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EMPOWERING WOMEN

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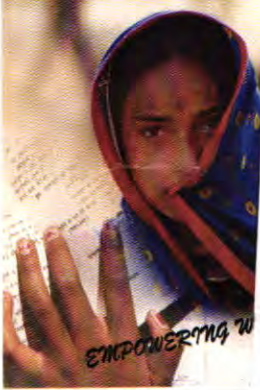


A salute to a Prime Minister who continues to live in our hearts.
Indira Priyadarshini Gandhi (November 19, 1917 - October 31, 1984)

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Inside

The status of Women in India, particularly in rural areas needs to be raised to address the issue of empowering women. Women, especially in rural India are often exploited by their own communities because it suits the men folk. The resources of our society and all opportunities should be equally divided between the men and the women.

Ironically, Women have not actively participated in their own emancipation mainly due to low economic independence.

However, women have been identified as key agents of sustainable development and women's equality and empowerment are seen as central to a more holistic approach towards establishing new patterns and processes of development that are sustainable. Women should be a key aspect of all social development programs and a number of programs have been initiated by the Indian government for empowering Women.

Some of the measures which will empower women should include changes in women's mobility in the social ladder, changes in women's labour patterns, changes in women's access to control over resources. We have discussed these issues Inside as changes in this dynamics will enable women to take greater role in decision-making process in all spheres of life.

Female foeticide which still is prevalent in isolated cases of our society is an extreme manifestation of violence against women. Female foetuses are selectively aborted after pre-natal sex determination. No moral or ethical principle supports such a procedure for gender identification. We talk about this Inside.

The principle of gender equality is enshrined in the Indian Constitution in its Preamble, Fundamental Rights, Fundamental Duties and Directive Principles. The Constitution not only grants equality to women, but also empowers the State to adopt measures of positive discrimination in favour of women. In recent years, the empowerment of women has been recognized as the central issue in determining the status of women.

Several action plans have been initiated by the government which will translate the objective of empowering women into concrete action and measurable goals.

EMPOWERING WOMEN THROUGH EDUCATION : STRATEGY FOR SUSTAINABLE RURAL DEVELOPMENT

Dr. Sheetal Sharma

Education would emancipate and endow women with ability to control her life, accomplish her dreams and enhance her status; the task is challenging yet not impossible. Education and the empowerment of women are both essential and indispensable for prosperous nation.

Constitution of India guarantees equal rights for men and women. Women are striving to achieve equality socially, economically, educationally, politically and legally. However, they

continue to face discrimination and marginalization, both subtle and blatant, and do not share the fruits of development equally. Notwithstanding the progress women have made, women's concerns are still not



the utmost priority. Education especially among women is cornerstone for social development to improve the prospectus of general welfare of society. Education would empower women to achieve many social, psychological, economic and political dreams which are denied to her customarily. Education would actually accord women certain advantages in areas where they have traditionally lacked access or differential rights. Welfare schemes and policy measures are just not enough to promote education among women. Structural and attitudinal change across sections is desired in order to enhance educational and consequent socio-economic status of women in India. Empowerment of women and their educational and economic status are inextricably linked with each other.

Traditionally all over the world men are the earners providing the family income, food, clothing, etc., and women are the home makers performing the usual household task like cooking, cleaning, washing and taking care of the elders and children in the family. There are established stereotype gender roles with prevailing masculine and feminine roles. There is greater emphasis on educating men rather than women in the family. Consequently, people have different perceptions and opinions related to whether it is more important to educate boys or girls. However in modern societies equality amongst men and women is constitutionally guaranteed. It is entrusted that the goals of growth and sustainable development can be achieved only through proper and sufficient education of both the sexes. Countries committed to universal primary education, for boys and girls, have been far more successful in escaping poverty and recording higher rate of growth and socio-economic development. Thus one of the prerequisites for sustainable development in the long term, as studies have established, is education that gives people ample scope to make better use of democratic opportunities.

In the present age of advancement of science and technology economic growth, social prosperity and sustainable development of a nation is contingent upon the general awareness and educational status of masses. Undoubtedly education would empower women. In the paper titled 'Curbing Social Evils through Empowerment of Women' (2002), Lakshmi Narayana and Rajesh comment that "one of the strategies for empowerment of women is education that builds a positive self-image and boosts self-confidence among them and develops their ability to think critically". Prosperity through education can be effectively achieved by ensuring education for the girl child right from the childhood. The Indian

government too has expressed a strong commitment towards education for all. Sarva Shiksha Abhiyan, the flagship programme for universalisation of elementary education has special focus on disadvantaged groups including the girl child. A sound foundation of educational environment through structures like Jawahar Navodaya Vidyalayas, Pratibha Vikas Vidyalays in every district of the country with fair representation for girl child would contribute enormously in national development through women education. In addition, the mid-day meal scheme has also improved girl's enrolment and retention in primary school. Ministry of Social Justice and Empowerment is also implementing schemes of residential schools for scheduled caste girls in areas of very low literacy and award of scholarships to SC/ST students with special emphasis on girls. Mahila Samakhya, a women's education and empowerment programme being implemented in about 9000 villages in six states mobilizes and organises women in groups called 'sanghas', and through education makes them aware of their rights. The proposed scheme of Kasturba Gandhi Swatantrata Vidyalaya of residential schools for girls would also support universalisation of elementary education for girls.

