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Report Highlights:

FAS Mumbai (Post) forecasts marketing year (MY) 2023/2024 coffee production (October-September) at 5.8 million 60-kilogram bags. Deficit pre-monsoon rains (March-May) are expected to impact yields negatively as fruit setting drops significantly, especially for the arabica variety in the major growing regions. Farm gate prices have risen since the beginning of this marketing year due to the anticipation of lower-than-expected supplies. Post forecasts exports to rise by two percent to 6.3 million 60-kilogram bags thanks to strong export prospects. India's domestic consumption is forecast to decline marginally to 1.285 million 60-kilogram bags as a result of rising input costs including that of raw coffee beans. Carryover stocks will remain limited due to higher export volume.

COMMODITY

COFFEE, GREEN

Table 1: India: Commodity, Coffee, Green – Production, Supply and Distribution (PSD)

Coffee, Green	2021/2022		2022/2023		2023/2024	
Market Year Begins	Oct 2021		Oct 2022		Oct 2023	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted (1000 HA)	455	472	475	475	-	477
Area Harvested (1000 HA)	420	429	433	433	-	434
Bearing Trees (MILLION TREES)	542	542	548	548	-	550
Non-Bearing Trees (MILLION TREES)	103	103	97	97	-	95
Total Tree Population (MILLION TREES)	645	645	645	645	-	645
Beginning Stocks (1000 60 KG BAGS)	911	911	56	66	-	473
Arabica Production (1000 60 KG BAGS)	1,170	1,170	1,320	1,330	-	1,230
Robusta Production (1000 60 KG BAGS)	4,750	4,750	4,920	4,920	-	4,580
Other Production (1000 60 KG BAGS)	-	-	-	-	-	-
Total Production (1000 60 KG BAGS)	5,920	5,920	6,240	6,250	-	5,810
Bean Imports (1000 60 KG BAGS)	1,590	1,590	1,420	1,650	-	1,500
Roast & Ground Imports (1000 60 KG BAGS)	55	55	20	20	-	20
Soluble Imports (1000 60 KG BAGS)	50	50	70	32	-	30
Total Imports (1000 60 KG BAGS)	1,695	1,695	1,510	1,702	-	1,550
Total Supply (1000 60 KG BAGS)	**8,526**	**8,526**	**7,806**	**8,018**	**-**	**7,833**
Bean Exports (1000 60 KG BAGS)	4,920	4,920	4,170	4,170	-	4,250
Roast & Ground Exports (1000 60 KG BAGS)	10	10	5	5	-	6
Soluble Exports (1000 60 KG BAGS)	2,310	2,310	2,050	2,050	-	2,080
Total Exports (1000 60 KG BAGS)	7,240	7,240	6,225	6,225	-	6,336
Rst., Ground Dom. Consum (1000 60 KG BAGS)	340	350	400	400	-	400
Soluble Dom. Cons. (1000 60 KG BAGS)	890	870	920	920	-	885
Domestic Consumption (1000 60 KG BAGS)	1,230	1,220	1,320	1,320	-	1,285
Ending Stocks (1000 60 KG BAGS)	56	66	261	473	-	212
Total Distribution (1000 60 KG BAGS)	**8,526**	**8,526**	**7,806**	**8,018**	**-**	**7,833**
(1000 HA), (MILLION TREES), (1000 60 KG BAGS)						

CROP AREA

FAS Mumbai (Post) forecasts marketing year (MY) 2023/2024 (October-September) area planted at 477,000 hectares, with an area harvested of 434,000 hectares. Arabica coffee (*Coffea arabica)* bearing area is expected to reduce marginally (i.e., less than one percent), with expected yields dropping seven percent to 360 kilograms per hectare. With arabica coffee entering its 'off-year' in its biennial crop production cycle, fruit production will be lower this alternating year. Post anticipates robusta coffee (*Coffea robusta*) bearing area to increase by five percent, but yields are nonetheless still expected to come in lower by 11 percent at 1,200 kilograms per hectare. The drop in yield numbers in MY 2022/2023 compared to last year is attributed to poor pre-monsoon rains occurring in March-May 2023,

followed with the expectation of an average, normal southwest monsoon. Robusta coffee crop yields, nonetheless, are still arriving above both the three-year and five-year averages.

