



Italy-Japan Seminar

Sustainability Science and viable solutions

16th september 2008

Prof. Vincenzo Naso – CIRPS / Sapienza Università di Roma

- WHY SUSTAINABILITY SCIENCE?
 - WHY UNIVERSITY?

CRISIS [CRIS**E**S]

ECONOMICS | PRIMARY RESOURCES | SOCIAL | POLITICAL

CRISIS OF ETHICAL AND POLITICAL VALUES

GNP IS NOT THE CORRECT INDICATOR

ROBERT KENNEDY - UNIV. OF KANSAS MARCH 1968

THE QUALITY OF LIFE AND DEVELOPMENT

University of Kansas, Lawrence, Kansas, March 18, 1968 Robert Kennedy Presidential Campaign Speech:

...Too much and for too long, we seemed to have surrendered personal excellence and community values in the mere accumulation of material things. Our Gross National Product, now, is over \$800 billion dollars a year, but that Gross National Product - if we judge the United States of America by that - that Gross National Product counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for the people who break them. It counts the destruction of the redwood and the loss of our natural wonder in chaotic sprawl. It counts napalm and counts nuclear warheads and armored cars for the police to fight the riots in our cities. It counts Whitman's rifle and Speck's knife, and the television programs which glorify violence in order to sell toys to our children. Yet the gross national product does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, it measures everything in short, except that which makes life worthwhile. And it can tell us everything about America except why we are proud that we are Americans...

WHAT WE SEE IS A LACK OF AWARENESS AND CONVICTION

WHILE ECONOMIC AND FINANCIAL INDICATORS GET MAD
DUE TO SPECULATIONS AND BANKRUPTS

- LEHAMAN BROTHERS BANKRUPT

(FED. RES. AND MIN. OF TREASURE DO NOT INTERVENE THIS TIME)

WHICH FINANCIAL TSUNAMI WILL ARRIVE?

- OIL PRICES RANGED FROM 152 US \$/b TO 91 IN 6 MONTHS!

THE CONCEPT OF “SUSTAINABILITY”

- IS IT INADEQUATE?
- WE BETTER LOOK FOR THE IMPLEMENTATION OF THE “DEGROWTH” (GEORGESCU - ROEGEN: BIOECONOMICS)?

WE’LL TAKE “SUSTAINABILITY” AS A REFERENCE,
THE DISCUSSION IS OPEN!

**“SUSTAINABILITY” DEALS WITH LIMITED RESOURCES,
LIMITED REGENERATION CAPACITY, GLOBAL WARMING
CLIMATE CHANGE**

AS FOR “ENERGY”, SOME DATA

CHINA

15% WORLD GNP (6% IN 1980)

2004-2006 11% /y

6,2 Gt/y CO₂ (5,8 Gt/y USA)

(2006) 105.000 MWe/y (90.000 BASED UPON COAL)

(ITALY TOTAL: 78.000 MW)

(200 M PEOPLE NO ELECTRICITY)

ITALY-JAPAN SEMINAR - Sustainability Science and viable solutions

Consumo di energia primaria (in quadrilioni di BTU)

	1980	1990	2002	2010	2030
Cina	17,5	27,0	42,1	77,0	139,1
India	4,1	8,0	13,8	19,4	32,5
Brasile	4,0	5,8	8,6	10,8	17,2
Russia	n.a.	39,0	28,1	33,3	44,8
Stati Uniti	78,3	84,6	98,1	108	133,9

Fonte: "US Energy Information Administration, Outlook 2006".

AT THE MOMENT WE SEE A LOOP:

DEVELOPMENT \Rightarrow HIGHER ENERGY CONSUMPTION \Rightarrow HIGHER CO₂ AND
GHG_s \Rightarrow HIGHER ENERGY CONSUMPTION

EU-JAPAN

LOOK AT ENERGY SAVING, ENERGY EFFICIENCY
AND RENEWABLES

(20% \uparrow EFF. ; 20% \uparrow RENEW. ; 20% \downarrow CO₂ AT 2020)
AND CO₂ CAPTURE AND STORAGE

- WILL THEY SUCCEED?
- WILL BE ENOUGH?
- WHICH ENERGY CONSUMPTION WILL IT COST?

WE ARE FACING A GLOBAL, WORLD CHALLENGE

ANSWERS MUST BE:

GLOBAL | LOCAL | INDIVIDUAL

MANKIND MUST INTERVENE AT:

GLOBAL | LOCAL | INDIVIDUAL LEVELS

ACTING ON:

INFORMATION | EDUCATION | POLITICS | TECHNOLOGIES

WE NEED APPROPRIATE TOOLS

SUSTAINABILITY SCIENCE (SU.SCI.) IS THE
MOST AMBITIOUS, AS AN ANALYTICAL
TOOL SUPPORTING THE RESEARCH OF
ANSWERS

PROF. TAKEGUCHI WILL GO IN DETAILS

ITALY – JAPAN COLLABORATION

- A CONTRIBUTION TO THE EMPOWERMENT OF THE SU.SCI. ACADEMIC MOVEMENT
- FIRST STEPS:
 - EXCHANGE OF RESEARCHERS
 - SHARED RESEARCH ACTIVITIES
 - THE FIRST TWO INTERNATIONAL CONFERENCES ON SU.SCI.:
 - TOKYO, FEBRUARY 2009
 - ROME, JUNE 2010

THE ROLE OF UNIVERSITIES

UNIVERSITIES ARE THE LARGEST, DIFFUSED AND
HOPEFULLY THE MOST ACQUAINTED NETWORK OF
MANKIND