

MEDICINAL PLANTS

HEALTH PROBLEMS AND GREENING

A guide book supplementing to learning and understanding of medicinal plants, health problems and greening in ESD villages.



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MEDICINAL PLANTS, HEALTH PROBLEMS AND GREENING IN EDUCATION FOR SUSTAINABLE DEVELOPMENT VILLAGES.

A guide book supplementing to learning and understanding of medicinal plants, health problems and greening in ESD villages.

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List of Acronyms

ESD – Education for Sustainable development.

WWF – World Wide Fund for nature

LVCEEP – Lake Victoria Catchment Environment Education Program.

NU - Nature Uganda

COWO – Concerned Women farmers Kasswa Zinda Cenre.

RCE – Regional centre of expertise on ESD

Abbreviations:

The abbreviation (M,1) refers to the Method and preparation 1 of the same plant.

The abbreviation (M.2) refers to the Method and preparation 2 of the same plant.

The abbreviation (M.3) refers to the Method and preparation 3 of the same plant.

The abbreviation (M.4) refers to the Method and preparation 4 of the same plant.

The abbreviation (M.5 refers to the Method and preparation 5 of the same plant.

Acknowledgement

The booklet has been developed to supplement on learning and understanding of medicinal plants, health problems and greening practices in sustainable Villages.

Sustainable villages is an approach which was initiated by WWF Lake Victoria Catchment Environmental Education Program (LVCEEP), through NU in Uganda as a mechanism of disseminating ESD best practices in Schools and communities in the LVCEEP.

Medicinal plants, health problems and best greening of the medicinal plants are key issues in livelihood improvement, which require specific strategies to streamline in formal and non formal education.

The booklet will enlighten you on how the medicinal plants found in most sustainable villages can be planted, prepared and how to use them while treating various diseases.

The specific objectives of the booklet include:

To provide information and simple methods to learners , teachers, youth and communities in sustainable villages, on how to work and care for medicinal plants

To provide information on how medicinal plants can help as first aid pharmacies in schools and families in sustainable villages and the wider society.

It is hoped that the reader will find this booklet useful in getting knowledge and skills on Medicinal plants.

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Introduction

Sustainable villages are a new approach introduced by WWF Lake Victoria Catchment environmental education program (LVCEEP) for demonstrating best ESD practices in the community.

The concept of ESD villages demonstrates the wise use of natural resources. To initiate various enterprises which are environmental friendly within the schools and communities and to strengthen links with Local Governments in regards to environmental management and decision making on environmental problems in an ESD village. The ESD model schools, youth and community groups act as co – managers of the natural resources and are key players in the monitoring of surrounding land, wetlands, rivers, forests and the Lake Victoria. The villages play a big role in ensuring that we have an empowered society that promotes good governance, participation and accountability in managing resources

In this process of development, health problems cannot be over looked and medicinal plants are the first option as first aid pharmacies especially where there is no easy access to clinics or doctors.

The use of medicinal plants in this book is a collection of compiled information and knowledge from different people , herbalists and healers from Kasswa Zinda ESD village and other areas in the Lake Victoria catchment area.

Medicinal Plants' medicine is a complete medicinal system that has treated and prevented illnesses for many centuries. While it can treat illnesses and also change state of mind, medicinal plants' medicine can also enhance recuperative power, immunity and the capacity for pleasure, work and creativity.

Medicinal plants' medicine assists the organ networks in the performance of their tasks. Medicinal plants medicine can protect and preserve our health day by day and can be prepared in many formulas which can address various illnesses.

Before using this booklet it is important to know that this guide book is about medicinal plants, health problems, and greening in sustainable villages and has been collected from village herbalists and healers of Kasswa Zinda ESD Village and other areas within the Lake Victoria catchment area.

It is recommended that all preparations and uses of the medicinal plants are only for first aid use of schools and family members, and if there is no improvement after 1 or 2 days, medical practitioners should be consulted.

Try to find the causes of the diseases. Some of the causes can be , bad food habits, bad hygiene conditions, too much stress and problem. If the cause of the disease is not attacked, the disease will continue to develop and even become worse.



