Skukuza Science Leadership Initiative
Partnered HCD programmes delivering science in SA
Key Challenges we face in SA/US

- Extinction of experience (Robert Pyle, 1993)
  - Fewer and fewer children have a daily interaction with nature
  - Deterioration in public health and wellbeing,
  - Decline in emotional affinity toward nature & decline in pro-environmental attitudes and behaviour

- Lack of education as a threat to biodiversity
  - Key threats to biodiversity including climate change, habitat transformation, pollution
  - All exacerbated by the lack of education/training
Key Challenges we face in SA/US

- Lack of
  - Skills in environmental sector:
    - Racial/gender equity
    - Qualified graduates
  - Graduates cannot cope with complex environmental & multi-disciplinary issues
- Funding is limited
- Field time is limited & big science = technology

Addressed by:
- National Human Capital Development Strategies: Universities, SANParks a key role player
Proposed model:

SSLI: Platform for education and science

Universities

Research Workshops

Biodiversity Industry

Internships

Specialist courses

GH
REU
AEC

Para-ecologists

School

School mentorship programme

Long term research

Community benefits: Education, Experience & Science interpretation centre
Partnered programs & Platform for exchange

- Purpose built, green center
- Partnership & Exchange is critical
  - Student – teacher – scientist
  - 201 registered projects in KNP
- Low volume, high intensity education
- Initiative must be self-funding
Nsasani Trust

• Educational non-profit dedicated to the empowerment of South Africans through holistic education and training programs

• Objective: foster a generation of conscious leaders who are capable of building a better future for South Africa in the face of complex social and environmental challenges

Service provider:
  o Facility managers
  o Coordinate academic activities
  o Design and implement capacity building programmes
  o Fund raising
SANParks

- **Host**
  - Ideal classroom
  - Site
  - Institutional support
  - Fundraising support
- **Service provider**
  - Intellectual capital
  - Programming
OTS SA: Academics and Current Courses

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
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<th>December</th>
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OTS South

GH

IRES

Semester Programs

Global Health Summer

IRES/EM
Academic focus: field based education, experiential learning

Faculty led projects
2 days in the field;
7 – 10 projects

Independent Projects
- LRP: 3-5 days of field work
- CP: 5-9 days of field work
- GH: 3 days on homestays

Innovation = Relevance
- Strengths: Field based, experiential learning
- Align our projects to meet KNP/Community research needs
Key aims of SSLI

- 21st Century Skills
  - Provide unique perspective
    - Integrated education (Socio-ecological systems, Global Health as a Human Rights issue)
    - OTS-KNP-WITS-UCT relationship
- Change in Aspirations
  - Study further
  - Leadership
  - Inspire students
- Make a significant contribution to science and outreach in KNP/SA
### Outputs: Incubator for Human Capital

<table>
<thead>
<tr>
<th>Course</th>
<th>Students</th>
<th>Academics</th>
<th>Support staff</th>
<th>Logistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Ecology</td>
<td>596; 497 US</td>
<td>23 lecturers</td>
<td>30 teaching assistants</td>
<td>7 logistics managers</td>
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<tr>
<td>(26 courses)</td>
<td>91 RSA, 8 SANParks</td>
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<tr>
<td>Global Health</td>
<td>240 US</td>
<td>8 lecturers</td>
<td>8 Teaching assistants</td>
<td>4 logistics managers</td>
</tr>
<tr>
<td>(11 courses)</td>
<td>12 RSA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRES</td>
<td>32 students</td>
<td>3 Academics</td>
<td>3 Teaching assistants</td>
<td>3 logistics managers</td>
</tr>
<tr>
<td>(8 courses)</td>
<td>3 Academics</td>
<td></td>
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</tr>
<tr>
<td>Environmental Monitors</td>
<td>14 SA students</td>
<td>1 academic</td>
<td>1 Teaching assistant</td>
<td>1 logistics managers</td>
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</tr>
<tr>
<td>Research/academics</td>
<td>63 research interns</td>
<td>18 honours projects</td>
<td>8 Masters students</td>
<td>2 PhD students</td>
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</tbody>
</table>
Assessment: 600 students; where are they now?

80% remain in Biodiversity Sector
75% study further, (5% intend to)
Outs: research

- OTS Course
  LRP – focus on SANParks research
  FFP: test cases, usually of conservation value
  Capstone projects: independent

- IRES/Environmental Monitor

- Interns/graduate studies

- Research workshops

- Key partners:
  University Florida, UCT, WITS, SANParks,
  University of Exeter, SANBI

22 papers published to date
Outputs: Platform for Building community
The finalized NSF funded laboratory and library from the exterior. The second phase, funded by the SA Government Extended Public Works (EPW) is in the final stages of completion.
Environmental Monitor Training programmes

*a la* Parataxonomist programme
Biodiversity assessment skills
Science skills
Life skills
Current....

Supporting courses and fostering interaction
- FLAGs?
- Paraecologist Programs
- High School & teacher training courses
- Research Workshops
- Community engagement abutting the park (MAP, Photographic academies)
- Building courses & sewing cooperative

Future?

- Professional courses (SANBI)
- Product driven university courses
14 years... many many more!