

DIAMOND



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DIAMOND

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# 13 Diamond

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**D**iamond has been the most valuable among gems for more than 2,000 years. Diamond occurs in two types of deposits primarily in igneous rocks of basic or ultrabasic composition and in alluvial deposits derived from the primary sources. Its composition is pure carbon and has cubic crystal system and common form octahedron. India is known for its diamond cutting & polishing business especially for small sized diamonds. Most of the world's business comes to India, particularly to Surat in Gujarat. Indian diamond industry handles 80% of the global polished diamond market. India depends largely on imports of rough gem diamonds for its cutting and polishing industry as there is only one producer in Madhya Pradesh and the production is negligible to meet the cutting and polishing industry's requirements. The cut and polished diamonds are re-exported. Being the hardest natural substance known, industrial variety diamonds are used in grinding, drilling, cutting and as polishing tool. In addition, diamond exhibits highest thermal conductivity amongst minerals and has high electrical resistivity making it suitable for application in semiconductors. The prices of gem diamonds depend upon their rarity, weight, quality, shape and flawlessness.

Diamond has a high refractive index and strong dispersion which gives it exciting brilliance when cut as a faceted stone. Gem diamonds are transparent and colourless or show faint shades of different colours. The transparent water-clear diamonds are known as "first water" or "blue-white". When yellowish or honey colour tinge is present, they are termed as off-colour stones. The industrial diamonds are dark brown in colour. Diamonds with green, blue or red shades are rare and attract higher price than the common varieties.

Flawless stones of good colour are employed in gem trade while off-colour, flawed & defective stones, chips & cuttings as well as small grains & dust are used in industry. Industrial grade diamond, i.e., diamond that does not meet gem quality standards in terms of colour, clarity, size or shape and those that are produced as a by-product of mining for gem diamonds continue to be used principally as abrasives in many applications despite their initial cost. Although diamond is more expensive than the other abrasive materials, it is more cost-effective in numerous industrial processes because it lasts longer than any other material.

Broadly, industrial diamonds have three varieties viz, 'ballas' which is mass of minute diamond crystals difficult to cleave, 'bort' is grey to black and massive, flawed or irregular in shape and 'carbonado' is black, opaque and without cleavage.

## RESOURCES

Diamond occurrences are reported since pre-historic times in the country. Presently, diamond fields of India are grouped into four regions:

- 1) South Indian tract of Andhra Pradesh, comprising parts of Anantapur, Cuddapah, Guntur, Krishna, Mahaboobnagar and Kurnool districts;
- 2) Central Indian tract of Madhya Pradesh, comprising Panna belt;
- 3) Behradin-Kodawali area in Raipur district and Tokapal, Dugapal, etc. areas in Bastar district of Chhattisgarh; and
- 4) Eastern Indian tract mostly of Odisha, lying between Mahanadi and Godavari valleys.

As per the UNFC system as on 1.4.2010, all India resources of diamond are placed at around 31.92 million carats. Out of these, 1.04 million carats are placed under reserves category and 30.88 million carats under remaining resources category. By grades, about 2.37% resources are of gem variety, 2.63% of industrial variety and bulk of the resources (95%) are placed under unclassified category. By states, Madhya Pradesh accounts for about 90.20% resources followed by Andhra Pradesh 5.71% and Chhattisgarh 4.08% (Table-1).

## EXPLORATION & DEVELOPMENT

GSI continued exploration activities for search of kimberlite, the source rock of diamond, in Andhra Pradesh, Karnataka, Chhattisgarh and Madhya Pradesh. Directorate of Geology, Odisha, explored areas in Nuapada district. Details of exploration activities by GSI and State Directorate of Geology, Odisha and Uttar Pradesh are furnished in Table - 2.

