

## Annex A – Universities in Bangladesh

| Name of university  | Year founded | Location   | # of Students | Type                 | Status |
|---|--------------|------------|---------------|----------------------|--------|
| Bangabandhu Sheikh Mujib Medical University                         | 1998         | Dhaka      | --            | Medical              | Public |
| Bangabandhu Sheikh Mujibur Rahman Agricultural University           | 1998         | Gazipur    | --            | Agricultural science | Public |
| Bangabandhu Sheikh Mujibur Rahman Science and Technology University | 2011         | Gopalganj  | --            | Science & technology | Public |
| Bangladesh Agricultural University                                  | 1961         | Mymensingh | 15,580        | Agricultural science | Public |
| Bangladesh Open University  | 1992         | Gazipur    | --            | General              | Public |
| Bangladesh University of Engineering and Technology                 | 1962         | Dhaka      | 5,500         | Engineering          | Public |
| Bangladesh University of Professionals                              | 2008         | Dhaka      | --            | General              | Public |
| Bangladesh University of Textiles                                   | 1978         | Dhaka      | --            | Textiles             | Public |
| Barisal University  | 2011         | Barisal    | --            | General              | Public |
| Begum Rokeya University   | 2008         | Rangpur    | --            | General              | Public |
| Chittagong University of Engineering & Technology                   | 1968         | Chittagong | 2,400         | Engineering          | Public |
| Chittagong Veterinary and Animal Sciences University                | 2006         | Chittagong | 340           | Veterinary Sciences  | Public |
| Comilla University  | 2006         | Comilla    | 2,150         | General              | Public |
| Dhaka University of Engineering & Technology                        | 2003         | Gazipur    | --            | Engineering          | Public |
| Hajee Mohammad Danesh Science & Technology University               | 2002         | Dinajpur   | 2,650         | Science & technology | Public |
| Islamic University  | 1980         | Kushtia    | 10,000        | Islam                | Public |
| Jagannath University  | 2005         | Dhaka      | 25,000        | General              | Public |
| Jahangirnagar University  | 1970         | Savar      | 10,500        | General              | Public |
| Jatiya Kabi Kazi Nazrul Islam University                            | 2005         | Trishal    | --            | General              | Public |
| Jessore Science & Technology University                             | 2008         | Jessore    | --            | Science & technology | Public |
| Khulna University   | 1991         | Khulna     | --            | General              | Public |
| Khulna University of Engineering & Technology                       | 1969         | Khulna     | 2,300         | Engineering          | Public |
| Mawlana Bhashani Science and Technology University                  | 1999         | Tangail    | 1,700         | Science & technology | Public |
| National University   | 1992         | Gazipur    | --            | General              | Public |
| Noakhali Science and Technology University                          | 2005         | Noakhali   | 1,500         | Science & technology | Public |
| Pabna University of Science and Technology                          | 2008         | Pabna      | 800           | Science & technology | Public |
| Patuakhali Science and Technology University                        | 2002         | Patuakhali | 1,300         | Science & technology | Public |

|   |      |            |        |                      |         |
|---|------|------------|--------|----------------------|---------|
| Rajshahi University   | 1953 | Rajshahi   | 25,000 | General              | Public  |
| Rajshahi University of Engineering & Technology                 | 1964 | Rajshahi   | 1,750  | Engineering          | Public  |
| Shahjalal University of Science and Technology                  | 1987 | Sylhet     | 13,800 | Science & technology | Public  |
| Sher-e-Bangla Agricultural University                           | 2001 | Dhaka      | --     | Agricultural science | Public  |
| Sylhet Agricultural University                                  | 2006 | Sylhet     | --     | Agricultural science | Public  |
| University of Chittagong  | 1966 | Chittagong | 22,000 | General              | Public  |
| University of Dhaka   | 1921 | Dhaka      | 32,000 | General              | Public  |
| Ahsanullah University of Science and Technology                 | 1995 | Dhaka      | --     | Technology           | Private |
| America Bangladesh University                                   | 1997 | Dhaka      | --     | General              | Private |
| American International University-Bangladesh                    | 1994 | Dhaka      | 9,320  | Engineering          | Private |
| ASA University Bangladesh                                       | 2006 | Dhaka      | 4,000  | General              | Private |
| Asian University of Bangladesh                                  | 1996 | Dhaka      | 7,500  | General              | Private |
| Atish Dipankar University of Science and Technology             | 2004 | Dhaka      | --     | Technology           | Private |
| Bangladesh Islami University                                    | --   | Dhaka      | --     | General              | Private |
| Bangladesh University   | 2001 | Dhaka      | --     | General              | Private |
| Bangladesh University of Business and Technology                | 2003 | Dhaka      | --     | Technology           | Private |
| Begum Gulchemonara Trust University                             | 2002 | Chittagong | --     | General              | Private |
| BRAC University   | 2001 | Dhaka      | --     | General              | Private |
| Central Women's University                                      | 1993 | Dhaka      | --     | Women's Study        | Private |
| City University, Bangladesh                                     | 2002 | Dhaka      | --     | General              | Private |
| Daffodil International University                               | 2002 | Dhaka      | 8,000  | General              | Private |
| Darul Ihsan University  | 1989 | Dhaka      | --     | General              | Private |
| Dhaka International University                                  | 1995 | Dhaka      | --     | General              | Private |
| East Delta University   | 2006 | Chittagong | --     | General              | Private |
| East West University  | 1996 | Dhaka      | 6,160  | General              | Private |
| Eastern University  | 2003 | Dhaka      | --     | General              | Private |
| Gono Bishwabidyalyay  | 1996 | Dhaka      | --     | General              | Private |
| Green University of Bangladesh                                  | 2002 | Dhaka      | --     | General              | Private |
| IBAIS University  | 2002 | Dhaka      | --     | General              | Private |
| Independent University  | 1993 | Dhaka      | 4,000  | General              | Private |
| International Islamic University, Chittagong                    | 1995 | Chittagong | 13,000 | General              | Private |
| International University of Business Agriculture and Technology | 1991 | Dhaka      | --     | General              | Private |

