

Strict building codes saved lives

Hidden inside the skeletons of high-rise towers, extra steel bracing, giant rubber pads and embedded hydraulic shock absorbers make modern Japanese buildings among the sturdiest in the world during a major earthquake (8.9M on 11.03.2011). And all along the Japanese coast, tsunami warning signs, towering seawalls and well marked escape routes offer some protection from walls of water.

These precautions, along with earthquake and tsunami drills that are routine for every Japanese citizen, show why Japan is the best-prepared country for disasters-practices that saved lives.

In Japan, the building codes have long been much more stringent on specific matters like how much a building may sway during a quake. After the Kobe earthquake in 1995, Japan also put enormous resources into new research on protecting structures.

Japan has outfitted new buildings with advanced devices called base isolation pads and energy dissipation units to dampen the ground's shaking. The dissipation units are built into a building's skeleton. They are hydraulic cylinders that elongate and contract as the buildings sways, sapping energy.

Some older buildings had indeed collapsed and the scale of devastation is yet not known. "The tsunami roared over embankments in Sendai city, washing cars, houses inland," according to a Japanese Engineer, Kit Miyamoto.

The country built concrete seawalls in many communities, some as high as 40 feet (12 m), which amounted to its first line of defence. In some coastal towns, in the event of an earthquake, networks of sensors are set up to set off alarms in individual residences and automatically shut down floodgates to prevent waves from surging upriver.

But Japan's "massive public education programme" could in the end have saved most lives, said Rich Eisner, a retired tsunami expert. In one town, Ofunato, struck by a tsunami in 1960, dozens of signs mark escape routes. Matthew Francis of URS Corporation said, "for a trained population, a matter of 5 or 10 minutes is all you may need to get to high ground."

Source: Indian Express, 13.3.2011

Conflict necessary for creativity

When MK Gandhi was thrown out of train in South Africa he had a choice to make-either to ignore the event and leave in peace or enter into a conflict and face harassment, hardship and possibility of getting physically hurt. He chose the latter. Why? Did he not have a guru who had taught him that living in peace and tranquility was the ultimate

objective of life and the best way to achieve this objective was to avoid situations of conflict? Why did he not walk away?

Most of us are confused between conflict and the method of resolving a conflict. We assume, incorrectly, that Gandhi, as a peace loving person, must have avoided situations of conflict. On the other hand, he faced conflict head-on.

The duty of a scientist, artist or professor is also to engage in conflict against repressive regimes of knowledge. Any kind of limited knowledge is a form of bondage. Albert Einstein advanced the boundaries of scientific knowledge. James Joyce did the same in the world of literature. He flouted rules of writing as he saw them as restrictions on creativity. Picasso, for example, explored realms beyond accepted rules in visual art. Mother Teresa redefined the concept of caring. Every one of them faced criticism and controversy, yet they remained convinced as the nature of their work and the methods they used to fulfill their vision. They remained engaged.

One can only conclude from this that the people we admire and even those we worship have all rejected the existing as being adequate and have chosen to engage in conflict to expand the existing . They have redefined the purpose of our life.

The purpose of our life is not to live in passive acceptance but to engage with conflict in order to be creative. Creativity is the purpose of life. The purpose is to advance an individual soul and the collective consciousness. The only word for caution here is that we must first settle ourselves spirituality so that we know whether a conflict is justified or not.

- Raj Kachroo

*Source: Excerpts from an article, The Speaking Tree,
Times of India*

China carries out shale gas drill

China has begun trials of a drilling technique to exploit the world's largest reserves of shale gas, as it attempts to cope with the increasing energy demands of a fast-growing economy while reducing its dependence on coal.

In the past two weeks, engineers have completed the country's first horizontal shale gas well in Sichuan and government officials have begun drafting a national strategy to identify a trillion cubic metres of exploitable resources by 2020.

Supporters say China has the potential to emulate the United States, where extraction of shale gas has tripled the lifespan of US gas reserves and offered a lower-carbon alternative to coal.

"Shale gas is a game-changer for the US and should do the same for China," said Ming Sung, Asia representative of the Boston-based Clean Air Task Force and an advocate of

closer energy links between the two nations. “This should be one of the centre-pieces for China’s energy strategy. As with any new technology development, we must balance benefits versus potential environmental impacts. The experiences of the US are valuable here.”

The extraction method itself is costly, and challenging. Hydraulic fracturing or “fracking” involves the injection of chemically treated water (with sand) at high pressure through seams of rock, forcing the gas inside to seep out to where it can be captured. Environmentalists warn that this wastes and contaminates millions of tons of water.

