

# **Traditional Knowledge: Yesterday, Today and Tomorrow**

*Daya Dissanayake*

## **Abstract**

*All Traditional Knowledge has to be collected and preserved, for use in the present and in the future, for the wellbeing of mankind and Mother Earth, wherever it is applicable.*

*Collecting traditional knowledge and trying to retain it without change are two different issues. But the knowledge should be preserved and adapted wherever we can. Traditional Knowledge is what constitutes the 'Mimetic ecosystem' which is always disrupted by the mind viruses which can easily infect all mankind and spread the infection rapidly.*

*We could learn from our traditional arts and practices and develop our own arts and cultural practices on the same basis of loving kindness and within a truly sustainable system. Our Arts and our Culture are now totally commercialised. The primary motive for all human action is profit. Profit at any cost. We have to free ourselves from the clutches of the commercial world, and safeguard all traditional knowledge from being corrupted or abused.*

Traditional Knowledge (TK) is what has come down from the time man was able to communicate with other fellow human beings, probably during the last four-billion year-old web of life. It was always shared because such knowledge helped man to survive. However it kept on changing, developing, and was used, misused and abused.

In the beginning all knowledge was Traditional, and it could be argued, that it still is, to some extent. It began to change when greed and hunger for power took over man's mind. Knowledge became a weapon, to gain more power and wealth, to retain such power and wealth within their family or kin group. There were others who did not want to share their knowledge for fear it would be abused or misused, and others who doubted the ability of the common people to grasp the knowledge.

Then the commercial interests took over. Knowledge became a commodity, to be sold at the highest profit. Knowledge came to be monopolised, patented, copyrighted. From the temple archives, knowledge came to be locked up in universities and private organisations. University of California was holding more

than hundred agricultural biotechnology patents up to a few years ago. Today the count would have gone up. “Three-fourths of new biotechnology products are controlled by the private sector” said Gordon Conway, president of the Rockefeller Institute (Private Property n.d.).

Yesterday TK was evolving, developing, and was always useful for man’s survival, and for the preservation of our environment. Today we have to gather such knowledge and preserve it. Tomorrow we should still be able learn from ancient TK, and we also have to keep fighting to save it from exploitation.

Transmission of TK from parents to offspring, from generation to generation, and also lateral transmission to some extent would have been controlled and limited. Transmission of TK would have been through memes (See Dawkins 2006). The meme is the mode of cultural transmission, like the gene is for genetic transmission. The memes propagate themselves in the meme pool by hopping from brain to brain through oral and written words, signs and symbols.

Once a tradition gets started, it automatically continues until something more powerful stops it. People infected with tradition memes are programmed to repeat this meme in the future and spread this meme to future generations. Traditions die hard. (Brodie 2010: 80)

All the latest electronic media could someday make the meme redundant, or it could be manipulated, like we are already meddling with the genes.

Transmission of TK too would be affected by the survival of the fittest, according to Darwin. TK developed for the primary need for survival. Safety, food and sex were the priorities: to be aware of dangers, to be able to warn others, to find sources of food and to find the right mate. In the beginning it is those who had the traditional knowledge who survived. But then nature played a very dirty trick on mankind.

As man’s greed increased those who survived were the more powerful, more cunning and more unscrupulous. Thus, it was not the more intelligent, more learned, more humane humans who passed on their genes and memes. The survival of the fittest, when it applied to human beings, was thus not by natural selection.

The threat of exploitation of TK has been with us for a long time. Sometimes openly. Sometimes in more subtle ways.

It is not copyrights or patent rights we need for TK, but Moral Rights. Because when we gather TK, we could be invading the privacy of individuals or communities. Do we have a moral right to gather and publish such TK in the public domain, sometimes without the consent or knowledge of those who possess it? In the case of knowledge that would have been kept within a family or a small community for hundreds of generations, do these people have a moral right to keep their knowledge to themselves?

