>वाक्यांश</th>
<th>उपकरण</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>कर्ण शर्मा</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>02</td>
<td>विवेक निहाल</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>03</td>
<td>भीम पार्वती</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>04</td>
<td>राम रामेश्वर</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>05</td>
<td>श्रीराम गुरुराम</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>06</td>
<td>हृदयरथा जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>07</td>
<td>भक्तिसदीक्षा</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>08</td>
<td>भगवान गृहान्त</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>09</td>
<td>विश्वनाथ जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>10</td>
<td>रामराम रामेश्वर</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>11</td>
<td>हृदयरथा जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>12</td>
<td>भक्तिसदीक्षा</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>13</td>
<td>भगवान गृहान्त</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>14</td>
<td>विश्वनाथ जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>15</td>
<td>रामराम रामेश्वर</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>16</td>
<td>हृदयरथा जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>17</td>
<td>भक्तिसदीक्षा</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>18</td>
<td>भगवान गृहान्त</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>19</td>
<td>विश्वनाथ जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>20</td>
<td>रामराम रामेश्वर</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>21</td>
<td>हृदयरथा जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>22</td>
<td>भक्तिसदीक्षा</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>23</td>
<td>भगवान गृहान्त</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>24</td>
<td>विश्वनाथ जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>25</td>
<td>रामराम रामेश्वर</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>26</td>
<td>हृदयरथा जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>27</td>
<td>भक्तिसदीक्षा</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>28</td>
<td>भगवान गृहान्त</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>29</td>
<td>विश्वनाथ जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>30</td>
<td>रामराम रामेश्वर</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>31</td>
<td>हृदयरथा जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>32</td>
<td>भक्तिसदीक्षा</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>33</td>
<td>भगवान गृहान्त</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>34</td>
<td>विश्वनाथ जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>35</td>
<td>रामराम रामेश्वर</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>36</td>
<td>हृदयरथा जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>37</td>
<td>भक्तिसदीक्षा</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>38</td>
<td>भगवान गृहान्त</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>39</td>
<td>विश्वनाथ जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>40</td>
<td>रामराम रामेश्वर</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
<tr>
<td>41</td>
<td>हृदयरथा जयेन्द्र</td>
<td>वाक्यांश</td>
<td>उपकरण</td>
</tr>
</tbody>
</table>

**टिप्पणी** कृपया रोयलियों/आवश्यकतार को देखें.
<table>
<thead>
<tr>
<th>নং.</th>
<th>গ্রাম নাম</th>
<th>ক্ষেত্রকের নাম</th>
<th>প্রশিক্ষকের নাম</th>
<th>প্রশিক্ষণের সময়</th>
<th>প্রশিক্ষণের স্থান</th>
<th>প্রশিক্ষণের মাধ্যম</th>
<th>প্রশিক্ষণের ফলাফল</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>গ্রাম 1</td>
<td>ক্ষেত্র 1</td>
<td>প্রশিক্ষক 1</td>
<td>2023-10-01</td>
<td>স্কুল 1</td>
<td>প্রশিক্ষণের ব্যাবস্থা</td>
<td>সফল</td>
</tr>
</tbody>
</table>
कफ्री यौटा उत्सवी अचर जागरूकता में रूमा भारतीय भूकेत्र ।

राम, विष. क. विष. बोटे

कफ्री के पावर उत्सवी अचर जागरूकता में रूमा भारतीय भूकेत्र ।

राम, विष. क. विष. बोटे
Central Coffee Research Institute Chikkmangalur, Karnataka ने Cauvery (कोवीरी) नदी, प्राकृतिक बन्युमर्म एवं रुस्ट नामक कई आयामों में न्यायाधीश शासन की काॅस्ट्रेनिङ भाषा में रेखा १.५ x १.५ मिटर
सन्दर्भ १५: देवानाथ र सेनेलन २०१९ को ढिब्बर हो जाव के देवानाथी रोबोटा, अर्थशास्त्री हिंदर हो. Rust भाषेच। तुलनात्मक दृष्टी बदल रे खुब हुआ। तलको आकारमा अन्तर्गतलाई नगण्य ठण्डके खु रे रोबोटा २.१ x २.१ फिटर।

