MALAYSIA



Source: esri

General

Malaysia is a federal constitutional monarchy in Southeast Asia. It consists of 13 states and 3 federal territories separated by the South China Sea into two regions, Peninsular Malaysia and East Malaysia (Malaysian Borneo). Peninsular Malaysia shares a land and a maritime border with Thailand in the North, and maritime borders with Singapore in the South, Vietnam in the Northeast and Indonesia in the West. East Malaysia shares land and maritime borders with Brunei and Indonesia and maritime borders with the Philippines and Vietnam. Brunei forms what is almost an enclave in Malaysia, with the state of Sarawak dividing it into two parts. The area of Malaysia is 33.1 Mha (million hectares) with, in 2022, a population of 33.9 million, or 1.02 persons per ha (Wikipedia and United Nations, 2022).

Climate and geography

The local climate in Malaysia is equatorial and characterised by the annual southwest (April to October) and northeast (October to February) monsoons. The temperature is moderated by the presence of the surrounding oceans. Humidity is usually high, and the average annual rainfall is 2500 mm. The climates of the Peninsula and the East differ, as the climate on the peninsula is directly affected by wind from the mainland, as opposed to the more maritime weather of the East. Local climates can be divided into three regions, highland, lowland, and coastal. Climate change is likely to affect sea levels and rainfall, increasing flood risks and leading to droughts (source: Wikipedia).

The two parts of Malaysia, separated from each other by the South China Sea, share a largely similar landscape in that both Peninsular and East Malaysia feature coastal plains rising to hills and mountains. Peninsular Malaysia, containing 40% of Malaysia's land area, extends 740 km from North to South, and its maximum width is 322 km. It is divided between its east and west coasts by the Titiwangsa Mountains. The coastal plains surrounding the peninsula reach a maximum width of 50 km, and the peninsula's coastline is nearly 1,931 km long. East Malaysia, on the island of Borneo, has a coastline of 2,607 km. It is divided between coastal regions, hills and valleys, and a mountainous interior. Around the two halves of Malaysia are numerous islands, the largest of which is Banggi (source: Wikipedia).

The Group Polder Development (1982) describes that over the past 50 years many lowlands and swamps located along the coasts have been reclaimed and converted to rice polders. The reclamation works concerned the construction of dikes, discharge sluices and drains. They also mention that the rice polders generally have an area from 1200 to 4800 ha.

Zakaria (1982) studied water management in deep peat soils. One of the aspects was land subsidence. Although she did not specifically refer to the polders in her country, due to the large area of peat soils her result will undoubtedly be of importance for the polders as well.

Dorai (1983) presents a schematic lay out of the drainage system of a rice polder (Figure 1). He also describes in quite some detail how the tidal drainage works can be simulated.

Ghazali *et al*. (2018) describe that in the 1940s and 1950s, rice planting was intensified as part of a strategy to increase rice production. To enable this, large tracts of coastal land above high tide were reclaimed to create polders. Irrigation and drainage schemes were built in support of agriculture and were protected by coastal dikes. These dikes were built 200–400 m behind the seaward edge of the mangrove belt to prevent salinity intrusion. They also describe the result of a study on expected sea level rise along the coast of Malaysia by 2040 and 2100. The values range from respectively 0.08 to 0.26 m by 2040 and from 0.29 to 1.06 m by 2100. In addition they have analysed for the north-western part of the coastline the expected damage due to tsunamis in light of the expected sea level rise. They conclude with a general description of the measures that will be required in due time.

