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AAINews

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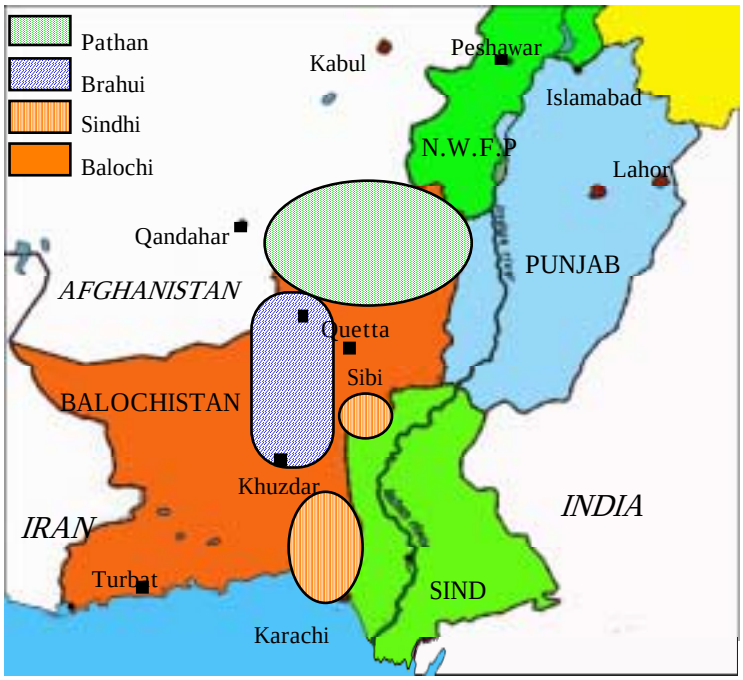
People in Quetta

The Islamic Republic of Pakistan is divided into four provinces; Punjab, Sind, Balochistan and the North West Frontier Province (N.W.F.P.). The capital city of Balochistan is Quetta. The name "Quetta" is derived from a word "Kwatta", which means a fortress in Pashtu language because the city is located inside a basin called Quetta Valley surrounded by mountains and looks like a fortress. The city has been an important traffic point of the area connecting Pakistan, Afghanistan and Iran. In 1935, a big earthquake almost destroyed the city. Small scale earthquakes sometimes occur, however, the big one like that of 1935 has never occurred ever since.



The Four Provinces of Pakistan and Major Socio-linguistic Groups in Balochistan.

The name "Balochistan" made us believe that this is the land of Balochi, however, there are many Pathan (Pashtun) living in Quetta and Pashtu language is commonly spoken. Urdu, the official language in Pakistan is widely spoken as well. It is easy to find those who can speak several languages such as Urdu, Pashtu, Persian, Baloch, English and so on. Other ethnic groups like Punjabi, Central Asian, Mongolian also live in this area. Because of the civil war in Afghanistan, a lot of refugees live here as well as in N.W.F.P. The number of the refugees are estimated over 1,000,000.

Balochi, Pathan, Brahui and Sindhi spread in Balochistan as shown in the map. The Balochi are the majority in the province and also spread to the west region of Iran along Balochistan. Their language is similar to Persian. The Pathan live not only in Balochistan but occupy a half of Afghanistan and most part of N.W.F.P. Population in Balochistan is estimated as some 4,300,000 according to the census in 1981. However, this figure is not very reliable since a lot of nomads have been seasonally migrating without concerning the border or administrative boundaries. Actually, it is rather difficult to distinguish between nomads and Afghanistan refugees. (Reported by Koto in Quetta)

Balochi (farmer) Pathan (watch seller) Hazara (hotel employee) Afghani (shop owner) Panjabi (driver)

Kind of Tree-planting Activities in United Arab Emirates

Part 5: Various Trials by the Forestry Department, Abu Dhabi Municipality

As we introduced in the last issue, afforestation in the eastern part of UAE is conducted by the Forestry Department, Al Ain. On the other hand, the Forestry Department of Abu Dhabi Municipality takes charge of afforestation in both the western part and urban areas of Abu Dhabi Emirate, and has been carried out various kinds of afforestation tests. There are three distinguished geographical features in the western area. The first one is Sabkha zone, the biggest salt accumulated area along the coast. The second is inland desert. The third is oasis which is scattered in the desert area.