Table 2. India: Coffee Planted Area in the Major Production States (Hectares)

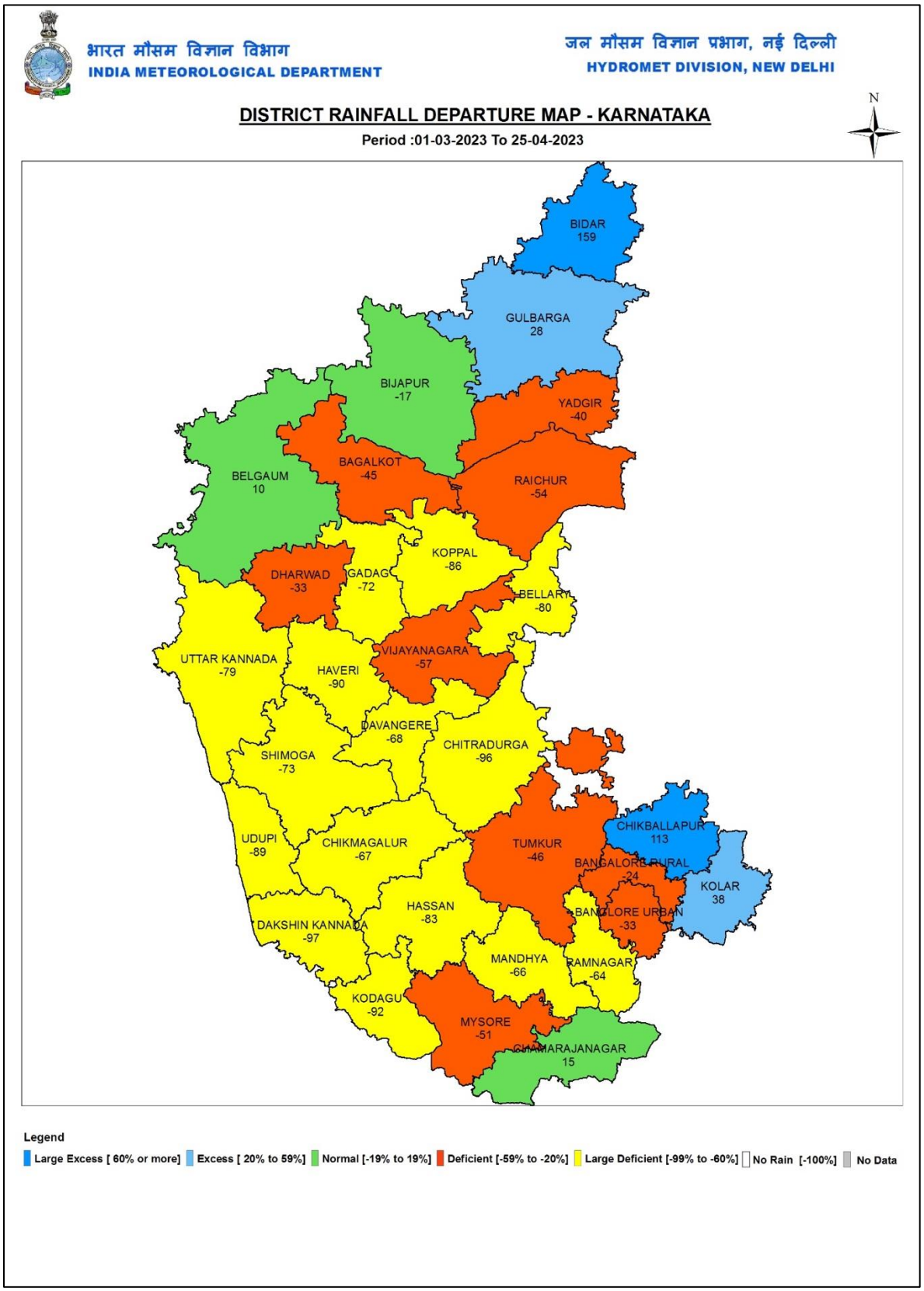
State	2019/2020			2020/2021			2021/2022		
	Arabica	**Robusta**	**TOTAL**	**Arabica**	**Robusta**	**TOTAL**	**Arabica**	**Robusta**	**TOTAL**
Karnataka	108,905	136,777	**245,682**	107,839	138,080	**245,919**	107,186	138,864	**246,050**
Kerala	4,231	81,649	**85,880**	4,231	81,649	**85,880**	4,231	81,649	**85,880**
Tamil Nadu	29,338	6,314	**35,652**	29,338	6,314	**35,652**	29,338	6,314	**35,652**
Andhra Pradesh	83,891	264	**84,155**	88,692	264	**88,956**	94,692	264	**94,956**
Odisha	4,276	-	**4,276**	4,339	-	**4,339**	4,424	-	**4,424**
Northeastern Region	2,545	1,540	**4,085**	2,882	1,737	**4,619**	2,882	1,813	**4,695**
TOTAL	233,186	226,544	**459,730**	237,321	228,044	**465,365**	242,753	228,904	**471,657**

Note: (*) Provisional.
Source: Coffee Board of India (Database – July 2022).