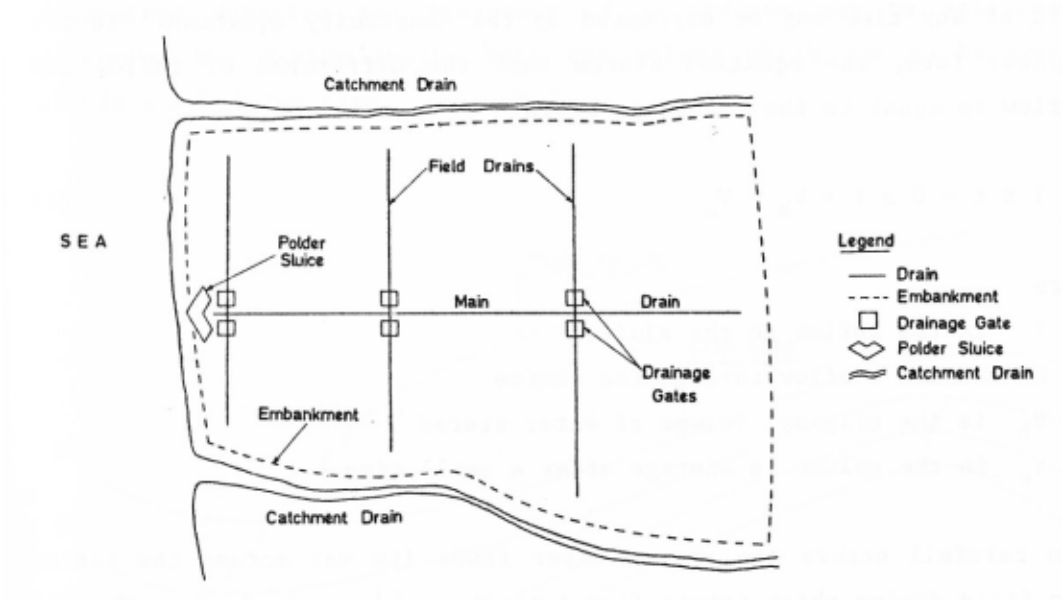


Figure 1. Lay out of a typical rice polder in Malaysia (Dorai, 1983)

Existing polders

The Group Polder Development (1982) states that between 1932 and 1975 a total of 155 schemes covering a gross area of 340,000 ha have been constructed. In addition they show 14 polders larger than 1,000 ha (Figure 2) with a total area of 414,000 ha.