Indian scientists at the Tropical Botanical Garden and Research Institute developed a sports drug with the TK they obtained from three members of the Kani tribe in Thiruvananthapuram, South India. The scientists went beyond the gathering of knowledge when they isolated 12 active chemical compounds from the plant *Arogyapaacha*, (*Trichopus zeylanicus travancoricus*, what is called *Bim Pol* in Sri Lanka) to develop the drug with a brand name Jeevani. They went further, when the technology was sold (licensed out is the more respectable term) to a commercial organisation. As the *Hindu* reported on 8 October 2012, “The benefit sharing is a shambles ... all that is left for the Kani tribe is an unfinished computer training center” (Mathew 2012).

Another attempt of how TK of healthcare has been exploited was when a few years ago the United States granted a patent for a wound healing treatment using turmeric powder. Fortunately the patent was challenged and found invalid as it was an already known TK.

Researchers isolated and cloned a gene, Xa21, to develop a new variety of blight resistant rice, from *Oryza longistaminata*, a wild rice used by the Bela community in Mali who developed detailed TK of its agricultural value. Yet today the patent is held by the University of California in Davis. They offered it to the agribusiness monster Monsanto, but fortunately for mankind, they lost interest (Blight-resistant Rice n.d.). Yet benefit for Mali or the Bela community is still in doubt.

Use of Neem and its extracts is a good example of TK in agriculture and healthcare, in South Asia for millennia. But since 1985 many patents have been obtained for products developed from neem extracts by USA, Europe and Japan.

An apt example for the indifference, or perhaps even contempt shown by big businesses was seen in the commercial world in the line of skin care products launched in 2006 with the name ‘Indigenous’, by the cosmetics corporation

Aveda. They dropped the range under pressure from protesters (Examples of Use and Misuse of Indigenous Knowledge n.d.).

The reason why we need to gather and preserve TK is because traditional lifestyles and traditional means of communication are disappearing, and sometimes even the very communities are disappearing or getting merged into the mainstream.

In future defensive Intellectual Property strategies should be developed to prevent exploitation, like what has been done by Indonesia to protect their TK of batik making and batik designs. But it also has its downside, when smaller producers get marginalised and could favour larger business houses.

India is trying to catalog an estimated 1500 yoga asana, to prevent further instances like the patenting of some yoga asana in the United States by an Indian yoga guru in 2002 (Lal 2012).

An example of the exploitation of the arts is found in Indonesia. A music theater production titled 'I La Galigo' has toured many countries in Europe and Americas. It is based on an epic creation myth of the Bugis people in South Sulawesi, and uses traditional instruments. The copyrights and performance rights are held by several individuals with no benefits for the indigenous community (Lal 2012).

India has its searchable database, Traditional Knowledge Digital Library which holds over 36000 formulations utilised in Ayurvedic practice. This is one way of protection, because once such knowledge is recorded and preserved, it is easier to contest patent and Intellectual Property claims by individuals. It proved its usefulness a few months ago, in successfully fighting a new patent application in the United States for Turmeric, Apple and Tulsi for treatment of inflammation, psoriasis and gastritis.

Collecting, studying and publishing Traditional Knowledge should not only be in the best interest of the people holding such knowledge but also of all mankind. It does not belong to an individual or even to a group. Such knowledge is universal, and cannot be monopolised using modern patent and copyright laws. These new laws were brought in by man not in the best interest of mankind or Mother Earth, but in the sole interest of earning money, out of greed, and sometimes vanity.

The involvement of World Intellectual Property Organization could also be counterproductive, because it deals with Intellectual Property and patents. But what is required is to cover TK under Human Rights. Another major threat to TK is the TRIPS (Trade Related Aspects of Intellectual Property Rights) agreement, which only benefits the global business community. The product patent regime as formulated by TRIPS takes the new products beyond the reach of the original possessors of this knowledge of medicine and folk remedies.

There are many opportunities for research on TK in Sri Lanka, but it should be done very cautiously so that any knowledge collected would not be exploited. In the health sector, one area comes to mind. Leptospirosis, (commonly known as rat fever), has developed into a major health issue today in some of Sri Lanka's rice growing areas. Historical evidence suggests the prevalence and successful eradication of the same disease during King Sirisangabo's reign (Suddhahami 2011).