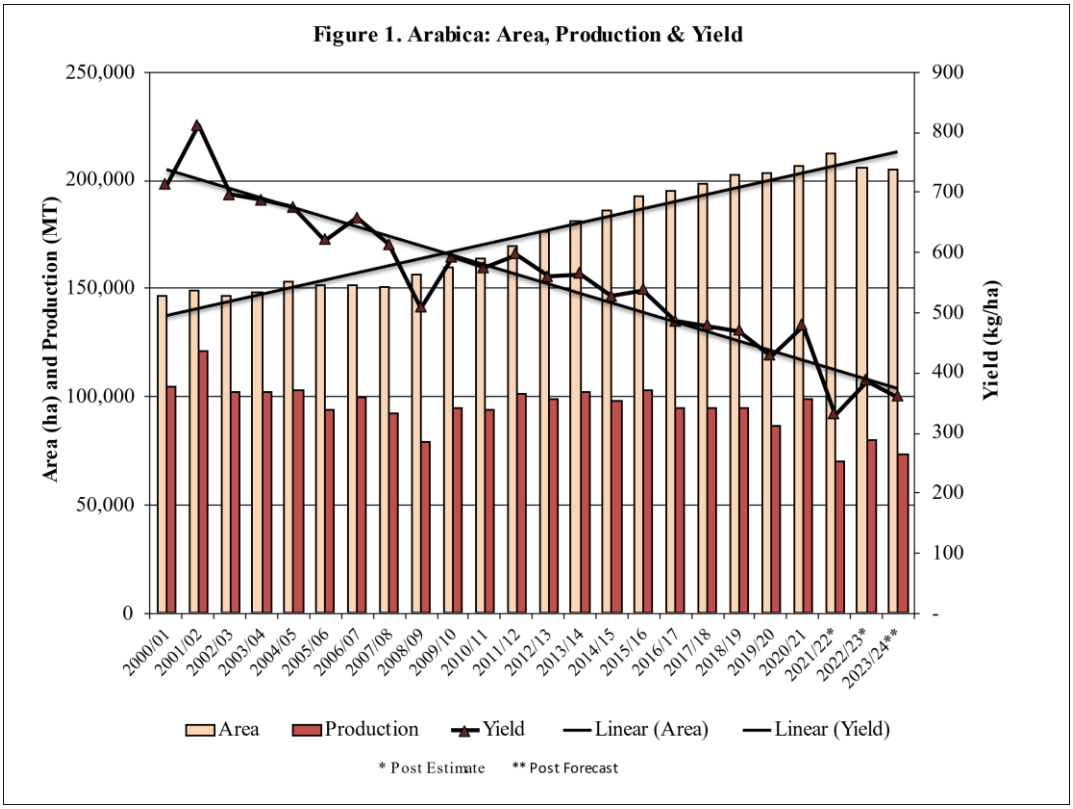
Table 3. India: Rainfall Statistics for Coffee Growing Regions in Karnataka and Kerala

State/District	Winter (Jan-Feb) 2023		Departure from Normal	Pre-Monsoon (Mar-May) 2023*		Departure from Normal
	Actual (mm)	**Normal (mm)**		**Actual (mm)**	**Normal (mm)**	
Karnataka						
Chikkamagaluru	4.1	5.7	-29%	20.7	63.6	-67%
Kodagu	12.1	10.1	20%	7.5	94.2	-92%
Hassan	-	5.8	-100%	10.2	61.0	-83%
STATE TOTAL	**0.8**	**4.9**	**-85%**	**20.8**	**37.4**	**-44%**
Kerala						
Wayanad	4.3	11	-61%	79.1	89.7	-12%
Travancore	21.6	26.7	-19%	143.8	171.3	-16%
Nelliampathies	4.8	11.2	-57%	31.1	90.2	-66%
STATE TOTAL	**15.1**	**21.1**	**-28%**	**63.3**	**119.5**	**-47%**

