

**FACTUAL FIELD VISIT REPORT ON ISSUES RAISED IN OA NO.54 OF  
2019/EZ BY SRI RABINDRA PRASAD PATNAIK VS COLLECTOR &  
DISTRICT MAGISTRATE, ANGUL & OTHERS**

In pursuance to the order of the Hon'ble National Green Tribunal, Principal Bench, New Delhi dtd.26.05.2020 in OA No.54 of 2019/EZ, the District Administration has constituted a committee comprising of Collector & District Magistrate, Angul, Divisional Forest Officer (T), Angul and Regional Officer, SPCB, Angul as members vide order No.2178/Judl., dtd.10.06.2020 to implement the directions of the Hon'ble NGT strictly. The following authorized officials of the district jointly visited the areas in question on **14.07.2020**.

1. Sri Santosh Pradhan, ADM (Revenue), Angul (Representative of District Collector & Magistrate, Angul)
2. Dr. Anup Kumar Mallick, Regional Officer, SPCB, Angul, Odisha
3. Sri Ranjan Kumar Behera, ACF, Angul Forest Division, Angul (Representative of DFO, Angul (T))

During the field visit G.M.-HR Sri Satyananda Sahu and others of NALCO were present and assisted the team in the field visit.

**M/s. National Aluminium Corporation Ltd. (NALCO), Nalconagar, Angul**

1. It was learnt from the plant authorities present during field visit that 4,75,000 Nos. (Approx.) of plantation has been done over 255 acres (33.77% of total plant area 755.00 acres) of land inside plant premises with survival rate of 70%. 10,77,017 nos. of plantation has been done over 526.6 acres (43.29% of total area i.e. 1216.41 acres) of land inside the S & P Township Complex, CISF Colony, Admin. Building, Training Centre and DPS School of NALCO with survival rate of 68.15% till May 2020. In the peripheral villages NALCO has planted 263350 Nos. of plants over an area of 103.6 hectare and stretch of 19.5 RKM. Plantation details and Satellite (Google Map) imagery of the plantation areas in smelter unit provided by NALCO, Smelter is annexed as Annexure-01 (A) and 01 (B).

As per the conditions stipulated in Environmental Clearance issued by MoEF&CC and direction of CPCB, industry has developed plantation over **33.77%** of total plant (smelter) area.

Following observations were made during field visit

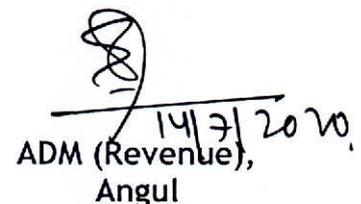
2. Plantation areas inside smelter plant boundary and inside CISF Colony, Admin. Building, Training Centre and DPS School of NALCO were visited and verified during inspection. New plantation has also been taken up inside CISF Colony.
3. Plantation in the areas demarcated in the above annexed map was found to be well maintained. Gap plantation has been done in the areas where earlier plant died. Density of plantation was observed to be more than 2500 Nos./Hectare.
4. Width/Thickness of plantation around smelter plant boundary was estimated as below:
  - a) East: Plantation is there from 10 m to 230 m, at some area, no plantation exists due to presence of plant facilities
  - b) West: Plantation exists from 160 m to 450 m, at some parts no plantation exists due to presence of plant facilities.
  - c) North: Plantation exists from 70 m to 580 m, at some parts no plantation exists due to presence of plant facilities.
  - d) South: Plantation exists from 50 m to 550 m.
5. Uniform plantation within 500 mtrs. of the plant area is not observed because of non-availability of vacant land. Total width of the plant area is about 1400 m and length is about 1500 m.
6. During the field visit it was noticed that some patch of vacant land is available inside the plant which can be used for plantation. On interaction with the plant authorities, they expressed some constraints and said that, the said vacant space cannot be used for plantation due to security reason.

  
14.07.2020

ACF, Angul Forest Division,  
Angul

  
14-07-2020

Regional Officer,  
SPCB, Angul, Odisha

  
14/7/2020  
ADM (Revenue),  
Angul

**नालको**  **NALCO**  
**NATIONAL ALUMINIUM COMPANY LIMITED**  
 (A GOVT. OF INDIA ENTERPRISE)  
 CIN:L27203OR1981GOI000920

No. ED(S&amp;P)/2020/28

Dt: 13/07/2020

To  
 The Regional Officer,  
 State Pollution Control Board, Odisha.  
 (Department of Forest & Environment, Govt. of Odisha)  
 Plot No. S-3/3, Industrial Estate, Hakimpada, Angul-759143.

