

S&E doctoral degrees in selected Asian countries/economies, by field: 1975–2001

| Country/economy and field | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 |
|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| China..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 19 | 91 | 234 | 307 | 622 | 1,682 |
| All S&E..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NA | NA | NA | 125 | 127 | 218 | 797 |
| Natural sciences ^a | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NA | NA | NA | 33 | 27 | 52 | 165 |
| Mathematics/computer sciences..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NA | NA | NA | 23 | 10 | 31 | 75 |
| Agricultural sciences..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NA | NA | NA | 1 | 0 | 8 | 55 |
| Social/behavioral sciences..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NA | NA | NA | 0 | 1 | 0 | 26 |
| Engineering..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NA | NA | NA | 68 | 89 | 127 | 476 |
| India..... | 2,015 | 2,337 | 2,710 | 3,144 | 3,646 | 4,229 | 4,904 | 5,688 | 6,597 | 6,934 | 7,139 | 7,346 | 7,603 | 7,598 |
| All S&E..... | 1,909 | 2,143 | 2,408 | 2,600 | 2,917 | 3,061 | 3,356 | 3,600 | 3,886 | 4,162 | 3,976 | 4,052 | 4,123 | 4,208 |
| Natural sciences ^a | 1,484 | 1,651 | 1,837 | 2,044 | 2,261 | 2,385 | 2,516 | 2,654 | 2,800 | 2,954 | 2,892 | 2,922 | 2,937 | 3,038 |
| Mathematics/computer sciences..... | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Agricultural sciences..... | 289 | 317 | 348 | 422 | 480 | 483 | 558 | 566 | 575 | 698 | 575 | 576 | 583 | 576 |
| Social/behavioral sciences..... | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Engineering..... | 136 | 174 | 223 | 134 | 176 | 193 | 282 | 380 | 511 | 510 | 509 | 554 | 603 | 594 |
| Japan ^b | 4,592 | 5,138 | 5,322 | 5,648 | 5,812 | 6,269 | 6,599 | 6,810 | 7,233 | 7,477 | 7,978 | 8,533 | 9,157 | 9,602 |
| All S&E..... | 2,127 | 2,371 | 2,492 | 2,478 | 2,515 | 2,611 | 2,632 | 2,631 | 2,676 | 2,802 | 3,088 | 3,095 | 3,248 | 3,511 |
| Natural sciences ^a | 676 | 717 | 843 | 782 | 814 | 822 | 791 | 762 | 774 | 807 | 860 | 820 | 837 | 881 |
| Mathematics/computer sciences..... | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Agricultural sciences..... | 381 | 490 | 518 | 442 | 430 | 527 | 529 | 521 | 515 | 614 | 697 | 646 | 715 | 746 |
| Social/behavioral sciences..... | 84 | 85 | 88 | 88 | 76 | 76 | 76 | 93 | 97 | 90 | 127 | 136 | 149 | 167 |
| Engineering..... | 986 | 1,079 | 1,043 | 1,166 | 1,195 | 1,186 | 1,236 | 1,255 | 1,290 | 1,291 | 1,404 | 1,493 | 1,547 | 1,717 |
| South Korea..... | 557 | 557 | 566 | 574 | 583 | 592 | 601 | 610 | 845 | 1,109 | 1,400 | 1,645 | 1,906 | 2,125 |
| All S&E..... | 128 | 128 | 99 | 116 | 139 | 169 | 212 | 269 | 281 | 360 | 548 | 631 | 759 | 871 |
| Natural sciences ^a | 29 | 29 | 22 | 30 | 41 | 55 | 75 | 102 | 83 | 124 | 212 | 201 | 277 | 207 |
| Mathematics/computer sciences..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 73 |
| Agricultural sciences..... | 48 | 48 | 40 | 43 | 45 | 48 | 52 | 55 | 60 | 77 | 89 | 105 | 110 | 155 |
| Social/behavioral sciences..... | 31 | 31 | 23 | 23 | 24 | 24 | 25 | 25 | 41 | 39 | 50 | 52 | 102 | 90 |
| Engineering..... | 20 | 20 | 14 | 20 | 29 | 42 | 60 | 87 | 97 | 120 | 197 | 273 | 270 | 346 |
| Taiwan..... | 37 | 37 | 45 | 28 | 43 | 64 | 64 | 74 | 86 | 99 | 115 | 200 | 225 | 249 |
| All S&E..... | 21 | 21 | 24 | 17 | 26 | 30 | 49 | 44 | 58 | 85 | 109 | 172 | 197 | 197 |
| Natural sciences ^a | 2 | 2 | 4 | 7 | 4 | 6 | 8 | 5 | 8 | 14 | 20 | 22 | 35 | 35 |
| Mathematics/computer sciences..... | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 4 | 2 | 4 | 13 | 14 | 14 |
| Agricultural sciences..... | 4 | 4 | 4 | 5 | 7 | 5 | 15 | 8 | 17 | 15 | 10 | 28 | 28 | 28 |
| Social/behavioral sciences..... | 7 | 7 | 13 | 2 | 6 | 8 | 10 | 13 | 15 | 23 | 16 | 26 | 22 | 22 |
| Engineering..... | 8 | 8 | 3 | 3 | 8 | 10 | 15 | 15 | 14 | 31 | 59 | 83 | 98 | 98 |

