

Egyptian Desert Plants with Promising Economic Potential

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ABSTRACT. A general survey on the desert plants of Egypt is carried out based on available literature and field observations by the author. The following groups of plants are subject to this study, with an annotated list of species belonging to each group including their main uses and sources of information: edible plants, forage plants, medicinal plants, fibre plants, firewood trees and shrubs suitable for desert environmental conditions of Egypt, plants containing substantial percentages of oils, resins, waxes and tanning materials, sand stabilizers, plants with conspicuous foliage or flowers with potential as ornamentals.

More than one third of the surface of the earth is occupied by arid lands (c. 49 million square km) supporting more than 785 million people or 17.7% of the world's population, a population that is expanding at a faster rate than the environment can effectively support (Bell 1985). These arid lands and their plant and animal life provide food, feed and many other useful products.

In Egypt, early man during Late Pleistocene gathered a wide range of plant material for food (El-Hadidi 1985). Most of the food plants known in Egypt since the Predynastic period are still known and used today (Täckholm 1951; Täckholm and Drar 1941, 1950, 1954; Darby, Ghalioungui and Grivetti 1977; El-Hadidi 1982). Many other plant products were used by prehistoric and ancient Egyptians for purposes other than food, such as building materials, furniture, agricultural tools, boats, textiles, paper, ropes, sandals, baskets, mats, brushes, bracelets, dolls, garlands, wreaths, etc. (Lucas 1948, Täckholm 1951, Greiss 1957, Boulos 1968a, Nazir 1970, Ruffle 1977, Hassan 1980, Ragab 1980).

An example of an arid region which used to be prosperous and then declined, partly due to neglect of man and partly due to climatic changes and land use, is the

Mariut area. During prehistoric and shortly after the predynastic periods, the precipitation was certainly higher than that of today; desert grass vegetation and some form of agriculture were prevalent (Boulos 1968a). Strabo (66-24 B.C.) describes the country west of Alexandria as studded with towns and cities (Kassas 1972). This coastal strip stretching from Alexandria westwards to Barca which was densely populated up to the 7th century A.D. and famous for its vineyards and consequently for its wines (Boulos 1968a), gradually became a district covered with ruins of towns, villages, cisterns and wells dating mostly from Greek and Roman times (Kassas 1972).

In a more arid region, a case study on the Ma'aza Bedouin of the Eastern Desert of Egypt (Hobbs 1986) shows that the inhabitants conserve the rare plants and obtain their needs mainly from the local environment (Boulos & Hobbs 1986). However, the Bedouin population of the Eastern Desert of today is sparse and is not comparable to that of Mariut during the Graeco-Roman times.

During the last few decades, the desert plants attracted the attention of numerous scientists to study their uses, productivity and management. Many national programmes and international research institutes were established, meetings and conferences were held to cover the diverse aspects on desert plants towards an effort to select those with promising economic potential. As a result, many important works were published, *e.g.* "Food, Fiber and the Arid Lands" (McGinnies, Goldman & Paylore (eds.) 1971); "Arid Land Plant Resources" (Goodin & Northington (eds.) 1979); "Plant Resources of Arid and Semiarid Lands" (Goodin & Northington (eds.) 1985); "Plants for Arid Lands" (Wickens, Goodin & Field (eds.) 1985), etc.

The Present Work

The following is an annotated list of some plants known from the deserts of Egypt which may provide material of economic potential. The list is far from being exhaustive in accordance with our present knowledge. As the space allotted to this paper is limited, a selection has to be made with regard to plants and their detailed economic uses. It is hoped however, that the references will provide a more substantial and up-to-date source of information.

ALLIACEAE

Allium ampeloprasum L.; bulb with elegant reddish flowers, scape 1-1.5 m, may provide a good ornamental plant (Boulos 1985).

ANACARDIACEAE

Rhus tripartita (Ucria) Grande; bark used for tanning and dyeing (Boulos 1985).

ARACEAE

Arisarum vulgare Targ.-Tozz.; leaves eaten as potherb (Boulos 1985); corms poisonous, emetic-cathartic (Boulos 1983).

Eminium spiculatum (Blume) Kuntze; leaves boiled to obtain a soup (Boulos 1985); corms poisonous, alcoholic extract contains glucosides (Boulos 1983).

ASCLEPIADACEAE

Calotropis procera (Ait.) Ait. fil.; widely reputed for its diverse medicinal uses (Boulos 1983); milky latex poisonous and violent local irritant; stem fibres for ropes; seed hair used for filling pillows and mattresses (Zohary 1982).

