

PLANT NURSERIES BUSINESS IN ABU DHABI

M.I.R. Khan*

Introductory

The raising and maintenance of plant nurseries in Abu Dhabi is a recent activity which started in the late sixties to provide plants and seedlings for the plantation and afforestation projects which were started about the same time on the initiative and under the directives of H.H. Sheikh Zayed bin Sultan Al Nahyan, the Ruler of Abu Dhabi. Since then, with the expansion of plantation, agricultural and landscaping projects, the raising of various types of nurseries has made considerable progress both in the public and the private sectors. More recently, indoor decorative plants are being acquired and kept by increasing number of people in their offices, shops, business premises, and residential buildings.

The great variety of plants found in Abu Dhabi today are either raised locally or they are imported from abroad. The imported plants which are mostly ornamental or fruit plants come from Holland, Belgium, Lebanon, Jordan, Iran, Pakistan, India, Australia and New Zealand etc.

The indoor ornamental plants come mostly from Holland and very few from Belgium. There is a fair number of flower shops located in Abu Dhabi and Al-Ain which import and sell indoor decorative plants and cut flowers. The cut flowers are imported mostly from Holland and some are brought in from Belgium and Beirut. Fruit plants such as Lemon, Lime and other citrus species, Fig, Olive, Pomegranate, Grapevine, Guava, Chicko, Banana, Phalsa, Grafted Ber, Mango, Jaman, Tamarind, Coconut palm, and Date palm etc. have been imported mostly from the Middle Eastern Countries, Iran, Pakistan and India.

In the following pages a current account of various types of existing plant nurseries both in the public and private sectors of Abu Dhabi, Emirate is recorded. The information was collected by the author himself visiting most of the nurseries during September-October 1982. The report has also been illustrated with a number of colour photographs taken by the author. The nurseries of the Western Region including Abu Dhabi and the nurseries of the Eastern Region including Al-Ain are dealt with separately.

Nurseries in the Western Region of Abu Dhabi

Plant nurseries in the Western region of Abu Dhabi like the Eastern Region have come up both in the public and the private sectors. In the public sector the nurseries have been raised by the Agriculture Department and the Forestry Department of the Abu Dhabi Municipality and more recently by the Abu Dhabi National Oil Company. An upto date and overall account of these nurseries in the public sector is given in the following paragraphs.

(a) *Public Sector Nurseries:*

- (i) The Forestry Department has a number of plant nurseries located at different

* The author is Forestry Expert in UAE.

places in the Western region such as at Al Bujair, Al Babha, Madina Zayed, Habshan etc. The largest and the most important nursery of the Forestry Department is situated at Al Bujair in the interior of the desert to the east of Beda zayed—Liwa asphalted road. In all these nurseries mostly forest tree seedlings of 'Ghaf' (*Prosopis spicigera*), 'Samar' (*Acacia tortilis*), 'Sidr' (*Zizyphus spinachristi*), 'Rak' (*Salvadora persica*) are being raised. The annual production of tree seedlings in these nurseries at present is about 750,000.

Recently, the Forestry Department in the Western region of Abu Dhabi have erected a set of four green houses over an area of 3000 M² at Beda Saif along the Bedazayed-Liwa road. These green houses with controlled environment are to be used to raise the needed plants and vegetables.

(ii) The Agricultural Department have their plant nurseries both in the island of Abu Dhabi and outside. Their two large nurseries, Khalidiya nursery and Manhal nursery along with the green houses nursery are located within Abu Dhabi. They raise both ornamental plants and forest tree seedlings.

Their major nursery outside the Abu Dhabi island is at Bainoonah. The nurseries in the Western region raise mostly forest tree seedlings. The total annual production of all the nurseries of the Agriculture Department would be of the order of about 4,000,000 plants, about 3,000,000 plants being raised within Abu Dhabi and about 1,000,000 plants on the mainland.

