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Changing Forest Scenario in Rajasthan- A Review

N.K. Bohra

Arid Forest Research Institute, Jodhpur (Rajasthan)

Abstract

Rajasthan is known for his diversified climatic conditions and forest types. It has arid and semi arid areas with thorny forest to evergreen forest areas. During last few decades situation of different forest areas changes very much and in some areas forest cover also increases. Changes in the very Dense forest, Moderate dense forest, Total forest and scrub forest since 2003 to 2021 is presented based on the FSI reports

Keywords: Very dense forest, Moderate dense forest, Total forest and scrub forest

Introduction

Rajasthan is a largest state of country situated at north-western part of India covering an area of 3,42,239 square kilometres which constitutes 10.40 percent of the geographical area of country. Rajasthan lies in between 23°4' N to 30°11' N latitude and 69°29' E to 78°17' E longitude. Rajasthan state can be divided into four distinct regions namely western desert with barren hills, level rock and sandy plains, the Aravalli hills and south eastern plateau. In its western part of state including Thar Desert climate is relatively dry and infertile where as in south-western part land is wetter, hilly and more fertile. Thus it has semiarid to arid climate. The state has average annual temperature ranging from 0 to 50°C and the average annual rainfall from 500 to 700 mm. In Rajasthan major rivers are Banas, Chabmal, Mahi and Luni. There are 33 districts in Rajasthan with a population of 68.55 million as per 2011 census

which is 5.66 percent of India's population. India's population density is 382 persons per square kilometres only. As per 19th livestock census 2012 state has total livestock population of 57.73 million.

Forest area of state is 27,40,000 hectare which constitutes 8.0 percent of area. Permanent pastures and other grazing land is 16,74,000 hectares constitute 4.8 percent of state. Its net area sown is 17,521,000 hectare which is 51.13 percent of state. (Source- land use statistics, ministry of Agriculture, GOI 2014-15). Rajasthan stands 15th in terms of recorded forest area (RFA) and though it is largest state of India but is a forest deficient state. As per Champion & Seth classification of forest type (1968) there are two group's namely Tropical dry deciduous forest and tropical thorn forest. These can be further sub

divided into 20 forest types. Massive afforestation is done along Indira Gandhi canal. States have 377 VFMC/EDC operational under joint forest management.

Recorded forest area of the state is 32,737 (9.57 percent of geographical area) square kilometre. Out of this reserved forest area is 12,475 square kilometre, protected forest is 18217 square kilometre and 2,045 square kilometre is unclassified forest. As per recorded from January 2015 to February 2019 a total of 2834 hectares of forest land was diversified for non forestry purpose under forest conservation act 1980 (MOEF & CC 2019). Similarly 2018-19 total of 42,633 hectare of plantation were raised by state. Rajasthan has five national park, 25 wildlife sanctuaries and 11 conservation reserve constituting 2.92 percent of its geographical area as protected area. There are 3 project tiger (Ranthambore, Sariska & Mukundra hills) and two Ramsar (Keoladeo Ghana sanctuary and Sambhar lake) sites.

Forest cover- Interpretation of IRS resources at 2 LISS III satellite data for period from October to December 2017. Rajasthan has 16629.51 square kilometre forest cover which is 4.86 percent of the state geographical area. As per the India state of forest report (ISFR, 2021) state has 78 km² under very dense forest (VDF) 4369 km² under moderately dense forest (MDF), 12208 km² under open forest, 4809 km² of scrub forest area and 320775 km² of net forest area. With respect to ISFR 2019, net forest area is decrease in 74 km² in 2021 ISFR but MDF and Scrub forest area increases by 27 and 49 km², respectively.

Study of forest area from 2003 to 2021

Based on ISFR reports by FSI there is a gradual change in forest area with respect to different forest type in different district of state. Till ISFR 2017 there are only 29 districts but later on 4 districts- Dausa, Hanumangarh, Karauli and Pratapgarh was formed. In Swai madhopur, Udaipur, Kota, Chittorgarh, Churu, Banswara and Bikaner districts the area also changes which is adjusted in other districts.

Details study of all types of forest areas-

1. AJMER- In Ajmer district with 8481 square kilometre in 2003 to 2019 ISFR there is no change and its remains zero. In moderate dense forest area in 2003 it was 51 square kilometre, in 2005 50 km², in 2009 39 km², in 2017 43 km², in 2019 43 km² and 46 km² in 2021 was recorded. In Ajmer district open forest area was 215 km² in 2003 which change to 222 km² in 2005, 237 km² in 2009 & 2011, 335 km² in 2013, 334 km² in 2015, 335 km² in 2019 and 285 km² in 2021.

Total forest area of Ajmer was 266 km² in 2003, 272 km² in 2005, 276 km² in 2009, 277 km² in 2011, 282 km² in 2013, 284 km² in 2015, 299 km² in 2017, 305 km² in 2019 and 332 km² in 2021. Scrub forest area of Rajasthan was 221 km² in 2001, 218 km² in 2009 & 2011, 217 km² in 2013, 216 km² in 2015, 202 km² in 2017, 205 km² in 2019 and 176 km² in 2021.

2. ALWAR- Alwar district having geographical area 8380 km² has 14 km² in VDF in 2003 & 2005, which increase to 59 km² in 2009 and remain 59 km² till 2009 to 2019 and 60 km² in 2021. In MDF area was 370 km² in 2003, 369 km² in 2005, 336 km² in 2009 & 2011, 335 km² in 2013, 334 km² in 2015, 335 km² in 2017 & 2019 and 335 km² in 2021.

Total forest area of Alwar has 1212 km² in 2003, 1211 km² in 2005, 1207 km² in 2009, 1205 in 2011, 1203 km² in 2013 & 2015, 1197 km² in 2017 & 2019 and 1196 km² in 2021. In Alwar scrub forest area was 302 km² in 2001, 256 km² in 2009, 255 km² in 2011 & 2013, 265 km² in 2015, 246 km² in 2017 & 2019 and 243 km² in 2021.

3. BANSWARA- It has earlier only 5037 km² areas which later become 4522 km². It has no VDF forest area since 2003. However under MDF it has 51 km² area in 2003, 48 km² area in 2005, 83 km² in 2009, 2011 & 2013, 81 km² in 2015, 39 km² in 2017, 2019 & 2021. Banswara has 321 km² under open forest in 2003, 322 km² in 2005, 292 km² in 2009, 293 km² in 2011, 292 km² in 2013, 286 km² in 2015, 222 km² in 2017 & 230 km² in 2019 & 2021.

Total forest area was 372 km² in 2003, 370 km² in 2005, 375 km² in 2009, 376 km² in 2011, 375 km² in 2013, 367 km² in 2015, 261 km² in 2017 and 268 km² in 2019 and 269 km² in 2021. Scrub forest in Banswara was 116 km² in 2001, 86 km² in 2009, 85 km² in 2011, 2013 & 2015, 53 km² in 2017, 63 km² in 2019 and 60 km² in 2021.

4. BARAN- Total geographical area of Baran is 6992 km². In Baran very dense forest was altogether absent from 2003 to 2021. However moderate dense forest was 136 km² in 2003, 135 km² in 2005, 149 km² in 2009 to 2015, 155 km² in 2017 & 2019 and 154 km² in 2021. Open forest area of Baran was 946 km² in 2003, 948 km² in 2005, 940 km² in 2009, 941 km² in 2011, 935 km² in 2013, 938 km² in 2015, 858 km² in 2017 & 856 km² in 2019 & 2021.

In Baran total forest area was 1082 km² in 2003, 1083 km² in 2005, 1089 km² in 2009, 1090 km² in 2011, 1084 km² in 2013, 1087 km² in 2015, 1013 km² in 2017, 1011 km² in 2019 and 1010 km² in 2021. In Baran scrub forest area was 195 km² in 2001, 113 km² in 2009 to 2015, 103 km² in 2017, 107 km² in 2019 and 99 km² in 2021.

5. BARMER- Its geographical area is 28387 km². Very dense forest area was altogether absent. Moderate dense forest was 12 km² in 2003 & 2005, 3 km² in 2009 & 2011, 4 km² in 2013 to 2019 and 5 km² in 2021. Open forest area in Barmer was 159 km² in 2003, 157 km² in 2005, 166 km² in 2009, 169 km² in 2011, 174 km² in 2013, 186 km² in 2015, 269 km² in 2017, 286 km² in 2019 and 284 km² in 2021.

Total forest area of Barmer was 171 km² in 2003, 169 km² in 2005 & 2009, 172 km² in 2011, 178 km² in 2013, 190 km² in 2015, 273 km² in 2017, 290 km² in 2019 and 289 km² in 2021. Scrub forest in Barmer was 121 km² in 2001, 104 km² in 2009, 106 km² in 2011, 103 km² in 2013, 140 km² in 2015, 205 km² in 2017, 234 km² in 2019 and 223 km² in 2021.

6. BHARATPUR- It has 5066 km² geographical area. Very dense forest area is altogether absent from 2003 to 2021. Moderate dense forest was 39 km² in 2003, 38 km² in 2005, 33 km² in 2009 & 2011, 31 km² in 2013 & 2015 and 22 km² to 2017 & 2019 and 26 km² in 2021. Open forest area was 197 km² in 2003, 198 km² in 2005, 202 km² in 2009, 204 km² in 2011, 212 km² in 2013, 209 km² in 2015, 207 km² in 2017, 208 km² in 2019 and 195 km² in 2021.

Total forest area of Bharatpur was 236 km² in 2003, 2005 & 2009, 238 km² in 2011, 243 km² in 2013, 240 km² in 2015, 229 km² in 2017, 230 km² in 2019 and 221 km² in 2021. Scrub forest in Bharatpur was 93 km² in 2001, 90 km² in 2009 & 2011, 87 km² in 2013 & 2015, 79 km² in 2017, 78 km² in 2019 and 77 km² in 2021.

7. BHILWARA- It has 10455 km² geographical area. Very dense forest area is altogether absent. Moderate dense forest was 36 km² in 2003, 34 km² in 2005, 33 km² in 2009, 34 km² 2011, 2013 & 2015, 31 km² to 2017 & 2019 and 33 km² in 2021. Open forest area in Bhilwara was 184 km² in 2003, 186 km² in 2005, 189 km² in 2009, 191 km² in 2011, 193 km² in 2013 & 2015, 190 km² in 2017, 193 km² in 2019 and 191 km² in 2021.

Total forest area was 220 km² in 2003 & 2005, 222 km² in 2009, 225 km² in 2011, 227 km² in 2013 & 2015, 221 km² in 2017 and 224 km² in 2019 & 2021. Scrub forest area was 142 km² in 2001, 126 km² in 2009 129 km² in 2011, 2013 & 2015, 158 km² in 2017, 176 km² in 2019 and 190 km² in 2021.

