**REPORT**

Rice has always been one of the major agricultural products of India. Paddy farmers dominate the farmer community maybe second only to wheat farmers. But unlike wheat paddy crops are more sensible to the external factors and susceptible to variations that are less significant for wheat or any other crop. For this reason, a comparative study of rice production among two states in India which have no conditions in common is highly necessary to understand the stimulus and response of the crop and thereby obtaining adequate knowledge to optimize the crop production. The states under consideration here are West Bengal and Odisha.



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| --- | --- | --- | --- | --- |
| **YEAR** | **AREA IN WB** | **PRODUCTION IN WB** | **AREA IN ODISHA** | **PRODUCTION IN ODISHA** |
| 2000 | 5435323 | 12428038 | 4433520 | 4613380 |
| 2001 | 5503087 | 13815548 | 4500000 | 7220000 |
| 2002 | 5842127 | 14389238 | 4273000 | 3278000 |
| 2003 | 5856607 | 14662239 | 4501000 | 6801000 |
| 2004 | 5783613 | 14884889 | 4492000 | 6536000 |
| 2005 | 5782949 | 14510742 | 4479000 | 6858000 |
| 2006 | 5687028 | 14745892 | 4451000 | 6823000 |
| 2007 | 5719755 | 14719520 | 4452000 | 7540000 |
| 2008 | 5935696 | 15037240 | 4455000 | 6812000 |
| 2009 | 5630095 | 14340605 | 4365000 | 6913000 |
| 2010 | 4944146 | 13389610 | 4226000 | 6824000 |
| 2011 | 5433700 | 14605766 | 4005000 | 5806000 |
| 2012 | 5444318 | 14946735 | 12378000 | 9496000 |
| 2013 | 5513687 | 15376869 | 4180000 | 7610000 |

From the given data let us try to obtain some statistical inferences. If we take a closer look at the production per unit area of both the states, we see that west Bengal has a higher value of 2.57097761 whereas the corresponding value of Odisha is 1.346. There is a clear margin of difference between the rice production per unit area of both the states. Hence, the average crop production and overall contribution to the national total of west Bengal is higher.

A year-to-year comparison shows that the production of rice from west Bengal is consistently higher than that of Odisha. Both west Bengal and Odisha showed a dip in production in the period of 2010-12. This is because the country faced sever drought in the beginning of 2010 and took time to revive from that. Also, there is a dip in production of rice of Odisha in 2002 owing to the lower area of farm available for rice production.

There is the advantage of the peninsular plateau for Odisha and that of many fresh water lakes in West Bengal to its advantage. There are various other factors like the impact of the sea’s proximity, south-west monsoon, north-east monsoon, sand and soil types, fauna etc.

But evidently data shows us that West Bengal always had an upper hand than Odisha when it comes to rice production. The values of the future years can be predicted accurately with the help of a very good machine learning model if given the proper data.