The importance of education for empowerment of women is undeniable. However, India still has one of the lowest female literacy rates in Asia. In 1991, less than 40 percent of the 330 million women aged 7 and over were literate, which means today there are over 200 million illiterate women in India. This low level of literacy not only has a negative impact on women's lives but also on their families and on nation's economic development and prosperity. Let us begin with a look at the rate of enrolment of girls as compared to boys at various stages of primary education. The data in table 1 presents the growth of sex-wise school enrolment in different stages of school education from 1950-51 to 2001-2002. Since 1950-51 the total enrolment at the primary, upper primary, secondary and senior secondary stages increased by 6, 14 and 20 times respectively. The girl's enrolment increased by 9, 37 and 60 times respectively during the same period in the above institutions.

As may be seen from table 1 the participation of girls at all stages of education has been increasing steadily through the years. Since 1950-51 girl's participation has increased many folds in Primary, Middle, Sec./Hr.Sec stages and Hr. Education levels from 28.1% to 44.1%, from 16.1% to 41.8%, from 13.30% to 39.5%, and from 10.0% to 39.9% respectively. However, in totality their participation is

Generally speaking, the circumstances are difficult for girls, especially severe in rural areas and consequently they record a higher drop out rate as compared to boys.

It can be concluded that among various reasons poverty is one of the prime cause for lack of education and higher drop out rate among girls especially in rural areas. Some of the off-cited factors as reasons for dropping out as per girls are: reluctance of parents to send school, have to participate in domestic activities, helping in the fields, teacher's unfair behaviour, illness, death in family, poverty and lack of interest in the studies. Spending on education, especially educating a girl child in rural areas is perceived as waste of money and resources as there is no immediate gain from education. Despite the clear advantages of female education, parents tend to prefer to educate their sons. Often a choice is made between sending either boy or girl to the school and parents would rather spend scarce family resources educating a boy as it is considered as a long-term and sure investment. It is commonly perceived that she would be married into another family and would take advantages she gains from education. Before or after marriage, a girl's role in family is primarily linked to the household; thus expenditure on her formal education is seen as a waste of resources. Families and parents believe that girls are required much more for domestic and household chores. In some cases girls even find school environment as discouraging, putting extra pressure on them thus diverting their attention from domestic work. World over, particularly in patriarchal social setups, parents view daughter's education as secondary to her role as a home maker. Such biased notions have clear cut implications on investments in educating girls. In sum, cultural stereotypes, poverty, financial constraints and reluctance are some of the factors responsible for the high drop-out rate among girls from school and consequent lack of education among girls.

It has been increasingly realized that nothing is more central to sustainable development than the economic, political and social participation and empowerment of women. Education as a means of socio-economic, political empowerment has profound impact on development. A broad set of data shows that women's education increases their control over resources and livelihood. In nut shell, education of

women is key to prosperity in any society. After independence, India has adopted different paths and strategies for national, social, political and economic development. Socio-economic development has opened doors to education for both sexes, and women have gained in many respects. Enrolment at various levels such as elementary, primary, secondary education, vocational and higher education has improved tremendously and so has women's entrance into traditionally male dominated domain. Whatever and however big may be, the problems persist due to cultural ideologies. Particularly in rural areas cultural ideologies and religious values contribute to low expectation for girl's education and parent's unwillingness to invest on educating their daughters. Moreover the colonial history of India, religious values and the caste system subjugated women further under threefold burden, restricting their roles to be largely mothers and daughters. In all, gender inequality results from the interactive influences of traditional and cultural ideologies, caste system, sexism, religion, regional differences and rural-urban disparities resulting in low educational achievement of girls.

The Indian society has accorded differential status to women through out the history. But there has been a significant change in the status of women in modern India. Educating women is critical to socio-economic development of nation. In the words of Ex-President A.P.J. Abdul Kalam "Empowering women is a prerequisite for creating a good nation, when women are empowered, society with stability is assured. Empowerment of women is essential as their thoughts and their value systems lead the development of a good family, good society and ultimately a good nation". Women will gain power only when both men and women begin to respect and accept the contribution of women. Education would emancipate and endow women with ability to control her life, accomplish her dreams and enhance her status; the task is challenging yet not impossible. Education and the empowerment of women are both essential and indispensable for prosperous nation.

