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Popular Article

## Trend and Growth Analysis of Fish Seed Production of Indian and Andhra Pradesh

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### Introduction

The production of good quality fish seed in adequate quantity is the foremost important thing in order to boost up the aquaculture industry. Seeds and feeds are among the most important inputs required for sustainable aquaculture industry improvement in any country (Das and Saha, 2021). Fish is the most important source of animal protein food for the human population and the potential of fish culture production from ponds, floating cages and various other small water bodies in India is great. The supply of quality fish seed is a key factor to the expansion of fish farming. Fish seed demand at present is strong, unsatisfied and expected to expand and fish seed business in India is profitable (Anil et al., 2013). Increased production of fish depends largely on availability of good quality fish seed. About two decades ago, farmers had to depend almost entirely on seeds from natural breeding grounds which supplied more than 85% of total requirement of seed (Karim and Ahsan 1989). The surging demand for fish and fishery products will mainly be met by growth in supply from aquaculture production. Aquaculture remains one of the fastest-growing sectors for animal food production. One of the main constraints is the availability of quality fish seeds. Seed is the primary input in any culture systems; its production has been accorded highest priority in terms of bloodstock management, establishment of hatcheries, and refinement of induced breeding techniques, rearing and production of quality seed across the state (Anon, 2022). In this context, this study was carried out to appraise the annual growth and compound annual growth rates was occurred



in the seed production of fish culture in India and Andhra Pradesh for the period of last 27 years from 1994-95 to 2020-21.

### Fish Seed Production Trend - Andhra Pradesh versus India

The secondary data on production of fish seed for the period 1994-95 to 2020-21 were collected from the document of Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India (Anon, 2021). Considering the availability of data, the study covers the time period from 1994-95 to 2020-21. To attain the first objective, are analysed by calculating annual growth rate and compound annual growth rates in fish seed production in India and Andhra Pradesh. The fish seed production of India and Andhra Pradesh for the period 1994-95 to 2020-21 is presented in Fig.1.

