

# The anomaly in Indian Rubber Statistics

Grievances registered at [PG Portal](#) are as following.

- a. In 2013 Electronic Grievance Registration on Errors in Indian Rubber Statistics No. DOCOM/E/2013/00065 dated 6.3.2013 in PG Portal and the result [published here](#) with reply received from the Rubber Board.
- b. My second Grievance regarding anomaly in Indian Rubber Statistics No. DOCOM/E/2019/00176 dated 10.02.2019 published [here](#) with reply dated 6th March 2019 received from Rubber Board.
- c. My third Complaint Grievance No. DOCOM/E/2019/00280 dt 12-03-2019 published [here](#) with the reply dated 1st April 2019 received from Rubber Board.

What is the calculation used for finding the Balance Stock of Natural Rubber by Rubber Board?

It should be opening stock + production + import (of a particular period) - (consumption + export). Logically it should be the Balance Stock of Natural Rubber. If it is not equal to balance stock then what is the terminology used by the Rubber Board statistics Department for the obtained number?

Whether rubber board is exempted from principles of science and arithmetic?



4th complaint under process as follows.

**The following document is related with grievance under Process which is registered as "DOCOM/E/2019/00509 dt 16-05-2019" and it will be updated periodically.**

The Expert Panel has recommended that the stock of NR should include rubber available with the growers, dealers, processors and manufacturers based on the surveys and the returns collected and that the standard equality between (opening stock + production + import) and (consumption + export + closing stock) should be observed as far as possible..

In commodity modelling, ofcourse, a certain percentage of allowable error will always exist due to the estimation procedure. Production, consumption and balance stock are estimates and to some extent it is under the permissible error. But the error must be within the limits allowed.

The following table received Vide letter No. Secy/3/2019 dt 1st April 2019 from Rubber Board.

Updated key statistics published by the Board for 2004-05 to 2009-10 is furnished below.

Year	Opening Stock	Production	Import	Export	Consumption	Closing stock	Error	Error as % of consumption
2004-05	85190	749665	72835	46150	755405	110385	-4250	-0.56
2005-06	110385	802625	45285	73830	801110	93020	-9665	-1.21
2006-07	93020	852895	89799	56545	820305	165290	-6426	-0.78
2007-08	165290	825345	86394	60353	861455	164280	-9059	-1.05
<b>2008-09</b>	164280	864500	77762	46926	871720	196230	-8334	-0.96
<b>2009-10</b>	196230	831400	177130	25090	930565	211290	37815	4.06
<b>Total</b>	<b>85190</b>	<b>4926430</b>	<b>549205</b>	<b>308894</b>	<b>5040560</b>	<b>211290</b>	<b>81</b>	<b>0.0016</b>

The error % of consumption to reduce the figure which is negligible.

Updated key Statistics published by Rubber Board for 2002-03 to 2008-09 is furnished below.

Year	Opening Stock	Production	Import	Export	Consumption	Closing Stock	Error	Error as % of Closing Stock
2002-03	193070	649435	26217	55311	695425	117995	-9	-0.01
2003-04	117995	711650	44199	75905	719600	85190	-6851	-8.04
2004-05	85190	749665	72835	46150	755405	110385	-4250	-3.85
2005-06	110385	802625	45285	73830	801110	93020	-9665	-10.39
2006-07	93020	852895	89799	56545	820305	165290	-6426	-3.89
2007-08	165290	820345	86394	60353	861455	164280	-9059	-5.51
2008-09	164280	864500	77762	46926	871720	196230	-8334	-4.25
<b>TOTAL</b>	<b>193070</b>	<b>5456115</b>	<b>442491</b>	<b>415020</b>	<b>5525020</b>	<b>196230</b>	<b>-44594</b>	<b>-35.94</b>

It is evident from the table that the cumulative estimation error from 2002-03 to 2008-09 is -44594 MT, -35.94% of Closing Stock in the country. This is not negligible. In 2009-10 the balance stock is revised later to adjust the Error 37815 MT and in 2010-11 again an error of -1934 MT which has been revised later.

Updated key Statistics published by Rubber Board from 2011-12 to February 2019 is furnished below.

YEAR	Opening Stock	Production	Import	Export	Consumption	Closing Stock	Error	Error as % of Closing Stock
2011-12	288300	903700	214433	27145	964415	236275	+178598	75.59
2012-13	236275	913700	262753	30594	972705	253000	+156429	61.83
2013-14	253000	774000	360263	5398	981520	245000	+155345	63.41
2014-15	245000	645000	442130	1002	1020910	252000	+58218	23.10
2015-16	252000	562000	458374	865	994415	224000	+53094	23.70
2016-17	224000	691000	426188	20920	1044075	264000	+12193	4.62
2017-18	264000	694000	469760	5072	1112210	292000	+18478	6.33
2018-19*	292000	618000	545160	3945	1111940	294000	+45274	15.40
<b>TOTAL</b>	<b>288300</b>	<b>5801400</b>	<b>3179061</b>	<b>94942</b>	<b>8202190</b>	<b>294000</b>	<b>+677629</b>	<b>273.98</b>

\*2018-19 up to February 2019.