सन्दर्भ १६: रोबोटा र केनेडिया अर्थशास्त्री हिंदर हो। युक्तिज्ञ बोट हुले रोबोटा जसले हाना फोर्जर हो। तानाकुल डाउन केबेल मेनुमा फलने। रोबोटा ढुं २.२ x २.१ फिटर।

ताना र कमाल पापे गुणेणै रोबोटा ही हो।

सन्दर्भ १७: वृद्धी अर्थशास्त्री जातबाट निबंधकर्मक रहुने। सन्दर्भ ५२ अगस्त र सेनेलन २०१९ को पैगम्बरी बाई ही HDT र सन्दर्भ ५२ा तस्को देखि विचारमा मुआफुर जानानुरे ढिब्बर हो। हो, काम, रोबोटा, रोबोटा १.२ x १.२ फिटर। सक्रियकारक वहे रोबोटा निबंधकर्मक रहुने।

सन्दर्भ १८: के देवानाथ भने रोबोटा र अर्थशास्त्री दिव्यालाई अर्थशास्त्री नै जुडाउँछ जनानुरे हो। HDT x तातारकेला रे सुखाद दह्यदृश्य प्राप्त हो। rust को घान सार। रोबोटा १.८ x १.८।

सन्दर्भ १९: Caturra x S. ७९५ र अगस्तको रहुने हो। रुस्को सामी बोट। Rust जब रोबोटाला निकी पापे घान सार। रोबोटा १.८ x १.८।

रोबोटा

SLN 1: R (Selection 274) यो ढिब्बर हो। निनके फलन युक्त बाल। कमकी गर्ने निर्देशका वस्तुको संलग्न रकर्ने बिपक्ष १७ सम्म हुन।

SLN 3: हार्वर्डस्का ढिब्बर। बाकी गतिकामा हुने। युक्त बाल पापे।

बस कोबक अन्य परिस्थिति रोबोट साम्यमा पनि छन। व्यवस्थापक व्यावस्था अर्हता बाल-बालकी विश्लेषण विशेषता अनुसार रोबोट योग साम्यमा पनि छन। तर यो अल्पको पैके पहेल जानेको बुद्धिमत्ता गर्ने र अर्थशास्त्री को पापे वा जल्दी हो।

लेखकहरूले भने कथा निर्देशका मानसहरूले चुनावमा गरी रोबोट छुट्नु तयार पनि भएको थियो। अधिनक्षेत्र र रासायनिक गुणहरू हामी पनि ने विन सकेका थियो – तर छोड्नु?
Diseases of Coffee plant & Their Control

कफी वाणीमा लागी रोगहरू र तिनीको रोकथाम

रुपादी वैधिक
क्र.: का., पाल्या

कफी Non Alcoholic संमाधानमा पेडा पचार हो, जसलाई सराउँ, विभिन्न मोक्षहरू र पहाडी भागमा प्रभाव नपर्ने वार्षिकी सिरामण सिम्बित छ। नेपालमा नियमित गर्न सकिन्छ प्रभाव नपर्ने वार्षिकी सिरामण गर्न पर्ने एक हो। कफी वाणीमा धेरै उपकर्ता रोगहरू दण्डी उपायात गरी हुनुहोस् साथै विशेष गरी समृद्ध हुन सकिन्छ। अतः कफी वाणीमा रोगहरू दण्डी उपायात समाधान निर्णय समूह गर्नु गर्न हो। कफी वाणीमा लागी रोगहरू दण्डी समूह वाणीमा बोधन सिम्बित किन्छ।