Sub: Submission of information and documents required w.r.t. OA No. 54 of 2019/EZ-Sri Rabindra Prasad Patnaik Vs Collector & District Magistrate, Angul & Others.

Ref: Your Letter No: 1352, Dated: 17.06.2020 and 1482 dated 01.07.2020

Sir,

Inviting reference to the above the point wise information is given below.

**1. Plant Area details i.e Total Plant Area including Private & Govt. land and Forest & Non-forest land in acres.**

Total Plant area (Smelter Plant)

Private Land (Free Hold ): 871.93 Ac.

Govt. Land (Lease Hold): 164.15 Ac.

Forest Land 13.61 Ac.

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Total : 1049.69 Ac.

**2. Tree enumeration details over forest and non-forest area prior to establishment of the industry. Numbers of trees cut down and saved (in both forest and non-forest area) during establishment of industry. Copy of tree falling permission from the concerned departments.**

Record of tree enumeration details not traceable as Smelter Plant was established more than 35 years ago.

**3. Details of compensatory afforestation done against tree falling and sum of rupees deposited with concerned department for the same along with copy of supporting documents.**

- a) NALCO has paid compensation of Rs. 1,56,433/- towards tree felling.

**4. Details of plantation done inside plant area (up to May 2020) i.e. numbers of tree planted, area covered, RKM, survival rates and species list along with updated to the scale greenbelt layout.**

Details of plantation along with satellite imagery are attached at annexure – 1A, 1B, 1C & 1D.

**5. Details of plantation done outside (area wise) plant area (up to May 2020) i.e. numbers of tree planted, area covered, RKM, survival rates and species list.**

Details attached as Annexure – 1A, 1B, 1C & 1D.

**6. Copy of the Environmental Clearance.**

Attached as Annexure – 2.

**7. Details of crop damage and compensation paid towards crop damage since inception of the plant along with supporting documents.**

Attached at Annexure – 3.

**8. Detail compliance status report against findings/ recommendations given in the Final Report of Study for Investigation of Crop Damage around NALCO Smelter Plant, Angul, prepared by Environment Protection Training & Research Institute, Hyderabad.**

Details attached at Annexure-4.

**Additional Information / documents sought vide letter No. 1482 dated 01.07.2020**

**1. Copy of the Report of Study for Investigation of Crop Damage around NALCO Smelter Plant, Angul prepared by Environment Protection Training & Research Institute, Hyderabad.**

Attached at Annexure – 5.

**2. Detail compliance status report against findings/ recommendations I remedial measures given in the Final Report of Study for Investigation of Crop Damage around NALCO Smelter Plant, Angul prepared by Environment Protection Training & Research Institute, Hyderabad.**

Attached at Annexure – 4.

**3. Details of technology advancement/up-gradation since 1999 w.r.t. control of HF emission, Air Pollution Control Measures I Devices and Water Pollution Control Measures.**

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Attached at Annexure – 6.

Thanking You,

Yours Sincerely,

  
Executive Director  
S&P Complex,  
NALCO, Angul.

Copy for kind information to:

1. Member Secretary, State Pollution Control Board, BBSR.
2. Collector & District Magistrate, Angul.
3. Sr, Law Officer (L-1), State Pollution Control Board, Bhubaneswar.