Use only well identified plants

Avoid self- prescription.

Medicinal plants are medicines. Respect the dosages and be careful when a plant is taken for a long period. even plants have side effects and should , as a general rule, not be taken for more than 3 weeks without consulting a health practitioner.

Special care must be taken with pregnant women and breast feeding mothers; some plants are abortive or reduce milk production beside other medicinal properties.

Special care must be taken with children. As a general rule, all toxic plants should be avoided and dosages should be calculated n relation to the weight of the body.

The dosages indicated in preparations and uses of the medicinal plants in this booklet are based on traditional knowledge and common usages of the contributors and have not been scientifically proved.






Medicinal plants gardening and list.

Medicinal plants in this booklet are in two categories.

Plants, shrubs and weeds.

Trees

And most of them can be planted around homes and schools ' herbal gardens, where learners and family members can find medicinal plants for preparation of herbs as first aid . Medicinal care is advised whenever there is no significal improvement of the illness.

Herbal Gardens:

The school or family herbal garden should be easily accessible, where medicine can be picked even at night .

Medicinal trees can be grown on school compound boundaries and in homes also on home stead boundaries or within a woodlot.




List of medicinal plants compiled by the various herbal practitioners in the Kasswa Zinda ESD village and other areas in the Lake Victoria catchment area:

	Botanic Name	English name	Luganda name
1	Acacia hoekii		Kasaana
2	Albizia Coriaria		Mugavu
3	Allium Sativum L	Garlic	Katungulu ccumu
4	Aloe ferox	Aloe ferox	Kigaji
5	Artemisia absinthium L	Wormwood	Akanyimbwe
6	Artemisia annua L	Annual wormwood, Sweet Annie, Sweet wormwood	Sweet Anna
7	Artocarpus heterophllus	Jack fruit	Kifenensi
8	Arundinaria alpine	Mountain Bamboo	Banda
9	Azadirachta indica	Neem	Nnimu
10	Bridelia micrantha		Katazamiti
11	Callistemon citrinus	Bottle Brush tree	Mwambala Zitonnya
12	Canarium Schweinfurthii	Purple Canary tree	Muwafu
13	Carica papaya	Pawpaw	Eppaapaali
14	Chenopodium ambrosiodes	American worm seed	Akagobadogo
15	Cinnammum Zeylanicum	Cinnamon	Budalasini
16	Citrus Limon	Lemon	Nnimawa
17	Citrus reticulate	Mandarin, Tangerine, Fancy fruit	Mangada
18	Citrus Sinensis	Orange	Muchungwa
19	Crassocephalum vitellinum S. Moore		Kitonto

	Botanic Name	English name	Luganda name
20	Croton Macros tachyus	Broad leaves croton	Musogasoga
21	Cymbopogon citrates Stpf	West Indian grass, Lemon grass	Kisubi kya Chai, Kalifuwa
22	Cyphomandra betacea	Tree tomato	Munyaanya
23	Dracaena Steudneri	Steudner's dragn tree	Kajolyanjovu
24	Elaeis guineensis	Guinea oil palm, Wild old palm	Munazi
25	Entada abyssinica		Mwolola
26	Erythrina abysinica	Lucky bean, Red hot poker tree, Uganda coral tree, Flame tree	Muyirikiti, Jjirikiti
27	Euphorbia hirta Linn	Asthma weed, Milk weed, Garden spurge, Blotched – leaf spurge	Akasandasanda
28	Euphorbia tirucalli	Finger euphorbia	Nkoni
29	Ficus natalensis	Bark cloth fig, Common wild fig	Mutuba
30	Ficus Ovata	Fig tree	Kokoowe, Mukokoowe, Nserere
31	Hosllundia oposita Vahl		Kamunye
32	Jatropha Curcas	Pig nut, Fig nut	Kiryowa
33	Kalanchoe Spp	Resurrection plant	Ekiyondo
34	Mangifera indica	Mango	Muyembe
35	Markhamia Lutea	Markhamia	Lusambya
36	Moringa oleifera Lam	Horse radish tree, Ben oil tree	Molinga
37	Musa Paradisiaca	Banana	Matooke
38	Myrica Kandtiana Engl		Bbowola omusajja, Mukekimbo

