

Apart from moderation, the sufficiency economy philosophy also highlights rational decision based on available resources and practicality, well-rounded information for decision-making, risk management, and equally important – if not more – the importance of patience and perseverance.

The crystallisation of HM the King's visions for sustainable development appears in his literary work "Mahajanaka", a royal critique of greed-ridden development. The book, adapted from the story of one of the Buddha's previous lives, illustrates how destructive greed is and how wisdom and contentment can save both one's society and one's soul. It also emphasises perseverance and moderation as crucial values for sustainable development.

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สวัสดีปีใหม่

ขอจงมีความเพียรที่บริสุทธิ์
ปัญญาที่เฉียบแหลม
กำลังกายที่สมบูรณ์

ขอจงมีความสุขความเจริญ
Happy New Year

พระมหาชชังการ
The Story of
MAHAJANAKA

น.ส.9 ป.จ. 301021 ธ.ค. 2557 มหาวิทยาลัยบูรพา เลย์ มิถิลา ๒๕๕๗



Climate action: Take urgent action to combat climate change and its impacts



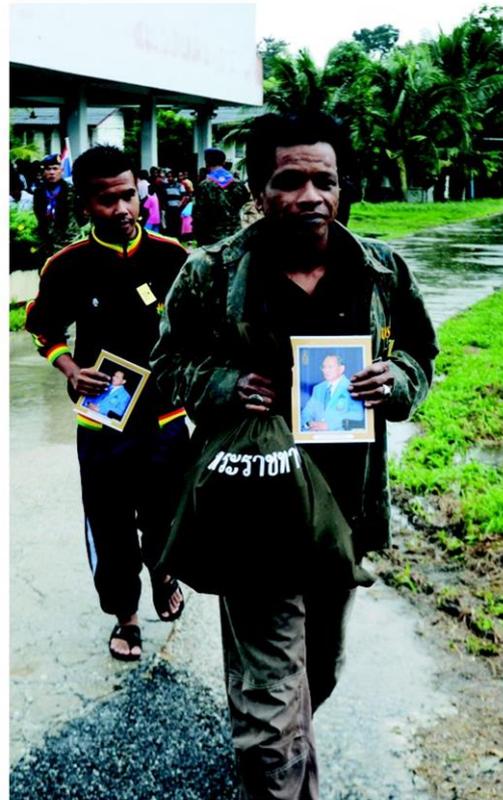
His Majesty the King's efforts throughout his reign to help the country cope with perennial droughts, flash floods, and other natural disasters have produced many innovations which will be useful to other countries as well when the world is facing extreme weathers from climate change.



Royal Quote

"We need to think about long-term water management. We must think thoroughly. If we think only short-term, we will have to encounter both the danger of flood and the danger of drought – the situation we are facing at present. That is why we have to think carefully."

– 4 December 1993

**ROYAL RAIN**

When nature fails to give rains, the cloud-seeding technique discovered by HM the King to produce artificial rain has helped Thai farmers for the past several decades. It has also made Thailand the centre of tropical rain-making in the region.

The Royal Rain Project funded by the King was later adopted by the government and became the Artificial Rainmaking Research and Development Center.

CHECK DAMS

They are small dykes made from natural materials such as rocks and woods – an easy and cost-effective method advocated and promoted by the King to increase soil moisture and speed up reforestation in rain-catchment areas.

Ordinary villagers can build check dams themselves, which is in line with the royal principle of self-reliance. The renewed forest cover brings back regular rainfalls and absorbs the water more effectively, thus preventing forest fires, flash floods and droughts for communities downstream.

MONKEY'S CHEEK RESERVOIR

Called Kaem Ling in Thai, the monkey's cheek reservoir is one of the flood management techniques

initiated by HM the King by using low-lying areas as well as natural or man-made reservoirs to store excess water in order to prevent flooding.

Other flood control methods advocated by the King include building more dykes, enlarging existing canals and digging new ones where appropriate. The King also advises allowing water to run its natural courses and avoid building roads or buildings which obstruct natural flow of water.

RAJAPRACHANUKROH FOUNDATION

Set up in 1963 to assist the victims of a destructive storm in the South, the Rajaprachanukroh Foundation was ready to provide help when Thailand was hit by a tsunami in 2004. Apart from alleviating the victims' immediate suffering, the foundation also provides education to orphans and children affected by natural disasters.

MANGROVE REHABILITATION

Thanks to the royal efforts to rehabilitate mangrove forests, many communities along the Andaman Sea were spared the wrath of the 2004 tsunami. Seeing how thick mangroves can serve as a barrier to slow down the tidal waves, coastal communities now realise the necessity to protect mangrove forests in order to protect their lives.



MANGROVE FORESTS REHABILITATION

Since mangrove forests serve as a nursery for young marine life and a source of livelihood for small-scale fishermen along the coasts, the rapid destruction of mangrove forests has caused grave concern to HM the King.

A pioneer in mangrove rehabilitation, HM the King initiated and set up mangrove rehabilitation programmes in various parts of the country. Each centre experiments with rehabilitation techniques for different mangrove varieties and geographical topographies.

Whatever the techniques, the King always stresses the importance of community participation for effective mangrove rehabilitation and sustainable use of marine resources.

Thanks to his initiatives, the return of healthy marine resources has convinced communities along the coasts to rescue their mangrove forests themselves, using the King's and Queen's birthdays to launch mangrove reforestation activities nationwide.

When marine ecology returned to health, it brought the fishermen a better catch and improved livelihoods. Seeing the change, the fishing communities became more united to preserve their sources of livelihood by safeguarding mangrove forests and setting up community rules for the sustainable use of marine resources.



