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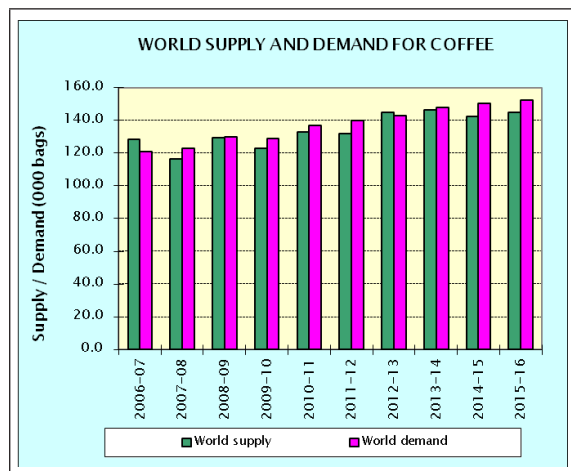
2015-16 - A PERSPECTIVE

I have pleasure in placing the 76th Annual Report of the Coffee Board for the year 2015-16.

Global Supply and Demand Balance

During the year, the global production of coffee was at 144.7 million bags compared to 142.5 million bags during the previous year which is an increase of 1.54% over the last year's production.

Global consumption during the year was at 152.2 million bags as compared to 150.2 million bags during the previous year, which is an increase of 1.33% over the last year's consumption.

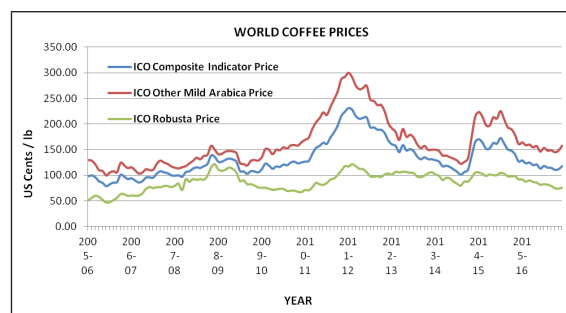


International Price

Even though the demand was more than the supply, the coffee prices at the global level have shown volatility with low price scenario from May 2015 onwards and reflected a trend of recovery from March 2016. During the year, the prices of other mild Arabicas (the category in which the Indian Arabica are classified in the International market) ranged from 145.03 US

cents/lb to 164.00 US cents/lb with an average of 153.32 US cents/lb, which is about 24% lower than the previous year's price. Similarly for Robusta, the price ranged from 74.04 US cents/lb to 92.06 US cents/lb with an average of 82.70 US cents/lb which is about 18% lower than the previous year's price.

In the financial year, the average ICO composite indicator price was at 118.35 US cents/lb for 2015-16, but down by 24% from 155.49 cents during 2014-15.



Indian Scenario

The blossom and crop setting for 2015-16 season was good as a result of timely and adequate blossom and backing rains received in most parts of the coffee growing tracts during March-April 2015. Further, the rains received during South West monsoon were favourable for coffee and associated crops. The North East monsoon during November experienced depression in Bay of Bengal resulting in cloudy days and intermittent showers followed by very less sunny days which was a setback for harvesting and processing of Arabica crop to an extent. In general, the incidence of pests and disease were



low. However, a new pest African Giant Snail, made its appearance in few coffee plantations of Kodagu and Chikkamagaluru districts during August/September 2015, posing threat to coffee, pepper and associated crops. To control the further spread of African Giant Snail, a series of awareness programmes were conducted and necessary control measures were advocated to the growers and the matter was brought to the notice of respective district authorities to take necessary action and the pest was brought under control effectively. In general, the weather conditions prevailed were favorable for crop development which resulted in an all time high and record crop for the year.

Production and Exports

I am happy to note that the coffee production during the year touched an all-time high of 3,48,000 MT, comprising of 1,03,500 MT of Arabica and 2,44,500 MT of Robusta, which is 6.42% higher than the previous year's (2014-15) production. During the year, India exported 3,18,238 MT of coffee (including 67,305 MT of

re-export) to 108 countries. The quantity comprised of 46,795 MT of Arabica, 1,75,359 MT of Robusta and 96,084 MT of instant and R&G coffee, the export earnings during the year was US \$ 792.21 million as against US \$ 787.87 million during the previous year. In terms of Indian Rupees, it was at ₹5,178.93 crores as against ₹4,797.58 crores during 2014-15. Italy, Germany, Russian Federation, Belgium and Turkey were the top five importing countries.

Domestic Price

Like international price, the domestic market price for Robusta coffee has shown volatility with low price scenario and Arabicas recorded a mixed trend. The Arabica (Plantation 'A') price ranged from ₹231/kg to ₹283/kg with an average of ₹261.80/kg which is about 6% lesser than the price prevailed during the previous year and the Robusta (Cherry 'AB') price ranged from ₹112/kg to ₹130/kg with an average of ₹119/kg which is about 18% lesser than the price which prevailed during the previous year.

Auction prices- Average prices secured in ICTA (Bengaluru)

Financial Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Plant. A	115.36	136.16	183.00	203.94	270.37	192.02	194.14	278.97	261.80
Rob.Chy AB	79.02	98.54	80.39	84.20	113.51	144.78	122.16	144.96	119.01

Board's Initiatives

During the year, Board continued to implement the XII plan scheme titled 'Integrated Coffee Development Project' with the components viz., Research & Development for Sustainable Coffee Production, Transfer of Technology & Capacity Building Programmes, Development

support in Traditional Areas, Coffee Development Programme in Non-Traditional Areas, Coffee Development Programme in North East Region, Rainfall Insurance Scheme for Coffee (RISC), Support for Mechanization of Coffee Estate Operations, Export Promotion, Market Development and Support for Value Addition.



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In order to find an effective solution to the White Stem Borer (WSB), two short term R&D projects (Coffee Wood Stem Borer and Coffee White Stem Borer) were sponsored one each to IISc and NCBS – on detection tools and behavioural studies respectively and at the institute level extended trails on WSB control are in progress.

Inventory of coffee plantations using Geospatial techniques has been successfully completed on a pilot scale in six taluks of traditional coffee growing areas in collaboration with ISRO and a two-year project – “Geospatial Inventory of Coffee Plantations at National Level” (Geo-CUP) has been launched during January 2016. In commemoration of the 90th year of services to the coffee industry, Board conducted a “Field Day” at Central Coffee Research Institute (CCRI) on 07.12.2015 and showcased the significant contributions of the research department during the past nine decades and highlighted the ongoing research activities of the Institute with special reference to sustainable coffee production technologies.

An area of 3,163 ha. has been brought under re-plantation/expansion in Traditional Areas. In Non-Traditional Areas and North Eastern Regions, an extent of 4,449 ha. and 405 ha. has been bought under coffee cultivation respectively.

The domestic consumption is witnessing healthy growth at the rate of 5 to 6%, thanks to the rise in disposal income, proliferation of Café culture and promotional efforts by the Board to boost consumption. Presently, the domestic consumption is estimated at 1,15,000 MT. For the long term sustainability of the industry, the graph of the domestic coffee consumption needs

to move northward. This will provide a shield to the growers against a volatile market. The growth in domestic consumption would provide excellent employment opportunities, encouraging entrepreneurship and overall improvement in the value chain. To support the growing market, the Board has initiated several steps which includes training on Barista skills and coffee retailing as well as extending support for roasting, grinding and packaging segment under the component ‘Support for Value Addition’. During the year, Board opened a new India Coffee House at Jawaharlal Nehru University campus in New Delhi.

On the exports front, Coffee Board continued to extend support for export of value added coffees and high value coffees to far-off markets under the component ‘Export Promotion’ with an objective of expanding market reach and reinforcing the country’s presence as a formidable exporter of high quality and high value coffees in the world market.

To create and promote international awareness of the ‘Made in India’ label in markets overseas and to facilitate the dissemination of knowledge of Indian products and services, Board is coordinating with the branding and communication partner, India Brand Equity Foundation (IBEF), a trust established by the Ministry of Commerce & Industry, GOI.

To bring in a structured marketing network for tribal coffee growers of Non-Traditional Areas, the Girijan Co-operative Corporation (GCC) with the assistance of Board’s market development component, has come forward to take up marketing of coffee grown by the tribal growers, in order to eliminate the middlemen and thereby ensure better prices for tribal coffee.



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The final round of “Flavour of India - The Fine Cup Award 2015” was held at Gothenburg, Sweden, on 15th June 2015 in which a panel of international judges judged quality of final entries and selected the award winning coffee under different categories.

In association with India Coffee Trust, the Board organized 6th edition of the India International Coffee Festival-2016 in Mumbai from 19th to 23rd January, 2016. This mega business event was visited by 3,500 business visitors and over 270

coffee enthusiasts from across the country and the world. New Coffee table book “Coffee Break” brought out by the Board was released on the occasion of IICF, 2016.

To bring transparency in functioning and office procedures, a complete paperless office module e-office in association with NIC is under trial stage in Head Office, Bengaluru.

November, 2016

Bengaluru.

SHANMUGA SUNDARAM

Chairman, Coffee Board

CHAPTER – I

EXECUTIVE SUMMARY

Production

- ◆ The final crop estimates for 2015-16 crop season was placed at 3,48,000 MT comprising of 1,03,500 MT of Arabica (29.7% of total) and 2,44,500 MT of Robusta (70.3% of total). This is highest so far recorded by the country surpassing the previous year's record production of 3,27,000 MT showing an increase of 6.42%.
- ◆ The overall farm productivity of coffee was 876 kg/ha.
- ◆ The total area planted with coffee was around 4.34 lakh hectares, of which the total bearing area was around 3.97 lakh hectares.
- ◆ There are around 3,33,527 coffee holdings in the country of which, around 3,30,853 are small holdings with holding size of less than 10 hectares which accounted for about 99.2% of the total holdings.

Exports

- ◆ As per the export permits issued, a total quantity of 3,18,238 MT of coffee (including 67,305 MT of re-exports) comprising of 46,795 MT of Arabica, 1,75,359 MT of Robusta and 96,084 MT of instant and R&G coffee valued at ₹5,178 crores equivalent to USD 792 million was exported to 108 countries.

- ◆ Italy, Russian Federation, Germany, Belgium and Turkey were the top five importing countries.
- ◆ The composite unit value of all types of coffee exported was ₹1,62,737 per metric tonne compared to ₹1,76,800 per metric tonne during the previous year.
- ◆ The total number of exporters registered with Coffee Board stood at 686 (including 79 new registrations for the year 2015-16) as against 607 during the previous year.
- ◆ A total of 11,051 export permits (Indian origin coffee - 9361 and re-exports - 1690) and ICO Certificates of Origin were issued to 177 registered exporters of coffee as against 9,695 permits issued during the previous year.

XII Plan

- ◆ The XII Five Year Plan (2012-17) titled "Integrated Coffee Development Project" consists of 10 components viz., (1) Research & Development for Sustainable Coffee Production (2) Transfer of Technology & Capacity Building Programmes (3) Development Support in Traditional Areas (4) Coffee Development Programme in Non-Traditional Areas, (5) Coffee Development Programme in North East Region, (6) Rainfall Insurance Scheme for Coffee (RISC), (7) Support for Mechanization of Coffee Estate Operations, (8) Export Promotion, (9) Market Development and (10) Support for Value Addition.



Research

- ◆ Eleven F_1 hybrids developed in 2014 were field planted at CCRI during 2015 season. The F_1 hybrids of S.2651 and S.2660 recorded superior seedling vigour during first year.
- ◆ Among the three F_2 progenies of Colombian Catimor crosses being evaluated at CCRI, two progenies viz., S.5039 (S.4817 2/9) and S.5040 (S.4817 4/8) recorded a projected yield of 1,629 kg/ha. and 1,288 kg/ha. respectively besides showing high field tolerance to leaf rust (3% and 4% of population, respectively manifesting mild susceptibility).
- ◆ To generate vigorous semi dwarf genotypes coupled with improved production, rust resistance and bean quality traits, crosses were performed between Sarchimor, S.5149, S.4903 and S.5043 (3/19) during 2015 and the hybrid seedlings are maintained in nursery for field planting during 2016 season.
- ◆ Field evaluation of inter-varietal hybrids at CRSS, Chettalli revealed that S.5146 (SIn.5B x HDT) recorded maximum projected yield of 912 kg/ha.
- ◆ At RCRS, Thandigudi, S.5149 (Cavimor) continued to record consistent performance with an average yield of 1,136kg/ha. coupled with high field tolerance to rust. Selfed seed of S.5149 and three F_3 progenies of S.4889, S.4890 and S.4891 were given for trial purpose in 15 locations in the traditional coffee tracts during 2016 season.
- ◆ Sequence Characterized Amplified Region (SCAR) marker assays linked to S_H3 gene for rust resistance were used for tracking plants homozygous to S_H3 gene in progenies of various semi-dwarf genotypes crosse with SIn.10 (used as donor for S_H3 gene).
- ◆ Bioassays for White Stem Borer tolerance were undertaken jointly with the Entomology Division on S.4595 (SIn.11 x HDT). Out of nine plants screened, larval mortality after initial feeding followed by quick callus formation at wound portion was observed in five plants and there was no recovery of live larvae. In the remaining four plants, the eggs failed to hatch.
- ◆ Extended trial plots were established with three promising genotypes viz., S.4814 (Catimor line x SIn.5B) and S.4817 (Catimor line x S.1934) and S.5146 (SIn.5B x HDT) in 19 locations (15 in Karnataka and 4 in Shevroys) including three plots in the Board's Research Stations/ TECs (CCRI, Chettalli and TEC, Yercaud).
- ◆ With an objective of evaluating the potential of drought tolerant Robusta clones, 34 clonal progenies were planted in a recurrently drought prone area of Perikallur area of Pulpally zone and Mananthavady zones of Wayanad district during 2014. The CxR clones raised from the plants identified in Parappallil estate have recorded higher growth compared to other clonal collections.
- ◆ Among different progenies of inter-varietal hybrids of Robusta the progeny of the cross CxR x S.3657 recorded superior growth parameters.
- ◆ During 2015-16, a total of 9,420 kg of seed coffee of different station selections comprising of 5,627 kg of Arabica and 3,793 kg of Robusta was produced at

- different research stations and Technology Evaluation Centers (TECs) and supplied to the growers in the traditional growing areas. In the Non- Traditional Areas, a total of 8,006.5 kg of seed coffee including 8,004 kg of Arabica and 2.5 kg of Robusta was supplied. Further, a quantity of 1,887.5 kg of Arabica seed was distributed in the North East Region.
- ◆ About 56,449 rooted clones of CxR raised at CCRI, CRSS, Chettalli, RCRS, Chundale and six TECs during 2015-16 season were supplied to 191 growers for planting in 2016 planting season.
 - ◆ To encourage on-farm production of rooted clones of CxR, 14 training programmes (4 on-station and 10 on-farm) were organized covering Chikkamagaluru, Hassan, Kodagu in Karnataka and Mananthawady liaison zones in Kerala. On farm production of clones was initiated at seven locations in Chikkamagaluru with the technical support from CCRI.
 - ◆ Under the “International Multi Location Variety Trial (IMLVT)” programme, *in vitro* raised plantlets of 18 Arabica varieties were received from the World Coffee Research (WCR), Texas. The plantlets are being hardened for field planting at CCRI. Three varieties viz., Colombia 1, Colombia 2 and EC 16 are ready for field planting during 2016 season.
 - ◆ DNA from 23 plants of Sarchimor x SIn.10 hybrid lines was screened for S_H3 gene using SCAR marker (BA-124) and 3 hybrid plants showed presence of rust resistance gene.
 - ◆ A total of 6,556 soil samples were collected for evaluation of soil fertility status under the inter-institutional collaborative project with NBSS & LUP, Bengaluru on “Soil fertility appraisal and soil health monitoring of traditional coffee growing areas”.
 - ◆ Development of IT based tool to prepare the soil health card is in progress in collaboration with the Indian Institute of Information Technology Management, Kerala (IIITM-K).
 - ◆ Multi-locational trial on “Integrated Nutrition Management” was continued for the second year on Arabica and Robusta coffees in selected research stations. Statistically higher yields were recorded in Arabica receiving 50% recommended dose of nutrients through inorganic fertilizers in combination with FYM at 1.5 ton/ha. and bio-inoculants at CRSS, Chettalli. Statistically higher yields were recorded in Robusta receiving 100% recommended dose of nutrients through inorganic fertilizers at RCRS, Chundale.
 - ◆ Under the soil, leaf and agrochemicals analysis and advisory service a total of 8,557 soil samples, 73 leaf samples and 758 agrochemicals were analyzed and reports were sent to the growers.
 - ◆ Field experiments were conducted with an objective of assessing the performance of Chandragiri (at CCRI) and SIn. 5B (at CRSS, Chettalli) with different planting designs and pruning methods. The studies are in progress.
 - ◆ Under the programme on improvement of labour productivity through mechanization,



- the Multi Utility Tractor Vehicle (MUTV) was evaluated for spraying and other farm operations at CRSS, Chettalli.
- ◆ Among the hybrids tested at CRSS, Chettalli against biotic and abiotic factors, S.4877 and HDT x 5B found to be better in terms of growth, yield and tolerance to drought.
 - ◆ The coffee rust differentials and 'A' type plants established in Karnataka and Tamil Nadu to monitor the prevalence of rust race flora in different coffee regions were periodically observed for tolerance/susceptible to rust pathogens.
 - ◆ Field incidence of leaf rust disease on new Arabica hybrids (F_1 & F_2) planted in the farms of CCRI and Regional Stations were assessed for their susceptibility studies.
 - ◆ New fungicide Nativo 75% WG (Tebuconazole 50% + Trifloxystrobin 25%) was evaluated at five different concentrations (0.005, 0.075, 0.01, 0.015 and 0.02% a.i.) in comparison with recommended systemic and contact fungicides to assess its bio efficacy against coffee leaf rust pathogen. The studies are in progress.
 - ◆ For the effective management of coffee white stem borer, a total of 28,157 pheromone traps were supplied to the growers during the season 2015-16.
 - ◆ To control the coffee berry borer, 52,505 broca traps with lure were supplied to the coffee growers in Karnataka and Kerala. In addition, 1,94,765 vials of lure material was supplied to top up the traps which were already supplied to the growers.
 - ◆ A total of 18,000 parasitoids were supplied to the growers of Kerala for the control of coffee mealy bugs.
 - ◆ To create awareness on management of the coffee white stem borer, the "Mission Mode Programme" which was re-launched in September 2014 onwards by constituting 4 teams, 3 in Karnataka and 1 in Tamil Nadu were continued during this year also.
 - ◆ Under the sponsored project to M/s. Bio-Control Research Laboratories of Pest Control India Ltd., Bengaluru on "Identification of female sex pheromone and its role in mating success and identification of kairomone responsible for host plant selection by the coffee white stem borer" new lures were tested both in the laboratory and in the field. Field evaluation of pheromone blends received from M/s.BCRL at CCRI indicated that per trap catch of beetles was more in the Product Code No.1 followed by 45, 59, 58 and 44. At CRSS, Chettalli, more female beetles and maximum number of adults were trapped in the Product Code No.58.
 - ◆ New pesticide molecules were being tested for their efficacy against white stem borer and coffee berry borer.
 - ◆ To identify sources of resistance against the stem borer, screening of a natural Arabica x Tree coffee hybrid was taken up by releasing eggs and neonate larvae on cut stems in comparison with stems of susceptible varieties. Observations indicated that the mortality of the early stage larvae. Further studies are being continued.



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- ◆ Technical advisory was rendered for the effective control of Giant African Snail menace noticed in some of the coffee plantations of Karnataka and also awareness programme were conducted on the management of Giant African Snail.
- ◆ The performance of “Ecological Coffee Wet Mill (Eco Pulper)” was assessed in 48 coffee estates in Karnataka. The water consumption for pulping and mucilage removal per kg of fruit ranged from 0.5 to 1 liter in Arabica and from 0.6 to 1.3 liter in Robusta compared to conventional pulper, which require 3 to 5 liters of water. The performance of indigenous Eco Pulper was on par with imported Eco Pulper.
- ◆ The results of the studies carried out on “Pollution Abatement in Coffee” indicated that biological agent (Yeast) and commercial pectin degrading enzymes were found to be effective in reducing the pollution load of coffee effluent to the extent of 80-85%.
- ◆ Five short term executive programmes (STEP) in coffee entrepreneurship were conducted in Karnataka, Kerala, Tamil Nadu and Maharashtra in which 89 people were trained on setting up of coffee roasting and retailing businesses.
- ◆ Fourteen people were trained in the short term training program on Barista skills (espresso coffee brewing techniques) conducted by Coffee Quality Division, Coffee Board, Bengaluru.
- ◆ Ten students of the 2014-15 batch of the Post Graduate Diploma in Coffee Quality Management course have successfully completed the course. Eleven students who joined during 2015-16 batch completed 1st trimester at CCRI and 2nd trimester is under progress at Head Office, Bengaluru.

Coffee Quality Division, Bengaluru

- ◆ 250 commercial samples (from stakeholders) and 3 R&D samples received from North East Region were assessed for their physical and organoleptic parameters.
- ◆ The Analytical Laboratory tested 3 coffee samples for the presence of Ochratoxin-A (OT-A), 3 coffee samples for caffeine and 3 coffee samples for BIS/FSSAI parameters. Besides, 123 moisture meters received from the stakeholders were calibrated.
- ◆ ‘Kaapi Shastra’ training programmes on roasting and brewing were conducted at Coffee Quality Division, Bengaluru during 2015-16 in which 53 people participated.
- ◆ The coffee samples selected for the final round of cupping of “Flavour of India-Fine Cup Award 2015” were judged by a panel of International Jury on 15th June 2015 at Gothenburg, Sweden.
- ◆ A total number of 232 coffee samples comprising of 142 Arabica and 90 Robusta samples from various coffee growing regions for 2016 seasons were subjected to physical assessment and pre-jury cupping session during March, 2016.
- ◆ Eighteen roasting units set up by the industry/stakeholders were inspected for providing subsidy under “Support to Value Addition”. Two coffee curing works were inspected for renewal of license.
- ◆ The Coffee Board also organized 2-day “Judges Training Workshop” for the National Juries to understand the World Barista



Championship's Rules & Regulations at Coffee Board, Bengaluru during October, 2015 and 22 participants attended the workshop.

