

Reuters News

## **Cumulative radiation from Japan plant sparks health worries**

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- \* Cumulative radiation from Japan is one-tenth of Chernobyl
- \* Serious damage to soil, ecosystem, water, food - expert
- \* Long-term health monitoring needed for survivors, plant workers

By Tan Ee Lyn

HONG KONG, April 12 (Reuters) - Japan's crippled Fukushima Daiichi nuclear plant has so far leaked around a tenth of the amount of radiation released in the Chernobyl disaster, data showed on Tuesday, leading some experts to warn of serious long-term health risks.

Japan's Nuclear and Industrial Safety Agency (NISA) and the Nuclear Safety Commission of Japan estimated cumulative radiation levels at between 370,000 and 630,000 terabecquerels.

Using a median value of 500,000 terabecquerels, that would be nearly 10 percent of the total radiation of 5.2 million terabecquerels released by Chernobyl. The Chernobyl figure was provided by the Japanese agencies.

"If that is the total radiation so far from the time of first leakage, that amount is very serious. It's undoubtedly very bad. That is close to one-tenth of Chernobyl's radiation in a month," said Lam Ching-wan, a chemical pathologist at the University of Hong Kong and member of the American Board of Toxicology.

"It means there is damage to soil, ecosystem, water, food and people. People receive this radiation. You can't escape it by just shutting the window."

With Japan widening the evacuation zone beyond the initial 20 km (12 mile) exclusion zone and encouraging children, pregnant women and hospitalised patients to stay out of some areas 20-30 km from the nuclear complex, Lam said he feared the radiation leakage may still be far from under control. [ID: nL3E7FA058].

"The radiation threat is there and there must be national radiation surveillance for health purposes ... they must decide if there should be regular screening for cancer," Lam said.

### **CALLS FOR LONG-TERM HEALTH MONITORING**

Experts are most worried about three radioactive substances -- iodine-131, caesium-134 and caesium-137 -- all of which can cause various types of cancer years later.

From studies carried out on survivors of nuclear plant accidents in the past, as well as the atomic bombings in Japan during World War Two, the link between exposure to radioactive iodine and thyroid cancer is most convincing.

Although the radioactivity in iodine-131 fully disintegrates in 80 days, it can find its way rapidly into people through the air and through milk and leafy vegetables, lodging quickly in the thyroid gland, where it can cause DNA damage and raise cancer risk, particularly in young children.

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Among the people who were exposed to the Chernobyl accident as children, at least 1,800 have gone on to develop thyroid cancer, a study has found.

Experts called for long-term tracking and monitoring of the health of survivors living near the plant as well as the hundreds of nuclear plant workers now battling to get the Fukushima nuclear plant under control.

These studies will help policy-makers make informed decisions when setting aside funding and planning healthcare services in the future, such as cancer screening and therapies.

"You need several metres of concrete to shield yourself from radiation ... even lead aprons are not going to help," said Stephen Law, chief of service of clinical oncology at the Queen Elizabeth Hospital in Hong Kong.

He said whatever protective material the nuclear plant workers were using would not fully shield them.

"Those workers are the largest group of people now being exposed to a significant radiation dose and this will improve our knowledge of managing radiation accidents," Law said.

Lam said regular cancer screening would be important for people living near the nuclear plant.

"Thyroid cancer is treatable and early detection raises cure rates. Without monitoring, you will lose the golden window of opportunity to early treatment," Lam said.

Ben Cowling, a public health associate professor at the University of Hong Kong said such long term studies would be very useful for healthcare planning in the future.

"Any information would be useful because there is very limited information on these kinds of incidents," Cowling said. "It could happen again in another place at another time."

(Editing by Andrew Marshall)