Life below water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development



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Royal Quote

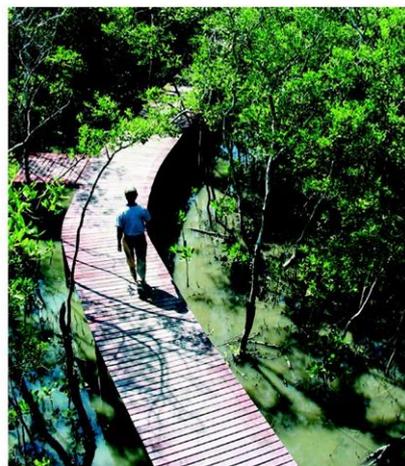
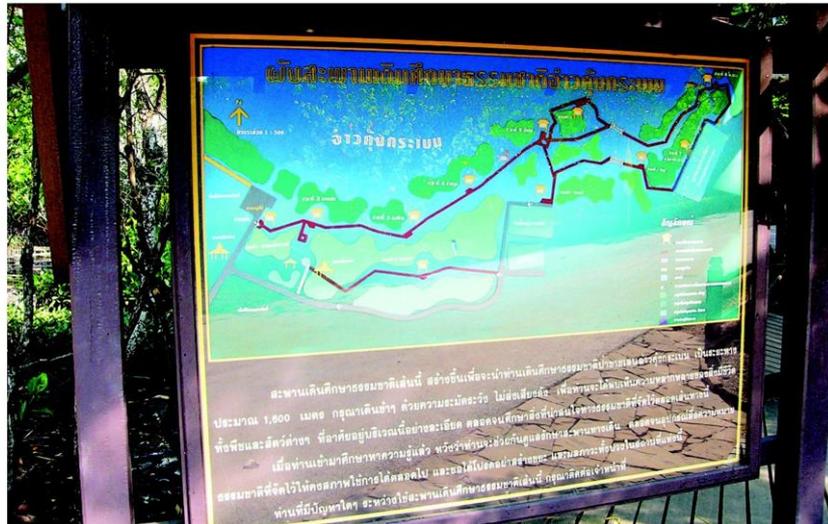
“Mangrove forests are important for the ecology of the coastal areas and the Gulf of Thailand. They are being destroyed by greedy people. We should find ways to protect and expand mangrove forests.”

- Chitralada Palace, 1992

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The royally-initiated mangrove forest rehabilitation projects include:

- Community Mangrove Forest Development Project at Singhanakhon district, Songkhla province
- Mangrove Forest Study Project at Yaring district, Pattani province
- Mangrove Restoration Feasibility Study Project at Nong Chik district, Pattani province
- Research and Development Project at Laem Pak Bia Cape, Phetchaburi province
- Royal Development Study Centre at Huai Sai, Phetchaburi province
- Royal Development Study Centre at Kung Krabaen Bay, Chanthaburi province
- Pak Nam Pran Buri Development Project, Prachuap Khiri Khan province





Life on land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



That the majority of the royally-initiated projects concerns HM the King's efforts to increase forest cover and soil fertility in various parts of the country shows the monarch's dedication to revive terrestrial ecosystems – and his deep compassion for his subjects whose livelihoods depend on healthy environment.

His approach is always holistic, focusing not only on the inter-relatedness of different ecosystems, but also the necessary collaboration from different sectors – particularly local communities – to make sustainable development a reality.

The King set up research and study centres in different ecosystems – from the mountain tops to the coastal seas – so the restoration of the natural surroundings can be done accordingly. For example:

- The Huay Hong Krai Development Study Centre has become a laboratory to increase top soil in denuded mountains, to improve soil moisture, to speed up reforestation and prevent desertification.
- The Huay Lan Development Project in Chiang Mai to restore watershed forest.
- The Demonstration Forest Project in Chitralada Palace to preserve rare plants and herbs to protect biodiversity.
- The Community Mangroves Development Project in Songkhla and the Mangroves Study Centre in Pattani to protect coastal ecology as well as to promote public awareness and participation in sustainable mangrove forests management.

Royal Quote

"It is of great importance to protect the soil where highland farming exists in rain-catchment areas, and also down in the valleys. Soil conservation on the highlands helps delays flash floods. The water absorbed in the soil will also be greatly beneficial when released in the dry season.

"This is a very important principle in soil and water conservation: Water stored in the soil. Soil maintained in its place."

- HM the King on soil conservation

- The Swamp Forest Research and Study Centre in Narathiwat province.

To speed up the recovery, the King has also introduced several innovative techniques which is easily accessible to the ordinary villagers to quickly heal the environment. These techniques include:

AGGRAVATING THE SOIL

Called "Klaeng Din" in Thai, this technique is invented by HM the King to tackle acidic soil. This can be done through the use of water to remove soil





acidity with applications of nitrogenous and phosphatic fertilizers, the use of lime mixed with topsoil such as marl and lime dust, and the use of lime in combination with careful manipulation of ground-water.

VETIVER GRASS AGAINST SOIL EROSION

To tackle the loss of top soil and soil erosion as a result of deforestation, the King introduced the use of vetiver grass, or Yah Faek in Thai, to reduce the speed of water runoff and trap the silt. Yah Faek also strengthens dikes in paddy fields and reduces silt accumulation in

irrigation and drainage canals. Its thick root network also helps prevent toxic substances from flowing down to the water table.

COVERING THE SOIL

Called "Hom Din" in Thai, this is a simple yet highly effective technique to preserve soil moisture by covering the soil with dry leaves or hay or other organic materials which later decompose to enrich the soil with nutrients. This technique also solves the problem of soil erosion and weeds.