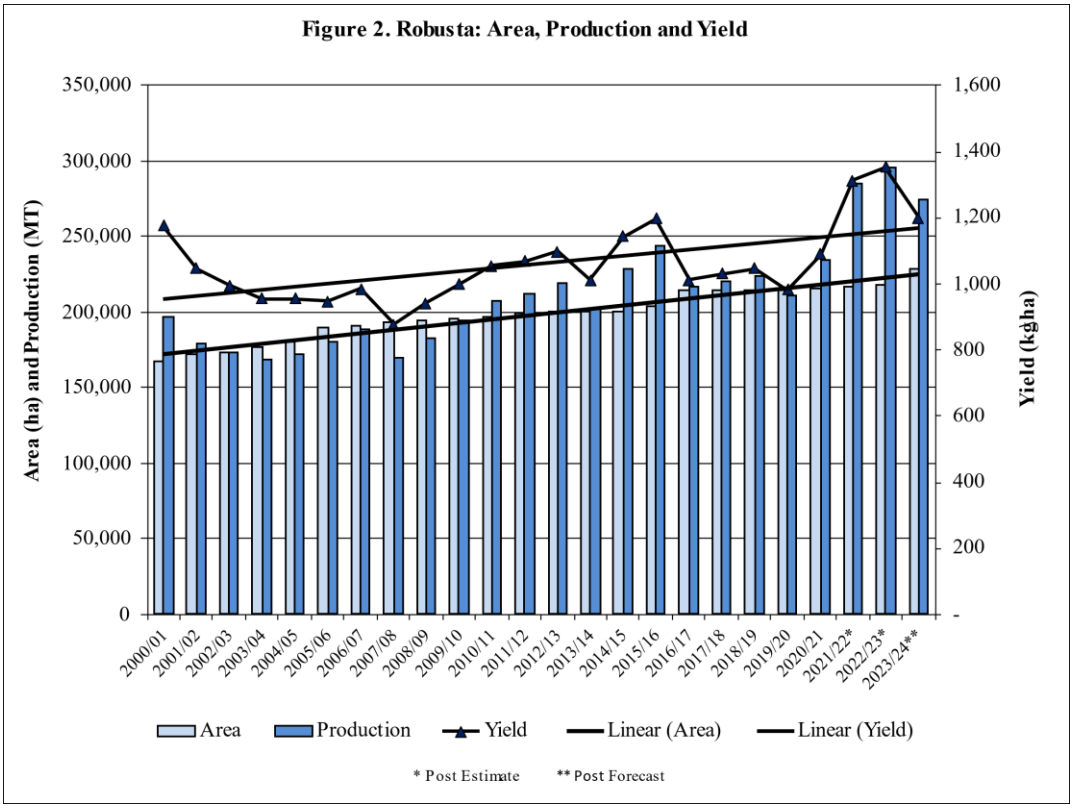
Note: (*) Rainfall data through April 26, 2023.
Source: Indian Meteorological Department, Government of India.



Source: India Metrological Department – Hydromet Division, New Delhi.



Source: Coffee Board of India (Database – July 2022).



Source: Coffee Board of India (Database – July 2022).

PRODUCTION

FAS Mumbai forecasts India's MY 2023/2024 coffee, green (i.e., arabica and robusta combined) production at 5.8 million 60-kilogram bags. Post foresees arabica coffee production at 1.23 million 60-kilogram bags or 73,800 metric tons (MT), while robusta coffee production is seen at 4.58 million 60-kilogram bags (274,800 MT). For MY 2022/2023, lower yields for arabica (down seven percent) and robusta (down 11 percent) coffee crops are expected compared to the previous market year. Lower yields are anticipated as a result of reduced alternating year fruit production in the case of arabica coffee, combined with poor pre-monsoon rains in March-May 2023, that followed the earlier prolonged dry spell that ran from last December 2022 through March 2023.

Post estimates India's MY 2022/2023 coffee production at 6.25 million 60-kilogram bags (375,000 MT). The Coffee Board of India has just published its post-monsoon MY 2022/2023 production estimates. It is estimating arabica coffee production estimated at 1.58 million 60-kilogram bags (~101,500 MT) and robusta coffee production at 4.11 million 60-kilogram bags (~246,600 MT). The Coffee Board forecasts, however, are made three times during the season – post-blossom (May-June), post-monsoon (October-November), and final (March-April). Trade sources report that the coffee board's post-monsoon forecast for arabica coffee is much higher than industry's own estimations, while robusta production should actually be higher. Post is not adopting the Coffee Board of India's current estimation as trade sources indicate further revision may be necessary and will be reflected in the final estimates.

Timing of India's Coffee Harvest: In India, the arabica coffee crop harvest normally takes place from November to January, while the robusta crop harvest runs December to February. This makes timely, rains in February and March crucial for realizing robust overall crop yields. This year's robusta crop is expected to produce less fruit compared to the previous year, which Post attributes to a deficit in rainfall and irrigation water availability. Robusta coffee is India's most popular coffee type, accounting for over 70 percent of the national coffee crop production.[1]

India's Coffee Production: Coffee in India is a silvi-horticulture (AGRO-forestry) crop. It is cultivated under a two-tier shade canopy; that is, a top canopy of permanent tree cover combined with a lower canopy of fast-growing temporary shade trees. This cultivation method generates microclimatic conditions highly favorable for coffee production. It also allows for intercropping, which is the growing of associated crops such as peppers and cardamom alongside coffee on the same plantation.

Arabica coffee plants are self-pollinating and are typically grown at higher elevations under rain-fed conditions. The plants are grown under shade to prevent variation in soil temperature and moisture levels, as well as for protection in case of heavy rainfall downpours. In India, there is two-tier shade for the arabica coffee crop. The higher canopy shade (about 10-12 meters high) is composed mostly of evergreen trees such as Indian rosewood and jackfruit trees, while Dadap (*Erythrina subumbrans*) and silver oak trees (at about 4-6 meters high) are used for the lower canopy shading. The leaf litter from these trees acts as soil cover, preventing the direct impact of rainwater and controls soil erosion. The planting space for the arabica coffee crop is 2 by 2 meters with an average of 3,000 plants per hectare.