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WOMEN ENTERPRISE: A STEP TOWARDS SUCCESS

Madhu Rathore and Dr. Suman Singh

About 66 percent of the female population in the rural sector is idle and unutilized. This is mainly due to existing social customs. The young girls and women are not allowed to work independently.

Women have remained backward owing to many factors though the scriptures laid down an-exalted status for them. In recent years, there has been an increasing awareness and recognition of the fact that women who formed half of the society cannot be ignored. An increasing role of women in nation building is extremely vital. Women the 'unsung heroine' of our country contribute her best to the welfare and progress of the society without any glare of publicity.

Entrepreneurship of women will not only enable

them to get better jobs and economically self sufficient or independent, but society will also gain. This education must be practical and well adapted to their needs, especially in relation to health, nutrition and legal rights.

Need for Women Entrepreneurship

"When women move forward the family moves, the village moves and the nation moves". Employment gives economic status to women. Economic status paves the way of social status. In the rural sector 56



percent of the males and 33 percent of the females are in the labor force. About 66 percent of the female population in the rural sector is idle and unutilized. This is mainly due to existing social customs. The young girls and women are not allowed to work independently.

But now the scenario is changing fast with modernization, urbanization and development of education and business. Women are seeking gainful employment in several fields in increasing numbers with the education and new awareness. Women entrepreneurs are spreading their wings to higher level of 3Es namely Engineering, Electronics and Energy. Today, no field is unapproachable to trained and modern Indian women. But still it cannot be said that taken off the ground and it is felt that the movement is still in a transition period. Entrepreneurship for women can be planned and developed and the need for providing appropriate awareness and environment to promote entrepreneurship is of vital importance.

Strategies for Women Entrepreneurship

While talking about women entrepreneurship, the theme has been conceived with the following strategies in mind :

- Awareness generation initiatives.
- Promoting self-employment, through, credit and training.
- Providing lean season wage employment.
- Providing saving habit among women.
- Providing a range of support service to meet gender needs.
- Addressing minimum needs such as nutrition, health, sanitation, housing and education.
- Direct involvement of women who are likely to be affected by the development programmes.
- The goals of poverty reduction if poor women could organize into groups for community participation as well as to assertion of their rights in various services related to their economic and social well being.

Requirements of Women Entrepreneurs

- Problems faced by the women entrepreneurs to build up courage and self-confidence.
- To fix priorities in family and business activities by allocating adequate time for both appropriately.

- They must have urge to learn new things and to undergo training on various skills of entrepreneurship.
- Production orientation must be changed to real marketing orientation, to gain the maximum number of customers.
- They must involve in risk taking and effective decisions appropriately.
- They must be prepared to accept changes.
- Unnecessary activities must be eliminated.
- A good relationship and working atmosphere for the employees must be built up.

Apart from the trait assumption that women are frail and indecisive, women entrepreneurs encounter many problems in their efforts to develop the enterprise they have established.

The main problems faced by women entrepreneurs in recent days are:

- Financial Constrains
- Inefficient arrangement
- Over dependence on intermediaries.
- Scarcity of raw materials
- Stiff competition
- High cost of production
- Low mobility
- Family responsibility
- Social status
- Low ability to bear risk
- Lack of education
- Low need for achievement
- Absence of ambition for the achievement

The above problems and stumbling blocks, are most commonly mentioned by women entrepreneurs.

Women have the potential and the will to establish and manage enterprise of their own. What they need is encouragement and support. Government and public enterprise should offer ancillary units to women entrepreneurs. On priority basis with the assistance of family members and the government women can join the main stream of national economy and thereby, contribute to the country's economic progress.

Remedies to solve the problems of Women Entrepreneurs

The following measures may be adopted to solve the problems faced by women entrepreneurs in India:

- Finance cell
- Marketing Co-operatives
- Supply of raw materials
- Education and awareness
- Training facilities

Training Need for Women Entrepreneur

With the increasingly realization that entrepreneur are important, many state level and National level organization and institutions are developing and administration training programmers aimed at specific requirements.

The essential components of effective training programmes for Indian women are listed below:

- Career which build up self-confidence.
- Specific emphasis attitudinal change, giving preference to business.
- Training on professional management skills
- Effective communication skill and practices.
- Assertiveness training to make efficient in quick decision - making at appropriate timings.
- Training on assuming responsibilities for action.
- Training on project formulation and implementation.
- Providing aptitude on increasing their knowledge on latest development and technologies
- Post - trainings support and follow-up services like promotional meetings, advertisement and publicity and so on.