Pujawaliya and other books mention *Rakthakshi Maraka Jwara Rogaya* as an epidemic which was caused by a *yaksha*, and relates how king Sirisanghabo saved his countrymen by performing *Satyakriya* (Assertion of Truth) and subduing the *yaksha*. Prof. Nimal Senanayake, recalls Prof. Kumaradasa Jayasuriya mentioning in the early 1970s that the epidemic during Sirisanghabo's time could have been leptospirosis! (Suddhahami 2011: 131). Since the king had been able to chase the demon away, we have to consider that leptospirosis had been eradicated during the time of Sirisangabo. We could uncover this treatment or prevention.

We have a common issue of healthcare and agriculture with the increasing incidences of renal failure in the Nuwara Kalaviya. If it is due to contamination of the water, we could explore the TK of plants which have been used for water purification, plants which absorb heavy metals and other contaminants. We should also pursue the properties of the ancient Uraketa, which were terra-cotta cylinders used in the wells. Did they filter out any contaminants?

In agriculture we still have some hope for mankind. In the Nalanda district, in Bihar a young man had achieved a 22.4 mt. yield from a one hectare rice field. It was only a few months ago, and he had not used any modern technology, like Genetically Modified seeds, and synthetic agrochemical poisons, but had used only TK (Vidal 2013).

TK of using farm animals in agriculture go back many millennia. Yet this is not the kind of knowledge we can or should use today. Man should never have enslaved and abused innocent animals for man's selfish greed to grow more food. If we had not grown more food, the human population may not have increased so fast, requiring more and more food, requiring the exploitation and abuse of our environment and other living creatures. It is one of the many vicious circles in which man has trapped himself. We have to record and preserve all the traditional knowledge relating to farm animals, but today we need not torture these animals, for ploughing, threshing or transport.

This is not about the violation by greedy businessmen who have gone for huge monoculture plantations. For our traditional villages, or what is still left of them, Dr. Ray Wijeywardena designed and introduced the two-wheeled tractor to Sri Lanka, which does not compact the soil as much as the heavy four-wheeled tractors and does not hurt Mother Earth so much. This same tractor could be used for threshing and for transport, and sometimes more economical than using cows, even if we leave a Carbon foot-print.

Early man would have developed 'slash-and-burn' farming culture, which has now been accepted as the most nature-friendly form of agriculture. A recent report presented at the International Society of Tropical Foresters, at Yale University, claims that slash-and-burn practice provides better growing conditions for valuable new trees than more modern methods of forest clearance (Slash and Burn improves Tropical Forest Bio Diversity n.d.). They are rediscovering what man already knew for millennia.

Development has always meant destruction. First the British destroyed Sri Lanka's hill country villages and their traditions and culture by destroying all the forest cover to be replaced by tea and Indian forced labour. With the so-called accelerated Mahaweli project, in 1977, Sri Lanka was able to destroy within a matter of five years the traditional culture and knowledge of two vast regions of the country. Sri Lanka uprooted the hill country villages, broke up their kinship relations and the social structure, scattering them in the newly built Mahaweli zones, without even the basic facilities and destroyed the ancient villages, wild life and the natural forest cover in the Mahaweli zones. Now all the agrochemical poisons from the hill country end up in the ancient irrigations tanks in the North Central province, causing long suffering and deaths due to kidney failure.

The indiscriminate use of Urea in our fields causes further harm. Now scientists are claiming that Urea, in conditions of limited Oxygen produces more Oxides of Nitrogen, which leads to acid rain. We create these conditions by using heavy tractors on our fields, compacting the soil, reducing the soil Oxygen, and then adding unnecessary amounts of Urea.

One of Sri Lanka's very active environmentalists, Mahinda Kumara Dalupotha, published a novel titled *Diya Holmana*. The story is really about the 'silent spring' which we find all over our country. He shows us how Agriculture turned into Agri Business, declaring war against Mother Earth and all TK.

The community agriculture eroded as the state took over the responsibility of agri business. The humane *Vel Vidane* (Village headman in charge of cultivation) was replaced by an inhumane bureaucratic system, which destroyed the traditional, nature-friendly farming which had been carried on in the same paddy fields for several thousand years.

The village temple tells us another side of the story. No one had noticed that the *dolos mahe pahana* (the lamp which burns for all twelve months) had gone out.