It is evident from the table that the cumulative error, from 2011-12 to February 2019, is of 677629 MT and it is published as such by the Statistics and planning Dept. Except production, the figures are compiled by the Rubber Board from the returns filed by Dealers/Processors, Exporters, Importers and manufacturers with licences.

The estimated production is to be calculated as per the formula. In future, the data published may be of error free nature as far as possible.

The following table from Annual Rubber Statistics, page number 26 on Vol 36 of 2013, including the annual adjustment with year wise Supply and Demand. The Excess (+) and Deficiency (-) will have to be shown in the balance stock at the end of the period. Availability including opening stock do not tally with the closing stock when subtracting the Consumption and Export. Eg. For 2001-02 Opening Stock 183900 + Production 631400 + Import 46769 = Availability 865069 MT. Subtracting Consumption 638210 and Export 6995 Tonnes from availability, the Closing Stock 193070 do not tally with out adding 26794 MT also.

**Table - 25, page number 26 of Vol 36 for the year 2013, Stock at the end of the year after adjustments shows error free statistics.**

TABLE - 25

**PRODUCTION, IMPORT, EXPORT, CONSUMPTION AND STOCK OF NATURAL RUBBER**

(Tonnes)

Year	Production	Annual growth rate	Import	Total Supply	Export	Consumption	Annual growth rate	Total Demand	Excess(+) / Deficiency(-) compared with demand	Stock at the end of the period*
1999-00	622265	2.85	20213	642478	5989	628110	6.18	634099	+ 8379	192570
2000-01	630405	1.31	8970	639375	13356	631475	0.54	644831	- 5456	183900
2001-02	631400	0.16	49769	681169	6995	638210	1.07	645205	+35964	193070
2002-03	649435	2.86	26217	675652	55311	695425	8.96	750736	-75084	117995
2003-04	711650	9.58	44199	755849	75905	719600	3.48	795505	-39656	85190
2004-05	749665	5.34	72835	822500	46150	755405	4.98	801555	+20945	110385
2005-06	802625	7.06	45285	847910	73830	801110	6.05	874940	-27030	93020
2006-07	852895	6.26	89799	942694	56545	820305	2.40	876850	+65844	165290
2007-08	825345	-3.23	86394	911739	60353	861455	5.02	921808	-10069	164280
2008-09	864500	4.74	77762	942262	46926	871720	1.19	918646	+23616	196230
2009-10	831400	-3.83	177130	1008530	25090	930565	6.75	955655	+52875	211290
2010-11	861950	3.67	190692	1052642	29851	947715	1.84	977566	+75076	288300
2011-12	903700	4.84	214433	1118133	27145	964415	1.76	991560	+126573	236275
2012-13p	913700	1.11	217364	1131064	30594	972705	0.86	1003299	+127765	253000

\* : including year end adjustment

**Vide letter No. 3/2019 dt 01 April 2019 from the Secretary, Rubber Board, claimed that the price hike of NR during 2010-11 and 2011-12 was due to the short supply and high demand. Unfortunately the table indicates +75076 and +126573 Tonnes of excess Stock and a balance stock of 286366 and 414873 Tonnes respectively without any correction. “Data collected in a year is subjected to revision in the subsequent year as and when updated statistics will be fully available. Alternately, estimates during a year will be revised based on the survey reports to validate key statistics for a year which would be obtainable after publishing the provisional data.” (Statement from Rubber Board). Then no need of correction in the Closing Stock of each year. Unfortunately the -Ve Error and +Ve Error were continuing for the past years. It has resulted in the Price hike and fall.**

Updated key statistics published by the Rubber Board for 2002-03 to 2010-11 furnished below.

YEAR	Production	Import	Total Supply	Export	Consumption	Demand	Excess (+) Deficiency (-)	Error	Closing stock	Actual Stock*
2002-03	649435	26217	675652	55311	695425	750736	-75084	-9	117995	117986
2003-04	711650	44199	755849	75905	719600	795505	-39656	-6851	85190	78339
2004-05	749665	72835	822500	46150	755405	801555	+20945	-4250	110385	106135
2005-06	802625	45285	847910	73830	801110	874940	-27030	-9665	93020	83355
2006-07	852895	89799	942694	56545	820305	876850	+65844	-6426	16520	158864
2007-08	825345	86394	911739	60353	861455	921808	-10069	-9059	164280	155221
2008-09	864500	77762	942262	46926	871720	918646	+23616	-8334	196230	187896
2009-10	831400	177130	1008530	25090	930565	955655	+52875	+37815	211290	249105
2010-11	861950	190692	1052642	28891	947715	977566	+75076	-1934	288300	286366
TOTAL	7149465	810313	7959778	469961	7403300	7873261	+86517	-8713	288300	286366

Actual Stock\* with out mathematical error.