|   |      |            |        |                            |               |
|---|------|------------|--------|----------------------------|---------------|
| Leading University                                | 2002 | Sylhet     | --     | General                    | Private       |
| Manarat International University                  | 2001 | Dhaka      | 3,000  | General                    | Private       |
| Metropolitan University                           | 2003 | Sylhet     | --     | General                    | Private       |
| Millennium University                             | 2003 | Dhaka      | --     | General                    | Private       |
| North South University                            | 1992 | Dhaka      | 10,000 | General                    | Private       |
| Northern University, Bangladesh                   | 2002 | Dhaka      | 10,000 | General                    | Private       |
| People's University of Bangladesh                 | 1996 | Dhaka      | --     | General                    | Private       |
| Premier University, Chittagong                    | 2002 | Chittagong | 9,000  | General                    | Private       |
| Presidency University                             | 2003 | Dhaka      | --     | General                    | Private       |
| Prime University                                  | 2002 | Dhaka      | --     | General                    | Private       |
| Primeasia University                              | 2003 | Dhaka      | --     | General                    | Private       |
| Pundra University of Science and Technology       | 2001 | Bogra      | --     | Technology                 | Private       |
| Queens University                                 | 1996 | Dhaka      | --     | General                    | Private       |
| Royal University of Dhaka                         | 2003 | Dhaka      | 750    | General                    | Private       |
| Shanto-Mariam University of Creative Technology   | 2003 | Dhaka      | --     | General                    | Private       |
| Southeast University                              | 2002 | Dhaka      | 6,000  | General                    | Private       |
| Southern University                               | 2001 | Chittagong | 5,000  | General                    | Private       |
| Stamford University Bangladesh                    | 2002 | Dhaka      | 18,000 | General                    | Private       |
| State University of Bangladesh                    | 2002 | Dhaka      | 2,500  | General                    | Private       |
| Sylhet International University                   | 2001 | Sylhet     | --     | General                    | Private       |
| United International University                   | 2003 | Dhaka      | --     | General                    | Private       |
| University of Asia Pacific (Bangladesh)           | 1996 | Dhaka      | 4,500  | General                    | Private       |
| University of Development Alternative             | 2002 | Dhaka      | --     | General                    | Private       |
| University of Information Technology and Sciences | 2003 | Dhaka      | 7,000  | General                    | Private       |
| University of Liberal Arts Bangladesh             | 2004 | Dhaka      | --     | General                    | Private       |
| University of Science & Technology Chittagong     | 1989 | Chittagong | 2,000  | Technology                 | Private       |
| University of South Asia                          | 2003 | Dhaka      | --     | General                    | Private       |
| Uttara University                                 | 2003 | Dhaka      | 5,000  | General                    | Private       |
| Victoria University of Bangladesh                 | 2003 | Dhaka      | --     | General                    | Private       |
| World University of Bangladesh                    | 2003 | Dhaka      | 8,000  | General                    | Private       |
| Asian University for Women                        | 2008 | Chittagong | 500    | General                    | International |
| Islamic University of Technology                  | 1981 | Gazipur    | 1,040  | Engineering and Technology | International |

**ANNEX B: SCOPUS DATA, BANGLADESH**

|  | 2000   | 2001   | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | Growth<br>2000-2010 |              |              |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------|--------------|--------------|
| <b>Panel 1</b>   |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| All Publications   | 558    | 571    | 523    | 698    | 721    | 862    | 1,033  | 1,364  | 1,502  | 1,704  | 2,066  | 370%                |              |              |
| (of which, articles, reviews and conf papers)            | 544    | 553    | 514    | 674    | 702    | 831    | 1,012  | 1,344  | 1,468  | 1,651  | 2,015  | 370%                |              |              |
| Citations in public yr to yr+4 (to 2 Sep 2011)           | 1,816  | 1,751  | 2,290  | 3,536  | 4,426  | 5,334  | 6,079  | 6,120  | 5,243  | 3,567  | 1,861  |                     |              |              |
| Citations per publication                                | 3.25   | 3.07   | 4.38   | 5.07   | 6.14   | 6.19   | 5.88   | 4.49   | 3.49   | 2.09   | 0.90   |                     |              |              |
| H-index  | 33     | 29     | 35     | 38     | 39     | 40     | 36     | 33     | 26     | 20     | 16     |                     |              |              |
| Pubs with nil citations (to 2011)                        | 166    | 167    | 125    | 159    | 173    | 243    | 312    | 558    | 664    | 900    | 1,437  |                     |              |              |
| % pubs with nil citations                                | 29.75% | 29.25% | 23.90% | 22.78% | 23.99% | 28.19% | 30.20% | 40.91% | 44.21% | 52.82% | 69.55% |                     |              |              |
| <b>Panel 2</b>   |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| All Publications without non-Bangladeshi authors         | 336    | 355    | 308    | 315    | 284    | 353    | 457    | 657    | 726    | 863    | 1009   | 300%                |              |              |
| Citations to yr+4  | 403    | 618    | 699    | 590    | 592    | 631    | 863    | 1097   | 877    | 902    | 311    |                     |              |              |
| Citations per publication                                | 1.20   | 1.74   | 2.27   | 1.87   | 2.08   | 1.79   | 1.89   | 1.67   | 1.21   | 1.05   | 0.31   |                     |              |              |
| H index  | 18     | 21     | 20     | 15     | 16     | 14     | 12     | 14     | 12     | 12     | 6      |                     |              |              |
| Pubs with nil citations (to 2011)                        | 146    | 133    | 101    | 120    | 107    | 161    | 224    | 369    | 450    | 590    | 865    |                     |              |              |
| %pubs with nil citations                                 | 43.45% | 37.46% | 32.79% | 38.10% | 37.68% | 45.61% | 49.02% | 56.16% | 61.98% | 68.37% | 85.73% |                     |              |              |
| <b>Panel 3</b>   |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| Pubs in Medicine, immunology and microbiology            | 192    | 184    | 151    | 210    | 206    | 242    | 345    | 352    | 408    | 503    | 527    | 274%                | % Total 2000 | % total 2010 |
| Citations to yr+4  | 1,039  | 823    | 1,081  | 1,663  | 2,075  | 2,450  | 3,284  | 2,808  | 2,741  | 1,610  | 792    |                     | 34%          | 26%          |
| Citations per publication                                | 5.41   | 4.47   | 7.16   | 7.92   | 10.07  | 10.12  | 9.52   | 7.98   | 6.72   | 3.20   | 1.50   |                     |              |              |
| H index  | 28     | 25     | 26     | 29     | 31     | 32     | 31     | 27     | 23     | 15     | 14     |                     |              |              |
| Pubs with nil citations (to 2011)                        | 64     | 62     | 32     | 41     | 28     | 59     | 73     | 88     | 118    | 202    | 322    |                     |              |              |
| %pubs with nil citations                                 | 33.33% | 33.70% | 21.19% | 19.52% | 13.59% | 24.38% | 21.16% | 25.00% | 28.92% | 40.16% | 61.10% |                     |              |              |
| <b>Panel 4</b>   |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| Medical etc publications without non-Bangladeshi authors | 107    | 127    | 91     | 73     | 70     | 92     | 114    | 152    | 186    | 221    | 199    | 186%                |              |              |
| Citations to yr+4  | 148    | 250    | 342    | 185    | 183    | 213    | 290    | 270    | 365    | 234    | 76     |                     |              |              |
| Citations per publication                                | 1.38   | 1.97   | 3.76   | 2.53   | 2.61   | 2.32   | 2.54   | 1.78   | 1.96   | 1.06   | 0.38   |                     |              |              |
| H index  | 11     | 14     | 17     | 12     | 10     | 10     | 9      | 8      | 10     | 6      | 4      |                     |              |              |
| Pubs with nil citations (to 2011)                        | 59     | 61     | 29     | 34     | 19     | 41     | 62     | 72     | 98     | 145    | 162    |                     |              |              |
| %pubs with nil citations                                 | 55.14% | 48.03% | 31.87% | 46.58% | 27.14% | 44.57% | 54.39% | 47.37% | 52.69% | 65.61% | 81.41% |                     |              |              |
| <b>Panel 5</b>   |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| Pubs in agriculture and biology                          | 126    | 136    | 119    | 141    | 140    | 175    | 251    | 303    | 305    | 346    | 438    | 348%                | 23%          | 21%          |
| Citations to yr+4  | 328    | 349    | 515    | 689    | 617    | 972    | 915    | 1056   | 863    | 882    | 446    |                     |              |              |
| Citations per publication                                | 2.60   | 2.57   | 4.33   | 4.89   | 4.41   | 5.55   | 3.65   | 3.49   | 2.83   | 2.55   | 1.02   |                     |              |              |
| H index  | 19     | 17     | 16     | 19     | 18     | 20     | 15     | 13     | 12     | 11     | 7      |                     |              |              |
| Pubs with nil citations (to 2011)                        | 41     | 38     | 28     | 33     | 38     | 39     | 86     | 103    | 106    | 152    | 286    |                     |              |              |
| %pubs with nil citations                                 | 32.54% | 27.94% | 23.53% | 23.40% | 27.14% | 22.29% | 34.26% | 33.99% | 34.75% | 43.93% | 65.30% |                     |              |              |

