

# AAINews

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## Souq Al Juma - Damascus

There are some street markets called "Souq" in Damascus. The most popular souq is "Souq Al Juma" which opens even on Fridays. The official name of this Souq Al Juma is "Souq Al Sheikh Mohyi Al Deen". A historic mosque which has the same name is inside the Souq. There are a lot of small shops selling daily necessities such as food, clothes, kitchen wares and so on. But unfortunately, most of the clothes sold there do not fit Japanese taste particular in terms of quality and design. Vegetables are very fresh and less expensive, and the prices of some of them are a half of those sold in other Souq. However, fruits are rather expensive and their quality is relatively low. Expensive vegetables such as green asparagus and mushrooms are not sold here.

What made me happy in this Souq is a charcoal shop, because it is difficult to find a charcoal shop inside the town, although charcoal is very necessary for barbecue. When you buy charcoal, they usually ask what kind of meat you are going to barbecue, because they sell different kinds of charcoal according to the kind of meat, such as chicken, mutton etc. Charcoal costs around 100 yen per kg. The charcoal shop also sells gridirons, small kitchen stoves and fans made of feathers which are useful for setting fire. The street is so long and narrow that people can not stay standing when trucks come over. And that is why I always turn and come back before I reach the other end of the souq, however, I would like to try and go to the other end someday.

(Reported by Onuma in Syria)



## Kind of Tree-planting Activities in United Arab Emirates

### Part 6: Problems to be overcome in future

Afforestation and agricultural development projects have been implemented vigorously in UAE according to the President's policy "Profit gained by selling oil drilled from the ground has to be returned to the soil". A dam project has been carried out accordingly in order to preserve the groundwater in mountain area and utilize it for irrigation projects. Desalination plants have been constructed at power stations which made it possible to supply fresh drinking water throughout urban area. At the same time, processed drainage water is used for afforestation projects in urban area.

However, sea water is intruding into the groundwater in the coastal area, and salinity of well water is increasing accordingly. The level of groundwater is declining and the quality of the water is getting worse, which means that recharge of groundwater is too slow to catch up with the speed of the development. In some area, farmers abandoned cultivation due to drying up of groundwater and accumulation of salts in the field. It suggests us that it is very important to consider availability of water resources before planning and implementing development project so as to make the project sustainable. Afforestation projects also have to be implemented as a part of sustainable development. Thus, the following approach is considered effective.

#### 1) Zoning and selection of appropriate land for afforestation

Most of the land in UAE is desert. Oman mountains run in the east part of the country, and gravel plains lie between mountains and dunes. In dune area, dunes and interdunal plains form long and narrow strips. Moreover, salt accumulated land called Sabkha occupies a vast area. We can recognize the vegetation is distributed according to the characteristics and the situation (geographical features, soil, climate etc) of each area. For example, *Prosopis cineraria* spreads mainly in dune area and *Acacia tortilis* dominates mainly in gravel plain area. Both can be also seen at where sand is invading into gravel plain. It is important to delineate the area according to vegetation and natural conditions in order to select appropriate land for development projects. To study species and cultivation method that will suit the selected land is also very important. For proper zoning, it is very effective to utilize Remote Sensing Analysis as well as investigation in the field.

#### 2) Potential of natural vegetation

In large scale afforestation projects, trees are planted at 7m intervals. This density is determined for the facility of irrigation. However, appropriate density actually differs depending on the conditions of soil. For example, even on a single dune, density of *Prosopis cineraria* differs according to the position. It suggests that the conditions of soil and water determine the species and their density in the area, and as long as the density of afforestation is within the capacity of the land conditions, irrigation is basically not necessary. Thus, it is very important to plan afforestation projects based on understanding of potential of natural vegetation and environmental conditions in order to attain sustainable development.

There are so many problems regarding afforestation in arid lands such as water resource development, irrigation technology, how to fix dunes, tree planting method etc. It is necessary for UAE to spend budget on basic research and experiment and make use of the outcome not only for UAE but also for other countries trying to prevent desertification. And also, exchange of technologies (i.g. introducing afforestation for fixing dunes in Yemen to UAE or mangrove study in UAE to other countries) should be encouraged and promoted.