8. BIKANER- Its geographical area was 27,244 km² which change to 30239 km² after resettlement of districts. Very dense forest area was 1 km² in 2017 & 2019 and 0.9 km² in 2021. Moderate dense forest was 36 km² in 2003, 37 km² in 2005, 28 km² in 2009 & 2011, 27 km² from 2013 to 2019 and 28 km² in 2021. Open forest area was 167 km² in 2003, 162 km² in 2005,

169 km² in 2009, 180 km² in 2011, 183 km² in 2013, 181 km² in 2015, 219 km² in 2017, 228 km² in 2019 and 251 km² in 2021.

Total forest area was 203 km² in 2003, 199 km² in 2005, 197 km² in 2009, 208 km² in 2011, 210 km² in 2013, 208 km² in 2015, 247 km² in 2017, 256 km² in 2019 and 280 km² in 2021. Scrub forest area was 53 km² in 2001, 39 km² in 2009 & 2011, 37 km² in 2013 & 2015, 47 km² in 2017 and 52 km² in 2019 and 50 km² in 2021.

9. BUNDI- Its geographical area was 5550 km² which after resettling of district becomes 5576 km². Very dense forest area was absent from 2003 to 2019 and 1 km² in 2021. Moderate dense forest was 143 km² in 2003 & 2005, 140 km² in 2009 to 2015, 138 km² in 2017 & 2019 and 139 km² in 2021.

Open forest area in Bundi was 298 km² in 2003, 306 km² in 2005, 307 km² in 2009 to 2015, 419 km² in 2017, 418 km² in 2019 and 424 km² in 2021. Total forest area was 441 km² in 2003, 445 km² in 2005, 453 km² from 2009 to 2015, 558 km² in 2017, 557 km² in 2019 and 564 km² in 2021. Scrub forest area was 201 km² in 2001, 145 km² from 2009 to 2013, 153 km² in 2015, 151 km² in 2017, 152 km² in 2019 and 173 km² in 2021.

10. CHITTORGARH- It has geographical area 10,856 km² which change to 7822 km² after formation of new districts. Very dense forest area is altogether absent while moderate dense forest was 581 km² in 2003, 576 km² in 2005, 597 km² in 2009 595 km² in 2011 & 2013, 592 km² in 2015 and 220 km² in 2017, 221 km² in 2019 and 222 km² in 2021.

Open forest area was 1094 km² in 2003, 1098 km² in 2005, 1092 km² in 2009 & 2011, 1080 km² in 2013, 1073 km² in 2015, 769 km² in 2017 and 768 km² in 2019 & 2021. Total forest area was 1675 km² in 2003, 1674 km² in 2005, 1689 km² in 2009, 1687 km² in 2011, 1675 km² in 2013 1665

km² in 2015, 989 km² in 2017 & 2019 and 990 km² in 2021. Scrub forest area was 207 km² in 2001, 158 km² from 2009, 159 km² in 2011, 2013 & 2015, 85 km² in 2017, 100 km² in 2019 and 107 km² in 2021.

11. CHURU- It has 16830 km² geographical area which after resettling of districts becomes 13835 km². Very dense forest area is altogether absent while moderate dense forest was 8 km² in 2003 & 2005, 5 km² in 2009 to 2015, 3 km² in 2017 & 2019 and 2 km² in 2021.

Open forest area was 85 km² in 2003, 80 km² in 2005, 84 km² in 2009, 85 km² in 2011, 87 km² in 2013 & 2015, 79 km² in 2017 & 2019 and 75 km² in 2021. Total forest area was 93 km² in 2003, 88 km² in 2005, 89 km² in 2009, 90 km² in 2011, 92 km² in 2013 & 2015, 82 km² in 2017 & 2019 and 78 km² in 2021. Scrub forest area was 16 km² in 2003, 6 km² from 2005, 22 km² in 2017 & 2019 and 27 km² in 2021.

12. DHAULPUR- It has geographical area of 3033 km². Very dense forest area is absent while moderate dense forest was 101 km² in 2003 & 2005, 82 km² in 2009, 2011, 2013 & 2015 and 80 km² in 2017, 2019 & 2021.

Open forest area was 320 km² in 2003, 318 km² in 2005, 337 km² in 2009 & 2011, 338 km² in 2013 & 2015 and 339 km² in 2017, 2019 & 2021. Total forest area was 421 km² in 2003, 419 km² in 2005 to 2011, 420 km² in 2013 & 2015, 419 km² in 2017, 2019 & 2021. Scrub forest area was 61 km² in 2001, 56 km² from 2009 & 2011, 55 km² in 2013 & 2015, 70 km² in 2017, 75 km² in 2019 and 76 km² in 2021.

13. DUNGARPUR- Its geographical area is 3770 km² with no very dense forest area while moderate dense forest was 17 km² in 2003 & 2005, 44 km² from 2009 to 2015 and 43 km² in 2017, 2019 & 2021.

Open forest area was 233 km² in 2003, 235 km² in 2005, 208 km² in 2009 & 2011, 212 km² in 2013 & 2015, 248 km² in 2017, 260 km² in 2019 and 262 km² in 2021. Total forest area was 250 km² in 2003, 252 km² in 2005 to 2017, 302 km² in 2019 and 305 km² in 2021. Scrub forest area was 68 km² in 2001, 43 km² from 2009, 42 km² in 2011 & 2013, 43 km² in 2015, 61 km² in 2017, 75 km² in 2019 and 83 km² in 2021.

14. GANGANAGAR- It has geographical area becomes 10,978 km² from 20634 km² after formation of new districts. Very dense forest area is absent. Moderate dense forest was 31 km² in 2003, 34 km² in 2005, 31 km² in 2009, 30 km² in 2011 29 km² in 2013, 30 km² in 2015 and 10 km² in 2017, 2019 & 2021.

Open forest area in Ganganagar was 133 km² in 2003, 135 km² in 2005, 146 km² in 2009, 160 km² in 2011 & 2013, 161 km² in 2015, 103 km² in 2017 & 2019 and 105 km² in 2021. Total forest area was 164 km² in 2003, 169 km² in 2005, 177 km² in 2009, 190 km² in 2011, 189 km² in 2013, 191 km² in 2015, 113 km² in 2017 & 2019 and 115 km² in 2021. Scrub forest area was 2 km² in 2001, 3 km² from 2009 & 2015, 13 km² in 2017 & 2019 and 16 km² in 2021.

15. JAIPUR- It has earlier 14069 km² geographical area which changes to 11143 km² after settlement of districts. Very dense forest area was 0 in 2003 & 2005, 13 km² from 2009 to 2015, 12 km² in 2017, 2019 & 2021. Moderate dense forest area was 114 km² in 2003, 113 km² in 2005, 114 km² in 2009 to 2013, 113 km² in 2015 and 97 km² in 2017, 2019 & 2021.

Open forest area was 508 km² in 2003, 510 km² in 2005, 504 km² in 2009 to 2013, 517 km² in 2015, 443 km² in 2017, 444 km² in 2019 and 446 km² in 2021. Total forest area was 622 km² in 2003, 623 km² in 2005, 631 km² in 2009 to 2013, 643 km² in 2015, 652 km² in 2017, 553 km² in 2019 and 555 km² in 2021. Scrub forest area was 429 km² in

2001, 432 km² from 2009, 431 km² in 2011, 402 km² in 2013, 412 km² in 2015, 186 km² in 2017, 285 km² in 2019 and 273 km² in 2021.

16. JAISALMER- Its geographical area is 3840 km² with very dense forest area till 2013, 4 km² from 2015 to 2021. Moderate dense forest area was 39 km² in 2003, 48 km² in 2005, 47 km² in 2009 & 2011, 45 km² in 2013, 49 km² in 2015, 53 km² in 2017, 51 km² in 2019 and 49 km² in 2021.

Open forest area was 91 km² in 2003, 108 km² in 2005, 115 km² in 2009, 120 km² in 2011, 132 km² in 2013, 164 km² in 2015, 256 km² in 2017, 271 km² in 2019 and 270 km² in 2021. Total forest area was 130 km² in 2003, 156 km² in 2005, 162 km² in 2009, 167 km² in 2011, 177 km² in 2013, 217 km² in 2015, 313 km² in 2017, 326 km² in 2019 and 322 km² in 2021. Scrub forest area of Jaisalmer was 45 km² in 2001, 30 km² from 2009, 34 km² in 2011, 35 km² in 2013, 58 km² in 2015, 227 km² in 2017, 213 km² in 2019 and 206 km² in 2021.

17. JALORE- Its geographical area is 10640 km². There is no very dense forest area. Moderate dense forest area was 18 km² in 2003, 17 km² in 2005, 13 km² in 2009 & 2011, 11 km² in 2013 & 2015, 18 km² in 2017, 19 km² in 2019 and 23 km² in 2021.

Open forest area was 187 km² in 2003, 180 km² in 2005, 195 km² in 2009 & 2011, 190 km² in 2013, 189 km² in 2015, 257 km² in 2017, 249 km² in 2019 and 213 km² in 2021. Total forest area was 205 km² in 2003, 197 km² in 2005, 208 km² in 2009 & 2011, 201 km² in 2013, 200 km² in 2015, 275 km² in 2017, 268 km² in 2019 and 236 km² in 2021. Scrub forest area was 194 km² in 2001, 178 km² from 2009, 177 km² in 2011, 182 km² in 2013, 187 km² in 2015, 209 km² in 2017, 251 km² in 2019 and 222 km² in 2021.

18. JHALAWAR- Its geographical area is 6219 km² and no change in very dense forest area. Moderate dense forest area was 87 km² in 2003, 83 km² in 2005 to 2021.

Open forest area was 306 km² in 2003, 312 km² in 2005, 313 km² in 2009, 314 km² in 2011, 309 km² in 2013 & 2015, 356 km² in 2017, 353 km² in 2019 & 2021. Total forest area was 393 km² in 2003, 395 km² in 2005, 396 km² in 2009, 397 km² in 2011, 392 km² in 2013 & 2015, 439 km² in 2017, 436 km² in 2019 and 437 km² in 2021. Scrub forest area was 162 km² in 2001, 90 km² from 2009, 91 km² in 2011, 2013 & 2015, 102 km² in 2017 & 2019 and 103 km² in 2021.

19. JHUNJHUNU- Its geographical area is 5928 km². There is no very dense forest area. Moderate dense forest area was 29 km² in 2003, 27 km² in 2005, 24 km² in 2009 to 2015, 21 km² in 2017, 2019 & 2021.

Open forest area was 157 km² in 2003, 161 km² in 2005, 169 km² in 2009, 171 km² in 2011 & 2013, 169 km² in 2015, 175 km² in 2017, 180 km² in 2019 & 2021. Total forest area was 186 km² in 2003, 188 km² in 2005, 193 km² in 2009, 195 km² in 2011 & 2013, 193 km² in 2015, 196 km² in 2017 and 201 km² in 2019 & 2021. Scrub forest area was 188 km² in 2001, 187 km² from 2009, 188 km² in 2011 to 2017, 187 km² in 2019 and 180 km² in 2021.

