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TUNNEL ANALYSTS PUSH FOR STUDY

Despite the high price tag, the plan will be worthwhile, writes **Nanchanok Wongsamuth**

Although a proposed initiative to construct a 100-kilometre tunnel to prevent future flooding in and around the capital will carry a hefty price tag, it is worth the cost, say underground tunnelling system analysts.

"Thailand has a few options. No major city relies solely on the canal. The advantage of underground tunnels is they don't require any additional land," said Zaw Zaw Aye, secretary-general of the World Tunnel Congress 2012 Organising Committee. "For example, if the damage from flooding is 1 trillion dollars, an underground tunnel system could lessen the damage to 5% of that amount," he said.

Olivier Vion, executive director of the International Tunnelling and Underground Space Association (ITA), said a tunnel could be considered an investment, as foreign investors are considering moving their production elsewhere if the government doesn't develop a water management plan.

"We are convinced the use of underground space is useful and necessary, and it needs to be studied further," said Mr Vion.

Spending 200 billion baht to build a 100-km tunnel to prevent future flooding in and around the capital was recently proposed by the Thailand Underground



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ZAW ZAW AYE
Secretary-General,
World Tunnel Congress 2012 Organising
Committee

and Tunnelling Group (TUTG). The tunnel would be designed with a double-deck structure, called a multi-service flood tunnel system, and equipped with hydropower generators for power production.

"Due to climate change, it's even more obvious that tunnelling [will become an important flood management system].



We are convinced the use of underground space is useful and necessary

OLIVIER VION
Executive director,
International Tunnelling and Underground Space
Association

Here in Bangkok it is clear that water from the north has no other choice than to flood the city, so you need tunnels to bring water from the north to the sea. One way is to bring the water underground," said Mr Vion.

A tunnel can be environmentally friendly as water can be treated once

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the storm subsides before being returned to nature.

Mr Vion offered the assistance of ITA, which represents 20,000 tunnelling analysts worldwide.

He estimated flood and storm management represented only 10% of metro-systems in large cities. Paris, for instance, has 200 kilometers of underground metro lines, 20 km of which are for flood usage.

In other countries such as the United States, Malaysia, Japan and France, tunnels are efficient at draining water, he said. Kuala Lumpur has not been flooded since it constructed a tunnel system and its break-even period was five years, he added.

TUTG will hold the 64-nation World Tunnel Congress and the 38th general assembly of ITA in Bangkok from May 18-23 at the Queen Sirikit National Convention Center.

Even with the financial crisis in Europe, underground construction is still growing at 10% per year due to rapid growth in China, India and South America.

“Chinese urban centres are booming and the only solution is to build metro systems, which exist in over 20 cities there. The concern is the same in Southeast Asia,” said Mr Vion, adding that mass transit also helps to save energy.