## You can do it! Remote Sensing Analysis

### Using MAP-II for Ecological Zoning

#### 1) What is MAP-II?

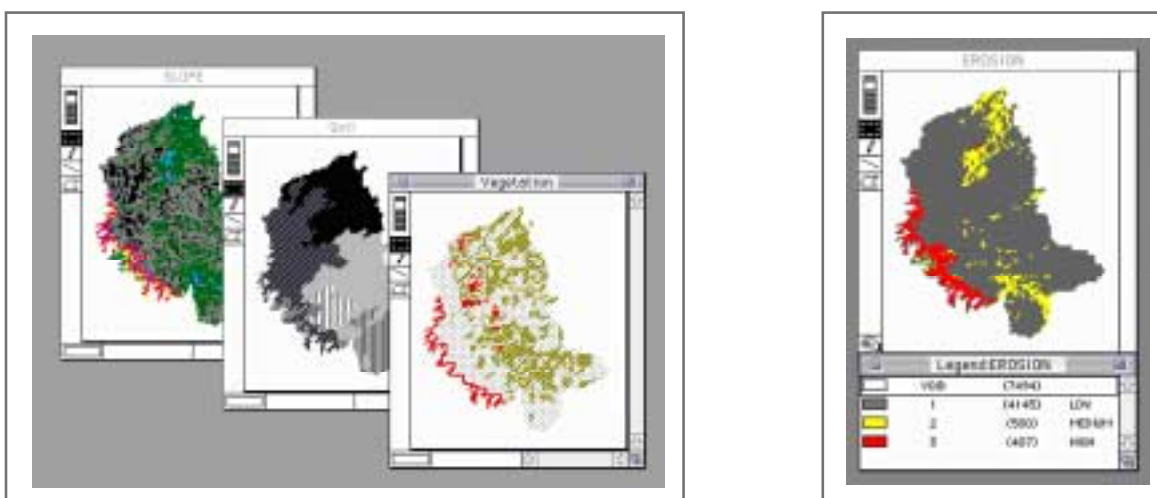
MAP-II is a kind of GIS software, regarded as raster GIS, which can deal with mesh-type data. To analyze with MAP-II, first, target area is divided into meshes, then numerical data is assigned to each mesh, following which all data are processed and a mesh map is formed. MAP-II can directly read the numerical data which is input by spread sheet software like Excel. However, when the target area is large or large quantity of data has to be processed due to huge number of meshes, input of data becomes a time-consuming process. So as to make this work easier, scanned colored map can be substituted. MAP-II can read Remote Sensing data of LANDSAT or SPOT etc as well.

#### 2) Example of how to use MAP-II

First, some mesh maps are formed on related subjects (vegetation, soil, land use, endangered species, historic places or protected areas). By overlaying those maps as needed, the target area can be zoned according to the purpose, such as regional development planning, natural resources management, or environmental conservation. This is one of the ecological planning method which put natural and social environment into consideration when development project is planned.

Mesh maps shown as below are examples of how to use MAP-II. Maps of slope, soil and vegetation are overlaid to create a new map showing degree of soil erosion potential. You can choose specific condition like "the area with slope of more than \*\*%, scarce vegetation and sandy soil", and put colors or select mesh-pattern as you like. The right map below shows three grades (high, medium, and low) of possibility of soil erosion. A map of precipitation can be added in order to conduct more accurate analysis.

This method can be applied to zoning for development planning or selection of appropriate land for afforestation by putting distribution of natural vegetation, topography, soil, weather and water resources as basic data set. In these ways, MAP-II can be effectively used for making various plans which make the best use of characteristics and conditions of area.



Zoning of Potential Area of Soil Erosion by Overlay Method using MAP-II

## Plants in Arid Lands and Their Utilization (6)

### PART 6: Halophytes



Along the Arabian Gulf coast in UAE, there are many places with saline and moist soil called "Sabkha", which is very flat and gentle plain. A hard layer is often formed on the surface and most of the area is made of highly saline sandy soil. In the Sabkha area, soluble salts in the soil accumulate on the surface due to evaporation from the soil. In winter, water is generated by dew condensation, and the water rises by

capillarity effect to near the surface, which sometimes forms salt lake. Sabkha is lying near Dubai city and from south to west of Abu Dhabi city. At the border to Saudi Arabia, a large salt accumulated land, "Sabkha Mutti", spreads. Major vegetation around the Sabkha includes *Zygophyllum hamience*, *Salsola* spp., and *Tamarix* spp. Mangrove trees grow in intertidal zone near the coast.

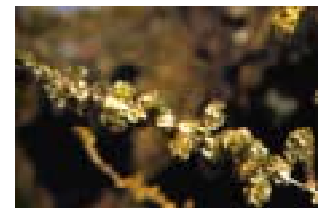


#### 1) *Salsola baryosma*



Characteristics: Perennial plant which grows up to 50cm tall. Young branches and sprouts are red or purple. The color turns into gray-green as it becomes woody. Flowers bloom from July to November. Seeds ripe simultaneously.

Condition of growth: Seen near the coast where soil salinity is high. Strong halophyte.



Others: "Salsola" originated from "salsus", which means "salt" in Latin.

#### 2) *Avicennia marina* (A kind of mangrove)



Characteristics: Grows up to 6 to 8m tall under preferable conditions. The surface of leaves has salt glands which discharge the salt taken inside the plant. Flowers bloom from May to July and bear fruits from August to September.

Condition of growth: Grows in intertidal zone near the coast. Seen at Abu Dhabi, northern coast, and eastern coast of UAE.

Use: Firewood, materials for construction or fishing boats, animals feeds. They provide



good living environment for propagation of fish, prawn, crab and shell fish. They also function as natural breakwater and reduce the damage of storm or flood tide.

Others: "Mangrove" is the generic name of trees growing in brackish water area.