Leptadenia pyrotechnica (Forssk.) Decne.; medicinal (Boulos 1983); stems yield fibre (Drar 1963).

Pergularia tomentosa L.; medicinal (Boulos 1983).

Solanostemma arghel (Del.) Hayne; medicinal (Boulos 1983), one of the most effective medicinal herbs, used by Bedouin of Eastern Desert and sold in drug markets of Cairo and Aswan.

AVICENNIACEAE

Avicennia marina (Forssk.) Vierh.; foliage serves as camel and cattle feed, wood used as a fuel (Aronson 1985).

BALANITACEAE

Balanites aegyptiaca (L.) Del.; young leaves, fruits, thorns eaten by livestock; ripe fruit pulp edible, seed kernel used for making bread and soap and contains 30-58 percent of an edible oil (Zachon oil); the residue, which contains 50 percent protein, is used in cooking and soap making. Wood durable, fine grained, resistant to insects, saws and planes well, used for bowls, mortars, tool handles, cabinet work; excellent firewood (Ayensu 1983). Medicinal (Ayensu 1979, Boulos 1983); saponin in fruit lethal to water snails and used in the control of schistosomiasis.

BERBERIDACEAE

(*Leonticeae* in Täckholm 1974)

Leontice leontopetalum L.; tubers used as remedy for epilepsy, sometimes attain large sizes and used as a fuel (Boulos 1985).

BORAGINACEAE

Alkanna orientalis (L.) Boiss.; the showy inflorescence with its golden yellow flowers is used in flower beds and rock gardens (Boulos 1985).

Alkanna tinctoria (L.) Tausch.; roots contain "alkanna", used for colouring toilet preparations of any oily or volatile nature; red colouring matter in alcohol solution used as microscopic stain for detection of oils and fats (Boulos 1985).

CAPPARACEAE

Capparis decidua (Forssk.) Edgew.; fruit edible (Kassas 1967); medicinal (Ayensu 1979, Boulos 1983, 1985).

Capparis spinosa L.; flower buds used as pickles (Boulos 1985).

Maerua crassifolia Forssk.; medicinal (Boulos 1983); fodder (Drar 1956).

CHENOPIACEAE

Anabasis articulata (Forssk.) Moq.; heavily browsed by camels and goats; contains potassium and therefore used as a detergent (Boulos 1985).

Atriplex halimus L.; generally palatable browse shrub, the salt content of the leaves increases with the salinity of the habitat, which makes the plant less palatable. Root cut into long, narrow pieces used as toothbrushes; medicinal (Boulos 1983, 1985).

Cornulaca monacantha Del.; decoction of leaves for treatment of jaundice (Boulos 1983).

Hammada salicornica (Moq.) Iljin; some scholars maintain that the sweet liquid on the branches of this plant, extremely wide-spread in the southern Sinai, is the biblical "manna"; the Bedouin call this sweet exudation "man rimth" and use it as a sweetener (Zohary 1982).

Hammada scoparia (Pomel) Iljin (Syn. *Haloxylon articulatum* (Cav.) Bunge); plant used to treat internal ulcers (Boulos 1985).

Kochia indica Wight, forage plant (Drar 1952, Draz 1954, Zahran & Abdel-Wahid 1982).

Salsola tetrandra Forssk.; medicinal (Zahran & Abdel-Wahid 1982).

COMPOSITAE

Achillea santolina L.; medicinal (Boulos 1983, 1985).

Ambrosia maritima L.; important medicinal herb, reputed for expelling kidney stones, renal troubles and many other uses (Ayensu 1979, Boulos 1983, 1985).

Artemisia herba-alba Asso; medicinal (Boulos 1983, 1985).

Artemisia judaica L.; medicinal (Boulos 1983, 1985).

Centaurea calcitrapa L.; medicinal (Boulos 1983, 1985).

Chrysanthemum coronarium L.; forms excellent flower beds in gardens, also a cut flower (Boulos 1985).

Cotula cinerea Del.; medicinal (Boulos 1983, 1985).

Gundelia tournefortii L.; young fleshy heads are made by peasants into a delicious dish, nuts contain a high degree of fat and are edible and tasty (Zohary 1982). Achenes edible, young heads eaten raw and cooked as artichokes, delicious; white latex causes nausea; dried plants used for winter fodder in Turkey (Boulos 1985).

Ifloga spicata (Forssk.) Sch. Bip.; heavily browsed by grazing animals (Boulos 1985).