**Table -1 : Reserves/Resources of Diamond as on 1.4.2010**  
(By Grades/States)

(In carats)

State/Grades	Reserves				Remaining resources				Total resources (A+B)	
	Proved STD111	Probable STD121	Total (A) STD122	Feasibility STD211	Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334		
<b>All India:Total</b>	<b>1045318</b>	<b>-</b>	<b>1045318</b>	<b>-</b>	<b>304601</b>	<b>1524317</b>	<b>29047514</b>	<b>-</b>	<b>30876432</b>	<b>31921750</b>
<b>By Grades</b>										
Gem	-	-	-	-	158819	1017	596929	-	756765	756765
Industrial	-	-	-	-	41664	223	798936	-	840823	840823
Unclassified	1045318	-	1045318	-	104118	1523077	27651649	-	29278844	30324162
<b>By States</b>										
Andhra Pradesh	-	-	-	-	200483	1524317	98155	-	1822955	1822955
Chhattisgarh	-	-	-	-	-	-	1304000	-	1304000	1304000
Madhya Pradesh	1045318	-	1045318	-	104118	-	27645359	-	27749477	28794795

Figures rounded off.

DIAMOND

## DIAMOND

**Table-2: Details of Exploration Activities for Diamond, 2011-12**

Agency/ State/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
<b>GSI Andhra Pradesh</b> Mahaboobnagar Nalagonda & Ranga Reddy	Amangal & Bhirnanapali Block	Reconnaissance	stage investigations				The study area is a part of Eastern Dharwar Craton known for emplacement of several kimberlite pipes. Regional as well as detailed stream sediment sampling was carried out. Major heavy minerals identified include almandine, ilmenite, zircon, spinels and magnetite.
Nalagonda	Paluvagi Block	Reconnaissance	stage investigations				Paluvagi block exposes rocks of the Peninsular Gneisses Complex, which comprises of granodiorite and granite. Systematic stream sediment sampling was carried out. samples are being examined.
<b>Karnataka</b> Raichur	(Raichur (Kimberlite field)	Reconnaissance	stage investigations				Stream sediment samples were collected. Suspected Cr-diopside grains were recovered. Samples submitted for EPMA analysis.
Gulbarga		Reconnaissance	stage investigations				In parts of Raichur & Gulbarga districts survey was carried out as an additional item to search for kimberlites through indicator mineral survey and closed space geological traverses. Heavy mineral study for identification of kimberlite indicator minerals is under progress.
<b>Chhattisgarh</b> Bilaspur	Raigarh – Bilaspur Belt (Lormi, Khairadongri, Kosabari Sardha, Ghorabandha, Jhahpuri kalan, Achhanakmar, Pali, Nawagaon, Tingipur naka	Reconnaissance	stage investigations				Ground follow up of interpreted PGRS maps was carried out. Heavy mineral study of stream samples indicated the presence of garnet, ilmenite, spinel, zircon and other opaques. Four grains of garnet were identified as almandine garnets under SEM-EDX – Investigation has been completed. Regional ground evaluation of aerogeophysical anomalies in parts of Chhattisgarh initiated during FS 2009-10 were continued during 2010-12. Checking of deep seated interpreted faults and formational contacts against magnetic breaks and different lithounits from airborne spectrometric data, the suitable trap sites of nalas/streams, flowing along the fault zone/cuttings across the contacts of the basement and Gondwana/Chhattisgarh Super Group rocks. Twenty KCR indicator mineral grains (garnet and ilmenite) shows garnets 4.31% to 7.61% MgO, under SEM-EDX, which indicates possible occurrence of KCR bodies in the upstream side of sampling. Investigation has been completed.

(Contd.)

DIAMOND

Table - 2 (Contd.)

Agency/ State/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
<b>Madhya Pradesh</b> Chhatarpur, Sagar, Tikamgarh	-	-	-	-	-	-	Regional ground evaluation of Aero-geophysical anomalies (G-4) was continued to delineate priority block to locate possible KCR bodies and other type of mineralisation. Study of stream samples from the area indicated three grains of chromite bearing diopside. Cr <sub>2</sub> O <sub>3</sub> 0.96% to 1.15%. The elemental concentration obtained by EDX study revealed the chromite bearing diopside. This confirms the possible presence of source rock in an area of about 1.5 sq km. Further work did not indicate presence of KCR/body (item has been completed).
<b>Uttar Pradesh</b> Lalitpur	Village Bant	1:10,000 17 line Geophysical mapping	-	-	-	1 trench (100 cu m) 808 Geo- chemical samples.	-----
<b>Directorate of Geology Odisha</b> Nuapada	Durrimunda	1:2,000	0.5	-	-	14 no.of trenches	Two lamproite bodies of 400 m strike length with width varying from 0.3 m to 3 m have been delineated. Scanning of bulk samples of Durrimunda area was in progress.
-do-	Supuli Valley	-	-	-	-	-	Scanning of bulk samples of Supuli valley area was under progress to ascertain the diamond incidences.

