

The green fields of Sri Lanka

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The forest is allowed to grow on parts of the land unsuitable for cultivation, with creatures like bees and owls encouraged to make their home here so as to deter pests

There is more to the traditional Sri Lankan paddy field than meets the eye. Make a stop at the next one you see and discover an extraordinary heritage of sustainable agriculture.

Words Daleena Samara | **Photographs** Rasika Surasena



Farmers often spend the night in these tree houses to keep a watch on approaching wildlife like elephants

Sri Lanka is an extremely green island, and few would disagree that it's the paddy fields where that green is at its most intense.

The Island's history of paddy cultivation goes back to about 900 BC. By 300 BC, a sophisticated hydraulic civilization was in place, born of the need to conserve water between monsoons in the arid and intermediate zones. This civilization created the traditional paddy field, or *kumbura* in Sinhalese, an intricate collaboration between man and nature designed to produce rice, the country's staple food crop, while protecting the environment. The system spread to the rest of the country, leading to bountiful harvests and international renown for Sri Lanka as the granary of the east. Unfortunately, years of colonisation brought an end to those days of plenty.

Despite the spread of modern farming technology today, some ancient practices continue in rural Sri Lanka. So stop at the next paddy field on your journey and explore the ingenuity of the ancients. Traditional paddy fields are based around centuries-old principles of using and conserving water. The water in a paddy field is ever flowing. Paddy farmers grow their crop on land with a very low gradient that allows water to move from the highest point, called the *mudunna*, to the lowest point, where there usually is a drip tank. The gradient is called the *ellangava* and is important for the recycling of water. The highest point of the land, usually reinforced with wetland plants like the *habarala*, is called the *ovita* or *hovita* - the

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The heart of the field is the *wewa*, a man-made reservoir. Look for the *maha-wewa*, the main tank that feeds the field. Traditionally, any large tank built near a settlement was called *maha wewa*. It feeds the field through a network of smaller tanks called *kulu wew*, named after the *kulla*, a woven tool used to separate grain from chaff. Like the *kulla*, *kulu wew* filter sediment and earth and allow clean water to flow downstream. Fields usually have a number of small *kulu wew* along the water flow.

There are other types of reservoirs, such as the *olagam wew*, water holes near the edges of forests for the use of wild animals that deter them from wandering onto the paddy field, and *pin wew*, small tanks built near the village temple for the use of the monks (*pin* means merit in Sinhalese).

The fence around individual fields is known as the *bada watiya*. This is a natural boundary marker, formed over time with the flow of water from the *ovita*. Often plants with natural pest-repellent properties are grown on it.

The broadest stream flowing through the field from the *maha wewa* is called the *maha ela*. Usually about three metres wide, it is the main artery to the *kumbura*. Wetland plants and trees like *mee* (*Madhuca longifolia*), *bak mee* (*Nauclea orientalis*), *ruk aththana* (*Alstonia scholaris*) and *arjun* (*Terminalia arjuna*) are planted along the banks, providing shade for workers, as well as timber. Many of these trees have medicinal properties. The flowers of both the *mee* and *ruk aththana*, for example, are used in folk remedies to ease headaches caused by long hours under the hot sun. Farmers usually rest or have their lunch in the shade of these trees.

The small heaped mud paths that crisscross the fields are called *niyara*. It's hard to navigate these slippery paths, but the farmers are nimble and use them to access every corner of the field

Most fields have a *maha niyara* running alongside the *maha ela*. This is usually a dust road where up to five can walk abreast. They are usually left untarred to preserve the delicate ecological balance.

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Water is diverted to individual fields through distributor canals branching off from the *maha ela*. The head of these canals is called the *kada aduwa* and water flow is controlled by a small sluice gate made of wood.

The stream entering through the *kada aduwa* is diverted throughout the field by a network of small streams called *wakkada niyara*. Accurate positioning of this feature is crucial to the success of the crop and depends on the farmer's intimate knowledge of the topography of the land.

The paddy lands bordering forests, cultivated for animals to feed on, are called *kurulu paluwa*. This practice goes back to ancient times when the forests were protected by royal decree and the farmers had to devise a way to satisfy the wild creatures yet protect the rest of the crop.

Most fields also have a *kamatha*, a piece of bare land, usually in a central area, for threshing harvested paddy and conducting rituals related to cultivation. The *kamatha* is usually rocky or otherwise unsuitable for crop growing.

Other rocky portions of the land are used to grow the lush little islands commonly seen in the middle of the fields, where medicinal trees like *neem* (*Azadirachta indica*) and *pawatta* (*Adhaotada vasica*) are planted to encourage certain insects and birds. The sound of bees is believed to frighten other insect pests, for example, while owls prey on rats that come out at night to eat grain. *Neem* and *pawatta* were also used in herbal pesticides, while plants with pest-repelling aromas like *walsuriya* (*Helianthus annuus*) and *dhas pethiya* (*Calendula arvensis*) were planted along *niyara* and the *maha ela*. The farmers of old had an entire armoury of herbal pest control tricks up their sleeves.

Sadly, these green practices are giving way to new industrial farming technology like the use of chemical pesticides. The traditional Sri Lankan paddy field offers answers to the sustainability questions of today. Next time you see a paddy field, be

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inspired by Sri Lanka's extraordinary heritage of green farming.

