Public Education and Outreach for Supporting Nuclear Program in Indonesia

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The applications of nuclear science and technology has helped Indonesian government in strengthening food security, increasing health quality, providing modern solutions for industrial applications and providing alternative clean energy sources.

Although nuclear science and technology offers benefits to address public needs and national challenges in various fields, it still faces great challenge in terms of public acceptance especially for electricity generation application.

Public perception is very important in nuclear program in any country. Public perception is affected much by political condition as well as media.
Misperceptions persist about nuclear: fear of radiation, it's security risk, it's not tightly controlled, waste is not well-managed, and mining is not well regulated as well.

Public education and outreach are implemented to:
- Educate and inform the public,
- Gather important feedback, and
- Support government program.
1. Public Knowledge on Nuclear Energy in Indonesia
Public knowledge on nuclear energy

- Do Not Have Knowledge [40.9%]
- Less Knowledge [32.7%]
- Average Knowledge [26.0%]
- Good Knowledge [0.4%]
Sources of information on nuclear energy

- Television: 77.5%
- Schools/Lectures: 26.7%
- Printed Media: 23.0%
- Daily Conversation: 21.7%
- Internet: 9.6%
- Books: 7.0%
- Radio: 4.8%
- Seminars/Discussions: 0.6%
- Others: 0.2%
The Importance of Public Education on Nuclear Energy

- Providing transparent and balanced information on nuclear energy
- Helping public to learn nuclear science and technology
- Generate interest in young students to pursue nuclear science and technology
- Supporting a better educated and more broadly informed society.
2. Government Program on Public Education and Outreach
2.1 Strengthening Nuclear Education at Secondary Level Curriculum

• Joint program of BATAN and the Ministry of Education and Cultural Affairs (MoEC)
• Jointly reviewed science subjects in national education curriculum and produced new recommendations to MoEC in establishing an interactive methods of delivering topics of nuclear science and technology in Physics, Chemistry and Biology.
• The recommendations was further incorporated in revision of the national education curriculum for secondary level, which was published as 2013 national education curriculum and now has been implemented at all secondary level schools.
• Ministry of Education and Cultural Affairs (MoEC) also set up training for trainer program for teachers in this specific topics.
2.2. Provision of Teaching Modules and References

Nuclear Smart Book provided by MoEC and BATAN

Nuclear Interactive CD provided by MoEC
Since 2011 BATAN in cooperation with local governments establish scholarship program for university degree majoring in nuclear related studies.

The program has successfully engaging 137 students from several provinces joining higher studies at 7 major universities in Indonesia.

Until today 85 scholars have already graduated from bachelor degree, most of them are working at nuclear related companies and governmental agencies and some also receive scholarship for Master Degree at national and foreign universities.
2.4. Schools Engagement Activities

**Nuclear Goes to School**

*Edufun*, Presentation & motivation, simple practices, sharing & discussion, games, and role play “who want’s to be a nuclear scientist”

**Nuclear Science Day**

Information designed in fun and interactive concept and located in public facilities (Science Park, School)

**Science Competition**

Competition on nuclear science topics and mini project.

**Nuclear Visit**

Nuclear facilities visit and tour for public.
cooperation with National Nuclear Youth Community (KOMMUN) or Indonesia Young Generation Network (YGN).

KOMMUN which is affiliated to International Nuclear Youth Congress (IYNC) was initially formed by BATAN scholarship program participants.

KOMMUN supports government program in educating the public through activities: Smart Intensive Class, Nuclear Talks and Nuclear Festival, others.

Today KOMMUN has more than 600 members covering young professionals, university students and students from 12 regions of Indonesia.
3. Public Opinion Survey

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<tr>
<td>%</td>
<td>49.50</td>
<td>52.90</td>
<td>60.40</td>
<td>72.00</td>
<td>75.30</td>
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06/03/2017
Activities of public information

Seminar, Talkshow
Disseminating R&D products, recent and update status of nuclear in Indonesia with discussion and general sharing

Focus Group Discussion
Meeting with stakeholders and shareholders about nuclear prospect in future, also intense sharing about status of NPP

Products Exhibition
Introducing R&D products that has been proved and useful for public or communities. i.e : Food, Medicine, Agriculture and others proven products
Activities of public information

Training of Trainer
Workshop for training local figure as a “nuclear communicator” to deliver nuclear information for local societies.

Website
Provide nuclear up to date information and news for world wide public.
www.batan.go.id, www.infonuklir.com

Print Media
Information about nuclear also spread by using print media, i.e.: flyers, magazines, etc.
Media campaign

TV Commercial
Produce and placement tv commercial about nuclear energy, environment and technology achievement.

Variety Show on TV
Blocking time on TV show, i.e.: talkshow or advetorial about nuclear safety issues, energy prospect, human resource and others.
**Media campaign**

**Public Service Advertisement on Radio**
Produce and placement commercial break and *bumper* with nuclear theme and news.

**Radio Talkshow**
Talkshow and interactive discussion about Nuclear Safety Issues, Socialization Activities, Young Communities, Education, and Human Resourch.
Publication

- Thematic Flyer & Pampleth
- Book & Profile
- Glosarium
- T-Shirt
- Sticker
- Supplementary Material
- CD & e-learning
Publication in mass transportation

Human resource & Nuclear Safety

Nuclear in Our life

www.batan.go.id
## Proposals

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<tr>
<th>E&amp;T</th>
<th>NKM</th>
<th>Outreach</th>
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<tr>
<td>• Use of IAEA e-learning system for national trainings</td>
<td>• Use of IAEA resources</td>
<td>• Capacity building on public information</td>
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<tr>
<td>• Use of IAEA modules for national trainings</td>
<td>• support for capacity building to knowledge creation</td>
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<td>• Supports for IRL development &amp; operation</td>
<td>• ToT for critical knowledges</td>
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Proposals dated 02/03/2018
Conclusions

- The implementation of public education and outreach program showed successful achievements in increasing public understanding and knowledge on nuclear science and technology.

- This achievement is aligned with government program in increasing public acceptance on nuclear energy.

- The latest public opinion polling survey conducted in 2016 showed 77.5% of Indonesian public expressed their support on national energy program.

- Sustainable education and outreach program is needed to ensure the number of acceptance remains high and will support the establishment of nuclear energy program at Indonesia.
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