(iii) The Abu Dhabi National Oil Company is at present in the process of setting up a plant nursery on an area of about 2 hectares at Ruwais in the Western region of Abu Dhabi. Half of the nursery beds of a total of 1700, each measuring 4Mx2M, are covered with Tildenet and half are in the open. These are also two small green houses covering an area of 600 M². This nursery is expected to produce about 1,000,000 ornamental plants annually for the maintenance of the landscaping projects of ADNOC. The layout of the nursery is scheduled to be completed by the contractor by the end of 1982.

(iv) The Federal Ministry of Agriculture and Fisheries Resources, UAE distributed through its extension wing 634 kg of vegetable seeds during 1980 amongst the farmers in the Western region of Abu Dhabi.

(b) Private Sector Nurseries

(i) *Carnaval Nursery, Khalidiya, Abu Dhabi.*—It has about 50,000 plants of both forest tree seedlings and ornamental species. Some are raised locally and others have been imported. The sale price ranged between Dh. 5.00 to Dh. 200 per plant.

The owner also owns the Carnaval Flower Shop which deals in the import and sale of indoor plants and cut flowers.

(ii) *Khalidiya Nurseries Co., Khalidiya, Abu Dhabi.*—It has about 150,000 plants of shade and ornamental species. They are both raised locally and imported from abroad. The sale price ranges from Dh. 5.00 to Dh. 200.00 per plant.

The owner also has the Ismeliana Flower Shop which imports and sells indoor plants and cut flowers.

(iii) *Al Mualla Nursery, KM35, Beda Zayed-Liwa Road.*—This private nursery in the Western region is raising about 150,000 forest tree saplings of 'Ghaf' (*Prosopis spicigera*) and Samar' (*Acacia tortilis*) annually. The plants are sold to the afforestation companies in the Western region of Abu Dhabi at Dh. 3.50 per plant. The nursery was set up only about 2 years ago.

(iv) *Indoor Decorative Plant Shops in Abu Dhabi.*—There are a number of Flower shops in Abu Dhabi which import and sell indoor ornamental plants. The plants such as Amaryllidaceae, Aralias, Asparagus, Azaleas, Begonias, Coeluses, Crotons, Diffenbachia, Geraniaceae, Ferns, Hedra, Irises, Liliaceae, Monstera, Orchids, Philodendron, Primulaceae, Saxifragaceae, Solonaceae, Vitacea etc. are imported by air and sold at prices ranging from Dh. 10/- to Dh. 500/- per plant.

The shops dealing in the import and sale of indoor decorative plants in Abu Dhabi visited by the author were:—

1. Abela Supermarket
2. Agriculture Materials Co.
3. Al Ahlia Prisunic Supermarket.
4. Al Hamily Flower Shop.
5. Carnaval Flowers Shop.
6. Daffodil Flower Shop.
7. Gardenia Flower Shop.
8. Green Oasis Co.
9. Gulf Flowers Exhibition.
10. Ismeliana Flower Shop.
11. Jasmine Flower Shop.
12. Mermaid Flower Shop.
13. National Industrial Co.
14. Oleander Flower Shop.
15. Spinney's Supermarket.
16. Violetta Flower Shop.
17. Waad Flower Shop.
18. White Rose Agri. Est.

The number of indoor decorative plants sold by these shops is estimated to be of the order of about 1.5 to 2 millions plants annually.

Recently, the Abu Dhabi Municipality green houses nursery has also started producing the indoor plants locally. They have also opened a shop to sell these plants to the public. The price of the indoor plants sold at the Municipality shop ranges between Dh. 5/- to Dh. 50/- per plant.

Nurseries in the Eastern Region of Abu Dhabi

Both climatic and soil factors are more favourable for plant growth in the Eastern region of Abu Dhabi. Al Ain is a part of the historic Buraimi oasis which has been cultivated since times immemorial. There is considerable scope for the development of agriculture in Al-Ain and the adjoining areas.