In the last chapter he mentions a child who had been diagnosed with cancer, and the traditional village physician said that no one had heard of such a cancer for the past seven generations. The novel ends when the *Vel Vidane* goes to a newly put up pharmacy to buy a drug for his grandchild and he finds the same logo on the bottle, which had become so familiar to them on the pesticide bottles. Dalupotha does not have to say any more about how the Western Pharmaceutical industry is riding on the back of the Agrochemical industry (Dalupotha 2010: 218).

That leads us to the destruction of all Traditional Knowledge we had about keeping us healthy, not only human kind, but animals and plants too. We had our own healthcare system, a system which took care of our health, but today healthcare has been replaced by the big business of ill-health.

The World Health Organization (WHO) had a very ambitious plan with a grand name 'HFA2000', Health For All by 2000. We are in the year 2013 but it is still illness for all. It is because they have ignored all traditional healthcare systems and tried to rely totally on new science and technology.

Our research scientists and academics are slowly learning and accepting that traditional knowledge has been correct all the time, though their predecessors had rejected them offhand. Dr. Allen Roses, world-wide Vice President of genetics at GlaxoSmithKline made a big stir in the healthcare business ten years ago, by stating that ‘the vast majority of drugs – more than 90 percent – only work in 30 or 50 percent of the people’ (Connor 2003). Now there is ongoing research on genes and the effect of drugs on individuals. All this research and discoveries could be new to the Western world, but it was known in the East for several millennia, once again confirming that all discoveries today are only re-discoveries.

True Ayurveda does not treat the illness, but it treats the person, his body. They knew, as early as 1000 BCE that the same drug would not have the same effect on two different individuals. We do not know if they had any knowledge of genes, but they knew how to treat their patients.

Traditional healthcare as a subject goes back to pre-historic times. Herbal and other forms of medicine would have been used long before man invented writing, so we do not have any records of that TK.

The oldest evidence available is from the study of the 5300 year old ‘Iceman’ found in the Italian Alps in 1991. He had in his pouch a lump of bracket fungus, *Piptoporus betulinus*, a mushroom which contained an acid which was laxative, and a resin that was toxic to bacteria and intestinal parasites. This showed that either the man himself could not only diagnose his illness, but knew how to treat it, or there was a medicine man or woman in his village who had prescribed the treatment.

Dr. John Attygalle in his Sinhalese *Materia Medica* written in 1917, comments on the medical miracles described in the Culavamsa, about a cephalotomy by King Buddhadasa, for the removal of a hydatid tumor from a man’s brain. He had once opened up a belly of a naga, with a knife he carried in his belt, removed an affected part, and treated with some herbs. Though it is normally accepted that the naga meant a snake, probably he was a man of the Naga tribe. He had also straightened out the back of a bhikkhu, who had been bent in half. Jesus also had cured a woman who had suffered for 18 years with a bent back (Attygalle 1994: ix). Today the surgical correction of Scoliosis using modern medical technology would cost about Rs. two million, in Sri Lanka.



Healthcare in Ancient Sri Lanka would go back about 5000 years to the time of Ravana who was said to be a great physician and had written several books on healthcare. But there are those who try to reject Ravana as a mythical figure, because they are obsessed with the Ravana of Ramayana epic, and not the Lankan of the Yaksha tribe.

When we talk of healthcare we think of hospitals and we take pride in the claim that the first ever health centers were established in Sri Lanka. But what should come to our mind is about keeping ourselves healthy. Hospitals should be the last resort, and ill-health should be avoided. Till a few decades ago, our village folk believed that being admitted to a hospital meant a person would not go home alive, because it was the last resort. Till then the village physician could treat them successfully.

The ancient hospitals discovered and excavated around the island show clearly how they had been designed and constructed in keeping with the *Deshiya Chikitsa* (Indigenous Medical Treatment) philosophy and science. The hospitals were on very large flat or terraced land, providing a lot of open spaces with aesthetically laid out gardens. It is again so unfortunate that limited space and funds have deprived the patients today of such facilities in our hospitals, like when 3000 beds are crammed into a space of a 30 acre block of land with surgical and diagnostic and administrative facilities lacking.

