I. Introduction

- Korean Population: 50 million
- University students: 2.2 million
- Universities with 4 Year Degree Programs: 203
- Korean Government’s Policies to Foster Globally Prestigious Universities
  1) BK21 (Brain Korea 21) Project (1999 ~ 2012)
  2) WCU (World-Class University) Project (2008 ~ 2013)
  3) BK21 Plus Project (2013 ~ 2019)

- Outline of Today’s Presentation
  1) To explore the accomplishments and problems of past policies
  2) To introduce the new BK21 Plus Project
II. The Strategies and accomplishments of the Korean Government in establishing world-class universities

1. BK 21 Project (Brain Korea 21, 1999-2012)
   1) Outline
   - Purpose: To train and educate creative next-generation scholars
   - (Master’s & PhD. students, post doctoral and fixed-term professors)
   - Period: operated for 14 years from 1999 to 2012 through 2 stages
   - Investment: 1st stage 1.3 billion USD, 2nd stage 1.8 billion USD
   - Invested Areas: Basic Science and Technology, Applied Science and Technology, Humanities and Social Sciences and Professional Service Studies

[Table 1] The Academic Fields of The BK21 Project

<table>
<thead>
<tr>
<th>Section</th>
<th>Academic Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Science and Technology</td>
<td>Mathematics, Physics, Chemistry and Biology, Earth Science</td>
</tr>
<tr>
<td>Humanities and Social Science</td>
<td>All Areas of Humanities and Social Science</td>
</tr>
<tr>
<td>Professional Services</td>
<td>MBA, Dental and Medical Science</td>
</tr>
</tbody>
</table>

❖ Fostering Next-generation Scholars
   - Opportunities for disadvantaged students to attend graduate schools
   - Employment rate for BK21 beneficiaries 91.5%
   - Employment rate for regular graduate student (82.2%)

[Figure 2] The Number of Thesis Papers Per Graduate School Student Participating The BK21 Project
2) Accomplishments of the BK21 project

Fostering Research-focused Universities

- The research capacity of graduate schools has grown through an increase in the number of researchers and Master’s & Ph.D. students.
- Increased research competitiveness for BK 21 beneficiary schools

![Bar chart showing number of Korean universities in top 300 by THES-QS University Ranks in 2005 and 2011.]

[Figure 1] Korean Universities in the top 300 by THES-QS University Ranks

Achievements in research

- Excellence in research
- Participating professors made 54% of all research papers nationally

![Bar chart showing IF per paper and NO.SCI papers for 2006 and 2011.]

[Figure 4] The Number of SCI papers and IF papers of Basic Science and Technology
2. The WCU Project
(World-Class University, 2008~2013)

1) Outline of WCU

- **Purpose**
  - To strengthen university education and research power by inviting foreign scholars who have great research influence and capacity
  - To promote research that focuses on critical fields that are beneficial to the country's future development
  - To strengthen the competitive power of professors

<table>
<thead>
<tr>
<th>Type</th>
<th>Content</th>
<th>Number of Universities</th>
<th>Number of Projects (%)</th>
<th>Number of Foreign Scholars (%)</th>
<th>Funding (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Type: Establishing Departments</td>
<td>Full-time foreign and Korean professors participating together to establish departments</td>
<td>19</td>
<td>34 (24.3)</td>
<td>206 (60.2)</td>
<td>1.069 billion (69.1)</td>
</tr>
<tr>
<td>2nd Type: Inviting Individual Scholars</td>
<td>Incorporating full-time foreign scholars into existing department in the university to give lessons and produce joint research</td>
<td>18</td>
<td>44 (31.4)</td>
<td>72 (21.1)</td>
<td>358 million (23.1)</td>
</tr>
<tr>
<td>3rd Type: Inviting Global Scholars</td>
<td>Famous global scholars as part-time scholars to give lessons and produce research</td>
<td>26</td>
<td>62 (44.3)</td>
<td>64 (18.7)</td>
<td>121 million (7.8)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>33</td>
<td>140 (100)</td>
<td>342 (100)</td>
<td>1.548 billion (100)</td>
</tr>
</tbody>
</table>

- **Invested Areas**
  - Humanities and Social Science, Natural Science, Engineering, and Bio-Engineering
  - Creating new engines for development and disciplinary convergence leading to the creation of knowledge and innovative technology

- **Project Types**
  - Type 1: Establishing Departments
  - Type 2: Inviting Individual Scholars
  - Type 3: Inviting Famous Global Scholars

[Table 3] The Three Types of the WCU project (2011) (Unit: USD)
2) Achievements of WCU

- Increased research results of Korean Professors

[Table 4] The Papers Supported by the WCU project (December 2008-August 2011)