- ◆ The National Barista Championship-2016 was held in two phases. The first preliminary round was conducted from 6th to 8th December, 2015 at New Delhi and the second preliminary round at Coffee Board, Bengaluru from 20th to 22nd December, 2015. The semi-final and final rounds were held at Coffee Board, Bengaluru from 25th to 27th February, 2016.

Extension and Development

A. Traditional Areas

- ◆ Extension personnel carried out 28,358 estate visits, 7,754 field demonstrations, 99 village level group meetings/seminar, 21 mass communication / contact programmes and issued 2,913 advisory letters to educate the growers on various aspects of coffee cultivation.
- ◆ Under the component "Development Support for Coffee in Traditional Areas" support was extended to bring an area of 3,163 ha. under re-plantation/expansion, 4,109 units under water augmentation, 2,198 units under quality up-gradation and 22 units under pollution abatement activities.
- ◆ Support was extended to 7,539 machineries benefiting 6,876 growers under the component "Support for Mechanization of Coffee Estate Operations".
- ◆ Under capacity building programme, Board conducted 7 reach-out training programmes

for 148 coffee growers of various coffee growing regions of the country including Board's personnel in association with Indian Institute of Plantation Management, Bengaluru.

- ◆ Two short term executive programmes were conducted for 42 officers/officials of the Board in IIPM, Bengaluru.
- ◆ 41 vocational training programme benefiting 901 women growers/workers were conducted in association with KVVs of Agricultural Universities/ICAR.
- ◆ Under Labour Welfare Measures, assistance of a sum of Rs 1.61 Crores was extended to 5,839 students.

B. Non-Traditional Areas (Andhra Pradesh & Odissa)

- ◆ Extension personnel carried out 3,322 coffee estate visits, 1,394 field demonstrations and 248 group gatherings for the benefit of coffee growers.
- ◆ 36 beneficiaries had the opportunity to visit traditional coffee growing areas on study tour to know various aspects of coffee cultivation and quality awareness campaign benefitting 484 tribal coffee growers.
- ◆ An extent of 4,449.44 ha. was bought under coffee cultivation with the support of ITDA. Support was extended for construction of 1,622 drying yards and procurement of 937 baby pulpers.
- ◆ Under labour welfare measures, assistance of ₹16.83 lakh was extended to 793 Tribal students.



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C. North Eastern Region

- ◆ Extension personnel carried out 2,707 coffee estate visits, 1,385 field demonstrations, 234 group gatherings, 73 quality awareness campaigns to educate the coffee growers on various aspects of coffee cultivation.
- ◆ Support was extended to 405 ha. under coffee expansion, 81.2 ha. under consolidations, construction of 66 drying yards and 38 water augmentation units.
- ◆ Under Labour Welfare Measures, assistance of ₹1.61 lakh was extended to 85 students.

Promotion

- ◆ The Board participated in 12 overseas exhibitions and organised 5 special events / cupping sessions alongside the events, with active involvement of the Indian Coffee exporters.
- ◆ The Board participated in 44 reputed domestic exhibitions after identifying the potential areas to promote coffee drinking within the country.
- ◆ As a part of domestic promotion, Coffee Board opened an exclusive India Coffee House outlet at the JNU Campus, New Delhi.
- ◆ Maja Wallengren, a freelance coffee journalist based in Mexico visited the Coffee Board of India and the Indian Coffee Plantations. She has written 4 articles on Indian Coffee in the *Tea and Coffee Trade Journal* as well as in the *Global Coffee Report*.
- ◆ Coffee Board also published 15 blogs on the IBEF website in 2015-16.

Market Research & Intelligence

- ◆ Annual crop estimation, analysis of market trends, maintenance of Database on Coffee and periodical research reports were carried out.
- ◆ Economic and analytical support was rendered on WTO and trade policy matters of Coffee.
- ◆ 246 daily market reports were generated and disseminated.
- ◆ Three issues of comprehensive 'Database on Coffee' for the month of June 2015, December 2015 and March 2016 were published
- ◆ The Rainfall Insurance Scheme for coffee (RISC) was implemented during 2015-16 in Karnataka, Kerala and Tamil Nadu through Agriculture Insurance Company of India Ltd., involving different marketing firms. During 2015-16, only 236 coffee growers covering 751 ha. have participated in the scheme.
- ◆ The unit coordinated the activities for the production of short films and TVCs on Coffees of India and the project was awarded to M/s NDTV. Shooting of the film and TVCs is in the final stages of production.

Administration

- ◆ The staff strength of the Board as on 31st March, 2016 was 823 employees comprising of 89 Group 'A' officers, 135 Group 'B' officers and 599 Group 'C' officials.
- ◆ After notification of the Coffee Board (Cadre and Recruitment) Rules 2014, the Board recruited 38 officers / officials



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and promoted 74 officers/officials during the year.

Vigilance & Legal

- ◆ Vigilance Division concluded 5 cases during the year out of 28 cases.
- ◆ Vigilance Awareness Week was observed in the Board's offices across the Country between 26th October and 31st October, 2015.
- ◆ Out of 61 court cases, 7 were disposed during the year.
- ◆ The Ministry proposed to repeal the existing Coffee Act and enact a new legislation so as to reflect realities and objectives.
- ◆ On the directions of High Court of Karnataka, M/s. Kodagu Coffee Growers Co-op. Society Ltd., Madikeri paid the decreed amount of ₹1,55,28,034/- on 22.12.2015.

Right to Information

- ◆ 102 applications were disposed out of 113 applications received. Eight appeals were disposed out of nine appeals received during the year.

Engineering Unit

- ◆ The Engineering Division of the Board has taken up various infrastructure development and maintenance works amounting to ₹ 2.75 crores.

Official Language Implementation

- ◆ The compliance of Section 3(3) of the Official Languages Act 1963 was adhered.
- ◆ The consolidated Quarterly Progress Report regarding progressive usage of Hindi were submitted online to the

Department of Official Language, Ministry of Home Affairs, New Delhi.

- ◆ Regular participation was ensured in the meetings of Hindi Salahakar Samiti of the Department of Commerce and Town Official Language Implementation Committee, Bengaluru.
- ◆ A training on usage of Unicode was imparted to 69 officers/officials. Unicode was installed in 89 computers and five laptops in the head office and all the computers at CCRI, Balehonnur, Chikkamagaluru, Chettalli, Madikeri, Kalpetta, Chundale and other sub offices.
- ◆ To commemorate the 50th year of Indian Independence, a Rolling Shield was instituted. 30 Central Govt. offices took part in the Rolling Shield competition conducted by the Board and HPCL bagged the Rolling Shield.
- ◆ Hindi Fortnight was conducted at Head Office from 01.09.2015 to 13.09.2015 and various competition in Hindi were held and the winners were awarded prize on 'Hindi Diwas'.
- ◆ A special lecture in Hindi was organised on aspects of fire accident and fire safety measures at home and office.

E-Initiatives

- ◆ Online module for obtaining Export Permit and Certificate of Origin was brought in place replacing the manual system and the same is getting stabilised.
- ◆ Online module for receiving, processing and sanction of the subsidy application for different sub components of the component Coffee Development



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Programme in Traditional Areas under the “Integrated Coffee Development Project” was brought in place and same is getting stabilised.

- ◆ A complete paperless office module e-office in association with NIC is under trail stage in Head Office, Bengaluru.

Major Achievements

- ◆ Achieved a record crop of 3,48,000 MT during 2015-16, which is an all time highest crop.
- ◆ Exported 3,18,238 MT of coffee during 2015-16 with earnings of ₹5,178 crores (\$792 mln). Out of the total exports, the value added and specialty coffees accounted for 1,12,349 MT valued at ₹2,063 crores (\$315 mln.) during 2015-16.
- ◆ Two short term proposals, one each from IISc and NCBS, Bengaluru have been cleared by Steering Committee and are launched in October 2015.
- ◆ Coffee Wood Stem Borer - Biomechanics of boring and development of minimally invasive detection techniques by IISc.
- ◆ Coffee White Stem Borer - Understanding its Ecology and Ethnology by NCBS.
- ◆ At institute level, a promising lead in WSB control was obtained during January 2015 to kill the adult borer beetles before their emergence thereby avoiding removal of infested plants and preventing spread of infestation to neighboring healthy plants. Extended trails are in progress. Besides, field trials were also initiated during October 2015 in collaboration with M/s Tata chemicals Innovation Center, Pune for testing new chemical molecules against Coffee White Stem Borer.
- ◆ 3 promising Arabica lines (S.4814, S.4817 & S.5146) having highest tolerance to coffee leaf rust, high yield and good quality are released for multi-location testing in 2015.
- ◆ A two-year project – “Geospatial Inventory of Coffee Plantations at National Level” (Geo-CUP) has been implemented during January 2016.
- ◆ An area of 3,163 hectares has been brought under coffee cultivation/ replantation during 2015-16 in the Traditional Areas.
- ◆ In Non-Traditional Areas of Andhra Pradesh and Odisha, an area of 4,449 ha. has been brought under coffee expansion/ consolidation during 2015-16.
- ◆ In North Eastern Region, an area of 481 ha. has been brought under coffee expansion/ consolidation during 2015-16.
- ◆ New areas suitable for coffee cultivation have been identified in Traditional Areas, about 19,000 ha. has been identified as suitable for expansion of coffee. In Non-Traditional Areas, potential exists for expansion in about 45,000 ha.
- ◆ A new building complex is established in Hassan, for functioning of the office of the Joint Director (E) and Deputy Director (E), Hassan.
- ◆ In commemoration of the 90th year of services to the coffee industry, a “Field Day” was organized at Central Coffee Research Institute (CCRI) on 07.12.2015 and showcased the significant contributions of the research department during the past nine decades and highlighted the ongoing research activities of the Institute with



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- special reference to sustainable coffee production technologies.
- ◆ Emphasis was given for clonal propagation in Robusta to improve productivity. Workshops and training programmes were organized to popularize clonal propagation in Robusta.
 - ◆ Under the digitization of functions and services; (a) the Coffee Board's Website is redesigned and hosted as per the IBEF template (b) Developed Online system for Export permits (c) Developed online system for subsidy programmes (d) e-Office implementation (e) Implementation of PFMS and DBT.
 - ◆ Major steps have been taken for the development of skilled manpower for the coffee sector through (a) Post Graduate Diploma in Coffee Quality Management (b) Kaapi Shastra Programme (c) One day / Two day workshops on Coffee Quality (d) Barista Training Programme (e) Professional Certificate Programme in Coffee Entrepreneurship (with CIE-IIPM) (f) Reach out Programmes in Coffee Entrepreneurship (with CIE-IIPM).
 - ◆ A new 'India Coffee House' was opened at JNU Campus, New Delhi.
 - ◆ 'International Coffee Day' was observed in the Board's offices across the Country on 1st October, 2015.
 - ◆ Board in association with India Coffee Trust organized the India International Coffee Festival-2016 successfully in Mumbai during January, 2016. This mega business event was visited by 3,500 business visitors and over 270 coffee enthusiasts from across the country and the world.
 - ◆ A New Coffee table book – 'Coffee Break' was released during IICF, 2016.
 - ◆ A brochure on 'supporting coffee business for a sustainable Indian coffee sector' was released.





CHAPTER – II

CONSTITUTION AND FUNCTIONS OF THE BOARD

Coffee Board is a statutory organization under the control of Ministry of Commerce, Govt. of India constituted under The Coffee Act 1942, an Act enacted by the Parliament.

The Board comprises of 33 members, including Chairman who is the Chief Executive and 32 Members including Members of the Parliament, Members representing various interests of coffee industry appointed by the Government of India.

The Board was reconstituted for a period of three years from 07.01.2014 to 06.01.2017. However, vide gazette notification dated 15.12.2015, in exercise of the powers conferred by sub-section (2) of section 4 of Coffee Act, 1942 (VII of 1942) read with rule 3 and sub-rule (1) of rule 4 of Coffee Rules, 1955 and in supersession of the notifications of the Government of India in the Ministry of Commerce and Industry numbers SO 44(E) dated 06.01.2014 and SO 2369(E) dated 15.09.2014, the Central Government reconstituted the Board for a period of three years from the date of publication of Notification viz., 15.12.2015.

However, 12 members who were appointed vide earlier Notification dated 6th January, 2014, approached the Hon'ble High Court of Karnataka through separate writ petitions and obtained stay of operation of the Notification dated 15.12.2015 as far as petitioners are concerned. The matter is pending for disposal.

Shri Jawaid Akhtar, IAS was the Chairman of the Board and also Ex-officio Chairman of the various Committees of the Board, during the period 01.04.2015 to 09.05.2015.

Smt. Leena Nair, IAS was the Chairman of the Board and also Ex-officio Chairman of the various Committees of the Board for the remaining period under report i.e. from 12.05.2015 to 31.03.2016.

Functions of the Board

The main functions assigned to the Board are:-

- ◆ Promotion of Agricultural and Technological Research in the interest of the coffee industry.
- ◆ Assistance to coffee estates for their development.
- ◆ Promotion of the sale and consumption in India and elsewhere of the coffee produced in India
- ◆ Management of the other operations as per the provisions of the Coffee Act.

Besides, the Board gathers statistical and other relevant data concerning the Industry and disseminates the information to various segments of the industry; acts as a recognized spokesperson on behalf of the coffee industry to the Government, media, trade and general public; and provides guidance for the overall growth and development of the coffee industry in the country.

The Coffee Board represents the Indian coffee industry in the International forum viz., International Coffee Organization, International Science Organizations, Specialty Coffee Associations and work with them for the benefit of coffee industry.



Statutory Committees

The Board functions through Six Statutory Committees which are appointed for one year term each and the functions of each committee as per the Coffee Act are:

Sl. No.	Name of the Committee	Functions
1.	Executive Committee	Deals with functions specifically assigned to it under the Coffee Rules. In addition, deals with matters not specifically assigned to the Propaganda, Marketing, Research, or any other committees constituted by the Board.
2.	Propaganda Committee	Deals with matters relating to promotion of sale and increasing the consumption in India and elsewhere of coffee produced in India.
3.	Marketing Committee	Deals with coffee marketing scheme as set forth in the Act and Rules.
4.	Research Committee	Deals with promotion of agricultural and technological research in the interest of the coffee industry in India.
5.	Development Committee	Deals with the measures that may be undertaken for the development of coffee estates.
6.	Quality Committee	Deals with all issues relating to improvement in the quality of coffee produced in India.

Non-Statutory Committees

The Board also had one non-statutory committee viz., Audit Committee as detailed below:-

Sl. No.	Name of the Committee	Functions
1.	Audit Committee	Deals with matters relating to Annual Accounts and also studies the status of Audit Report on the accounts

Board, Statutory Committees and Non-Statutory Committee meetings held during the period from 01.04.2015 to 31.03.2016.

Board Meeting:

1. 201st Board Meeting was held on 02.05.2015

2. Statutory Committee Meetings:

No meetings were held during the period

3. Non-Statutory Committee Meetings:

1. 26th Audit Committee Meeting was held on 13.07.2015.





CHAPTER – III

ADMINISTRATION AND ESTABLISHMENT

The Coffee Board is a statutory body constituted under the Coffee Act, 1942 (VII of 1942) having perpetual succession and common seal, with powers to acquire and hold property and to contract and to sue and to be sued.

Chairman

Sri. Jawaid Akhtar IAS – up to 09.05.2015

Ms. Leena Nair IAS – from 12.05.2015

Head of Departments

During the period under report, the following Heads of Departments continued to hold the posts indicated against their names.

1. Sri. M. Chandrasekar, ITS - Secretary
2. Dr. Aarti Dewan Gupta, IDAS - Director of Finance
3. Dr. Y. Raghuramulu – Director of Research

The responsibilities assigned to different departments are as under:

1. Secretariat Department

The Secretariat Department is responsible for handling all administrative (staff and office establishment) and vigilance matters, allocation of work among various Divisions / Units of the Board and monitoring of compliance for furnishing information under the Right to Information Act, 2005. The department also deals with convening of meetings of the Board and Statutory Committees apart from monitoring the scheme on Labour Welfare Measures.

The 6 units attached to the Secretariat Department are:

- i) Administration Unit
- ii) Official Language Unit
- iii) Vigilance Unit
- iv) Legal Unit
- v) Engineering Unit and
- vi) RTI Unit

2. Research Department

The Research Department is responsible to carry out research activities on various aspects viz., plant breeding, crop management, plant protection comprising of disease and pest management, post-harvest practices of on-farm processing, pollution abatement etc. The Research Department also renders various advisory services to the planting community besides conducting various training programmes for the benefits of different stakeholders. Analytical Laboratory and Quality Division are the other units of Research Department providing quality evaluation support to the coffee industry.

3. Extension & Development Department

The Extension Department of the Board is responsible for establishing linkage between the Research fraternity and the coffee growers for continued transfer of technology with the objective of achieving higher productivity and quality levels of coffee. The department also



extends development support to coffee growers on various activities related to coffee cultivation, production and quality improvement.

4. Market Development & Promotion

Department

The Export Unit of the department is responsible for registration of exporters, renewal of registration, issue of export permits and ICO certificate of origin for export of coffee from India, furnishing of periodical reports to the Ministry and ICO on coffee exports from India besides extending incentive support for export of high value coffee to far-off markets and to enhance export of value added coffee as Indian Brand and export awards in recognition of the best performance in coffee exports. The external promotion is responsible for participation in International Conferences, Events, deliberations of the International Coffee Organization and Brand Promotion activities.

The promotional activity under domestic promotion includes participation in domestic events, media campaign and providing training to prospective entrepreneurs on setting up of Coffee Roasting, Grinding and Packaging Units. This training complements the scheme for setting up of processing unit.

The Market Research & Intelligence unit carried out the activities of market information and intelligence as a part of Board's role as a facilitator to the industry in respect of coffee exports. It provides inputs on crop conditions, crop estimates and market data / information, monitors the export and provides useful trade related data pertaining to the industry on a daily basis.

5. Accounts & Finance Department

The Accounts and Finance Department of the Board is responsible for allocation / administration of funds of the Board, maintenance of accounts and all matters relating to managing finances of the Board. The Internal Audit Party (IAP) of the Board is a part of the department for internal check of finance and accounts of the Head Office and sub offices to ensure better efficiency in functioning of the office and maintenance of records.

Secretariat Department

Administration Unit

a) Recruitment

During the year, a total of 38 officers / officials were recruited in different cadres in the services of the Board, as detailed below:

Sl. No.	Cadre to which recruited	No. of Personnel Recruited	Remarks
1.	Dy. Director (Accounts)	1	By Deputation
2.	Research Assistant Grade – I	15	By Direct Recruitment
3.	Extension Inspector	10	1 on Compassionate Grounds and 9 by Direct Recruitment
4.	Junior Assistant	9	3 on Compassionate Grounds and 6 by Special Recruitment Drive for PwD.
5.	Multi-Tasking Staff (MTS)	3	On Compassionate Grounds
Total:		38	



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b) Promotions:

During the year, a total of 74 officers / officials were promoted as detailed below:

Sl. No.	Cadre from which promoted	Promoted to the cadre of	No. of officers / officials promoted
1.	Deputy Director (Research)	Joint Director (Research)	1
2.	Subject Matter Specialist	Divisional Head	4
3.	Subject Matter Specialist	Deputy Director (Research)	2
4.	Assistant Specialist	Subject Matter Specialist	8
5.	Research Assistant Grade I	Assistant Specialist	2
6.	Deputy Director (Extn.)	Joint Director (Extn.)	1
7.	Senior Liaison Officer	Deputy Director (Extn.)	2
8.	Junior Liaison Officer	Senior Liaison Officer	2
9.	Asst. Extn. Officer Grade I	Junior Liaison Officer	16
10.	Dy. Secretary (Ministerial)	Joint Secretary (Legal)	1
11.	Asst. Secretary (Ministerial)	Dy. Secretary (Ministerial)	7
12.	Asst. Secretary (Steno)	Dy. Secretary (Steno)	1
13.	Dy. Secretary (Ministerial)	Public Relations Officer	1
14.	Senior Assistant	Asst. Secretary (Ministerial)	19
15.	Junior Stenographer	Asst. Secretary (Steno)	1
16.	Driver – Grade I	Driver – Special Grade	2
17.	Driver – Grade II	Driver – Grade I	2
18.	Driver – Ordinary Grade	Driver – Grade II	2
Total :			74

c) Modified Assured Career Progression Scheme (MACPS)

None of the officers / officials were granted financial upgradation under the Modified Assured Career Progression Scheme (MACPS) during the year 2015-16.

d) Modified Flexible Complementing Scheme (MFCS)

None of the officers were granted in-situ promotion under the Modified Flexible Complementing Scheme (MFCS) during the year 2015-16.

e) Career Improvement Scheme (CIS)

None of the officers were granted financial upgradation under the Career Improvement Scheme (CIS) of the Coffee Board during the year 2015-16.



f) Transfer and Postings

A total of 105 officers / officials were transferred during the year 2015-16, which were effected based on general guidelines on this subject. The details are as under:

Sl. No.	Cadre / Grade	No. of officers / officials transferred
1.	Group 'A'	24
2.	Group 'B'	6
3.	Group 'C'	75
Total:		105

Employees' Welfare Measures: (01.04.2015 to 31.03.2016)

- I. No Advance towards Conveyance Purchase, Personal Computer or House Building was granted during the period under report.
- II. The Board has a tie up with the Life Insurance Corporation of India for operating the scheme called 'Group Savings Linked Insurance'. As on March, 2016, the scheme had 763 members on the roll comprising of different categories of employees and an amount of ₹28,52,199 was settled to 60 members during the year.

Labour Welfare Measures

- a) **Educational Stipends:** Stipends at the rate of ₹1,500 per student (for General/ST category) and ₹2,250 (for SC category)

were granted to those students who have passed SSLC examination in the academic year 2014-15 and who have taken up higher studies after SSLC, viz., 1st year PUC, Polytechnic / Vocational Training during the academic year 2015-16.