[1] Higher yielding robusta coffee beans are used primarily in instant coffee, espresso, and as a filler in ground coffee blends. Low acidity and high bitterness, accompanied by a distinct woody and nutty taste characterize robusta coffee. It is an easy to care for crop requiring less herbicides and pesticides, and with higher yields and less susceptibility to disease than arabica coffee. Robusta also provides almost double the caffeine and more antioxidants than arabica coffee.

The planting space for the robusta coffee crop is 3 by 3 meters with approximately 460 plants per hectare. As the arabica variety is a deep-rooted plant, it can sustain itself during drought conditions. Whereas the robusta variety, with its shallow roots, requires irrigation throughout the season.

In India, about 80 percent of the arabica and 20 percent of robusta coffees are wet processed (parchment coffee) and the remaining volumes are dry processed (cherry coffee).[2] Wet processing of coffee consumes substantial amounts of water at the various processing stages when conventional pulper and washers are used, resulting in the generation of substantial amounts of effluent.

Table 4. India: Coffee Varieties Cultivated

Processing Method	Coffee Varieties Cultivated in India	
	Arabica	Robusta
Washed (wet processed)	Parchment/Plantation Coffee	Parchment
Unwashed (natural/dry processed)	Cherry	Cherry

Indian Meteorological Department (IMD) Reports a Rainfall Deficit: The coffee growing regions in southern Karnataka's interior received deficit rains throughout January-February 2023. This was followed by drier conditions during the pre-monsoon rains (known colloquially as the blossom showers); these showers provided limited moisture. Once the blossom showers end, plant flowering is complete. However, for the fruit to set, backing showers (i.e., received within 15-20 days after the blossom showers end) are crucial. The blossom showers, and backing rain showers, are critical aspects governing the coffee plant's flowering and productivity. Timely arrival of rainfall, and right intensity levels, are necessary to break the flower buds' dormancy stage. If rainfall is delayed, or weak, fruit setting drops significantly, negatively impacting yields. Limited water availability will also increase the possibility of crop failure.

Monsoon Patterns Disrupted, Production Impacted – Climate Change Evidenced: Coffee planters and agricultural researchers alike report growing concerns with the northeast (October-December) and the southwest monsoons' (June-September) rainfall patterns. Monsoon rainfall patterns are increasingly varying, impacting production and yields over the last three years. While rainfall has increased during the northeast monsoon, rainfall volume during the southwest monsoon has dropped. Increased rainfall in November-December is coinciding now much more closely with the arabica coffee harvest period. Rainfall downfall intensity is also increasing, damaging the standing coffee crop, while also hampering harvest operations. Unseasonal rainfall, along with higher temperatures, will damage and discolor coffee beans. Excessive rainfall will dislodge flowers and fruits. Heavy rainfall during the harvest will increase moisture levels, leading to greater proclivities for mold growth, disease, and excessive fruit fermentation, all of which may increase coffee bean defects.

INPUTS

Indian coffee production is a highly labor-intensive crop. It deals with multiple pickings/harvesting, pruning, drying, cleaning, and packing layers and requirements. India's hilly terrain limits the ability of coffee plantation farmers to adopt mechanization. Labor costs as a result constitute about 60 percent of

[2] In wet processing, ripe coffee fruit is placed in a fresh mill to remove the peel of the fruit. The coffee bean is the peeled fruit, whereas the husk is known as the parchment coffee. In order to remove the husk's viscous outer layer; the fruit goes through a soak and wash phase (wet processing).

the total cost of production. With rising labor costs, due to its limited availability, growers are reducing the number of berry pickings to one round, instead of the usual two or three pickings, as well as circumventing certain maintenance and drying operations.

Trade sources indicate that coffee plantations are ever more dependent on lower cost seasonal migrant labor, coming from India's lower income northeastern states. According to the Coffee Board of India's statistics, the general daily wage rate in Karnataka state rose by five percent in 2021. Similarly, wage rates increased by two and four percent in Kerala and Tamil Nadu states. Aside from high labor costs, prices for fertilizers, pesticides, and energy, along with government mandated benefits, have also risen. Due to increased costs, growers are not profiting much despite higher market prices.