CONVOLVULACEAE

Convolvulus arvensis L.; medicinal (Ayensu 1979, Boulos 1983).

Convolvulus glomeratus Choisy; purgative (Ayensu 1979).

Convolvulus hystrix Vahl; purgative; heavily browsed by camels and sheep

(Boulos 1985).

Convolvulus lanatus Vahl; heavily browsed by camels and sheep (Boulos 1985).

Convolvulus scammonia L.; medicinal (Ayensu 1979); perennial, flowers yellow with red stripes, showy, may provide a good ornamental plant for flower beds.

CRUCIFERAE

Anastatica hierochuntica L.; medicinal (Boulos 1983).

Brassica tournefortii Gouan; seed contains 30.7 percent fixed oil, similar to mustard oil (Boulos 1985).

Diploaxis acris (Forssk.) Boiss.; leaves eaten as a fresh salad (Boulos 1985).

Eremobium aegyptiacum (Spreng.) Aschers. & Schweinf. ex Boiss.; good pasturage (Boulos 1985).

Farsetia aegyptia Turra; heavily browsed by camels (Boulos 1985).

Zilla spinosa (L.) Prantl; medicinal (Boulos 1985).

CUCURBITACEAE

Bryonia cretica L.; medicinal (Ayensu 1979).

Citrullus colocynthis (L.) Schrad.; medicinal (Boulos 1985).

Ecballium elaterium (L.) A. Rich.; medicinal (Boulos 1983).

CUPRESSACEAE

Juniperus phoenicea L.; medicinal (Boulos 1983, 1985). Although a slow growing tree, it is highly recommended for reforestation in mountain regions such as Sinai.

CYNOMORIACEAE

Cynomorium coccineum L.; medicinal (Boulos 1983, 1985).

EPHEDRACEAE

Ephedra alata Decne.; medicinal (Boulos 1983).

EUPHORBIACEAE

Euphorbia falcata L.; medicinal (Boulos 1983).

Euphorbia peplis L.; medicinal (Boulos 1983).

Ricinus communis L.; oil constitutes up to 70 percent of the seed and is used in the chemical industry and as an aviation lubricant; all plant parts are widely used in folk medicine (Boulos 1983).

GERANIACEAE

Erodium cicutarium (L.) L'Hérit.; a valuable pasture plant; leaves used as a potherb; medicinal (Boulos 1985).

Erodium hirtum Willd.; tubers and green parts used as potherbs (Boulos 1985).

Erodium malacoides (L.) L'Hérit.; branches and leaves used as potherbs (Boulos 1985).

Erodium moschatum (L.) L'Hérit.; leaves used as a potherb (Boulos 1985).

GRAMINEAE

Aegilops kotschy Boiss.; useful forage grass (Boulos 1985).

Aeluropus lagopoides (L.) Thwaites; a good fodder plant (Boulos 1985).

Aeluropus littoralis (Gouan) Parl.; grazed by animals (Boulos 1985).

Bromus rubens L.; good fodder grass (Boulos 1985).

Bromus tectorum L.; grazed by sheep, goats, and mules; eaten when dry by donkeys, horses and other animals (Boulos 1985).

Cenchrus ciliaris L.; a fine fodder rich in carbohydrates and proteins, stands cutting well, drought resistant, easily grown from seed (Boulos 1985).

Cymbopogon proximus (Hochst.) Stapf; medicinal (Boulos 1983).

Cymbopogon schoenanthus (L.) Spreng.; medicinal (Boulos 1983).

Cynodon dactylon (L.) Pers.; medicinal (Boulos 1983).

Dactylis glomerata L.; a valuable grass for pasture and hay, can withstand long spells of drought in deep soil where root system is fully developed, yield less affected than that of most other grasses on poorer types of soil, gives good yield of feeding matter and quickly recovers after grazing (Boulos 1985).

Desmostachya bipinnata (L.) Stapf; a useful soil and sand binder; plant used to make ropes, baskets and mats (Täckholm & Drar 1941, Täckholm 1951, Greiss 1957).

Imperata cylindrica (L.) Beauv.; medicinal (Boulos 1983); plant used for making mats, ropes and baskets (Täckholm & Drar 1941; Täckholm 1951, Greiss 1957).

Laisurus hirsutus (Forssk.) Boiss.; excellent desert fodder grass (Le Houerou 1985); grazed by sheep, camels and other animals; a good sand binder (Boulos 1985).

Lygeum spartum L.; used for rope-making, plait works and the pulp for paper manufacturing (Täckholm & Drar 1941, Drar 1963).