20. JODHPUR- Its geographical area is 22850 km² with no very dense forest area. Moderate dense forest area was 7 km² in 2003, 5 km² in 2005, 3 km² in 2009 & 2011, 2 km² in 2013 & 2015 and 4 km² in 2017, 5 km² in 2019 and 4 km² in 2021.

Open forest area was 93 km² in 2003, 87 km² in 2005, 90 km² in 2009 & 2011, 91 km² in 2013, 96 km² in 2015, 101 km² in 2017, 103 km² in 2019 and 105 km² in 2021. Total forest area was 100 km² in 2003, 92 km² in 2005, 93 km² in 2009 to 2013, 98 km² in 2015, 105 km² in 2017, 108 km² in 2019 and 109 km² in 2021. Scrub forest area was 134 km² in 2001, 104 km² in 2009 & 2011, 125 km² in 2013, 124 km² in 2015, 167 km² in 2017, 173 km² in 2019 and 164 km² in 2021.

21. KOTA- Its geographical area was 5543 km² but after resettlement of district boundary it is now 5217 km². It has no very dense forest area. Moderate dense forest area was 163 km² in 2003, 159 km² in 2005, 155 km² in 2009, 154 km² in 2011, 153 km² in 2013, 154 km² from 2015 to 2019 and 153 km² in 2021.

Open forest area was 453 km² in 2003, 454 km² in 2005, 460 km² in 2009 461 km² in 2011, 460 km² in 2013, 459 km² in 2015, 396 km² in 2017, 393 km² in 2019 and 392 km² in 2021. Total forest area was 616 km² in 2003, 613 km² in 2005, 615 km² in 2009 & 2011, 613 km² in 2013 & 2015 and 550 km² in 2017 and 547 km² in 2019 and 545 km² in 2021. Scrub forest area was 151 km² in 2001, 102 km² in 2009, 103 km² in 2011, 106 km² in 2013 & 2015 and 135 km² in 2017 & 2019 and 136 km² in 2021.

22. NAGPUR- Its geographical area is 17718 km² with no very dense forest area. Moderate dense forest area was 15 km² in 2003, 11 km² from 2005 to 2015, 15 km² in 2017 & 2019 and 14 km² in 2021.

Open forest area was 103 km² in 2003, 102 km² in 2005, 108 km² in 2009 & 2011, 110 km² in 2013, 114 km² in 2015, 128 km² in 2017, 132 km² in 2019 and 156 km² in 2021. Total forest area was 118 km² in 2003, 113 km² in 2005, 119 km² in 2009 & 2011, 121 km² in 2013, 125 km² in 2015, 143 km² in 2017, 147 km² in 2019 and 170 km² in 2021. Scrub forest area was 103 km² in 2017, 102 km² in 2019 and 88 km² in 2021.

23. PALI- Its geographical area is 12387 km² with no very dense forest area. Moderate dense forest area was 210 km² in 2003, 209 km² in 2005, 214 km² in 2009, 216 km² in 2011 & 2013 and 127 km² in 2015, 210 km² in 2017 & 2019 and 212 km² in 2021. Open forest area was 404 km² in 2003, 410 km² in 2005, 444 km² in 2009 km² 446 in 2011, 444 km² in 2013, 474 km² in 2015, 464 km² in 2017, 465 km² in 2019 and 489 km² in 2021.

Total forest area was 614 km² in 2003, 619 km² in 2005, 658 km² in 2009, 662 km² in 2011, 660 km² in 2013, 691 km² in 2015, 674 km² in 2017, 675 km² in 2019 and 701 km² in 2021. Scrub forest area was 246 km² in 2001, 273 km² in 2009, 268 km² in 2011, 263 km² in 2013, 256 km² in 2015 and 308 km² in 2017, 324 km² in 2019 and 258 km² in 2021.

24. RAJSAMAND- Its geographical area was 3860 km² which after resettling of districts becomes 4655 km². It has no very dense forest area. Moderate dense forest area was 130 km² in 2003 & 2005, 131 km² in 2009 to 2015, 135 km² in 2017 & 2019 and 130 km² in 2021. Open forest area was 286 km² in 2003, 288 km² in 2005, 291 km² in 2009, 293 km² in 2011, 294 km² in 2013 & 2015, 376 km² in 2017 and 387 km² in 2019 & 2021.

Total forest area was 416 km² in 2003, 418 km² in 2005, 422 km² in 2009, 424 km² in 2011, 425 km² in 2013 & 2015, 511 km² in 2017, 522 km² in 2019 and 517 km² in 2021. Scrub forest area was 68 km² in 2001, 50 km² in 2009, 51 km² in 2011, 52 km² in 2013 & 2015 and 108 km² in 2017, 124 km² in 2019 and 126 km² in 2021.

25. SAWAIMADHOPUR- Its geographical area was 10528 km² but after creation of districts & resettling of districts boundaries it becomes 4498 km². It has no very dense forest area. Moderate dense forest area was 299 km² in 2003, 298 km² in 2005, 2601 km² in 2009 & 2011, 252 km² in 2013, 253 km² in 2015, 154 km² in 2017 & 2019 and 171 km² in 2021. Open forest area was 990 km² in 2003, 996 km² in 2005, 1036 km² in 2009, 1040 km² in 2011, 1046 km² in 2013, 1045 km² in 2015, 312 km² in 2017, 309 km² in 2019 and 293 km² in 2021.

In Sawai Madhopur total forest area was 1289 km² in 2003, 1294 km² in 2005, 1299 km² in 2009, 1300 km² in 2011, 1298 km² in 2013 & 2015, 466 km² in 2017, 463 km² in 2019 and 465 km² in 2021. Scrub forest area was 467 km² in 2001, 465 km² in 2009, 470 km² in 2011, 375 km² in 2013, 391 km² in 2015, 114 km² in 2017, 120 km² in 2019 and 139 km² in 2021.

26. SIKAR- Its geographical area was 7732 km². It has no very dense forest area. Moderate dense forest area was 37 km² in 2003 & 2005, 32 km² in 2007 & 2011, 31 km² in 2013 to 2019 and 32 km² in 2021.

Open forest area was 147 km² in 2003, 152 km² in 2005, 160 km² in 2009, 161 km² in 2011, 162 km² in 2013 & 2015, 161 km² in 2017 and 162 km² in 2019 and 171 km² in 2021. Total forest area was 184 km² in 2003, 189 km² in 2005, 192 km² in 2009, 193 km² in 2011 to 2015, 192 km² in 2017, 193 km² in 2019 and 202 km² in 2021. Scrub forest area was 199 km² in 2001, 185 km² in 2009, 184 km² in 2011 & 2013, 185 km² in 2015, 187 km² in 2017, 202 km² in 2019 and 199 km² in 2021.

27. SIROHI- Its geographical area is 137 km² with no very dense forest area. Moderate dense forest area was 307 km² in 2003, 305 km² in 2005, 300 km² in 2009, 2011 & 2013, 299 km² in 2015, 302 km² in 2017 and 301 km² in 2019 & 2021. Open forest area was 578 km² in 2003, 580 km² in 2005, 617 km² in 2009, 616 km² in 2011, 613 km² in 2013 & 2015, 612 km² in 2017, 611 km² in 2019 and 597 km² in 2021.

Total forest area was 885 km² in 2003 & 2005, 917 km² in 2009, 916 km² in 2011, 913 km² in 2013, 912 km² in 2015, 914 km² in 2017, 912 km² in 2019 and 898 km² in 2021. Scrub forest area was 138 km² in 2001, 198 km² in 2009 & 2011, 163 km² in 2013 & 2015, 206 km² in 2017, 229 km² in 2019 and 248 km² in 2021.

28. TONK- Its geographical area is 7194 km². It has no very dense forest area. Moderate dense forest area was 36 km² in 2003, 35 km² in 2005, 33 km² in 2009 to 2015, 27 km² in 2017 & 2019 and 28 km² in 2021.

Open forest area was 136 km² in 2003, 132 km² in 2005, 133 km² in 2009, 134 km² in 2011 & 2013, 135 km² in 2015 and 138 km² in 2017, 2019 & 2021. Total forest area was 172 km² in 2003, 167 km² in 2005, 166 km² in 2009, 167 km² in 2011 & 2013, 168 km² in 2015, 165 km² in 2017 and 2019

and 166 km² in 2021. Scrub forest area was 67 km² in 2001, 56 km² in 2009, 2011 & 2013, 57 km² in 2015, 56 km² in 2017, 58 km² in 2019 and 69 km² in 2021.

29. UDAIPUR- Its geographical area was 13419 km² which after resettlement of district becomes 11724 km². It has no very dense forest area. Moderate dense forest area was 1379 km² in 2003, 1377 km² in 2005, 1420 km² 2009 to 2015, 1212 km² in 2017, 1214 km² in 2019 and 1213 km² in 2021.

Open forest area was 1711 km² in 2003, 1717 km² in 2005, 1665 km² in 2009, 1698 km² in 2011, 1700 km² in 2013 & 2015, 1553 km² in 2017, 1544 km² in 2019 and 1540 km² in 2021. Total forest area was 3090 km² in 2003, 3094 km² in 2005, 3115 km² in 2009, 3118 km² in 2011, 3120 km² in 2013 & 2015, 2764 km² in 2017, 2758 km² in 2019 and 2753 km² in 2021. Scrub forest area was 521 km² in 2001, 455 km² in 2009, 457 km² in 2011, 454 km² in 2013 & 2015, 270 km² in 2017, 224 km² in 2019 and 240 km² in 2021.

30. DAUSA- Its geographical area was 3442 km². Data of Dausa available for 2019 and 2021 only due to new district formation. No very dense forest area & 12 km² under moderate dense forest area in 2019 and 11 km² in 2021. Open forest area has 105 km² in 2019 and 2021 while total forest area was 117 km² in 2019 and 2021. Scrub forest area was 99 km² in 2019 and 95 km² in 2021.

31. HANUMANGARH- It has 9656 km² area with 1 km² very dense forest area in 2019 and 7 km² in 2021. Under moderate dense forest area it has 7 km² in 2019 & 2021. Open forest area was 82 km² in 2019 and 85 km² in 2021. Total forest area 90 km² in 2019 and 93 km² in 2021. Scrub forest area was 7 km² in 2019 & 2021.

32. KARALI- It has 5524 km² geographical area with no very dense forest area & 95 km² under moderate dense forest in 2019 and 96 km² in 2021. Open forest area was 775 km² in 2019 and 748 km² in 2021. Total forest area was 870 km² in 2019 and 844 km² in 2021. Scrub forest area was 273 km² in 2019 and 301 km² in 2021.

33. PRATAPGARH- It has 4449 km² geographical area with no very dense forest area. Moderate dense forest area was 563 km² in 2019 & 2021. Open forest area was 475 km² in 2019 and 471 km² in 2021. Total forest area was 1038 km² in 2019 and 1034 km² in 2021. Scrub forest area was 59 km² in 2019 & 2021.