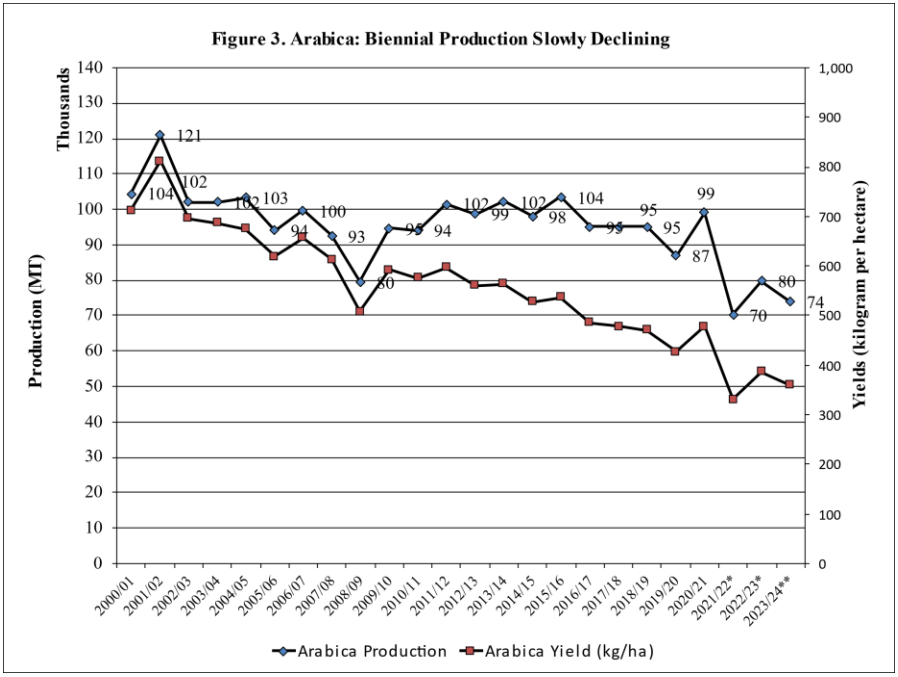
Table: 5. India: Permanent and Casual Labor Engaged in Coffee Cultivation

State	Est. Number
Karnataka	517,708
Kerala	44,194
Tamil Nadu	31,260
Non-Traditional Areas (Odisha and Andhra Pradesh)	77,780
TOTAL	**675,871**

Source: Coffee Board of India (Database – July 2022).

YIELDS

FAS Mumbai forecasts India's MY 2023/2024 arabica coffee yields to fall to 360 kilogram per hectare, a seven percent decrease from last year. Robusta yields foreseen at 1,200 kilograms per hectare, are set to also come in 11 percent lower than the previous market year. Post foresees arabica coffee yields set to continue witnessing a downward trend over time; the variety is more sensitive to temperature increases and vulnerable to climate induced upticks in pest infestations.



Farmers are seeking to adapt by shifting cultivation away from arabica to increased robusta plantings. Robusta is less susceptible to white stem borer pest infestation and leaf rust. The robusta coffee plant is also more economical to grow not just due its disease restraint traits, but also its demonstrated ability to survive a wider range of temperature fluctuation within the 18.5 to 36 degrees Celsius range. The robusta crop variety is also better suited to withstand harsh climatic changes, including major variations in rainfall and stronger, more intense sunlight. With rainfall pattern's increasingly being disrupted over the course of the past decade, arabica coffee cultivation has been migrating to higher altitudes.

CONSUMPTION

FAS Mumbai forecasts India's MY 2023/2024 domestic coffee consumption at 1.285 million 60-kilogram bags, down by just under three percent compared to MY 2022/2023 estimated 1.32 million bags. Post attributes the drop to a slowdown in demand being driven by higher coffee prices. Rising coffee prices are biting into consumers' wallets, curbing spending, and driving consumers to downgrade to more affordable at-home consumption options. Coffee prices in the short-term have been climbing upwards as a result of rising energy costs, which impact raw material processing costs and other expenses such as packaging, freight, and logistics. Post expects that household consumption of soluble coffee will constitute a much larger share (69 percent) of domestic consumption during the next year.

Strong sales since the COVID-19 pandemic have led regional coffee processors/retailers to pursue and expand their footprint in additional cities, while exploring new retail channels (other than traditional retail stores) with wider product offerings. Trade sources indicate that new investments are being made in retail channels, to include specialty cafes, kiosks, pop-up café, and café bookstores. Investment is targeted at consumers seeking to trade up, looking for premium/gourmet options with wider specialty offerings like espresso or instant, cold brews, functional coffees (including immunity boosting functional ingredients and botanicals), and flavored coffees. The emergence of specialty coffee shops, which roast specialized blends in smaller quantities, is helping to expand consumption along with consumer awareness of coffee varieties, processing and roasting methods, and styles.

TRADE

Exports: FAS Mumbai forecasts MY 2023/2024 exports at 6.33 million 60-kilogram bags (~380,000 MT), two percent higher than last year due to increased demand in major export markets. Post expects export demand to remain strong throughout MY 2023/2024, however trade sources do indicate that current prices are limiting international buyers from placing larger orders. Indian farmgate coffee prices are trading at decade high rates, driven by a global surge in international coffee prices due to supply issues. According to Coffee Board of India data, green bean prices for arabica parchment and robusta cherry have increased by nine and 24 percent, respectively, since the beginning of Indian marketing year in October 2022. Both varieties are trading well above International Coffee Organization (ICO) indicator prices. Both increases are a function of a crop shortages.