Steps in Entrepreneurial Process

- Decision to be self - employment
- Selection of the product
- Location of the enterprise
- Preparation of the project report
- Registration
- Finance (Term loan)
- Statutory licenses/clearance

- Land and building
- Procurement of machinery
- Finance
- Recruitment of personnel
- Installation of machinery
- Power connection/ water supply
- Procurement of raw materials
- Production
- Marketing
- Repayment of loans
- Profit generation
- Avoiding sickness
- Modernization and up gradation of technology

Function and role of Women Entrepreneurs

A women entrepreneur must perform some functions:

- Explore the prospects of starting new enterprises
- Undertaking of risk and the handling of economic uncertainties Introduction of innovations
- Coordination, administration and control.
- Routine supervision

All these functions appear to be somewhat uneven in character. Moreover, these functions are not always of equal importance. For instance, risk taking and innovation are paramount for establishing or diversifying an enterprise. Coordination and supervision became increasingly important in improving the efficiency and assuming smooth, balanced operation of the undertaking. In these functions, most likely she is also the owner of the enterprise.

Women Entrepreneurs can more easily undertake three types of industrial enterprises:

- Operate purely as a sub -contractor on raw materials provided by the costumers
- Manufacture an item to the large-scale unit.
- Manufacture the item for direct sale in the market.

Generally, the first two types of enterprises are known as ancillaries. Women entrepreneurs produce both consumer goods and intermediate goods, which are used in the production of the other articles.

Conclusion

The women force will get another dimension, if the entrepreneurial skill among effort in direction which would lead to a better human resource development and strengthen the nation's economic development. In the present global competitive business and industrial situation the women

entrepreneurs can play a greater role and emerge themselves, in yet another new dimension to the entire universe.

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USE NEW TECHNOLOGIES TO TACKLE DRINKING WATER PROBLEM IN RURAL AREAS – DR. RAGHUVANSH PRASAD SINGH

Union Minister for Rural Development Dr. Raghuvansh Prasad Singh has called for ensuring the availability of safe drinking water in rural areas of the country. Addressing a two-day long National Rural Workshop on Water supply and Sanitation in Rural India in New Delhi. Dr. Singh stressed the importance of development of suitable technologies for drinking water supply, safe and potable drinking water to all habitations of the country, sustainable sanitation options for achieving total sanitation by 2012, well before timelines of the Millennium Development Goal.

Referring to the presence of Arsenic and Fluoride contents in the ground water of Bihar, West Bengal and Assam and Fluoride and Iron contents in Gujarat, Andhra Pradesh as well as salinity of water in the coastal areas of the country the Minister emphasised for the training of local villagers in testing the water quality and equipping them with newly developed test kits. In order to ensure the availability of safe drinking water the Department of Drinking Water Supply is already running a Quality Servillance Programme under the Bharat Nirman for which a budget of Rs.200 crore has been earmarked to provide test kits in village panchayats and open district level test laboratory and state level Referral laboratories in different states, the Minister added. He also informed of the Data Management work done by the Department of Drinking Water Supply in doing the survey of available water sources every year instead of the existing norm of five year.

On Total Sanitation Programme (TSC) the Minister informed of the construction of nearly one crore toilets every year and hoped every rural school, aanganwadi centre will have proper toilets by March, 2008. He also called for the recycling of the solid/liquid waste products under solid/liquid waste management in the rural areas so that the target will be achieved during the next four years. Dr. Singh expressed the hope of attaining the millennium development goals by the year 2012 positively.

The workshop had participation from representatives from various Ministries and Departments of Government of India like Ministry of Rural Development, Ministry of Health & Family Welfare, Ministry of Science & Technology, CSIR, Central Ground Water Board, Central Water Commission etc. The participants included Senior Officials of 25 State Governments and institutions like the Bhabha Atomic Research Centre, Council for Scientific and Industrial Research (CSIR), National environmental and Engineering Research Institute (NEERI) - Nagpur, Indian Institute of Chemical Technology, National Geo Physical Research Institute, Central Glass & Ceramic Research Institute, National Metallurgical Laboratory, Central Salt & Marine Chemicals Research Institute, Industrial Toxicology Research Centre and Institute of Minerals and Materials Technology. Representatives from NGOs and academia like Centre for Science & Environment, SCOPE, Centre for Water Resources Development & Management, Indian Institute of Science, Dr. Poonuraj, Gandhigram Rural Institute, Dindigul-Deemed University and scientists from Indian Institute of Technology-New Delhi also participated in the workshop.

RISKS AND HINDRENCES IN GROWTH OF WOMEN ENTREPRENEURSHIP IN RURAL AREAS

Ms. Sujata Kumari & Dr. (Mrs.) Vandana Kaushik

The study was undertaken with an objective to study the problems of rural women entrepreneurship. It was conducted in the rural areas of Rajasthan with 60 rural women of whom half were engaged in entrepreneurial activity and half were not. Interview method was used to collect data from women. Information on the entrepreneurial hindrances and the risks in the development of entrepreneurship among women was gathered and analysed.

