FLORICULTURE INCREASING WOMEN EMPOWERMENT AND LIVELIHOOD DEVELOPMENT

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ABSTRACT

In the new era of eco-consciousness, use of natural products like dry flowers and their parts has become the premier choice of the masses in their lifestyles for interior decoration. Future prospects of the dry flower industry are expected to contribute a lot to the country's economy in comparison to the fresh cut flowers and other live plants. Dry flower market has grown exponentially as consumers become "eco-conscious" and chooses dried flowers as they are eco-friendly and biodegradable alternative to fresh flowers. Thousands of flowers, wild plants, forest species, weed, grasses have great economic and cultural importance to making of dry ornamentals. Dehydration technology can be exploited for preservation and maintain its original colour and shape for long term enjoyment and for commercial utilization of unutilized/underutilized plant species. A cottage-scale industry based on floral craft/dry ornamentals can come up for self employment of unemployed youths and for earning money to the housewives as well as rural women through this creative occupation. More important is the promise this industry holds in employing rural women. It helps in the women power in the rural area by giving small scale industry for their livelihood.

Kewwords: *dry flower, dehydration, women empowerment, livelihood*

INTRODUCTION

Flowers are associated with mankind from the dawn of civilization and in the modern era. These have become an integral part of human life. Love for flowers is a natural instinct. The beauty and fresh look of cut flowers can be retained only for few days even by using the best techniques of post-harvest technology but the charm of dried flowers and foliage can be maintained from a few months to years with lesser cost if protected from the damage of high humidity. In recent times revolutionary changes are seen in the floriculture industry. One component contributing for this revolution is dried flower industry. Fresh flower is one of the main components in floriculture trade but the beauty and fresh look of flowers can be retained only for a few days even when some flower preservatives or chemicals are used to prolong the vase-life of flowers. Dehydrated flowers and foliage are excellent due to their special beauty, long lasting value and can be enjoyed during heat of summer and the cold of winter. In the dehydration process, the moisture is removed from flowers and foliages without affecting its aesthetic value. The charm of flowers can be maintained and preserved for several years by the technique of dehydration or drying. Drying and preserving flowers makes sense economically because ordinary flowers will only last about a week and dried flowers will last indefinitely. Dried flower products are long lasting and retain their aesthetic value irrespective of the season.

Scenario of dry flower industry

Agricultural and Processed Food Products Export Development Authority (APEDA web port-2016) shows that the Government of India has considered floriculture as a sunrise industry and accorded it 100% export promotion status. Dried flowers and other plant parts is a ₹ 100 crore industry in India and such dry decorative materials are globally accepted as natural, eco-friendly, long lasting and inexpensive. India is one of the major exporters of dried flowers to the tune of 5% world trade in dry flowers. Dry flower segment having a 77.1% of total Indian floriculture export. Demand of dry flower increase at impressive rate of 8 – 10%. This industry shows a growth rate of 15% annually. India is the 5th largest exporter of dry flowers in the world. Potpourris are a major segment of dry flower industry valued at ₹ 55 crores in India alone. Easy availability of products from forests, possibility of manpower available for labour intensive craft making and availability of wide range of products throughout the year are

the reasons for development of dry flower industry in India. This industry provides direct employment to around 15,000 persons and indirect employment to around 60,000 persons. The processing of dried flowers involves drying, bleaching and colouring after their collection. Suitable packing methods are needed for their storage, transport and marketing. In India nearly 60% of the raw materials are sourced from natural forests and plains, only 40% of the flowers are cultivated for drying, bleaching and colouring.

Advantages of dry ornamentals

- Cheaper, eco- friendly and biodegradable
- Raw material is cheap and available year-round
- Shelf life is much high
- Novel colour and fragrance can be used
- Survive the heat of summer and cold of winter.
- Not easily perishable and have extended longevity
- Sophisticated training and expensive equipment are not needed
- Dried ornamentals offer longer periods of sale if properly preserved, packaged, and handled
- Dried ornamental is versatile. They can be arranged into different crafts according to one's preferred style, design, and use.
- Dried plant materials provide distinctive indoor decoration.
- Arrangements made from dried materials are long lasting and require little care
- Drying flowers and foliage expands gardening activities without elaborate equipment or previous experience.

Use of dried ornamentals

- Dried flowers can be put to many beautiful and varied causes such as long lasting pictures, frames, wreaths, cards, covers, calendars, festival decorations, candles, potpourri and many other things according to one's creativity.
- Natural dye preparation
- Natural food colour preparation
- Colour improve in egg yolk
- Use as a garnishing material in food industry *viz.,* in ice cream, candy, cold drinks.

Ornamental plants use for drying purpose

There are wide ranges of wild/ unutilized/ underutilized plant species which have the potential for commercial exploitation in different forms. We use only selected plants for our basic requirements. Thousands of wild plants have great economic and cultural importance and tremendous market potential throughout the world. There is an increasing interest throughout the world, in "neglected and underutilized crop species" (NUS). Neglected and underutilized crop species should be identified for new uses. Rural and hilly areas are covered with different types of colourful flowers and foliage at different seasons round the year and all these are wasted under natural process. The entire seasonal colourful vegetations can be converted into value added products by using dehydration technique. Dehydration technology can also be exploited for promising colourful cut flowers in its original colour and shape for long term enjoyment and for commercial utilization of unutilized/underutilized plant species.