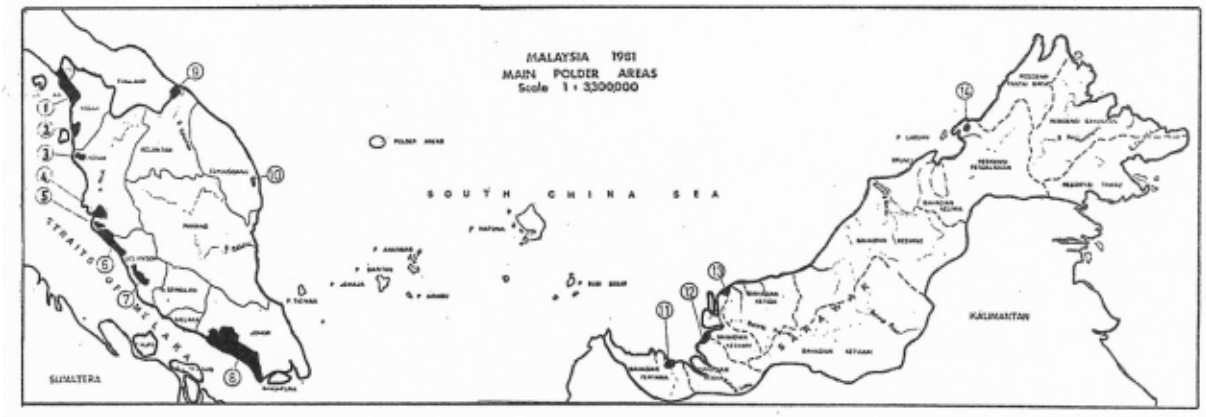


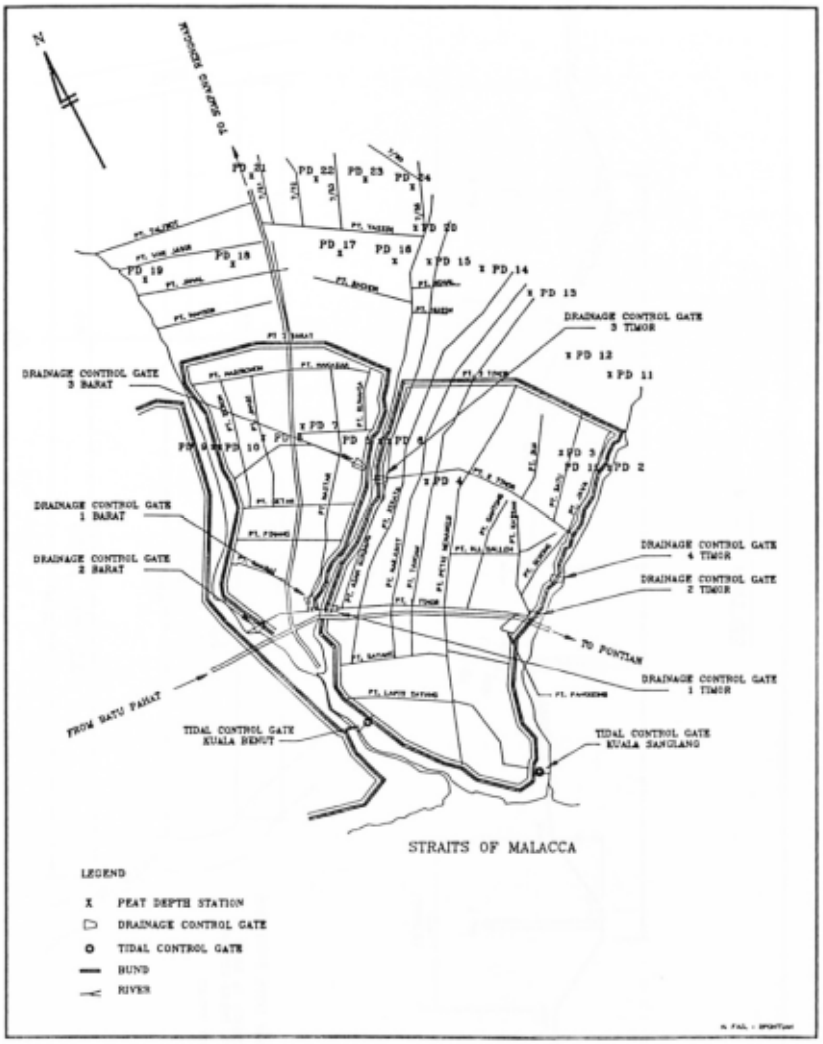
Figure 2. Main polder areas in Malaysia (Group Polder Development, 1982)

The polders as shown in Figure 2 are:

1. *Muda Irrigation Scheme (96,000 ha).* A coastal dike and river dikes protect the area from tidal intrusion;
2. *Muda River Scheme (6,500 ha).* This is a pumped irrigation scheme for rice cultivation. The area is protected against tidal intrusion and river floods;
3. *Krian Irrigation Scheme (23,600 ha).* The area is protected by coastal and river dikes;
4. *Trans-Perak Scheme (30,000 ha)*. The area is protected by coastal and river dikes. At the time of the publication the land use was 9500 ha rice cultivation and 21,500 ha trees;
5. *Bagan Datch Scheme (2,500 ha).* The area is protected by a coastal dike;
6. *North-west Selangor Scheme (43,000 ha)*. The area is protected by coastal and river dikes. At the time of the publication the land use was 20,000 ha rice cultivation and 43,000 ha trees;
7. *Klang-Kuala Langat Scheme (15,000 ha)*. The area is protected by coastal and river dikes. At the time of the publication the land use was trees;
8. *West Johore Scheme (146,800 ha).* The area is protected by coastal and river dikes. At the time of the publication the land use was trees;