### Panel 6

| Pubs in agriculture and biology without non-Bangladeshi authors |        |        |        |        |        |        |        |        |        |        |        |      |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| Bangladeshi authors   | 80     | 80     | 66     | 51     | 56     | 54     | 135    | 157    | 124    | 155    | 157    | 196% |
| Citations to yr+4   | 86     | 84     | 52     | 40     | 98     | 117    | 233    | 256    | 187    | 267    | 94     |      |
| Citations per publication                                       | 1.08   | 1.05   | 0.79   | 0.78   | 1.75   | 2.17   | 1.73   | 1.63   | 1.51   | 1.72   | 0.60   |      |
| H index   | 8      | 8      | 6      | 5      | 6      | 7      | 7      | 8      | 6      | 6      | 3      |      |
| Pubs with nil citations (to 2011)                               | 35     | 32     | 22     | 26     | 28     | 19     | 63     | 72     | 57     | 91     | 125    |      |
| %pubs with nil citations  | 43.75% | 40.00% | 33.33% | 50.98% | 50.00% | 35.19% | 46.67% | 45.86% | 45.97% | 58.71% | 79.62% |      |

### Panel 7

| Pubs in social science, economics and business |        |        |        |        |        |        |        |        |        |        |        |      |    |     |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|----|-----|
| Bangladeshi authors                            | 53     | 48     | 48     | 67     | 66     | 82     | 116    | 129    | 130    | 188    | 222    | 419% | 9% | 11% |
| Citations to yr+4                              | 185    | 112    | 290    | 389    | 203    | 444    | 400    | 519    | 351    | 283    | 94     |      |    |     |
| Citations per publication                      | 3.49   | 2.33   | 6.04   | 5.81   | 3.08   | 5.41   | 3.45   | 4.02   | 2.70   | 1.51   | 0.42   |      |    |     |
| H index  | 15     | 12     | 13     | 15     | 10     | 13     | 10     | 12     | 8      | 7      | 5      |      |    |     |
| Pubs with nil citations (to 2011)              | 11     | 11     | 17     | 13     | 24     | 30     | 56     | 53     | 67     | 113    | 177    |      |    |     |
| %pubs with nil citations                       | 20.75% | 22.92% | 35.42% | 19.40% | 36.36% | 36.59% | 48.28% | 41.09% | 51.54% | 60.11% | 79.73% |      |    |     |

### Panel 8

| Pubs in social science etc without non-Bangladeshi authors |        |        |        |        |        |        |        |        |        |        |        |      |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| Bangladeshi authors  | 32     | 36     | 27     | 37     | 38     | 39     | 64     | 61     | 63     | 92     | 108    | 338% |
| Citations to yr+4  | 49     | 66     | 27     | 71     | 62     | 49     | 43     | 66     | 60     | 54     | 11     |      |
| Citations per publication                                  | 1.53   | 1.83   | 1.00   | 1.92   | 1.63   | 1.26   | 0.67   | 1.08   | 0.95   | 0.59   | 0.10   |      |
| H index  | 9      | 10     | 5      | 7      | 6      | 5      | 4      | 3      | 4      | 3      | 1      |      |
| Pubs with nil citations (to 2011)                          | 9      | 11     | 14     | 11     | 19     | 21     | 43     | 37     | 44     | 65     | 98     |      |
| %pubs with nil citations                                   | 28.13% | 30.56% | 51.85% | 29.73% | 50.00% | 53.85% | 67.19% | 60.66% | 69.84% | 70.65% | 90.74% |      |