Conclusion

In all Rajasthan 342239 km² area with very dense forest area 14 km² in 2003 & 2005, 72 km² 2009, 2011 & 2013, 76 km² 2013, 77 km² in 2017, 78 km² in 2019 and 2021. Open forest area was 11330 km² in 2003, 11380 km² in 2005, 11514 km² in 2009, 11567 km² in 2011, 11590 km² in 2013, 11669 km² in 2015, 12154 km² in 2017 12210 km² in 2019 and 12208 km² in 2021.

Total forest area was 15826 km² in 2003, 15850 km² in 2005, 16036 km² in 2009, 16087 km² in 2011, 16086 km² in 2013, 16171 km² in 2015, 1445 km² in 2017, 16630 km² in 2019 and 16655 km² in 2021. Scrub forest area was 4925 km² in 2001, 4347 km² in 2009, 4357 km² in 2011, 4211 km² in 2013, 4302 km² in 2015, 4182 km² in 2017, 4760 km² in 2019 and 4809 km² in 2021.

There is an increase in Forest area since 2003 to 2019 but change is not very prominent and state is far away to minimum forest cover requirement of 33 percent. There is need to not only increase plantation by forest department and other agencies but need to aware people about this. The conservation of existing plantation is also needed.

Table-1 Change in moderate dense forest area of Rajasthan from 2003-2019 (source–FSI Reports)

St. Dev.	St. Err.	Mean	2019	2017	2015	2013	2011	2009	2005	2003	Year	District
6.2	2.2	41.8	43	43	36	34	38	39	50	51		Ajmer
16.8	5.9	342.6	335	335	334	335	327	336	369	370		Alwar
19.4	6.9	64.6	39	49	81	83	83	83	48	51		Banswara
7.6	2.7	147.1	155	155	149	149	149	149	135	136		Baran
3.9	1.4	5.8	4	4	4	4	3	3	12	12		Barmer
6.5	2.3	31.4	22	22	31	31	34	34	38	39		Bharatpur
1.7	0.6	33.4	31	31	34	34	34	33	34	36		Bhilwara
20.6	7.3	37.1	27	27	87	27	28	28	37	36		Bikaner
3.5	1.2	143.3	138	138	146	146	146	146	143	143		Bundi
170.9	60.4	497.1	221	220	592	595	595	597	576	581		Chittorgarh
1.9	0.7	5.3	3	3	5	5	5	5	8	8		Churu
9.1	3.2	86.3	80	80	82	82	82	82	101	101		Dhaulpur
12.4	4.4	37.0	43	43	44	44	44	44	17	17		Dungarpur
9.8	3.4	25.6	10	10	30	29	30	31	34	31		Ganganagar
7.7	2.7	109.5	97	97	113	114	114	114	113	114		Jaipur
4.2	1.5	47.4	51	53	49	45	47	47	48	39		Jaisalmer
3.3	1.2	15.0	19	18	11	11	13	13	17	18		Jalore
1.4	0.5	83.5	83	83	83	83	83	83	83	87		Jalawar
2.7	1.0	24.3	21	21	24	24	24	24	27	29		Jhunjhunu
1.7	0.6	3.9	5	4	2	2	3	3	5	7		Jodhpur
3.5	1.2	155.8	154	154	154	153	154	155	159	163		Kota
2.1	0.7	12.5	15	15	11	11	11	11	11	15		Nagour
3.3	1.2	212.8	210	210	217	216	216	214	209	210		Pali
2.1	0.7	131.8	135	135	131	131	131	131	130	130		Rajasmand
57.0	20.2	241.3	154	154	253	252	260	260	298	299		Sawai Madhopur
2.7	0.9	32.8	31	31	31	31	32	32	37	37		Sikar
2.9	1.0	301.6	300	302	299	300	300	300	305	307		Sirohi
3.4	1.2	32.1	27	27	33	33	33	33	35	36		Tonk
91.2	32.2	1357.8	1214	1212	1420	1420	1420	1420	1377	1379		Udaipur
		12	12									Dausa
		7	7									Hanumangard
		95	95									Karauli
		563	563									Pratapgard

Figure 1 - CHANGE IN MODERATE DENSE FOREST AREA OF RAJASTHAN FROM 2003-2019

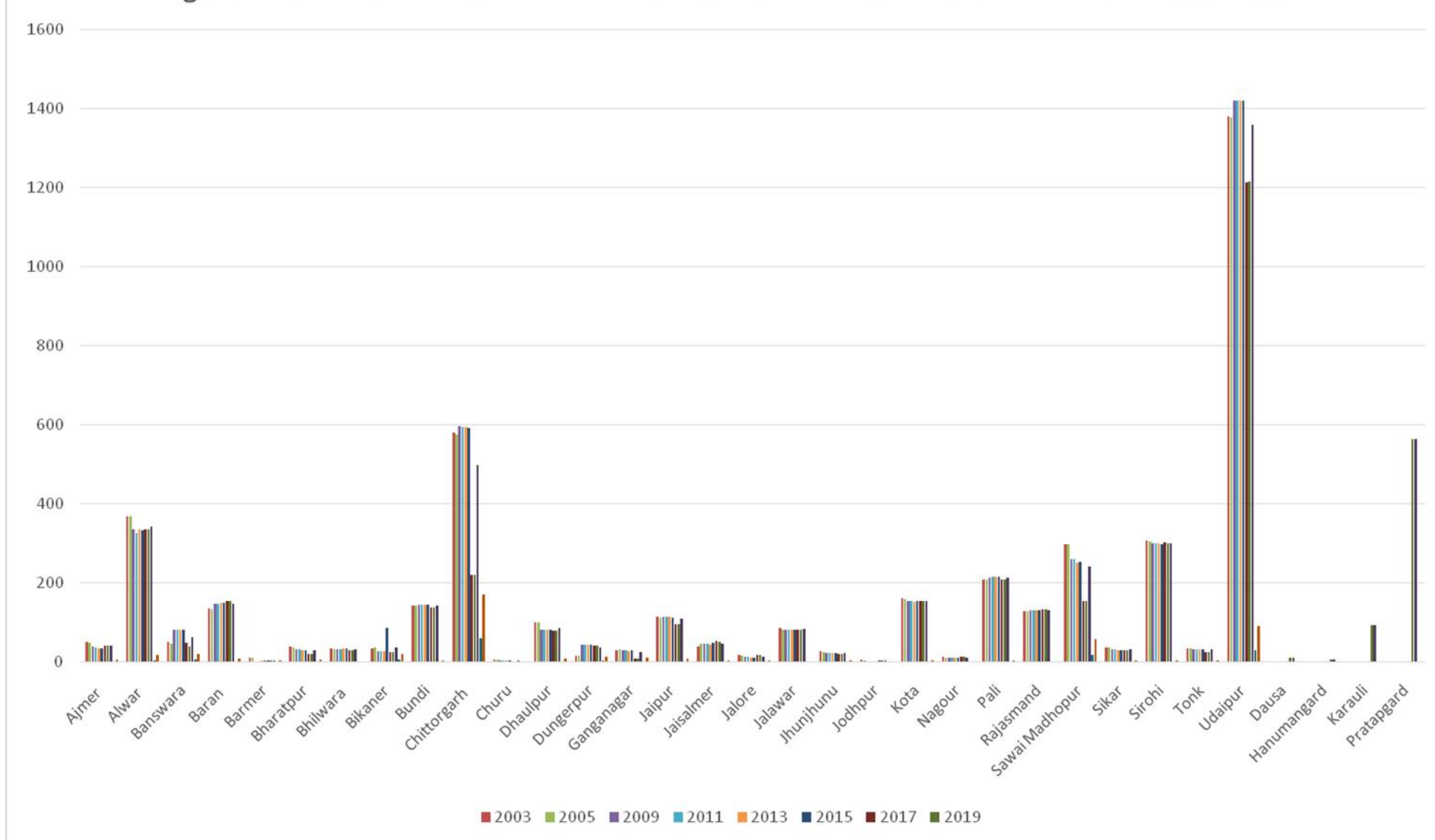


Figure 2- CHANGE IN MODERATE DENSE FOREST AREA OF RAJASTHAN FROM 2003-2019

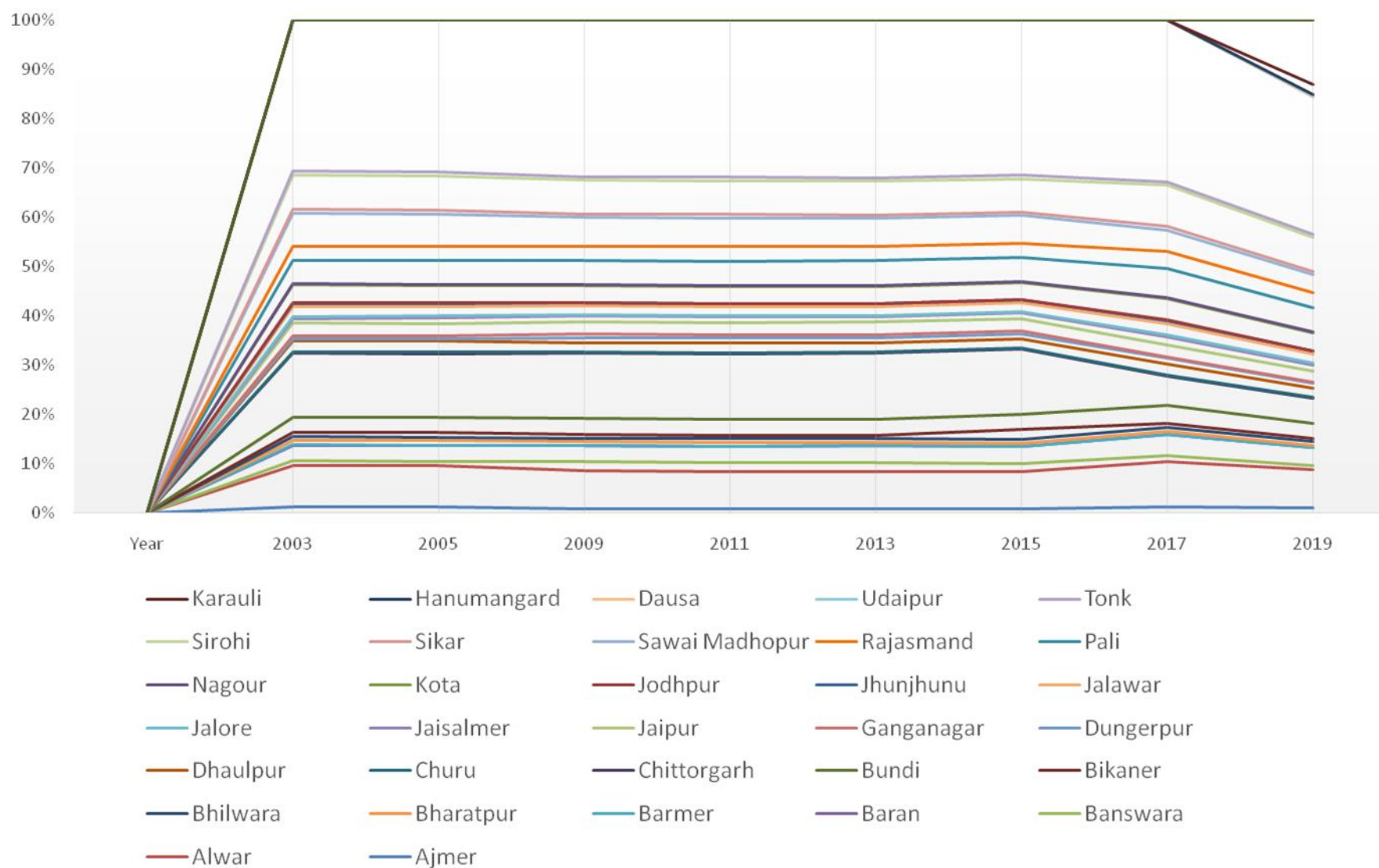


Table-2. Change in open forest area of Rajasthan from 2003-2019 (source –FSI reports)