During the first four months (October 2022-Januanry 2023) of MY 2022/2023, Indian coffee exports fell by 24 percent and 74 percent in volume compared to the same period last year. Italy remains the major export destination for Indian coffee followed by Germany, Russia, and Belgium. Nonetheless, while India's coffee export market share for Italy, Germany and Belgium has reduced significantly, India's

export market share of Russia (primarily soluble coffee) has increased by 15 percent during the first four months of the marketing year.

According to preliminary data published by India's Ministry of Commerce and Industry, while coffee exports have reduced by volume, Indian coffee exports in March 2023 were 18 percent higher by value as compared to same period last year. Similarly, cumulative (April 2022 to March 2023) coffee exports were 12 percent higher as compared to similar period last year. The normalization of freight costs, weaker Indian rupee, along with availability of containers has supported exports.

Increasingly, international coffee processors/retailers are realizing that their branding is a critical component for coffee sales. International brands feel it is easier, much more economical, and safer to procure from the other existing manufacturers. International brands are increasingly partnering with Indian suppliers who can create new products for them, while outsourcing additional requirements. This has taken on increased relevance for European brands, that due to Russia's unprovoked war with Ukraine in 2022, witnessed surging energy prices along with supply chain and logistical disruptions. Indian suppliers are actively seeking to position themselves as better, more dependable long-term partners.

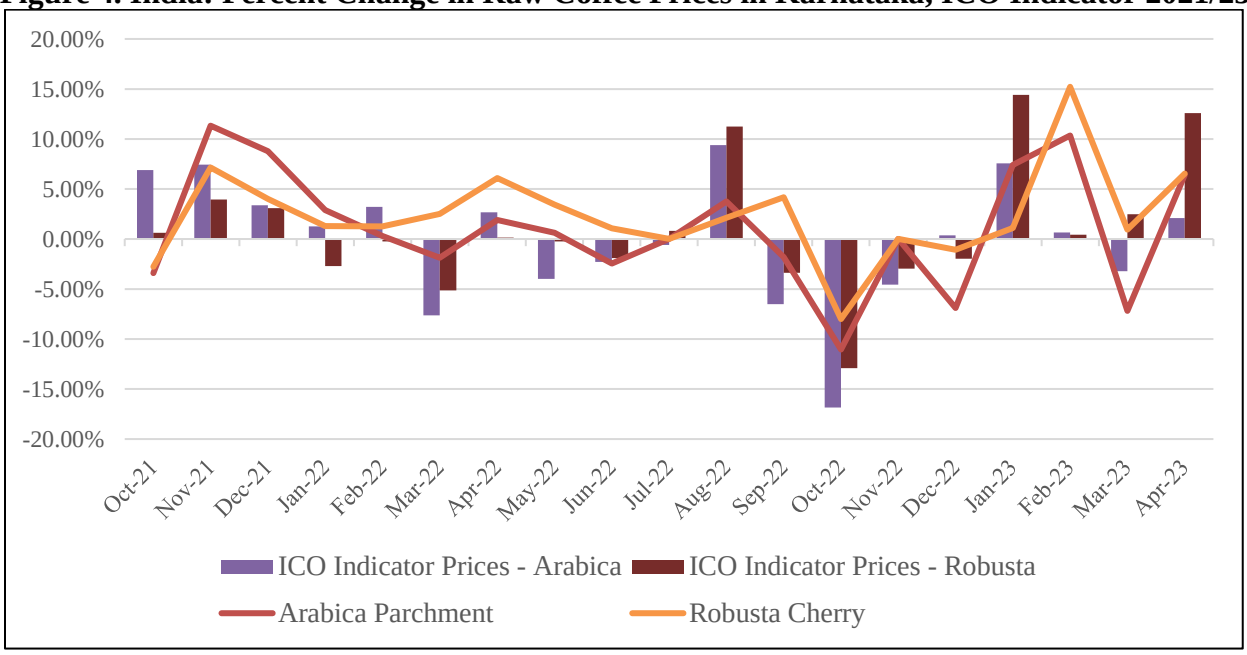
Imports: FAS Mumbai forecasts MY 2023/2024 imports at 1.55 million 60-kilogram bags (93,000 MT), a nine percent decline from last year. With some large Indian processors setting up and or adding capacity in Vietnam, imports for green beams for processing and re-exports will be lower. Trade sources inform that instant coffee plants are operating at near peak capacity. The upswing in processing is being fueled by higher instant coffee revenues being realized along with plantation operations' optimization. Post foresees soluble coffee exports increasing by two percent as the demand for instant coffee is expected to grow by between 2-2.5 percent in the long-term.

Imports of raw coffee green beans in the first four months (October 2022-January 2023) of MY 2022/2023 rose by 23 percent compared to the same period a year ago. Most imports are green beans (99 percent share) meant for processing and re-exports. Indonesia, Vietnam, Kenya, and Uganda are major green bean suppliers for the Indian market.