### Panel 9

| Bangladesh top 10 collaborators | 2000-2010          |         | 2000-2007          |         |
|---------------------------------|--------------------|---------|--------------------|---------|
|                                 | Number of articles | Ranking | Number of articles | Ranking |
| Japan                           | 1512               | 1       | 842                | 1       |
| United States                   | 1413               | 2       | 817                | 2       |
| United Kingdom                  | 919                | 3       | 547                | 3       |
| India                           | 464                | 4       | 280                | 4       |
| Australia                       | 393                | 5       | 180                | 5       |
| Malaysia                        | 346                | 6       | 125                | 9       |
| Canada                          | 313                | 7       | 149                | 8       |
| Sweden                          | 303                | 8       | 163                | 7       |
| South Korea                     | 301                | 9       | 119                | 10      |
| Germany                         | 295                | 10      | 169                | 6       |

**ANNEX C: SCOPUS DATA, KENYA**

|  | 2000   | 2001   | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | Growth<br>2000-2010 |              |              |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------|--------------|--------------|
| <b>Panel 1</b>                               |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| All Publications                             | 573    | 610    | 684    | 809    | 804    | 864    | 989    | 1,153  | 1,206  | 1,344  | 1,472  | 257%                |              |              |
| (of which, articles, reviews and conf paper) | 545    | 586    | 636    | 775    | 751    | 815    | 946    | 1,087  | 1,140  | 1,269  | 1,271  | 233%                |              |              |
| Citations in public yr to yr+4 (to 2 Sep 20) | 4,719  | 4,017  | 4,522  | 6,640  | 7,168  | 8,708  | 8,592  | 9,993  | 8,213  | 5,553  | 2,784  |                     |              |              |
| Citations per publication                    | 8.24   | 6.59   | 6.61   | 8.21   | 8.92   | 10.08  | 8.69   | 8.67   | 6.81   | 4.13   | 1.89   |                     |              |              |
| H-index                                      | 54     | 49     | 45     | 49     | 48     | 43     | 41     | 38     | 34     | 24     | 19     |                     |              |              |
| Pubs with nil citations (to 2011)            | 53     | 58     | 86     | 90     | 117    | 141    | 148    | 228    | 271    | 400    | 739    |                     |              |              |
| % pubs with nil citations                    | 9.25%  | 9.51%  | 12.57% | 11.12% | 14.55% | 16.32% | 14.96% | 19.77% | 22.47% | 29.76% | 50.20% |                     |              |              |
| <b>Panel 2</b>                               |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| All Publications without non-African author  | 267    | 325    | 387    | 289    | 291    | 339    | 375    | 482    | 503    | 553    | 570    | 213%                |              |              |
| Citations to yr+4                            | 830    | 1019   | 1538   | 848    | 951    | 1214   | 1393   | 1751   | 1349   | 823    | 323    |                     |              |              |
| Citations per publication                    | 3.11   | 3.14   | 3.97   | 2.93   | 3.27   | 3.58   | 3.71   | 3.63   | 2.68   | 1.49   | 0.57   |                     |              |              |
| H index                                      | 26     | 24     | 26     | 21     | 19     | 20     | 17     | 16     | 14     | 10     | 6      |                     |              |              |
| Pubs with nil citations (to 2011)            | 41     | 49     | 72     | 79     | 87     | 97     | 111    | 151    | 200    | 268    | 411    |                     |              |              |
| %pubs with nil citations                     | 15.36% | 15.08% | 18.60% | 27.34% | 29.90% | 28.61% | 29.60% | 31.33% | 39.76% | 48.46% | 72.11% |                     |              |              |
|  |        |        |        |        |        |        |        |        |        |        |        |                     | % Total 2000 | % total 2010 |
| <b>Panel 3</b>                               |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| Pubs in Medicine, immunology and microb      | 191    | 190    | 197    | 292    | 334    | 319    | 377    | 440    | 561    | 648    | 707    | 370%                | 33%          | 48%          |
| Citations to yr+4                            | 3,069  | 2,286  | 2,382  | 3,753  | 4,646  | 5,797  | 5,329  | 6,178  | 5,434  | 3,799  | 2,096  |                     |              |              |
| Citations per publication                    | 16.07  | 12.03  | 12.09  | 12.85  | 13.91  | 18.17  | 14.14  | 14.04  | 9.69   | 5.86   | 2.96   |                     |              |              |
| H index                                      | 45     | 41     | 38     | 44     | 44     | 40     | 39     | 35     | 31     | 22     | 19     |                     |              |              |
| Pubs with nil citations (to 2011)            | 12     | 11     | 20     | 15     | 37     | 27     | 25     | 44     | 75     | 134    | 265    |                     |              |              |
| %pubs with nil citations                     | 6.28%  | 5.79%  | 10.15% | 5.14%  | 11.08% | 8.46%  | 6.63%  | 10.00% | 13.37% | 20.68% | 37.48% |                     |              |              |
| <b>Panel 4</b>                               |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| Medical etc publications without non-Africa  | 54     | 92     | 77     | 46     | 75     | 78     | 61     | 101    | 173    | 198    | 190    | 352%                |              |              |
| Citations to yr+4                            | 245    | 602    | 703    | 263    | 338    | 427    | 312    | 621    | 571    | 347    | 139    |                     |              |              |
| Citations per publication                    | 4.54   | 6.54   | 9.13   | 5.72   | 4.51   | 5.47   | 5.11   | 6.15   | 3.30   | 1.75   | 0.73   |                     |              |              |
| H index                                      | 16     | 22     | 21     | 13     | 13     | 14     | 10     | 12     | 13     | 8      | 5      |                     |              |              |
| Pubs with nil citations (to 2011)            | 10     | 10     | 13     | 7      | 27     | 18     | 17     | 37     | 56     | 96     | 128    |                     |              |              |
| %pubs with nil citations                     | 18.52% | 10.87% | 16.88% | 15.22% | 36.00% | 23.08% | 27.87% | 36.63% | 32.37% | 48.48% | 67.37% |                     |              |              |
| <b>Panel 5</b>                               |        |        |        |        |        |        |        |        |        |        |        |                     |              |              |
| Pubs in agriculture and biology              | 211    | 267    | 282    | 295    | 260    | 315    | 399    | 406    | 422    | 473    | 522    | 247%                | 37%          | 35%          |
| Citations to yr+4                            | 1098   | 1398   | 1920   | 2033   | 2069   | 3515   | 2595   | 2924   | 2560   | 2284   | 782    |                     |              |              |
| Citations per publication                    | 5.20   | 5.24   | 6.81   | 6.89   | 7.96   | 11.16  | 6.50   | 7.20   | 6.07   | 4.83   | 1.50   |                     |              |              |
| H index                                      | 31     | 31     | 31     | 32     | 31     | 28     | 24     | 23     | 22     | 20     | 12     |                     |              |              |
| Pubs with nil citations (to 2011)            | 21     | 25     | 31     | 21     | 26     | 39     | 55     | 66     | 100    | 129    | 287    |                     |              |              |
| %pubs with nil citations                     | 9.95%  | 9.36%  | 10.99% | 7.12%  | 10.00% | 12.38% | 13.78% | 16.26% | 23.70% | 27.27% | 54.98% |                     |              |              |

