

Article **FAMILY**-23

GREEN CREMATION

Wow, another choice after death!

By Wg Cdr (Retd) DP Sabharwal

"Couldn't you find better news in the whole newspaper consisting of 32 pages?" asked my son when, one fine morning while sipping tea I exclaimed, "Wow, now I have yet another choice even in the way I wish to be treated after I die!" "What other choices did you have, *dadu*?" asked my 12-year-old grandson. Ignoring the stern look that my son gave to his son, I said, "Well, theoretically, there are many like I who can be disposed of in the sea or left out in the open to be devoured by vultures like the way Parsis do with their dead. Then, I have a choice to be buried either in a coffin or a casket the Christians way. But being a Hindu, the most preferred way is to be cremated."

"Then what choice are you talking about?" was the next question.

"You see, my dear little one, cremation is the most common method of disposing of the remains of a human mortal. In our country it is done through a pyre. This is known as an open-air cremation, but in many countries of the world a cremation is done indoors in a crematorium. However, the use of crematoriums is on the increase particularly in big and metropolitan cities. Let me share a secret with you; in my will I have already mentioned that I should be taken to the crematorium. But now I think I should reconsider and perhaps change that."

Before I could proceed any further, my son took the grandson away saying that he was getting late for school. However, being 'a chip off the old block' my grandson encountered me in the evening when I was having yet another cup of tea in the garden. "First tell me the difference between the open and indoor methods of cremation and then the new choice you seem to have found out from the newspaper in the morning."

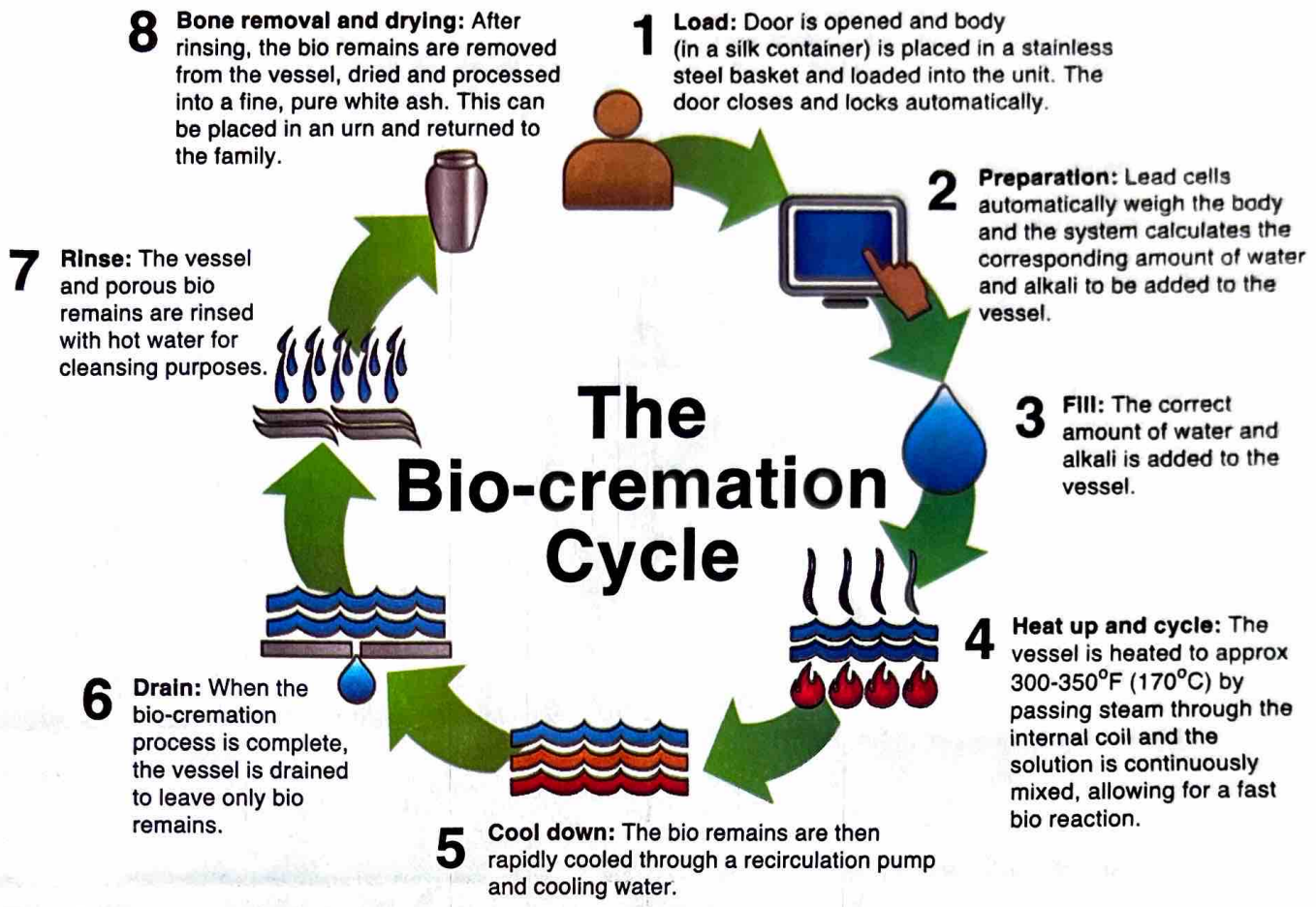
I know my grandson inside out. I was sure that he would confront me sooner or later after his return from the school. Thus I had gone through the subject in great detail during the day and was ready to answer all his doubts in a rather simple manner.

