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(Part- III : Mineral Reviews)

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FULLER'S EARTH

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GOVERNMENT OF INDIA
MINISTRY OF MINES
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Fuller's earth, like bentonite, is also known as 'bleaching clay' because of its inherent bleaching properties. Fuller's earth is non plastic clay that can be used to decolorise, filter and purify animal, mineral and vegetable oils and greases. It has great commercial importance like bentonite. Bentonite is a swelling-type clay but fuller's earth is a non-swelling-type clay. This property difference is because of their chemical composition. Bentonite contains sodium, whereas fuller's earth contains calcium. Calcium bentonite, more commonly called fuller's earth, can be converted into sodium bentonite by cation exchange process or acid activation.

RESOURCES

The total reserves/resources of fuller's earth as per UNFC system as on 1.4.2010 are placed at 256.7 million tonnes. Out of these, only 58,200 tonnes are placed under 'reserves' category while about 99.98% are placed under 'resources' category. About 74% resources are located in Rajasthan. The remaining resources are in Andhra Pradesh, Arunachal Pradesh, Assam, Karnataka and Madhya Pradesh. The statewise reserves/resources of fuller's earth are given in Table-1.

PRODUCTION

Fuller's earth is declared as minor mineral under Mines and Minerals (Development and Regulation) Act, 1957. The value of fuller's earth produced in India in 2011-12 at about ₹ 24.2 crore was higher by 26% as compared to the previous year. The production was reported from the States of Andhra Pradesh, Rajasthan, Karnataka & Madhya Pradesh .

Andhra Pradesh accounted for 84% in the total value of production of fuller's earth followed by Rajasthan with about 10% share and the remaining 6% was shared by Karnataka (5%)& Madhya Pradesh (1%) (Table - 2).

Table – 1 : Reserves/Resources of Fuller's Earth as on 1.4.2010
(By States)

(In tonnes)

Grade/State	Reserves			Remaining resources			Total resources (A+B)
	Proved STD111	Probable STD122	Total (A)	Indicated STD332	Inferred STD333	Total (B)	
All India : Total	**–**	**58200**	**58200**	**912340**	**255681539**	**256593879**	**256652079**
Unclassified Grade : Total	**–**	**58200**	**58200**	**912340**	**255681539**	**256593879**	**256652079**
By States							
Andhra Pradesh	–	–	–	–	25523983	25523983	25523983
Arunachal Pradesh	–	–	–	10700	20000000	20010700	20010700
Assam	–	–	–	–	18860000	18860000	18860000
Karnataka	–	58200	58200	551640	1471276	2022916	2081116
Madhya Pradesh	–	–	–	–	117200	117200	117200
Rajasthan	–	–	–	350000	189709080	190059080	190059080

Figures rounded off.

Table – 2 : Value of Production of Fuller's Earth 2009-10 to 2011-12 (By States)

(In '000)

State	2009-10	2010-2011	2011-12(P)
India	**328037**	**192003**	**242420**
Andhra Pradesh	186069	142457	204276
Karnataka	-	7055	11667
Madhya Pradesh	2928	2295	2387
Rajasthan	139040	40196	24090

Source: *State Governments.*

USES

Fuller's earth is used usually after activation in bleaching, decolourising vegetable oils, petroleum, lubricants, greases, etc. Recently, the growth in its consumption in this sector, has been affected because of advent of more sophisticated techniques in refining and due to availability of effective substitutes like activated bauxite and magnesium silicate. Fuller's earth is generally used in fertilizer industry. Consumption, however, is expected to rise in other unconventional uses as absorbent, cleaning oil spillage on factory floors, as carrier for insecticides, fungicides and as a mineral filler and extender.

CONSUMPTION

The consumption of fuller's earth was at 5,600 tonnes in 2012-13 . Vanaspati industry, the largest consumer, accounted for about 91% consumption, followed by chemical industry with 5%. A sizeable quantity is consumed in rural and urban areas for non-industrial uses like plastering mud walls and washing of hair. However, the consumption data for such non-industrial purposes are not available (Table-3).

WORLD REVIEW

The world production of fuller's earth increased marginally to 3.5 million tonnes in 2012 from 3.1 million tonnes in 2011. The USA was the top producer, accounted for about 57% of the world production. Other principal producers were Spain (22%), Mexico (6%) and Senegal (5%) (Table-4).

Table – 3 : Consumption of Fuller's Earth 2010-11 to 2012-13 (By Industries)

(In tonnes)

Industry	2010-2011	2011-12(R)	2012-13(P)
All Industries	**5700**	**5600**	**5600**
Chemical	300(1)	300(1)	300(1)
Petroleum refining	200(4)	200(3)	200(3)
Vanaspati	5200(12)	5100(12)	5100(12)

Figures rounded off.
Figures in parentheses denote the number of units in organised sector reporting consumption.*
*(*Includes actual reported consumption and/or estimates made wherever required).*

Table – 4 : World Production of Fuller's Earth (By Principal Countries)

(In '000 tonnes)

Country	2010	2011	2012
World : Total*	**3400**	**3100**	**3500**
Australia[e]	10	14	17
India[e]	6	6	6
Japan[e]	110	110	110
Korea, Rep. of	83	47	58
Mexico	170	107	227
Morocco	83	104	100[e]
Pakistan	11	7	10
Senegal (Attapulgite)	204	180	180
South Africa (Attapulgite)	58	14	16
Spain (Attapulgite & Sepiolite)	586	592	772
USA	2050	1950	2000[e]
Other countries	29	-	-

Figures rounded off.

Source*: World Mineral Production, 2008-2012.*
** Including Attapulgite & Sepiolite.*

FOREIGN TRADE

There were no exports and imports of fuller's earth during 2012-13.