The country, which is rich in entrepreneurship, can attain economic augmentation. The entrepreneurs organize the economic ventures for producing goods and services at lower cost with objects of maximization of new employment and

setting up new business (Nazar and Mohideen, 2005).

The concept of women entrepreneurship is becoming a global phenomenon today. All over the



Women are playing a vital role in business

world, women are playing a vital role in the business. In India, however, women have made a comparatively late entry and thus women entrepreneurship, in a formalized sense, is a relatively new phenomenon. Although, certain ethnic communities in the country, especially the Newars and Burman Highland Group such as the Manihar, Kumawat, Mouchi are known to have a long tradition of women being involved in small business enterprises. It is only within the last ten years that the concept of women entrepreneurship has progressively gained some acceptance in overall male dominated majority within the Indian Society. With the growing recognition that women have, unique talents, which could be harnessed for development and for creating employment opportunities for others who are not suited to an entrepreneurial career, developing women as entrepreneurs has become an important part of national development planning and strategies. (Tuladhar, 1996).

In recent years the policymakers and planners have become acutely aware of the economic significance of women's productive activities and the nature of their contribution to income generation. It has been firmly established that women in India are vital and productive contributors to the national economy but their access to knowledge, skills, resources, opportunities and power still remain rather low (Shakti, 1995).

The support to entrepreneurship is being provided both at governmental and non-governmental level, since it increases the social and economic status of women, especially, with reference to Indian condition. The planners and policy makers are also aware of the crucial role of women in economic development and are making effort to encourage greater participation of women in areas of even those activities, which are traditionally not open to them. Women entrepreneurs in urban India have been on the business scene for several years now and some have achieved remarkable success too; however the number is too small. The situation in rural India is a bit different where although women are involved in family trade but it is neither in an organized form nor the women have the ownership in it. The role of women there thus, is not more than that of a helper.

The strategic role of government in creating and enabling environment for rural organizations, panchayats, co-operatives, labour unions and women entrepreneurs and in building their capacities is reviewed ([www. Decentralization Govt. role / training / strength / SHG.htm](http://www.Decentralization.Govt.role/training/strength/SHG.htm)). It is seen that some reforms within the organizations be also carried out. However, it must be recognized that their

transformation into self-reliant organization would be slow as management and other capacities take time to develop, especially in informal groups.

The government has an important catalytic role in helping rural population mobilize their own entrepreneurship. An appropriate role for government agencies is therefore to create an enabling environment allowing rural organizations to grow and to perform their functions more effectively. To the extent, some such organizations are unable to function effectively because of lack of professionalism, technical competence and entrepreneurial skills; the government also has an important capacity building role so that they develop into self-reliant organization over time.

Attention of government and policy makers has been attracted towards rural women entrepreneurs and therefore work is being done on promoting rural women entrepreneurship by giving funds, training and other concessions. A large number of women are still facing variety of problems in entrepreneurial environment in running their units successfully. The analysis of entrepreneurial environment is incomplete until an assessment of the problems, the barriers, the risks and the constraints is not done. The present effort was made to study the entrepreneurial motivators and supporters of rural women entrepreneurs.

METHODOLOGY

The present study was conducted in rural areas of Rajasthan with majority of jaats and kumawat and women employment rate of 7.21 percent. To find out the entrepreneurial demotivators and the risks in the entrepreneurial environment of rural women entrepreneurs in two categories of women viz., 30 entrepreneurial women (those who were running their enterprise) and 30 non-entrepreneurial women (those who could, but were not running their entrepreneurs) were surveyed.

RESULTS AND DISCUSSION

The entrepreneurship is a socio economic activity that survives on environment greatly. The environment, both the near and the large environment of an entrepreneur whether in urban or rural areas include demographic, political, economic, social, legal, technical and market factors. While the factors of large environment interact with the entrepreneur less, the factors of near environment have strong interaction. The various environmental factors and the combinations there of have interacted with the different entrepreneurial units in a different manner.

Therefore the same factor may behave as demotivator or supporter for different enterprise.

The present study on entrepreneurial demotivators and the risks in the environment of the entrepreneurship had been conducted in the methodological framework of comparing the entrepreneurial and non-entrepreneurial subjects.

The risks and demotivators in the entrepreneurial environment

The problems and demotivators in any endeavor are unavoidable and thus part of system. The efficiency of entrepreneur is in handling those unwanted events. The more the problems an entrepreneur handles, the more experience she gains in facing problems, that are inevitable. The present study therefore was conducted with the objective of finding out risks, problems and demotivators in the environment of rural women entrepreneurs.