In our literature we find many references to healthcare which display the awareness among the people of common treatment methods. A few examples - Sadharmaratnavaliya mentions first – *Avasta piliyam* first aid. Treatment was known for hemorrhoids, filaria and leprosy. There were references to contraceptive drugs *Vanda behet*, and fertility drugs. If there was no traditional knowledge of family planning and contraceptives, how did our ancient people plan their families. We have not heard of or read anywhere about over population, or of very large families, which would have been a burden on the families and the administrators. Even among the elite and the so called royal families, we hear only about one or two children by each woman kept by the kings. If Asoka had 99 brothers, king Bimbisara would have had at least 50 women in his harem! Today not only birth control, but induced fertility are real big businesses.

The importance of taking good care of one's health is reflected well in the precautions like *gaba pirimesima* or *gaba raksanaya*, taken during pregnancy.

They had refrained from taking certain food which was considered bad for the mother or the baby. All the care given to the expectant women would have helped them to deliver the baby at home, with only the assistance of a midwife or an elderly lady, and Caesarean surgery was not resorted to. After the childbirth too, the mother's diet was controlled, special food was given to yield sufficient milk for the baby and to keep the mother and baby in good health. Our people had survived in Sri Lanka for several thousand years without feeding their babies with artificial infant formula. If the mother's milk was not sufficient, they found a suitable healthy lactating mother to feed the baby. The personal touch is seen here as they called her *kiri amma* (Nursing Mother), which is not the same as calling her a 'wet nurse'. The Butsarana mentions that a mother would take medicine herself when her baby was sick.

*Panchakarma* is a good example of the exploitation of traditional knowledge for a quick profit in our tourist resorts and by our people in the west. *Raktamokshana* or bloodletting is done in different ways for different conditions. Today in our hospitals bloodletting is done, in cases of *Polycythemia Rubra Vera*. Had we been able to use some of our ancient knowledge, perhaps these patients would have had better chances of recovery.

Probably one reason for the success of our ancient healthcare system was that our physicians never went against nature. Our *Deshiya chikitsa* would have been based on Ahimsa, loving kindness, not only for human beings but for all living creatures, unlike today, when animals are used to experiment on, and then for clinical trials to test new drugs before using on humans. Animals are infected and then killed to make vaccines, like the vaccine for Japanese Encephalitis, where millions of rats were infected and killed to develop the vaccine which is made from their brain tissue.

In *Deshiya Chikitsa* they had very successful treatment for snake bites. Today we use snake venom anti serum, made by injecting the snake venom into horses, and then collecting the serum from their blood for the anti-venom. The horse gets snake venom injections many times during its life, suffer the poison, and then his blood is circulated through a plasmapheresis machine to collect the serum. To save human lives, horses have to suffer and die in the end.

Our ancient healers could diagnose and treat 76 different ailments of the eye, without the aid of any electronic or digital equipment. The Sivi Jataka even

mentions the transplant of an eye. Astanga Hridaya Samhitha attributed to Vagbatha around eleventh century deals even with heart ailments (*Terminalia n.d.*). The bark of the Kumbuk tree, *Terminalia Arjuna*, had been used in the treatment of Cadiomyopathy, which also means the diseases were diagnosed by our physicians.

Wondering ascetics in ancient times, which met and exchanged their knowledge and experience, through discussions and debates went on accumulating all the medical lore into a huge store of traditional medical knowledge.

When the Brahmins realised the influence of the medical system, they would have decided to take charge of Ayurveda. They would have manipulated the Hinduisation of this heterodox knowledge and claimed that the healing process was passed down by Brahma, through Prajapati, the Lord of beings, to Indra who taught it to Danavantari. It was then written in the *Susruta Samhita* by Susruta. Probably the *Susruta Samhita* is a collection of all the knowledge that was accumulated by the wondering ascetics, and not the work of just one person. The Brahmins incorporated the medical practices with their rituals and Vedic practices, convincing people that the rituals have to go hand in hand with medical treatment for effective cures. To improve the efficacy of the healing plants, they created a plant goddess, Arundati.