Flowers	Foliages	Grasses & Weeds	Tree pods/fruits/ vegetables	Cereal crops by products
Annual chrysanthemum	Acalypha	Bristly foxtail	Arjun tree pods	Rice
Gaillardia	Palmyrah palm	Eulalia grass	Ecalyptus pods	Wheat
Bachelor's button	Bamboo	Fountain grass	Beal fruits	Sorghum
Tithonia	Bells of Ireland	Hare's-tail grass	Largestromia pods	Maize
Cockscomb	Croton	Northern sea oats	Casuarina fruits	oats
Globe amaranth	Cycas	Pampas grass	Pine cones	
Marigold	Dracaena	Plume grass	Lotus pods	
Rosella	Silver oak	Quaking grass	Sponge gourde	
Carnation	Eucalyptus	Spike grass	Mimusops pods	
Statice	Ficus	Squirrel-tail grass	Pomegranate	
Strawflower	Juniper	Bristly foxtail	Lemon	
Rose	Lemon	Eulalia grass	Poppy pods	
Zinnia	Bottle brush	Fountain grass	Cotton pods	
Ixora	Ecalyptus	Hare's-tail grass	Dry chilli fruits	

Dehydration techniques

For drying of flowers and foliage, numbers of dehydration techniques are practiced at commercial scale and home scale which vary according to the suitability of any species and the purpose for which dehydrated material is required.

(1) Air Drying

Air-drying is the easiest method of preserving flowers and plant materials. Many garden flowers and wild plants can be collected, tied together at the stem ends in loose bundles with rubber bands or pipe cleaners, and hung upside down in a warm, dry area. With good air circulation, flowers take 1 to 3 weeks to dry completely. Large flower heads should be hung individually. Most flowers can be dried on their own stems; however, some flowers, such as the strawflower, have a weak stem and require that a wire be inserted before drying to support the flower.

(2) Embedding Method

The flowers can be dried with embedding in desiccants. The important desiccants are silica gel (white and blue), borax Powder, white river sand, alum powder, corn powder, saw dust, etc. The Desiccants selected in this study are sand, crystal silica gel and borax powder.

(3) Press drying

Pressing is done by placing plant materials between layers of an absorbent paper material and applying weight or pressure for at least 5 to 10 days or until the plants are dried. Newspapers, telephone directories, blotter paper, or tissues are good papers to use. Plant presses are also available.

(4) Preserving Using Glycerine

Some foliage can be preserved using glycerine. Glycerine will not preserve the green colour, but the foliage will retain its soft, pliable feel and can be painted or used naturally in arrangements. Foliage preserved with glycerine can be wiped or cleaned and will last indefinitely.

(5) Water Drying

Some flowers dry well if placed in water. The stems of the flowers are initially placed in a couple of inches of water, then the water is allowed to evaporate and be taken up by the cut flowers. The container and flowers should be in a dry, warm and dark location.

(6) Hot Air Oven

The containers are kept in the hot air oven at a temperature ranging between 45°C and 60°C for a few hours to three days depending upon the plant material to be dried. Drying technology for a number of cultivated ornamental plants has been standardized by Kher and Bhutani (1979).

(7) Microwave Oven

Flowers are dehydrated within 5 – 10 minutes. Pots after taking out from micro wave oven are kept for two hours at room temperature for setting.

(8) Solar Cooker

Flowers can be directly embedded in the container of solar cooker and it can be dried under sun. The time of exposure vary according to day temperature. The solar cooker can also be operated electrically. Solar cooker will be most suitable for rural women. They can cook their food in solar cooker and rest of the time can utilize for dehydration work.

(9) Freeze Drying

The flowers are arranged in the specimen chamber, and then these are frozen unto -35^{o}C. By eliminating the water, the flowers dry up with life freshness and retain better integrity and more durability.

Woman empowerment through dry ornamentals

There is large potential to develop the dry flower industry in our country and to provide employment to house wives, unemployed youths and rural women. The dried flower components such as pods, leaves, flowers, grasses are selected and exported over many years are diverse in nature. They are selected from forest, near home area, hilly region *etc.* Due to this diverse nature, these products are cannot be collected or cultivated through regular channel of employment as they may not be competitive. Most of these components are collected by people as supplemental income after their day's work is over. Overall, today over 10000 to 12000 tons of dried flower components are collected yearly by an estimated 125000 people all over India- supplementing their income by ₹ 500 to ₹ 5000 per month per person. A cottage-scale industry based on floral craft can come up for self employment of unemployed youths and for earning money to the housewives as well as rural women through this creative occupation. The technique has been simplified in such a way that any group of people including uneducated rural men/women can learn it within two to three days. Nowadays several training-cum-workshops are organized for women

empowerment and the dry flower industry transformed the poor rural women to mobilize as a group to take various activities such as dairy cooperatives, savings and credits, floriculture groups, agriculture group etc. They become more vocal community development. The small scale floriculture in rural area has undoubtedly energized and empowered tribal women to enhance their livelihoods, economy and local ecology.

CONCLUSION

The dehydrated flowers retain their original shape, size and colours and can be used in value addition which includes distinctive and artistic greeting cards, landscapes, wall hangings, table mats, Photo frames, paper weights of different types and sizes of glass containers *etc*. This floral craft can become the basis of cottage industry both for domestic and International Markets. Development of awareness among the youth and rural women about dehydration of flowers and preparation of value added dried ornamental products are very much essential at this juncture. Dry flower industry is the large corporation that cannot suppress small and medium entrepreneurs- as the markets involves creativity and localized knowledge. This gives way to a tremendous potential for tiny, small, medium enterprises to shell products in India. More important is the promise this industry holds in employing rural women. It helps in the women power in the rural area by giving small scale industry for their livelihood. The need is to promote these techniques and industries by providing support both from public as well as private sector organization.

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