<table>
<thead>
<tr>
<th></th>
<th>Type 1</th>
<th>Type 2</th>
<th>Type 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Papers</td>
<td>3,709</td>
<td>1,613</td>
<td>414</td>
<td>5,736</td>
</tr>
<tr>
<td>NSC (Nature, Science, Cell)</td>
<td>17</td>
<td>3</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Publication Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>583</td>
<td>188</td>
<td>56</td>
<td>827</td>
</tr>
<tr>
<td>2010</td>
<td>1,561</td>
<td>677</td>
<td>177</td>
<td>2,415</td>
</tr>
<tr>
<td>2011</td>
<td>1,565</td>
<td>748</td>
<td>181</td>
<td>2,494</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global Excellence Journals</th>
<th>SCI</th>
<th>SCIE</th>
<th>SCOPUS</th>
<th>SSCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>3,308</td>
<td>76</td>
<td>10</td>
<td>54</td>
</tr>
<tr>
<td>2010</td>
<td>1,483</td>
<td>76</td>
<td>10</td>
<td>54</td>
</tr>
<tr>
<td>2011</td>
<td>347</td>
<td>76</td>
<td>10</td>
<td>54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Top 10%</th>
<th>Top 1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2,271</td>
<td>81</td>
</tr>
<tr>
<td>NSC (Nature, Science, Cell)</td>
<td>1,548</td>
<td>622</td>
</tr>
<tr>
<td>Publication Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>30.2%</td>
<td>29%</td>
</tr>
<tr>
<td>2010</td>
<td>17.7</td>
<td>15.8</td>
</tr>
</tbody>
</table>

[Figure 7] Differences between the number of SCI and IF papers before and after participation in the WCU project
III. Future Policies and Strategies

   1) Background for starting BK21 PLUS
      - The Korean government has pushed the BK21 PLUS project: combining the BK21 project with the WCU project
      - Investment: 2 million USD
      - Period: 7 years (2013 - 2019)
      - Goal: to make a qualitative leap rather than quantitative growth
   2) The Goals and Direction of BK21 PLUS
      - Goals
        - To grow global research-focused universities
        - To grow high level experts and converge departments
        - To increase education and the quality of research at universities
      - Direction
        - Step 1: To increase the quality of education and research in graduate schools and strengthen the base for research focused universities
        - Step 2: To strengthen the education and research capacity in regional graduate schools
        - Step 3: To grow Master’s and Doctorate level individuals who will be able to meet the needs of industries related to their fields of study
        - Step 4: To support high level experts in specialized fields
        - Step 5: To strengthen the operation of increasing the quality of graduate schools
        - Step 6: To materialize research scholarships for graduate students and labor fees for new researchers
Impressive Universities in Korea

1) KAIST (Korea Advanced Institute of Science and Technology)
   - Established in 1971
   - Ranked 68th in The Times Higher Education World University Rankings 2012-2013
   - Ranked 63rd in QS 2012 World University Rankings, and ranked 231st in Academic Ranking of World Universities (ARWU)

2) POSTECH (Pohang University of Science and Technology)
   - Established in 1985
   - Ranked 50th in The Times Higher Education World University Rankings 2012-2013
   - Ranked 97th in QS 2012 World University Rankings, and ranked 331st in Academic Ranking of World Universities (ARWU)

3) CBNU (Chonbuk National University)
   - Leiden Ranking: 5th nationwide (2012)
   - THE World University Ranking in 2010: 8th nationwide, 273rd worldwide
   - 2013 QS World University Ranking: 2nd among national universities in Korea

Korean Council for University Education (KCUE)

1) Founded in 1982, represents 200 four-year universities
2) Roles: Enhancing initiatives and public awareness of university operations, and promoting wholesome growth of university education overall
3) Main Businesses
   - Conducting research on university education systems, student recruiting systems, university curriculums, and teaching methods
   - Evaluating universities
   - Publicize university information
   - Strengthening international exchange and cooperation
IV. CONCLUSION

❖ The Korean Government’s Efforts to cultivate universities:
  ▪ The BK21 project from 1999 to 2012
  ▪ WCU project from 2008 to 2013
  ▪ The BK21 PLUS project from 2013 to 2019: an amalgam of the BK21 project and the WCU project

❖ The Park Geun-Hye administration has publicized that
  ▪ It would expand the budget for higher education from 0.7% up to nearly 1% before the end of her term.
  ▪ The ‘Regional university development policy’ is being carried forward including enlargements of financial support for regional universities and promoting enrollment-employment-settlement of local talent.

❖ Suggestions for Leading Institutes in Korea

  ▪ The Three leading institutes that play an important role in developing research capacity and fostering world-class universities: the Ministry of Education, the Korean Council for University Education(KCUE), the National Research Foundation of Korea (NRF)

  1) The Ministry of Education: Securing a budget and forming a social consensus
  2) The Korean Council for University Education(KCUE): Applying solutions and suggesting alternatives as well as giving a voice to universities
  3) The National Research Foundation of Korea (NRF): Constructing the collaboration system between Ministry of Education and KCUE
Thank you.

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