**Panel 6**

|   |        |        |        |        |        |        |        |        |        |        |        |      |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| Pubs in agriculture and biology without noi | 92     | 184    | 150    | 101    | 86     | 126    | 170    | 171    | 173    | 181    | 212    | 230% |
| Citations to yr+4                           | 313    | 759    | 768    | 281    | 324    | 562    | 719    | 685    | 467    | 374    | 122    |      |
| Citations per publication                   | 3.40   | 4.13   | 5.12   | 2.78   | 3.77   | 4.46   | 4.23   | 4.01   | 2.70   | 2.07   | 0.58   |      |
| H index                                     | 18     | 21     | 20     | 12     | 15     | 15     | 13     | 14     | 11     | 8      | 5      |      |
| Pubs with nil citations (to 2011)           | 16     | 21     | 24     | 15     | 18     | 26     | 41     | 44     | 68     | 70     | 151    |      |
| %pubs with nil citations                    | 17.39% | 11.41% | 16.00% | 14.85% | 20.93% | 20.63% | 24.12% | 25.73% | 39.31% | 38.67% | 71.23% |      |

**Panel 7**

|   |        |        |        |        |        |        |        |        |        |        |        |      |     |     |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|-----|-----|
| Pubs in social science, economics and bu: | 63     | 75     | 85     | 73     | 86     | 120    | 102    | 144    | 151    | 204    | 253    | 402% | 11% | 17% |
| Citations to yr+4                         | 318    | 351    | 749    | 455    | 635    | 1944   | 533    | 889    | 856    | 972    | 477    |      |     |     |
| Citations per publication                 | 5.05   | 4.68   | 8.81   | 6.23   | 7.38   | 16.20  | 5.23   | 6.17   | 5.67   | 4.76   | 1.89   |      |     |     |
| H index                                   | 16     | 15     | 17     | 19     | 17     | 19     | 15     | 17     | 13     | 13     | 12     |      |     |     |
| Pubs with nil citations (to 2011)         | 13     | 15     | 21     | 23     | 15     | 40     | 33     | 34     | 48     | 90     | 155    |      |     |     |
| %pubs with nil citations                  | 20.63% | 20.00% | 24.71% | 31.51% | 17.44% | 33.33% | 32.35% | 23.61% | 31.79% | 44.12% | 61.26% |      |     |     |

**Panel 8**

|   |        |        |        |        |        |        |        |        |        |        |        |      |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| Pubs in social science etc without non-Afri | 34     | 52     | 56     | 40     | 49     | 58     | 46     | 83     | 84     | 160    | 111    | 326% |
| Citations to yr+4                           | 78     | 99     | 406    | 73     | 79     | 87     | 81     | 236    | 179    | 293    | 53     |      |
| Citations per publication                   | 2.29   | 1.90   | 7.25   | 1.83   | 1.61   | 1.50   | 1.76   | 2.84   | 2.13   | 1.83   | 0.48   |      |
| H index                                     | 8      | 9      | 13     | 7      | 7      | 7      | 6      | 8      | 7      | 8      | 3      |      |
| Pubs with nil citations (to 2011)           | 10     | 15     | 18     | 20     | 21     | 28     | 24     | 27     | 41     | 79     | 81     |      |
| %pubs with nil citations                    | 29.41% | 28.85% | 32.14% | 50.00% | 42.86% | 48.28% | 52.17% | 32.53% | 48.81% | 49.38% | 72.97% |      |