	Botanic Name	English name	Luganda name
39	Ocimum Suave Wild		Mujaaja
40	Olea Capensis Subsp wewitschii	Elgon olive	Musuga
41	Passiflora edulis	Passion fruit	Katunda
42	Physalis peruviana	Cape Goose berry	Ntuntunu
43	Plectianthus cyaneus Gurke		Kibwankulata
44	Prunus Africana Kalkman	Bitter almond, Iron wood	Ntaseesa, Ngwabuzito
45	Pseudospondias microcarpa		Muziru
46	Ricinus Communis Linn	Caster oil plant, Caster bean	Nsogasoga
47	Sapium elipticum		Musasa, Musanvuma
48	Senna didymobotrya tressen	Wild senna, Peanut butter cassia	Mukyula
49	Sida Cuneifolia Rosb		Keeyeeyo, Akakumirizi
50	Solanecio manii		Kilalankuba
51	Solanerio cydonifolius		Kivuvu
52	Spathodea Campanulata Beauv	Flame of the forest	Kifabakazi
53	Syzygium Cordatum	Water berry tre	Kanzironziro
54	Tamarindus indica	Tanarind	Mukoge
55	Tetradenia riparia Codd	Ginger Brush, Misty plune Brush	Kyewamala
56	Tinospora Spp		Enderema
57	Treculia Africana	African bread fruit, Wild jackfruit	Muzinda
58	Tropaeolum majus	Nasturtium	Anasitaziya
59	Vangueria apiculata		Mutugunda
60	Vernonia amygdalina Del	Bitter leaf, Vernonia tree	Mululuza, Muburizi

	Botanic Name	English name	Luganda name
61	Warburgia ugandensis Sprague	East African green wood, Green heart	Mukuzannume, Muwiya
62	Zanthoxylum chalybeum		Ntaleyaddungu
63	Zanthoxylum gilleti Watein	East African satinwood	Munyenye
64	Zingeiber officinale Roscoe	Ginger, African ginger	Ntangawuzi

Medicinal Plants Gardening

	Botanic Name	Luganda name	Description	Where to be planted	Height	Spacing	Propagation	Number of plants
					In m	In cm		
1	Acacia hoekii	Kasaana	Tree	Border	2-6		Seedilings	1
2	Albizia Coriaria	Mugavu	tree	Border	6-36		Seedilings	1
3	Allium Sativum L	Katungulu Ccumu	Plant	Kitchen garden	0.30	10	bulb	20
4	Aloe ferox	Kigaji	Shrub	Herbal garden	1	45	Suckle	2
5	Artemisia absinthium L	Akanyimbwe	Shrub	Herbal garden		25	Cutting	1
6	Artemisia annua L	Sweet Anna	Plant	Herbal garden	1.5	70	Cutting	5
7	Artocarpus heterophllus	Kifenensi	Tree	Compound	25	10-12 m	Seed	1
8	Arundinaria alpine	Banda	Tree	Woodlot	6-8		Seedlings	1
9	Azadirachta indica	Nnimu	Tree	Herabal garden			Seed	1
10	Bridelia micrantha	Katazamiti	Tree	Woodlot	13		Seedlings	1
11	Callistemon citrinus	Mwambala Zitonnya	Tree	Compound			Seed	1
12	Canarium Schweinfurthii	Muwafu	Tree	Woodlot	40		Seedlings	1