The risks:

A number of risk factors viz., accidents, enemy, draught, civil disturbance, natural calamities, financial crisis, damages etc were assessed. As indicated in Table-I that they faced the risks of financial crisis. A same number of non-entrepreneurial women also forecasted financial crisis, if they open up an entrepreneur. The other main risk was of draught as reported by 70 percent entrepreneurial women and 30 percent non-entrepreneurial women, 40 percent entrepreneurial women and 30 percent non-

entrepreneurial women also anticipated risk due to damages, none of sample had reported risks due to civil disturbance, enemies and other natural calamities.

• Storage as risk factor:

Information about losses due to storage is important; especially if it is not safe it may be a source of risk for the entrepreneur. Three parameters related to storage were inquired from the subjects' viz., termite free, water proof and sufficiency of space because the insufficient space may cause poor storage and mishandling resulting into damages and losses. In the table -II when the entrepreneurial women have reported the real life situation the non-entrepreneurial women have perceived the problem if they open the entrepreneurship.

In entrepreneurial women category 26.67 percent had reported problems about the safety of tools and equipment. 46.67 percent each about their raw material and finished goods due to termite attack. On the other hand 13.33 percent non-entrepreneurial women feared about tools and equipment 33.33 percent about raw material and 46.67 percent about finished goods due to the same problem i.e. termite attack 46.67 percent entrepreneurial women and half of non-entrepreneurial women had said that they do not have sufficient water proof storage space. Highest number of entrepreneurial women and non-entrepreneurial women had feared about insufficiency of space for tools and equipments, raw materials and finished goods.

Table-I : Frequency and percentage distribution of respondents according to the risks in entrepreneurship

S.No.	Particulars	EW n = 30	NEW n = 30
1.	Accidental fire or explosion	1 (3.33)	9 (30.00)
2.	Action of an enemy	-	-
3.	Draught	21 (70.00)	9 (30.00)
4.	Civil disturbance	-	-
5.	Other natural calamities	-	-
6.	Facing financial crises	30 (100.00)	30 (100.00)
7.	Damages due to long storage	12 (40.00)	9 (30.00)
8.	Damages due to humidity	4 (13.33)	4 (13.33)

* Figures in parenthesis indicate percentage

Table-II : Frequency and percentage distribution of respondents according to storage as risk factor

S.No.	Space	Tools/equipment		Raw material		Finished goods	
		EW	NEW	EW	NEW	EW	NEW
1.	Termite free	8 (26.67)	4 (13.33)	14 (46.67)	10 (33.33)	14 (46.67)	14 (46.67)
2.	Not water proof	13 (43.33)	15 (50.00)	9 (30.00)	12 (40.00)	14 (46.67)	11 (36.67)
3.	Insufficient space	11 (36.67)	9 (30.00)	20 (66.67)	22 (73.33)	13 (43.33)	20 (66.67)

* Figures in parenthesis indicate percentage

Proper storage is the key to entrepreneurial input because it is required for the safety of supplies and machines; risky storage spaces may lead to financial losses at times hard to be borne by the bearer and thereby may lead to closure of the entrepreneur.

The demotivators:

The factors, if they are not motivating then

entrepreneur may be demotivated badly. An effort was made during the study to identify the factors that were acting as demotivators to the enterprise.

The different demotivating factors for the entrepreneur have been classified into external environmental demotivators and internal environmental demotivators. The Table-III contains information on demotivators.

Table-III: Frequency and percentage distribution of respondents according to the demotivators for entrepreneurial functioning

S.No.	Particulars	EW	NEW
1	External environmental demotivators		
	● Absence of social network	21(70.00)	26(86.67)
	● Lack of mutual trust	22(73.33)	25(83.33)
	● Group competitiveness	26(86.67)	30(100.00)
	● Poor participation in social activities	29(96.67)	30(100.00)
	● Poor leadership support	24(80.00)	28(93.33)
	● Information not available	16(53.33)	14(46.67)
2	Internal environmental demotivators		
	● Feeling of insecurity	14(46.67)	28(93.33)
	● Raw material problems		
	● High cost	12(40.00)	15(50.00)
	● Lack of technical knowledge in selection	2(6.67)	10(33.33)
	● Time consuming collection	19(63.33)	25(83.33)
	● Irregular supply	14(46.67)	2(6.67)
● Poor quality	11(36.67)	4(13.33)	

* Figures in parenthesis indicate percentage

● **External environmental demotivators:**

Among the various demotivators from the external environment the most common was poor participation in social activity as 29 entrepreneurial women out of total had said that they are not able to take the time out to participate in these activities whereas cent percent non- entrepreneurial women opined that if they will start their unit lack of participation in social activities like group meetings will be their greatest weakness. Lack of participation devoid the people from being informed as reported by 53.33 percent entrepreneurial women and 46.67 percent non-entrepreneurial women and also gaining knowledge that might be useful in running the enterprise.