St. Dev.	St. Err.	Mean	2019	2017	2015	2013	2011	2009	2005	2003	Year	District
16.1	5.7	240.9	262	256	248	248	239	237	222	215		Ajmer
9.9	3.5	812.9	803	803	810	809	810	812	828	828		Alwar
99.1	35.0	257.1	230	22	286	292	293	292	321	321		Banswara
39.1	13.8	920.0	856	858	938	935	941	940	946	946		Baran
51.2	18.1	196.0	286	269	186	174	169	166	159	159		Barmer
5.5	2.0	204.5	208	207	209	212	204	202	197	197		Bharatpur
3.8	1.3	189.6	193	190	193	193	191	189	184	184		Bhilwara
23.4	8.3	186.6	227	219	181	183	180	169	167	167		Bikaner
53.1	18.8	332.6	418	419	307	307	307	307	298	298		Bundi
147.9	52.3	1007.8	768	769	1073	1080	1092	1092	1094	1094		Chittorgarh
3.2	1.1	83.9	79	79	87	87	85	84	85	85		Churu
8.4	3.0	333.5	339	339	338	338	337	337	320	320		Dhaulpur
19.9	7.0	226.8	260	248	212	212	208	208	233	233		Dungarpur
24.1	8.5	137.4	103	103	161	160	160	146	133	133		Ganganagar
29.9	10.6	491.5	444	443	517	504	504	504	508	508		Jaipur
71.0	25.1	155.0	271	256	164	132	120	115	91	91		Jaisalmer
29.2	10.3	206.1	249	257	189	190	195	195	187	187		Jalore
21.0	7.4	320.8	353	356	309	309	314	313	306	306		Jalawar
8.0	2.8	168.6	180	175	169	171	171	169	157	157		Jhunjhunu
5.0	1.8	94.6	103	101	96	91	90	90	93	93		Jodhpur
29.5	10.4	442.0	393	396	459	461	461	460	453	453		Kota
11.0	3.9	113.3	132	128	114	110	108	108	103	103		Nagour
26.6	9.4	443.1	465	464	474	444	446	444	404	404		Pali
42.3	14.9	313.4	387	376	294	294	293	291	286	286		Rajasmand
342.1	120.9	858.8	308	312	1145	1046	1040	1039	990	990		Sawai Madhopur
6.8	2.4	157.9	162	161	162	163	161	160	147	147		Sikar
16.6	5.9	604.8	611	612	613	613	616	617	578	578		Sirohi
1.9	0.7	135.5	138	138	135	134	134	133	136	136		Tonk
72.4	25.6	1664.6	1544	1552	1700	1700	1698	1695	1717	1711		Udaipur
			105									Dausa
			82									Hanumangard
			775									Karauli
			475									Pratapgard

Figure 3-CHANGE IN OPEN FOREST AREA OF RAJASTHAN FROM 2003-2019

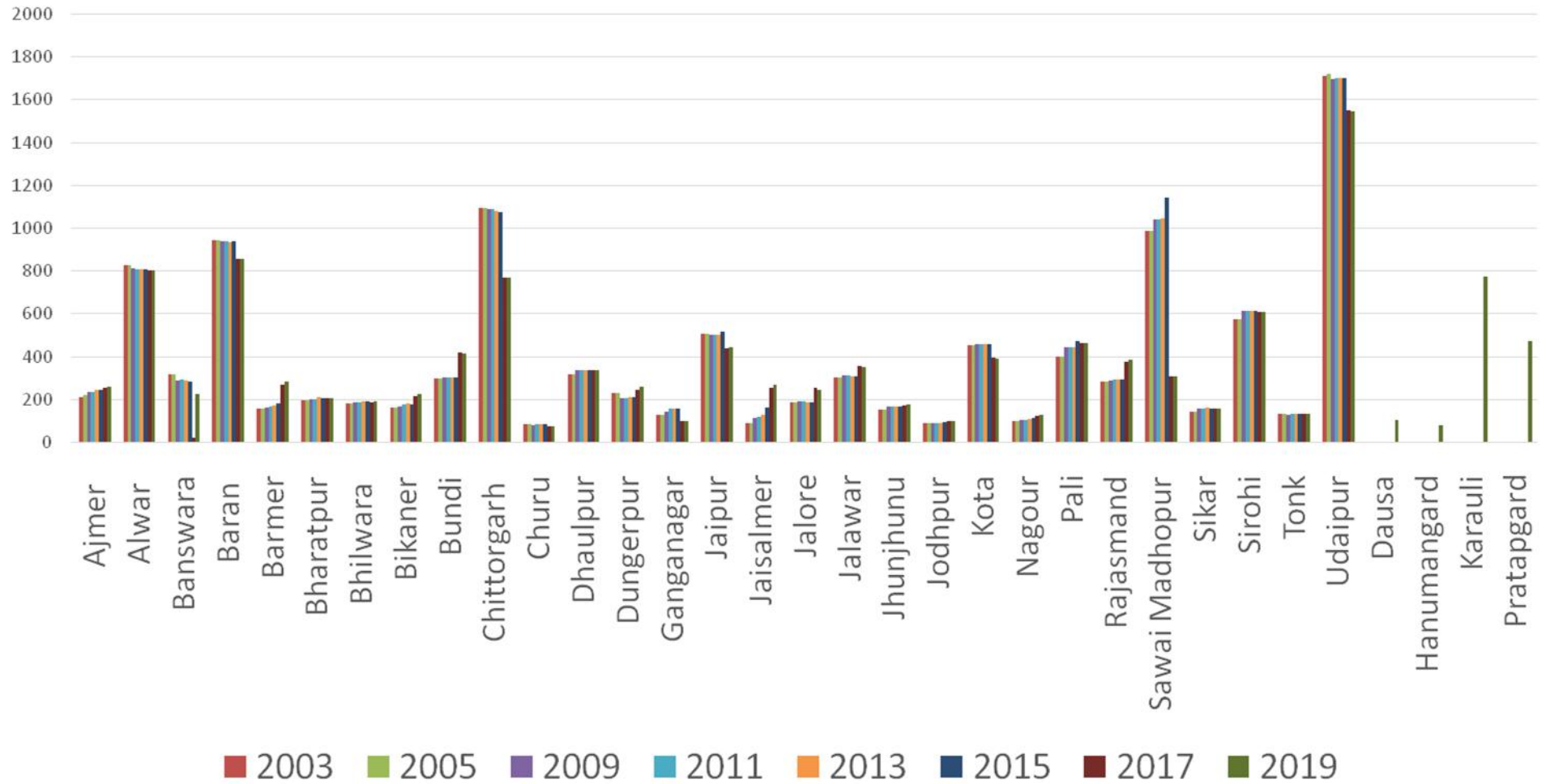


Figure 4-CHANGE IN OPEN FOREST AREA OF RAJASTHAN FROM 2003-2019

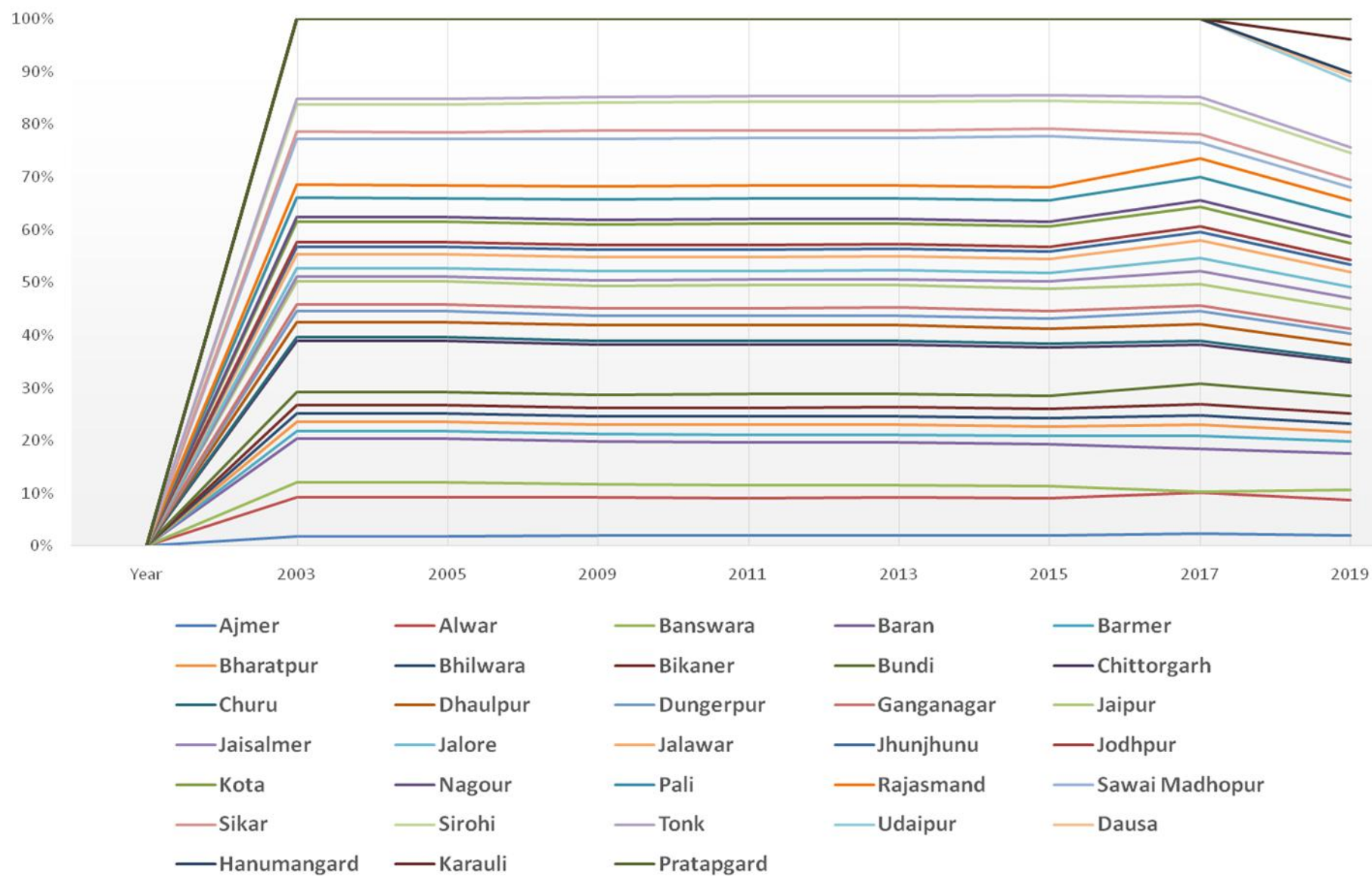


Table-3 Change in scrub forest area of Rajasthan from 2003-2019 (source –FSI reports)