	Botanic Name	Luganda name	Description	Where to be planted	Height	Spacing	Propagation	Number of plants
					In m	In cm		
13	Carica papaya	Eppaapaali	tree	Compound		100	Seed	2F+ 1M
14	Chenopodium ambrosiodes	Akagoba-dogo	Weed	Herbal garden		25	Seedlings	2
15	Cinnammum Zeylanicum	Budalasini	Tree	Bark yard	6-10		Seedlings	1
16	Citrus Limon	Nnimawa	Tree	Orchard/back yard	3-6		Seedlings	2
17	Citrus reticulate	Mangada	Tree	orchard	2-8		Seedlings	2
18	Citrus Sinensis	Muchungwa	Tree	orchard	6-12		Seedlings	2
19	Crassocepha-lum vitellinum S. Moore	Kitonto	Weed	Herbal garden		25		2
20	Croton Macros tachyus	Musogasoga	Tree	Intercropping	2-5		Seedlings	1
21	Cymbopogon citrates Stpf	Kisubi kya Chai, Kalifuwa	Shrub	Contour line	2	line	Suckle	20
22	Cyphomandra betacea	Munyaanya	Tree	intercropping			Seedlings/ cuttings	1
23	Dracaena Steud-neri	Kajolyanjovu	Tree	Border	15-18		Cuttings/ seedlings	2
24	Elaeis guineensis	Munazi	Tree	Swamp Border	15		Seedlings	1
25	Entada abyssi-nica	Mwolola	Tree	Intercropping	3-10		Seedlings	1

	Botanic Name	Luganda name	Description	Where to be planted	Height	Spacing	Propagation	Number of plants
					In m	In cm		
26	Erythrina abyss-inica	Muyirikiti, Jjirikiti	Tree	border			Seed	1
27	Euphorbia hirta Linn	Akasanda-sanda	Weed	Road side to home/school		line	Seedlings	30
28	Euphorbia tiru-calli	Nkoni	tree	Live fence		line	Cuttings	2
29	Ficus natalensis	Mutuba	tree	Border	6-21		Seed	1
30	Ficus Ovata	Kokoowe, Mukokoowe, Nserere	Tree	intercropping	12-15		Cuttings	1
31	Hosllundia oposi-ta Vahl	Kamunye	Shrub	Herbal garden		70	Seedling s	1
32	Jatropha Curcas	Kiryowa	Shrub	Live fence	3-4		Cuttings	1
33	Kalanchoe Spp	Ekiyondo	Shrub	Herbal garden		40	Cutting	1
34	Mangifera indica	Muyembe	Tree	Orchard	10 - 15		Seedlings	1
35	Markhamia Lutea	Lusambya	Tree	Woodlot	10 - 15		Seedlings	1
36	Moringa oleifera Lam	Molinga	Tree	Hedge	8	line	Seed	10
37	Musa Paradisi-aca	Matooke	Pe-rennial herb	Plantations / gardens	2-6	2	Suckers	1
38	Myrica Kandtiana Engl	Bbowola omusajja, Mukekimbo	tree	border			Cuttings	1

	Botanic Name	Luganda name	Description	Where to be planted	Height	Spacing	Propagation	Number of plants
					In m	In cm		
39	Ocimum Suave Wild	Mujaaja	Shrub	Herbal garden		70	Seed	1
40	Olea Capensis Subsp wewitschii	Musuga	Tree	Woodlot	25		Seedlings	1
41	Passiflora edulis	Katunda	Tree	Plant	15	3 -6m	Seedlings	1
42	Physalis peruvi-ana	Ntuntunu	Bushy shrub	Intercropping/ garden	1	I	Seedlings	2
43	Plectianthus cya-neus Gurke	Kibwanku-lata	Shrub	Herbal garden		40	Cuttings	1
44	Prunus Africana Kalkman	Ntaseesa, Ngwabuzito	Tree	Border	10 - 20		Seed	1
45	Pseudospondias microcarpa	Muziru	Tree	Swamp border	10 - 14		Seedlings	1
46	Ricinus Commu-nis Linn	Nsogasoga	Tree	Banana plan-tation			Seed	1
47	Sapium elipticum	Musasa, Musanvuma	Tree	Border	20		Wildings	1
48	Senna didymo-botrya tressen	Mukyula	Shrub	border			Seed	1
49	Sida Cuneifolia Rosb	Keeyeeyo, Akakumirizi	Shrub	Herbal garden		50	Cutting	1
50	Solanecio manii	Kilalankuba	Shrub	Herbal garden	12		Seed	2
51	Solanerio cydoni-folius	Kivuvu	Plant	Back yard	1-5		Seedlings / suckers/ cuttings	1