- b) **Incentive Award:** An Incentive Award of ₹1,500 and ₹1,000 each was granted to one girl student and one boy student in each division who have scored highest marks in the SSLC examination in the academic year 2014-15 and continuing further studies.
- c) **Financial Assistance:** In order to extend Financial Assistance to graduate students other than professional courses, the scheme was modified from 2009-10. The details of Financial Assistance granted were as detailed below:

Sl. No.	Description of courses	Amount per student per annum	
		SC Category	General/ST
1.	Professional courses: Medical Sciences.	₹ 7,500.00	₹ 5,000.00
2.	Agriculture and allied sciences / Animal husbandry / Engineering / Pharmacy / Nursing / other equivalent degrees.	₹ 7,500.00	₹ 5,000.00
3.	Post Graduation	₹ 7,500.00	₹ 5,000.00
4.	Graduation	₹ 3,750.00	₹ 2,500.00



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A Sum of ₹1,79,99,500 to 6,717 beneficiaries were granted during the year 2015-16 under Labour Welfare Measures.

II. Staff strength of Coffee Board as on 31.03.2016

The details of group wise staff strength, number of Scheduled Caste and Scheduled Tribe employees and particulars of female staff strength of the Board as on 31.03.2016, is summarized below:

Sl. No.	Total		SC / ST				Female	
	Classification	No. of Employees	SC	ST	% of Total No.		No. of Employees	% to Total
					SC	ST		
1.	Group 'A'	89	13	7	14.61	7.87	15	16.85
2.	Group 'B'	135	30	9	22.22	6.67	36	26.66
3.	Group 'C'	599	104	32	17.36	5.34	130	21.70
Total		823	147	48	17.86	5.83	181	21.99

Official Language Wing

The Official Language Wing continued to discharge its duties as per the norms laid down in the Official Languages Act 1963 and Official Languages Rules 1976 and adhered to the targets of the annual programme 2015-2016 issued by the Department of Official Language, Ministry of Home Affairs, Government of India.

- ◆ As stipulated, all letters sent to the Ministry and offices situated in 'A' and 'B' region were in bilingual form viz., Hindi and English. All letters received in Hindi were replied in Hindi.
- ◆ The compliance of Section 3(3) of the Official Languages Act 1963 was adhered to. The Annual Report and Annual Accounts pertaining to Coffee Board were published in Hindi and English.
- ◆ The consolidated Quarterly Progress Reports regarding the progressive usage of Hindi were submitted online to the Department of Official Language, Ministry of Home Affairs, New Delhi.

- ◆ Meetings of Official Language Implementation Committee were conducted in each quarter. Regular participation was ensured in the meetings of Town Official Language Implementation Committee, Bengaluru.
- ◆ The Special Incentive Scheme which is in vogue in the Board was continued this year too. As per the scheme, any employee of the Board who writes 5,000 words in Hindi in the course of usual Noting and Drafting on files is awarded an amount of ₹2,000. Twelve officials/officers were awarded the said amount and further, the incentive amount has been increased from ₹2,000 to ₹2,500.
- ◆ Workshops were organized as usual in the Board and 69 officers/officials were imparted training in the workshops. A special workshop was organized to impart training on Unicode. Apart from this, another workshop was organized on 14.08.2015 for the Senior Officers of the Board by inviting a well versed speaker in Hindi.



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- ◆ Unicode font has been installed in 89 computers and 5 laptops at Head Office, the same has been installed in all the computers at CCRI, Balehonnur, Chikkamagaluru, Chettalli, Madikeri, Kalpetta, Chundale and other sub offices.
- ◆ Periodic Inspections were conducted in various sections at Head Office and also in some sub offices of the Board in order to check the usage and progress of Official Language Hindi. During the year, 12 sub offices of the Board were inspected.
- ◆ To commemorate the 50th year of Indian Independence, a Rolling Shield was instituted. A Hindi Speech competition is organized every year for all the Central Government offices under the auspice of Town Official Language Implementation Committee, Bengaluru. Accordingly, the competition was held on 12.08.2015 wherein 58 participants from 30 Central Government offices/PSU took part in the competition and HPCL bagged the Rolling Shield.
- ◆ Hindi Fortnight was conducted at Head office from 01.09.2015 to 13.09.2015 and various competitions in Hindi were held during the fortnight i.e., News Reading, Vividha, Quiz, Noting & Drafting, See a snap & Pen a picture, Calligraphy, Technical terminology and the winners were awarded prizes on Hindi Day Celebration on 14.09.2015.
- ◆ A Special Lecture was organized in Hindi on 15.10.2015 by inviting a District Fire Officer from Fire Service Station who gave a lecture and also demonstrated the aspects of Fire Accidents and Fire Safety measures at home and office.

- ◆ In connection with Children's Day, various competitions (viz., Drawing, Fancy Dress, Hindi Poetry Recitation, Singing & Speech) for the Board's Employees' Children and for the children from nearby schools were conducted in the Board's premises on 08.11.2015 in which more than 200 children participated. Participation Mementos to all the children and gift vouchers to the winners of the said competitions were given.

Vigilance Unit

The Vigilance Unit is responsible for carrying out the following functions:

- ◆ Receiving complaints and taking action thereof.
- ◆ Verification of character and antecedents of persons recruited to the Board's service.
- ◆ Preparation and submission of periodical returns to the Ministry of Commerce & Industry.
- ◆ Issuance of Vigilance Clearance in respect of Officers / Officials of Coffee Board for various purposes.
- ◆ Processing of applications seeking permission for acquiring movable property of officers / officials and immovable property of officers / officials of the Board and scrutinizing the immovable property returns filed by the Group 'A' & 'B' Officers.
- ◆ Surprise vigilance check of sub offices / various sections at Head Office.
- ◆ Processing of files relating to disciplinary proceedings.



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Details of Vigilance Cases

1.	Pending cases at the time of commencement of year i.e.as on 01.04.2015	20 cases
2.	New cases added during the year	8 cases
3.	No. of cases concluded during the year	5 cases
4.	No. of cases pending for disposal as on 31.03.2016	23 cases

The Vigilance Awareness Week was observed in the Board's offices across the country between 26th October, 2015 and 31st October, 2015.

Legal Unit

The Legal cell is responsible for carrying out the following functions:

- ◆ Attending to all the Board's legal matters pertaining to Marketing/Staff/Sales/Purchase/Service Tax and Labour etc.
- ◆ Attending litigations pending before various courts viz., Supreme Court, High Courts, Labour Courts, Lower Courts and Sales Tax Appellate Forum etc., of the respective states.
- ◆ Co-ordinating and assisting the Board's advocates with relevant records to enable the advocates in preparing the plaints/counter and for arguments.
- ◆ Attending to correspondence connected with Tax (both Sales Tax/Purchase Tax and Service Tax), service matters, amendments to Coffee Act and correspondence with the Ministry of Commerce on legal issues.
- ◆ Attending to the work connected with filing of periodical returns under VAT, Service Tax, Profession Tax, etc., and pay the tax due wherever payable.

- ◆ Furnishing opinion on files being referred by various sections viz., Export, Pension, Engineering, Administration, etc.

Status of Court cases

36 cases were pending at the beginning of the year and 25 new cases were added totaling to 61. These 61 cases pertain to Service Matters-36 [including SLP matters], Marketing & CDRP matters - 12, Labour matter - 5 and others - 8 cases. Out of 61 cases, 7 have been disposed-off during the year.

Amendment to Coffee Act

The Coffee Act, the Act by which the Coffee Board was constituted came into existence during 1942. The aim of the Act was to provide for the development of the coffee industry under the control of the Union of India. One of the objectives of the Coffee Act 1942 was that all the coffee growers had to pool their coffee compulsorily with the Board. It was the responsibility of the Board to cure, store and market the coffee and distribute the proceeds to the growers less pool expenses. On the persistent demand of the coffee growers, the Free Sale Quota came into effect in a phased manner from the year 1993 to 1996. From the year 1996, the Government of India and in turn the Board declared 100% FSQ allowing coffee growers to market their produce without delivering any coffee to the Coffee Board. On account of this, the pooling system came to an end and the Board has also wound up all its marketing units and is now concentrating on Research, Development and Promotion of Coffee. In view of this, many of the provisions of the Coffee Act, 1942 have become redundant. Therefore, the Board proposed amendment to the existing Coffee Act. Since the substantive portion of the existing Coffee Act dealing with pooling and marketing of coffee have become obsolete / inoperative,



several other provisions of the existing Coffee Act need amendments in some forms, the Ministry proposed to repeal the existing Coffee Act and enact a new legislation so as to reflect realities and objectives, vide OM dated 23.03.2016.

Status of Purchase Tax Disputes

Government of Tamil Nadu

The Board availed the Samadhan Scheme for settlement of arrears of tax / penalty / interest and paid ₹6.80 crores in full and final settlement against the demand of 12 crores and interest / penalty. The Board has taken up the matter with the concerned authorities of the Government of Tamil Nadu to obtain confirmation certificate on the waiver of remaining tax and interest dues after settling the reduced tax for the assessment years 1983/84, 1987/88 to 1996/97. The receipt of the confirmation certificate is awaited.

Government of Kerala

The High Court of Kerala vide its order dated 29/8/2008 set aside the orders passed by the STAT confirming the levy of CST for the years 1984/85 to 1990/91, 1994/95 to 1996/97 and remanded the matter to the assessing officer to re-examine the issue in accordance with law. Similarly, in respect of the appeals for the year 1991/92 to 1993/94 and 2000/01 under CST and for the year 1991/92 to 1993/94, 1996-97 and 1997-98 under KGST, the STAT vide its order dated 26/9/2012 remanded the matter to the assessing officer. The Board produced the available relevant records to drop the demand. The assessing officer issued notices dated 11/3/2013 for the year 1984/85 to 1990/91, 1994/95 to 1996/97 proposing to confirm the levy of CST. The Board filed a detailed reply to the said notices. The assessing officer vide order dated 14.3.2014 confirmed the levy of CST and raised demand of ₹34.53 crores and interest of ₹174.09 crores aggregating to ₹208.62 crores for the years

1984/85 to 1990/91, 1994/95 and 1995/1996. The Board filed first appeals and 2nd appeal before the STAT, Palakkad, Kerala. The STAT after hearing the matter in detail passed an interim order dated 19.2.2016 staying the operation of the recovery proceedings initiated by the assessing officer for 180 days.

Special Achievements

1. M/s. Kodagu Coffee Growers' Co-op. Society Ltd., Madikeri, the proprietor of M/s. Hunsur Works, Hunsur was one of the Board's Pool Agents, defalcated coffee stock of 166 tons belonging to Board. In order to recover the value of coffee stock of ₹1.55 crores, the Board filed a suit before the Civil Court, Madikeri during 1998. In turn, the Pool Agent filed another suit before the Civil Court, Bengaluru against the Board as a counter claim for recovery of ₹1.10 crores being the alleged amount payable by the Board towards their pending bills. On the directions of High Court of Karnataka, both the suits were clubbed together and heard by Madikeri Court and passed judgement and decree on 12.9.2014 directing the Pool Agent to pay the decreed amount of ₹1,55,28,034/- and interest at 18% from 1.1.1996 till realization. M/s. Kodagu Coffee Growers Co-op. Society Ltd., Madikeri paid the decreed amount of ₹1,55,28,034/- on 22.12.2015 with a request to waive off the amount of ₹5,63,85,155/- towards the interest and other expenses payable by them. The advice from the Ministry in the matter is awaited.
2. The Board filed IA in the pending SLP No.36152-154/2014 before the Supreme Court praying to fill up 37 vacancies out of 50 in the post of JLO [in the pre-revised



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pay scale of ₹6,500-10,500] as per the Coffee Board (Cadre and Recruitment) Rules, 1993. The Supreme Court vide its interim order dated 20.7.2015 permitted the Board to fill up 37 vacancies as per Law. The Board in terms of the said interim order issued proceedings dated 15.8.2015 re-classifying the post of JLO and AEO Grade-I in accordance with the Coffee Board (Cadre and Recruitment) Rules, 1993 subject to the result of the pending SLP. In continuation to this proceedings, the Board issued another proceedings dated 4.9.2015 promoting 16 officials from the post of AEO Grade-I [pre-revised pay scale of ₹5,500-9,000] to JLO in the pre-revised pay scale of ₹6,500-10,500 subject to the result of the pending SLP.

Engineering Unit

Coffee Board owns office buildings at various places spread across the country viz., Bengaluru, Mysuru, Chikkamagaluru and Hassan (Karnataka); Chennai, Bodinayakanur (Tamil Nadu); Guwahati, Silchar (Assam); Chinthapalli, Arakuvalley (Andhra Pradesh) and also owns Residential flats in New Delhi, Bengaluru and Hassan (Karnataka); Bodinayakanur (Tamil Nadu); Guwahati & Silchar (Assam) and Chinthapalli & Arakuvalley (Andhra Pradesh).

Besides, there are Research Stations and Residential quarters at Central Coffee Research Institute in Chikkamagaluru district; Coffee Research Sub Station at Chettalli (Near Madikeri) in Karnataka; Regional Coffee Research Stations at Chundale in Kerala; Thandigudi in Tamil Nadu; R.V. Nagar in Andhra Pradesh and Diphu in Assam. The Technology Evaluation Centres are maintained by the Extension Department in the

States of Karnataka, Tamil Nadu, Kerala, Andhra Pradesh, Odisha and North East Region of India viz., Assam, Arunachal Pradesh, Tripura & Mizoram. India Coffee House in Bengaluru and India Coffee Center at Bhopal are also owned and maintained by the Coffee Board.

The Engineering Unit has taken up the maintenance works as well as construction of buildings under the Infrastructure development directly.

Details of the Expenditure

A sum of ₹1,80,82,443/- was incurred towards the capital works and ₹94,39,260/- was incurred towards the maintenance works during the financial year.

Right to Information

Under Right to Information Act-2005, the Board received 107 applications from the Citizens of India seeking information/documents during the year 2015-2016 and including a backlog of 06 applications from the previous year, there were 113 applications for disposal. Of the 113 applications, 102 applications have been disposed during the year. 09 appeals were received during the year 2015-2016 and 08 appeals have been disposed during the year.

E-office

To improve efficiency, consistency and effectiveness apart from transparency and accountability, the Coffee Board in association with NIC is in the process of implementing E-office. The implementation is under trial at Head Office of the Board. Initially, the E-office will be implemented in a full-fledged manner at Head Office and subsequently it will be implemented in all the sub offices of the Board.





CHAPTER – III (A)

DETAILS OF STAFF WITH DISABILITY

No Persons with Disability (PwD) were recruited during the period under report. A total of 16 Persons with Disability officials are working in the Coffee Board. The cadre wise details are as under:

Sl. No.	Cadre	Group	Strength Existing	No. of Persons with Disability		Category-wise Persons with Disability		
				No.	% to Total	UR	SC	ST
1.	Dy. Director (Research)	A	3	1	33.33	1	--	--
2.	Research Assistant Gr. I	B	32	3	9.37	3	--	--
3.	Assistant Secretary (Mins.)	B	56	1	1.78	1	--	--
4.	Junior Hindi Translator	B	4	1	25.00	1	--	--
5.	Extension Inspector	C	130	1	0.76	1	--	--
6.	Senior Assistant	C	85	1	1.17	1	--	--
7.	Junior Assistant	C	47	7	14.89	7	--	--
8.	Multi-Tasking Staff (MTS)	C	264	1	0.37	1	--	--
	Total		621	16	2.58	16	--	--



CHAPTER – IV

COFFEE RESEARCH

The Coffee Board Research Department has implemented a number of research studies under the scheme viz., “Integrated Coffee Development Project” during the current year 2015-16.

The research projects were implemented through a network of Research Stations of the Central Coffee Research Institute (CCRI) located at Chettalli (Kodagu, Karnataka), Chundale (Wayanad, Kerala), Thandigudi (Pulneys, Tamil Nadu), R.V. Nagar (Visakhapatnam District, Andhra Pradesh) and Diphu (Karbi Anglong District, Assam). Besides these, the research programmes were also implemented in two research divisions viz., Plant Tissue Culture & Biotechnology Centre, Mysuru and Coffee Quality Division, Bengaluru.

The salient findings during the year 2015-16 under different research projects are as follows:

Scheme: Integrated Coffee Development Project

Component 1: Research and Development for Sustainable Coffee Production

Sub-component 1.1: Plant Improvement for Durable Resistance and Increased Productivity through Conventional Breeding and Biotechnological Approaches.

Division of Plant Breeding and Genetics

The major focus of Arabica coffee improvement has been on exploitation of male sterile lines for development of heterotic F_1 hybrids, multi-

location evaluation of promising genotypes through extended trials and breeding for durable rust resistance as well as tolerance to white stem borer.

A total of 11 F_1 hybrids raised from crosses between four male sterile plants identified in exotic Arabica coffee collections and four different pollinators viz., Sarchimor, Tree Coffee Hybrid, Sln. 9, S.4595 (effected during 2014) were field planted at CCRI during 2015 season. The F_1 hybrids involving S.2651 & S.2660 recorded superior seedling vigour.

Six new F_1 progenies were raised at CCRI, from hybrid seed realized from crosses performed between the two selected male sterile plants (S.2660 and S.2678) with high fertility of female gametophyte and four genetically distant pollinators viz., Cavimor, S.4595, S.2577 (S.333 x HDT- 832/2) and S.2593 (Arabica-Wallamo x HDT) during 2015 flowering season and maintained in nursery for field planting in 2016 season.

Male sterility has been validated in male sterile plant (S.1593) identified in an exotic collection of Arabica at CRSS Chettalli and crossed with S.5146 (5B x HDT) & S.4861 (Sln.6 x S.795) as pollinators.

Extended trial plots were established with three promising genotypes, S.4814 (Catimor line x Sln.5B) and S.4817 (Catimor line x S.1934) and S.5146 (Sln.5B x HDT) in 19 locations (15 in Karnataka and 4 in Sheveroy) including three



plots in Research stations (CCRI, Chettalli and TEC, Yercaud). In addition, seven new plots (three in Karnataka and four in Pulneys) are going to be planted during 2016 season with one year old seedlings.

With an objective of generating vigorous semi dwarf genotypes coupled with improved production, rust resistance and bean quality traits, direct and reciprocal crosses were made between different semi-dwarf genotypes, Sarchimor, S.5149, S.4903 and S.5043 (3/19), during 2015 flowering season. The resultant hybrid seedlings are maintained in secondary nursery for field planting in 2016.

A total of three F_1 progenies raised from crosses between Colombian Catimor and tall Arabicas viz., S.795, S.1934, SIn.5B were planted in field during 2015 season.

Further, 31 F_2 and 22 F_3 progenies raised from the selected F_1 and F_2 plants with desired agronomic traits among different cross combinations were field planted during 2015 season for further monitoring and evaluation.

Field performance of F_2 progenies of Colombian Catimor crosses (S.5039, S.5040 and S.5044), has been monitored at CCRI, CRSS, Chettalli and RCRS, Thandigudi. The progenies, S.5039 and S.5040 (Col Catimor x S.1934) recorded superior performance for juvenile vigour, field tolerance to rust and bean grades. Among the progenies, S.5039 (S.4817 2/9) and S.5040 (S.4817 4/8) recorded projected yield of 1,629 kg/ha. and 1,288 kg/ha., respectively and high field tolerance to leaf rust (3 & 4% of population respectively, manifested mild susceptibility) at CCRI. Seven plants with superior agronomic characters and free from leaf rust were selfed during 2016 flowering season for raising F_3 progenies.

Two F_1 progenies, S.5081 and S.5082 derived from reciprocal crosses between tree coffee hybrid & Chandragiri and three F_2 progenies, S.4889, S.4890, S.4891 developed from crossing S.7.4 (S.7.3 x SIn.6) and S.3822, have been monitored at CCRI. Based on plant vigour, yield and field tolerance to rust, selfed progenies of six selected plants in S. 5081 and S.5082 were raised and field established at CCRI. However, assessment of bean grades in these progenies revealed high percentage of pea berry (40 to 53%). For restoring normal fertility status in these progenies, selected F_1 s were back crossed to Chandragiri during 2016 season.

The progenies S.4889, S.4890, S.4891 (S.7.4 x SIn.6) found very promising with high field tolerance to rust, production potential and bold bean size. A total of 21 F_3 progenies of selected plants that yielded over 2 to 2.5 kg fruits among S.4889, S.4890, S.4891 populations were planted in field at CCRI.

Field evaluation of inter-varietal hybrids at CRSS, Chettalli revealed that S.5146 (SIn.5B x HDT) recorded maximum projected yield of 912 kg/ha. Among bean grades, the 'A' grade percentage was recorded to be 61.8% and 100 'A' grade bean weight was 16.7g. In addition to the selfed progenies of S.5146, six F_2 progenies of S.4861 (SIn.6 x S.795) and S.4877 (S.795 x SIn.9) were raised and planted at CRSS, Chettalli.

Juvenile vigour and leaf rust incidence were observed in F_1 hybrids of Sarchimor (S.3822) x SIn.10 crosses at RCRS, Thandigudi. The percent of rust incidence ranged from nil in S.5084 (SIn.10-13th Plant x Chandragiri -12th Plant) and S.5085 (SIn.10-12th Plant x Chandragiri-13th Plant), maximum incidence of 10.6% recorded in S.5080 (Col Catimor 12/7 x S.3822/ 6).



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At RCRS, Thandigudi, S.5149 (Cavimor) continued to record consistent performance with an average yield of 1,136 kg/ha. coupled with high field tolerance to rust. Selfed seed of S.5149 and three F₃ progenies of S.4889, S.4890, S.4891 have been given to 15 locations for trial purpose in traditional coffee tracts, during 2016 season.

At RCRS, R.V.Nagar, evaluation of the F₁ progenies derived from reciprocal crosses between Sln. 5A and Agaro has been continued. Among the progenies, Agaro-1 x S.2971 recorded maximum yield of 826.5 kg/ha. followed by S.2831 x Agaro-2 (680 kg/ha.). On comparison of mean yields for the last three years, S.2831 x Agaro-2 performed superior with mean yield of 673 kg/ha. The percent increase in yield in hybrids over parental mean ranged from 11.2 to 40.7% F₂ progenies of 18 selected F₁ plants with desirable characters were raised and maintained in the nursery for field planting during 2016 season.

Further, among the F₁ hybrids between Sln.5A and Sln.3-4, the progeny of the cross Sln.3-4 x Sln.5A (S.2831) recorded maximum yield of 806 kg/ha., followed by Sln.5A (S.2831) x Sln.3-4 (796.5kg/ha.). In Sln.5A (S.2831) x S.3-4 progeny, 41% plants were found susceptible, while in reciprocal cross, incidence of leaf rust was 35.71%.

