

# Some Thoughts on **Research in the Universities**

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# Purpose of the University

- Education to our youth?
  - Focus on large number of students?
  - Focus on very high quality education?
- Impactful research?
  - For economic development
  - For solving societal problems
- Both?

# California Masterplan for Higher Education (1960)

- The University of California
  - UG, Masters, Doctoral, Professional
- The California State University
  - UG, Masters
- The California Community Colleges
  - First 2-years of UG education

# Research

Research for **credentials**

*versus*

Research for **impact**

# Quality research requires

- Top talent
- Generous resources
- Strong culture and governance system

# Top Talent

- Quality of recruitment
  - Faculty, students, staff
  - Subjective *versus* objective criteria
  - Quality *versus* Quantity of research
- Retention of talent
  - Top talent may move to better universities
- Diversity
  - Expertise
  - People (e.g., international visitors)

# Generous Resources

- Research students
- Research / laboratory staff
- Funds
  - External *versus* Internal funds
- Laboratories, equipment
- Library, databases
- Infrastructure (e.g., guest house)

**Research can be  
very expensive**



# Endowment in Some US Universities

- Princeton: \$ 37.7 bill.; \$ 4.45 mill./student
- Yale: \$ 42.3 bill.; \$ 3.5 mill./student
- Harvard: \$ 50.9 bill.; \$ 2.35 mill./student
- Stanford: \$ 36.3 bill.; \$2.10 mill./student
- MIT: \$ 24.6 bill.; \$ 2.06 mill./student
- Caltech: \$ 4.6 bill.; \$ 1.92 mill./student

**Rs 80 – Rs 180 lakh /student /year available from endowment (@5%)**

Data from Wikipedia (Feb 2023)

# Culture

- Ethics and integrity in the entire university
- Peer group
- Collegiality
- Interdisciplinarity
- Tolerance for failures
- Expectations and aspirations
  - At individual, department and university levels

# Governance

- Ease of transaction
  - Research staff recruitment and management
  - Procurement
  - Financial management, etc.
- Systems that support
  - Seeking external funding
  - Managing externally funded projects
  - Intellectual property management
- Recognition and promotion policies
- Consistency over time and space

# Some recent initiatives @BHU

- Resources to faculty
  - International travel grant
  - Professional Development Fund
  - Seed research grant to new faculty
  - Research Grants to productive faculty
  - Top-up grant for first time EMR Funding
  - Transdisciplinary research grants
  - Equipment Grants
  - Credit research funding

# Some recent initiatives @BHU

- Resources to PhD students
  - International travel grant
  - Semester overseas
  - Semester elsewhere in the country
  - Credit research funding
  - Top-up fellowship
  - 5<sup>th</sup> year fellowship

# Some recent initiatives @BHU

- Sponsored Research and Industrial Consultancy Cell (SRICC)
  - Established with mandate of “48 hours”
  - Significantly improved management of externally funded projects

# **Culture and Governance most critical**

**Thank You!**