As is evident from the table, the cumulative error from 2002-03 to 2010-11 is -8713 MT which has been adjusted +37815 in 2009-10. The -Ve Error continuously helping the manufacturers from the price hike by providing wrong short supply and high demand.

Updated key statistics published by the Rubber Board for 2011-12 to February 2019 furnished below.

YEAR	Production	Import	Total Supply	Export	Consumption	Demand	Excess (+) Deficiency (-)	Error	Closing stock	Actual Stock*
2011-12	903700	214443	1118133	27145	964415	991500	+126633	+178598	236275	414873
2012-13	913700	262753	1176453	30594	972705	1003299	+173154	+156429	253000	409429
2013-14	774000	360263	1124263	5398	981520	986918	+137345	+155345	245000	400345
2014-15	645000	442130	1087130	1002	1020910	1021912	+65218	+58218	252000	310218
2015-16	562000	458374	1020374	865	994415	995280	+25094	+53094	224000	277094

2016-17	691000	426188	1117188	20920	1044075	1064995	+52193	+12193	264000	276193
2017-18	694000	469760	1163760	5072	1112210	1117282	+46478	+18478	292000	310478
2018-19p	618000	545160	1163160	3946	1111940	1115886	+47274	+47274	294000	341274
<b>TOTAL</b>	<b>5801400</b>	<b>3179061</b>	<b>8980461</b>	<b>94942</b>	<b>8202190</b>	<b>8297132</b>	<b>+683329</b>	<b>+677629</b>	<b>294000</b>	<b>341274</b>

Actual Stock\* with out mathematical error. 2018-19p Up to February 2019.

**Updated key statistics published by the Rubber Board for 2011-12 to February 2019 on unwanted import furnished below.**

Year	Consumption	Export	Total Requirement	Production	Total Requirements - production	Import	Excess Import	Closing Stock	Error
2011-12	964415	27145	991500	903700	87860	214443	126573	236275	+178598
2012-13	972705	30594	1003299	913700	89599	262753	173154	253000	+156429
2013-14	981520	5398	986918	774000	212918	360263	14375	245000	+155345
2014-15	1020910	1002	1021912	645000	376912	442130	65218	252000	+58218
2015-16	994415	865	995280	562000	433280	458374	25094	224000	+53094
2016-17	1044075	20920	1064995	691000	373995	426188	52193	264000	+12193
2017-18	1112210	5072	1117282	694000	423282	469760	46478	292000	+18478
2018-19p	1111940	3946	1115886	618000	497886	545160	47274	294000	+45274
<b>TOTAL</b>	<b>8202190</b>	<b>94942</b>	<b>8297132</b>	<b>5801400</b>	<b>683329</b>	<b>3179061</b>	<b>683329</b>	<b>294000</b>	<b>+677629</b>

Closing stock and Error is only for information 2018-19p Up to February 2019.

**It is evident from the table that the cumulative error from 2011-12 to February 2019 is 677629 MT. A clarification is solicited from the Rubber Board regarding the excess stock of 658803 MT.**

**Updated key statistics published by the Rubber Board for 2010-11 to February 2019 without Mathematical Error.**

Year	Opening Stock	Production	Import	Total Supply	Consumption	Export	Closing Stock	Total Demand
2010-11	211290	861950	190692	1263932	947715	29851	286366	1263932
2011-12	286366	903700	214443	1404499	964415	27145	412939	1404499
2012-13	412939	913700	262753	1589392	972705	30594	586093	1589392
2013-14	586093	774000	360263	1720356	981520	5398	733438	1720356
2014-15	733438	645000	442130	1820536	1020910	1002	798656	1820536
2015-16	798656	562000	458374	1819030	994415	865	823750	1819030

2016-17	823750	691000	426188	1940938	1044075	20920	875953	1940938
2017-18	875953	694000	469760	2039703	1112210	5072	922421	2039703
2018-19p	922421	618000	545160	2085581	1111940	3946	969695	2085581
TOTAL	922421	6663350	3369753	10244393	9149905	124793	969695	10244393

Rubber Board to answer about 675695 Tonnes (969695-294000 Tonnes) which is missing from 2010-11. 2018-19p Up to February .

It is evident from the table, the cumulative error from 2010-11 to January 2019 is 675695 MT which has not been accounted anywhere. The Closing stock at the end of February 2019 is 969695 MT and as per the Rubber Board it is 294000 Tonnes.