Field evaluation of five reciprocal F₁ hybrid progenies of Sln.10 x (S.4808-Catuai x HDT) crosses (S.5052, S.5053, S.5057 S.5058 & S.5059) has been continued at CCRI. Among different progenies, S.5053 recorded maximum yield of 1,196 kg/ha. Based on vigour and field tolerance to rust, out of 17 F₂ progenies raised, six progenies were planted in field during 2015 season.

Marker assisted selection using SCAR markers linked to S_H3 gene has been routinely performed for tracking the gene in breeding populations generated by crossing various semi-dwarf genotypes and Sln.10 (used as donor for S_H3 gene).

In order to conserve available variability in exotic germplasm collections, 74 germplasm collections raised from representative variability of each collection were established at CRSS, Chettalli and RCRS, R.V. Nagar. Further, selfed lines of 65 World collections were generated from representative variability of each collection available at CCRI and maintained in secondary nursery for planting in 2016 season.

Bioassays for WSB tolerance were undertaken jointly with the Entomology Division, on S.4595 (Sln.11 x HDT). Out of nine plants screened, larval mortality after initial feeding followed by quick callus formation at wounded portion was observed in five plants and there was no recovery of live larvae. In the remaining four plants, the eggs were not hatched. Bioassays have been continued on other plants.

Monitoring the field performance of S.4595, especially for WSB has been continued at RCRS, R.V. Nagar and TEC, Minumuluru, where the pest management interventions are at minimum. In both the locations, the WSB incidence was observed to be low (~1%).

In Robusta, the main focus has been on evolving drought tolerant lines. Field evaluation of drought tolerant clones (S.880, S.1932, S.3399 and DR 5) planted in a private estate located in recurrently drought prone area of Perikallur under Pulpally liaison zone has been continued.



The inter-varietal hybrids between station bred selections (S.274, C x R) and S.3657 an exotic Robusta collection from Ivory Coast, developed and field established at RCRS, Chundale, have been monitored for vegetative vigour as measured by the growth parameters. Among different progenies, the progeny of the cross C x R x S.3657 recorded superior growth parameters.

In order to explore new variability for drought tolerance in natural populations, thirty one clones raised from 11 identified plants (drought escapes) in Pulpally and Mananthavady zones were planted in field at RCRS, Chundale during 2014. The observations revealed that the C x R clones raised from plant identified in Parappallil estate recorded higher values.

In order to standardize coco-peat based rooting media for clonal propagation and to explore the potential of root trainers to maximize the root biomass in Robusta, a new trial has been initiated at CCRI and RCRS, Chundale. Among different treatments, shoot growth and root proliferation was good in media composed of coco peat and FYM in equal proportion, followed by exclusive coco peat.

In the collaborative initiative with World Coffee Research, Texas, received *in vitro* raised plantlets of 18 Arabica varieties in two batches, for planting trial plot at CCRI under International Multi Location Variety Trial programme. The plants are being hardened at CCRI for field planting. The 1st batch of three varieties, Colombia 1, Colombia 2, EC 16, are ready for field planting during 2016 season.

During 2015 -16 seasons, a total of 9,420.25 kg of seed coffee comprising of 5,627 kg Arabica and 3,793.25 kg Robusta was supplied to 3,144

growers in Traditional Areas, through extension network. Further, 8,006.5 kg of seed coffee comprising of 8,004 kg of Arabica and 2.5 kg of Robusta was distributed to the stake holders in Non-Traditional Areas. In addition, 1,887.5 kg of Arabica seed was distributed in NER.

Under the pilot programme on scaling up of clonal propagation in Robusta, a total of 56,449 rooted clones of C x R were supplied to 191 growers, from three research farms and six TECs during 2015-16.

On farm production of clones has been given main emphasis and a total of 14 training programmes (4 on-stations & 10 on-farms) were organized covering Chikkamagaluru, Hassan, Kodagu and Mananthawady liaison zones. On farm production of clones was initiated at seven locations in Chikkamagaluru region with the technical support from CCRI.

Division of Tissue Culture & Biotechnology Division, Mysuru

To improve the mass multiplication technology through tissue culture, a total of 6,409 leaf explants from elite lines of Sarchimor, Colombian Catimor crosses and BBTC x Chandragiri were cultured for callusing. Somatic embryogenesis was successfully induced in Sarchimor and BBTC x Chandragiri (S.4932). Studies were carried out to test the genetic fidelity of tissue cultured plants of C x R established in the field using SRAP markers which indicated high genetic similarities among the tissue cultured plants.

DNA from 23 plants of Sarchimor x SIn. 10 hybrid line was screened for S_H3 gene using SCAR marker (BA 124). Three of the hybrid plants showed presence of rust resistance gene.



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Recombinant clones with more than 500 bp size recovered from SSH library were ligated and transformed to pGEMT vector. PCR products are sequenced and analyzed. A c-DNA SRAP experiment was carried out to study the differential gene expression on both Arabica and Robusta plants following WSB feeding at different time intervals. The cDNA of the plant tissue from control and treated plants was tested with SRAP and analyzed in RT PCR using gene specific primers.

Several *Bt* isolates were revived and screened for *Cry* genes of which two strains showed presence of *Cry III* gene. Bio-assay studies were carried out with WSB larvae using different dilutions of *Bt* strains carrying *Cry III* genes. *Bt* strains were also screened for vegetative insecticidal protein (Vip) gene using specific primers. Two strains out of 40 strains screened, showed amplification with Vip 3 gene specific primer.

Genomic DNA of 25 transgenic plants of *Coffea Arabica* (Cauvery) was tested with gene specific primers to study the inheritance and expression of the chitinase transgene and seeds of T_1 transgenic plants were sown for raising T_2 progeny. Further, the genomic DNA extracted from 21 transgenic plants of *Coffea canephora* (C x R) were also tested with tobacco osmotin gene specific primers and all the plants are found to be positive. Seeds of T_0 plant of *Coffea canephora* were sown for raising T_1 progenies.

DNA fingerprinting of 14 known leaf rust (*Hemileia vastatrix*) races received from RCRS, Thandigudi studies was carried out using 30 SRAP markers. Twenty seven rust samples from Arabica and Robusta were collected from Coorg region to study the genetic diversity using SRAP primers.

Sub-component 1.2: Improvement of Productivity through Enhanced Soil Health, Crop Husbandry and Mechanization

Division of Agricultural Chemistry

Under the inter-institutional collaborative project with NBSS & LUP, Bengaluru on “Soil fertility appraisal and soil health monitoring of traditional coffee growing areas”, a total of 6,556 soil samples were collected for evaluation of soil fertility status.

Tie-up with the Indian Institute of Information Technology Management, Kerala (IIITM-K) for developing the IT based tool to prepare the soil health card is under progress.

Field trials on “Integrated Nutrition Management” for Arabica and Robusta coffee were continued for the second year in the research farms of CCRI, CRSS (Chettalli), RCRS, Thandigudi and RCRS, Chundale. Statistically higher yields were recorded at CRSS, Chettalli in Arabica trail plot receiving 50% recommended dose of nutrients through inorganic fertilizer in combination with FYM at 1.5 ton/ha. and bio-inoculants. In the Robusta trial plot at RCRS, Chundale, the plants challenged with the 100% recommended dose of nutrients through inorganic fertilizers recorded statistically higher yield over other treatments. The influence of different treatments on the biological properties, available major, secondary, and micronutrients status was not significant in most of the locations. Nonetheless, statistically higher enzyme activity was found in treatments receiving bio-fertilizers and organics.

Field trail on “Effect of different organic nutrients on soil properties, yield and quality” for Arabica and Robusta coffees continued in the research farms of CCRI, CRSS (Chettalli), RCRS at



Thandigudi and Chundale. The results were insignificant in most of the locations. However, statistically higher enzyme activity was found in treatments receiving vermin compost.

Under the advisory service support to the growers, 8,557 soil samples were analyzed for soil reaction, organic carbon and available P & K contents. Based on the soil analytical data and field information, lime and fertilizer recommendations were rendered to 1,232 growers. Six growers availed micro nutrient analysis facility and 247 soil samples were analyzed Ca, Mg, Cu, Zn, Fe & Mn. Seventy three leaf samples received from 5 growers at CCRI were analyzed for sufficiency/deficiency of nutrients and suitable remedial measures to correct observed deficiencies were intimated. A total of 758 agrochemicals comprising of liming materials, spray lime, fertilizers, organic manures and copper sulphate received from 484 growers were analyzed for purity.

Division of Agronomy

Data collected from two coffee estates in Chikkamagaluru district of Karnataka and two estates in Wayanad, Kerala showed that high density planting adopted in Arabica coffee recorded more clean coffee yield due to higher plant population, reduced weed and WSB incidence problem.

A planting design trail using Chandragiri variety at CCRI showed that the Quincunx planting design with middle plant recorded significantly higher clean coffee yield (3,627 kg/ha.) which was on par square system at close spacing, training on single stem with rock-n-roll pruning of alternate rows once 3 to 4 crops (1,919 kg/ha.) and control (1,311 kg/ha.). Coffee leaf rust and white stem borer infestation was found to be significantly lesser in hedge row system of planting with cyclic/rock-n-roll pruning treatment. At CRSS,

Chettalli, significantly higher clean coffee yield was observed in hedge row system on multiple stem without topping with cyclic pruning after each harvest (2,482 kg/ha.).

The planting design trial with Sln. 5B variety initiated at CRSS, Chettalli showed that the hedge row system on multiple stem without topping with cyclic pruning recorded higher yield (386 kg/ha.) which was on par with all other treatments except square system at close spacing (5'X 5') + training on single stem + rock-n-roll pruning system of planting design which recorded lowest yield of 187 kg/ha. during the first cropping year.

Survey carried out in two estates of Wayanad district of Kerala and two estates of Chikkamagaluru district of Karnataka indicated that blossom irrigation at 1.40 lakh liter/acre with the discharge rate of 1.6 liter/hr in old-Robusta recorded an average clean coffee yield of 2,346 kg/ha. compared to control which recorded 1,250 kg/ha. of clean coffee/acre. Initial investment for establishing the plants under open condition with contour formation in the slopes and laying out of polythene sheets all along rows was around ₹ 2.5 lakh per acre.

The trial on "Standardization of agronomic practices for establishment of supply planting/replanting on growth parameters" initiated during 2014-15 year in all regional research stations indicated statistically non-significant results on growth parameters in all treatments. However, at RCRS, Thandigudi, the treatment which received the recommended method (45 x 45 x 45 cm³) + rock phosphate (30 g/pit + compost (2 kg/pit) + PSB + azospirillum + VAM (each 25 g) enriched with compost + 10 g Phorate 10 G recorded relatively higher root length and no. of laterals roots per plant in one year old plant compared to other treatments.



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Case studies on mechanization from eight estates in Kodagu district revealed that two planters have modified the existing centralized spray system by inclusion of return flow system of spray solution (imovilli system) with pressure lances. Both the intervention helped the planters to save spray solution to the extent of 25% and also observed the less damage to spray hose pipe with saving in labor up to 38%. Data collected from six planters who are using weed cutters for management of weeds indicated that use of weed cutter reduced labour requirement up to 5-8 man days when compared to manual weeding.

Evaluation of Multi Utility Tractor Vehicle (MUTV) for spraying and farm operations at CRSS, Chettalli indicated that significantly higher field efficiency with MUTV (0.56 ha./hour) with 4 spray lance which was on par with CSS spraying system having 14 spray lance. Lower field efficiency was observed in power tiller spray system. CSS spraying system consumed 268% more spray volume/chemical when compared to MUTV spray system besides demanding higher labour cost (211% more). Watering of young plants using MUTV, the area coverage per day ranged from 350 to 1,280 plants (with 4 hose pipes) compared to single sub soil injector which covered 170–250 plants/ day.

A demonstration trial on mechanized farming system on steep sloppy with terrace was initiated using Robusta coffee in the hedge system of planting at CCRI to demonstrate utilization of machineries in farm operations.

Case studies on diversification of coffee farms indicated that Arabica coffee (Chandragiri with 7' x 6' spacing) intercropped with coconut (30' x 30'), areca nut (15' x 15') and pepper on every coconut & areca nut plants in 8 acres of land having drip

irrigation, timely cultural operations and no use of any fungicides/pesticides realized an annual net income ₹ 66,500/ha.

The case study on diversification of coffee farms from 27 planters in CRSS, Chettalli and RCRS, Chundale revealed that majority of the planters following diversification in coffee farms consisting of Silver + Pepper, Orange, Banana, Avocado, Arecanut, Jack fruit, minor fruits, vegetables and permanent shade trees and cultivation of annual crops like sweet potato, ginger, elephant foot yam in the initial year of plantation. The higher net income from the different diversification systems ranged from ₹ 28,400 to ₹ 8,02,000 when compared to ₹ 75,000 to ₹ 1,85,250 in coffee farm with no diversification.

Division of Plant Physiology

In order to monitor the crop behavior in relation to changing climate, estates have been identified (16 Robusta & 7 Arabica estates in Coorg, Karnataka; 10 Robusta estates in Wayanad, Kerala; 3 Arabica estates in Thandigudi, Tamil Nadu).

In general, the receipt of 1st blossom shower in second of week March 2016 followed by backing and 2nd blossom shower in first week of April 2016 with adequate intermittent showers in April and May 2016 resulted in two to three rounds of blossom and formation of different size berries. The adequate soil moisture with bright sunshine was favourable condition for berry growth and development in most of the coffee regions.

The average annual rainfall in Coorg zone was significantly high (150.81 inches) at Srimangala liaison zone and least at Gonikoppal liaison zone (61.67 Inches) over five year average. The blossom in Coorg zone was 92% to 98% in Robusta and 80 to 85 % in Arabica coffee and fruit



set ranged from 65 to 75% in Robusta and 80 to 85% in Arabica. Total pre-mature fruit drop was significantly high in Robusta (30.28%) compared to Arabica coffee (27.56%). Among different zones highest fruit drop was in Somavarapete and Srimangala zones.

Over the years, the Pulpally area in Wayanad zone receives low rains and significant difference was observed between the years. Non- receipt of sufficient blossom showers during current year and prolonged drought days coupled with high temperature resulted poor fruit-set except in Meenangadi area where sufficient blossom shower was received and in irrigated estates in other areas normal fruit set was achieved.

The pre-mature fruit drop survey in Thandigudi zone indicated highest in fruit drop in Kumarguru estate and the lowest (2.32%) in Keecharam estate. However, pre-mature fruit drop among different Arabica cultivars at RCRS, Thandigudi was minimum ranged from 1.98 to 3.07 % in twelve different selections and genotypes.

The crop damage due to splitting & drop on account of rains at ripening stage in Arabica coffee was less in higher elevations and also in high rainfall areas as there was delayed ripening due to cool climate. In general, splitting and drop was less in Chandragiri. The drop was low in high shaded conditions but more in open areas. Younger plants also showed less splitting and drops compared to older plants. Overall, crop loss due to rains at ripening stage was in range of 5 to 10% only.

Based on the growth and yield components, S.4877 and HDT x 5B were found to be physiologically efficient and also tolerant to drought among the other hybrids evaluated at CRSS, Chettalli.

Maximum SPAD chlorophyll reading was in Columbian Catimor followed by Chandragiri. In general, SPAD reading declined with increase of soil moisture on receipt of rains and least during peak of the monsoon.

Crude protein inhibitor extracted from cowpea was tested against white stem borer (jointly with the Division of Entomology at CCRI) and found ineffective.

Sub-component 1.3: Development of Ecologically Safe Interventions to Reduce Losses caused by Major Pests and Diseases.

Division of Plant Pathology

The coffee rust differentials and 'A' type plants established in ten locations: CCRI farm; Technology Evaluation Centers at Chikkamagaluru, Mudigere & Sakleshpura; CRSS, Chettalli; TEC, Gonikoppal; Hangal Estate, Somwarpet; RCRS, Thandigudi and TEC, Yercaud, in Tamil Nadu to monitor the prevalence of rust race flora in these different agro-climatic regions of South India were maintained and monitored.

From spore samples collected from coffee differentials and "A" type plants rust races viz., I, VIII, XII, XVI, XVII, XXIV, XXV, XXIX, XXXI, XXXII, XXXVI, XXXVII, XXXIX, XL and XLI and new rust races with virulent genes viz., V1,2,5,6,9 (537/18 CRSS), V2,5,6,7,8,9 (Chundale), V1,2,5,8 (Basava Catimor), V2,5,6,7,8,9 (13683/18), V1,2,5,6,8 (SIn.6 Mooring), V2,3,5,8 (S.2581 CCRI), V2,5,6,8 (Teja Robusta), V1,2,5,6 (538/29), V1,2,4,5,6,7,8,9 (420/10), V1,3,5,6,7,8,9 (6869/2), V1,2,4,5,6,8 (539/8), V2,5,6,8,9 (Cauvery Chundale) and V1,2,5,6,7,8,9 (13683/25 Gonikoppal), V2358 from S.288, V25679 (XXXVII) and V235689 from S.353, V15 from H.151/1, V245



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from S.795, V1235689 from Sln.6 and V1256789 were isolated and maintained.

Among the seven F_2 progenies assessed for rust incidence at CCRI, rust incidence was least in S.4814 followed by S.4817, S.4816, S.4820, S.4818 & S.4819 and the highest on S.4815. Among the eleven F_1 progenies, least rust incidence was on S.4932 followed by S. 4933, S.4936, S.4934, S.4900 S.4937, S.4935, S.4897, S.4899 & S.4896 and the highest on S.4898.

Within eleven F_2 progenies of newer lines of Arabica coffee, least rust incidence was recorded in S.5040 followed by S.5039, S.5041, S.5049, S.5048, S.5050, S.5042, S.5042, S.5044 & S.5051 and the highest rust incidence was on S.5043 (12.58%). Among the twelve F_1 progenies assessed for rust incidence levels, least was noticed in S.5059 followed by S.5060, S.5052, S.5056, S.5055, S.5049, S.5053, S.5057, S.5062, S.5058 & S.5061 and the highest was on S.5063.

A survey on coffee leaf rust incidence conducted in North Eastern Region indicated that the rust incidence level ranged from 25 to 86%.

Field efficacy of new fungicides viz., Nativo 75% WG (Tebuconazole 50% + Trifloxystrobin 25%) at different concentrations (0.005, 0.075, 0.01, 0.015 and 0.02% a.i.) was assessed in comparison with recommended fungicides viz., Hexaconazole 5 EC (0.01%), Tebuconazole 25 EC (0.02%) and Bordeaux mixture (0.5%) against leaf rust management on S.795 cultivar at three locations. Pre-and post-monsoon application was done. At CCRI, the average rust incidence was least in treatments with Nativo 75WG at 0.02 and 0.01% while incidence was slightly higher in other fungicide treatments. Similar trend was noticed at CRSS, Chettalli and RCRS, Thandigudi.

The influence of weather parameters on coffee leaf rust incidence recorded at fortnightly intervals indicated that in Sln.3, severity of the rust incidence was positively correlated with minimum temperature and relative humidity and showed negative correlation with maximum temperature and cumulative rain fall. In case of Sln.5B, positive correlation was observed with the minimum temperature and cumulative rain fall and showed negative correlation with the maximum temperature and relative humidity. Similar trend was observed in C x R also.

Among the eleven station selections assessed for leaf curling and chlorosis at CCRI indicated that highest incidence of leaf curling and chlorosis was recorded in Sln.4 (3.76%) followed by Sln.3 (3.08%), Sln.13 (3.06%), Sln.9 (2.94%), Sln.6 (2.33%), Sln.8 (2%), Sln.10 (1.87%), Sln.12 (1.67%), Sln.5B (1.5%), Sln.5A (1.27%), Sln.11 (1.22%) and least incidence was on Sln.7.3(0.79%).

Division of Entomology

To reduce the population of adult beetles in stem borer infested fields, use of cross vane pheromone traps as one of the interventions was encouraged by supplying 28,157 traps to coffee growers at reduced cost.

To educate the growers on the available interventions to manage the coffee white stem borer, the "Mission Mode Action Programme" was re-launched from September 2014 onwards by constituting four teams, three in Karnataka (one each for Chikkamagaluru, Hassan and Kodagu Districts) and one in Tamil Nadu (for Yercaud and Pulneys). During the period, 332 programmes were conducted benefiting 10,832 growers and estate workers.



Case studies on the incidence level of WSB in small, medium and big growers and well maintained estates carried out in Chikkamagaluru, Hassan and Kodagu districts of Karnataka indicated that estates adopting recommended practices like maintaining good shade, regular tracing & uprooting and insecticide application had low incidence of the WSB.

Data on the tunneling pattern of WSB larvae revealed that there was no specific pattern of tunneling.

Under the project out sourced to Bio-Control Research Laboratories of Pest Control India Ltd. Bengaluru on “Identification of female sex pheromone and its role in mating success and identification of kairomone responsible for host plant selection by the coffee white stem borer”, new lures consisting of synthesized male and female pheromone and kairomone were tested both in the laboratory and in the field.

Evaluation of newer molecules for WSB, in collaboration with Tata Chemicals Innovation Centre is being continued.

Under the “Consortium Research Platform on Borer Pests of Agricultural and Horticultural Crops”, WSB specimens were collected from different locations and sent to IIHR, Bengaluru for analysis. Six suspected natural enemies were collected and sent to IIHR, Bengaluru for identification. Evaluation of different quantity of nano-pheromone materials and plant kairamone lures viz., A, B, C, D, and E are being screened.

A high level Steering Committee on Coffee White Stem Borer was constituted by involving representatives from the Ministry of Agriculture, Ministry of Science and Technology, Public and Private R & D Institutions, eminent coffee growers

and grower’s associations. Under this programme, 3 meetings have been conducted so far.

Under the study on “Screening of chemical against WSB eggs”, Chlorpyrifos 20 EC and Chlorpyrifos 50 + Cypermethrin 5 EC caused 82% mortality on the 63rd day after treatment.