Panicum turgidum Forssk.; the grain is collected and used for human consumption especially in dry years when cultivated crops may fail (Kassas 1967); plant good fodder for camels, horses, donkeys and other animals (Boulos 1985); sand binding (Le Houérou 1985).

Pennisetum divisum (Gmel.) Henrard; good fodder for camels, goats and sheep (Boulos 1985).

Phragmites australis (Cav.) Steud.; fuel, fodder of little nutritious value; culms used for roofing purposes and for erecting fences, writing pens (Täckholm & Drar 1941).

Piptatherum miliaceum (L.) Cosson (Syn. *Oryzopsis miliacea* (L.) Aschers. & Schweinf.); good fodder, has shown promising results and adaptability to different variable conditions (Draz 1959); drought resistant (Le Houérou 1985).

Poa sinaica Steud.; excellent fodder (Boulos 1985).

Stipa barbata Desf.; culm and foilage provide good grazing and nutritive value and make satisfactory hay (Boulos 1985).

Stipa capensis Thunb.; highly palatable, particularly by sheep.

Stipa lagascae Roem. & Sch.; excellent fodder grass (Le Houérou 1985).

Stipagrostis ciliata (Desf.) de Winter; good fodder for camels, goats, etc. (Boulos 1985).

Stipagrostis plumosa (L.) Anders.; good fodder for sheep, horses and other animals (Boulos 1985).

Stipagrostis raddiana (Savi) de Winter; excellent fodder grass in Sinai, and used to be plaited and exported to northern Arabia (Täckholm & Drar 1941).

Themeda triandra Forssk.; highly valued as a fodder plant, very nutritious and well liked by all kinds of livestock, and if cut before ripe makes excellent hay (Boulos 1985).

IRIDACEAE

Gladiolus italicus Mill.; grown by florists for its beautiful cut flowers during the Second World War when it was difficult to obtain garden gladioli from Europe; unfortunately most of the wild stock was dug up where it was common in the rain barley fields west of Alexandria; now it is very rare (Drar 1954b). The plant may be reintroduced into its original habitat from other Mediterranean regions.

Iris helenae Barb.; has been ruthlessly dug up since the First World War and it is already becoming of limited occurrence in Rafah district, the only locality where it occurs in Egypt (Drar 1954b); a most attractive flower, cultivated in Zohriya Gardens, Egypt, from rhizomes collected at Rafah in 1922 (Täckholm & Drar 1954); a good candidate for rock gardens.

JUNCACEAE

Juncus acutus L.; medicinal (Boulos 1983); seeds rich in oils not tested for human consumption, might have toxic effects, possibility of use as raw material in various chemical industries (Zahran *et al.* 1979).

Juncus rigidus Desf.; medicinal (Täckholm & Drar 1950); seeds rich in oils as for *J. acutus* L. (Zahran *et al.* 1979).

LABIATAE

Ajuga iva (L.) Schreb.; medicinal (Boulos 1983).

Marrubium vulgare L. medicinal (Boulos 1983).

Otostegia fruticosa (Forssk.) Schweinf. ex Penzig; medicinal (Boulos 1983).

Teucrium polium L.; medicinal (Boulos 1983).

Thymus capitatus (L.) Hoffmanns.; medicinal (Boulos 1983); contains 1.5 percent of a volatile oil mainly consisting of an antiseptic substance (Drar 1954a).

LEGUMINOSAE

Acacia albida Del.; fruit edible (Kassas 1967); medicinal (Boulos 1983); timber used for furniture, joinery, interior fitting, boxes, shutters and structural purposes; the seed yields fixed oil; bark and pods contain tannins; leaves browsed by livestock (Wickens 1969).

Acacia laeta R. Br. ex Benth.; plant yields gum (Ben Salem & Palmberg 1985).

Acacia nilotica (L.) Willd. ex Del.; wood used for firewood and for making good quality charcoal, pods and bark used for tanning; medicinal (Boulos 1983, 1985).

Acacia tortilis (Forssk.) Hayne; red heartwood has high calorific value and makes superior firewood and charcoal (Täckholm 1954, Ayensu 1980, Boulos 1985).

Alhagi graecorum Boiss.; was known as a source of manna (sugary excretion) in Egypt and Syria; whole plant eaten by camels, considered a good fodder, medicinal; dried plant used as fuel (Boulos 1983, 1985).

Anagyris foetida L.; medicinal (Boulos 1983).

Astragalus baeticus L.; unripe green seeds edible.