These demotivators of the external environmental are the principal sources of discouragement to the non-entrepreneurial women. This indicates that the causes of non-involvement of rural women lie partially in the environment and partially within the individual. Due to high expectation and poor self-involvement the women remain dissatisfied with the external environment.

● **Internal Environmental demotivators:**

The demotivators of the internal environment are majorly an outcome of poor seed money and working capital that may be due to poor estimates whereas high time demands and irregular supply are the matters to be handled through planning.

The demotivators of both external and internal environment can be effort fully converted into motivators if the women are trained. This indicates that although these women have received entrepreneurial training package but they are not capable of running the entrepreneur and taking it to newer heights.

The major risks and demotivators identified during the study are as under:

Risks

- Accidental fire or explosion
- Draught
- Financial crises
- Damages due to long storage
- Damages due to humidity
- Termite attack
- Not water proof
- Insufficient space

Demotivators

- Absence of social network
- Lack of mutual trust
- Group competitiveness
- Poor participation in social activity
- Poor leadership support
- Information non availability
- Feeling of insecurity
- High cost of raw material

The result of the study indicate presence of a number of risk factor viz., financial crises, accidents, enemy, draught, natural calamities, and civil disturbance and loses during storage of products. Further demotivators identified in the study are classified into external environment demotivators like lack of participation, group competitiveness, and mutual trust. The internal environment demotivators were problems in collection and selection of raw material, feeling of insecurity, poor quality raw material etc. Due to all these rural women entrepreneurship is unable to keep its pace in the economic welfare of women.

CONCLUSION

The concept of women entrepreneurship is becoming a global phenomenon today but due to late entry in India it's a new phenomenon. Women access to knowledge, skills, resources, opportunities and power still remain rather low in rural India. Although women remain involved in family trade but it is neither in an organized form nor do the women have the ownership in it. The role of women there thus, is not more than that of a helper.

The government is playing an important catalytic role in creating an enabling environment by giving funds, training and other concessions. But still large number of women are facing various problems in running their units successfully. Therefore the entrepreneurial demotivators and risks of rural women entrepreneurs viz. financial crises, raw material selection, collection and storage, marketing problems were recognized through this study.

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GOVERNMENT INITIATIVES FOR WOMEN ENTREPRENEURIAL DEVELOPMENT IN TAMIL NADU

A. Kadharlal & Dr. N. Premavathy

Existing Entrepreneurial Development programmes are largely adequate and appropriate to help women entrepreneurs for their betterment. A new entrepreneurial culture is developing among women entrepreneurs based on the values and strengths, such as Creativity, Flexibility openness to Cooperation, a human approach to business relations, and attention to social and cultural as well as financial goals in business.

Women-owned business have the potential to make significant contributions to Job creation and economic growth, Economic empowerment of women changes the balance of power because it allows half the world's population

to contemplate higher goals than basic survival. Allowing the women to grow on their own with some training and funding allows them to find their own way and build an enterprise that will last. However women in many parts of the country are not fully



Number of self-employed women are increasing

participating in entrepreneurial activity because of lack of attention in government policies and other support systems.

THE OBJECTIVES OF THE STUDY

- (1) To understand the concept of women entrepreneurial development in Tamil Nadu.
- (2) Types of business where women are largely concentrated
- (3) Government initiatives and policies and other support systems available for the betterment of women entrepreneurial development in Tamil Nadu.

- ❖ **Women entrepreneurship** is a process where women getting herself self employed provides job to others also.
- ❖ **Women entrepreneurs** may be defined as a women or group of women who initiate, organize and run business enterprises. The Government of India has defined women enterprise as "an industrial unit where one or more women entrepreneurs have not less than 51 per cent financial holding".

Entrepreneurial Development among women can be considered a possible approach to economic empowerment of women. A woman as entrepreneur is economically more powerful than as a mere worker because ownership not only confers control over assets but also gives her the freedom to take decisions. This will also uplift her social status significantly. Through entrepreneurial development, a woman will not only generate income for herself but also employment for other women in the locality.

WOMEN IN BUSINESS:

The number of self-employed women and small business ownership is increasing. No single factor motivates women to start business. They are found to be motivated by a wide range of factors and circumstances in their lives. Women are starting their own business as a direct response to unemployment.

Women who are underemployed or are with little job satisfaction, self-employment is seen as a means of creating work over which they have a greater measure of control. This control extends beyond the workplace and enables women to harmonize economic activity within a valued family environment. The general awareness campaign run by Government and non government agencies to inculcate a sense

of the enterprise culture reach the women and are make aware of them enterprise as an option.