9. *Tumpat-Pengkalan Kubor Scheme (7,000 ha)*. The area is protected by coastal and river dikes. At the time of the publication the land use was trees;
10. *Balai Besar Scheme (1,200 ha)*. The area is protected by coastal and river dikes. At the time of the publication the land use was rice;
11. *Nonok Scheme (9,000 ha)*. At the time of the publication the land use was rice and trees;
12. *Kabung Nyabur Scheme (4,500 ha)*. The area is protected by coastal and river dikes. At the time of the publication the land use was trees;
13. *Daro-Loba Balu Scheme (5,000 ha)*. The area is protected by coastal and river dikes. At the time of the publication the land use was rice and trees;
14. *Klias Scheme (3,000 ha)*. The area is protected by coastal and river dikes. At the time of the publication the land use was trees.

Zakaria (1992) shows a figure of the Benut Polder (Figure 3).



Figuur 3. Lay out van de Benut polder

General characteristics of the polders in Malaysia are shown in Table I.

Proposed polders

No proposed polders have been identified.

Location of the polders in Malaysia as shown on the World polder map

The location of the polders in Malaysia is shown in Figure 4.



Figure 4. Location of the polders in Malaysia (source: esri – Batavialand)

The pictures by Prof. Adriaan Volker are shown in Table II.

References

Dorai, M., 1983. *Design considerations for the drainage of padi polders*. In: Proceedings International Symposium 'Polders of the World'. International Institute for Land Reclamation and Improvement, Wageningen, the Netherlands.

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Zakaria, S., A. Yusol, M. Hashin and A MD. Jan, 1994. *The magnitude of problems with the sustainable developments of coastal plains in Malaysia: research needs and related priorities*. Bangkok, Thailand.

Bart Schultz

Lelystad, October 2023

Table I. General characteristics of existing polders in Malaysia

No	Name	Reclamation	Area in ha	Type *)	Latitudes	Longitudes	Elevation in m+MSL	Land use
	155 polders	1932-1975	340,000	RLL				
1	Muda Irrigation Scheme		96,000	RLL	6º 06' N	100º 20' E	4	Agriculture
2	Muda River Scheme		6,500	RLL	5º 28' N	100º 24' E	2	Agriculture
3	Krian Irrigation Scheme		23,600	RLL	5º 04' N	100º 27' E	2	Agriculture
4	Trans-Perak Scheme		23,000	RLL	4º 05' N	100º 58' E	4	Agriculture
5	Bagan Datch Scheme		2,500	RLL	3º 54' N	100º 47' E	5	Agriculture
6	North-west Selangor Scheme		43,000	RLL	3º 33' N	101º 06' E	2	Agriculture
7	Klang-Kuala Langat Scheme		15,000	RLL	3º 01' N	101º 25' E	-8	Agriculture
8	West Johore Scheme		146,800	RLL	1º 38' N	101º 17' E	2	Agriculture
9	Tumpat-Pengkalan Kubor Scheme		7,000	RLL	6º 12' N	102º 06' E	2	Agriculture
10	Balai Besar Scheme		1,200	RLL	4º 22' N	102º 28' E	5	Agriculture
11	Nonok Scheme		9,000	RLL	1º 32' N	110º 39' E	3	Agriculture
12	Kabung Nyabur Scheme		4,500	RLL	1º 54' N	111º 11' E	7	Agriculture
13	Daro-Loba Balu Scheme		5,000	RLL	2º 44' N	111º 37' E	14	Agriculture
14	Klias Scheme		3,000	RLL	5º 23' N	115º 39' E	11	Agriculture
	Benut Polder			RLL	1º 37' N	103º 15' E	7	Agriculture
	Total		726,100					

*) RLL = reclaimed low-lying land; LGS = land gained on the sea; DL = drained lake