	Botanic Name	Luganda name	Description	Where to be planted	Height	Spacing	Propagation	Number of plants
					In m	In cm		
52	Spathodea Campanulata Beauv	Kifabakazi	Tree	Border	10 - 35		Seed	1
53	Syzygium Cordatum	Kanzironziro	Tree	Swamp border	8 - 15		Seedlings	1
54	Tamarindus indica	Mukoge	Tree	Border	30		Seedlings	1
55	Tetradenia riparia Codd	Kyewamala	Shrub	Herbal garden		50	Cutting	1
56	Tinospora Spp	Enderema	Shrub	Herba garden		50	Cutting	1
57	Treculia Africana	Muzinda	Tree	Farm boundaries	15 -30		Seedlings	1
58	Tropaeolum majus	Anasitaziya	Plant	Banana plantation		25	Seed	10
59	Vangueria apiculata	Mutugunda	Tree	Back yard	.5 -10		Seedlings	1
60	Vernonia amygdalina Del	Mululuza, Muburizi	Shrub	Border	7		Cutting	1
61	Warburgia ugandensis Sprague	Mukuzannume, Muwiya	Tree	Border	4-30		Seed	1
62	Zanthoxylum chalybeum	Ntaleya Ddungu	Tree	Backyard	8		Seedlings	1
63	Zanthoxylum gilleti Watein	Munyenye	Tree	Border	10 -35		Wildings	1
64	Zingeiber officinale Roscoe	Ntangawuzi	plant	Kitchen garden		30	Bulb	10

Health and hygiene best practices

General hygiene:-

- Wash your hands with toxic soap under running water before eating , before preparing food, after using a toilet and after seeing r visiting a sick person.
- Bathe every evening with toxic soap.
- Wash and help children to wash themselves thoroughly every evening with non toxic soap.
- Wash your hair at least once a week with toxic soap.
- Cut off hair in case of lice infections.
- Brush your teeth at leas every evening and afte every meal with a small neem, or eucalyptus or any other tooth stick with or without natural dental powder.

Water:-

- Wash your food with clean water before cooking.
- Cook and serve food in clean sauce pans, pots and dishes.
- Wash dishes and put them on a rack, and once dry store them in clean places.
- Treat or boil drinking water

Diets:-

- Eat a lemon a day to keep the doctor away.
- Eat balanced healthy diet. (A meal should be composed of 2/3 of whole meals and 1/3 of different vegetables, where at least one vegetable contain a high percentage of proteins such as beans, ground nuts, or other leguminous vegetables. Meat and fish can be added, but is not necessary and should be taken in small amounts. Some vegetables like carrots, cucumber, lettuce, radish or cabbage should be eaten raw, to have all benefits of vitamins and minerals. Unripe bananas (Matooke) replace cereals in a meal. Matooke cooked and served with soup, gravy, or sauce every day is a poor and unbalanced diet.
- Time for taking a meal should be at noon and before 7.00pm for the body to receive a lot of calories, which are directly transformed in energy. Therefore one need to have a quiet night's rest. During sleep all body organs are functioning at a slow rate and digestion can become a problem.

- Take one fruit per day during day time.
- Take tea, coffee or herbal tea without sugar, as sugar is a poison for the body.
- Take pure water , it is healthy and one litre of water should be taken during day time as water is needed for elimination of toxins by urinating, to maintain the body temperature and many other functions. The body is made of more than 90% of water so water is life.
- Start the day by drinking one glass of warm water on an empty stomach, to warm up the body , eliminate toxins and stimulate the digestive system.

Cooking stoves:-

Avoid eye problems and lung diseases that can be a result of smoke inhalation, when you are cooking. Use energy saving stoves which at the same time reduce firewood consumption.