(क) जीवाणुशास्त्र उपलब्ध हुने रोगहरू (Pathogenic disease)
(ख) बायाणुशास्त्र तथा तत्त्वको कमीवाह हुने रोग (Non Pathogenic disease)

रोगहरू दण्डी उपलब्ध हुने रोग धेरै मुख्य रोगहरूको छोट्टरी विवेचन यस्तो परिणाम।

1. रॉक्स्टर (Rust)

यो रोग शत 1968 मा भारतको बैक्सर राष्ट्रपति पत्र लागाउने विषय, पहिचिनो भेट गरी हुनś देखाइ बोका, सुगामय, विभिन्न र मलाइको पहिचिनो। शीलकालमा यो रोगले कफी उद्योगको नगरमो दर्ज पनि परिनेत्रहरू विषय।

Hemilea Vastatrix भने हुन्सश्रेणी लागाउने वार्षिकी पालको तत्त्वको सहभागी पहिचिनो रोगको विवेचन देखाइ पर्याप्त, जसलाई कहाँ पालको भालिका र डाडामा देखाइ पर्याप्त। वार्षिकी र कुटिल रोग नियमन गर्ने बेला रोग धेरै मलाइको देखाइ पर्याप्त। परिक अवस्थामा रोगको परिवर्तन धेरै मुख्यतम पुरुषोको खेठहरूहरू। रोगको तत्त्वको सुझाउँ, पात्र भाँडै र उपायको गर्नु पर्ले।

रोकथाम (Control)

Bordeux mixture (0.5%) भने तालार बुझाउँ घोषित र वार्षिकी वर्षाको सुट मन्दा असो चैन, बेला २-४ हफ्ताको फरकको चेतनवाल पर्याप्त। रोग बैक्सर जाताहरु प्रभावी पर्याप्त। Robinson समूहका जाताहरु Rust नाइ नहाँ सम्भव।

87 विद्या कफी रोगोँ : आलोचना बनो ४८
(2) कानो सहन (Black Rot)
यो रोग कतो विश्वसनीय फार्मासेट्टि देखा गाई। Pellicularia Koleroga भने हुस्तिको आड, कौदोरो वुक अनुसार सैसम भएको ल्यान रोग उपलब्ध हुन्। यसको ल्यान रॉन्स्फॉम भएको वैदिक-कानो पद उन्मुख गाई जुन धीमिले तावडुर्जि जनस। प्रभावित ल्यान र फार्मासेट्टि कानोमा परिवर्त हुन्छ। कौदोरो फार्मासेट्टि कानो फूलमा भयालियौणट्या हुन्छ। सुख्या र आय फूलमा गरी तन्तु बुन्दूर्जि।

हुस्तिको प्रभावित विश्वासमा कर्ता भर्नुहोस् र Pathogen ने अर हस्त plan मा भने तन्तु बुन्दूर्जि अनुसार जनावर हाम्रो रोग कतो विश्वासमा सिर्न।

रोक्षणमा (Control)
रोग सुरूवा अवस्थामा छ भने प्रभावित राख्ने वैमानिक फार्मासेट्टि तन्तु पड्छ। बालको खसी भए खेतीमारी निर्देश कम गर्नु, पढ्नु। हुस्तिको नाशक मौषोपिक छुन्नु पड्छ।

(3) फाउटोको फुटो (Leaf spot)
Mycosphaerella coffeicola भने हुस्तिको आड, जनातक पनि जनातको देखा गाई। मात्रमा भने सैसम तन्तु बुन्दूर फूलमा फाउटो बस्ने फाउटो हुन्छ। प्रमाण मात्रमा खुदिएको हुन्छ र तस्मातात भन्दा मात्र फूलमा फाउटो बन्ने शक्यता छ।

रोक्षणमा (Control)
ग्याटक मुकुट Mancp र Mancpizd कोशीपिकी २-४ ग्राम प्रति लिटर पानिमा समस्त छुन्नु पड्छ।