Plant nurseries for raising forest tree plants, fruit plants and vegetable seedlings have come up both in the public and private sectors. A brief and an overall account of most of these nurseries is given in the following paragraphs.

(a) Public Sector Nurseries:

(i) The Forestry Department's main nursery is in Al-Ain opposite to the Al-Ain Hilton hotel. It produces annually about 1.3 million forest tree seedlings mostly of 'Ghaf' (*Prosopis spicigera*), 'Samar' (*Acacia tortilis*), 'Sidr' (*Zizyphus spinachristi*), 'Rak' (*Salvadora persica*), 'Nim' (*Melia indica*), *Artiplex* etc.

Other smaller nurseries of the forestry Department are located at Abu Samra, Rawda, Khazna etc. and altogether they produce 1.5 million seedlings annually. They use these plants for new afforestation projects and for the maintenance of old plantations.

(ii) The Public Gardens Department, Al-Ain have their nurseries and green houses over an area of seven hectares in Al-Ain. They raise both forest tree seedlings and a variety of ornamental plants. Their annual production of plants is about 3 million saplings and seedlings. They utilize these plants in implementing their new projects and for the maintenance of their existing parks and gardens. A large number of plants are also distributed amongst the public.

(iii) The Agriculture Department, Al-Ain grow in the nurseries of their 55 hectare experimental Farm at Al-Ain not only forest tree saplings and fruit plants but also vegetable seedlings. Most of the plants grown in the nurseries of the Agriculture Department are meant for distribution amongst the public. About 700,000 saplings of forest trees like eucalypts, casurinas and acacias and fruit plants like figs, guavas, papayas and lemons are given free to the farmers annually.

During 1979, 16,610 kg. of seeds and 55,554 vegetable seedlings and in 1980, 37,500 kg. of seeds and 147,906 vegetable seedlings were distributed free amongst the farmers in the Eastern region by the Al-Ain Agriculture Department.

(b) Private Sector Nurseries:

(i) *Osman Nursery*.—It is owned by Mr. Mohammad Ashraf and is a relatively small one in the Qattarah district of Al-Ain. It contained only 15,000 plants of 'Samar' (*Acacia tortilis*). Their sale price ranged between Dh. 2.00 to Dh. 2.50 per plant which are sold to Afforestation Companies. The owner has decided to wind up this nursery as he found that on account of excessive competition the business is not quite profitable now.

(ii) *Al Raza Agriculture Establishment Nursery*:—It is situated in the Qattarah district of Al-Ain and is owned by Mr. Asghar Hussain. It contained about 100,000, six month old 'Ghaf' (*Prosopis spicigera*) plants. The sale price ranged between Dh. 1.00 to Dh. 1.50 per plant.

(iii) *Al Rumaithi Nursery*:—This nursery previously was a joint venture but it is now solely owned by a national. It is located in Al Khabisi district of Al-Ain and contained about 50,000 plants mostly of 'Ghaf' (*Prosopis spicigera*).

(iv) *Ghazi Agriculture Establishment Nursery*:—It is in the Qattarah district of Al-Ain and is owned by Mr. Ashiq Hussain. It contained about 50,000, eight month old plants of 'Ghaf' (*Prosopis spicigera*) saleable at Dh. 2.00 to Dh. 2.50 per plant.

(v) *Pakistani Nursery*:—It is also located in the Qattarah district of Al-Ain and is owned by Messrs. Ghulam Kasim and Masroor Hussain Shah. It contained about 175,000 plants, mostly 'Ghaf' (*Prosopis spicigera*) and some 'Samar' (*Acacia tortilis*) raised for sale to the Afforestation Companies at Dh. 1.50 to Dh. 2.00 per plant.

