

# Gold

## India's Passion for Possession: A Survey

All available evidence indicates that there has been a continuous and close connection between gold and India during, probably, the last five millennia. The present note is an attempt to quantify, on the basis of that evidence and reasonable assumptions, the volume of the precious metal which may have accumulated in the country over that period of time. While precise figures are no doubt subject to considerable error due to meagre, and often contradictory, evidence, it may be possible to provide a general indication of the extent of such treasure accumulated over this long period.

### Fascination for Gold

'Gold has been called the first folly of man, the whore of civilization, a barbarous relic, and a host of other fanciful, if at times derogatory, epithets. Nevertheless, man has retained a curious fascination for the metal for more than 5000 years, undoubtedly promoted by its great natural beauty and universal durability'. This fascination appears to have continued, as far as India is concerned, from at least 3900 BC, or about 6000 years BP (Before Present) and all indications are that this 'passion' will continue unabated into the future. India remains the largest consumer of gold.

### Accumulation and flow of gold into India

Evidence suggests that the flow of gold into India through indigenous production as well as from trade and commerce falls into four fairly definitive periods. These are:

1. *An ancient period commencing at some indeterminate date BC (probably around 3900) and continuing until about 500/600 AD:* During this period the production of gold may have commenced in India from placer deposits and, subsequently, from *in situ* mines, the latter indicated by the extensive ancient surface and underground works still extant.
2. *The period from the apparent cessation of gold mining around 500/600 AD (after which it was largely forgotten for the next 1300 years) and 1500 AD:* This period covers the beginning of the expansion of Indian trade from, basically, local to world.
3. *The period from 1500 AD until the revival of domestic gold mining industry on a significant scale from 1870 AD onwards:* During this time the gold flow into India was predominantly from expanding trade and commerce, facilitated in the latter half by India's easy access to outside sources of gold, particularly British and Australian sovereigns. During this period domestic currency was in silver while foreign trade and debt repayment were in gold.
4. *The period from 1870 AD until the opening years of the 21st century:* The early years were marked by record world levels of gold production while the position has been completely reversed in the final years. Production has been negligible, while India has become the fastest-growing and the world's largest consumer of gold. Trade and commerce continued to flourish during this period.

### Period Characteristics

#### *First period (3900 BC - 500/600AD)*

The antiquity of the gold connection is indicated by frequent reference in ancient literature,

with as many as twenty different Sanskrit names for gold being given. Very probably commencing with the discovery and collection of gold from placer deposits in the Himalayan foot hills and elsewhere, the exhaustion of this easily recovered gold presumably turned the attention of the seekers to other sources. It is well-known that the Eastern Mediterranean countries of the time (what is now termed as the Middle East) notably Egypt, Chaldea (Babylon), and Arabia Deserta (the Syrian desert and parts of the Arabian peninsula) were ancient practitioners of the arts of mining and smelting gold, and using it for decorative and funereal purposes. It appears that such knowledge was also available in India from much the same time and was practiced by a people of whom there remains no trace except their widespread and numerous ancient workings. Many of these reached considerable depths (up to 185 metres below surface) and are spread throughout the length and breadth of the country, wherever gold occurs. This period ended with the cessation, for reasons not yet understood, of gold mining throughout the country during the century 500/600 AD.

During this period Bache (1987, 'World Gold Deposits', Elsevier, p.4) estimates that India and Bactria (the area in northern Afghanistan and adjacent countries between the Hindu Kush and the Amu Darya river) produced a total of 990 tonnes of gold. As there appears to have been far greater activity over a much larger area in India during that time, it is reasonable to assume that the major portion of this gold was from India. Accordingly the figure for India has been taken as 90% or 900 tonnes approximately.

#### *Second Period (500/600 AD - 1500 AD)*

This period appears to be an interregnum of some 1000 years during which the ancient gold mining industry was as good as virtually forgotten. Although some isolated, sporadic and desultory mining may have occurred, there are no records to indicate when or where such activity took place. In many areas the ancient workings were obliterated through the inflow of debris and of soil throughout innumerable monsoons. Bache (1987) estimates that India up to 1492 possibly produced 145 tonnes of gold during this period, a mere 145 kg a year. However, large quantities of gold were probably available, presumably accumulations from the first period.