Trials were conducted with an objective of preventing the escape of WSB beetles from the infested plants. The treatments involved wrapping the main stem (with gunny or woven ploythene strips) followed by spraying with insecticide or spraying the stem with insecticide first followed by wrapping. Observation after the flight periods showed that wrapping with gunny strips and spraying with Chlorpyrifos 50 + Cypermethrin 5 EC (1.2 ml + 1 ml wetting agent/ litre of water) caused fairly good mortality of adults at the exit hole itself.

To identify sources of resistance against the stem borer, screening of a hybrid between natural Arabica x Tree Coffee was taken up by releasing eggs and neonate larvae on cut stems in comparison with stems of susceptible varieties. Observations indicated that the mortality of the early stage larvae on the hybrid plants when compared to susceptible varieties. Further studies are being continued.

Among the various chemicals screened against CBB, Chlorantraniliprole 18.5SC at 1.5 ml/L of water recorded the highest mortality (86.7%) followed by Fipronil 5%SC at 2 ml/L (83.3%). The lowest mortality was recorded for Flonicamid 50 WG at 0.2 g/L (23.3%).

For the management of the coffee berry borer, 52,505 broca traps with lure were supplied to the coffee growers in Karnataka and Kerala. To replenish the lure material in the traps supplied



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to the growers, 1,94,765 vials of lure material were supplied.

The use of the entomopathogenic fungi *Beauveria bassiana* as a bio-control agent against the coffee berry borer was popularized by supply of ready to use culture as well as starter culture for on-farm production. 349 kg of *Beauveria bassiana* on rice media and also 70 L of liquid culture were supplied to growers of Tamil Nadu and Kerala for the management of coffee berry borer.

As an eco-friendly measure to manage the coffee mealy bug infestation, 18,000 parasitoids of the mealy bug were supplied to growers as per demand.

Recently, Giant African snail was noticed in some of the coffee plantations. Among the different treatments tried for the control of snail, raw papaya baited with Lannate was found superior to rice bran bait with Lannate and Metaldehyde. Many awareness programmes on the management of Giant African snail were conducted.

Sub-component 1.4: Post Harvest Technology and Quality Improvement.

Division of Post Harvest Technology

The Division of Post harvest technology was established at CCRI by filling up the post of Divisional Head during July 2014. Later, the division was strengthened by recruiting one post each of Biochemist, Agricultural Engineer and Research Assistants in Agricultural Engineer & Biochemistry.

The performance of various makes of Eco Pulper was assessed in 48 coffee estates in Chikkamagaluru, Hassan and Kodagu districts. The water consumption for pulping and mucilage removal per kg of fruit ranged from 0.5 to 1 liter in

Arabica and from 0.6 to 1.3 liter in Robusta. Compared to conventional pulper, the use of Eco Pulper reduces the water consumption up to 80 to 90%. In majority of the estates, the mucilage was mixed with the pulp and used for composting. The performance of indigenous Eco Pulpers was found to be equally good when compared to imported Eco Pulper.

The results of the studies carried out on "Pollution abatement in coffee" indicated that biological agent (Yeast) and pectin degrading enzymes were found to be effective in reducing the pollution load of coffee effluent to the extent of 80-85%.

Division of Coffee Quality

A total number of 253 coffee samples were tested for physical and cup quality parameters (250 nos. of commercial and 3 samples from North East Region)

A total of 123 moisture meters received from the stakeholders were calibrated.

Three green coffee samples were tested for the presence of Ochratoxin-A (OT-A) level and OT-A level in these samples ranged from 2.0 to 6.5ppb.

Three Roasted and Ground coffee samples received from the trader were tested for caffeine content.

Three Roasted and Ground coffee samples received from the traders were analyzed for all the parameters prescribed by the Bureau of Indian Standard (BIS). The analytical values were in line with the limits prescribed by the BIS.

Kaapi Shastra' training programme on roasting and brewing were conducted at Coffee Quality Division, Bengaluru during 2015-16 in which 53 people participated.



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Five, short term executive programme (STEP) in coffee entrepreneurship were conducted in Karnataka, Kerala, Tamil Nadu and Maharashtra in which 89 people were trained on setting up of roasting and retailing businesses.

Fourteen people were trained in the short term training program on Barista Skills (Espresso Coffee Brewing Techniques) conducted by Coffee Quality Division, Coffee Board, Bengaluru.

Ten students of the 2014-15 batch of the Post Graduate Diploma in Coffee Quality Management course have successfully completed the course. Eleven students joined during 2015-16 batch completed 1st trimester at CCRI and 2nd trimester is under progress at Head Office, Bengaluru.

The coffee samples selected for the final round of cupping of “Flavour of India-Fine Cup Award-Cupping Competition 2015” were judged by a panel of International Jury on 15th June 2015 at Gothenburg, Sweden.

A total number of 232 coffee samples comprising of 142 Arabica and 90 Robusta from various

coffee growing regions for 2016 seasons were subjected to physical assessment and pre-jury cupping session during March, 2016.

Eighteen roasting units set up by the industry/ stakeholders were inspected for providing subsidy under “Support for Coffee Processing Machinery”. Two coffee curing works were inspected for renewal of license.

The Coffee Board had organized 2-day workshop on “Judges Training Workshop” for the National Juries to understand the World Barista Championship’s Rules & Regulations at Coffee Board, Bengaluru during October, 2015 and in which 22 participants were attended the workshop.

The National Barista Championship-2016 was held in two phases: 1st preliminary round was conducted from 6th to 8th December, 2015 at New Delhi; 2nd preliminary round at Coffee Board, Bengaluru from 20th to 22nd December, 2015. The semi-final and final rounds were held at Coffee Board, Bengaluru from 25th to 27th February, 2016.



CHAPTER – V

EXTENSION AND DEVELOPMENT

A. Traditional Areas

The traditional coffee growing areas consist of three southern states namely Karnataka, Kerala and Tamil Nadu. The total area under coffee in Traditional Areas is **3,55,871** ha., which accounts for 82% of the total coffee area of 4,34,436 ha. in the country. The number of holdings in Traditional Areas is 1,66,047 which accounts for around

50% of the total number of 3,33,527 holdings in the country.

Area under Coffee in Traditional Areas

The details of planted area, bearing area under coffee and the number of holdings for 2015-16 in the 3 traditional coffee growing states are as under:

State	Planted Area (Ha.)			Bearing Area (Ha.)			No. of Holdings		
	Arab.	Rob.	Total	Arab.	Rob.	Total	< 10 Ha.	>10Ha.	Total
Karnataka	111225	124213	235438	101448	116806	218254	69377	2019	71396
Kerala	4217	81284	85501	3953	80782	84735	77200	275	77475
Tamil Nadu	29062	5870	34932	26787	5725	32512	16831	345	17176
Total for Traditional Areas	144504	211367	355871	132188	203313	335501	163408	2639	166047

Weather Conditions and Crop Production for 2015-16

Overall, good blossom and backing showers received during March-May 2015 resulted in good crop set. The rainfall received during southwest monsoon was in excess in comparison to the previous year's rainfall leading to inundation of low lying areas. This resulted in comparatively higher incidences of black rot/ stalk rot diseases leading to berry drop in the affected areas. Necessary control measures were advocated to control further spread of the diseases. In general, the incidence of pests and diseases was low to medium. However, a new pest African Giant Snail made its appearance in few coffee plantations of Kodagu and Chikkamagaluru districts during August/September 2015 posing threat to coffee,

pepper and other associated crops. To control the further spread of the pest, a series of awareness programmes were conducted and necessary control measures were advocated to the growers and the matter was brought to the notice of the respective district authorities to take necessary action and the pest was brought under control effectively.

The northeast monsoon commenced from the last week of October 2015 and the quantum of rain received was good. However, this caused hindrance for harvesting and processing of Arabica coffee. The wet weather with chill nights and misty mornings delayed the drying process of coffee and affected the quality of Arabica coffee of the first batch of harvest.



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However, the seasonal conditions prevailed during the year were very good for blossom and crop set and resulted in harvesting of an all time high crop of 3,48,000 MT.

As a result, the final crop estimates for 2015-16 season in respect of traditional coffee growing areas was placed at 3,38,045 MT comprising of 93,660 MT of Arabica and 2,44,385 MT of Robusta. The State-wise details are as under:

(In Metric Tonnes)

State	Production Estimates		
	Arabica	Robusta	Total
Karnataka	78,650	1,72,870	2,51,520
Kerala	2,200	67,030	69,230
Tamil Nadu	12,810	4,485	17,295
Total for Traditional Areas	93,660	2,44,385	3,38,045

Pests and Diseases

The incidence of white stem borer, which is a major pest on Arabica, was generally low to high due to long dry spell / seasonal conditions prevailed during the post monsoon period of 2015 and pre-monsoon period of 2016. The incidence of Coffee Berry Borer was also low to medium in most of the coffee growing regions. The incidence of other pests like Shot Hole Borer on Robusta was low to medium throughout the region and the sucking pests were at low level in general.

Among the diseases, the incidence of coffee leaf rust, a major disease on Arabica was at low to medium level. The incidence of black rot and stalk rot was low to medium in high altitudes and heavy rainfall areas during the monsoon period. The incidence of die back and root diseases was at low level.

Monitoring & Review of Extension and Development Activities

- ◆ The Extension Offices located in the traditional coffee growing areas were under the administrative control of the Secretary, Coffee Board.

- ◆ The Extension Offices located in the Non-Traditional coffee growing areas and North Eastern Region were under the administrative control of the Director of Research, CCRI.
- ◆ The Secretary, Coffee Board supervised the implementation of Development Support Schemes.
- ◆ The Joint Director (Extension) at Hassan supervised the extension / development activities of the four Deputy Directors of Extension, seven Senior Liaison Officers and all the Junior Liaison Officers in Karnataka.
- ◆ The Joint Director (Extension), Kalpetta supervised the extension activities of the two Deputy Directors of Extension, eight Senior Liaison Officers and all the Junior Liaison Officers in Kerala and Tamil Nadu.

Extension Activities

The Extension Personnel of the Board continued to build close rapport with the coffee growers for transfer of technology to improve the



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knowledge and skills on scientific method of coffee cultivation. Various individual and group extension approaches and tools were employed for transfer of technology to the growers in general and small growers in particular besides extending development support for improving the production, productivity and quality of coffee.

The focused approaches employed and the activities carried out during the period included individual contacts, visits to coffee holdings, issue of advisory letters to confirm the observations and suggestions, method demonstrations / on-farm demonstrations to improve the skills of carrying

out operations effectively, village level / group meetings and seminars, mass communication / contact programmes, media campaigns and other training programmes to improve the knowledge and skill levels of coffee growers and workers.

The Extension Personnel also carried out activities viz., periodical assessment of crops, monitoring & reporting of pests and diseases incidence, procurement and distribution of seed coffee.

The details of various extension activities carried out during the year 2015-16 are as under:

Sl. No.	Activities	Achievement (Numbers)
1.	Estate Visits	28,358
2.	Field Demonstration	7,754
3.	Advisory Letters	2,913
4.	Group Meetings/ Seminars/ Village Level Meetings	99
5.	Mass Communication/Contact Programmes	21
6.	Media Campaigns	103
7.	Training Programmes on coffee cultivation at TECs	30
8.	Vocational Training Programme for women workers/ growers	41

Mass Communication Programmes

In order to educate the small coffee growers about the integrated management of the major pests and diseases, 15 mass communication programmes were conducted covering 960 small growers in different zones of traditional coffee growing areas.

Mass Contact Programmes

Six mass contact programmes were organized in various coffee growing regions of Traditional Areas to educate the cluster of small coffee growers on improved methods of coffee cultivation. These programmes encompassed various activities viz., collection of soil samples from individual

estates, analysis of these samples and chalking out soil amelioration measures and the manurial dosage to be applied based on the soil analysis report. In addition, visits to the estates by teams comprising of scientists and extensionists for assessment of farm conditions and rendering advisory for overall improvement of the coffee holdings were made. Interactive meetings with the growers of such areas were also conducted as a part of the programmes. A total of 744 growers were benefited.

Technology Evaluation Centres (TECs)

Ten Technology Evaluation Centers (TECs) of the Board located in different agro climatic



zones of Traditional Areas continued to function by carrying out timely cultural operations as per the annual action plan drawn for each TEC for improving production and productivity. These TECs continued to serve as centers for evaluating the performance of various plant materials by adopting region / location specific agronomic package of practices, as training centres and as seed production centers.

Development Support for Coffee in Traditional Areas

The Extension Personnel of the Board carried out the works of registration, investigation, processing of subsidy applications / claims and disbursement of subsidy for effective implementation of the development support scheme. Subsidy was extended to the coffee growers in Traditional Areas for carrying out re-plantation, expansion, water augmentation, quality up-gradation, eco-certification, pollution abatement activities for improving production, productivity and quality of coffee.

The details and scale of subsidy for various components during 2015-16 are as under:

1. Replantation & Expansion

Subsidy was extended to eligible individual coffee growers irrespective of the size of the holdings inclusive of Corporate and Co-operative holdings. The unit cost considered for the purpose of the scheme is ₹1,75,000/- per ha. in case of Arabica and ₹1,25,000/- per ha. in case of Robusta. The scale of subsidy varied with the size of holdings; (i) 40% of the unit cost for the growers with holding size of up to 2 ha. (ii) 30% of the unit cost for the growers with holding size of more than 2 ha. up to 10 ha. and (iii) 25% of the unit cost for the growers with holding size of more than 10 ha. of coffee area.

2. Water Augmentation

Subsidy at the rate of 25% of the unit cost was extended for various activities under the water augmentation component to the eligible individual and joint ownership holdings including partnership firms with holding size of up to 20 ha. The unit cost fixed for various activities varies with the size of holdings and ranges from ₹43,000/- to ₹10,00,000/- per holding.

3. Quality Up-gradation

Subsidy at the rate of 20% of the unit cost was extended for various activities under the quality up-gradation component to the eligible individual and joint ownership holdings including partnership firms with holding size up to 20 ha. The unit cost fixed for various activities varies with the size of holdings and ranges from ₹16,000/- to ₹12,50,000/- per holding.

4. Eco-certification

Subsidy is extended to the growers owning up to 20 ha. coffee area and groups of small growers (SHGs, collectives) who obtain certification for their plantations for various sustainability and quality standards.

For organic certification: Individual growers and Groups of growers – Eligible for subsidy at 50% of the certification cost subject to a maximum of ₹50,000/- per beneficiary / group. The full extent of support of ₹50,000/- would be available spread over more than one year during the plan period.

For other eco certification: (a) Individual growers – Eligible for subsidy at 50% of the certification cost subject to a maximum of ₹50,000/- for a period of one year only; (b) Groups of small growers – Eligible for subsidy at 50% of the certification cost subject to a maximum of ₹50,000/- per group. The full extent of support of ₹50,000/- would be



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available spread over more than one year during the plan period.

5. Pollution Abatement

Support was extended for one of the two alternate activities viz., installation of Eco Pulpers or setting up Effluent Treatment Plants (ETPs).

Subsidy at the rate of 40% of the unit cost was extended to all the categories of growers including

Corporate & Cooperatives with holding size of more than 10 ha. for taking up the activity. The unit cost fixed for various activities varies with the size of holdings and ranges from ₹22,000/- to ₹15,20,000/- per holding.

The physical achievement under various activities during the year 2015-16 are as follows:

Sl. No.	Component/Activity	No. of Beneficiaries/ Units	Area benefited in Ha.
1.	Replantation / Expansion	2,082	3,163
2.	Water Augmentation	4,109	7,390
3.	Quality Up-gradation	2,198	3,770
4.	Pollution Abatement	22	427

Support for Mechanization of Coffee Estate Operations

This scheme is aimed to provide support to coffee growers to encourage the use of farm machineries to improve productivity and efficiency in carrying

out crucial farm operations in time, particularly in the context of shortage of farm labour.

The following is the scale of subsidy applicable for different sized holdings and SHGs / Grower Collectives.

Category of Holdings	Scale of Subsidy
Growers Upto 20 ha.	50% subject to a ceiling of ₹ 2.00 lakhs
Growers above 20 ha.	25% subject to a ceiling of ₹ 4.50 lakhs
SHGs / Grower Collectives	50% subject to a ceiling of ₹ 5.00 lakhs

During 2015-16, 6,876 growers preferred claims for 7,539 machinery under the scheme.

Action Programme to Combat White Stem Borer

Due to the drought condition and high temperatures from November 2013, the white stem borer incidence flared up and resulted in high incidence by the end of May 2014 in almost all the Arabica coffee zones of Karnataka. The survey conducted by the Board across all Arabica coffee zones in Karnataka during May-June 2014 revealed 48%

of high level of incidence (more than 25 plants per acre) among the surveyed estates. During the year, the South-west monsoon was very scanty with increased ambient temperatures which were congenial for the activity of the stem borer. Based on the feedback from the coffee growers community, the Board developed an action plan to tackle the WSB menace with components viz., catch & kill, gap / vacancy filling, community



nurseries etc., and submitted to the Ministry of Commerce & Industry, Government of India for approval.

The Government of India conveyed approval to the proposal of Coffee Board for Group Nursery and Vacancy Filling under the action programme to combat White Stem Borer in coffee during August 2014. The proposed programme is for a span of two years. Thus, the Board framed the modalities to implement the above programme effectively during 2014-15 and 2015-16. The details of the programme are as under:

Group Nursery

To implement the vacancy filling programme effectively in the White Stem Borer affected areas, Self Help Groups were identified in different Arabica growing zones of Karnataka and Tamil Nadu States to raise community coffee nurseries and distribute the seedlings to the needy members of SHGs and excess seedlings to other needy growers. The unit cost projected per seedling was ₹5/-. The scale of subsidy is 50% of the unit cost i.e., ₹2.50 per seedling.

Vacancy filling under

As a special provision, to mitigate the problems faced by the coffee growers due to white stem borer menace, financial support is extended for the gaps / vacancies filled during 2014-15 & 2015-16 planting seasons in Traditional Areas. All categories of growers including corporate and cooperatives are eligible for the support. The scale of subsidy is based on the total number of gaps / vacancies filled (subject to the condition of minimum of 25% vacancies in a block) in an estate and it should be converted in terms of area by considering the existing spacing adopted in that block and subsidy shall be calculated as per the norms of XII plan replantation sub-component

under the Component Development Support for Traditional Areas.

During the year, 34,34,405 and 10,00,000 seedlings were distributed to the growers of Karnataka and Tamil Nadu respectively for gap / vacancy filling at subsidized rate.

Digitization

Majority of the sub-components under the component “ Development Support for Coffee in Traditional Areas” and the component “ Support for Mechanization of Coffee Estate Operations involving the subsidy payments to majority of the coffee growers have been digitized fully and hosted in the Coffee Board’s website.

The components / sub-components covered under the software module are:

- a. Mechanization
- b. Re-plantation
- c. Expansion
- d. Water Augmentation
- e. Quality Upgradation
- f. Pollution abatement

B. Non-Traditional Areas [NTA] - (Andhra Pradesh & Odisha)

Coffee Board conducted a Techno-Feasibility Survey in the early 1950’s to identify areas suitable for coffee cultivation in the states of Andhra Pradesh (AP) and Odisha. Based on the recommendation in the survey report, the Forest Department of AP first started commercial coffee cultivation in the Agency areas of Visakhapatnam in 1961. These plantations were later handed over to Andhra Pradesh Forest Development Corporation Ltd., (APFDC) for maintenance. In 1976, the Integrated Tribal Development Agency



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(ITDA) introduced coffee as a development initiative for tribal groups to stop the practice of 'Podu' or shifting cultivation. Realizing the potential of coffee farming in Non-Traditional

Areas, Coffee Board executed its support for coffee development in Andhra Pradesh and Odisha from IX five year plan onwards.

Distribution of Area in NTA

The details of area under coffee and the number of holdings in Andhra Pradesh and Odisha are as under:

Liaison zone	Planted Area (Ha.)			Bearing Area (Ha.)			No. of holdings		
	Ar.	Rob	Total	Ar.	Rob	Total	< 10	> 10	Total
ANDHRA PRADESH									
Minumuluru	29423.23	0.52	29423.75	24177.43	0.52	24177.95	77014	1	77015
Chintapalli (E)	11401.58	181.4	11582.98	8862.23	181.4	9043.63	23411	2	23413
Chintapalli (W)	15636.33	85.29	15721.62	12757.49	85.29	12842.78	27110	2	27112
Arakuvalley	10627.6	0	10627.6	8979.6	0	8979.6	26344	1	26345
Total	67088.74	267.21	67355.95	54776.75	267.21	55043.96	153879	6	153885
ODISHA	4191.13	0	4191.13	3605.79	0	3605.79	3905	20	3925
Grand Total	71279.87	267.21	71547.08	58382.54	267.21	58649.75	157784	26	157810

Weather Conditions and Crop Production

In Andhra Pradesh, the weather was satisfactory and congenial for development of coffee during 2015-16 season. Blossom showers received during April 2015 followed by backing showers during May 2015 resulted in satisfactory blossom and fruit set. The southwest monsoon was set during June 2015 and was fairly active. The distribution of rainfall was satisfactory throughout the season facilitating the maintenance of soil moisture level satisfactorily.

In Odisha, the weather was satisfactory and congenial for development of coffee during 2015-16 season. Blossom showers were received during April 2015 in most of the coffee growing areas of Odisha. The coffee blossom was normal and crop set was healthy in the entire Zone. The monsoon was active during June 2015 and the distribution of rainfall was satisfactory throughout the season.

Considering the overall situation and the crop realization, the final estimates for 2015-16 for NTA was placed at 9,800 MT comprising of 9,750 MT of Arabica and 50 MT of Robusta.

Pest and Diseases

No major outbreak of pests and diseases was reported during the year 2015-16. Partial defoliation, death of twigs was noticed in the rust susceptible selections like Cauvery (SIn.12), SIn. 7, SIn.4 (A), SIn.4 (T). In Odisha, medium level of incidence of leaf rust was found in susceptible varieties like Cauvery.

Seed Coffee Distribution

A quantity of 8,006.5 kgs of different varieties of Arabica and Robusta seed coffee was procured and distributed to the tribal coffee growers and other agencies of Andhra Pradesh and Odisha during the year.



Extension Activities

The extension activities undertaken by the Extension Personnel of Andhra Pradesh and Odisha focused on transfer of technology through contact and follow-up visits to coffee holdings, conducting field demonstrations, group discussions, issue of advisory letters etc., for improvement in production, productivity and quality of coffee in the tribal sector.