(vi) *Al-Ain Agricultural Corporation Nursery*:—It is in the Hilli District of Al-Ain and is owned by Mr. Manzoor Hussain Khan. It has about 250,000 plants mostly 'Ghaf' (*Prosopis spicigera*) and some Samar (*Acacia tortilis*) in Al-Ain and about 200,000 plants in Ras Al Khaima Saleable at Dh. 2.00 to Dh. 3.00 per plant.

They have also recently imported about 10,000 plants of ornamental species from Oman for selling to Landscaping Companies.

(vii) *Al Nahar Nursery*:—It is located in the Hilli district of Al-Ain and belongs to Al Nahar Agriculture Contracting Company. It contained about 50,000 plants of forest and ornamental species. It appeared to be in a neglected condition.

(viii) *Iqbal Nursery*:—It is situated in the Hilli district of Al-Ain and is owned by three partners. It contained 500,000 plants of 'Ghaf' (*Prosopis spicigera*), 100,000 plants of 'Samar' (*Acacia tortilis*), 20,000 plants of 'Sidr' (*Zizyphus spinachristi*), and 20,000 plants of 'Rak' (*Salvadora persica*).

The plants have been raised to be sold to Afforestation Companies at the sale price of Dh. 1.50 to Dh. 2.00 per plant.

(ix) *Al Hadesi Nursery*:—It is located in the Masoodi district of Al-Ain and sells only ornamental plants. The plants are raised to be sold to landscaping companies and other interested persons.

The above are the licensed private nursery companies working in Al-Ain. Besides them there are also some small private nursery units which sell their plants to the licensed nursery companies. It would be seen that the private nurseries in Al-Ain put together are producing about 1.5 to 2 million plants annually.

(x) *Hotex-Dhafir Nursery, Sueihan*:—It is situated at Sueihan and is a joint venture between Messrs. Hotex International Ltd. of New Zealand and Messrs. Al Dhafir of Abu Dhabi. It has a large variety of plants including many of them grown in New Zealand and transported by air to Abu Dhabi. It contained about 50,000 plants.

Some Aspects of Nursery Business

Some important matters about the plant nurseries business in Abu Dhabi are briefly discussed below:—

- (a) *Propagation of the Date Palm*:—The Date palm has separate male and female plants. It is not propagated from seed but from root suckers produced by the female mother plants around the base of their stems. As such there are no specific date palm nurseries. The root suckers are detached from the mother plants and then taken to the new planting site.

Date palm is the most important fruit plant of the Abu Dhabi emirate and there is a great demand for date palm root suckers of suitable varieties. The freshly taken out root suckers are sometimes stored in holding nurseries. The date palm root suckers are also imported from Saudi Arabia, Iran, Iraq, Oman and Pakistan.

- (b) *Local Nursery Techniques*:—A number of variable nursery techniques are being followed to raise nursery plants locally in Abu Dhabi. A large number of plants are being raised from seed. The hard coated seeds like that of 'Ghaf' (*Prosopis spicigera*), 'Samar' (*Acacia tortilis*), 'Qarat' (*Acacia arabica*) are pretreated by soaking them in hot water for 24 to 48 hours to soften their hard seed coats. The seeds may be sown directly in plant containers or they may be first sown in trough shaped receptacles and from them a week or two old seedlings like those of *Eucalyptus* and *Casuarina* are then transferred to individual plant containers. Some plants are propagated vegetatively from root suckers, cuttings, branches etc. such as the Date palm, Oleander (*Nerium odoratum*) and *Clerodendron* etc. Bermuda grass (*Cynodon dactylon*) is propagated from its stubbles or rhizomes.

Sowing and planting is generally done in polythene bags or plastic containers or sometimes in soil beds. The soil beds may be level with the ground or they may be in the form of shallow sunken beds. Similarly the plant containers are also kept either in level or sunken nursery beds. The soil medium in plant containers and beds consists of soil, sweet sand and organic manure mixed together in suitable proportions. Sometimes a light dose of compound fertilizer is also added to the soil mixture.