## PRODUCTION & STOCKS

Production of diamond at 18,489 carats in 2011-12 as against 11,222 carats in the previous year showed a rise of 65%. There were two operating mines, both in public sector located in Panna district of Madhya Pradesh. The mine operated by NMDC Ltd contributed almost entire production of diamond and a very small quantity of production was reported by the mine operated by Department of Geology and Mining, Government of Madhya Pradesh.

Out of the total output, gem variety constituted 8% and the remaining 92% was of off-colour and dark brown varieties of industrial grade (Tables 3 to 5).

Mine- head stocks at the end of 2011-12 were 5,321 carats as against 1,953 carats at the beginning of the year (Table-6).

The average daily employment of labour during 2011-12 was 167 as against 163 in the previous year.

DIAMOND

**Table – 3 : Producer of Diamond, 2011-12**

Name & address of producer	Location of Mine	
	State	District
National Mineral Development Corporation Ltd 10-3-311-/A, Castle Hills, Masab Tank, Hyderabad-500 028, Andhra Pradesh.	Madhya Pradesh	Panna
Directorate of Geology & Mining, Government of Madhya Pradesh, Khanij Bhavan, 29-A, Arera Hill, Bhopal - 462 016, Madhya Pradesh.	Madhya Pradesh	Panna

**Table – 4 : Production of Diamond, 2009-10 to 2011-12  
(By State)**

(Quantity in carats; value in ₹'000)

State	2009-10		2010-11		2011-12 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>India</b>	<b>16891</b>	<b>116279</b>	<b>11222</b>	<b>106776</b>	<b>18489</b>	<b>198242</b>
Madhya Pradesh	16891	116279	11222	106776	18489	198242

**Table – 5 : Production of Diamond, 2010-11 to 2011-12  
(By Sector/State/District/Grades)**

(Quantity in carats; value in ₹'000)

State/District	No. of mines	2010-11				2011-12(P)				
		Quantity			Value	No. of mines	Quantity			Value
		Gem (rough & uncut)	Industrial*	Total			Gem (rough & uncut)	Industrial*	Total	
<b>India</b>	<b>2</b>	<b>899</b>	<b>10323</b>	<b>11222</b>	<b>106776</b>	<b>2</b>	<b>1479</b>	<b>17010</b>	<b>18489</b>	<b>198242</b>
Public sector	2	899	10323	11222	106776	2	1479	17010	18489	198242
<b>Madhya Pradesh</b>	<b>2</b>	<b>899</b>	<b>10323</b>	<b>11222</b>	<b>106776</b>	<b>2</b>	<b>1479</b>	<b>17010</b>	<b>18489</b>	<b>198242</b>
Panna	2	899	10323	11222	106776	2	1479	17010	18489	198242

\* Includes off-colour and dark-brown varieties of diamond.

**Table – 6 : Mine-head Stocks of Diamond, 2011-12 (P)  
(By State)**

(In carats)

State	At the beginning of the year	At the end of the year
<b>India</b>	<b>1953</b>	<b>5321</b>
Madhya Pradesh	1953	5321

## MINING & PROCESSING

Majhgawan in Madhya Pradesh is a fully mechanised mine operated by National Mineral Development Corporation Ltd,. It is worked by opencast method in tuff rock by deploying 4.1 cu m hydraulic shovel and 40-tonne dumpers in combination. The mine benches have been designed with a height of about 10 m. Few benches are of 4-5 m height too. Drilling is done by 4-inch diameter drills and charged with slurry explosives, and about 40-50 holes are blasted at a time with delay pattern. The capacity of the mine is about 30,000 carats per year. Diamonds are also recovered from conglomerate and gravel beds at shallow depths by small operations on the basis of annual permits granted by Diamond Officer, Government of Madhya Pradesh. At Majhgawan, kimberlite rock after mining is stock piled for weathering action and then is fed to crushing plant. It is processed through Heavy Media Separation System in processing plant for recovery of diamond. Recently, X-ray diamond sorter has been installed for sorting of diamonds from ore by which recovery of raw diamonds has increased to 98%.