Without such restrictions of the concept of purity and caste issues, and with the belief that treating and nursing a sick person was a most meritorious act, the Buddhist monks would have begun to learn and practice medicine in earnest. As healing became a part of Buddhism, all the medical knowledge began to be collected in early monasteries, so it became institutionalised, then developed into infirmaries attached to the monasteries and grew into hospitals.

Whatever the ailment was, one of the major ingredients always found in our medicine was 'Loving Kindness', which probably was the so called *guru mushti* (what the teacher held in reserve), which some students could not grasp and hence often misunderstood.

When the physician holds the patients hand to check his pulse beat, he becomes one with the patient, both in body and mind. It is not only the pulse beat, but the texture and the warmth of the skin, the look in the patient's eyes, his breath, would tell the physician a lot about his mental and physical condition. Then the physician would treat the patient as an individual, and he would never just treat the illness in isolation. That is why we could say in ancient healthcare, the medicine would only be about one-fourth of the cure. The rest would be the

confidence the patient has in the treatment and the physician, the good intentions of the physician and the strength of the patient's own system.

A well learned ayurvedic physician could diagnose almost any ailment, without resorting to the modern day investigation methods. But his diagnosis was always accurate, because it was personal first hand investigation. There is no possibility of any human errors by a lab technician, or a software bug in the instrument, or the wrong sample being tested or the wrong report being sent to the patient. Diagnosis was never outsourced; probably nothing in the healthcare system was outsourced.

Diagnosis would have been very accurate and must have been always non-invasive. Treatment would not cost very much, often done at no cost, and there are no records of surgical misadventures, harmful side effects of the medicine used or of exploitation of the patients by the physicians.

Multinational drug makers are getting into the act, like a marketing campaign in rural India, calling it *Arogya Parivar* (Healthy Family), to push their western drugs on the poor people in the villages. I believe they are abusing the very concept of *Arogya*.

Then we have herbal drugs, trying to mislead people into thinking that they are based on ancient formulae. But a true indigenous or Ayurvedic drug could never be manufactured on a large scale. To manufacture in such large quantities the herbs have to be cultivated as monoculture crops, and to obtain high yields agrochemical poisons have to be added. Then the herbs have to be harvested frequently to meet the demand of the factory. When they needed a medicinal plant, our ancient physicians were careful about the place where they found it. They would never pick a herb from near a cemetery or by the road side. They would know the time of the month and the time of day to pick the herb. These plants were found in their natural habitat, as a part of a stable and healthy ecosystem. The contents of the plant and the micro-nutrients and metals found in it would be so different from a plant grown on a mass scale with synthetic fertilizer. The part of the plant used for the medicine too would be very important.

A very good example from the present day is the making of tea. We do not pluck just any leaf from the tree, but only the two leaves and a bud. The planter and the tea maker know what would happen to the quality of tea if the third leaf is added. They also know how the colour, fragrance and flavor depend on the

temperature, humidity and the fragrance of the flowers around the factory. And the Japanese have realised the effect of poison added to the plants in the name of agrochemicals and that is why they are so strict about the contamination levels in the tea we export to them.

One more reason for the success of our healthcare system could be the prevalence of only a very few manmade diseases at the time such as diseases caused by pollution, poisons entering through the air we breathe, the water we drink, and the food we eat. Then there are also the so-called life-style diseases, which we have brought upon ourselves and for which we cannot blame anyone, all because we have lost all traditional knowledge of how to stay healthy, and how to avoid illness.

Till recent times, in our villages, we only had physicians to deal with snake bites and fractures. It could be that other illnesses were not very common because people were careful about preventing illness and they had their own home remedies.

When we talk of healthcare in Sri Lanka we have to look at the role played by Buddhist beliefs and rituals. I am not talking about people who claim to strictly follow what the Buddha taught, not about what is considered pure Theravada Buddhism, but what has been practiced as a religion in Sri Lanka all these years.

If in ancient times people accepted the Buddha as the greatest healer on earth, then a mother would have been considered the next greatest. We called her *gedara budun* (Buddha at home). The real Mother Goddess is at home with us, taking care of our mental and physical health. A physician may prescribe a medicine or a course of treatment if mother's own home remedies did not work, but it was the mother who would prepare the medicine and nurse the patient. Probably that is why even in ancient Egypt there was a Goddess of health, not a god.