Irrigation is done either by sprinkling water or if the water is brackish, it is done by flooding in shallow sunken beds with hoses. Chemical fertilizers are generally applied with irrigation water. The leaf fertilizers are sometimes sprayed on the foliage of young nursery plants.

In order to avoid heat and cold injury to plants, nursery beds are provided overhead shade of different materials allowing to penetrate various intensities of sun light. Sometimes sensitive plants are raised in green houses under controlled environmental condi-

tions. Protective sprays with insecticides and fungicides are also done in most of the nurseries.

Grown up nursery plants raised in containers are at intervals lifted, moved and their roots are pruned. This is invariably done a week or two before they are taken out for transplanting in the field. In order to produce large sized transplants, young seedlings are sometime transferred to large sized containers wherein they can grow to large sizes.

Temporary holding nurseries are some time set up at the planting sites. The desired plants which are to be used in plantation or afforestation projects are brought from the permanent nurseries and are kept in the holding nurseries for a few weeks till they are actually planted in the field.

- (c) *Cost of Production of Plants*:—The cost of production of locally raised nursery plants consists of rent of land including the cost of irrigation water generally taken out from tubewells and the cost of fertilizers, insecticides, labour and overhead charges. The overhead charges can be very variable.

The cost of production of forest tree seedlings in the private nurseries in Al-Ain varies from Dh. 0.5 to Dh. 1.0 per plant. The cost price of these seedlings, in the public sector nurseries could be more than double of these figures. The overhead charges in the public sector nurseries are much higher.

The air freight imported plants cost considerably more and are much more expensive. The others imported by land from Lebanon, Iraq and Jordan and by sea from Iran, Pakistan and India are comparatively less expensive.

- (d) *Plant Nursery Law*:—The plant nurseries are at present raised in Abu Dhabi after taking out licences from the Municipalities. Realizing that the business of plant nurseries is not adequately regulated, the federal Ministry of Agriculture and Fisheries Resources has decided to promulgate a plant nursery law in the UAE.

After the issue of the proposed nursery law, all nursery operators will have to take out a license from the Ministry of Agriculture and carry out nursery business in accordance with the provisions of this law which will take care of protecting plant resources and curb plant diseases and pests. Any violations of the law will be punishable with heavy fines. This should result in the elimination of the existing unscrupulous and incompetent nursery operators.

- (e) *Export of Plants from Abu Dhabi*:—Some nursery plants have been exported from Abu Dhabi to the adjoining Oman, Qatar and Saudi Arabia. One Italian Agricultural Company, Messrs. Piante Marcelle had in the past exported some shade and ornamental plants from Abu Dhabi to Saudi Arabia but there appears to be no regular trade at present for the export of plants from Abu Dhabi to the adjoining countries.

In Saudi Arabia in order to exclude the import of any soil borne diseases and pests no foreign soil from outside the Arabian peninsula is allowed to be imported with the

roots of plants. However, plants with soil from UAE would be allowed to go into Saudi Arabia. Thus an export trade for the export of suitable plants from Abu Dhabi to the ecologically similar adjoining countries especially Saudi Arabia could be developed.

- (f) *Future Scope of Nursery Business*:—In spite of the severe competition in the nursery business in the UAE, there would appear to be a reasonable scope in certain aspects of nursery plant production and marketing. Some of these aspects as envisaged by the author are briefly discussed below:—

(i) **Local Production of Ornamental, Indoor and Fruit Plants:**

Whereas there is severe competition for the production of forest tree seedlings, the competition is not that severe in the case of ornamental, indoor and fruit plants. Thus it would be advisable to take up the local cheaper production of these categories of plants under controlled environmental conditions.

There is still considerable margin between the cost of production and sale price of these plants in the UAE.

(ii) **Own Production of Plants for Afforestation and Landscaping Projects:**

It would be very worthwhile for a contracting afforestation or landscaping company to have its own nurseries for the cheaper and timely production of healthy planting stock. Many projects have suffered in the past on account of the expensive and untimely availability of the needed planting material.