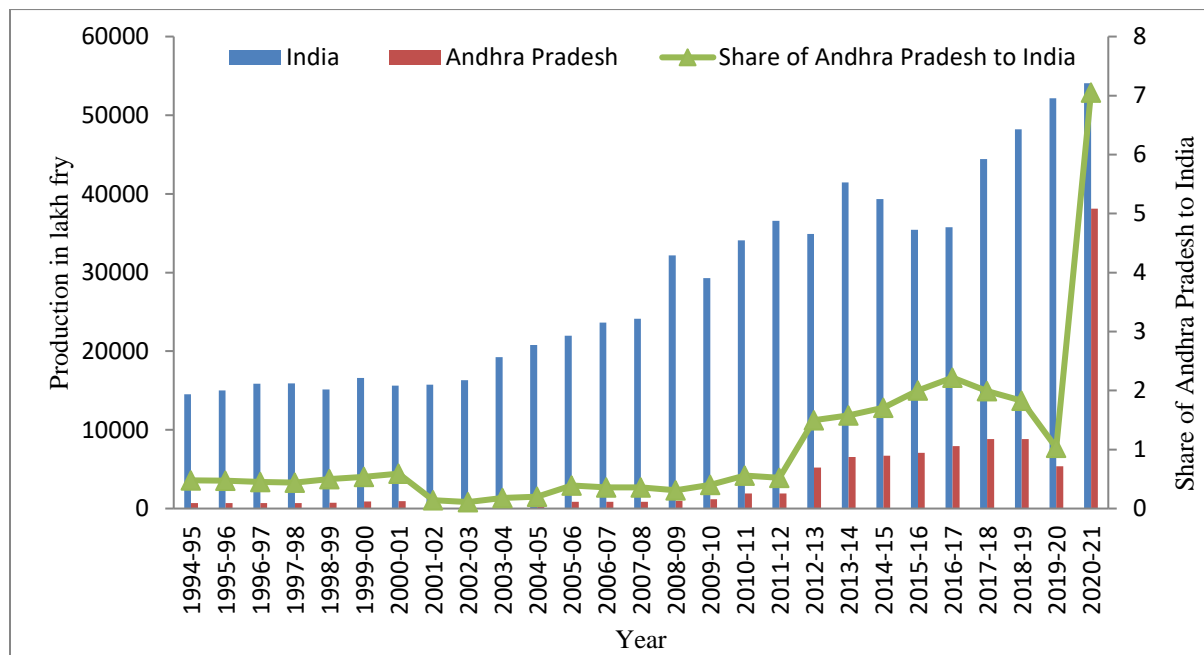


Fig. 1. Fish seed production and share of Andhra Pradesh and India

Fish seed production trend of India and Andhra Pradesh from 1994-95 to 2020-21 is presented in Table 1. Fish seed production in the India rose from 1, 45,440 lakh fry in 1994-95 to 5, 40,690 lakh fry in 2020-21. Correspondingly, the fish seed production in Andhra Pradesh has touched 38,126 lakh fry in 2020-21 from a mere 700 lakh fry in 1994-95. It is also inferred that Andhra Pradesh and India have an average decadal growth rate (1994-85 to 2020-21) of 15.96% and 4.99% respectively (Table 1).



Year	India		Andhra Pradesh		Share of Andhra Pradesh to India's
	Fish seed production	% change	Fish seed production	% change	
1994-95	145440	-	700	-	0.48
1995-96	150070	3.18	709	1.29	0.47
1996-97	158520	5.63	711	0.28	0.45
1997-98	159040	0.33	700	-1.55	0.44
1998-99	151560	-4.70	752	7.49	0.50
1999-00	165890	9.46	889	18.16	0.54
2000-01	156080	-5.91	921	3.54	0.59
2001-02	157580	0.96	215	-76.65	0.14
2002-03	163330	3.65	179	-16.75	0.11
2003-04	192310	17.74	352	96.56	0.18
2004-05	207910	8.11	421	19.72	0.20
2005-06	219880	5.76	852	102.35	0.39
2006-07	236480	7.55	860	0.97	0.36
2007-08	241440	2.10	860	0.00	0.36
2008-09	321770	33.27	982	14.17	0.31
2009-10	293130	-8.90	1165	18.68	0.40
2010-11	341095	16.36	1899	62.98	0.56
2011-12	365651	7.20	1899	0.00	0.52
2012-13	349202	-4.50	5228	175.26	1.50
2013-14	414484	18.69	6563	25.52	1.58
2014-15	393487	-5.07	6719	2.38	1.71
2015-16	354350	-9.95	7097	5.63	2.00
2016-17	357439	0.87	7923	11.64	2.22
2017-18	444207	24.27	8846	11.64	1.99
2018-19	481974	8.50	8842	-0.04	1.83
2019-20	521865	8.28	5358	-39.40	1.03
2020-21	540690	3.61	38126	611.57	7.05
<b>1994-95 to 2020-21</b>	<b>CAGR</b>	<b>4.99</b>	<b>CAGR</b>	<b>15.96</b>	

Particularly, in the year 2020-21, the production annual growth rate was found to be at its peak with 611.57% for Andhra Pradesh. But, the annual growth rate for India had also hit the highest point of 33.27% in 2008-09. While the entire study period has registered a positive annual growth rate for Andhra Pradesh except the years 1997-98, 2001-02, 2002-03, 2018-19 and 2019-20 (-1.55%, -76.65%, -16.75%, -1.14% and -39.40%) respectively. Similarly, India had witnessed negative



growth during many parts of the decade viz., 1998-99, 2000-01, 2009-10, 2012-13, 2014-15 and 2015-16. The share of Andhra Pradesh in Indian fish seed production has gradually from about 0.11 percent during the period 2002-03 to 7.05 percent in 2020-21.

### **Conclusion**

The trend and Growth in fish seed production were appraised utilizing time series data available for Andhra Pradesh and India for the period of 27 years from 1994-95 to 2020-21. The trend analysis revealed that there were several fluctuations in the growth pattern of fish seed production in entire Andhra Pradesh and India. Further, the analysis emphasized that compound annual growth rate was positively significant at entire study period due to emphasis on the production of improved fish seeds, fulfilling demands for seeds from other states, financial support from Government of India for establishing Fish Seed Multiplication Farms.

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