Year of Plantation	Smelter & Township		
	No. of Saplings planted	Actual No. of Plants present	Actual Area present (in Hac)
1984-85	5,700	4,700	3.5
1985-86	23,475	22,000	15.0
1986-87	5,700	5,500	20.0
1987-88	1,21,000	35,000	22.0
1988-89	90,557	40,000	18.7
1989-90	1,22,750	60,000	20.0
1990-91	1,12,500	74,500	25.0
1991-92	1,25,740	75,000	22.0
1992-93	1,16,900	78,000	30.0
1993-94	1,05,000	35,000	16.0
1994-95	52,200	47,500	20.0
1995-96	60,000	55,000	25.0
1996-97	32,000	17,000	8.5
1997-98	50,625	48,000	25.5
1998-99	75,000	55,000	25.0
1999-2000	55,000	53,000	2.2 + GAP FILLING
2000-2001	55,000	55,000	2.0 + GAP FILLING
2001-2002	50,000	48,000	1.6 + GAP FILLING
2002-2003	40,000	38,500	1.4 + GAP FILLING
2003-2004	45,330	36,264	1.2 + GAP FILLING
2004-2005	63,556	50,844	1.8 + GAP FILLING
2005-2006	60,000	48,000	2.0 + GAP FILLING
2006-2007	74,000	63,591	2.7 + GAP FILLING
2007-2008	25,000	22,500	1.2 + GAP FILLING
2008-2009	49,500	29,700	4.0 + GAP FILLING
2009-2010	15,355	12,500	GAP FILLING
2010-2011	15,798	13,100	GAP FILLING
2011-2012	15,300	13,000	GAP FILLING
2012-2013	20,245	18,000	GAP FILLING
2013-2014	16,435	13,452	GAP FILLING
2014-2015	15,030	12,129	GAP FILLING
2015-2016	10,100	8,241	GAP FILLING
2016-2017	10,123	8,346	GAP FILLING
2017-2018	10,040	8,304	GAP FILLING
2018-2019	5,047	4,175	GAP FILLING
2019-2020	5,011	-	GAP FILLING
<b>TOTAL</b>	<b>17, 55,017</b>	<b>12, 08,846</b>	<b>316.3</b>

Total no. of plants planted – 17, 55,017  
 Actual no. of plants survived – 12,08,846  
 Average survival % age - 68.87%

**Inside Smelter Plant premises** (area 755 Ac.)

Total no. of plants planted: 6,78,000 Nos.,  
 Actual no. of plants survived – 4,75,000 Nos. Area covered: 255 Ac. (33.77% of plant area)  
 Average survival % = 70%.

**Outside Smelter Plant Premises** (S&P Township complex, CISF colony, ADM building, Training Centre, DPS School ) Total area 1216.41 Acre.

Total no. of plants planted – 10,77,017 Nos. Area covered: 526.6 Ac. (43.29% of plant area)  
 Actual no. of plants survived – 7,33,846 Nos.  
 Average survival % age - 68.15%

**SPECIES COVERED UNDER AVENUE PLANTATION:**

	<b>Scientific Name</b>	<b>Local Name</b>
1.	Anthocephalus Cadamba.	
2.	Delonix regia.	
3.	Peltoforum ferruginium.	
4.	Azadirachta indica.	
5.	Cassia fistula.	
6.	Cassia renigera	
7.	Cassia spectabllis.	
8.	Cassia glauca.	
9.	Somania saman.	
10.	Terminalia Catapa.	
11.	Terminalia arjun.	
12.	Callistemon lanceolatus.	
13.	Putranjiva ruxburghii.	
14.	Alstonia scholaris.	
15.	Ficus sps	
16.	Largerstromia flosreginae	Pride of India
17.	Plerospermum acerifolium	Muchukund
18.	Mimospus elengi	Baula
19.	Pollyalthia sps	

**SPECIES COVERED UNDER MASS PLANTATION:**

1.	Acacia species	Acacia
2.	Aegle marmelos	Bela
3.	Artocarpus heterophyllus	Jackfruit
4.	Azadirachta indica	Neem.
5.	Alstonia scholaris	Chhatiana.
6.	Albizzia lebbek	Siris
7.	Bombusa multiplex	Bamboo
8.	Cassia siamea	Rani chakunda
9.	Casuarina equisetifolia	Jhaun
10.	Dalbergia sisoo	Sisoo
11.	Eucalyptus hybrid	Nilgiri.
12.	Emblica offocinalis	Amla
13.	Gmelina arborea	Gambhari
14.	Leucaena leucocephala	Subabul
15.	Mangifera indica	Mango
16.	Millingtonia hortensis	Akasmalli
17.	Pongamia glabra	Karanja
18.	Peltoforum ferrugineum	Radhachuda
19.	Syzizium cuminii	Jaman
20.	Simaruba glauca	simaruba
21.	Tectona grandis	Teak
22.	Tamarindus indica	Tamarind
23.	Terminalia chebula	Bahada
24.	Terminalia catapa	Harida
25.	Terminalia arjun	Arjun
26.	Zyzyphus jujuba	Ber