### Diamond Mining Factors

**Grade:** Grade is the weight of diamond expressed as carats per tonne (ct/t) of ore. It varies widely from one mine to another but generally falls somewhere between 0.3 and 1.3 ct/t. One carat is equivalent to 0.2 grams.

**Size (weight) of rough diamonds in deposit:** Individually, rough diamonds can range from microweight to stones weighing more than 1,000 carats. Depending on the mine, the average size of rough diamond recovered can weigh from 0.01 ct (about 1 mm) to more than 0.7 ct. Many mines in the world show on an average about 0.4 to 0.5 ct per stone. It is interesting to note that the number of stones larger than 2 ct (0.4 g) produced at mines are very small (about 400,000 stones per year).

## INDUSTRY

Indian diamond industry enjoys respect and credibility in the world market, particularly for small diamonds used in jewellery. Indian diamond manufacturing standards are reckoned as the best in the world. Indian artisans can polish small diamonds economically and efficiently. India may become a Trading Centre for rough and polished diamonds in near future. Surat in Gujarat is the main centre of the cutting and polishing industry.

There are over 10,000 diamond processing units in Surat. Most of them now use computerised cutting machines. With 800,000 strong workforce and deployment of the latest technology, India continues to be the dominant player in the world diamond cutting and polishing industry. According to India's Gem & Jewellery Export Promotion Council (GJEPC), India has further strengthened its world dominance.

India is maintaining its leading position in the world market because of the combination of pragmatic policies of the Government and sustained efforts of exporters. Policy changes, such as, creation of Special Economic Zones (SEZ) will boost the export performance further. Several diamond polishing companies have already established offices in India for trading in rough and polished diamonds. India obtains rough diamonds from Belgium, UK, Hong Kong, UAE, Israel, etc. Indian diamond traders seek opportunities to establish direct trade ties with mining countries and companies. The Indian diamond industry is looking for more supply of rough diamonds at competitive rates directly from the producers to maintain its lead in the world market.

## CONSUMPTION

Industrial diamonds are mostly consumed by manufacturers of drill bits, grinding tools and stone cutting and polishing machines. Though many small-scale sector units operate in cutting and polishing trade, it is difficult to get a reliable data on consumption of industrial diamonds. Demand of industrial diamonds is mostly met by imports.

## SUBSTITUTES

### Synthetic Diamond

Today, market for industrial diamond is dominated by synthetic stones, first developed in 1950s. Synthetic diamonds, manufactured using high pressure and high temperature methods compete as an abrasive mineral with natural industrial diamonds and also with manufactured materials like silicon carbide (SiC), alumina (Al<sub>2</sub>O<sub>3</sub>), tungsten carbide (WC) and carbide boron nitrate (CBN). Synthetic diamonds being marketed are mostly 0.6 - 0.8 mm and smaller in size. Synthetic Diamond Abrasives (SDA) are used for sawing, drilling or milling hard stones, concrete aggregate, refractory materials, masonry and asphalt. In general, large crystals are used for cutting softer materials and smaller crystals for tougher jobs. Synthetic diamonds now account for bulk supply of industrial diamonds and are preferred over natural diamonds because their quality can be controlled to suit customer's requirements.

## DIAMOND

Synthetic diamonds were produced earlier by using graphite with a metal catalyst under very high pressure & temperature.

A process which needs relatively low pressure for production of synthetic diamonds is chemical vapour deposition (CVD). This process involves depositing tiny crystals of diamond on a film which can be built in complicated shapes and used at desired places or instruments such as machine part, heat conductors in micro circuit, shortwave UV, microwave sources and radiation detectors. In future, CVD can be a substitute for silicon in computer industry. In USA, developments have taken place in CVD method of growing 100% pure diamond using microwave plasma technology to make this method more economical, as also to grow larger crystals.

### TRADE POLICY

Import of diamond under Heading No.7102, whether or not worked, but not mounted or set, fall under 'free' category as per the Export-Import Policy 2009-2014. Foreign Direct Investment (FDI) in diamond mining up to 100% is admissible for automatic approval of Reserve Bank of India.

