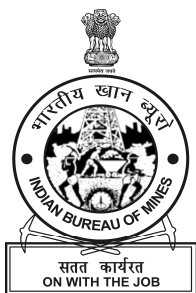


STATE REVIEWS



# Indian Minerals Yearbook 2021

(Part- I)

60<sup>th</sup> Edition

STATE REVIEWS  
(Goa)

(ADVANCE RELEASE)

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**GOA****Mineral Resources**

Goa is well-known for its iron and manganese ores. Bauxite and laterite are the other minerals produced in the State. Iron and manganese ore belts extend from south-east to north-west of the State. Manganese ores are associated with iron ores and occur as pockets of various sizes in the form of concretionary pebbles in shales. Important **iron ore** and **manganese ore** deposits are located at Bicholim, Sanguem and Satari talukas. **Bauxite** occurs in the North and South Goa districts; **kaolin** reportedly occurs in South Goa district, while **quartz/silica sand** deposits occur in both North and South Goa districts (Table -1).

**Exploration & Development**

Exploration activity was reported by GSI during 2020-21. (Table -3).

**Production**

No mineral production except minor mineral was reported from Goa. The value of minor mineral's production is estimated as ₹. 26 crores for the year 2020-21. There was 39 reporting mines in 2020-21 in case of MCDR minerals (Table - 2).

**Mineral-based Industry**

The present status of each Mineral-based Industry is not readily available. However, the principal Mineral-based Industries in the Organised Sector in the State are provided in Table - 4.

**Table-2: Mineral Production in Goa, 2018-19 to 2020-21  
(Excluding Atomic Minerals)**

(Value in ₹'000)

Mineral	Unit	2018-19			2019-20			2020-21 (P)		
		No. of mines	Quantity	Value	No. of mines	Quantity	Value	No. of mines	Quantity	Value
<b>All Minerals</b>		<b>48</b>		<b>545679</b>	<b>48</b>		<b>398896</b>	<b>39</b>		<b>441540</b>
Bauxite	t	1	518	104	-	-	-	-	-	0
Iron Ore	'000t	45**	-	-	45**	-	-	38	94	181419
Manganese Ore *	t	2	-	-	3	-	-	1	-	-
Minor Minerals		-	-	545575	-	-	398896	-	-	260121

*Note :The number of mines excludes Minor minerals.*

*\*\* Only labour reported, production activity stopped by S.C. Order.*

*\* Only labour reported.*

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Table – 1 : Reserves/Resources of Minerals as on 1.4.2020 : Goa

Mineral	Unit	Reserves					Remaining resources					Total resources (A+B)		
		Proved STD 111	Probable STD 121	STD 122	Total (A)	Feasibility STD 211	Pre-feasibility STD 221	Measured STD 331	Indicated STD 332	Inferred STD 333	Reconnaissance STD 334		Total (B)	
Bauxite	'000 tonnes	7963	-	1650	9613	5222	1097	8195	6820	-	36910	-	58244	67857
Iron ore (Haematite)	'000 tonnes	96558	7666	13012	117235	435300	255162	182675	22126	12727	166631	5701	1080322	1197557
Iron ore (Magnetite)	'000 tonnes	4364	-	626	4990	59509	14516	33512	-	-	151811	1997	261345	266336
Manganese ore	'000 tonnes	31	-	34	65	14028	1479	9177	48	262	9442	-	34436	34501

Figures rounded off.

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Table – 3: Details of Exploration Activities in Goa, 2020-21

Mineral/ District	Area/ Block					Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
<b>GSI</b>							
North Goa District	Mopa	1:12500	100	-	-	-	Reconnaissance Survey (G4) for Nickel, Chromium and PGE mineralisation in Banda-Tambuli, Sindhudurg District, Maharashtra and Mopa, North Goa District, Goa: An area of 110 sq km was mapped on 1:12500 scale. The mapped area comprised TTG gneiss belonging to Peninsular Gneissic Complex, dolomite, BMQ, quartzite, metabasic (hornblende schist and amphibolite) of Chitradurga Group and ultramafic (orthopyroxenite) and gabbro/gabbro-norite as intrusives. About half of the area has laterite cover. A total of 110 bedrock samples (BRS) were collected. Twelve out of sixty-eight BRS from serpentinite, orthopyroxenite and gabbro/gabbro-norite /norite showed Ni values in between 1,025 and 1,542 ppm and twenty-one BRS showed Cr values in between 1,062 and 9,333 ppm. Based on analytical results of BRS, areas were chosen for channel-cum-chip sampling. Fifty channel-cum-chip samples were collected. The analytical data of nineteen out of fifty channel cum chip samples from gabbro showed Ni values ranging from 1,014 to 1,557 ppm and Cr values ranging from 3,008 to 3,857 ppm. Based on higher Ni and Cr values, twenty BRS were selected for PGE analysis. Geochemically, gabbro bodies of potential areas were Mg-rich. Four PCS from gabbro showed MgO values from 20.04 to 23.60 wt %. In ore microscopic study, chromite, magnetite, ilmenite and pyrite were seen as ore phases. They occurred as fine to medium-sized irregular grains associated with olivine and orthopyroxene of mafic-ultramafic rocks. On the basis of overlay studies of analytical results on geological map of LSM block and petrography, two potential areas, i.e, one towards north of Degve having area of 4 sq km (4 km x 1 km) and another towards east of Tambuli having area of 1 sq km (2.5 km x 0.4 km) were delineated.

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**Table – 4 : Principal Mineral-based Industries**

Industry/plant	Capacity ('000 tpy)
<b>Counterweight</b>	
Asavari Vishwanath Parulekar, Convale Bardez	15
<b>Fertilizer</b>	
Zuari Industries Ltd, Zuarinagar, Distt South Goa.	495000 (Urea) 500000 (NP/NPKs) 330 (DAP)
<b>Pellets</b>	
Mandovi Pellets Ltd, Mandovi, Shiroda.	NA
Chowgule & Co. Ltd	NA
<b>Pig Iron</b>	
Sesa Goa Ltd, Bicholim.	625
Aparant Iron & Steel Pvt. Ltd, Sanguem	160
Vedanta Ltd, Amona, Bicholim	832 1000 (Sinter)
<b>Sponge Iron</b>	
Ambey Metallic Ltd, Pissurlem, Sattari.	36
Goa Sponge & Power Ltd, Santona.	90
Shraddha Ispat Pvt. Ltd, Santona, Sanguem.	72
<b>Ferroalloys</b>	
Karthik Alloys Ltd, Cuncalim.	3.2

*Note: Data, for fertilizer industries, is taken from Indian Fertilizer Scenario, FAI Statistics.*