**ANNEX D: SCOPUS DATA, MALAWI**

|  | 2000  | 2001   | 2002   | 2003  | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | Growth<br>2000-2010 |              |              |  |
|--|-------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|---------------------|--------------|--------------|--|
| <b>Panel 1</b>                                       |       |        |        |       |        |        |        |        |        |        |        |                     |              |              |  |
| All Publications                                     | 109   | 113    | 112    | 81    | 96     | 111    | 127    | 177    | 196    | 168    | 202    | 185%                |              |              |  |
| (of which, articles, reviews and conf papers)        | 102   | 98     | 99     | 79    | 88     | 104    | 112    | 162    | 181    | 163    | 192    | 188%                |              |              |  |
| Citations in publicn yr to yr+4 (to 2 Sep 2011)      | 1,010 | 777    | 864    | 802   | 994    | 924    | 1,356  | 1,710  | 1,433  | 887    | 504    |                     |              |              |  |
| Citations per publication                            | 9.27  | 6.88   | 7.71   | 9.90  | 10.35  | 8.32   | 10.68  | 9.66   | 7.31   | 5.28   | 2.50   |                     |              |              |  |
| H-index  | 24    | 24     | 25     | 21    | 23     | 19     | 23     | 21     | 17     | 15     | 10     |                     |              |              |  |
| Pubs with nil citations (to 2011)                    | 7     | 14     | 16     | 4     | 8      | 7      | 20     | 28     | 41     | 41     | 87     |                     |              |              |  |
| % pubs with nil citations                            | 6.42% | 12.39% | 14.29% | 4.94% | 8.33%  | 6.31%  | 15.75% | 15.82% | 20.92% | 24.40% | 43.07% |                     |              |              |  |
| <b>Panel 2</b>                                       |       |        |        |       |        |        |        |        |        |        |        |                     |              |              |  |
| All Publications without non-African authors         | 43    | 62     | 58     | 39    | 39     | 35     | 35     | 63     | 68     | 52     | 63     | 147%                |              |              |  |
| Citations to yr+4                                    | 135   | 191    | 203    | 114   | 120    | 105    | 169    | 360    | 172    | 144    | 32     |                     |              |              |  |
| Citations per publication                            | 3.14  | 3.08   | 3.50   | 2.92  | 3.08   | 3.00   | 4.83   | 5.71   | 2.53   | 2.77   | 0.51   |                     |              |              |  |
| H index  | 12    | 10     | 13     | 9     | 9      | 7      | 8      | 10     | 8      | 6      | 3      |                     |              |              |  |
| Pubs with nil citations (to 2011)                    | 4     | 11     | 11     | 3     | 5      | 3      | 13     | 15     | 20     | 23     | 47     |                     |              |              |  |
| %pubs with nil citations                             | 9.30% | 17.74% | 18.97% | 7.69% | 12.82% | 8.57%  | 37.14% | 23.81% | 29.41% | 44.23% | 74.60% |                     |              |              |  |
|  |       |        |        |       |        |        |        |        |        |        |        |                     | % Total 2000 | % Total 2010 |  |
| <b>Panel 3</b>                                       |       |        |        |       |        |        |        |        |        |        |        |                     |              |              |  |
| Pubs in Medicine, immunology and microbiology        | 69    | 75     | 77     | 49    | 70     | 79     | 83     | 116    | 143    | 119    | 156    | 226%                | 63%          | 77%          |  |
| Citations to yr+4                                    | 907   | 713    | 748    | 690   | 908    | 797    | 1,116  | 1,440  | 1,146  | 728    | 467    |                     |              |              |  |
| Citations per publication                            | 13.14 | 9.51   | 9.71   | 14.08 | 12.97  | 10.09  | 13.45  | 12.41  | 8.01   | 6.12   | 2.99   |                     |              |              |  |
| H index  | 23    | 24     | 23     | 20    | 22     | 18     | 21     | 20     | 15     | 14     | 10     |                     |              |              |  |
| Pubs with nil citations (to 2011)                    | 2     | 7      | 10     | 1     | 4      | 5      | 6      | 12     | 32     | 22     | 59     |                     |              |              |  |
| %pubs with nil citations                             | 2.90% | 9.33%  | 12.99% | 2.04% | 5.71%  | 6.33%  | 7.23%  | 10.34% | 22.38% | 18.49% | 37.82% |                     |              |              |  |
| <b>Panel 4</b>                                       |       |        |        |       |        |        |        |        |        |        |        |                     |              |              |  |
| Medical etc publications without non-African authors | 23    | 36     | 35     | 18    | 26     | 20     | 17     | 37     | 44     | 29     | 40     | 174%                |              |              |  |
| Citations to yr+4                                    | 116   | 142    | 167    | 70    | 96     | 54     | 123    | 324    | 89     | 112    | 15     |                     |              |              |  |
| Citations per publication                            | 5.04  | 3.94   | 4.77   | 3.89  | 3.69   | 2.70   | 7.24   | 8.76   | 2.02   | 3.86   | 0.38   |                     |              |              |  |
| H index  | 10    | 9      | 11     | 8     | 9      | 5      | 7      | 9      | 5      | 6      | 2      |                     |              |              |  |
| Pubs with nil citations (to 2011)                    | 1     | 8      | 7      | 1     | 2      | 3      | 2      | 8      | 17     | 11     | 37     |                     |              |              |  |
| %pubs with nil citations                             | 4.35% | 22.22% | 20.00% | 5.56% | 7.69%  | 15.00% | 11.76% | 21.62% | 38.64% | 37.93% | 92.50% |                     |              |              |  |
| <b>Panel 5</b>                                       |       |        |        |       |        |        |        |        |        |        |        |                     |              |              |  |
| Pubs in agriculture and biology                      | 26    | 21     | 16     | 16    | 11     | 15     | 27     | 29     | 26     | 17     | 37     | 142%                | 24%          | 18%          |  |
| Citations to yr+4                                    | 88    | 69     | 85     | 99    | 44     | 89     | 129    | 210    | 143    | 89     | 63     |                     |              |              |  |
| Citations per publication                            | 3.38  | 3.29   | 5.31   | 6.19  | 4.00   | 5.93   | 4.78   | 7.24   | 5.50   | 5.24   | 1.70   |                     |              |              |  |
| H index  | 10    | 7      | 8      | 8     | 3      | 6      | 7      | 8      | 7      | 4      | 6      |                     |              |              |  |
| Pubs with nil citations (to 2011)                    | 1     | 1      | 1      | 0     | 1      | 2      | 4      | 8      | 3      | 4      | 19     |                     |              |              |  |
| %pubs with nil citations                             | 3.85% | 4.76%  | 6.25%  | 0.00% | 9.09%  | 13.33% | 14.81% | 27.59% | 11.54% | 23.53% | 51.35% |                     |              |              |  |



**Panel 6**

|   |        |        |        |       |        |       |        |        |        |        |        |      |
|---|--------|--------|--------|-------|--------|-------|--------|--------|--------|--------|--------|------|
| Pubs in agriculture and biology without non-African authors | 10     | 8      | 7      | 6     | 4      | 4     | 7      | 8      | 7      | 5      | 17     | 170% |
| Citations to yr+4   | 26     | 12     | 14     | 17    | 17     | 14    | 26     | 17     | 15     | 8      | 18     |      |
| Citations per publication                                   | 2.60   | 1.50   | 2.00   | 2.83  | 4.25   | 3.50  | 3.71   | 2.13   | 2.14   | 1.60   | 1.06   |      |
| H index   | 5      | 3      | 3      | 3     | 2      | 2     | 4      | 2      | 2      | 1      | 2      |      |
| Pubs with nil citations (to 2011)                           | 1      | 1      | 1      | 0     | 1      | 0     | 3      | 5      | 2      | 2      | 9      |      |
| %pubs with nil citations                                    | 10.00% | 12.50% | 14.29% | 0.00% | 25.00% | 0.00% | 42.86% | 62.50% | 28.57% | 40.00% | 52.94% |      |