The details of various extension activities carried out in Non-Traditional Areas during the year 2015-16 are as follows:

Sl. No.	Activities	Achievement (Nos.)
1	Estate visits (Nos.)	3,322
2	Method Demonstration (Nos.)	1,394
3	Group gatherings addressed (Nos.)	248
4	Study Tour to traditional coffee growing areas (Nos.)	36
5	Quality Awareness Campaigns (Nos.)	484

Technology Evaluation Centres (TECs)

There are two Technology Evaluation Centres (TECs) functioning in NTA, one at Minumuluru (Andhra Pradesh) and another at Koraput (Odisha). These farms continued to serve as Demonstration cum Training Centres apart from production centres for seed coffee.

Mini Coffee Curing Works

The Mini Coffee Curing Works established at Chintapalli in Andhra Pradesh during 2004-05 continued to process the raw coffee of the tribal growers of Andhra Pradesh.

Coffee Development programme in Non-Traditional Areas

The physical achievement under various subsidy subcomponents implemented in NTA for the year 2015-16 is furnished here under:

Activities	Area / Units
Coffee Expansion / Consolidation (Area in ha.) (AP : 4400.00 ha. + Odisha : 49.44 ha.)	4,449.44
Quality up-gradation	
a) Drying yard (No. of units) (AP: 1552 + Odisha : 70)	1,622
b) Baby pulpers (No. of units) (AP : 927 + Odisha: 10 units)	937

C. North Eastern Region (NER)

Coffee was introduced in Cachar district of Assam in the year 1953. The coffee expansion programme was initially taken up by the Corporations / Departments of the various states of North Eastern Region. As cultivation was encouraging, Coffee Board undertook a comprehensive survey during 1982-1990 and identified suitable areas for coffee cultivation in different states of NER. Thereafter, the Board involved directly in the implementation of coffee development programmes from IX Plan period (1997-2002) onwards.



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Distribution of Area:

The details of area under coffee and number of holdings in North Eastern States are as under:

Sl. No.	Liaison Zone/State	Planted Area (Ha.)			Bearing Area (Ha.)			No. of Holdings		
		Arabica	Robusta	Total	Arabica	Robusta	Total	<10 Ha.	>10 Ha.	Total
1	Arunachal Pradesh	13.00	240.40	253.40	0.00	153.50	153.50	226	2	228
2	Assam	726.62	392.17	1,118.79	387.75	318.72	706.47	1,226	3	1,229
3	Manipur	231.85	7.00	238.85	22.00	0.00	22.00	231	0	231
4	Meghalaya	408.79	500.89	909.68	281.65	257.85	539.50	1,496	0	1,496
5	Mizoram	2,196.06	3.50	2,199.56	667.65	3.50	671.15	4,013	3	4,016
6	Nagaland	1,637.55	212.50	1,850.05	600.00	50.00	650.00	1,601	1	1,602
7	Tripura	381.25	66.90	448.15	204.00	49.00	253.00	868	0	868
	Total	5,595.12	1,423.36	7,018.48	2,163.05	832.57	2,995.62	9,661	9	9,670

Weather conditions and Crop Production

The general climate in North Eastern States is mostly tropical and subtropical with distinct features experiencing long days, high rainfall, change in diurnal temperature etc. However, the rainfall in NER was not a limiting factor for coffee cultivation.

Pest and Diseases

In general, no major incidence of pest and disease was observed in the coffee estates of North East Region except low incidence of white stem borer and Leaf rust in some pockets.

Extension Activities

Sl. No.	Activities	Achievement (Nos.)
1	Estate visits	2,707
2	Method demonstration	1,385
3	Group gatherings addressed	234
4	Quality awareness Campaigns	73

Technology Evaluation Centres (TECs)

Four Technology Evaluation Centers continued to function in North Eastern Region at Deomali

(Arunachal Pradesh), Haflong (N.C. Hills, Assam), Bualpui (Mizoram) and Tulakona (Agartala, Tripura). The TEC, Bualpui in Mizoram continued to serve as demonstration cum training centre apart from production centre for seed coffee.

Support under Coffee Development Programme in North Eastern Region

During the year, the Board extended financial support for various activities viz., Expansion, Consolidation and Quality Up-gradation under Coffee Development Programme in North Eastern Region with an overall objective of improving the production and quality of coffee. The physical achievement with regard to the support extended for various activities in NER during the year are furnished hereunder:

Activities	Area / Units
Coffee Expansion (in ha.)	405.24
Consolidation of Coffee (in ha.)	81.2
Quality Up-gradation	
a. Pulpers (No. of Units)	-
b. Drying Yard (No. of Units)	66
c. Water Augmentation (No. of Units)	38



In addition to financial support extended for activities as indicated above, the Board also supported for raising and supply of coffee seedlings and shade tree saplings through group nurseries to facilitate coffee expansion and consolidation activities.

The Board continued to extend financial support under the market support sub-component to meet the cost of collection of raw coffee from the tribal growers, processing, transportation and disposal of coffee produced in North Eastern Region.

Mini Coffee Curing Works

The Mini Coffee Curing Works established by the Board at Bualpui continued to process the raw coffee pooled by the growers of Mizoram and Tripura states.

D. Capacity Building for Stakeholders

During the period under report, various training programmes were organized as a part of capacity building for stakeholders of coffee industry as detailed hereunder:

- ◆ Conducted 7 reach-out training programmes for 148 coffee growers of various coffee growing regions of the country and for Board's personnel in association with the Indian Institute of Plantation Management, Bengaluru. The key topics covered under the reach-out programme were (i) Emerging Coffee markets: Strategies for coffee planters/ SHG, (ii) Participatory Approaches to Extension Management for JLOs and (iii) Certified coffee for profitability & sustainability sector for SHG / planters / processors.
- ◆ Two Short Term Executive Programmes were conducted for 42 personnel of the Coffee Board by the Indian Institute of

Plantation Management, Bengaluru on (i) Applied Statistics for Scientists of CCRI and (ii) Extension Education for Diffusion of Innovation

- ◆ Training and skill building programmes on various aspects of coffee cultivation for the benefit of 5,913 coffee growers, estate workers and supervisory staff were conducted.
- ◆ Vocational training programmes for women were conducted for the benefit of 901 women growers / workers in association with Krishi Vigyan Kendras of Agricultural Universities / ICAR.
- ◆ Three training programmes of Kaapi Shastra and four training programmes on coffee roasting, grinding and retailing were conducted benefiting 53 and 91 beneficiaries respectively.

E. Interest Subsidy to Coffee Growers on Working Capital Loans

As a part of the development support scheme for coffee, the Board extended interest subsidy at the rate not exceeding 5% to growers owning up to 20 ha. for availing crop loans from Commercial Banks, RRB's and Cooperative Banks subject to the conditions that:

- i) the interest subsidy will be limited to a ceiling of ₹80,000.00 per Arabica coffee grower and ₹60,000.00 per Robusta coffee grower and
- ii) the interest rate after allowing interest subsidy should not be lower than 4%.

During the year, 1,102 growers got the benefit of interest subsidy to an extent of ₹136 lakhs.



CHAPTER – VI

MARKET DEVELOPMENT AND SUPPORT FOR PROCESSING

In order to enhance domestic coffee consumption in a robust domestic coffee market and with a view to offer better returns to the growers, especially, the small growers during periods of low international prices and to provide scope for value addition, the following two components were approved by the Government of India:

- A. Market Development
- B. Support for Value addition

A) Market Development

The Component has three sub-components viz.,

(i) Market Research & Intelligence; (ii) Domestic coffee promotion and (iii) Support to small grower collectives / SHGs / Cooperatives for coffee marketing.

(i) Market Research and Intelligence

The component focuses on providing analysis of market trends to growers through web and dissemination of same through the Extension network of the Board to enable the growers to achieve better price discovery in the market. The work carried out by the Market Intelligence Unit mainly covers the supply estimation by carrying annual crop estimation, analysis of market, maintenance of Database on Coffee, Domestic indicator price reports, Domestic consumption and attitude surveys and also carrying out periodical research reports.

(ii) Domestic Promotion

The Promotion Department of Coffee Board continued its activities of Promotion of Coffee during the year 2015-16 by participation in the reputed domestic events, popularizing Indian Coffee through print media and also through the promotional units spread out in various parts of the country.

Domestic Promotion Activities

The Board regularly participates in reputed domestic exhibitions which are conducted in various parts of the country by displaying different grades of coffee and making the public aware about the advantages of coffee drinking through publicity materials. Coffee Board is also making the people aware of career opportunities in the coffee sector.

The demand and trends of domestic coffee consumption are analyzed through periodic studies which provide us useful inputs to chalk out the marketing strategies and based on this, the Board identifies the areas and participates in such exhibitions. During the year 2015-16, the Board participated in 44 reputed exhibitions after identifying the potential areas to promote coffee drinking in North, East, West and South India.



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Details of Domestic Events participation during the year 2015-16 are appended below:

Sl. No.	Name of the event and Place where it is held	Date of event
1	Instant Food Expo at NIMHANS, Bengaluru	10 - 12 April 2015
2	Annual Flower Show, Ooty	15 - 17 May 2015
3	North East Summit 2015, Guwahati,	26 - 27 May 2015
4	Hospitality World 2015, Bengaluru, Karnataka	11 -13 June 2015
5	AgriIntex and International Trade Fair CODISSIA – Coimbatore, TN	17 -20 July 2015
6	11 th Food & Tech Expo 2014- - New Delhi	29 -31 July 2015
7	Banaras International Trade Fair 2015, Varanasi,	16 –23 Aug 2015
8	Aahar- International Food & Hospitality Fair, KTPO complex, EPIP Park, Bengaluru	18 –20 Aug 2015
9	14 th Food Tech India Expo 2015, Kolkata	21-23 Aug 2015
10	7 th India Foodex 2015, BIEC, Bengaluru	21 -23 Aug 2015
11	India Hospitality +F&B Pro Expo, Panaji, Goa	25-27 Aug 2015
12	PATA Travel Mart 2015, Bengaluru	06-08 Sept 2015
13	Annapoorna World of Food 2015, Mumbai,	14-16 Sept 2015
14	122 nd UPASI 2015 Coonoor, Tamilnadu	23-24 Sept 2015
15	KaapiSanthe 2015, ChitrakalaParishat, Bengaluru	25-27 Sept 2015
16	4 th Science Expo 2015, Daman & Diu	28 - 30 Sept 2015
17	International Coffee Festival 1 st October 2015	1 st Oct 2015
18	World Tea and Coffee, Guragoan, Mumbai	01-03 Oct 2015
19	SwasrayaBharath, Calicut, Kozhikode, Kerala	15-21 Oct 2015
20	Best of Indo Pak, Dehradun, UP	17-22 Oct 2015
21	Vibrant India -NNS Meri DilliUtsav, NDelhi	31 Oct – 02 Nov 2015
22	GujFood 2015, Ahmedabad, Gujarath	30 Oct – 02 Nov 2015
23	Global Agri-Connect 2015, New Delhi	02 - 03 Nov 2015
24	Bio Fach India 2015, Kochi, Kerala	05 - 07 Nov 2015
25	CII's Chandigarh Fair, Chandigarh	06 - 09 Nov 2015
26	IITF –ITPO event, New Delhi	14 - 27 Nov 2015
27	Krishi Mela –Bengaluru, Karnataka	19 - 22 Nov 2015
28	Infocom, 2015, Kolkata, West Bengal	03-05 Dec 2015
29	Upper Crust Food Show Mumbai	04 - 06 Dec 2015



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Sl. No.	Name of the event and Place where it is held	Date of event
30	PHD Intex 2015, Amritsar	04 - 07 Dec 2015
31	7 th Himalayan Expo, Siliguri, West Bengal	05 - 13 Dec 2015
32	ANNAM- National Biodiversity Expo, Cochin,	10 - 14 Dec 2015
33	Kreta Surakasha Mela, Kolkata, WB,	11 - 13 Dec 2015
34	National Convention on Risk Management, Bengaluru,	18 th Dec 2015
35	8 th Onattukara Festival 2015, Kerala	19 - 23 Dec 2015
36	3 rd Food & Health Expo, Bhopal, MP	29 - 31 Dec 2015
37	103 rd Indian Science Congress, Mysuru	06-08 Jan 2016
38	3 rd Assam International Agri-Horti Show, Guwahati, Assam	06-09 Jan 2016
39	Vintage Car Rally 2015, Kolkata, West Bengal	11 th Jan 2016
40	IICF 2016, Mumbai	19-23 Jan 2016
41	Invest Karnataka, Bengaluru	02-05 Feb 2016
42	Karnataka Utsav, Kolkata	12-14 Feb 2016
43	Karnataka Habba, Bengaluru	26-28 Feb 2016
44	Aahar – ITPO, New Delhi	15-19 Mar 2016

Media Strategy

Coffee consumption can be increased by spreading awareness about coffee and this is done through generic mass media campaigns like TV campaigns and print media campaigns, in the form of booklets, journals etc., and hence these campaigns are done effectively to spread awareness about coffee drinking. The Board has also released advertisements to draw the attention of the younger generation for making a career in coffee which has abundant openings to become a cupper, roaster or barista besides educating the consuming public on the positive aspects of coffee such as health messages e.g. coffee being an antioxidant, coffee helping in Type 2 diabetes and other health related messages in reputed magazines.

As a part of Domestic Promotion, Coffee Board has opened an exclusive **India Coffee House** outlet at the JNU campus, New Delhi during April-2015 to facilitate the Professors and students of this prestigious institution to inculcate the habit of coffee drinking; thereby promoting coffee in the Non-Traditional Areas.

India International Coffee Festival 2016 (IICF 2016)

The 6th edition of the India International Coffee Festival-2016 was held at Mumbai from 19th – 23rd January 2016 and was a testimony of increasing importance of our country in the coffee map of the world. With the 6th edition we can say with confidence that the India International Coffee Festival has also come of age. The festival was visited by 3,500 business visitors and over 270 coffee enthusiasts from across the country and the



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world. Over 45 exhibitors showcased the best and the latest in the coffee sector. The event ended with an optimistic note, with the participation of over 477 delegates at the International conference, with 44 national and international speakers and 70 enthusiastic participants as part of the skill building workshops. The festival was organized by the India Coffee Trust with the support of the Coffee Board. The Coffee Board distributed the Flavour of India – Fine Cup Awards for the years 2015 and the Export Awards for the years 2014-15 and released a new Coffee Table Book – ‘Coffee Break’.

Maja Wallengren, a freelance coffee journalist based in Mexico visited the Coffee Board of India

and the Indian Coffee plantations. She has written 4 articles on Indian Coffee in the *Tea and Coffee Trade journal* as well as in the *Global Coffee Report*. These activities have gone a long way in promoting Indian Coffee internationally.

Training Programmes Conducted under Quality Control Division

During 2015-16, Coffee Board organized a Short Term Training Programme on Barista Skills (Espresso Coffee Brewing Techniques), Kaapi Shastra training programmes and Reach out programmes in association with CIE-IIPM for development of entrepreneurship in the coffee sector.

Short Term Training Programmes on Barista Skills (Espresso Coffee Brewing Techniques)

Sl. No.	Venue	Particulars	No. of participants
1	Head Office, Bengaluru	5 days from 20 th to 24 th April 2015	14
Total			14

Kaapi Shastra Training Programmes

Sl. No.	Venue	Particulars	No. of participants
1	Head Office, Bengaluru	5 days from 20 th to 24 th July 2015	15
2	Head Office, Bengaluru	5 days from 10 th to 14 th Aug 2015	11
3	Head Office, Bengaluru	5 days from 7 th to 11 th Sept 2015	27
Total			53

CIE Training Programmes Outside

Sl. No.	Venue	Particulars	No. of participants
1	MPEDA House, Panampilly Avenue, Panampilly Nagar, Kochi.	3 days STEP training program by IIPM from 6 th to 8 th July 2015.	14
2	MSME-DEVELOPMENT INSTITUTE, GOI, Ministry of MSME, Ramanagar, Coimbatore	3 days STEP training program by IIPM from 28 th September to 1 st October 2015.	19



Sl. No.	Venue	Particulars	No. of participants
3	Maharashtra Centre for Entrepreneurship Development, Agricultural College Campus, Shivajinagar, Pune	3 days STEP training program by IIPM from 19 th to 21 st November 2015.	11
4 a)	Hotel Atithi, Near Santacruz Airport, Nehru Road, Vile Parle Mumbai	January 8 th 2016	33
b)	The Acres Banquest, Hemu Kalani Marg, Chembur, Mumbai.	January 9 th 2016	
c)	Hotel Krishna Palace Sleater Road, Nana Chowk Mumbai.	January 10 th 2016	
Total			77

(iii) Support to Small Grower Collectives / SHGs Cooperatives for Coffee Marketing

Coffee Board introduced a new sub-component in the XII Plan to support growers' collectives/ Self Help Groups/ Cooperatives of small and tiny growers by extending suitable financial incentives, for taking up marketing of coffee produced on community based approach. This not only helps to improve the quality of coffee but also realize better value for their coffees produced and marketed. The scheme provides a mechanism for better price realization for the group, arising out of both the improvement of quality as well as collective bargaining.

The coffee marketing under this component should be taken up through public auction platform like Indian Coffee Trade Association (ICTA) or direct export or through the recognized Commodity Exchanges wherein, physical delivery of coffee takes place and later furnish the claim to the Board for reimbursement. Coffee Board will provide the subsidy at ₹4.00 per kg. of clean coffee marketed.

B) Support for Value Addition

A Step in the Direction of Value Addition

In the world coffee chain hardly 40% of the coffee economy is in the producing countries while the remaining 60% is captured by consuming countries. Over the years consuming countries have improved the capabilities of processing, manufacturing and marketing coffee as an end product. Adoption of latest technologies in roasting, grinding and packaging is critical for the sustained development of coffee value chain and the market. Processing, packaging and marketing of coffee in the domestic market would also provide ample opportunities for employment generation especially through small and medium enterprises. As the modern technologies in the areas of coffee roasting, grinding and packaging are capital intensive; it inhibits the Small and Medium Enterprises (SMES) to venture into taking up coffee value addition activities. Therefore, it is found necessary to extend appropriate support to the entrepreneurs to acquire the suitable technology to manufacture and package good quality coffee powder.



Coffee Board is supporting R&G units and Coffee Curing Units by providing subsidy under XII plan scheme component 10: Support for Value Addition. The details are given below:

a) Support to R&G units

The main objective is to enhance quality of coffee product and achieve value addition through introduction of improved technologies in roasting, grinding and packaging which will result in boosting domestic coffee consumption and entrepreneurship in the coffee sector especially in the Non-Traditional Areas.

Individual units, Partnership firms, Self-Help-Groups (SHG)/ Growers' collectives/ co-operatives and corporates who are interested to establish coffee roasting units and also those proposing to modernize the existing units with new automated / energy savings / eco-friendly machinery.

- ◆ Large roasting units with a capacity of above 25 kg / batch are eligible for subsidy support of 25% of the machinery cost with a ceiling of ₹ 50 lakhs.
- ◆ The small roasting units with a capacity of less than 25 kg capacity are eligible for subsidy support of 35% of the machinery cost with a ceiling of ₹ 50 lakhs.
- ◆ For the SHG's, women entrepreneurs and SC/ ST beneficiaries, subsidy support is at 40% of the machinery cost with a ceiling of ₹ 50 lakhs.
- ◆ Small commercial gourmet roasting units with less than 10 kg capacity are eligible for subsidy support of 35% of the cost of the machinery with a maximum ceiling of ₹ 10 lakhs per unit.

The Components Eligible for Subsidy

New Units

The roasting, grinding and packaging machinery in any of the following combinations are eligible for subsidy

- a) Roasting machine, grinding machine and packaging machine.
- b) Roasting machine and packaging machine.
- c) Grinding machine and Packaging machine.

Existing Units

Replacement or upgrading of any one or all the machineries in the above combination for technology up gradation to improve quality with the condition that the subsidy should have been not availed for the same machinery in the same unit under XI plan. Packaging machine would be considered only when the roasting and grinding machine is already in existence.

During the year, 18 R & G units were inspected and subsidy was provided under the component.

b) Support for Coffee Curing Works

The main objective is to enhance the quality of coffee product and achieve value addition and efficiency through introduction of improved technologies in coffee processing at the curing stage and to fill the gap of skill deficit and improve consistency during the operations like color sorting, grading and drying etc.

All existing coffee curing works holding valid coffee curing license issued by Coffee Board of India are eligible for support irrespective of type of ownership.



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25% of the cost of the machinery purchased and installed subject to a ceiling of ₹ 50.00 lakh per Curing Work. The grant of subsidy at 25% of the machinery cost shall include the basic price, duties, Govt. levies (excluding Value added Tax), packing, transportation, insurance, installation and commissioning charges etc.

The machinery eligible for subsidy for upgrading the facilities at curing works are as follows:

Sl. No.	Eligible machinery
1	Pre-cleaner / Vibro Cleaner
2	De-stoner
3	Aspiration system for the De-stoner
4	Huller
5	Peeler cum polisher

6	Cascade aspirator
7	Vibro grader
8	Gravity Separator
9	On-line Silo Graded Coffee Handling System
10	Central Aspiration System
11	Colour sorting machine with accessories
12	Coffee Dryer
13	Husk Silo
14	Weighing & Bagging System
15	Bulking & Container Loading System
16	Moisture Meter

During the year, 2 curing units were inspected and subsidy was provided under the component.





CHAPTER – VII

EXPORT PROMOTION

Coffee Exports

Exporter Registration and Renewal

The total number of exporters registered with Coffee Board as on 31st March 2016 was 686 as against 607 on 31st March, 2015. This includes 79 new registrations for the year 2015-16.

Export Permits and ICO Certificate of Origin

Coffee Board is issuing Export Permit under Section 20 of Coffee Act for export of coffee. As per the norms of the International Coffee Organization, London, Coffee Board also issues Certificate of Origin for export of coffee to the registered exporters of coffee against the requests made by them in the prescribed application format.

Export: E-permit system

Export permits and ICO Certificate of Origin are being issued against the applications filed online at www.indiacoffee.org/permit. The facility of online filing of export permit and submission of return of confirmation of exports have been extended by providing User-ID and Password to all the registered exporters for both Indian and re-exported coffee.