The days are gone when a mother would prepare the coriander water by herself, hand it to the child and stroke his head as he drank it, telling him that with this drink the cold will be gone. Today we only remind our children to take the tablets or capsules or we take them to a hospital for an injection to be administered by an impersonal nurse. Coriander seed oil is one of the 20 major essential oils in the market and it has been confirmed that it is effective against both Gram-positive and Gram-negative bacteria.

The WHO definition today comes close to the Buddhist concept, “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO Definition of Health n.d.).

Today we are struggling to find ways and means of developing ‘Sustainable Environmental Systems’ and ‘Organic food’ and try to fight against interference with nature by meddling with natural life forms and genes. Yet our ancient forefathers were aware of the harm of fighting against nature and they tried to live in a truly sustained environment. This would have ensured the good health not only of humans but also of other animals and plants. What Vandana Shiva and Al Gore are trying to do today is what the Buddha had taught us 2500 years ago.

Our ancient healthcare would have gone hand in hand with non-violent agriculture following the first precept of Buddhism.

In the Anguttara Nikaya, Gilana Sutta, we read about three types of sick people. A person who would not recover from the illness whether he does or does not receive amenable food, amenable medicine, or proper nursing. Another person who would recover from the illness whether he does or does not receive amenable food, amenable medicine, or proper nursing. The third type who would recover from the illness only if he receives amenable food, amenable medicine, and proper nursing (Gilana Sutta, 2013). This was understood and accepted by our people and included in TK.

Healthcare in Ancient Sri Lanka also included rituals and exorcisms drawn from Buddhism. *Pirith* or *paritta* means protection. The age old *Pirith Pota* has been translated as the Book of Protection. The power of *pirith* comes from its truth, the power of truth, *sattya*kriya, which can be a healing power, in cases of illness. *Paritta* sutta is said to have been used from the time of the Buddha, to bring mental wellbeing which in turn could help those who are ill, to recover. Ven. Dhammavisuddhi has called *Pirith* as a prophylactic ceremony.

Today it is claimed that *pirith* chanting resonates at 7.83 Hz, which is the resonance of our Mother Earth and it has been commercialised with CDs and MP4s with recordings of music at 7.83 Hz.

The first recorded instance of using *Pirith* for protection is when there was a famine in the city of Vesali, when the *Ratana sutta* was recited by Venerable Ananda. *Dhajajga piritha* is chanted to allay ones fear in a lonely place, in a

forest etc. *Bhojjhanga* pirith giving the seven factors of enlightenment was chanted when Venerable Maha Kassapa was gravely ill and suffering severe pain. As Maha Kassapa therā listened to the pirith and contemplated, “the feverish ailment from which he was suffering slid off the body like a drop of water on a lotus petal” (The Book of Protection: Paritta n.d.). So were Maha Moggallana and Maha Cunda therā cured.

If *Metta*, *Dhajjagga* and *Ratana sutta* had failed to cure the patient, the *Atanatiya sutta* is recited by a priest, and this looks more like an exorcism to expel the evil spirit residing in the body of the patient. But the difference with a thovil is that in the thovil the spirit or the yakka is offered bribes to leave the patient, but with the *Atanatiya sutta*, merit earned from offerings to the Buddha is transferred to the spirit. This ritual probably dates back to the sixth century.

The sacred Bo tree had also played a key role in healthcare, as it is even today. Some of the rituals for seeking good health would have come down from pre-historic times, like the hanging of pieces of cloth, flags, banners on the tree and pouring water on the roots, which the early anthropologists would have called sympathetic magic.

The Bo tree, *Ficus religiosa*, has been a very useful plant in indigenous medicine in India. As the tree had been worshipped from the time of the Indus Civilisation, the components of the tree could have been used for medicinal purposes too. The bark, leaves, fruit and seed had been used for many ailments ranging from diabetes to nervous disorders. Even in our country parts of the Bo tree have been used for medicine, and are mentioned in the *Sarartha Sangrahaya*, believed to be written by Buddhadasa. Because the tree is held sacred, most physicians nowadays claim they use the *Kaputu Bo*. In reality there are two varieties of Bo trees in Sri Lanka, and even in some temples what we find is the *Ficus arnottiana*.