For fuel-hungry, drought-plagued China, this poses a conundrum. The energy potential is enormous. The ministry of land and resources calculates the size of shale gas reserves at 26tn cubic metres – more than 10 times the country’s known holdings of conventional natural gas.

This is a alternative for a country that is eager to improve its energy security in the face of rising oil and coal imports. A global shale gas study released this month by the US Energy Information Administration said China’s technically recoverable shale gas reserves were almost 50% higher than those of the number two nation, the US.

But tapping them will be expensive and difficult for a country that is desperately short of water and – until recently – lacking experience in the key technologies. Engineers from China National Petroleum Corporation (CNPC) took a major step towards rectifying the latter problem on 23 March, 2011, when it opened the shale gas well 3km below the surface of Weiyuan in Sichuan province.

The scale of production is a mere 10,000 cubic metres a day, the equivalent to about 10 tonnes of oil, and the financial returns are unattractive given the low price of gas and the high costs of exploitation – 7% of which are for environmental measures.. But the pilot project was deemed a success because it proved the effectiveness of drilling equipment – the final thousand metres of the well being bored in just 34 days.

“The success of this well is valuable for the future of horizontal shale gas technology,” said an industry source. “We expect to reach our targets for exploration and development ahead of schedule.”

Executives at CNPC – China’s biggest energy company – have said they aim to produce 500m cubic metres of shale gas by 2015. With other firms such as Sinopec, Royal Dutch Shell and Chevron lining up to enter the business, the government has begun drawing up a national strategy that is likely to be incorporated into the latest five-year plan. Industry insiders are hopeful that it will include tax incentives and subsidies to develop shale gas reserves.

Source: Hindustan Times, 23.4.2011

Choose your options with utmost care

Every day in our life, we perhaps have some kind of bad experience, big or small. One has two options: either ignore them or react. The first option is a form of forgiveness, while the other amounts to engagement and in some cases, even revenge. Which is the better option?

Forgiveness is a better option for it is based on a proven formula: "Save yourself". Forgiveness saves you from distraction, it saves your time, and it saves you from creating more problems. Forgiveness could amount to an instant solution to any problem.

In contrast, reaction and emotional revenge means turning the bad into worse, for revenge tends to worsen the problem. If forgiveness is buying time, revenge is just wasting time without hope of any positive result.

In such a situation people generally tend to give in to negative thinking but that would be unwise. The better formula is following a self oriented course of action. In other words, if you are having a sad experience, don't think about the other party who you feel has wronged you. Think about and adopt a course of action that is better for you. At all times in our life we are torn between two choices-anti-other thinking and pro-self thinking. Anti-other thinking makes you descend to the lowest level, whereas pro-self thinking elevates you to a higher plane of consciousness.

If forgiveness is a full stop, revenge is full of commas. Forgiveness means ending an unwanted situation, while revenge means extending it to infinity. Forgiveness maintains your positive thinking uninterrupted, while revenge creates negativity. And negativity creates all kind of undesirable behavior, in terms of both thought and action.

Some would argue that forgiveness does not always work, and that it is better to adopt the tit-for-tat policy. But tit-for-tat is not a real solution: it does not end the problem, it only leads to a chain reaction. A reactionary attitude aggravates the problem. Wouldn't the policy of forgiveness only encourage others to take further negative steps against us? To assume so would be unfair, and also, it is against the law of nature.

Psychological studies show that every human being is born with two different faculties – the ego and conscience. If you follow the path of vindication, it fans the ego of the other party, whereas if you follow the policy of forgiveness, it will activate the conscience of the other person. And it is a fact that conscience always plays a positive role in controversial matters. The culture of forgiveness helps in the building of a better society, where positive values flourish, where the spirit of cooperation prevails, where disparate groups come together and form a peaceful society. Revenge, on the other hand, creates an environment of mistrust, in which everyone takes others to be rivals. The revenge culture rules out the growth of a healthy society.

To err is human; everyone is bound to do something wrong at one time or other. But, in such a situation, revenge means committing not just one mistake but making mistake after mistake. On the contrary, forgiveness means undoing wrongs with rights. It is

better to say that, if to err is human, to forgive is also human. Perhaps this concept is expressed in the saying: “To err is human, but to forgive is divine”. For at the core, aren't we all divine beings?

- *Maulana Wahiduddin Khan*

Source: The Speaking Tree, The Times of India

ISRO moon find can be a human outpost

Indian Space Research Organisation (ISRO) scientists have discovered a giant underground chamber on the moon, which could be used as a lunar base by astronauts for inter-planetary missions.

The hollow cave situated just above the lunar equator on the nearside of moon, can accommodate a large number of astronauts and scientific instruments, and also protect them from hostile lunar environment.