## PLOT WISE PLANT COUNT (Tentative)INSIDE SMELTER PLANT ,NALCO Ltd. ANGUL

SI No	PLOT NO	AREA IN SQ Mt. ( Approx.)	NO OF PLANTS ( Approx.)
1	P-1	1841	989
2	P-2	97455	45297
3	P-3	123361	57338
4	P-4	213449	99211
5	P-5	11995	5575
6	P-6	129703	60285
7	P-7	227859	105808
8	P-8	145281	67526
9	P-9	50437	23443
10	P-10	20500	9528
	TOTAL	1021881 Sq. Mt ( 255 Acre Approx.)	4,75,000 Nos( Approx.)

N:B: The Plots are shown in attached Map (Annexure-I (C) )of Plantation area of Smelter Plant down loaded from GOOGLE EARTH Site

## Annexure-I (D)

**PLANTATION STATISTICS OF S&P COMPLEX AND PERIPHERAL VILLAGES****PLANTATION STATUS OF S&P COMPLEX, ANGUL**

Year of Plantation	Smelter & Township			CPP including Ash Pond		
	No. of Saplings planted	Actual No. of Plants present	Actual Area present (in Hac)	No. of Saplings planted	Actual No. of Plants Present	Actual Area present (in Hac)
1984-85	5,700	4,700	3.5	Nil	Nil	Nil
1985-86	23,475	22,000	15.0	10,000	3,000	1.2
1986-87	5,700	5,500	20.0	1,26,000	1,04,500	30.0
1987-88	1,21,000	35,000	22.0	1,10,000	91,300	25.0
1988-89	90,557	40,000	18.7	94,368	78,000	26.0
1989-90	1,22,750	60,000	20.0	1,29,000	1,06,000	30.0
1990-91	1,12,500	74,500	25.0	1,15,786	96,000	28.0
1991-92	1,25,740	75,000	22.0	70,500	3,000	5.2
1992-93	1,16,900	78,000	30.0	51,500	2,000	6.0
1993-94	1,05,000	35,000	16.0	40,000	33,000	13.2
1994-95	52,200	47,500	20.0	66,000	500	Nil
1995-96	60,000	55,000	25.0	40,000	20,700	8.2
1996-97	32,000	17,000	8.5	Nil	Nil	Nil
1997-98	50,625	48,000	25.5	15,000	9,600	3.8
1998-99	75,000	55,000	25.0	25,000	Nil	Nil
1999-2000	55,000	53,000	2.2 + GAP FILLING	13,000	9,400	3.7
2000-2001	55,000	55,000	2.0 + GAP FILLING	10,000	8,000	3.2
2001-2002	50,000	48,000	1.6 + GAP FILLING	Nil	Nil	Nil
2002-2003	40,000	38,500	1.4 + GAP FILLING	18,000	7,600	7.0
2003-2004	45,330	36,264	1.2 + GAP FILLING	25,000	20,000	8.0
2004-2005	63,556	50,844	1.8 + GAP FILLING	23,000	18,500	8.0
2005-2006	60,000	48,000	2.0 + GAP FILLING	25,000	20,000	7.0 +GAP FILLING
2006-2007	74,000	63,591	2.7 + GAP FILLING	20,000	17,000	6.8
2007-2008	25,000	22,500	1.2 + GAP FILLING	25,000	18,200	7.0 +GAP FILLING
2008-2009	49,500	29,700	4.0 + GAP FILLING	40,000	32,000	16.0
2009-2010	15,355	12,500	GAP FILLING	17,000	16,000	6.4
2010-2011	15,798	13,100	GAP FILLING	15,000	9,221	5.0
2011-2012	15,300	13,000	GAP FILLING	12,000	9,500	2.0 + GAP FILLING
2012-2013	20,245	18,000	GAP FILLING	20,000	18,000	8.0
2013-2014	16,435	13,452	GAP FILLING	15,000	14,000	6.0
2014-2015	15,030	12,129	GAP FILLING	15,000	12,000	GAP FILLING
2015-2016	10,100	8,241	GAP FILLING	7,500	5890	GAP FILLING
2016-2017	10,123	8,346	GAP FILLING	7,500	5750	3.0