Cassia italica (Mill.) Lam. ex F.W. Andrews; medicinal (Boulos 1983).

Cassia senna L.; medicinal (Boulos 1983).

Retama raetam (Forssk.) Webb; medicinal; good cut winter flowers (Boulos 1985).

Vicia sativa L.; unripe green seeds edible.

LILIACEAE

Androcymbium gramineum (Cav.) McBride; medicinal (Boulos 1983).

Asparagus stipularis Forssk.; medicinal (Boulos 1983).

Asphodelus aestivus Brot. (Syn. *A. microcarpus* Salzm. & Viv.); medicinal (Boulos 1983); tubers used for the production of vegetable glue as a substitute for gum or glue for book binding (Täckholm & Drar 1954).

Colchicum ritchii R. Br.; corm and seed contain negligible traces of colchicine, thus devoid of bitterness and not poisonous; used as one of the numerous ingredients added to the beverage prepared from the rhizomes of "Moghat" (*Glossostemon bruguieri* DC.), usually offered as a tonic on birth occasions in Egypt (Täckholm & Drar 1954).

Urginea maritima (L.) Baker; medicinal (Boulos 1983); bulbs employed as effective rat poison (Täckholm & Drar 1954).

MALVACEAE

Althaea ludwigii L.; palatable to sheep (Boulos 1985).

Malva parviflora L.; palatable to sheep; medicinal (Boulos 1985).

MORACEAE

Ficus palmata Forssk. (Syn. *F. pseudosycomorus* Decne.); wood used for making charcoal (Täckholm 1954).

MORINGACEAE

Moringa peregrina (Forssk.) Fiori; the white seeds (behen-nuts) are of a bitter-sweet nauseous taste and rich in oil, "ben-oil", (Täckholm 1974). The oil-rich seeds are either locally consumed by bedouin or brought to Cairo for employment in various medical compounds; but oil appears to be more valuable for lubricating scientific apparatus and other delicate machinery such as watches, etc. (Drar 1954a); attractive tree with pendulous branches, showy inflorescences and conspicuous long fruits, recommended for high altitude rock gardens, e.g. in Sinai.

NYCTAGINACEAE

Boerhavia repens L.; medicinal (Boulos 1985).

OROBANCHACEAE

Cistanche phelypaea (L.) Coutinho; medicinal (Boulos 1983), plant used for tanning.

PALMAE

Hyphaene thebaica (L.) Mart.; medicinal (Boulos 1983); fibres used for making ropes, baskets, mats, bags, etc.; wood termite resistant, strong, compact and heavy, and largely used in Upper Egypt for posts, beams, doors, water pipes, and furniture (Täckholm & Drar 1950); in Egypt early in the present century the seed was exploited commercially to make buttons (Johnson 1985).

Phoenix dactylifera L.; livestock can be fed date pulp and softened or ground seeds (Johnson 1985); medicinal (Boulos 1983, Darby *et al.* 1977); leaf petioles used for making cages, fences and roofs; thick basal parts of petioles used for fuel; leaflets used for making bags, ropes, mats and baskets; brown fibres at the leaf base constitute the raw material for making ropes and substitute sponges for bathing; wood used for different building purposes, especially for roofs; although light and soft, timber lasts for centuries (Täckholm & Drar 1950, El-Hadidi & Boulos 1979).

PAPAVERACEAE

Glaucium grandiflorum Boiss. & Heut.; flowers orange-yellow, showy, makes a good cut flower (Boulos 1985).

Papaver dubium L.; medicinal (Boulos 1983).

Papaver rhoeas L.; medicinal (Boulos 1983); the showy red flowers make attractive flower beds.

PISTACIACEAE

Pistacia lentiscus L.; medicinal (Boulos 1983); recommended as a garden shrub and for hedges for its evergreen foliage and attractive clusters of red fruits.

PLATAGINACEAE

Plantago afra L.; medicinal (Boulos 1983).

Plantago coronopus L.; medicinal (Boulos 1983).

Plantago ovata Forssk.; medicinal (Ayensu 1979).

POLYGONACEAE

Calligonum comosum L' Hérít.; valuable grazing plant (Drar 1956).

RHAMNACEAE

Ziziphus lotus (L.) Lam.; fruit edible (Kassas 1967); medicinal (Boulos 1983, 1985); the shrub with its dense spiny branches may provide excellent hedges in desert regions.