St. Dev.	St. Err.	Mean	2019	2017	2015	2013	2011	2009	2005	2003	District	
											Year	
8.5	3.0	215.9	205	202	216	217	218	218	226	225	Ajmer	
6.4	2.3	252.8	246	246	265	255	255	256	250	249	Alwar	
15.4	5.4	81.3	63	53	85	85	85	86	97	96	Banswara	
15.3	5.4	118.4	107	103	113	113	113	113	143	142	Baran	
52.3	18.5	138	234	205	140	103	106	104	106	106	Barmer	
4.6	1.6	84.6	78	79	87	87	90	90	83	83	Bharatpur	
17.8	6.3	139.6	176	158	129	129	129	126	136	134	Bhilwara	
5.2	1.9	41.9	52	47	37	37	39	39	42	42	Bikaner	
3.3	1.2	148.6	152	151	153	145	145	145	150	148	Bundi	
18.6	6.6	158.4	152	151	153	145	145	145	186	190	Chittorgarh	
7.0	2.5	11.1	22	22	6	6	6	6	10	11	Churu	
7.9	2.8	60	75	70	55	55	56	56	57	56	Dhaulpur	
12.0	4.2	51.8	75	61	42	42	42	43	55	54	Dungarpur	
5.0	1.8	5.1	13	13	3	3	3	3	3	0	Ganganagar	
65.2	23.1	389.5	285	286	412	402	431	432	435	433	Jaipur	
86.1	30.4	81.6	213	227	58	35	34	30	32	24	Jaisalmer	
31.1	11.0	174.6	102	209	187	182	177	178	179	183	Jalore	
12.8	4.5	100.9	102	102	91	91	91	90	120	120	Jalawar	
5.4	1.9	184.8	187	188	188	188	188	187	176	176	Jhunjhunu	
28.6	10.1	125.9	173	167	124	125	104	104	105	105	Jodhpur	
13.5	4.8	114.1	135	135	106	106	103	102	114	112	Kota	
5.5	1.9	100	102	103	88	99	99	99	105	105	Nagour	
27.9	9.9	273.6	324	308	256	263	268	273	251	246	Pali	
29.2	10.3	69.8	124	108	52	52	51	50	61	60	Rajasmand	
154.2	54.5	359.3	120	114	391	375	470	465	470	469	Sawai Madhonur	
13.5	4.8	181.4	202	187	185	184	154	185	177	177	Sikar	
22.4	7.9	189.9	229	206	163	163	198	198	181	181	Sirohi	
1.0	0.4	56.9	58	56	57	56	56	56	58	58	Tonk	
109.7	38.8	418.3	224	270	454	454	457	455	519	513	Udaipur	
		99	99								Dausa	
		1	1								Hanumangar d	
		273	273								Karauli	
		59	59								Pratapgard	

Figure 5-CHANGE IN SCRUB FOREST AREA OF RAJASTHANFROM 2001 AND 2009-2019

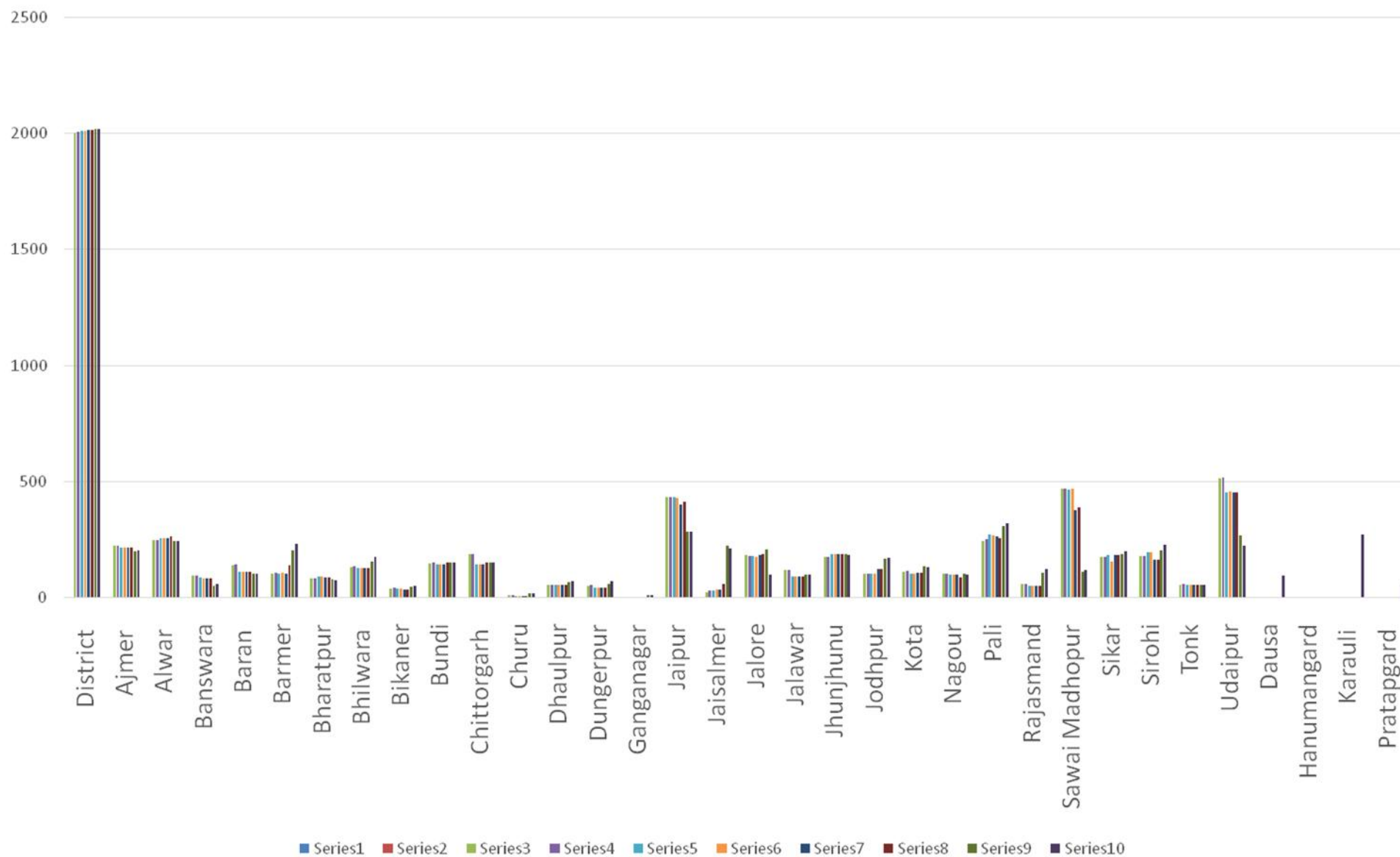


Figure 6-CHANGE IN SCRUB FOREST AREA OF RAJASTHAN FROM 2001 AND 2009-2019

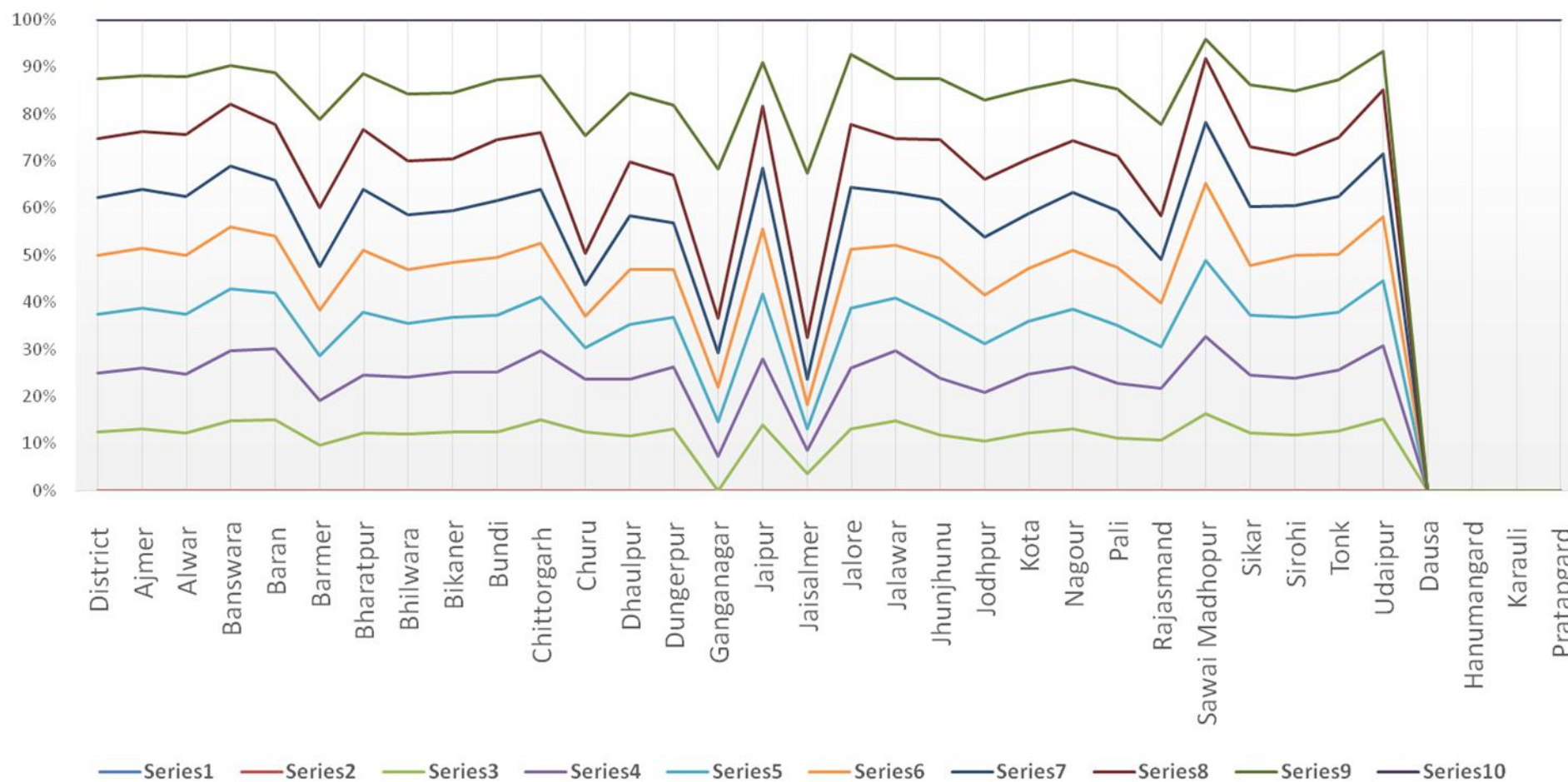


Table-4 Change in total forest area of Rajasthan from 2003-201 (source –FSI reports)