Plastics:-

Recycle and reuse plastics. Do not burn plastics , avoid poisonous gases which also attack the ozone layer of our planet.

Positive ways of thinking:-

We face different difficulties and challenges in life. Try to stay as an optimist in order to have more energy and your livelihood atmosphere will be much more pleasant

Stress:-

Organize your life without stress. Too much stress puts the body under tension and can cause different heart diseases, such as high blood pressure, sleeplessness and many more.

Pesticides, fertilizers and harbicides:-

Reduce use of chemicals as food on harvesting it will contain those chemicals which act as toxins in the body where it is stocked till they disorganize the body functions. Through rain chemicals reach the water level in the soil and poison your drinking water.

Toilets:-

Human excrement can be a source of all kinds of diseases, that is why latrines wer promoted. Use toilets with a ventilation pipe and put a cover on the pit after using the toilet.

Insects:-

- Reduce insects , bacteria and fungi breeding places. (for example, mosquitoes always breed in water or moist places) mosquitoes are the vectors of malaria, they can put their eggs on damp soil and damp vegetation like plastic bags, half buried in soil and broken containers which can contain water. Therefore cleanliness and order in and around the school or a home is the first requirement.

- Avoid flies, bacteria and fungi by washing cooking pots, store food and overripe fruits in a safe and clean box or dish.

- Keep animals out of the school and home steads, as they infest the compounds by droppings. Cats abnd dogs host different parasites, so always wash your hands after playing with cats and dogs.

- Sweep your home and school evey day and sort all rubbish and waste.

- Make compost manure out of organic waste.

- Recycle waste paper, and wood.

- Recycle and reuse glass, plastic bottles or put them in a deep pit, dug at the corner of the compound and when it is 4/5 full, cover it up with soil and make another pit and do not grow food on top of this pit.

Medicinal Plants identification and preparation methods

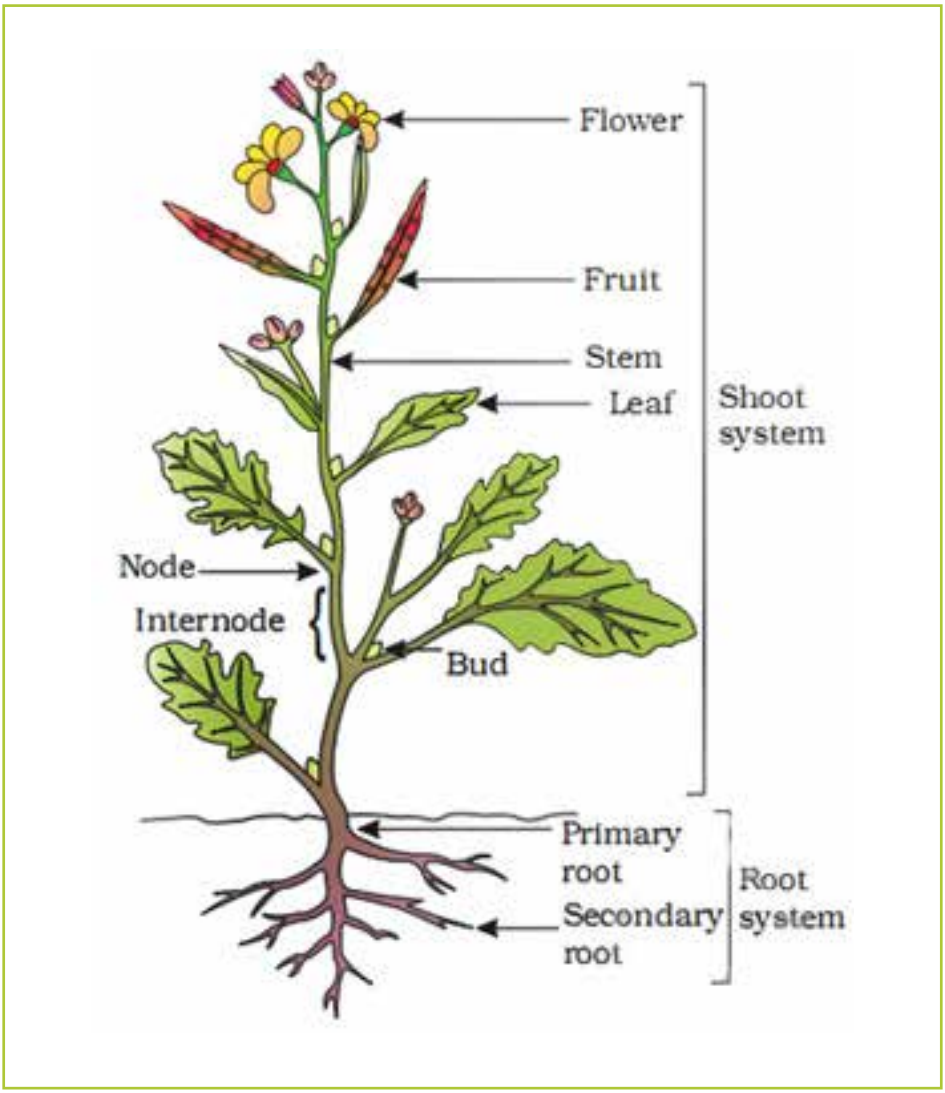
Medicinal plants have specific active components which are different in the different parts of the plant. They differ according to the plants' age, climate, soil, agriculture practices, and time of the day. They can also differ when different methods are done on the plants like harvesting, drying and storage.