**Panel 7**

|  |        |        |        |       |        |        |        |        |        |        |        |      |    |     |
|--|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|------|----|-----|
| Pubs in social science, economics and business | 3      | 9      | 10     | 7     | 10     | 8      | 13     | 32     | 22     | 28     | 28     | 933% | 3% | 14% |
| Citations to yr+4                              | 8      | 36     | 34     | 16    | 30     | 16     | 55     | 243    | 73     | 93     | 50     |      |    |     |
| Citations per publication                      | 2.67   | 4.00   | 3.40   | 2.29  | 3.00   | 2.00   | 4.23   | 7.59   | 3.32   | 3.32   | 1.79   |      |    |     |
| H index  | 2      | 4      | 5      | 4     | 4      | 4      | 4      | 7      | 4      | 6      | 4      |      |    |     |
| Pubs with nil citations (to 2011)              | 1      | 2      | 1      | 0     | 2      | 1      | 6      | 8      | 5      | 9      | 9      |      |    |     |
| %pubs with nil citations                       | 33.33% | 22.22% | 10.00% | 0.00% | 20.00% | 12.50% | 46.15% | 25.00% | 22.73% | 32.14% | 32.14% |      |    |     |

**Panel 8**

|  |        |        |       |        |        |        |        |        |        |        |        |      |
|--|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| Pubs in social science etc without non-African authors | 2      | 8      | 6     | 5      | 5      | 4      | 5      | 15     | 10     | 12     | 7      | 350% |
| Citations to yr+4                                      | 0      | 21     | 9     | 6      | 12     | 8      | 6      | 82     | 15     | 36     | 2      |      |
| Citations per publication                              | 0.00   | 2.63   | 1.50  | 1.20   | 2.40   | 2.00   | 1.20   | 5.47   | 1.50   | 3.00   | 0.29   |      |
| H index  | 1      | 3      | 3     | 3      | 3      | 2      | 1      | 4      | 2      | 3      | 1      |      |
| Pubs with nil citations (to 2011)                      | 1      | 2      | 0     | 1      | 1      | 1      | 4      | 6      | 3      | 5      | 5      |      |
| %pubs with nil citations                               | 50.00% | 25.00% | 0.00% | 20.00% | 20.00% | 25.00% | 80.00% | 40.00% | 30.00% | 41.67% | 71.43% |      |

**SCOPUS DATA, PAKISTAN**

|  | 2000   | 2001   | 2002   | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | Growth<br>2000-2010 |                       |                       |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------|-----------------------|-----------------------|
| <b>Panel 1</b>                                     |        |        |        |        |        |        |        |        |        |        |        |                     |                       |                       |
| All Publications                                   | 1,175  | 1,299  | 1,425  | 1,539  | 1,897  | 2,511  | 3,119  | 3,750  | 4,705  | 5,756  | 6,985  | 594%                |                       |                       |
| (of which, articles, reviews and conf papers)      | 1,124  | 1,224  | 1,346  | 1,431  | 1,765  | 2,356  | 2,973  | 3,599  | 4,544  | 5,587  | 6,709  | 597%                |                       |                       |
| Citations in publicn yr to yr+4 (to 2 Sep 2011)    | 2,845  | 3,087  | 3,576  | 7,026  | 7,192  | 6,646  | 13,073 | 17,034 | 16,961 | 11,958 | 5,859  |                     |                       |                       |
| Citations per publication                          | 2.53   | 2.52   | 2.66   | 4.91   | 4.07   | 2.82   | 4.40   | 4.73   | 3.73   | 2.14   | 0.87   |                     |                       |                       |
| H-index  | 40     | 39     | 37     | 41     | 44     | 40     | 42     | 42     | 37     | 28     | 17     |                     |                       |                       |
| Pubs with nil citations (to 2011)                  | 397    | 483    | 474    | 423    | 586    | 756    | 1016   | 1,356  | 1,925  | 2,879  | 4,778  |                     |                       |                       |
| % pubs with nil citations                          | 35.32% | 39.46% | 35.22% | 29.56% | 33.20% | 32.09% | 34.17% | 37.68% | 42.36% | 51.53% | 71.22% |                     |                       |                       |
| <b>Panel 2</b>                                     |        |        |        |        |        |        |        |        |        |        |        |                     |                       |                       |
| All Publications without non-Pakistani authors     | 886    | 1,046  | 1,145  | 1,075  | 1,383  | 1,874  | 2,202  | 2,581  | 3,239  | 4,016  | 4,693  | 530%                | Indigenous %<br>2000  | Indigenous %<br>2010  |
| Citations to yr+4                                  | 1,188  | 1,370  | 2,083  | 2,443  | 3,303  | 4,476  | 6,844  | 8,792  | 8,155  | 6,288  | 2,659  |                     | 75%                   | 67%                   |
| Citations per publication                          | 1.34   | 1.31   | 1.82   | 2.27   | 2.39   | 2.39   | 3.11   | 3.41   | 2.52   | 1.57   | 0.57   |                     |                       |                       |
| H index  | 26     | 27     | 29     | 26     | 29     | 29     | 29     | 29     | 27     | 20     | 11     |                     |                       |                       |
| Pubs with nil citations (to 2011)                  | 365    | 463    | 439    | 351    | 414    | 734    | 803    | 1029   | 1478   | 2204   | 3437   |                     |                       |                       |
| %pubs with nil citations                           | 41.20% | 44.26% | 38.34% | 32.65% | 29.93% | 39.17% | 36.47% | 39.87% | 45.63% | 54.88% | 73.24% |                     | % Grand Total<br>2000 | % Grand total<br>2010 |
| <b>Panel 3</b>                                     |        |        |        |        |        |        |        |        |        |        |        |                     |                       |                       |
| Pubs in Medicine, immunology and microbiology      | 483    | 631    | 634    | 636    | 791    | 924    | 971    | 1,056  | 1,421  | 1,817  | 2,086  | 432%                | 41%                   | 30%                   |
| Citations to yr+4                                  | 1,291  | 1,200  | 1,353  | 2,371  | 2,905  | 4,014  | 4,385  | 4,936  | 6,037  | 3,921  | 2,092  |                     |                       |                       |
| Citations per publication                          | 2.67   | 1.90   | 2.13   | 3.73   | 3.67   | 4.34   | 4.52   | 4.67   | 4.25   | 2.16   | 1.00   |                     |                       |                       |
| H index  | 30     | 24     | 25     | 28     | 28     | 32     | 27     | 28     | 29     | 22     | 13     |                     |                       |                       |
| Pubs with nil citations (to 2011)                  | 198    | 303    | 274    | 171    | 205    | 265    | 287    | 399    | 626    | 994    | 1446   |                     |                       |                       |
| %pubs with nil citations                           | 40.99% | 48.02% | 43.22% | 26.89% | 25.92% | 28.68% | 29.56% | 37.78% | 44.05% | 54.71% | 69.32% |                     |                       |                       |
| <b>Panel 4</b>                                     |        |        |        |        |        |        |        |        |        |        |        |                     |                       |                       |
| Medical etc publications without non-Pakistani aut | 397    | 558    | 565    | 508    | 615    | 716    | 717    | 830    | 1081   | 1429   | 1605   | 404%                | Indigenous<br>%2000   | Indigenous<br>%2010   |
| Citations to yr+4                                  | 449    | 538    | 748    | 972    | 1412   | 1719   | 2180   | 2121   | 1913   | 1583   | 711    |                     | 82%                   | 77%                   |
| Citations per publication                          | 1.13   | 0.96   | 1.32   | 1.91   | 2.30   | 2.40   | 3.04   | 2.56   | 1.77   | 1.11   | 0.44   |                     |                       |                       |
| H index  | 16     | 18     | 17     | 18     | 20     | 18     | 19     | 18     | 15     | 12     | 7      |                     |                       |                       |
| Pubs with nil citations (to 2011)                  | 195    | 296    | 269    | 153    | 185    | 228    | 246    | 359    | 547    | 890    | 1244   |                     |                       |                       |
| %pubs with nil citations                           | 49.12% | 53.05% | 47.61% | 30.12% | 30.08% | 31.84% | 34.31% | 43.25% | 50.60% | 62.28% | 77.51% |                     |                       |                       |