A total of 11,051 export permits and ICO Certificates of Origin have been issued to 177 Registered Exporters of Coffee during the year 2015-16 as against 9,695 permits issued during 2014-15. Out of 11,051 permits, 9,361 permits were issued for export of Indian origin coffee and 1,690 permits were issued for re-export of coffee.

Interactions with Exporters

Meetings with Coffee Exporters and Exporters Association/ Specialty Coffee Association were held during the year. The meetings deliberated on the various stakeholders' issues relating to the Export Promotion Scheme, participation in the international events, trade fairs, quality issues, financial assistance etc. All the relevant issues were taken up with the Ministry for appropriate intervention and support.

Reports and Returns

Periodical reports and returns on coffee exports were generated and furnished to the Ministry and to the International Coffee Organization apart from dissemination of information to the exporting community to help in their activities. The main reports and returns that were generated during the period are as under:

- ◆ Daily report on export performance for Board's website and Board's Officers.
- ◆ Monthly reports to Ministry on destination-wise exports.
- ◆ Monthly reports to International Coffee Organization (ICO) on volume and value by destinations on preliminary exports of coffee.
- ◆ Statistical data to International Coffee Organization on monthly basis regarding the ICO Certificates of Origin issued for coffee exported from India.

Apart from the above, reports on exports - Exporter wise, Country wise, Type & Grade wise were generated.



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Exportable Types & Grades of Coffee

The details of exportable Types & Grades of Coffee identified by the Board according to the Coffee Quality improvement programme of International Coffee Organization (ICO) vide the

Resolution No.420 and subsequent modification in the existing standards of Monsooned Coffee as circulated vide MAR/EXP/33.B/2010-10/790 dated 18/08/2010 are as under:

Exportable Types and Grades of Coffee

Type	Premium Grades	Commercial Grades	Specialty Coffee
GREEN COFFEE Arabica Parchment (Plantation) (Washed Arabica)	PB Bold AA	PB, A,B, C*, Bulk.	Mysore Nuggets EB
Arabica Cherry (Unwashed Arabica)	PB Bold, AA, A.	PB, AB., C**, Bulk***	Monsooned Malabar AA Monsooned Basanally Arabica Triage#
Robusta Parchment (Washed Robusta)	PB Bold, A	PB, AB, C, Bulk	Robusta Kaapi Royale
Robusta Cherry (Unwashed Robusta)	PB Bold AAA. AA, A	PB, AB, C, Bulk, Clean Bulk	Monsooned Malabar Robusta AA Monsooned Malabar Robusta Triage#
Miscellaneous grades Liberia Excelsia		Bulk## Bulk##	
INSTANT COFFEE			
ROASTED COFFEE SEEDS			
ROASTED & GROUND COFFEE			

* Exception is available for Plantation-C as indicated in the description of equivalent given in the footnote of the ICO Resolution 407/420.

** Arabica Cherry 'C' should be free from Blacks, Browns and Bits.

*** Arabica Cherry Bulk should contain less than 10% Blacks, Browns and Bits.

Monsooned Arabica Triage and Monsooned Robusta Triage should be free from Blacks, Browns and Bits.

On same defect count as of Robusta.

Note : Moisture level 13.0 – 14.5% for Monsooned Coffees



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Coffee Exports

During 2015-16, export permits for export of 3,18,238 MT of coffee were issued (including 67,305 MT of re-exports) valued at ₹5,178.93 crores equivalent to US \$792.21 million with a unit value of ₹1,62,737 per MT. During the year 2014-15, export permits were issued for export of coffee to the tune of 2,86,516 MT valued at

₹4,946.52 crores equivalent to US\$ 809.98 million with a unit value of ₹1,72,644 per MT.

During 2015-16, export permits were issued for export of coffee to 108 countries as against 109 countries in the previous year, out of which Italy, Russian Federation, Germany, Belgium and Turkey were the top 5 importing countries.

Types of Coffee Exported - 2015-16

Types of Coffee	Quantity in MT	Percentage to total exports
Arabica Parchment	35,965	11.3
Arabica Cherry	10,830	3.4
Robusta Parchment	32,862	10.3
Robusta Cherry	1,42,497	44.8
Roasted Coffee Beans and Ground Coffee in GBE*	650	0.2
Instant/Soluble Coffee in GBE*	95,434	30.0
Total	3,18,238	100.0

*Green Bean Equivalent.

Note: Based on Export Permits Issued

Grade wise Details of Coffee Exports - 2015-16 [Provisional]

Sl. No.	Grade	Qty. in MT	Indian ₹ in Lakhs	US Dollar In Lakhs	Unit value ₹/tonne	Unit value USD/tonne
1	ARABICA CHERRY-A	255.33	494.73	7.56	1,93,759	2,961
2	ARABICA CHERRY-AA	210.14	408.15	6.2	1,94,228	2,950
3	ARABICA CHERRY-AB	3,992.01	6,637.6	102.98	1,66,272	2,580
4	ARABICA CHERRY-BULK	217.04	310.89	4.92	1,43,244	2,267
5	ARABICA CHERRY-C	520.34	601.18	9.13	1,15,545	1,755
6	ARABICA CHERRY-PB	75.6	138.24	2.15	1,82,857	2,844
7	ARABICA CHY-PB BOLD	9.5	23.93	0.36	2,51,895	3,789
8	INSTANT COFFEE	95,433.94	1,69,904.02	2,593.12	1,78,033	2,717
9	LIBERIA BULK	266.24	433.21	6.72	1,62,714	2,524

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Sl. No.	Grade	Qty. in MT	Indian ₹ in Lakhs	US Dollar In Lakhs	Unit value ₹/tonne	Unit value USD/tonne
10	MON. ARABICA TRIAGE	49.04	105.44	1.62	2,15,008	3,303
11	MONSOONED BASANALLY	261.74	574.48	8.73	2,19,485	3,335
12	MONSOONED MALABAR-AA	5,239.66	14,512.28	219.96	2,76,970	4,198
13	MONSOONED ROB-TRIAGE	10.00	12.43	0.20	1,24,300	2,000
14	MONSOONED ROBUSTA-AA	906.10	1,651.15	24.74	1,82,226	2,730
15	MYSORE NUGGETS-EB	1,754.09	4,772.84	72.53	2,72,098	4,135
16	PLANTATION-PB BOLD	7.98	23.48	0.37	2,94,236	4,637
17	PLANTATION-A	12,910.70	33,197.05	506.57	2,57,128	3,924
18	PLANTATION-AA	9,768.36	25,138.48	383.54	2,57,346	3,926
19	PLANTATION-B	7,040.22	14,512.99	221.17	2,06,144	3,142
20	PLANTATION-BULK	1,041.27	2,904.59	44.54	2,78,948	4,277
21	PLANTATION-C	2,427.84	3,931.03	60.02	1,61,915	2,472
22	PLANTATION-PB	1,013.91	1,904.59	28.50	1,87,846	2,811
23	ROASTED & GROUND COFFEE	519.22	1,816.4	28.05	3,49,834	5,402
24	ROASTED COFFEE SEEDS	130.82	398.63	6.18	3,04,714	4,724
25	ROBUSTA CHERRY AAA	4,140.98	5,369.08	81.90	1,29,657	1,978
26	ROBUSTA CHERRY-A	32,848.45	44,051.87	676.72	1,34,106	2,060
27	ROBUSTA CHERRY-AA	23,693.59	30,741.57	470.62	1,29,746	1,986
28	ROBUSTA CHERRY-AB	60,153.32	75,874.67	1,160.91	1,26,135	1,930
29	ROBUSTA CHERRY-BULK	3,012.78	3,645.29	56.08	1,20,994	1,861
30	ROBUSTA CHERRY-C	231.72	295.26	4.51	1,27,421	1,946
31	ROBUSTA CHERRY-PB	3,511.56	4,368.99	66.99	1,24,417	1,908
32	ROBUSTA CHY CLEAN BK.	13,722.45	16,711.93	255.96	1,21,785	1,865
33	ROBUSTA KAAPI ROYALE	7,883.33	12,599.11	193.31	1,59,820	2,452
34	ROBUSTA PARCHMENT-A	513.25	814.51	12.35	1,58,697	2,406
35	ROBUSTA PARCHMENT-AB	13,301.08	21,175.03	325.77	1,59,198	2,449
36	ROBUSTA PARCHMENT-C	1,422.65	1,919.45	29.55	1,34,921	2,077
37	ROBUSTA PARCHMENT-PB	1,961.64	2,934.70	45.37	1,49,604	2,313
38	ROBUSTA PMT.-BULK	7,741.53	12,911.35	201.08	1,66,780	2,597
39	ROBUSTA PMT.PB-BOLD	38.4	72.78	1.14	1,89,531	2,969
TOTAL		3,18,237.78	5,17,893.40	7,922.12	1,62,737	2,489



**Country wise Details of Coffee Exports during 2015-16
[Both Indian & Re-exported Coffee] [Provisional]**

Sl. No.	Country	Quantity In MT	Value ₹ Lakhs
1	ITALY	79,691.7	1,14,027.3
2	RUSSIAN FEDERATION	27,858.2	47,117.7
3	GERMANY	27,599.5	46,323.0
4	BELGIUM	16,599.9	30,585.5
5	TURKEY	14,306.7	24,331.8
6	SLOVENIA	10,885.8	13,465.1
7	JORDAN	10,076.4	21,830.2
8	AUSTRALIA	6,740.7	12,732.0
9	GREECE	6,645.6	8,614.0
10	POLAND	6,506.8	9,221.7
11	LIBERIA	6,383.4	8,511.9
12	SPAIN	6,296.9	8,196.9
13	MALAYSIA	5,957.1	8,533.1
14	U.S.A.	5,697.9	9,532.5
15	KUWAIT	5,546.5	11,999.4
16	UKRAINE	4,049.8	6,960.8
17	FINLAND	4,039.0	7,706.9
18	ISRAEL	3,991.1	5,667.3
19	FRANCE	3,889.2	7,302.0
20	SAUDI ARABIA	3,866.1	8,311.3
21	INDONESIA	3,651.9	5,340.7
22	PORTUGAL	3,417.9	4,149.7
23	TAIWAN (PROVINCE OF CHINA)	2,841.5	3,947.5
24	UNITED KINGDOM	2,658.3	4,935.7
25	SWITZERLAND	2,636.9	5,290.6
26	TUNISIA	2,384.4	2,901.8
27	KOREA, REPUBLIC OF	2,241.5	3,703.1
28	KOREA, PEOPLE'S R/O	2,182.5	2,819.3
29	MYANMAR	2,166.3	2,663.0
30	UNITED ARAB EMIRATES	2,080.8	4,933.8
31	MALI	1,882.9	4,047.0
32	EGYPT	1,693.1	2,384.8
33	MONTENEGRO	1,687.2	2,052.0
34	NIGER	1,662.7	3,592.5
35	SYRIAN ARAB REPUBLIC	1,636.3	2,194.1
36	ROMANIA	1,501.2	2,139.4
37	SINGAPORE	1,428.8	2,680.9

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Sl. No.	Country	Quantity In MT	Value ₹ Lakhs
38	JAPAN	1,275.5	2,593.6
39	NETHERLANDS	1,220.2	2,183.5
40	VIETNAM	1,207.7	1,591.9
41	BELARUS	1,171.7	2,080.5
42	BURKINA FASO	1,147.3	7,711.1
43	CANADA	1,044.4	1,428.8
44	SENEGAL	1,022.0	2,074.5
45	DENMARK	952.2	1,130.6
46	ALBANIA	943.2	1,249.0
47	NIGERIA	904.1	1,601.0
48	IRAN, ISLAMIC R/O	890.6	1,376.1
49	LATVIA	853.7	1,563.8
50	OMAN	802.1	1,335.1
51	TOGO	639.1	1,298.2
52	MOROCCO	598.8	731.2
53	ESTONIA	597.7	1,066.7
54	ALGERIA	574.7	713.4
55	BENIN	560.8	1,179.8
56	MAURITANIA	552.7	1,127.4
57	CROATIA	528.5	639.0
58	CHINA	429.0	616.1
59	SOUTH AFRICA	421.8	817.1
60	HUNGARY	394.1	529.7
61	BANGLADESH	353.9	652.5
62	CONGO.REP.OF	327.3	776.0
63	GEORGIA	314.3	597.6
64	LITHUANIA	300.0	501.5
65	TURKMENISTAN	285.5	574.4
66	NEW ZEALAND	280.3	477.0
67	NEPAL	263.7	1,017.4
68	NORWAY	257.0	515.5
69	AUSTRIA	232.5	288.6
70	GHANA	212.8	502.3
71	SWEDEN	181.1	445.7
72	CAMEROON	178.2	366.4
73	LEBANON	176.7	225.5



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Sl. No.	Country	Quantity In MT	Value ₹ Lakhs
74	CZECH REPUBLIC	156.2	358.6
75	QATAR	142.7	401.4
76	BOSNIA AND HERZEGOVINA	134.4	159.3
77	COTE D'IVOIRE	120.8	219.8
78	ARMENIA	117.4	230.6
79	IRAQ	116.7	226.3
80	KAZAKHSTAN	115.0	211.0
81	GAMBIA	102.4	218.7
82	BULGARIA	76.7	111.5
83	UZBEKISTAN	66.6	93.5
84	SRI LANKA	66.5	174.5
85	KENYA	63.3	108.4
86	GUINEA	58.0	126.1
87	EL SALVADOR	38.2	63.1
88	MOLDOVA	36.5	72.0
89	HONG KONG	36.2	89.9
90	TAHITI	33.7	66.4
91	DUBAI	32.2	93.2
92	MONGOLIA	30.6	49.6
93	PERU	24.0	29.3
94	BAHRAIN	22.5	77.1
95	CHAD	20.3	52.4
96	IRELAND	19.2	34.3
97	NEW CALEDONIA	19.2	30.3
98	SLOVAKIA	19.2	29.3
99	GABON	19.1	49.1
100	PAKISTAN	15.5	51.2
101	SEYCHELLES	12.1	39.2
102	FRENCH POLYNESIA	11.2	21.6
103	MALDIVES	10.2	29.8
104	SIERRA LEONE	9.4	20.4
105	CENTRAL AFRICAN REPU	9.0	22.7
106	THAILAND	5.2	7.7
107	TRINIDAD AND TOBAGO	0.0	0.1
108	KYRGYZSTAN	0.0	0.0
TOTAL		3,18,237.9	5,17,893.2

Note: Zero stands for less than a tonne / ₹ Lakhs

Country wise Details of Coffee Exports during 2015-16
[Re-Exported Coffee] [Provisional]

Sl. No.	Name of the country	Quantity In MT	Value ₹ Lakhs
1	RUSSIAN FEDERATION	18,943.7	32,174.6
2	TURKEY	13,102.6	22,496.0
3	MALAYSIA	3,226.7	4,527.6
4	U.S.A.	3,103.2	4,961.4
5	INDONESIA	2,977.5	4,239.8
6	FINLAND	2,347.4	4,759.5
7	MYANMAR	1,722.4	2,060.9
8	FRANCE	1,662.2	3,735.7
9	POLAND	1,543.9	2,165.3
10	NIGER	1,298.1	2,684.6
11	UKRAINE	1,214.7	2,118.9
12	MALI	1,135.1	2,483.2
13	BELARUS	1,121.6	2,011.1
14	TAIWAN (PROVINCE OF CHINA)	1,079.9	1,697.5
15	VIETNAM	993.2	1,285.0
16	GERMANY	987.6	1,415.6
17	SYRIAN ARAB REPUBLIC	912.1	1,224.1
18	SINGAPORE	837.3	1,387.6
19	BURKINA FASO	650.4	1,393.2
20	ITALY	636.4	1,580.8
21	LATVIA	617.9	1,093.1
22	NIGERIA	561.1	833.8
23	UNITED KINGDOM	517.0	1,084.0
24	JAPAN	480.0	834.8
25	TOGO	419.2	840.2
26	AUSTRALIA	410.7	973.5
27	SENEGAL	351.6	629.8
28	CHINA	323.7	472.9
29	KOREA, REPUBLIC OF	303.6	479.0
30	BELGIUM	295.8	475.3
31	ESTONIA	293.4	568.3
32	ROMANIA	257.5	404.9
33	SOUTH AFRICA	221.8	422.5
34	MAURITANIA	212.3	487.3
35	IRAN, ISLAMIC R/O	205.2	389.7
36	BENIN	192.6	377.3



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Sl. No.	Name of the country	Quantity In MT	Value ₹ Lakhs
37	SPAIN	183.5	296.2
38	LITHUANIA	151.8	209.3
39	KOREA, PEOPLE'S R/O	146.4	217.3
40	CONGO.REP.OF	137.9	317.6
41	CAMEROON	128.7	261.7
42	GHANA	128.7	276.4
43	COTE D'IVOIRE	120.8	219.8
44	GEORGIA	105.2	193.4
45	GAMBIA	90.7	197.4
46	KAZAKHSTAN	87.5	155.7
47	EGYPT	85.4	146.3
48	SAUDI ARABIA	68.1	108.7
49	KENYA	63.3	108.4
50	IRAQ	63.1	132.2
51	UNITED ARAB EMIRATES	50.7	83.8
52	TUNISIA	49.2	102.2
53	UZBEKISTAN	47.1	73.7
54	GUINEA	43.0	90.8
55	EL SALVADOR	38.2	63.1
56	TURKMENISTAN	38.1	76.8
57	BULGARIA	36.5	59.5
58	TAHITI	33.7	66.4
59	BANGLADESH	32.5	48.6
60	NETHERLANDS	31.8	109.0
61	MONGOLIA	30.6	49.6
62	HONG KONG	20.3	46.0
63	GREECE	19.5	43.1
64	ARMENIA	19.2	32.2
65	ALGERIA	17.9	45.7
66	CROATIA	17.9	29.9
67	PAKISTAN	14.3	47.0
68	FRENCH POLYNESIA	11.2	21.6
69	GABON	9.7	27.5
70	SIERRA LEONE	9.4	20.4
71	CENTRAL AFRICAN REPU	9.0	22.7
72	THAILAND	5.2	7.7
73	SRI LANKA	0.1	0.1
TOTAL		67,305.6	1,14,776.6



**Export of Specialty and Value Added Coffee 2015-16
[Both Indian and Re-Exported Coffee] [Provisional]**

SI.No.	Type of Coffee	Quantity In MT	Value ₹ Lakhs
1	Green Specialty Coffee	16,102	34,227.6
2	Soluble, Roasted & Ground Coffee	96,082	1,72,119.0
3	Green Coffee	2,06,054	3,11,546.4
Total		3,18,238	5,17,893.0

**Export of Coffee by Top 10 Exporters during 2015-16
[Both Indian & Re-Exported Coffee] [Provisional]**

SI. No.	Name of the Exporter M/s	Quantity In MT	Value ₹ Lakhs
1	CCL Products (India) Limited	36,920.5	63,841.2
2	Allanasons Private Limited	28,582.4	48,457.1
3	NKG India Coffee Private Limited	24,337.4	36,166.8
4	Tata Coffee Limited	23,625.4	41,762.8
5	Ruchi Soya Industries Limited	23,493.8	30,765.2
6	S.L.N. Coffee Private Limited	19,281.5	29,671.3
7	Olam Agro India Private Limited	19,083.9	29,690.3
8	ITC Limited	15,860.0	25,276.0
9	Coffee Day Global Limited	14,613.1	23,429.2
10	Nestle India Limited	12,129.5	21,282.8
11	Others	1,00,310.6	1,67,550.2
Total		3,18,238.1	5,17,892.9

Export Incentives

The Govt. of India conveyed vide letter No. 04/01/2013-Plant-B dated 18.12.2014 approval for providing Export Incentives for export of High Value Coffee and Value Added Coffee under the component "Export Promotion Scheme" under the Scheme "Integrated Coffee Development Project" for the XII Plan Period (2012-17).

The objective of the scheme is to maximize export earnings by enhancing the market share of value added coffees and high value differentiated coffees in important high value international markets.

The scheme is an ongoing scheme which commenced from XI Plan period and continued with revised modalities in the XII Plan and is hosted on Board's website.

Scale of Incentives

- i) ₹ 3/- per kg. for export of Value Added Coffees in retail consumer packs exported as 'India Brand', calculated on the Green Coffee utilized for its manufacture/ preparation at the maximum rate of 2.6 kg for Instant/Soluble coffee and 1.19 kgs for Roasted coffee seeds and R & G Coffees.



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- ii) An export incentive of ₹ 2/- per kg. for the export of High Value Green Coffees to far off high value markets viz., U.S.A., Canada, Japan, Australia, New Zealand, South Korea, Finland and Norway.

The physical and financial achievements under the two activities during the year 2015-16 are as follows:

Sl. No.	Components	Quantity in MT	Value in ₹ Lakhs
1.	Incentive extended for export of High Value Green Coffee to far off markets	11,723.08	229.80
2.	Incentive extended for export of Value Added Coffee in retail packs as India Brand	6,373.64	186.13
Total		18,096.72	415.93

Logos for Branding of Indian Coffee

Coffee Board of India continued to promote the export of value added coffees as India Brand and continued to strengthen the identity of Indian coffee through *Coffees of India* logos depicting Indian coffee as shade grown, sustainable and scintillating. This symbolically describes the fact that Indian coffee is shade grown and coffee growing regions in India are one of the 25 biodiversity hotspots of the world and also highlights the diversity of coffees grown in India.



Flavour of India 2015

A total of 40 coffee samples selected for the final round of cupping of 'Flavour of India-Fine Cup Award-Cupping Competition 2015' were judged by a panel of International Jury on 15th June 2015 at Gothenburg, Sweden prior to the SCAE World of Coffee Conference 2015 scheduled from 16th

to 18th June 2015 at Gothenburg, Sweden. The award ceremony was organized for the winners of Flavour of India 2015 at The Lalit, Mumbai alongside the IICF 2016.