Appendix table 2-39

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S&E doctoral degrees in selected Asian countries/economies, by field: 1975–2001

| Country/economy and field | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------|--------|--------|--------|
| China..... | 1,904 | 2,127 | 2,556 | 2,540 | 2,114 | 3,590 | 4,364 | 4,950 | 6,793 | 8,518 | 10,160 | 11,383 | 12,465 |
| All S&E..... | 1,024 | 1,069 | 1,198 | 1,357 | 1,895 | 2,741 | 3,417 | 4,428 | 5,328 | 6,358 | 6,778 | 7,304 | 7,617 |
| Natural sciences ^a | 141 | 209 | 252 | 304 | 528 | 918 | 1,191 | 1,479 | 1,678 | 2,246 | 2,135 | 2,306 | 2,655 |
| Mathematics/computer sciences..... | 78 | 89 | 95 | 101 | 103 | 139 | 187 | 264 | 334 | 350 | 417 | NA | NA |
| Agricultural sciences..... | 56 | 20 | 37 | 68 | 92 | 125 | 182 | 256 | 328 | 416 | 444 | 462 | 536 |
| Social/behavioral sciences..... | 23 | 36 | 47 | 61 | 102 | 170 | 198 | 234 | 325 | 446 | 513 | 514 | 621 |
| Engineering..... | 726 | 715 | 767 | 823 | 1,069 | 1,389 | 1,659 | 2,195 | 2,643 | 2,900 | 3,269 | 4,484 | 4,341 |
| India..... | 8,284 | 8,586 | 8,374 | 8,383 | 8,720 | 9,923 | 9,070 | 10,397 | 10,408 | 10,408 ^c | NA | NA | NA |
| All S&E..... | 4,209 | 4,166 | 4,212 | 4,183 | 4,021 | 4,565 | 4,000 | 5,015 | 4,764 | 4,764 | NA | NA | NA |
| Natural sciences ^a | 3,044 | 2,976 | 2,950 | 3,044 | 2,997 | 3,467 | 2,950 | 3,861 | 3,498 | 3,498 | NA | NA | NA |
| Mathematics/computer sciences..... | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Agricultural sciences..... | 579 | 583 | 633 | 688 | 701 | 769 | 715 | 780 | 968 | 968 | NA | NA | NA |
| Social/behavioral sciences..... | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Engineering..... | 586 | 607 | 629 | 451 | 323 | 329 | 335 | 374 | 298 | 298 | NA | NA | NA |
| Japan ^b | 10,036 | 10,633 | 10,758 | 10,885 | 11,576 | 12,160 | 12,645 | 13,820 | 13,921 | 14,800 | 15,470 | 15,357 | 16,078 |
| All S&E..... | 3,561 | 3,704 | 3,874 | 4,056 | 4,438 | 4,877 | 5,205 | 6,006 | 6,157 | 6,575 | 7,082 | 7,089 | 7,401 |
| Natural sciences ^a | 876 | 835 | 863 | 892 | 1,009 | 1,132 | 1,182 | 1,243 | 1,315 | 1,481 | 1,542 | 1,579 | 1,586 |
| Mathematics/computer sciences..... | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Agricultural sciences..... | 734 | 719 | 791 | 870 | 824 | 894 | 956 | 1,108 | 1,043 | 1,094 | 1,100 | 1,147 | 1,241 |
| Social/behavioral sciences..... | 177 | 183 | 191 | 200 | 243 | 241 | 276 | 358 | 388 | 420 | 506 | 563 | 610 |
| Engineering..... | 1,774 | 1,967 | 2,029 | 2,094 | 2,362 | 2,610 | 2,791 | 3,297 | 3,411 | 3,580 | 3,934 | 3,800 | 3,964 |