(iii) **Production and Marketing of Superior and Certified Strains and varieties of Plants:**

It is hoped that with the enforcement of the proposed Plant Nursery Law in the near future, the nursery business in the UAE will be better regulated and organised. The unscrupulous and undesirable nursery operators will be eliminated. That would also be the appropriate time to produce and market superior and certified strains and varieties of forest, fruit and ornamental plants.

It would require considerable research effort and demonstration work to develop and establish genetically superior strains and varieties of the desired plant species. And this would also need cooperation and collaboration with the governmental bodies such as the Digdaga Agricultural Research Station and the Central Agricultural Laboratory of the Ministry of Agriculture and Fisheries Resources and the Al-Ain Experimental Agricultural Research Farm of the Al-Ain Agriculture Department.

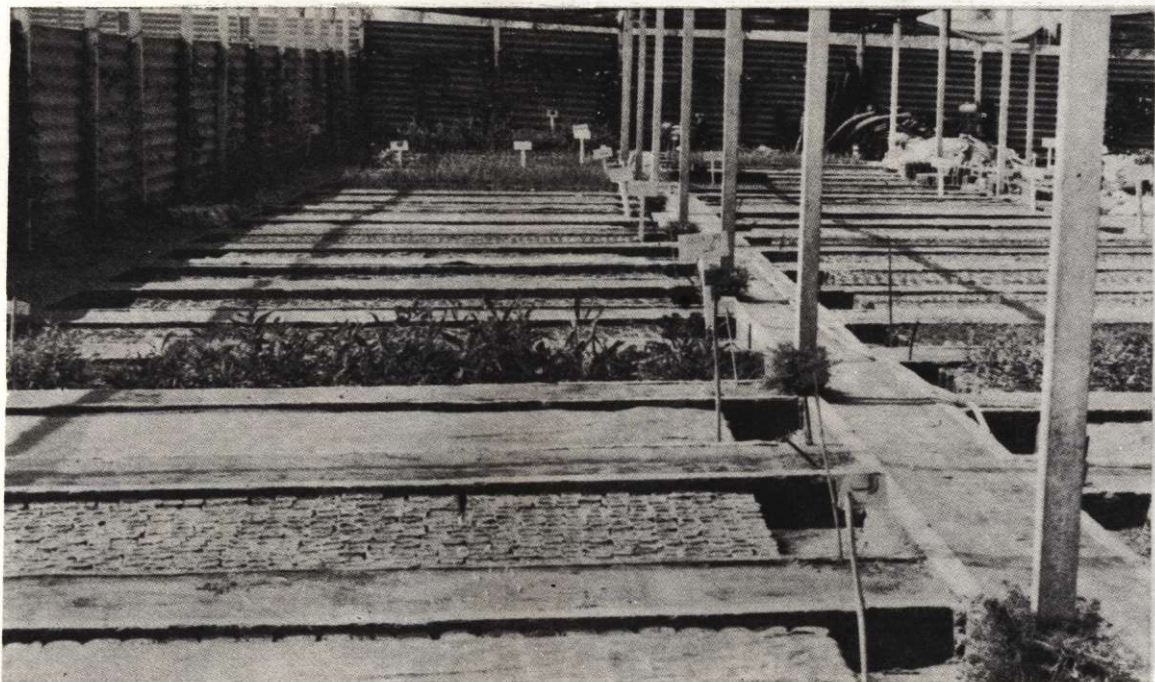


Fig. 1. Al Bujair Nursery beds showing young plants, Abu Dhabi.

(Photo: Author)



Fig. 2. Al Bujair Nursery with grown up plants, Abu Dhabi.

(Photo: Author)



Fig. 3. Madina-Zayed plantation showing dates and other planis.

(Photo: Author)



Fig. 4. A young date plantation raised with drip irrigation, Abu Dhabi.

(Photo: Author)