**Panel 5**

|                                   |        |        |        |        |        |        |        |        |        |        |        |
|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pubs in agriculture and biology   | 169    | 156    | 225    | 265    | 276    | 350    | 640    | 843    | 915    | 1,074  | 1,414  |
| Citations to yr+4                 | 330    | 475    | 650    | 935    | 1,217  | 1,078  | 2,288  | 3,464  | 3,154  | 2,635  | 970    |
| Citations per publication         | 1.95   | 3.04   | 2.89   | 3.53   | 4.41   | 3.08   | 3.58   | 4.11   | 3.45   | 2.45   | 0.69   |
| H index                           | 19     | 23     | 22     | 23     | 21     | 19     | 20     | 22     | 19     | 14     | 9      |
| Pubs with nil citations (to 2011) | 41     | 25     | 47     | 62     | 75     | 96     | 178    | 251    | 277    | 414    | 938    |
| %pubs with nil citations          | 24.26% | 16.03% | 20.89% | 23.40% | 27.17% | 27.43% | 27.81% | 29.77% | 30.27% | 38.55% | 66.34% |

**% Grand Total  
2000**

837%

**% Grand total  
2010**

14%

20%

**Panel 6**

|  |        |        |        |        |        |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pubs in agriculture and biology without non-Pakist | 118    | 112    | 168    | 172    | 207    | 261    | 508    | 640    | 694    | 811    | 1,056  |
| Citations to yr+4                                  | 150    | 223    | 302    | 407    | 563    | 625    | 1,301  | 2,008  | 1,796  | 1,506  | 598    |
| Citations per publication                          | 1.27   | 1.99   | 1.80   | 2.37   | 2.72   | 2.39   | 2.56   | 3.14   | 2.59   | 1.86   | 0.57   |
| H index  | 15     | 15     | 15     | 17     | 17     | 14     | 16     | 17     | 14     | 11     | 6      |
| Pubs with nil citations (to 2011)                  | 37     | 24     | 42     | 43     | 63     | 79     | 160    | 207    | 229    | 435    | 726    |
| %pubs with nil citations                           | 31.36% | 21.43% | 25.00% | 25.00% | 30.43% | 30.27% | 31.50% | 32.34% | 33.00% | 53.64% | 68.75% |

Indigenous  
%2000

895%

70%

Indigenous  
%2010

75%

**Panel 7**

|   |        |        |        |        |        |        |        |        |       |       |       |
|---|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| Pubs in physical sciences and engineering | 421    | 422    | 476    | 567    | 735    | 1,071  | 1,493  | 1,864  | 2,404 | 2,913 | 3,311 |
| Citations to yr+4                         | 999    | 1,184  | 1,479  | 2,367  | 3,119  | 3,489  | 6,323  | 8,560  |       |       |       |
| Citations per publication                 | 2.37   | 2.81   | 3.11   | 4.17   | 4.24   | 3.26   | 4.24   | 4.59   | 0.00  | 0.00  | 0.00  |
| H index                                   | 27     | 26     | 27     | 30     | 32     | 30     | 32     | 34     |       |       |       |
| Pubs with nil citations (to 2011)         | 122    | 114    | 120    | 143    | 255    | 437    | 540    | 730    |       |       |       |
| %pubs with nil citations                  | 28.98% | 27.01% | 25.21% | 25.22% | 34.69% | 40.80% | 36.17% | 39.16% | 0.00% | 0.00% | 0.00% |

**% Grand Total  
2000**

786%

36%

**% Grand total  
2010**

47%

**Panel 8**

|   |        |        |        |        |        |        |        |        |        |        |        |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pubs in physical sciences etc without non-Pakista | 294    | 295    | 343    | 337    | 492    | 774    | 948    | 1,144  | 1,496  | 1,825  | 1,884  |
| Citations to yr+4                                 | 511    | 576    | 901    | 966    | 1,390  | 2,393  | 3,085  | 4,732  | 4,240  | 2,781  | 1,285  |
| Citations per publication                         | 1.74   | 1.95   | 2.63   | 2.87   | 2.83   | 3.09   | 3.25   | 4.14   | 2.83   | 1.52   | 0.68   |
| H index   | 19     | 18     | 23     | 22     | 22     | 21     | 23     | 27     | 26     | 18     | 11     |
| Pubs with nil citations (to 2011)                 | 97     | 103    | 100    | 102    | 198    | 348    | 383    | 489    | 727    | 1,066  | 1,353  |
| %pubs with nil citations                          | 32.99% | 34.92% | 29.15% | 30.27% | 40.24% | 44.96% | 40.40% | 42.74% | 48.60% | 58.41% | 71.82% |

Indigenous  
%2000

641%

70%

Indigenous  
%2010

57%