By the end of the 15th century the beginnings of a world economy were becoming evident. It is likely that during this century, if not before, India had established both overland and sea trade with neighbouring and possibly somewhat distant countries. There is thus a possibility that some part of the quantities indicated above may have been acquired through such trade, particularly with the Levant. However, in the absence of any information supporting this possibility, the figure quoted by Bache (1987) is utilized for the purposes of this survey. Whether all this gold was hoarded or used is not clear.

#### *Third Period (1500 AD - 1870 AD)*

With the establishment of new trade routes by sea, linking the largely European Old World with the New World of the Americas and with the Orient, a great impetus was given to world trade. While the land routes continued to play a significant part, it was greatly reduced, as the sea routes required much less time. From 1500 AD onwards India became increasingly active in such trade and by the end of the century became widely known for having one of the most advanced economies of the then world through large banking houses and a sophisticated credit system, including the

'*hundi*' or bill of exchange. There was great demand for commodities from India which were paid for in gold and silver. An important Mogul port and mint was at Surat. At this time it was said that 'gold enters India easily and out reluctantly' and that trade was basically 'bullion for goods', emphasizing the predominance of gold in India's economic sphere.

This third period thus embraces some 270 years during which trade burgeoned but gold mining was a thing of the past. Trade and commerce were greatly facilitated by the availability of the gold sovereign which became a more or less universally acceptable medium of exchange from 1717 onwards. Its use overcame the difficulties previously experienced due to the large variations in the value relationship between silver and gold prevalent in different areas which seriously affected countries with a silver-base economy, of which India was one until 1894.

Starting early in the 19th century, increasing interest began to be shown in the possible existence of significant gold deposits in India. This was largely due to the geological similarities of parts of India with other continents where major discoveries were being made. However, the early investigations were unsuccessful and only later in the century, from about 1865 onwards, did the reopening and examination of ancient workings, particularly in the Deccan, lead to the discovery, or rather rediscovery, of several major and minor gold fields. This occurred initially in the Wynaad in Nilambur District of Madras Presidency (now Tamil Nadu) where the workings later to be known as the Alpha mine were opened. This is considered to be the beginning of the resurgence of Indian gold mining and of the fourth period.

However, the period witnessed a series of invasions, both large and small – Mogul, Portuguese, Dutch, French and English – which resulted in numerous military campaigns. These, together with many internecine conflicts of the time, resulted in considerable looting of treasure by capture and ransom of prisoners, which ended with the supersession of the East India Company by the British government in 1858. Taking an overall view, it is probable that at least 50% of the gold accumulated by that date would have been looted and taken out of the country. This can only be a guess as precise information is lacking.

#### ***Fourth Period (1870 AD - 2002 AD)***

This period covers the final three decades of the 19th century, the whole of the 20th century and the opening years of the 21st. It is notable for the fact that in the first decades of the 20th century Indian gold mining reached its zenith with the mines of the Kolar Gold Field attaining a leading world position in respect of both gold production and the development of deep mining technology.

Between 1880 and 1906 numerous gold occurrences throughout the country were intensely prospected, notably in Mysore (now Karnataka), Hyderabad (now Andhra Pradesh), Madhya Pradesh, Bihar, Uttar Pradesh, Punjab/Himachal Pradesh and Jammu and Kashmir.

Although extensive gold mineralisation was located in many areas, few proved to contain sufficient tonnages of adequate grade of ore to support viable operations. It is estimated that a recovery grade of a minimum of 14 gm of gold per tonne of ore was necessary to meet costs at the then price of gold of £3.87 per ounce, or Rs.51.3, equivalent to just Rs. 1.65 per gramme (this may be compared to today's price (Feb.2002) of Rs.460).

Successful prospects were four in number, viz. five mines located around Oorgaum in Kolar District, which developed into the Kolar Gold Field; one mine in the vicinity of Hutti in Raichur

district, which developed into the Hutti Gold Field, one mine in the vicinity of Gadag, in the district of the same name, which developed into the Dharwar Gold Field, all in Mysore (now Karnataka); and two mines in the vicinity of Ramagiri, in Anantapur District in Hyderabad (now Andhra Pradesh) which developed into the Anantapur Gold Field. Of the numerous companies (mostly British) which invested heavily in a gold mining boom between 1880 and 1900, most had disappeared by 1910 and the prospects abandoned. Only those mines mentioned above continued in operation for varying periods.