St. Dev.	St. Err.	Mean	2019	2017	2015	2013	2011	2009	2005	2003	Year	District
13.3	4.7	282.6	305	299	284	282	277	276	272	266	Ajmer	
5.6	2.0	1204.4	1197	1197	1203	1203	1205	1207	1211	1212	Alwar	
50.1	17.7	345.5	268	261	367	375	376	375	370	372	Banswara	
34.3	12.1	1067.4	1011	1013	1087	1084	1090	1089	1083	1082	Baran	
50.1	17.7	201.5	290	273	190	178	172	169	169	171	Barmer	
4.7	1.7	236.0	230	229	240	243	238	236	236	236	Bharatpur	
2.9	1.0	223.3	224	221	227	227	225	222	220	220	Bhilwara	
22.5	8.0	216.0	256	247	208	210	208	197	199	203	Bikaner	
50.1	17.7	476.6	557	558	453	453	453	453	445	441	Bundi	
318.8	112.7	1505.4	989	989	1665	1675	1687	1689	1674	1675	Chittorgarh	
4.3	1.5	88.5	82	82	92	92	90	89	88	93	Churu	
0.8	0.3	419.5	419	419	420	420	419	419	419	421	Dhaulpur	
20.5	7.2	263.9	302	291	256	256	252	252	252	250	Dungarpur	
32.6	11.5	163.3	113	113	191	189	190	177	169	164	Ganganagar	
99.1	35.0	573.3	553	552	343	631	631	631	623	622	Jaipur	
74.6	26.4	205.4	326	313	217	177	162	162	156	130	Jaisalmer	
31.9	11.3	220.3	268	275	200	201	208	208	197	205	Jalore	
20.2	7.1	405.0	436	439	392	392	397	396	395	393	Jalawar	
4.7	1.7	193.4	201	196	193	195	195	193	188	186	Jhunjhunu	
6.1	2.2	97.8	108	105	98	93	93	93	92	100	Jodhpur	
30.4	10.8	597.8	547	550	613	613	615	615	613	616	Kota	
12.5	4.4	125.6	147	143	125	121	119	119	113	118	Nagour	
27.0	9.5	656.6	675	674	691	660	662	658	619	614	Pali	
44.1	15.6	445.4	522	511	425	425	424	422	418	416	Rajasmand	
385.1	136.1	1088.4	463	466	1298	1298	1300	1299	1294	1289	Sawai Madhopur	
373.9	132.2	461.1	912	914	912	193	193	192	189	184	Sikar	
13.5	4.8	906.8	912	914	912	913	916	917	885	885	Sirohi	
2.2	0.8	167.1	165	165	168	167	167	166	167	172	Tonk	
161.7	57.2	3022.4	2758	2764	3120	3120	3118	3115	3094	3090	Udaipur	
		117	117								Dausa	
		90	90								Hanumangard	
		870	870								Karauli	
		1038	1038								Pratapgard	

Figure-7 CHANGE IN TOTAL FOREST AREA OF RAJASTHAN FROM 2003-2019

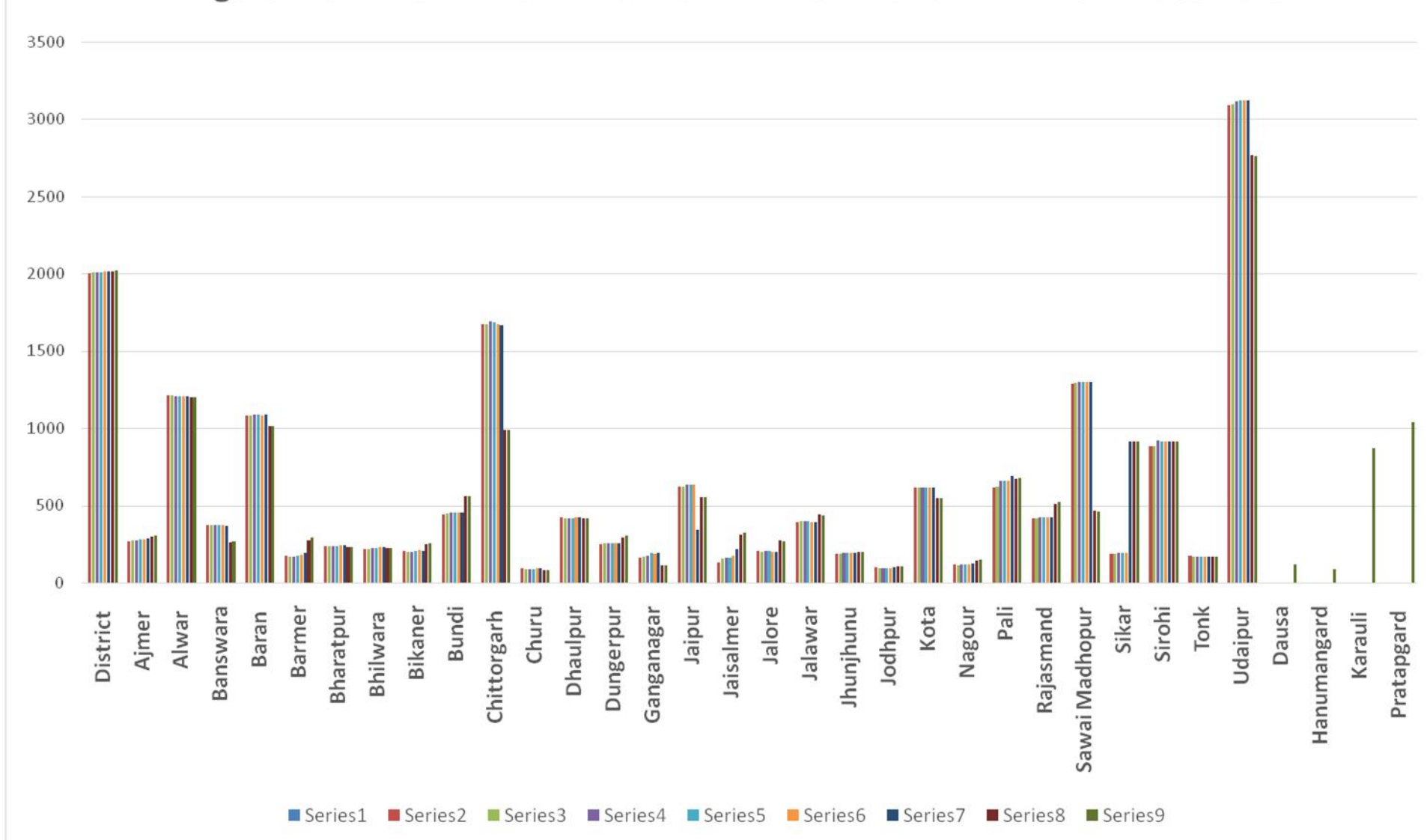


Figure 8-CHANGE IN TOTAL FOREST AREA OF RAJASTHAN FROM 2003-2019

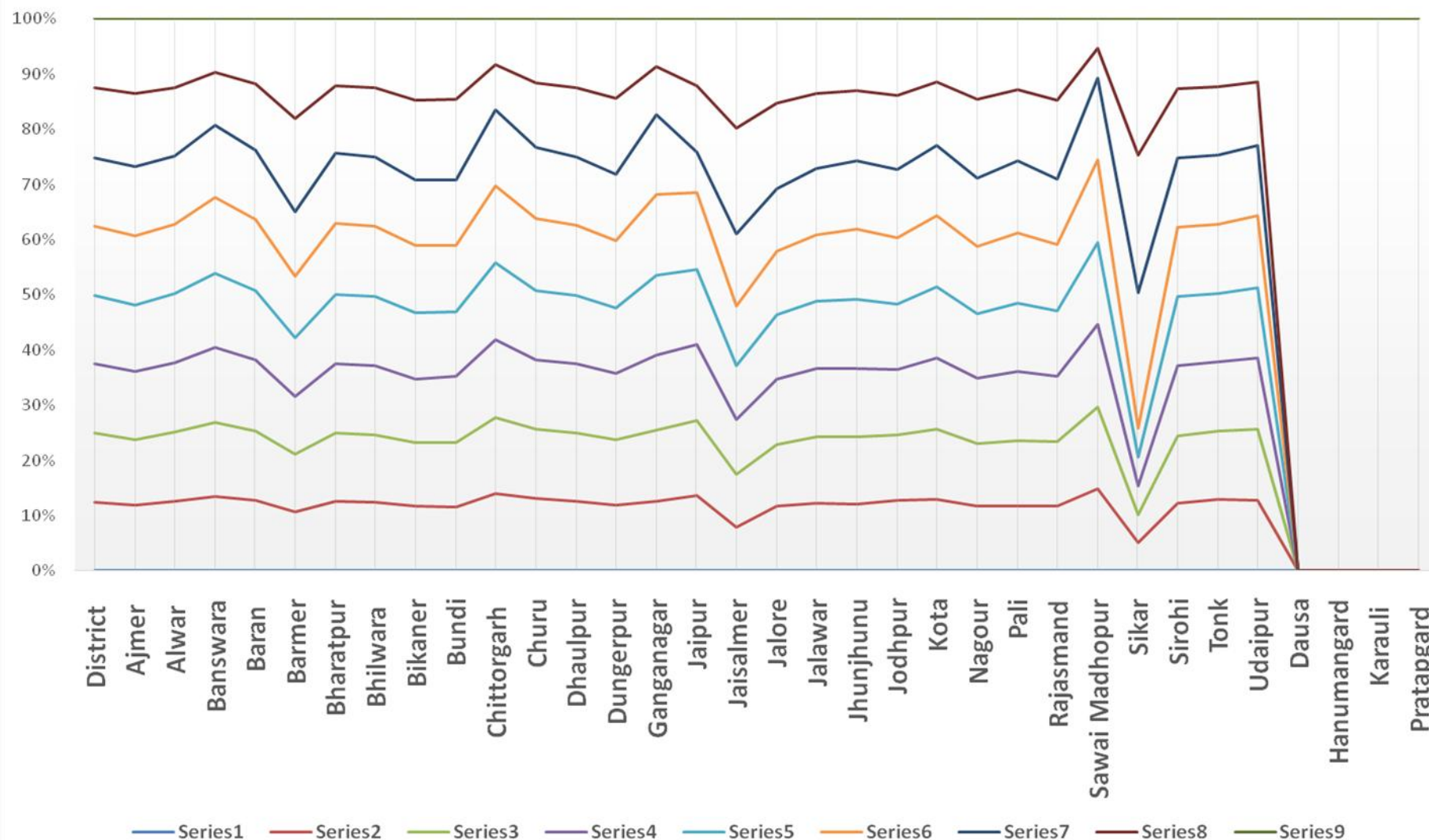


Table-5 Change in very dense forest area of Rajasthan from 2003-2019 (source–FSI reports)