STOCKS

FAS Mumbai forecasts MY 2023/2024 carryover stocks at 473,000 60-kilogram bags (~28,000 MT), on strong domestic and export demand. India has no government-held stocks. Coffee bean stocks are held by growers and or traders. Trade sources indicate that current high coffee prices have led to limited stocks of robusta on the market. Processors are now augmenting supplies through imports. Post finds that MY 2022/2023 opening stocks at close to record lows, with the sparse number being driven by strong exports after major exporting countries faced supply issues.

Figure 4. India: Percent Change in Raw Coffee Prices in Karnataka, ICO Indicator 2021/23



Source: Coffee Board of India (Database – July 2022), International Coffee Organization (ICO) Daily Prices.

Table 6. India: Coffee Bean Retail Prices in Major Consuming Centers, INR/Kg

Year	Bengaluru		Chennai		Hyderabad	
	Arabica	Robusta	Arabica	Robusta	Arabica	Robusta
Average 2007	137	87	170	91	150	89
Average 2008	150	114	157	118	164	127
Average 2009	210	105	215	109	229	119
Average 2010	217	98	225	104	233	110
Average 2011	297	131	300	134	314	141
Average 2012	247	156	298	148	309	170
Average 2013	199	157	229	182	250	190
Average 2014	311	169	321	187	332	185
Average 2015	309	152	328	178	366	191
Average 2016	259	151	298	172	336	182
Average 2017	246	162	283	180	300	179
Average 2018	216	155	255	176	277	179
Average 2019	229	172	233	178	251	-
Average 2020	315	163	304	181	345	226
Average 2021	349	165	-	-	-	-
Average 2022*	441	198	-	-	-	-

1\ Exchange rate equals Indian rupees (INR) 81.95 per dollar as of April 26, 2023.
(Rupees/kg of clean coffee beans of arabica plantation A and robusta cherry AB).
Source: Coffee Board of India (Database – July 2022).
(*) Average prices based on January-May 2022 data.

Table 7. India: Uncured Coffee Bean Farm Gate Prices in Major Producing Centers, INR/50 Kg

Year	Chikamagalur		Sakaleshpur		Madikeri	
	Arabica	Robusta	Arabica	Robusta	Arabica	Robusta
Average 2009	6,752	1,869	6,418	1,872	6,459	1,929
Average 2010	6,949	1,940	6,894	1,821	6,966	1,870
Average 2011	10,144	2,663	10,151	2,606	10,061	2,600
Average 2012	7,984	3,000	8,053	3,036	8,046	3,036
Average 2013	6,393	2,945	6,411	2,956	6,473	3,056
Average 2014	10,011	3,399	9,952	3,728	9,805	3,349
Average 2015	9,116	2,962	9,047	2,978	9,302	3,041
Average 2016	8,118	3,018	8,224	3,051	8,210	3,035
Average 2017	7,897	3,436	7,933	3,404	7,955	3,454
Average 2018	6,828	3,180	6,896	3,173	6,909	3,223
Average 2019	7,349	3,258	7,344	3,221	7,273	3,196
Average 2020	9,968	3,234	9,782	3,202	9,951	3,210
Average 2021	11,303	3,219	11,619	3,275	11,558	3,497
Average 2022*	16,004	4,022	15,540	3,899	15,955	4,140

1\ Exchange rate equals Indian rupees (INR) 81.95 per dollar as of April 26, 2023.
(Rupees/kg of uncured coffee beans of arabica parchment and robusta cherry).
Source: Coffee Board of India (Database – July 2022).
(*) Average prices based on January-May 2022 data.

Table 8. India: Coffee Exports by Quantity (MT) MY October/September, Including Re-Exports

S No.	Destination	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
1	Italy	78,216	79,173	72,246	58,406	62,263	56,436
2	Germany	38,973	32,750	34,977	33,510	33,344	27,262
3	Belgium	15,639	19,092	18,741	22,592	27,963	18,671
4	Russia	29,604	23,180	25,096	20,579	21,040	17,443
5	Jordan	8,633	10,756	8,984	8,415	10,755	14,119
6	Turkey	17,746	16,055	11,274	10,105	8,037	12,605
7	UAE	2,068	3,099	2,801	3,003	6,188	9,322
8	Tunisia	3,129	2,623	-	-	-	8,978
9	USA	8,280	12,668	7,692	6,729	9,200	8,765
10	Poland	13,857	14,492	14,090	13,544	12,610	8,642
11	Malaysia	6,275	9,910	6,947	8,917	7,884	6,019
12	Libya	9,634	6,412	9,441	8,011	10,885	5,516
13	Spain	10,009	8,924	7,081	5,951	5,188	4,990
14	Greece	5,300	6,924	6,218	5,403	6,692	4,913
15	Others	108,359	112,049	106,704	90,253	112,371	88,735
TOTAL		**368,681**	**372,874**	**348,630**	**311,376**	**348,741**	**292,416**

Source: Coffee Board of India (Database – July 2022).

Attachments:

No Attachments