**Kolar Gold Field:** The four mines on the Kolar field reached their zenith between 1900 and 1910, producing 171 tonnes of gold in that decade, and eventually reaching depths of about 3000 metres. Nationalised in 1956 and consolidated into a single Company in 1962, the mines eventually closed in 2001, having suffered heavy losses during the last two decades of a working life extending over 120 years. During that time over 800 tonnes of gold was produced from more than 50 million tonnes of ore, the initial mining grade being 1½ ounces (47 gm of gold per tonne of ore) and final grade 3 gm/tonne, giving a lifetime average of about 16 gm/tonne.

**Hutti Gold Field:** The mine on the Hutti field, originally in Hyderabad State, worked from 1890 to 1920, produced over 7 tonnes of gold from 380,000 tonnes of ore, the average recovery grade being about 19 gm/tonne. The mine was closed in 1920 due to the effects of World War I, declining grade of ore in depth, and lack of finance for further exploration. It was reopened in 1946 by the Government of Hyderabad as a government operation and was transferred to Mysore (now Karnataka) in 1956 with the transfer of Raichur district to Mysore State.

A major expansion of ore production is in hand to improve the position. This mine has already had a working life totaling over 95 years, producing over 58 tonnes of gold from about 8.25 million tonnes of ore, an average recovery grade of about 7 gm/tonne to a depth of 475 m only. Reserves of ore are currently over 6 million tonnes at 6.4 gm/tonne to the same depth, giving an estimated total gold resource to 3000 m depth of 650 tonnes.

**Dharwar Field:** One mine on this field worked from 1902 to 1911, producing about one tonne of gold, when exhaustion of high-grade ore and finances forced closure.

**Anantapur Field:** Two mines on this field worked from 1900 to 1926, producing about 5.5 tonnes of gold, and one, under the control of the Kolar mines, from 1984 until closure of the latter in 2000. Total production has been about 8.5 tonnes of gold.

### **Smuggling of gold**

Although a limited amount of smuggling of silver (in the third period), with smaller quantities of gold, took place, the latter continued at much the same level until 1940, when World War II put a stop to such operations.

Subsequently, the industrial 'licence-permit-quota raj' introduced after independence in 1947 resulted in a tremendous increase in gold smuggling into India. Unaccounted funds accumulated overseas through various nefarious methods such as overinvoicing of imports and underinvoicing of exports and the funds utilized to procure gold at the world price for smuggling into India on a large scale. The demand in India increased by leaps and bounds and with negligible domestic mine

production, and the recycling of ornaments etc., at only some 10 to 15% of demand, domestic gold prices commanded a premium of up to 50% of the world price. It is estimated that between 1950 and 1963, some 3,750 tonnes of gold (averaging about 30% of world production) was smuggled into the country. The Government of India therefore introduced, in 1963, the Gold Control Act which covered all aspects of acquisition and ownership of gold, individually and collectively. While the intention behind the legislation was laudable – the diversion of funds from purchase of gold to productive use – the practical effect was the opposite. The diverted funds switched, mainly, to other commodities such as food grains, causing the prices of these to rise considerably.

Some reduction in smuggling did take place initially but those concerned quickly devised alternate strategies. Consequently, smuggling not only continued but increased. Eventually, after 27 years of relatively ineffective policing of gold acquisition and ownership, at great cost, the Act was repealed in 1990. At the same time, gold mining, previously a monopoly of Central and State governments was deregulated and the import of gold liberalized.

These actions caused smuggling to recede to some extent but it soon resumed the former level and continues, the import duty imposed on legal imports of about (currently) 5% on the world price being an added attraction to those involved.

### **Demand for Gold**

The passion for gold in India appears to transcend all social divisions – rich, middle class and poor, having an equal aspiration to the ownership of some quantity. Consequently, improving standards of living of a majority of the population, massive depreciation in the purchasing power of the rupee since independence and an age-old faith in gold, next to land as the most secure form of investment, have raised the annual estimated demand in India to around 900 tonnes, compared to a few tonnes only in 1947. Of this demand some 150 tonnes will probably be met by recycled gold ornaments etc., leaving some 750 tonnes (about 30% of world output) to come from the world market at a current cost in foreign exchange of about US \$ 7,500 million. This can be considered as a major component of the contribution by India to the world economy!