Flavour of India 2016

The rules and regulations along with the application form of the Flavour of India- Fine Cup Award-Cupping Competition-2016 were printed and circulated. A total number of 232 coffee samples comprising of 142 Samples of Arabica and 90 samples of Robusta were received by 04th March 2016 from the various coffee growing regions. Coding of Samples-Arabica & Robusta coffee samples received for the cupping competition were coded by the Coding Committee by 07th March 2016. Physical assessment of samples - physical assessment of Arabica & Robusta Coffee samples was carried out under the supervision of DHCQ on 8th March 2016. Pre-jury cupping-Pre jury cupping of Arabica Coffee samples & Robusta Coffee samples was held under the supervision of DHCQ from 15th March 2016 to 17th March 2016.

National Barista Championship

From 2014 onwards, National Barista Championship (NBC) is being organized annually



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to identify the technically skilled and best Baristas in this profession and the competition mainly focuses on promoting excellence in coffee value chain, strengthen and encourage the skill development and also to promote café culture in India.

The Coffee Board also organized two days “Judges Training Workshop” on 15th and 16th October 2015 for the National Juries for their training and to understand the World Barista Championship (WBC) rules and regulations at Coffee Board Head Office, Bengaluru. The Coffee Board has invited the eminent Mr. Joe Hsu to train the jury members. 22 participants attended the workshop.

NBC was conducted following the rules and regulations of World Barista Championship. The competitors were judged upon 4 criteria: taste evaluation, beverage presentation, barista technique and personal presentation. NBC has two levels of competition i.e. Preliminary and Finals. The first preliminary round of the NBC 2016 competition was conducted from 06th to 08th December 2015 at Delhi Institute of Hotel Management & Catering Technology, Lajpatnagar, New Delhi to encourage the Baristas from the Northern Region. The second preliminary round was held at Coffee Board Premises Bengaluru from 20th to 22nd December 2015. The Semi-finals and finals of National Barista Championship was held at Coffee Board Premises, Bengaluru from 25th to 27th February, 2016. The event was inaugurated by the Chairperson, Coffee Board. Mr. Joe Hsu from Taiwan officiated as a Head Judge. Paras Bindra, was the winner of NBC 2016 who will be participating in World Barista Championship (WBC) which is going to be held in Dublin, Ireland on 22nd to 25th June 2016.

Coffee Board Awards

Export Awards

Coffee Board of India instituted the Export Awards in 1999-2000 in order to recognize and honor the best performance of Coffee exporters to motivate, encourage and maximize their export performance especially to key destinations, in value added segments like Specialty, Roasted and Soluble Coffees. During 2011, in addition to the Best Exporter & the Second Best Exporter, a third category of the award was also introduced as the Bronze award.

15th India Coffee Export Awards were held on 7th January, 2016 at Lalit Ashok, Bengaluru for the Export Performance of the financial year 2013-14 and 16th India Coffee Export Awards were held on 22nd January, 2016 along with India International Coffee Festival (IICF) at The Lalit, Mumbai for the Export Performance of the financial year 2014-15. The Awards given were Gold, Silver, Bronze in each category- viz., Green, Specialty, Instant/Soluble and Roasted Coffee; and for performance in each region – viz., USA & Canada, Europe, Russia and CIS, Middle East and North Africa (MENA) and Far East. Export Awards are being given based on the performance in terms of quantity exported by the exporter for all the categories, except in the case of Instant / Soluble Coffee and Roasted coffee where performance is considered in terms of value earned.

For the two years 2013-14 & 2014-15 put together, sixteen companies bagged 54 export awards. The highest number of Gold Awards were won by M/s CCL Products (India) Ltd., Hyderabad with Eight Golds, whereas the highest number of Awards were bagged by M/s Allanasons Ltd., Mumbai which bagged 9 Awards including 2 Gold and 7 Silver Awards.



The Sixteen companies who bagged 54 Export Awards are:

Sl. No.	Name of the Exporter M/s	Awards	Category
1	CCL Products (India) Limited, Hyderabad	Eight Gold Awards	<ul style="list-style-type: none"> • Best Exporter of Instant Coffee (2013-14 & 2014-15) • Best Exporter of coffee to Russia & CIS Countries (2013-14 & 2014-15) • Best Exporter of coffee to USA & Canada Region (2013-14 & 2014-15) • Best Exporter of coffee to Far East Region (2013-14 & 2014-15)
2	Allanasons Private Limited, Mumbai	Two Gold Awards Seven Silver Awards	<ul style="list-style-type: none"> • Best Exporter of Green Coffee (2013-14) • Best Exporter of coffee to MENA Region (2013-14) • Second Best Exporter of Specialty Coffee (2013-14 & 2014-15) • Second Best Exporter of coffee to USA & Canada (2013-14 & 2014-15) • Second Best Exporter of coffee to Europe (2013-14) • Second Best Exporter of Green Coffee (2014-15) • Second Best Exporter of coffee to MENA Region (2014-15)
3	I T C Limited, Secunderabad	Two Gold Awards Two Bronze Awards	<ul style="list-style-type: none"> • Best Exporter of Green Coffee (2014-15) • Best Exporter of coffee to Europe (2014-15) • Third Best Exporter of coffee to MENA Region (2014-15) • Third Best Exporter of Green Coffee (2013-14)
4	Aspinwall & Company Limited, Mangaluru	Two Gold Awards	<ul style="list-style-type: none"> • Best Exporter of Specialty Coffee (2013-14 & 2014-15)



Sl. No.	Name of the Exporter M/s	Awards	Category
5	Nestle India Limited, Gurgaon	One Gold Award Four Silver Awards One Bronze Awards	<ul style="list-style-type: none"> • Best Exporter of coffee to MENA Region (2014-15) • Second Best Exporter of Instant Coffee (2013-14 & 2014-15) • Second Best Exporter of coffee to Russia & CIS Countries (2013-14) • Second Best Exporter of coffee to MENA Region (2013-14) • Third Best Exporter of coffee to Russia & CIS Countries (2014-15)
6	Tata Coffee Limited, Bengaluru	One Gold Award Three Silver Awards Five Bronze Awards	<ul style="list-style-type: none"> • Best Exporter of Roasted Coffee Beans & Ground Coffee (2013-14) • Second Best Exporter of coffee to Far East Region (2013-14) • Second Best Exporter of Coffee to Russia & CIS Countries (2014-15) • Second Best Exporter of Roasted Coffee Beans & Ground Coffee (2014-15) • Third Best Exporter of Instant Coffee (2013-14 & 2014-15) • Third Best Exporter of coffee to Russia & CIS Countries (2013-14) • Third Best Exporter of Specialty Coffee (2014-15) • Third Best Exporter of coffee to Far East Region (2014-15)
7	N K G India Coffee Private Limited, Bengaluru	One Gold Award One Silver Award Two Bronze Awards	<ul style="list-style-type: none"> • Best Exporter of coffee to Europe (2013-14) • Second Best Exporter of Green Coffee (2013-14) • Third Best Exporter of Specialty Coffee (2013-14) • Third Best Exporter of coffee to Europe (2014-15)



Sl. No.	Name of the Exporter M/s	Awards	Category
8	Fresh & Honest Café Limited, Chennai	One Gold Award	• Best Exporter of Roasted Coffee Beans & Ground Coffee (2014-15)
9	Ruchi Soya Industries Limited, Mumbai	One Silver Award One Bronze Award	• Second Best Exporter of coffee to Europe (2014-15) • Third Best Exporter of Green Coffee (2014-15)
10	Vayhan Coffee Limited, Secunderabad	One Silver Award One Bronze Award	• Second Best Exporter of coffee to Far East Region (2014-15) • Third Best Exporter of coffee to Far East Region (2013-14)
11	Jay Keshav Exports Private Limited, Bengaluru	One Silver Award	• Second Best Exporter of Roasted Coffee Beans & Ground Coffee (2013-14)
12	Unilever India Exports Limited, Bengaluru	Two Bronze Awards	• Third Best Exporter of Roasted Coffee Beans & Ground Coffee (2013-14) • Third Best Exporter of coffee to USA & Canada. (2013-14)
13	Olam Enterprises India Limited, Bengaluru	One Bronze Award	• Third Best Exporter of coffee to MENA Region (2013-14)
14	Coffee Day Global Limited, Bengaluru	One Bronze Award	• Third Best Exporter of coffee to Europe (2013-14)
15	Louis Dreyfus Commodities India Private Limited, Bengaluru	One Bronze Award	• Third Best Exporter of coffee to USA & Canada (2014-15)
16	Cothas Coffee Company, Bengaluru	One Bronze Award	• Third Best Exporter of Roasted Coffee Beans & Ground Coffee (2014-15)

External Promotion

Under export promotion, the main activities carried out are centered around the following:

1. Regular participation in selected international food & beverages fairs, Coffee Conferences & Exhibitions etc., both directly and through the India Trade Promotion Organization (ITPO).
2. Giving visibility to 'Coffees of India' & Coffee Export Logo in the events to support India Branding.
3. Coffee Board and coffee industry also participate in India Shows organized with support of Ministry of Commerce to strengthen the international trade presence.



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4. Release of advertisements and articles in selected overseas coffee related trade journals. buyers, Indian exporters and Embassy officials.
5. Arranging coffee tasting sessions, buyer-seller meets etc., abroad involving foreign
6. Circulation of various publicity and promotional literatures, DVDs, Films etc., on Coffees of India in overseas events.

The Board participated in the following 12 overseas fairs as part of annual action plan for 2015-16.

Sl. No.	Name and Venue of the Event	Date of the Event
1 *	SCAA- 27 th Annual SCAA Exposition, Seattle, WA, USA	09-12 April 2015
2	Hannover Messe-Annual Global Exhibition, Hannover, Germany	13-17 April 2015
3	COFFEE EXPO 2015- International Coffee Industry Expo, Guangzhou, China	04-06 June, 2015
4	SCAE World of Coffee Event 2015 – Exhibition and Conference, Gothenburg, Sweden WITH FLAVOUR OF INDIA	16-18 June 2015
5	SCAJ World Specialty Coffee Conference & Exhibition 2015, Tokyo, Japan - WITH SPECIAL EVENT	September 30 – Oct 02, 2015
6	Anuga Food Fair, Cologne, Germany	10-14 October 2015
7	Host, Fieramilano-International Hospitality Exhibition Milan, Italy	23-27 October 2015
8	Seoul International Café Show, Seoul, Korea- WITH SPECIAL EVENT	12-15 November 2015
9	Gulf Food, Dubai, UAE - WITH BSM	21-25 February 2016
10	Ingredients Russia, Moscow, Russia	01-04 March 2016
11	Melbourne International Coffee Expo, Melbourne, Australia.	17-19 March 2016
12	NCA Annual Coffee Convention 2016, San Diego, CA, USA	17-19 March, 2016

*Participation through stakeholders





CHAPTER – VIII

MARKET RESEARCH & INTELLIGENCE

The Market Research & Intelligence Unit of the Board dealt with the following assignments during 2015-16.

- ◆ The unit continued to collect and compile daily market information (both global & India) related to prices, supply, demand and other fundamental and technical factors that are important for market analysis. The same were disseminated to the industry as well as to the Government. During the year 2015-16, a total of 246 daily market reports were generated and disseminated.
- ◆ Daily e-mail information service giving daily market analysis was continued during the period. The facility was extended to the growers via extension department and posted on the website www.indiacoffee.org.
- ◆ The Unit published three issues of Comprehensive 'Database on Coffee' for the months of June 2015, December 2015 and March 2016. The Database on coffee is useful for policy makers and stake holders.
- ◆ Crop estimations were carried out using stratified random sampling techniques across different category of holdings and coffee zones/regions for the season 2015-16 and 2016-17.
 - Post-monsoon estimate for 2015-16 was placed at 350,000 MT (Arabica: 107,800 MT and Robusta: 241,200 MT).
 - Final estimate for 2015-16 was placed at 348,000 MT (Arabica: 103,500MT and Robusta: 244,500 MT).
- ◆ The unit rendered economic and analytical support on WTO and trade policy matters related to coffee.
- ◆ The activities of the Export Section were coordinated by the unit.
- ◆ The Unit continued to be involved in the maintenance of the Board's website www.indiacoffee.org.
- ◆ The monthly "market watch" column in 'Indian Coffee' magazine was contributed by the unit.
- ◆ The unit provided weekly estimated indicator prices for all the grades of coffee to domestic auction centre, ICTA.
- ◆ The unit prepared pre-budget proposals for coffee for the year 2016-17 and submitted to the Government seeking extension of concessional customs duty for specified machinery for coffee plantation sector.
- ◆ The unit coordinated the activities for the production of short films and TVCs on Coffees of India and the project was awarded to M/s. NDTV. Shooting of the film and TVCs is in the final stages of production.
- ◆ The Rainfall Insurance Scheme for Coffee (RISC) was implemented during 2015-16 in Karnataka, Kerala and Tamil Nadu through Agriculture Insurance Company of India Ltd., involving different marketing firms. During 2015-16, only 236 coffee growers covering 751 ha. have participated in the scheme.



CHAPTER – IX

ACCOUNTS AND FINANCE

The Accounts and Finance department of the Coffee Board has the following functions:

- ◆ Drawing up budget estimates and allocation of budget to various departments of the Board.
- ◆ Liaison with the Finance Division of the Ministry of Commerce for release of funds etc.
- ◆ Compilation and maintenance of accounts of the various departments of the Board.
- ◆ Exercising effective control over cash and other financial transactions of the Board, so as to ensure cost efficient deployment of resources.

- ◆ Rendering advice on all matters having financial implications.
- ◆ Conducting Internal Audit of the offices of the Board.
- ◆ Dealing with pending issues of Pool Marketing like sales tax, payments etc.

The Board's accounts have been prepared in three sets viz., Receipts and Payments, Income and Expenditure and Balance Sheet. Details of Grants-in-aid received from Government of India in 2015-16 and the provisional expenditure under each head of account is given below:

(Rupees in crore)

Head of Account	Grants received	Provisional expenditure
Plan Grants-in-aid General	38.00	48.47**
Plan – Creation of Capital Assets (ONER)	2.00	2.09
Plan grants – Subsidy (ONER)	40.00	40.00
SC – Sub Plan	0.80	0.78
NER grants-in-general	10.99	10.99
NER Subsidy	4.00*	2.52
NER Creation of Capital Assets	0.01	0.01
Total Plan grants	95.80	104.86
Non-plan grants – in – aid - general	30.40	69.06**
Non-plan grants - Salary	16.14	
Total Non-plan grants	46.54	69.53

* ₹ 1.50 crore has been refunded to the Ministry due to shortage of subsidy claims

**The expenditure in excess of the release has been met out of IEBR.



Pension

The Pension Corpus of ₹82.44 crore has been invested in Nationalized Banks as per the Coffee Act, 1942. Total interest earned during the year was ₹7.22 crore. Pension payments to 2,755 pensioners and pensionary benefits to those who have retired during the financial year 2015-16 have been met from Non-plan grants.

There are 138 employees in the New Pension Scheme as of 31.03.2015 who joined the services of the Coffee Board after 01.01.2004.

Provident Fund

During the year, a sum of ₹ 7,58,85,185.00 has been received as PF subscription, of which a sum of ₹ 10,11,02,953.00 has been disbursed as advance/partial final withdrawals and final settlement of PF. Surplus fund of ₹ 32 crore has been deposited in various nationalized banks as per the Coffee Act, 1942.

Pool Fund

During the Coffee Pooling era, Pool Fund was raised from sale of coffee pooled by the planters

and the Board was responsible for marketing the pooled coffee and make payment to the planters. This activity involved maintenance of establishment for propaganda for promotion of coffee and for marketing of coffee for internal and international consumption. In 1995, the Board decided de-pooling of coffee which necessitated voluntary retirement of surplus staff engaged for pooling activities. Accordingly, the retirement benefits and the ex-gratia was met out of the Pool Fund and amount outstanding was transferred to Corpus Fund for utilization for payment of pension to the retired employees. The surplus pool funds of ₹5,60,00,000 only is invested in nationalized banks.

Audit Paras: Settlement of Pool fund paras during the year

There were 78 outstanding paragraphs pending settlement in inspection reports pertaining to Pool fund. Of which, 18 paragraphs were cleared based on the replies furnished and the remaining 60 paragraphs are pending as on 31.03.2016.



Physical Targets & Achievement of Plan Schemes during 2015-16

Sl. No.	Name of the schemes / programmes	Physical	
		Target	Achievement
I	R & D for Sustainable Coffee Production		
	Coffee Production in MTs	3,10,000	3,48,000
II	Transfer of Technology & Capacity Building Programme in coffee		
	a) No. of Estate visits	20,000	28,358
	b) Capacity building (No. of beneficiaries)	4,500	8,852
	c) Welfare support to labourers (Nos.)	6,000	6,717
III	Development Support in Traditional Areas		
	a) Re-plantation/Expansion(in ha.)	2,500	3,163
	b) Water augmentation, Quality up-gradation & Pollution Abatement (in Units)	3,800	6,329
	c) Interest subsidy (No. of beneficiaries)	1,000	1,102
IV	Coffee Development Programme in Non-Traditional Areas		
	i) Expansion / Consolidation (in ha.)	3,500	4,449
	ii) Pulpers / Drying yards (Nos.)	1,250	2,559
V	Coffee Development Programme in N.E. Region		
	i) Expansion/Consolidation(in ha.)	500	486.44
	ii) Pulpers/Drying yard/trays (Nos.)	200	66
VI	Rainfall Insurance Scheme for Coffee (RISC)		
	No. of small coffee growers proposed to cover with <10 ha.	500	236
VII	Support for Mechanisation of Coffee Estate Operations		
	No. of Machineries	7,500	7,539
VIII	Export Promotion		
	a) Coffee Exports (in MT)	2,65,000	3,18,238
	b) Export of value added coffee as Indian brands (in MT)	7,000	8,448
	c) Export of high value coffees to far off markets (in MT)	9,000	11,723
	d) Participation in Overseas trade fairs (nos.)	12	12
	e) Buyer-Seller meet	5	5
IX	Market Development		
	Domestic fairs (Nos.)	40	44
X	Support for Value Addition		
	a) R & G Units	28	18
	b) Modernization of Curing works	2	2



ABBREVIATIONS

AIC	Agriculture Insurance Company of India Ltd
BCRL	Bio-Control Research Laboratories
BIS	Bureau of Indian Standards
BIEC	Bengaluru International Exhibition Centre
BSM	Buyer Seller Meet
Bt	Bacillus thuringiensis
CODISSIA	Coimbatore District Small Scale Industries Association
cDNA	complementary DNA
CBB	Coffee Berry Borer
CCRI	Central Coffee Research Institute
CDRP	Coffee Debt Relief Package
CFC	Common Fund for Commodities
CIFC	Centro de Investigacao das Ferrugineus do Cafeeiro (Coffee Rust Research Centre)
CIE	Centre for Innovation and Entrepreneurship
CFU	Colony Forming Unit
CIS	Career Improvement Scheme
CRSS	Coffee Research Sub Station
CxR	Congensis x Robusta
CST	Central Sales Tax
DBT	Department of Biotechnology
DGFT	Director General of Foreign Trade
DNA	De-oxy-ribo Nucleic Acid
DVDs	Digital Video Discs
EU	European Union
EC	Emulsifying Concentration
FSSAI	Food Safety and Standards Authority of India
FYM	Farm Yard Manure
GBE	Green Bean Equivalent
HDT	Hybrido-De-Timor
IAP	Internal Audit Party
IAS	Indian Administrative Service
IARI	Indian Agricultural Research Institute
ICAR	Indian Council of Agricultural Research
ICH	India Coffee House
ICO	International Coffee Organization
ICTA	Indian Coffee Trade Association



IDAS	Indian Defence Accounts Service
INM	Integrated Nutrition Management
IPM	Integrated Pest Management
IICF	India International Coffee Festival
IIHR	Indian Institute of Horticulture Research
IIPM	Indian Institute of Plantation Management
ITDA	Integrated Tribal Development Agency
ITPO	India Trade Promotion Organization
IT	Information Technology
ITS	Indian Telecom Service
IEBR	Internal and Extra Budgetary Resources
JNU	Jawaharlal Nehru University
Kg/Ha.	Kilogram/Hectare
KGST	Kerala General Sales Tax
MACP	Modified Assured Career Progression
MFCS	Modified Flexible Complementary Scheme
MAS	Marker Assisted Selection
MENA	Middle East and North Africa
MPEDA	Marine Products Export Development Authority
MT	Metric Tonne
MTS	Multi Tasking Staff
MUTV	Multi Utility Tractor Vehicle
NBAII	National Bureau of Agriculturally Important Insects
NBC	National Barista Championship
NBSS & LUP	National Bureau of Soil Survey and Land Use Planning
NCA	National Coffee Association
NER	North Eastern Region
NIMHANS	National Institute of Mental Health and Neurosciences
NTA	Non-Traditional Areas
NPK	Nitrogen, Phosphorus, Potassium
NRCB	National Research Centre for Banana
PB	Pay Band
PCR	Polymerase Chain Reaction
PF	Provident Fund
PFA	Prevention of Food Adulteration
P & K	Phosphorus & Potassium
PSB	Phosphate Solubilizing Bacteria



PSFT	Price Stabilization Fund Trust
RCRS	Regional Coffee Research Station
RTI	Right to Information
RT PCR	Real Time Polymerase Chain Reaction
SC	Scheduled Caste
SCAA	Speciality Coffee Association of America
SCAE	Speciality Coffee Association of Europe
SCAR	Sequence Characterised Amplified Region
SEC	Socio Economic Class
SHG	Self Help Group
SIn	Selection
SLP	Special Leave Petition
SPAD	Soil Plant Analytical Development
SSP	Single Super Phosphate
ST	Scheduled Tribe
SRAP	Sequence Related Amplified Polymorphism
STAT	Sale Tax Appellate Tribunal
STEP	Short Term Executive Programme
RAPD	Randomly Amplified Polymer Polymorphic
R&D	Research & Development
RCMC	Registration Cum Membership Certificate
R&G	Roasted & Ground
RISC	Rainfall Insurance Scheme for Coffee
TEC	Technology Evaluation Centre
TVCs	Television Commercials
UAS	University of Agricultural Sciences
UNO	United Nations Organisation
UPASI	The United Planters' Association of Southern India
US cents/lb	US cents/pound
VAM	Vesicular Arbuscular Mycorrhiza
WA	Writ Appeal
WP	Wettable Powder
WSB	White Stem Borer
WBC	World Barista Championship
WTO	World Trade Organisation

