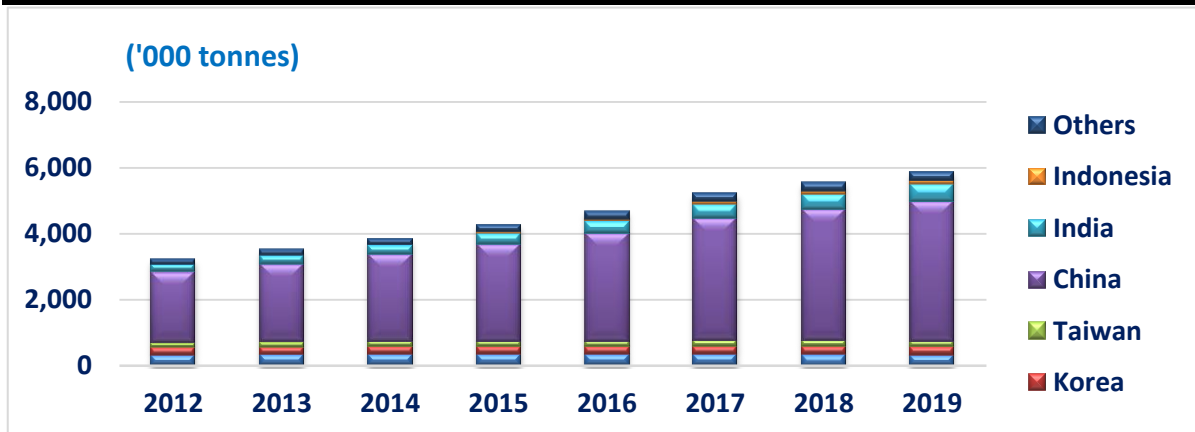


Nonwovens Production in Asia (2019)

METI, KNIC, TNFIA, CNTA, BCH, ANNA

1. Production Trend ('000 tonnes)

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 19/'18 % |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Japan | 322 | 332 | 338 | 342 | 340 | 343 | 341 | 321 | 94.1 |
| Korea | 226 | 217 | 221 | 216 | 226 | 228 | 227 | 239 | 105.2 |
| Taiwan | 131 | 153 | 182 | 184 | 188 | 200 | 197 | 191 | 96.8 |
| China | 2,163 | 2,387 | 2,635 | 2,941 | 3,260 | 3,705 | 3,960 | 4,210 | 106.3 |
| India | 223 | 253 | 277 | 312 | 365 | 410 | 475 | 536 | 112.8 |
| Indonesia | - | - | - | 69 | 78 | 91 | 100 | 106 | 105.9 |
| Others | 152 | 168 | 183 | 214 | 228 | 240 | 253 | 267 | 105.7 |
| Total | 3,217 | 3,509 | 3,836 | 4,278 | 4,684 | 5,217 | 5,555 | 5,870 | 105.7 |



2. Production Process ('000 tonnes)

| | Japan | Korea | Taiwan | China | India | Indonesia | Total |
|----------------|--------------|--------------|--------------|----------------|--------------|--------------|----------------|
| Chemicalbonded | 18.1 | 20.0 | 12.0 | 140.0 | - | - | 190.1 |
| Thermalbonded | 38.1 | 22.0 | 16.0 | 210.0 | - | 14.0 | 300.1 |
| Needlepunched | 71.5 | 89.0 | 33.0 | 890.0 | 177.4 | 57.0 | 1,317.9 |
| Spunlaced | 50.7 | 9.0 | 80.0 | 955.0 | 34.9 | 6.0 | 1,135.6 |
| Spunbonded/MB | 84.6 | 95.0 | 44.0 | 1,864.0 | 300.1 | 29.0 | 2,416.7 |
| Other/Dry-laid | 22.2 | 0.6 | 6.0 | 109.0 | 24.0 | 0.4 | 162.2 |
| Wet-laid | 36.2 | 2.9 | 0.0 | 43.0 | - | - | 82.1 |
| Total | 321.4 | 238.5 | 191.0 | 4,210.0 | 536.4 | 106.4 | 5,603.7 |