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker

			
A2 002/I.2.2*) Prof. Adriaan Volker in a meeting	A2 003/I.2.3 Prof. Adriaan Volker during a reception	A2 004/I.2.4 Prof. Adriaan Volker in Tanjung Karang Irrigation Scheme	A2 005/I.2.5 Tanjung Karang Irrigation Scheme
			
A2 006/I.2.6 Cross dike in the Tanjung Karang Irrigation Scheme	A2 007/I.2.7 Tanjung Karang Irrigation Scheme	A2 008/I.2.8 Tanjung Karang Irrigation Scheme	A2 009/I.2.9 Tanjung Karang Irrigation Scheme
			
A2 010/I.2.10 Tanjung Karang Irrigation Scheme	A2 011/I.2.11 Tanjung Karang Irrigation Scheme	A2 012/I.2.12 Tanjung Karang Irrigation Scheme	A2 013/I.2.13 Tanjung Karang Irrigation Scheme

*) Batavialand/original

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A2 014/I.2.14 Tanjung Karang Irrigation Scheme	A2 015/I.2.15 Tanjung Karang Irrigation Scheme	A2 016/I.2.16 Tanjung Karang Irrigation Scheme	A2 017/I.2.17 Outlet structure Tanjung Karang Irrigation Scheme
			
A2 018/I.2.18 Tanjung Karang Irrigation Scheme	A2 019/I.2.19 Inlet structure Tanjung Karang Irrigation Scheme	A2 020/I.2.20 Dike along Tanjung Karang Irrigation Scheme	A2 021/I.2.21 Creek at low tide Tanjung Karang Irrigation Scheme
			
A2 022/I.2.22 Creek at low tide Tanjung Karang Irrigation Scheme	A2 023/I.2.23 Closeble culvert Tanjung Karang Irrigation Scheme	A2 024/I.2.24 Inlet structure Tanjung Karang Irrigation Scheme	A2 025/I.2.25 Sungei Hj Dorani sluice. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A2 026/I.2.26 Sungei Hj Dorani sluice. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977	A2 027/I.2.27 Sungei Hj Dorani sluice. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977	A2 028/I.2.28 Sungei Hj Dorani sluice. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977	A2 029/I.2.29 Sungei Hj Dorani sluice. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977
			
A2 030/I.2.30 Sungei Hj Dorani sluice. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977	A2 031/I.2.31 Sungei Hj Dorani sluice. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977	A2 032/I.2.32 Creek at high tide. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977	A2 033/I.2.33 Sungei Hj Dorani sluice. Most probably also Tanjung Karang Irrigation Scheme, 3 March 1977
			
A2 034/I.2.34 Tanjung Karang Irrigation Scheme	A2 035/I.2.35 Tanjung Karang Irrigation Scheme	A2 036/I.2.36 Tanjung Karang Irrigation Scheme	A2 037/I.2.37 Tanjung Karang Irrigation Scheme

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A2 038/I.2.38 Tanjung Karang Irrigation Scheme	A2 039/I.2.39 Tanjung Karang Irrigation Scheme	A2 040/I.2.40 Kuala Linggi. Research station for cat clay, Possibly Pulau Gadong, 4 March 1977	A2 041/I.2.41 Kuala Linggi. Research station for cat clay, Possibly Pulau Gadong, 4 March 1977
			
A2 043/I.2.43 Coastal dike West Johore	A2 044/I.2.44 Coastal dike West Johore	A2 045/I.2.45 Coastal dike West Johore	A2 046/I.2.46 Parit Datok palm trees at a deep peat layer
			
A2 047/I.2.47 Parit Datok palm trees at a deep peat layer	A2 048/I.2.48 Parit Datok palm trees at a deep peat layer	A2 049/I.2.49 Parit Datok palm trees at a deep peat layer	A2 056/I.2.56 Research station for cat clay near Pulau Gadong. Shallow drainage