(4) बैरो बाम्रो फाउटो रोग (Brown Eye Spot)
Cercospora Coffeicola भने हुस्तिको आड, जनातक पनि जनातको देखा गाई। फाउटोको फुटोमा अपरिमिति बैरो कतो रिक्त हुन्छ र पालि पड्छ। पशुको असर परेमा फाउटो बन्ने शक्यता छ। यो रोग निर्मीयौण वर्षा नीलको फाउटो बन्ने शक्यता छ। नाथराइ रोक्षणमा गर्नको गामलियोरोन म-45 र डाउन्स २-७, २२-४ ग्राम प्रति लिटर पानिमा निर्माणको २, ३ नटक छुन्नु।

**लिखित ककी रोगको फाउटोमा अतिमुक्त बन्ने:** द्रम
5) फेड कूलने रोग (Collar rot)
यो रोग नसरी र दुली विकासमा पाइन साध्न। सुसंघको अवस्थामा फेड पानीले निजीको जसमा लाग्नुपर्छ। विस्तारी फेड कूली विस्थापन मिल्दै।

रोक्याम (Control)

सरोग आयां वा विश्वासपूर्वक पात्र प्रेत निन्जु हुदैन। निखारक रोगको अवस्था गर्नु पर्दछ। बीचौ, नापाउन भन्दा पाइने Bavistin को पुनरात उपचार गर्नु पर्दछ। Carbenazim समुच्छाल डेरोस्टा 50% को पुशो 0.1% को मिश्रण वनाई छौँ पर्दछ।

6) बढी फल लानाले सुपुर्ण रोग (over bearing dieback)
यो Non pathogenic रोग हो। जब विकासमा आफ्नो क्षमता भन्दा बढी फल लाख तब फल लागाङ्को हाम्रोहाम्रो त्रायसो अवस्था सुमो चाहिर र पात्र भूमा पनि बीचौ राङ्को परिवर्तन हुनुहुन।

रोक्याम (Control)

कैप्रकृत उपसक्त समयमा राम्री गन्ने। अन्वार्यक हार्मोनगिराह फुलन्दू चक्र अनुसार कोटलो गर्नु पर्दछ र मनोरीको साधारण मस्यल राम्री हल्लो पर्दछ।

लेखी राष्ट्रिय दिवाक दिवस
2076
को शुभ अवसरमा नातपूर्ण दिवाक उपवर्गीय र उपवर्गाधिकारी हार्मिक
शुभकामनाएँ
नेपाल टी एशोसिएसन
केन्द्रीय कार्य सामिलित, काँडमारी

* * *
दिवाक कार्यालाई: आत्मसिखर बनो* * *

* * *

89
राष्ट्रिय चिया तथा कपी विकास बोर्ड,
कार्यकारी समिति

अध्यक्ष : प्राचीन भूमि राज्य मरक्की, श्री वलेन्द्र शर्मा रायसेस
उपाध्यक्ष : श्री छठ बहादुर पिरी

सदस्यों
: श्री प्रदाप कुंदरा पाटक, वह लोकसभा भूमि सत्ताय
: श्री निरालम प्रताप, वह साहित्य उपाधि विद्यालय
: श्री प्रभु बहादुर अध्यक्ष, वह साहित्य, वर्ष महानगर
: श्री हेम गुप्त, महाप्राचीन, नेताल पन्ना विकास विभाग
: श्री धुन बोसी, उपाधि, कार्यकारी निर्देशक, र. र. एच. अभियोजन परिषद्
: श्री दुबेराम प्रताप राह, महाप्राचीन, उ. उ. निदेशक
: श्री हरि अधिकारी, सार्वजनिक निर्देशक, योगपाठ विभाग केंद्र
: श्री नरेंद्र बनर्जी, निदेशक विकास भाग
: श्री छठ बहादुर राई दुबेराम, साहित्य पन्ना विकास इंस्टीट्यूट
: श्री हरि प्राचीन खेलम, साहित्य कार्यकारी, गुप्ती
: श्री चंद्रशेखर पत्र कुमार, नेताल पन्ना विकास तंत्र, भाग
: श्री जोगनाथ बालेस्वर, निदेशक कपी उपाधि, भाग