Medicinal plants' life can be 1 year to 2 years and flowering is usually in the 2nd year. It dies after having given seeds, at 3 years or more years, and continues growing after flowering and having given seeds.

Indicators:-

- Medicinal plants have aerial parts , one in the soil and another part which can be seen.
- Roots, stem, leaves, flowers, fruits and seeds are the different parts of a plant.
- Roots can be tubers, bulbs, rhizomes or common roots.
- Stems can be trunks with leaves or stems only.
- Trunks have barks and under the barks there is a second bark.
- Leaves grow as young buds, and can have different leaflets.
- Flowering start by a calyx and on the calyx are the sepals, petals, stamen with pollen and a stigma with an ovule that will give a fruit and then seeds.
- Some medicinal plants have no side effects and can be used freely without danger.
- There are some with precautions and have some conditions to use these plants. Some parts may be toxic , or the dosages are very specific and must be exactly measured, or the duration that these plants can be used is limited that they cannot be taken by pregnant women., and once those warnings are respected, those plants can be used without any risk.
- Some medicinal plants are toxic and can only be used by real healers. These plants have side effects and are dangerous to the people's health if not properly prepared and used.

Basic Plant parts



Picking and drying best practices of medicinal plants.

Dos:-

Pick plants which are healthy and clean.

Pick plants when the weather is dry and shinny.

Be able and sure to identify the right plant, and which part of the plant you need.

Most plants contain more active properties in the late morning.

Roots of a 1 year plant can be collected when the plant starts dying or loosing its leaves., and for a plant which live from 2 to 3 years, collect the roots when the plant has already had 2 or 3 seasons. After harvesting you should wash the roots well without brushing them.

Flowers should be picked before they are completely open.

Almost all leaves have the highest active properties just before the plants start flowering.

Stems can be collected after the leaves appear and before flowering.

Collecting of the bark depends on the age of the tree and is different for each tree. When a tree is deciduous and has lost its leaves, pick the leaves when they are completely developed and when there is a lot of sap.

Most medicinal plants can be used fresh or dry. Although some have some exceptions and can only be used without danger when they are dry or fresh.

Dry the plants in a well ventilated and dust free place.

While drying, the plants should be spread on a clean cloth or on shelves.

Leaves and flowers can be dried without cutting in pieces.

Roots are washed, but not brushed, and cut in small pieces to dry. The drying process of most roots can be from direct sun and finished in a shadow.

Always lay the plants in thin layers and turn them or look after them every day

Once the plant is completely dry and contains than less 10% water, it is cracks and should be put in a glass or ceramic container.