District	Ajmer	Alwar	Banswara	Baran	Barmer	Bharatpur	Bhilwara	Bikaner	Bundi	Chittorgarh	Churu	Dhaulpur	Dungarpur	Ganganagar	Jaipur	Jaisalmer	Jalore	Jalawar	Jhunjhunu	Jodhpur	Kota	Nagour	Pali	Rajasmand	Sawai Madhopur	Sikar	Sirohi	Tonk	Udaipur	Dausa	Hanumangard	Karauli	Pratapgard	
Year																																		
2003	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
2005	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
2009	0	59	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0						
2011	0	59	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0						
2013	0	59	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0						
2015	0	59	0	0	0	0	0	0	0	0	0	0	0	0	13	4	0	0	0	0	0	0	0	0	0	0	0	0						
2017	0	59	0	0	0	0	0	1	1	0	0	0	0	0	12	4	0	0	0	0	0	0	0	0	0	0	0	0						
2019	0	59	0	0	0	0	0	1	1	0	0	0	0	0	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	47.8	0	0	0	0	0	0.3	0	0	0	0	0	0	9.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
ST. ERR.	0	7.4	0	0	0	0	0	0.2	0	0	0	0	0	0	2.1	0.7	0	0	0	0	0	0	0	0	0	0	0	0						
ST. DEV.	0	20.8	0	0	0	0	0	0.5	0	0	0	0	0	0	5.9	2.1	0	0	0	0	0	0	0	0	0	0	0	0						

Figure -9 CHANGE IN VERY DENSE FOREST AREA OF RAJASTHAN FROM 2003-2019

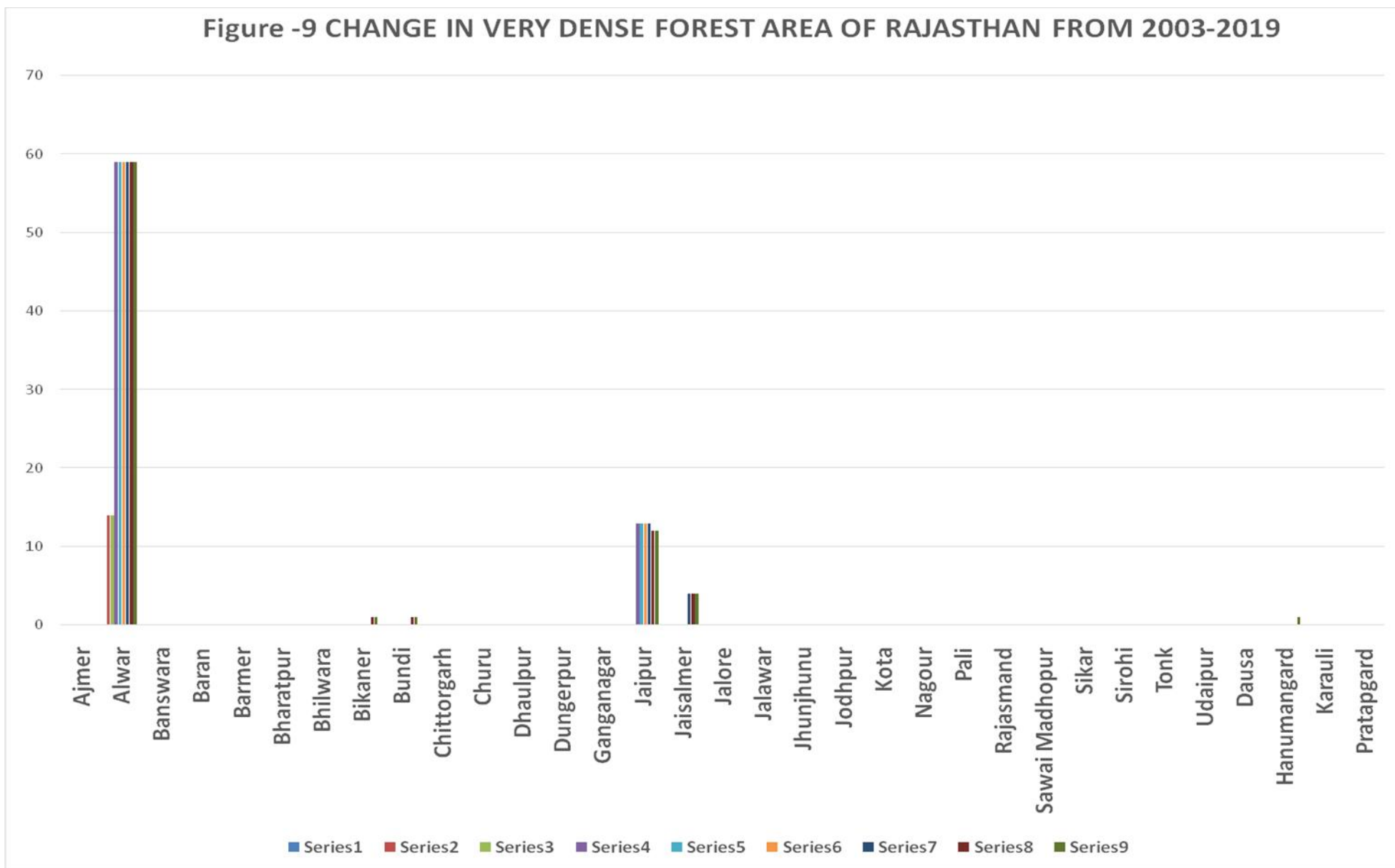
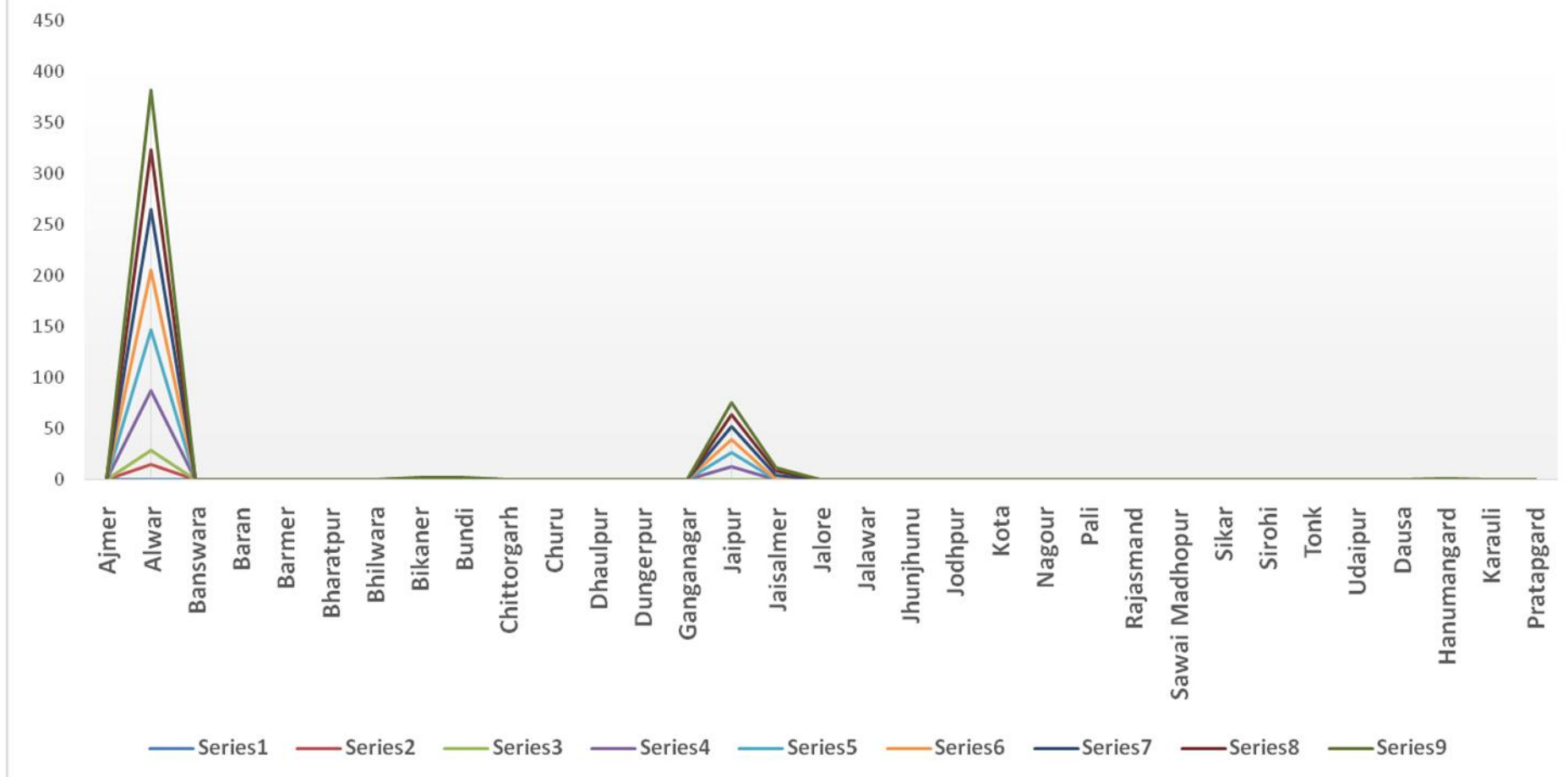


Figure 10-CHANGE IN VERY DENSE FOREST AREA OF RAJASTHAN FROM 2003-2019



References

1. FSI. (2003). Gujarat, India State of Forest Report 2003. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 82-86.
2. FSI. (2005). Gujarat, India State of Forest Report 2005. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 71-74.
3. FSI. (2009). Gujarat, India State of Forest Report 2009. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 82-86.
4. FSI. (2011). Gujarat, India State of Forest Report 2011. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 127-133.
5. FSI. (2013). Gujarat, India State of Forest Report 2013. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 121-125.
6. FSI. (2015). Gujarat, India State of Forest Report 2015. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 143-149.
7. FSI. (2017). Gujarat, India State of Forest Report 2017. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 182-187.
8. FSI. (2019). Gujarat, India State of Forest Report 2019. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 71-81.
9. FSI. (2021). Gujarat, India State of Forest Report 2021. Ministry of Environment, Forest & Climate Change, Government of India. Page No. 315-324.

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