सदस्य तालिका
: श्री सुनिश्चन राय, कार्यकारी निर्देशक
: राष्ट्रीय पन्ना तथा कपी विकास बोर्ड

* * *
श्री गोपाल सेना: आत्मोदायक दभालो* * *
<table>
<thead>
<tr>
<th>सदस्य</th>
<th>स्थानीय</th>
</tr>
</thead>
<tbody>
<tr>
<td>१.</td>
<td>श्री रामकुमार राड़ी</td>
</tr>
<tr>
<td>२.</td>
<td>श्री राजेन्द्र गुप्ता</td>
</tr>
<tr>
<td>३.</td>
<td>श्री अरविंद गुप्ता</td>
</tr>
<tr>
<td>४.</td>
<td>श्री दीपक शर्मा</td>
</tr>
<tr>
<td>५.</td>
<td>श्री पवन कुमार बेटान</td>
</tr>
<tr>
<td>६.</td>
<td>श्री नेशनल प्रबाह</td>
</tr>
<tr>
<td>७.</td>
<td>श्री उदय चापागाई</td>
</tr>
<tr>
<td>८.</td>
<td>श्री विनोद पीडेश</td>
</tr>
<tr>
<td>९.</td>
<td>श्री पुष्पेश सिंह राजस्थानी</td>
</tr>
<tr>
<td>१०.</td>
<td>श्री द्वारकनाथ प्रबाह</td>
</tr>
<tr>
<td>११.</td>
<td>श्री ईशवरचंदन प्रहाद</td>
</tr>
</tbody>
</table>

**संदर्भ**

<table>
<thead>
<tr>
<th>सदस्य</th>
<th>स्थानीय</th>
</tr>
</thead>
<tbody>
<tr>
<td>१.</td>
<td>श्री राजेन्द्र कुमार डकल</td>
</tr>
<tr>
<td>२.</td>
<td>श्री महेश कुमार बघाल</td>
</tr>
<tr>
<td>३.</td>
<td>श्री यज्ञ प्रसाद बघाल</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>कथा</th>
<th>स्थानीय</th>
</tr>
</thead>
<tbody>
<tr>
<td>६०५</td>
<td>नित्या कपील रोधी : आलामिर बनो</td>
</tr>
</tbody>
</table>
চিঠী

চিঠী পলিএন অ্যাটল কার্যান্ত হো র সকল কর্তাকে প্রতিরক্ষা করে। তা করবে স্যায় স্বল্প প্রয়োজন বাটের সমস্ত হন। সকলের শাস্তি কৃষ্ণপালিন পলিএন নিয়ন্ত্রণ সম্পর্ক র হন হুঁই সম্পর্কিত স্যায় কর্তাকে সমস্ত প্রয়োজন আবার হো আঁক। নির্দেশ নতুন পরিবর্তন বিভাগের প্রবাহ অঙ্গনের জন্য প্রত্যক্ষ বাহাদুর পর্যন্ত শাস্তি হয় না।

নির্দেশ বাহাদুর ব্যবস্থাপনা

রাজহাট, কলকাতা
तेजस्वी सदिया दिव्या निरन्तर
2076
को शुभ अवसरता सत्तपूर्ण
dिया अध्यात्मिक उपलब्धि नारायण श्रीमान
शुभकालिनी
ह्याजस्त्व शिंह राजवंशी
बुधकरण टी स्टेट प्रा. लि.
मोहेशपुर, मथुरा