Ziziphus spina-Christi (L.) Desf.; for shade and edible fruit; medicinal (Boulos 1983, 1985); wood much used for fuel, burns with intense heat, used for spear shafts, posts, roofing beams, house-hold utensils, also a good cabinet wood; fruit greedily eaten by sheep and goats, and the foliage by camels; because it develops an extremely deep taproot and spreading laterals, it is useful for stabilizing sand dunes and other unstable soils; makes useful windbreaks and shelterbelts; grown to form a stock-proof living fence (Ayensu 1980).

ROSACEAE

Rubus sanctus Schreber; berries edible (Boulos 1985).

SALVADORACEAE

Salvadora persica L.; edible fruits rich in oil and fat (Aronson 1985); young shoots and leaves eaten as a salad, also used as a fodder; medicinal (Boulos 1983, 1985); branches contain antibacterial substances destroying the harmful germs in the mouth which cause gum infections and tooth decay (Pharba Basle Ltd., Switzerland); twigs used as tooth brushes.

SAPINDACEAE

Dodonaea viscosa (L.) Jacq.; seeds edible, fruits once used as substitute for true hops (*Humulus lupulus* L.) in making beer (Boulos 1985).

SOLANACEAE

Hyoscyamus albus L.; medicinal (Boulos 1983).

Hyoscyamus muticus L.; medicinal (Boulos 1983).

TAMARICACEAE

Tamarix aphylla (L.) Karst.; tree cultivated by cuttings to obtain straight stems of better wood quality for carpentry (chairs, cupboards, boats, etc.); wild plants give inferior quality wood and usually cut for fuel; trees thrive well on sand dunes under extreme conditions of low rainfall when widely spaced, otherwise they soon impoverish water sources and stop growing; used for reforestation (Boulos 1985); windbreak (Le Houérou 1985).

Tamarix nilotica (Ehrenb.) Bunge; the biblical "manna" was believed to be the sweet exudation produced by small scaly insects feeding on its branches (Zohary 1982).

TILIACEAE

Grewia tenax (Forssk.) Fiori; fruits edible (Kassas 1967).

UMBELLIFERAE

Eryngium campestre L.; medicinal (Boulos 1983).

Eryngium creticum Lam.; medicinal (Boulos 1985).

Pituranthos tortuosus (Desf.) Benth. & Hook. fil.; medicinal (Boulos 1983); young shoots eaten as a green salad and to stimulate appetite.

ZYGOPHYLLACEAE

Fagonia cretica L.; medicinal (Ayensu 1979).

Peganum harmala L.; reputed for its medicinal value (Boulos 1983, 1985).

Tribulus terrestris L.; medicinal (Boulos 1983).

Zygophyllum coccineum L.; medicinal (Boulos 1983).

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نباتات الصحارى المصرية المحتمل استغلالها اقتصادياً

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قسم النبات والميكروبيولوجي - كلية العلوم - جامعة الكويت
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يشتمل البحث على مقدمة تتناول النباتات كمواد أولية استغلها المصريون في غذائهم وحياتهم اليومية منذ عصور ما قبل التاريخ حتى عهد الأسرات الفرعونية فالعصر اليوناني - الروماني ثم يتطرق إلى أهمية بعض نباتات المناطق الجرداء في العصر الحديث والتي قد يكون لها عائداً اقتصادياً.

ويشتمل البحث على قائمة قوامها ١٤٠ نوعاً تنتمي إلى ٤٤ فصيلة نباتية تنمو في الصحارى والمناطق الجافة بمصر، والتي تستخدم كغذاء للإنسان أو أعلاف للحيوان أو تستعمل كأعشاب طبية أو مصدراً للألياف أو أخشاباً للوقود أو تدخل في صناعة الأثاث أو الأدوات المنزلية والزراعية أو مواداً أولية للبناء أو تحتوي على المواد الزيتية والراتنجية والشمعية ومواد الدباغة والصبغة والنباتات التي استخدمت بنجاح في تثبيت الكثبان الرملية أو إستزراع الغابات والمناطق الجبلية والنباتات التي تصلح أجزاءها الخضرية أو زهورها للزينة في الحدائق أو داخل المباني.

وقرينة كل نوع من الانواع المذكورة العضو الذي يستعمل من النبات وفائدته الاقتصادية والمرجع أو المراجع العلمية التي وردت بها تلك الفوائد.

ويلاحظ أن معظم الانواع المذكورة تستعمل كأعشاب طبية يليها أعلاف الحيوان فغذاء الانسان فنباتات الوقود، وهي في مجملها مواد حيوية يعتمد عليها، إلى حد كبير، سكان هذه المناطق الصحراوية من البدو الرحل.