### WORLD REVIEW

The world reserves of industrial diamond are about 600 million carats located mainly in Congo (Kinshasa) (25%), Botswana (22%), Australia (18%), South Africa (12%) and Russia (7%). The world reserves of diamond are given in Table-7.

The total world production of diamond decreased by 4% from 129 million carats in 2010 to 124 million carats in 2011. The principal producers were Russia (28%), Botswana (18%), Democratic People's Rep. of Congo (16%), Canada (9%), Angola & Zimbabwe (7% each) and Australia & South Africa (6% each) (Table-8). Zao Alrosa of Russia is the world's largest diamond mine which accounts for 27% of global rough production in 2012. Australia's production was decreased by 24%, South Africa (20%), Canada (8%). While increase in the diamond production of Botswana (4%) was noticed. Natural diamonds are cut in 52 countries. The major diamond cutting centres in the world are Antwerp in Belgium, Ramatyyan in Israel, New York in USA and Surat in India.

**Table – 7 : World Reserves of Diamond  
(Industrial)  
(By Principal Countries)**

(In million carats)	
Country	Reserves
<b>World : Total (rounded)</b>	<b>600</b>
Australia	110
Botswana	130
China	10
Congo (Kinshasa)	150
Russia	40
South Africa	70
USA	NA
Other countries	85

*Source: Mineral Commodity Summaries, 2013.*

**Table – 8 : World Production of Diamond  
(By Principal Countries)**

(In '000 Carats)			
Country	2009	2010	2011
<b>World: Total</b>	<b>120800</b>	<b>129200</b>	<b>123600</b>
Angola	13828	8362	8329
Australia	10795	9998	7562
Botswana	17734	22019	22903
Canada	10946	11773	10795
Central African Rep.	310	302	324
China	1100	1100	1100
Congo, Dem.P.R.	21298	20166	19249
Ghana	354	309	283
New Guinea	697	374	235
Namibia	940	1476	1229
Russia	34759	34857	35140
Sierra Leone	400	438	356
South Africa	6119	8871	7047
Zimbabwe	963	8435	8503
Other countries	557	721	545

*Source: World Mineral Production, 2007-2011.*

Despite higher diamond prices, only two new projects were commissioned in 2011. The Kao Mine in Lesotho began operation and the expansion of the Williamson Mine in Tanzania.

### Canada

Diamond exploration continued in Canada with several commercial diamond projects and additional discoveries in Alberta, British Columbia, the Northwest Territories, the Nunavut Territory, Ontario & Quebec.

The Ekati Diamond mine, Canada's first operating diamond mine completed 13 years of production in 2011. Ekati produced 2.07 Mct of diamond from 4.60 million tonnes of ore. BHP Billiton Ltd has 80% share in Ekati. Ekati has estimated remaining reserves of 33.9 Mt of ore that



## DIAMOND

contain 16.2 Mct of diamond. Remaining life of the mine is projected to be 11 years.

The Diavik Diamond Mine, Canada's second diamond mine located in Northwest Territories completed its nine years of production. Diavik produces an average of 2 million tonnes of ore per year with an average of 3.1 carats per tonne. Diavik estimated the mine's remaining proven and probable reserves to be 18.9 Mt of ore containing 58.9 Mct of diamond and projected total mine life to be 16 to 22 years. Diavik completed the construction of the underground mine.

Jericho Diamond Mine in Nunavut was taken over by Shear Minerals in 2010.

The Snap Lake Mine, in the Northwest Territory owned by De Beers Canada Inc. The Snap Lake deposit is a tabular-shaped kimberlite dyke rather than the typical kimberlite pipe. The dyke is 205 m thick and dips at an angle of 12° to 15° the deposit was mined using a modified room and pillar underground mining method. The mine was expected to produce 1.4 Mct of diamond per year and the mine life was expected to be about 20 years.

The Victor mine, in northern Ontario on the Jems Bay coast is also owned by De Beers Canada. The Victor kimberlite consists of two pipes with surface area of 15 hectares.

### Lesotho

The Kao Mine, owned by Namakwa Batla Diamonds Co. began processing kimberlite ore in November 2011 and began commercial production in 2012.

### Tanzania

The refurbishing of the plant at the Williamson Mine began in 2011. The Mine is owned by Petra Diamond Ltd (75%) and Government of Tanzania (25%).