### **Hall-marking of jewellery**

A recommendation had been made (Radhakrishna et al. 1991, p.16) for hall-marking jewellery fabricated in India. It is gratifying to see that this is being implemented although on a very small scale. Very few goldsmiths have taken the necessary action to have their items stamped by approved agencies (Hall-marking, derived from the Guildhall in London where members of the guild met, consists of 4 marks indicating the standard of fineness, the approved agency doing the assay, the year of assay, and the maker's initials). A recent survey by the Bureau of Indian Standards found that the purity of a large proportion of the gold jewellery fabricated and sold in the country averaged about 9% lower than the purity claimed during the sale. As against one lakh jewellery shops in India globally accepted hall-mark certificate guaranteeing quality is available only in 250. Loss to the consumers is estimated at Rs.10,000 crores annually. Hall-marking would largely eliminate this deception at nominal extra cost and further action by the relevant authorities is needed to make such stamping mandatory.

### Production and Import of Gold

Attached are two tables roughly indicating, respectively, the quantities of gold flowing into India and through trade and smuggling during periods III and IV and the total indigenous gold production and estimated imports for all four periods (based on McGuire et al. 1999. 'Evolution of the World Economy, Precious Metals and India'. Oxford University Press; Radhakrishna et al. 1999, 'Gold in India', Geological Society of India; Bache, J.J. and Warwick Ching, 1993. 'The International Gold Trade', Woodhead Publishing Ltd., 1993)

**Table 1.** Chronology of gold imports into India Period III (1500 AD -1870 AD) and other details

Date/period	Imports (tonnes)		Other details
	Official	Smuggled	
1500 onwards			Indian economic system one of the most advanced in the world
1500-1600	(100)	(50)	Smuggling estimated at 50%. New world gold output 280 tonnes.
1500-1660	150	75	Official imports 0.5-1.5 t.p.a
1500	(8)	(4)	
1510	(6-12)	(1-2)	Smuggling estimated at 16%
1521-1540			Average world production 7.75 t.p.a.
1550	(3.51)	(1.75)	
1585	(0.573)	(0.286)	
1591	(0.716)	(0.358)	
1600	(1-2)	(0.75)	
	(0.83)	(0.415)	Smuggling estimated at 50%
1610	(0.85)	(0.34)	Smuggling estimated at 40%
1614	(1.0)	(0.4)	Smuggling estimated at 40%
1642-1643		(0.25)	Florins 235,000 total (f12/£1) Au estimated at 10%. Smuggled from Persia
1645			Smuggling estimated at >35%
1650-1660		(6)	Florins 660,712 total (f12/£1) Au estimated at 10%. Smuggled from Persia
1667	(1.487)	(0.446)	Smuggling estimated at 30%
1660-1669	3.2	0.3	Florins 406,902 p.a. all from Japan. Au estimated at 10%
1670	1.5	0.5	
1670-1679	1.85	0.2	Florins 2,133,148 all from Japan. Au estimated at 10%
1680-1689	2.0	0.2	Florins 2,270,393, all from Japan. Au estimated at 10%
1690-1699	2.5	0.25	Florins 2,919,952, all from Japan. Au estimated at 10%
1720-1730	10.0	1.0	Florins 15 million p.a. via Cape
1730-1870	140	14	Smuggling assumed at 10%
<b>Total</b>	<b>311.1</b>	<b>91.45</b>	

Note: Figures in parenthesis () are included in total, unbracketed, against periods.