<b>2017-2018</b>	10,040	8,304	GAP FILLING	5,000	3900	1.2
<b>2018-2019</b>	5,047	4,175	GAP FILLING	5,000	-	1.5 + GAP FILLING
<b>2019-2020</b>	5,011	-	GAP FILLING	5,000	-	2.00
<b>TOTAL</b>	<b>17,55,017</b>	<b>12,08,846</b>	<b>316.3</b>	<b>12,16,154</b>	<b>7,92,561</b>	<b>278.4</b>

**Total no. of plants planted** – 17, 55,017 + 12, 16,154 = **29, 71,171**

**Actual no. of plants survived** – 12,08,846 + 7, 92,561 = **20, 01,407**

**Average survival % age** - 67.36%

**Total Land covered** - 594.7 hac. = 1486.75 Ac.

**% of area covered under plantation w.r.t. total area of Nalco, S&P complex** – 1486.75/4095.92 x 100 = **36.30%**

*\* AREA SHOWS NEW AREAS UNDER PLANTATION BESIDES REPLANTING IN DAMAGED AREA & GAPFILLING*

### **PLANTATION IN PERIPHERAL VILLAGES OF NALCO S&P COMPLEX**

Nalco as a responsible corporate citizen has taken the responsibility of developing social forestry in the periphery villages involving villagers and the social youths. To generate environmental awareness, saplings of forest and fruit plants are being distributed every year among the villagers to plant in their home yards, Club, Temples Schools premises.

The details of Plantation in the peripheral villagers are as follows.

### **PLANTATION IN PERIPHERAL VILLAGES**

Sl. No.	Year of Plantation	Area of Plantation in Ha	Type of Plantation		Name of the site/ sites	Site wise no. of plants planted	Name of the species planted
			Block in Ha	Avenue in RKM			
1	2	3	4	5	6	7	8
1	1994-95	2.0	2.0		Kandasar	5000	Acacia, Jamun
2	1995-96	10.8	10.8		Budhapanka, Kukudang	27000	Acacia, Jamun, Sissoo, Teak
3	1996-97	4.8	4.8		Budhapanka, Kukudang	12000	Acacia, Jamun, Sissoo, Teak
4	2000-01	6.0	6.0		Gadarkhai	15000	Acacia, Sissoo, Eucalyptus
5	2002-03	6.0	6.0		Gadarkhai	15000	-do-
6	2003-04	2.4	2.4		Kulad	6000	-do-
7	2004-05	3.2	3.2		Kurudol	8000	-do-
8	2004-05	3.2	3.2		Girang	8000	-do-
9	2005-06	6.0	6.0		Gopinathpur	15000	Acacia, Jhaun, Sissoo, Radhachuda
10	2006-07	6.0	6.0		Kulad	15000	-do-
11	2007-08	5.2	5.2		Kurudool	13000	-do-
12	2007-08	6.0	6.0		Kukudang	15000	Acacia, Sissoo,

							Radhachuda
13	2008-09	6.0	6.0		Gopinathpur	15000	-do-
14	2009-10	20.0	20.0		Angul college, Tehranpur, Talcher block & Kurudol (Bahalasahi)	50000	Acacia, cassia, Jamun,, Neem,Bamboo, Teak
15	2010-11	2.0	2.0		Gobra, Karnapur	5000	Sissoo, Teak, Cassia
16	2011-12	6.0	6.0		Balaram Prasad	15000	Acacia, cassia, soso, neem
17	2012-13	8.0	8.0		Balaram Prasad	20000	Cassia, siso, neem, jhaun, bamboo
18	2013-14	-	-	2.5	Angul Municipality area	1 000	Jamun, neem,alstonia, cassia
19	2014-15	-	-	2.0	Angul Municipality area	800	-do-
20	2017-20			15.0	Angul Municipality area( Work is being executed through OFDC) with a financial implication of Rs 31,35,974.50	3550	Jamun, kadamba, neem, karanja, siso, sirisa etc.
					<b>Total -</b>	<b>263350</b>	

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