## FOREIGN TRADE

### Exports

Value of exports of diamond remained almost same to ₹ 134,239 crore in 2011-12 against ₹ 134,353 crore in the previous year. Diamond (mostly cut) alone accounted for more than 99% exports in terms of value. The share of industrial diamonds and diamond powder was ₹ 16 crore and ₹ 343 crore, respectively. Exports were mainly to Hong Kong (32%), UAE (22%), USA (18%), Belgium (12%) and Israel (5%) (Tables- 9 to 12).

### Imports

In 2011-12, imports value of diamond decreased by 13.5% to ₹ 132,292 crore from ₹ 152,791 crore in the previous year. Uncut diamond shared the bulk, i.e., about 99.9% of imports. Imports of industrial diamond and diamond powder were about 19 thousand carats and 204 million carats, respectively, valued at ₹ 6 crore and ₹ 105 crore. Imports were mainly from Belgium (30%), UAE & Hong Kong (26%) each, UK & Israel (5% each) and USA (4%) (Tables -13 to 16).

**Table – 9 : Exports Value of Diamond : Total (By Countries)**

Country	2010-11		2011-12	
	Value (₹'000)		Value (₹'000)	
<b>All Countries</b>	<b>1343533791</b>		<b>1342392353</b>	
Hong Kong	333176203		428166403	
UAE	472261354		298683944	
USA	167988450		241796994	
Belgium	93112378		158094427	
Israel	43614747		69554801	
Thailand	15316749		26210175	
Japan	10748675		15458428	
Singapore	6592469		11399391	
Switzerland	6135435		14994062	
Unspecified	165613167		32856245	
Other countries	28974164		45177483	

*Note : Quantity not given due to partial coverage; value figures, however, have full coverage.*

**Table – 10 : Exports of Diamond (Industrial) (By Countries)**

Country	2010-11		2011-12	
	Qty (carats)	Value (₹'000)	Qty (carats)	Value (₹'000)
<b>All Countries</b>	<b>734036</b>	<b>113825</b>	<b>251923</b>	<b>156935</b>
Belgium	452145	55994	81863	37423
China	32300	3254	71500	6729
USA	25937	2950	52850	5325
Ireland	33074	3696	27350	1756
Malaysia	-	-	200	1684
UK	26887	1751	3700	1348
Thailand	-	-	30	973
Sri Lanka	-	-	230	588
Italy	-	-	1000	364
Unspecified	10000	1635	13187	100326
Other countries	153693	44545	13	419

DIAMOND

**Table – 11 : Exports of Diamond (Mostly Cut)  
(By Countries)**

Country	2010-11		2011-12	
	Qty (carats)	Value (₹'000)	Qty (carats)	Value (₹'000)
<b>All Countries</b>	<b>78951465</b>	<b>1340640421</b>	<b>62654023</b>	<b>1338809004</b>
Hong Kong	24392280	332992908	22343326	427346588
UAE	27729742	470977652	15766370	297672412
USA	9929454	167898101	7018321	241427273
Belgium	7566835	92165262	8552023	157351086
Israel	1385208	43463041	1519569	69466381
Thailand	1350557	15304929	1386166	26163068
Japan	2369082	10687714	1404663	15281803
Switzerland	515614	6131109	374572	14992672
Singapore	408268	6592017	455559	11398426
Unspecified	234007	165602258	978391	32752736
Other countries	3070418	28825430	2855063	44956559

**Table – 12 : Exports of Diamond Powder  
(By Countries)**

Country	2010-11		2011-12	
	Qty ('000 carats)	Value (₹'000)	Qty ('000 carats)	Value (₹'000)
<b>All Countries</b>	<b>28544</b>	<b>2779545</b>	<b>22334</b>	<b>3426414</b>
UAE	7857	1246580	3890	1011532
Hong Kong	2309	183295	2739	819815
Belgium	6721	891122	4862	705918
USA	2496	87399	4182	364396
Japan	267	60052	494	176625
UK	2486	74767	2436	100155
Israel	1938	148836	961	88420
Thailand	83	11820	631	46134
Germany	823	27591	446	34574
Ireland	649	10375	808	32343
Other countries	2915	37708	885	46502