"You see, open-air cremation is done using a lot of firewood and other flammable material. However, it produces a lot of smoke and gases that pollute the atmosphere, though *ghee* and other ingredients are said to purify the atmosphere. The indoor crematorium is much more effective since it is normally run on furnace oil or natural gas."

"And what excited you in the morning?" was the next volley.

"It is called bio-cremation or green cremation. You see, the energy required to cremate an average sized body indoors is about 30 Kwh, which is equivalent to driving a petrol driven car for almost 7,000 km. The process also releases greenhouse gases, almost 400 kg of carbon dioxide and toxins into the atmosphere. On the contrary, bio-cremation requires just 30 per cent of energy and releases just about 50 kg of carbon dioxide. In addition, metals and plastics in the body in the form of mercury filling of teeth, metal hips and knees as well as pacemakers can be easily retrieved."

"Wow, that's great! You know we have a subject called environmental Science in which they tell us how we are ruining the Earth due to pollution. Using less energy and producing less pollutant gases would be a welcome step. But, *dadu*, how do they achieve it?" inquired a really excited child. "In

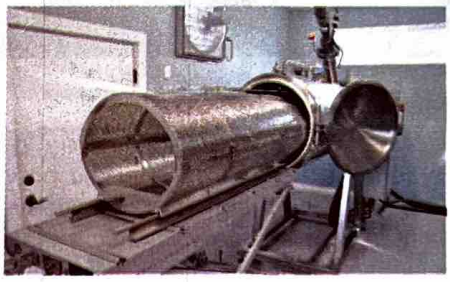


this process – known as chemical hydrolysis – flame is not used. Instead, plain water and alkaline solution of potassium hydroxide is used in the ratio of 95:5 parts," I explained.

"The body is placed in this solution in a stainless steel cremation chamber and is heated to a temperature of just 160°C at a high pressure of about 10 kg/cm^2. In about three hours the body is effectively broken down into two residues. One is a liquid containing amino acids, sugar and salts, and the other is remains of bones in the form of soft and porous calcium phosphate, that can easily be crushed into a white dust, the so-called conventional ash that is returned to the next of kin."

"But why is it called green cremation? I have not really understood."

"There are almost zero air emissions. Literally no particulates, greenhouse gases, carbon monoxide or mercury is admitted into the atmosphere. The liquid so produced



is sent to water recycling where it is filtered, purified and recycled back to earth either through the sanitary system or used for watering in a garden or green spaces."

"But how does such a clean process require so little energy?" he

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asked. I looked at him in appreciation and said. "The reaction in water is strongly exothermic, which means the process releases significant heart which contributes to the breakdown of human tissue in the sealed cremation chamber."

"One final question. Is this process available in India?"

"No. the state of Florida in the USA was the first one in the world to perform a bio-cremation in 2011. It is yet to be formally approved even in the whole of the United States. The process of legalising the procedure is already on in the Belgian and Dutch parliaments. Today's news mentioned that Europe is getting ready to say okay to chemical hydrolysis for the disposal of bodies. I wish India too legalises it soon because I would like to be disposed of this way only."

"In that case I wish India delays the approval for another 50 years," said my grandson hugging me.

A successful man is one who can lay a firm foundation with the bricks others have thrown at him.