This is one example of a major problem with the loss of traditional knowledge, about herbs used in our *Deshiya Chikitsa*. Sometimes the plant could have become extinct, or people are unable to identify the plant, or the right species and subspecies. Then the physicians would be using either a substitute, or the wrong plant or omit the ingredient completely. This could make the medicine ineffective or sometimes cause harm.

Anyone who has any doubts about the two types of Bo trees, the temple at Wangiyakumbura in Boralanda has got both trees growing side by side in the *Bo maluwa* (Enclosure of the Bo tree).

We also have forms of exorcism at times of illness, which too have come down to us from ancient times. Exorcism has been adapted to become a part of Buddhism as practiced in our country. From the basic *tel matirima* for a headache or mild fever, *dehi-kepima*, to *Bali thovil*. *Bali thovil* is a later arrival from South India around fifteenth or sixteenth century. Their verses are modified to extoll the virtues of the Triple Gems and the nine planetary deities are invoked.

*Nawagrahapuja* (worship of the nine planets) is another way to appease the planetary deities to ward off evil effects and help a patient recover from illness. This is now performed even at Buddhist temples, with some temples having a permanent shrine for the nine planets. Recently a book has been published entitled *Cosmic influence on healthy crop production*. If there is cosmic influence on plants, there has to be some influence on animals and man too.

Even though the Encyclopedia Britannica considers Pattini as a Buddhist goddess, she too came to us from South India, brought here by Gajabahu in the second century. Worship and seeking help from her have also become popular. She could be considered the modern version of a Mother Goddess. Her sacred anklet is believed to have miraculous powers to cure smallpox, chickenpox, whooping cough, measles, mumps etc. Expectant mothers make a vow to goddess Pattini for the safe delivery of the baby.

Worship of God Kataragama is also performed to cure the sick. Lankan healthcare system had probably always relied on medical treatment as well as prayers and religious observances. At first it would have been the influence from India that came in the forms of offering of puja and praying for good health to the Hindu gods like Siva and Vishnu. Koneswaram, Munneswaram and Thirukethiswaram are the oldest Siva temples in our country. With the arrival of the Europeans and the Christian faith, people began to pray to St. Anthony of Padua and Our Lady of Lanka at Tewatta and to several other saints.

There is no argument about the peaceful loving nature of all traditional art forms and cultural practices anywhere on earth. However, we can only talk about it in the past tense, because we could never bring back the ancient glory of our traditional culture.



If we can collect study and properly use some of the Traditional Knowledge we have on agriculture and healthcare, it will be the dawn of a new age. We could bring down the cost of production of all our food because we do not have to use Genetically Modified (GM) seeds, agrochemicals or artificial preservatives, flavors or vitamins and minerals during food processing. This itself would result in healthier people around the world.

When we consider Traditional Knowledge of our agriculture, what we should try to learn is how to use such knowledge to practice non-violent agriculture. We have to accept that small is always more beautiful, keeping in mind that long before Schumacher our people were aware of it. Then we will not harm our environment, we will not harm our future generations with the poisons we imbibe today, and we will provide food for everyone at more affordable costs.

When we consider Traditional Knowledge of healthcare we have to use it to keep us healthy, and we must also use this ancient knowledge for non-invasive diagnosis using our own knowledge and abilities instead of depending on machines and impersonal techniques. With such knowledge we would not have to open up an old and weak patient to decide if his cancer is too far gone and just close up the incision. We would also know how we could prevent such cancers growing inside our bodies.

We should also prevent any cancer growing in our mind, through distorted TK. Traditional Knowledge should never be used to create conflicts and raise hatred among mankind. TK should also be used to build racial, religious and ethnic harmony among all human beings.

What we could only do is to learn from our traditional arts and practices and develop our own arts and cultural practices on the same basis of loving kindness and within a truly sustainable system. When we bring in the latest technology and products and materials to the traditional cultural activities we are doing harm not only to our environment, but to ourselves and our way of life too.

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