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A2 057/I.2.57 Pineapple under Palm trees in Parit Datok at deep peat	A2 059/I.2.59 Flapgate for tidal drainage in the Johore Scheme	A2 061/I.2.61 Johore Scheme. Stone protection of a coastal dike along an eroding coast	A7 002/I.7.2 Prof. Adriaan Volker as discussion leader
			
A7 003/1.7.3 Picture with Prof. Adriaan Volker	A7 004/1.7.4 Picture with Prof. Adriaan Volker	A7 005/I.7.5 Picture with Prof. Adriaan Volker and Wouter Lincklean Arriëns	A7 006/1.7.6 Picture with Prof. Adriaan Volker and a snake
			
A7 007/1.7.7 Lowland area	A7 008/1.7.8 Lowland area	A7 009/1.7.9 Lowland area	A7 010/1.7.10 Lowland area

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A7 011/1.7.11 Lowland area	A7 012/1.7.12 Lowland area	A7 013/1.7.13 Lowland area	A7 014/1.7.14 Lowland area
			
A7 015/1.7.15 Lowland area	A7 016/1.7.16 Lowland area	A7 017/1.7.17 Lowland area	A7 018/1.7.18 Lowland area
			
A7 019/1.7.19 Lowland area	A7 020/1.7.20 Lowland area	A7 021/1.7.21 Lowland area	A7 022/1.7.22 Lowland area

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A7 023/1.7.23 Lowland area	A7 024/1.7.24 Lowland area	A7 025/1.7.25 Lowland area	A7 026/1.7.26 Lowland area
			
A7 027/1.7.27 Lowland area	A7 028/1.7.28 Lowland area	A7 029/1.7.29 Lowland area	A7 030/1.7.30 Lowland area
			
A7 031/1.7.31 Lowland area	A7 032/1.7.32 Lowland area	A7 033/1.7.33 Lowland area	A7 034/1.7.34 Lowland area

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A7 035/1.7.35 Lowland area	A7 036/1.7.36 Lowland area	A7 037/I.7.37 Johore Benut Polder	A7 038/I.7.38 Johore Benut Polder
			
A7 039/I.7.39 Johore Benut Polder	A7 040/I.7.40 Johore Benut Polder	A7 041/I.7.41 Johore Benut Polder	A7 042/I.7.42 Johore Benut Polder
			
A7 043/I.7.43 Johore Benut Polder	A7 044/I.7.44 Johore Benut Polder	A7 045/I.7.45 Benut	A7 046/I.7.46 Benut

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A7 047/I.7.47 Benut	A7 048/I.7.48 Benut	A7 049/I.7.49 Benut	A7 050/I.7.50 Benut
			
A7 051/I.7.51 Benut	A7 052/I.7.52 Johore Rengit Scheme	A7 053/I.7.53 Johore Rengit Scheme	A7 054/I.7.54 Johore Rengit Scheme
			
A7 055/I.7.55 Muar Scheme	A7 056/I.7.56 Muar Scheme	A7 057/I.7.57 Muar Scheme	A7 058/I.7.58 Muar Scheme

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
A7 059/I.7.59 Sungei Pahang Temerloh	A7 060/I.7.60 Sungei Pahang Temerloh	A7 061/I.7.61 Temerloh Sepanang	A7 062/I.7.62 Temerloh Sepanang
			
A7 063/I.7.63 Kampong Cherok	A7 064/I.7.64 Kampong Cherok	A7 065/I.7.65 Kampong Cherok	A7 066/I.7.66 Kampong Cherok
			
A7 067/I.7.67 Kampong Cherok	A7 068/I.7.68 Kampong Cherok	D5 1 001/D.5.1.1 Discharge sluice in lowland area, April 1977	D5 1 002/D.5.1.2 Irrigation canal in lowland area, April 1977

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
D5 1 003/D.5.1.3 Irrigation canal in lowland area, April 1977	D5 1 004/D.5.1.4 Irrigation canal in lowland area, April 1977	D5 1 005/D.5.1.5 Crossing of canals in lowland area, April 1977	D5 1 006/D.5.1.6 Probably drain in lowland area, April 1977
			
