CHALLENGES IN BUILDING CAPACITY FOR A NUCLEAR PROGRAMME IN THE PHILIPPINES

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WHAT IS CAPACITY BUILDING?

The process of developing

competencies
and
capabilities

in

individuals
groups
organizations
sectors
countries

which will lead to

sustained
and self-generating
performance improvement

The empowerment which encompasses (along with capability building)

ability
will
skills

to

initiate
plan
manage
undertake
organize
budget
monitor
supervise
evaluate

project activities

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ELEMENTS
of
CAPACITY BUILDING

Human Resource Development

Education and Training

Knowledge Management

Knowledge Networks

(IAEA DEFINITION)

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CAPACITY BUILDING SPHERES OF INFLUENCE

Policy Infrastructure

NATIONAL INSTITUTIONS/ SECTORS

ORGANIZATION

GROUP

INDIVIDUAL

Physical Infrastructure

Organizational Infrastructure

ENABLING ENVIRONMENT

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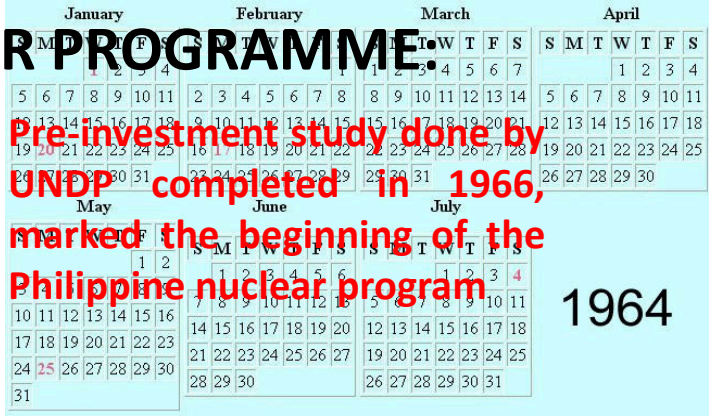
Adapted from a presentation by Chris Dureau 2004

THE PHILIPPINE NUCLEAR POWER PROGRAMME:
THE BACKDROP

July 15, 1958
"The Science Act of 1958"

September 2, 1958
"Membership to IAEA"



Pre-investment study done by UNDP completed in 1966, marked the beginning of the Philippine nuclear program

1964

June 15, 1968

Republic Act No. 5207
"**Atomic Energy Regulatory and Liability Act of 1968**" providing for the licensing and regulation of atomic energy facilities and materials

June 23, 1971

Pres. Ferdinand Marcos signed Administrative Order No. 293
Creating the Coordinating Committee for Nuclear Power Study

1976

Construction of the Philippine Nuclear Power Plant in Bataan began….

www.vinnellbelvoir.com/bataan-nuclear-powerplant/

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THE PHILIPPINE NUCLEAR POWER PROGRAMME: WEAKNESSES IN THE ENABLING ENVIRONMENT

123Rf

PHYSICAL INFRASTRUCTURE

- Currently no operable power reactor
- Construction of nuclear power plant in 1976 (later known as the Bataan Nuclear Power Plant) was met with many setbacks
  - stoppage due to news of Three Mile Island accident
  - public opposition due to Three Mile Island accident and allegations of corruption
- Unfinished nuclear plant has been found to have many defects and is now considered obsolete

	Power Reactors operable or in Operation	Power Reactors Under Construction	Power Reactors Planned	Research Reactors
Australia				1
Bangladesh			2	1
China	17	30	59	13
India	20	7	18	5
Indonesia			2	3
Japan	50	3	9	17+1
S. Korea	23	5	6	2
N.Korea			0	1
Malaysia			0	1
Pakistan	3	2	0	1
Philippines			0	1
Thailand			0	1+1
Vietnam			4	1
**** Total**	119	49	100	56*

** 54 research reactors operable, 2 under construction*
*** The total includes 6 reactors in operation, plus two under construction, on Taiwan. It also has four research reactors. Taiwan has no other stages of the fuel cycle.*

Source: **World Nuclear Association** http://www.world-nuclear.org/info/country-profiles/others/asia-s-nuclear-energy-growth/

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THE PHILIPPINE NUCLEAR POWER PROGRAMME: WEAKNESSES IN THE ENABLING ENVIRONMENT

POLICY INFRASTRUCTURE

- National policies affected by political affiliation of the administration and public opposition
- Too many legislations

ORGANIZATIONAL INFRASTRUCTURE

PNRI vs. NAPOCOR

The Philippine Nuclear Research Institute (PNRI)

-Formerly the Philippine Atomic Energy Commission (PAEC), has the dual mandate of promoting and regulating the use of nuclear energy

-Was given the power by virtue of Republic Act 5207 to "issue license for the construction , possession, or operation of any atomic energy facility in the Philippines"

The National Power Corporation (NAPOCOR)

- was authorized to construct , operate and maintain power plants for the production of electricity from nuclear, geothermal and other sources, by virtue of RA 6395.

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THE PHILIPPINE NUCLEAR POWER PROGRAMME: WEAKNESSES IN TRAINING AND EDUCATION

- No program offering in nuclear science/engineering/technology in the Philippines
- No government-funded individual trainings in nuclear science/engineering
- Education and training dependent on sponsored trainings and are therefore not custom-designed

	2008		2009		2010		2011		2012		Grand Total
	PNRI	Non PNRI	PNRI	Non PNRI	PNRI	Non PNRI	PNRI	Non PNRI	PNRI	Non PNRI	
Applications in AGRICULTURE	2		4	1	1		1	1	2		**12**
Applications in MEDICINE				1		2		3	1	1	**8**
HUMAN RESOURCE DEV'T			2		2						**4**
POLICY					2	1				2	**5**
POWER	1	1	1	2	6	3		3	3	2	**22**
SAFETY	10	1	20	5	11	2	19	6	20	1	**95**
WASTE MANAGEMENT	3		2		3	2	5		1		**16**
Grand Total	**16**	**2**	**29**	**9**	**25**	**10**	**25**	**13**	**27**	**6**	**162**

Number of PNRI and non-PNRI trainees sent for trainings abroad in variouareas of nuclear power plant operation and applications of nuclear technology for the years 2008-2012

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RECOMMENDATIONS

Given that an enabling environment is vital the success of a capacity building initiative for a successful nuclear program, following are recommended:

1. All stakeholders must be made prepared and ready to undertake the initiative.

-Government must have the political will to implement the program

-Policy-makers and the general public must be aptly informed and educated of the pros and cons including the science and engineering behind a nuclear programme

-A competent, highly skilled and able workforce/human resource must be available even before the start of the program

2. All infrastructures – physical, policy, organizational must be put in place

- The integrity of the physical infrastructure must be assured and a robust organizational infrastructure must be established before the start of the program

-A firm national policy must be put in place with prior consultations held with all stake holders.

-A deliberate and forward-looking capability building/HR plan in partnership with academe and other relevant institutions must be formulated before embarking on the program.

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