तेजस्वी सदिया दिव्या निरन्तर
2076
को शुभ अवसरता सत्तपूर्ण
dिया अध्यात्मिक उपलब्धि नारायण श्रीमान
शुभकालिनी
श्री गिरी
गिरीजन्दु टी स्टेट प्रा. लि.
बुधवारी, भारत
तेश्रो राष्ट्रिय दिवस खिलाउँ
२०७६
को शुभ अवसरका समर्पण
दिया अवश्य र उपलब्धिहरूमा हार्दिक
शुभकामनामा

राम कुम्भर शर्मा
नेपाल टी एसोसिएशन
माठाँहाँ

तेश्रो राष्ट्रिय दिवस खिलाउँ
२०७६
को शुभ अवसरका अत्यन्त
दिया अवश्य र उपलब्धिहरूमा हार्दिक
शुभकामनामा

पूर्व कुमार शर्मा
हिमालय एसोसिएटिक टि परिषदका एसोसिएशन-नेपाल
ललितपुर, काठमाडौं

* * * दिया कर्मी रोखी: आश्चर्य बननी * * *
GSM can be your preferred phone at your office, at home or when you are on the move .............

The service is now available on demand in Kathmandu, Birgunj, Biramagar and Pokhara.

Features of GSM Mobile

- Excellent Voice quality
- High Level of Security
- Data Services
- Short Message Services
- Voice Mail Service
- Roaming to major cities in Nepal.
- International Roaming & variety of other services.

Get a connection today and you will not miss any more call

Nepal Telecommunications Corporation
तेश्रो राष्ट्रिय चिया दिवस
2076
को शुभ अवसरका उत्सव
चिया उत्तरी र उपभोक्ताहरूका हार्दिक
शुभकामनाह!

हिमालयन साबुलान्तार दी. प्रोफेसर प्रा. लि.
नेपालटाप, इलाम
सम्पादक कार्यालय : २२५९३२, २२५७०३

तेश्रो राष्ट्रिय चिया दिवस
2076
को शुभ अवसरका उत्सव
चिया उत्तरी र उपभोक्ताहरूका हार्दिक
शुभकामनाह।

सुरुकारः
सगरमाथा ठी. स्टेट
पूर्व, संस्कृतिकक्ष

चिया कणृ रोयो : आत्मनिर्भर बननी।
तेस्रो राष्ट्रिय चिया दिवस
२०७६
को शुष्क अवसरमा रत्नपूर्ण
चिया उल्लभ द्वारा प्रदान गर्ने कृषक बाजुराईहरूको
उत्थान प्रणालीको हार्दिक
शुभकामनाहार
राष्ट्रिय वाणिज्य बैंक, केन्द्रिय कार्यालय
सिहदरबार प्लाजा

तेस्रो राष्ट्रिय चिया दिवस
२०७६
को शुष्क अवसरमा रत्नपूर्ण
चिया उल्लभ र उपरीतकारहरू राहिनु विशेष
शुभकामनाहार

सोम प्रसाद गौतम
एचएचसी चिया बग्गान, भोटेचौर सन्तुमपाल्चोक

*दियिएको रोपोँः आलापिनिर्बन्ध वडोः*
तेश्रो राष्ट्रिय चिया दिवस
२०७६
को
शुभ अवसरमा सम्पूर्ण
चिया अध्यक्षी र
अपभ्रोत्ताहरूमा हादिक
शुभकामनाना

सुरज बैच
गुराउले टी स्टेट
हिलेक, धनकुटा
के तपाई कफी पिउनुहुन्छ ?
शुद्ध नेपाली कफी पिउनुहोस्
स्वस्थ्य बन्नुहोस्,
हामी सेवामा तयार छौँ।

एभरेष्ट कफी मिल

राष्ट्रिय चिया तथा कफी विकास बोर्ड

प्रमुख सम्पादक : तारानाथ शर्मा

सम्पादक : प्रेम आचार्य, मनोज खनाल

कम्यूटर : ओरियेंट कम्यूटर - ४७३०४

प्रिन्टिङ : पशुपति प्रिन्टर्स सहकारी स. लि.
बानेवार, कोतालौ - ४८२०००