D5 1 007/D.5.1.7 Probably drain in lowland area, April 1977	D5 1 008/D.5.1.8 Discharge sluice in lowland area, April 1977	D5 1 009/D.5.1.9 Road in lowland area, April 1977	D5 1 010/D.5.1.10 Irrigation canal in lowland area, April 1977
			
D5 1 011/D.5.1.11 Discharge sluice in lowland area, April 1977	D5 1 012/D.5.1.12 Probably inlet structure for irrigation in lowland area, April 1977	D5 1 013/D.5.1.13 Probably distribution structure for irrigation in lowland area, April 1977	D5 1 014/D.5.1.14 Drain in lowland area, April 1977

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
D5 1 015/D.5.1.15 Probably field drain in lowland area, April 1977	D5 1 016/D.5.1.16 Coastal area, April 1977	D5 1 017/D.5.1.17 Probably inlet structure under construction	D5 1 018/D.5.1.18 Probably irrigation canal in lowland area
			
D5 1 019/D.5.1.19 Probably water course in lowland area with open connection to the sea	D5 1 020/D.5.1.20 Probably drain in lowland area	D5 1 021/D.5.1.21 Swamp area	D5 1 022/D.5.1.22 Probably water course in lowland area with open connection to the sea
			
D5 1 023/D.5.1.23 Discharge sluice in lowland area	D5 1 024/D.5.1.24 Palm trees at peat in lowland area	D5 1 025/D.5.1.25 Reclamation in lowland area	D5 1 026/D.5.1.26 Reclamation in lowland area

			
D5 1 027/D.5.1.27 Probably water course in lowland area with open connection to the sea	D5 1 028/D.5.1.28 Lowland area	D5 1 029/D.5.1.29 Lowland area	D5 1 030/D.5.1.30 Probably water course in lowland area with open connection to the sea
			
D5 1 031/D.5.1.31 Water course in lowland area	D5 1 032/D.5.1.32 Water course in lowland area	D5 1 033/D.5.1.33 Water course in lowland area	D5 1 034/D.5.1.34 Water course in lowland area
			
D5 1 035/D.5.1.35 Water course in lowland area	D5 1 036/D.5.1.36 Water course in lowland area	D5 2 037/D.5.2.37 Lowland area	D5 2 038/D.5.2.38 Water course in lowland area

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
D5 1 039/D.5.1.39 Water course in lowland area	D5 2 040/D.5.2.40 Discharge sluice in lowland area	D5 2 041/D.5.2.41 Excavation of water course in lowland area	D5 2 042/D.5.2.42 Discharge sluice in lowland area
			
D5 2 043/D.5.2.43 Jetty and boats in lowland area	D5 2 044/D.5.2.44 Traditional houses at the bank of a river near the mouth	D5 2 045/D.5.2.45 Traditional houses at the bank of a river near the mouth	D5 2 046/D.5.2.46 Staff gauge in water course neat the coast
			
D5 2 047/D.5.2.47 Settlement in lowland area	D5 2 048/D.5.2.48 Excavation of a water course in lowland area	D5 2 049/D.5.2.49 Canal in lowland area	D5 2 050/D.5.2.50 Canal in lowland area

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
D5 2 051/D.5.2.51 Canal in lowland area	D5 2 052/D.5.2.52 River with eroded bank in lowland area	D5 2 053/D.5.2.53 River or canal with bank protection in lowland area	D5 2 054/D.5.2.54 River or canal with bank protection in lowland area
			
D5 2 055/D.5.2.55 Bridge over river in lowland area	D5 2 056/D.5.2.56 Bridge and weir in canal in lowland area	D5 2 057/D.5.2.57 Possibly stone factory in lowland area	D5 2 058/D.5.2.58 Staff gauge in water course in lowland area
			