| South Korea..... | 2,458 | 2,481 | 2,984 | 3,211 | 3,583 | 3,999 | 4,462 | 4,723 | 4,999 | 5,586 | 5,586 | 6,143 | NA |
| All S&E..... | 984 | 945 | 1,135 | 1,228 | 1,421 | 1,650 | 1,920 | 2,046 | 2,189 | 2,260 | 2,607 | 2,865 | NA |
| Natural sciences ^a | 192 | 170 | 225 | 202 | 244 | 296 | 358 | 391 | 427 | 433 | 438 | 614 | NA |
| Mathematics/computer sciences..... | 105 | 75 | 99 | 106 | 124 | 145 | 169 | 178 | 187 | 161 | 188 | 247 | NA |
| Agricultural sciences..... | 175 | 154 | 156 | 151 | 172 | 196 | 223 | 199 | 178 | 180 | 230 | 242 | NA |
| Social/behavioral sciences..... | 97 | 107 | 189 | 217 | 222 | 227 | 232 | 236 | 240 | 240 | 168 | 108 | NA |
| Engineering..... | 415 | 439 | 466 | 552 | 659 | 786 | 938 | 1,042 | 1,157 | 1,246 | 1,583 | 1,654 | NA |
| Taiwan..... | 314 | 410 | 410 | 608 | 701 | 808 | 848 | 1,053 | 1,187 | 1,282 | 1,337 | 1,400 | 1,463 |
| All S&E..... | 257 | 312 | 370 | 450 | 513 | 592 | 650 | 783 | 839 | 907 | 892 | 931 | 970 |
| Natural sciences ^a | 42 | 47 | 62 | 82 | 97 | 115 | 115 | 154 | 163 | 172 | 150 | 147 | 144 |
| Mathematics/computer sciences..... | 18 | 24 | 32 | 42 | 45 | 49 | 55 | 63 | 88 | 93 | 119 | 113 | 107 |
| Agricultural sciences..... | 36 | 33 | 36 | 39 | 48 | 60 | 63 | 65 | 79 | 78 | 76 | 83 | 90 |
| Social/behavioral sciences..... | 41 | 43 | 31 | 23 | 36 | 56 | 44 | 66 | 76 | 87 | 65 | 87 | 108 |
| Engineering..... | 120 | 165 | 209 | 264 | 287 | 312 | 373 | 435 | 433 | 477 | 482 | 502 | 521 |

NA not available

^aNatural sciences include physical, biological, earth, atmospheric, and ocean sciences.^bJapanese data include thesis doctorates, called *ronbun hakase*, earned by employees in industry. In Japanese higher education data, mathematics is included in natural sciences; computer sciences are included in engineering.^cIndian 1998 data are estimated.

SOURCES: China—National Research Center for Science and Technology for Development and *Educational Yearbook, 2002*; India—Department of Science and Technology, *Research and Development Statistics 1996–97* (New Delhi, 1999); Japan—Government of Japan, Ministry of Education, Culture and Science, *Monbusho Survey of Education* (Tokyo, annual series); and Division of Higher Education, special tabulations, 2003. South Korea—Ministry of Education, *Statistical Yearbook of Education* (Seoul, annual series), and Organisation for Economic Co-operation and Development, Center for Education Research and Innovation, *Education at a Glance 2002*, and Taiwan—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei, annual series).