**Table 2.** Chronology of gold imports into India and other details, Period IV (1870-2002)

Date/period	Imports (tonnes)		Other details
	Official	Smuggled	
1870-1894	24	2.4	Official/smuggled imports assumed on previous basis
1894-1924	4500	450	Official imports 25-35% of world output. Smuggling estimated at 10%
1900-1916	(567.2)	(57)	60 million sovereigns (480 tonnes) plus 87.2 tonnes 10 oz. bars. Smuggling assumed at 10%
1900-1914			Official imports rise to 25% of world output in 1914
1900-1913	(400)	(40)	Official imports 60 million British, 50 million Australian sovereigns Smuggling estimated at 10%
1919-1922	(100)	(10)	Official imports average 25% of 1910-1913. Smuggling estimated at 10%
1919-1939	420	42	Official imports 500,000 ozs. p.a. (less than 1/3 of 1910-1913). Smuggling estimated at 10%
1931-1938	-1,045	(70)	Official exports 4.8 million ozs. p.a. Smuggling estimated at 10%
1945 onwards			Controls encouraged smuggling
1947-1950			Licence/permit 'raj' further encouraged smuggling, estimated at Rs.350 million p.a.
1950-1963	100	3,750	Smuggling estimated at 25-45% of world output
1963-1990	200	5,300	Gold control further encouraged smuggling with domestic price up to 150% of world price
1987	(6)	(120)	" " " "
1988	(8)	(150)	" " " "
1989	(8)	(190)	" " " "
1990	(15)	(250)	Gold control removed, imports liberalised. Gold mining deregulated
1991	(20)		
1992			Imports further liberalised
1992-2001	3,000	300	
<b>Total</b>	<b>8,244</b>	<b>10,144</b>	<b>18,388.4</b>

Note: Figures in parenthesis () are included in total, unbracketed, against periods.

## Conclusion

In the absence of precise information relating to the quantity of gold smuggled into India and of gold looted by the invading armies in earlier periods it is difficult to arrive at a precise estimate of gold held in India. A rough estimate places this quantity at around 17000 tonnes.

There is no evidence of gold being displaced from its pedestal in the foreseeable future and it behoves the Government of India to attempt to do two things in the national interest. Firstly take steps to dissuade people from purchasing still more gold and, secondly, to mobilise at least some of the vast treasure trove held in the country, which represents an enormous quantity of foreign exchange.

In this connection it would be interesting to ascertain how much of the additional cash injected into the economy through Voluntary Retirement Schemes (literally the golden hand-shake!) has

been used to buy gold. Wherever this is done it is an eloquent illustration of the continuing faith in gold of people with surplus cash. To this extent these schemes are a direct inflationary factor, the significant injections having no corresponding production of goods or services.

In most cases, particularly in the public sector (which set the example), the recipients, having already received liberal wages for low output per employee (the result of bloated establishments caused by inflexible labour laws, the primary cause of Voluntary Retirement Schemes) receive further benefit at the expense of the unemployed, the underemployed, unorganised labour, retired pensioners and those on fixed incomes (the silent majority) who suffer the inflationary effect. In this connection the official inflation figures published appear to be largely based on Wholesale Price Indices (WPI) in which increases in Consumer Price Indices (CPI) such as water and power rates, bus fares, food grains, etc., have little influence. This is but one of the factors which sustain the faith of the public generally in gold as a long-term hedge against inflation and as a security for the future, exemplified by the current (somewhat depressed) price of Rs. 470 /gm as against Rs. 1.80 in 1948. This faith gains strength with each failure of the Central and State governments to control and minimise unproductive expenditure.

Relative monetary value of 100 gm gold

Year	Rs/gm	Value (gold)	Money at 10% p.a. compounded
1948	1.80	180	180
1955			360
1962			720
1969			1,440
1976			2,880
1983			5,760
1990			11,520
1997			23,040
2002	470.00	47,000	16,080

Government must appreciate that most gold is normally held by individuals for a long period, often a lifetime, as a security of last resort and probably for passing on to successors. Any scheme for the transfer of such gold to government must take cognisance of this fact and offer a security which, over an individual's lifetime, would exceed in benefits from those accruing from the possession of gold.

Unless some innovative and farsighted thinking and action is undertaken officially, the passion for possession of gold in India will continue to form a significant part of the Indian psyche, a part which transcends all social, religious and political differences and barriers.

If only the government can devise an ingenious plan that utilises this vast and enormous gold reserve scattered across the length and breadth of this subcontinent for its own rapid progress without robbing the primary sense of 'economic security' that possession of gold has meant to the rich as well as the not so rich in this country.

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