D5 2 059/D.5.2.59 River	D5 2 060/D.5.2.60 Endiked river	D5 2 061/D.5.2.61 Culvert, probably in a drain	D5 2 062/D.5.2.62 Movable weir, probably in a drain

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

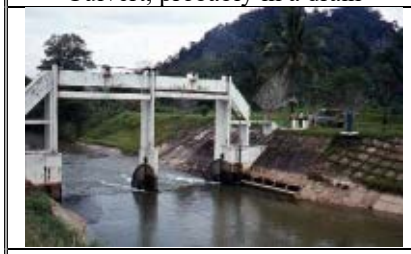
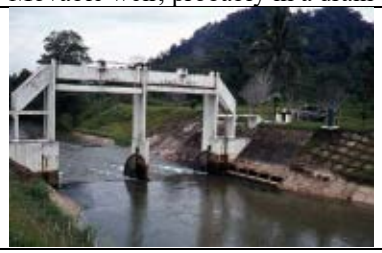
			
D5 2 063/D.5.2.63 Culvert, probably in a drain	D5 2 064/D.5.2.64 Movable weir, probably in a drain	D5 2 065/D.5.2.65 Movable weir, probably in a drain	D5 2 066/D.5.2.66 Movable weir, probably in a drain
			
D5 2 067/D.5.2.67 Movable weir, probably in a drain	D5 2 068/D.5.2.68 Movable weir, probably in a drain	D5 2 069/D.5.2.69 Movable weir, probably in a drain	D5 2 070/D.5.2.70 Endiked river
			
D5 2 071/D.5.2.71 Endiked river	D5 2 072/D.5.2.72 Water course in lowland area	D5 3 001/D.5.3.1 Discharge sluice in lowland area	D5 3 002/D.5.3.2 Rice fields in lowland area

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
D5 3 003/D.5.3.3 Cat clay in lowland area	D5 3 004/D.5.3.4 Discharge sluice	D5 3 005/D.5.3.5 Discharge sluice	D5 3 006/D.5.3.6 Probably a test field for rice
			
D5 3 007/D.5.3.7 Traditional lifting device	D5 3 008/D.5.3.8 Rice fields	D5 3 009/D.5.3.9 Palm trees, probably at acid soil with different treatments	D5 3 010/D.5.3.10 Possibly sorjan system
			
D5 3 011/D.5.3.11 Excavation of canal and dike in lowland area	D5 3 012/D.5.3.12 Landscape in lowland area	D5 3 013/D.5.3.13 Discharge sluice	D5 3 014/D.5.3.14 Landscape in lowland area

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
D5 3 015/D.5.3.15 Construction of a bridge in lowland area	D5 3 016/D.5.3.16 River in lowland area	D5 3 017/D.5.3.17 River in lowland area	D5 3 018/D.5.3.18 River in lowland area
			
D5 3 019/D.5.3.19 Probably inlet structure for irrigation	D5 3 020/D.5.3.20 Rain gauges probably at inlet structure for irrigation	D5 3 021/D.5.3.21 Coastal landscape	D5 3 022/D.5.3.22 Coastal landscape
			
D5 3 023/D.5.3.23 Coastal landscape	D5 3 024/D.5.3.24 Coastal landscape	D5 3 025/D.5.3.25 Coastal landscape	D5 3 026/D.5.3.26 Coastal landscape

Table II. Pictures of polders and lowlands in Malaysia by Prof. Adriaan Volker (continued)

			
D5 3 027/D.5.3.27 Coastal landscape	D5 3 028/D.5.3.28 Coastal landscape	D5 3 029/D.5.3.29 Bridge over and houses along the river	D5 3 030/D.5.3.30 Houses along the river
			
D5 3 031/D.5.3.31 Houses along the river	D5 3 032/D.5.3.32 Boats at the river	D5 3 033/D.5.3.33 River landscape	D5 3 034/D.5.3.34 Meteorologic observation station