“Such a lava tube could be a potential site for future human habitability on the moon for future human mission and scientific explorations, providing a safe environment from hazardous radiations, extreme temperature and dust storms,” a team of scientists led by A.S. Arya of SAC, Ahmedabad said, reporting the findings in Current Science.

Scientists said lava tubes offer a dust-free environment and adapting them for human use requires minimal construction.

Source: Hindustan Times, 25.2.2011

Music helps lift depressed people out of the dumps

Music is known to have a strong effect on human psyche. Now, a new study has found that it may help lift depressed people out of the dumps more than common anti-depressant medications do. Researchers at the university of Jyvaskyla in Finland found that depressed patients receiving music therapy showed a greater improvement. “Our trial has shown that music therapy, when added to standard care helps people to improve their levels of depression and anxiety.” said lead researcher professor Christian Gold.

Source: Times of India

Rainwater harvesting leads to formation of river

Rainwater harvesting is known to have many benefits but that it could be the reason behind the formation of a river is a little difficult to believe.

But this almost impossible task has been turned into a reality with the hard work of hundreds of residents of the Ufrenkhal area, who through their ceaseless efforts, dug up 1200 Khals (rain harvesting pits) of varied big and small sizes on the Sukha-danda (a 40 km sq dry hilly patch) area near village Gad-kharak.

Gad-kharak, remote village near which the perennial river sprouted through the ground some years back is in district Pauri. The spot that lies about 300 km east of State capital Dehradun is at an altitude of 7000 feet.

The river that's now come to symbolize the indomitable human spirit and ingenuity is known as 'Gad-Ganga.' It derives its name from village Gad-kharak, close to which it started trickling out through the ground way back in 1999 before it acquired the shape of a copious river with a ceaseless flow, according to Sachchidanand Bharti, a member of State Planning Commission, who hails from that village.

The movement was launched by the residents of about 34 villages falling in Ufrenkhal initially as an afforestation drive in 1982 as they had realized by then that their area had started getting affected by global warming, recalls Bharti a former teacher and the progenitor of the campaign.

Pointing out that the saplings that were planted as part of that campaign belonged to mainly fruit and fodder tree species or the ones like oak that retain water.

"We launched the rainwater harvesting drive in 1987", says Bharti. Propelling the villagers to launch that initiative was the calamitous drought that hit the entire country in 1987.

"We, in the Ufrenkhal area, particularly those inhabiting village Gad-kharak, were the worst-affected in Uttarakhand by that drought because whatever small number of natural springs we had in our area also had turned bone dry owing to the drought", says Bharti, a member of Doodhatoli Vikas Sansthan, and Dalion Ka Dagadia (Friends of Trees), the twin organizations of the communities "dedicated" to development and environmental conservation of that (Doodhatoli) area.

"*Who sab hamare liye Utsav sa tha* (that was all like festival for us)," recalls the activist meaning the voluntary service (Shramdan) rendered by villagers was carried out in a spirit of celebration as all of us villagers would carry our ration to the Sukhadanda area, cook it and have our meals together in between our long work sessions when we would feverishly continue digging khals one after another.

The sweat, these hardly villagers shed though didn't go unrewarded. For, 12 years later a miracle happened. "It was the festival of Basant Panchami," says Bharti recalling the day when while showing some visitors around the Sukha-danda area he suddenly spotted some water slowly gushing out through the ground.

"That trickle soon acquired the shape of a perennial stream, which turned out to be more than a lifeline for the 200 residents of Gad-kharak," says Dr. B.S. Negi, a professor at the Geography department of the Delhi University's Bhagat Singh College. Besides being a source of potable water for the villagers the river also helped bring about a massive turnaround in the agro-pastoral economy of Doodhatoli's entire Ufrenkhal area.

“The transformation occurred because of the constant availability of water, which encouraged villagers to grow cash crops, mostly vegetables, rice etc which fetch good return in the market,” said Negi, originally a resident of Pauri, who has conducted about 10 study tours of the Ufrenkhal area for students in the last about one decade.

No wonder, the governments in Himachal and Sikkim are going to adopt the Gad-kharak model of rainwater harvesting that has also been hugely appreciated by the officials of the UN’s Food and Agriculture Organisation, claim the activists.

“These officials who along with the World Bank representatives monitored the rainwater harvesting scheme in 1999 also prepared a 48-page document on its success,” says Bharti. Both he and Negi, however, suggest that the Gad-kharak model be replicated in Uttarakhand and also elsewhere with the government support while describing it (Gad-kharak Model) the “best way to successfully deal with the impact of global warming.”

Source: Hindustan Times, 9.3.2011