Updated on 12-04-2019

### Annual Trends in Area, Production, Consumption, Import, Export and Average Prices of Natural Rubber in India

Year (April to March)	Rubber area (ha)	Tappable Rubber area (ha)	Production (tonne)	Average yield (kg/ha)	Consumption (tonne)	Import (tonne)	Export (tonne)	Average price of RSS-4 at Kottayam (Rs/100kg)
2005-06	597,610	447,015	802,625	1,796	801,110	45,285	73,830	6,699
2006-07	615,200	454,020	852,895	1,879	820,305	89,799	56,545	9,204
2007-08	635,400	458,830	825,345	1,799	861,455	86,394	60,353	9,085
2008-09	661,980	463,130	864,500	1,867	871,720	77,762	46,926	10,112
2009-10	686,515	468,480	831,400	1,775	930,565	177,130	25,090	11,498
2010-11	711,560	477,230	861,950	1,806	947,715	190,692	29,851	19,003
2011-12	734,780	490,970	903,700	1,841	964,415	214,433	27,145	20,805
2012-13	757,520	504,040	913,700	1,813	972,705	262,753	30,594	17,682
2013-14	778,400	518,100	774,000	1,629	981,520	360,263	5,398	16,602
2014-15	795,135	533,675	645,000	1,443	1,020,910	442,130	1,002	13,257
2015-16	810,800	558,900	562,000	1,437	994,415	458,374	865	11,306
2016-17	818,000	584,600	691,000	1,553	1,044,075	426,188	20,920	13,549
2017-18p	820,900	612,000	694,000	1,458	1,112,210	469,760	5,072	12,980

P: provisional

This table is an extract from Statistical Highlights published by Rubber Board.

Ref:- <http://rubberboard.org.in/rbfilereader?fileid=268>

The Production, Import, Consumption and Export compiled from this revised data shows error in arriving the Closing Stock which is misleading. The total area of rubber plantation in India on 2002-03 was 569667 hectares with tapped area 407953 hectares with a productivity of 1592 kg/hectare. In 2011- 12 the total area in India was 734780 hectares with tapped area 490970 hectares with productivity of 1841 kg/hectare which was higher. In 2017-18 the total area is 820900 hectares with tappable area 612000 hectares and tapped area 475900 hectares with productivity 1548 kg/hectare. When the

cultivated area and tappable area is increased, the tapped area is seen decreased due to low market price compared to production cost.

The following Table is compiled from the above data published by Rubber Board as Statistical Highlights.

**Annual trend in Availability and Demand with Error from 2005-06 to February 2019**

Year	Opening Stock	Production	Import	Availability	Consumption	Export	Closing Stock	Demand	Error
2005-06	110385	802625	45285	958295	801110	73830	93020	967960	-9665
2006-07	93020	852895	89799	1035614	820305	56545	16520	1042140	-6426
2007-08	16520	825345	86394	1077029	861455	60353	164280	1086088	-9059
2008-09	164280	864500	77762	1106542	871720	46926	196230	1114876	-8334
2009-10	196230	831400	177130	1204760	930565	25090	211290	1166945	37815
2010-11	211290	861950	190692	1263932	947715	28891	288300	1265866	-1934
2011-12	288300	903700	214443	1406433	964415	27145	236275	1227835	178598
2012-13	236275	913700	262753	1412728	972705	30594	253000	1256299	156429
2013-14	253000	774000	360263	1387263	981520	5398	245000	1291918	155345
2014-15	245000	645000	442130	1332130	1020910	1002	252000	1273912	58218
2015-16	252000	562000	458374	1272374	994415	865	224000	1219280	53094
2016-17	224000	691000	426188	1341188	1044075	20920	264000	1328995	12193
2017-18	264000	694000	469760	1427760	1112210	5072	292000	1409282	18478
2018-19p	292000	618000	545160	1455160	1111940	3946	294000	1409886	45274
<b>TOTAL</b>	<b>292000</b>	<b>10840115</b>	<b>3846023</b>	<b>18978138</b>	<b>13435060</b>	<b>387319</b>	<b>294000</b>	<b>17001282</b>	<b>679926</b>

Evidence of Arithmetical Error 679926 Tonnes as per statistical highlights

The estimation error, from 2005-06 to February 2019 , of 679926 MT is seen published by the Statistics and planning Dept. Except production, the figures are compiled from the returns filed by Dealers/Processors, Exporters, Importers and manufacturers with licences. The estimated production have to be arrived as per the formula. The arithmetical adjustment ,in the published table ,to arrive the closing stock is confusing . The Annual Statistics may be prepared as error free as far as possible in future and must be transparent.



**Officer Concerned to**

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**Officer Designation: Secretary-in-Charge**

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**Updated on: 22-06-2019**

**Place: Thiruvananthapuram**

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