The following are reduced versions of the overheads used in Dr. Shakashiri's presentation:

**NATIONAL GOAL**

By the year 2000, U.S. Students will be

First in the world in mathematics

and science achievement.

**COMPONENTS OF CHANGE AND REFORM**

Content

Staff & Staffing

Conditions for Learning

Governance

Resources

**NATIONAL STRATEGY**

Goals

Standards
### NATIONAL GOALS

- Student Achievement
- Teacher Qualifications
- Environment for Learning
- Quality of Curriculum
- Effectiveness of Curriculum

### NATIONAL STANDARDS

Establish at each grade level in pursuit of national goals

### RESEARCH UNIVERSITIES

COMPREHENSIVE UNIVERSITIES

FOUR-YEAR COLLEGES

TWO-YEAR COLLEGES

PRIVATE SECTOR

STATES

SCHOOL SYSTEMS

Women in Engineering Conference: A National Initiative
GOVERNORS

NATIONAL GOVERNORS' ASSOCIATION

EDUCATION COMMISION OF THE STATES

STATE EDUCATIONAL AGENCIES
- Chief State School Officers
- Boards of Higher Education

URBAN SCHOOL SUPERINTENDENTS

OTHER PLAYERS

States

School systems

Communities and Parents

Rich Source Institutions

Teacher Sources

Human Service Agencies

National Resource Organizations
NSF'S STRATEGIC ROLE

Science Literacy for All Students
Best Preparation for Careers
Increase Representation
Support Experimentation
Generate Change
Assist Implementation

MATH

HEALTH

ENVIRONMENT

Mathematics cuts across all
disciplines and all levels of
education

NCTM Standards

"Everybody Counts"
HUMAN BIOLOGY
NUTRITION
DRUG EDUCATION

Physical Sciences
Biological Sciences
Earth Sciences
Engineering
etc.

SCIENCE, MATHEMATICS, AND ENGINEERING
- National Security
- Economic Security
- Effective Democracy
- Personal Reasons
  Enlightenment
  Joy
  Job
  Etc.

WOMEN IN ENGINEERING CONFERENCE: A NATIONAL INITIATIVE
NS&E Cumulative Shortfalls: BS Degrees

PhD Degrees in Natural Science and Engineering

Women in Engineering Conference: A National Initiative
Average Annual Production of Ph.D.s
NS & E Ph.D. Degrees from U.S. Institutions

Persistence of NS&E Interest from High School through PhD Degree

(The Pipeline)

Women in Engineering Conference: A National Initiative