**Table – 13 : Imports Value of Diamond : Total  
(By Countries)**

Country	2010-11	2011-12
	Value (₹'000)	Value (₹'000)
<b>All Countries</b>	<b>1527908912</b>	<b>1322922157</b>
Belgium	318919764	393009325
UAE	606733635	349880800
Hong Kong	318908300	327618906
UK	50331960	66066842
Israel	53816683	61358151
USA	69381859	54329294
Russia	19194042	30132349
Canada	2814008	10184782
Switzerland	4473045	4801937
Unspecified	70887450	647483
Other countries	12448166	24892288

*Note: Quantity not given due to partial coverage; value figures, however, have full coverage.*

**Table – 14 : Imports Value of Diamond  
Industrial  
(By Countries)**

Country	2010-11		2011-12	
	Qty (carats)	Value (₹'000)	Qty (carats)	Value (₹'000)
<b>All Countries</b>	<b>104159</b>	<b>845847</b>	<b>18681</b>	<b>56644</b>
Belgium	12587	147357	8484	17106
Malaysia	-	-	1200	12894
Hong Kong	33568	336337	712	11300
Congo, P.Rep.	-	-	5884	7512
South Africa	-	-	1082	3734
USA	5891	41896	559	1456
Italy	-	-	80	1034
UK	-	-	542	834
UAE	51967	316003	30	337
Sierra Leone	-	-	72	231
Other countries	146	4254	36	206

DIAMOND

**Table – 15 : Imports of Diamond Powder  
(By Countries)**

Country	2010-11		2011-12	
	Qty (‘000 carats)	Value (₹‘000)	Qty (‘000 carats)	Value (₹‘000)
<b>All Countries</b>	<b>136271</b>	<b>489903</b>	<b>204315</b>	<b>1055859</b>
China	114160	343524	172236	616091
Belgium	1615	20363	1907	172207
Ireland	3515	35243	9118	84852
USA	3630	32072	6153	44684
Korea, Rep.of	1290	10863	4506	38140
Germany	1861	6271	3290	22793
Russia	348	1780	344	13554
Hong Kong	7052	19260	1375	13055
Switzerland	290	2237	917	10542
Singapore	674	1616	519	7773
Other countries	1836	16674	3950	32168

**Table – 16 : Imports of Diamond (Mostly Uncut)  
(By Countries)**

Country	2010-11		2011-12	
	Qty (carats)	Value (₹‘000)	Qty (carats)	Value (₹‘000)
<b>All Countries</b>	<b>182227342</b>	<b>1526573162</b>	<b>152810849</b>	<b>1321809654</b>
Belgium	75436769	318752044	60944564	392820012
UAE	47736910	606410987	37273404	349876453
Hong Kong	24813044	318552703	25431233	327594551
UK	13328658	50331278	10213257	66063293
Israel	5461742	53815391	4725527	61358151
USA	3399247	69307891	3774535	54283154
Russia	6299330	19192262	5978814	30118795
Canada	1335082	2810591	2347826	10184756
Switzerland	1066262	4470808	280362	4791395
Japan	243997	2313484	268844	3489144
Other countries	3106301	80615723	1572483	21229950

## FUTURE OUTLOOK

Private companies like De Beers India and Rio Tinto India, based on the good geological database provided by GSI, were granted RPs for diamond exploration. The total area covered under RP is 1,40,000 sq km. The major focus was in the states of Andhra Pradesh, Chhattisgarh, Karnataka and Madhya Pradesh. Total expenditure in diamond exploration in the last ten years by the said two major private players was to the tune of US\$ 100 million of which Rio's investment was US\$ 70 million.

The diamond industry in the country currently employs over 8 lakh artisans who are

experts in cutting and polishing of small diamonds and are now in a position to process full range of sizes and qualities of gemstones using latest technology.

The Indian cutting and polishing sector is facing growing competition from China and due to the fact that the diamond producing African countries are demanding a greater share of processing of roughs within their countries. Thus according to a KPMG analysis, by 2015, India's share in value terms will come down to 49.3% of the world diamond roughs from the present 65%. In the same period China's share is expected to grow to 21.3%, Russia to 7.1%, South Africa to 5.5%, Israel to 4.7% and the US to 1.4%.