1) Afforestation in Sabkha zone

Sabkha zone is lying along the coast in the west of Abu Dhabi, known as "Sabkha Mutti". The ground water level of the area is very shallow (several tens of cm), which is largely affected by the sea water and the salinity is quite high. Afforestation by using this abundant ground water is being tried. At first, holes are digged, where sand covers the surface of Sabkha, followed by planting tree seedlings of Prosopis juliflora on a layer of Sabkha soil. Although many trees survive, they do not grow well. The test area is gradually expanding. However, the tree growth has not been measured yet.

2) Afforestation without irrigation

The area around Madina Zayed in south east of Abu Dhabi has been developing as a new agricultural land. Afforestation projects have been carried out simultaneously along main roads so as to protect the cultivated area from wind and sand. A test of afforestation without irrigation has been carried out in the area where old open wells were covered up. The tested species are Salvadora persica, Prosopis cinerarea, Acacia ehrenbergiana, Acacia jacquemontii and Acacia raddiana. Among them, Prosopis cinerarea, Acacia ehrenbergiana and Acacia jacquemontii grow well because their roots go into the ground deeply. But Salvadora persica and Acacia raddiana, which roots spread widely and shallowly, do not grow well and even die in some cases. Routine growth measurement has not been conducted yet.

3) Test for fixing dunes

Liwa, the biggest oasis in the eastern part of UAE, is surrounded by dunes, which means that the farmland in the oasis is under the danger of being buried by shifting dunes. The residents in the area have been trying to fix the dunes by covering the sand with plants. Species adopted are Prosopis juliflora on the top of dunes, and Leptadenia pyrotechnica on the slope of dunes. The area is irrigated by drip irrigation system which is set on the slope of dunes.

Afforestation without Irrigation in Madina Zayed
（Young seedlings are growing without irrigation water. ）

Afforestation Trial on Dune Slope in Liwa Oasis（*Leptadenia pyrotechnica*）

You can do it!　Remote Sensing Analysis

Part 5 : Utilization of Remote Sensing Analysis in future

AAI's major career in Remote Sensing Analysis (RSA) in the past is shown as below.　We have been trying to utilize satellite data appropriately and effectively when we carry out agricultural and/or rural area development projects in arid and semi-arid lands.　And we hopefully think that RSA will be one of our main services in the future.　We will keep introducing our experiences and information of new RSA technology from time to time.

AAI's Major Career in Remote Sensing Analysis

(1) Study on Sand Dune Movement in UAE
(2) Studies on Reflectance of Natural Vegetation and various Crops in UAE
(3) Preparation of Present Land Use & Vegetation Map in Africa
(4) Preparation of Present Land Use Map in Pakistan
(5) Assessment of Present Land Use & Crop Growth in Japan

1) GIS (Geographic Information System)

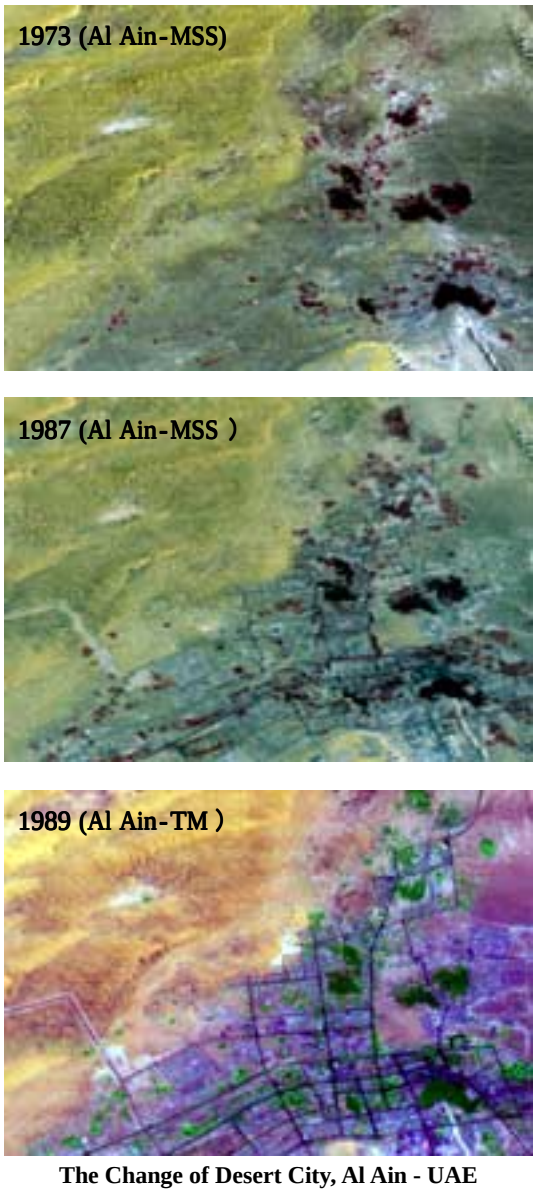
GIS is a kind of database which is becoming popular these days.　GIS is defined as a technology designed to capture, store, manipulate, analyze, and visualize the numerical data sets which accompanies with spacial data. Until recently, it was rather difficult or time-consuming process to deal with GIS by using personal computers (PCs). Nowadays, many kinds of GIS software which can be operated on PCs are available, and we would like to utilize them so as to analyze remote sensing data more easily and efficiently.

2) Applying GIS to Rural Area Development Projects

Since the resolution of satellite sensors has been improving, it is possible to analyze relatively small area precisely by using satellite data, which was rather difficult before. And now, we have more opportunity to use the satellite data when we carry out various kinds of study both in Japan and overseas. We are going to use GIS more often for these kinds of research works.

3) Getting more Experiences

Our experiences of RSA are still not much and the way we utilized RSA was limited. Information for practical use of RSA is not prevailed yet. In order to utilize the technology more widely and effectively, it is necessary for us to get practical information through our research works, and to know in what fields or how we can utilize RSA.



The Change of Desert City, Al Ain - UAE

Plants in Arid Lands and Their Utilization (5)

PART 5 : Interdunal Plain and Wadi

Wadi near the dune area

The alluvial plain under the dune is appeared on the surface at the interdunal plain. The soil of the alluvial plain is sandy but finer than dune sands, and the lower layer is often very hard. Wadis around Al Ain are running from east to west (from Oman mountains to dunes). However, you can hardly see water flow, not more than once a year. Wadis near dunes are covered with sand and those in flat land or interdunal plain is covered with relatively fine soil. Typical plants in the interdunal plain are Zygophylum hamience andProsopis cinerarea. Calotropis procera, Citrullus colocynthis and Prosopis cinerarea grow around wadi. Schweinfurthia papillionacea and Cassia italica can be seen around oasis.

1) Calotropis procera

Characteristics: Grows up to 5m tall. New branches are white and have smooth bark. Old branches are brown and their bark is rough. Leaves can grow upto 18cm long. Flowers bloom from March to September. The edge of a petal is purple and the inside is white. Bears dehiscent fruits. Seeds burst when ripen and achenes with hairs spread over.

Condition of growth: Seen at wadi or lowland where soil water content is relatively high. Fits to any kind of soil.

Use: The latex is very noxious. Used as medicine for suppuration and eczema. Also used to make poisoned arrows. The ash is material of gunpowder. Camels and goats eat unripen fruits and flowers.

Others: Dangerous to touch due to its poisonous latex.

2) Zygophylum hamience

Characteristics: Spreads largely along the Arabian Gulf area. The whole shape looks like a half globe of 50cm to 1m in diameter. Occasionally grows up to 3m. Leaves are green or yellow-green, and the succulent contains salty liquid. Flowers bloom in winter (September to March). The size of the fruits is 2cm, and the shape is similar to the leaf.

Condition of growth: Strong halophyte. Grows on salt accumulated land.

Use: Dead trees are used as firewood. Camels eat sprouts.