ECONOMIC EMPOWERMENT OF WOMEN THROUGH SHGs

Though the Government has continued to allocate resources and formulated policies for empowerment of women, it has become striking clear that political and social forces that resist women's rights in the name of religious, cultural or ethnic traditions have contributed to the process of marginalization and oppression of women. The basic issue that prevents women from playing full participating role in nation building is the lack of economic independence, planners and policy makers have been eagerly searching for certain alternatives. The participating approach to development has emerged as a vital issue in developmental policies and programmes for women.

TAMIL NADU CORPORATION FOR DEVELOPMENT OF WOMEN (TNCDW)

Tamil Nadu Corporation for Development of Women Ltd., is operative for all over Tamil Nadu in Women Entrepreneurs Development in the region of TamilNadu. The Tamil Nadu in Women Entrepreneurs Development have been formed 3.38 lakhs. SHGs in this scheme 52.42 lakhs women covered in Tamil Nadu. Tamil Nadu in Women Entrepreneurs Development has 664 NGO partners and the total savings Rs.1282.45 crores. Tamil Nadu in Women Entrepreneurs Development provides moral support to innovate the SHGs, the total credit extended Rs.2391.01 crores to 2,88,695 crores for the development of SHGs. Simultaneously 74058 exclusive SHGs of SC women, 3442 Tribal SHGs and 1404 Subamathi SHGs.

MOTIVATION FOR KEY ACTIVITIES:

- Group formation
- Capacity building training for SHGs and Animator & Representatives
- Entrepreneurship Development Programme (EDP)
- Skill Training programme (visual Training Programme, Skill, Skill upgradation & Specialized skill)
- Credit Rating
- Youth Group formation and skill development
- Formation of panchayat level federation

INFORMATION TECHNOLOGY:

Women graduates and engineers from all over Tamil Nadu are working in the various software and information Technology Enabled service industries in Chennai, with the objective of providing them safe accommodation with modern facilities, the Government has decided to construct a large working women's Hostel complex, availing financial assistance under the working women's hostel scheme of Government of India.

SMALL SCALE INDUSTRIES:

The scheme of granting capital subsidy for Small Scale Industries established in industrially backward regions, implemented by the Government has been revived and Rs.20 crores have been provided for 2007-2008 for providing capital subsidy to women entrepreneurs who establish. Small Scale Industries in industrially backward blocks.

SLUM IMPROVEMENT:

Availing the Assistance of Rs.250 crores recommended by the 12th finance commission, 17000 tenements with all infrastructural facilities will be constructed in slum areas by the Tamil Nadu Slum Clearance Board. The board will construct 13000 tenements for the tsunami affected fishermen families living in urban slums at a cost of Rs.295 crores. In addition 40,000 houses will be constructed in Chennai, Madurai and Coimbatore Corporation and other Municipalities and Town Panchayats.

RURAL DEVELOPMENT:

As a result of efforts of this Government, the centrally sponsored National Rural Employment Guarantee Programme (NREGP) is being effectively implemented in six districts of the State namely, Cuddalore, Dindigul, Nagapattinam, Sivagangai, Tiruvannamalai and Villupuram. Minimum wage has been ensured for all the beneficiaries and the programme is operating successfully. The fact that out of the 5 lakh families who have benefited under this programme incurring an expenditure of Rs.108 crores, 56% are Adi-Dravidar families and 82% of women beneficiaries proves that the objective of this scheme to provide succour to the poor has been fully achieved. Another positive impact of the scheme is the fact that the daily wage rate of agricultural labourers has risen in the districts where this programme is being implemented. The Government of India has agreed to extend this scheme to Tirunelveli, Thanjavur, and Karur districts also. Totally a sum of Rs.3471 crores has been allocated for the

Rural Development and local administration department in this budget.

TRADE RELATED ENTREPRENEURS DEVELOPMENT FOR WOMEN (TREAD):

Trade Related Entrepreneurs Development for Women (TREAD) has the Revenue Capital under the total major head 2552. In the state budget 2006-2007 planned to improve their status into 0.11 crores, the same achieved by the Government.

DEPARTMENT OF INDUSTRIES AND COMMERCE:

The department of Industries and Commerce is the Nodal Agency for development of industries in general and small scale industries in particular in the State of TamilNadu. The role of this department is to plan and implement various schemes for the promotion of industries. Two main assistance for women entrepreneurs in the region are (i) conducting of Entrepreneurs Development Programme (ii) Providing Escort Services to the Entrepreneurs.

DISTRICT INDUSTRIES CENTRES:

The district industries centres are functioning in all the Districts of TamilNadu except Chennai District to render all help to small scale industry of their own. In respect of Chennai district the same assistance is provided by Regional Joint Director, Chennai. The entrepreneurs also assisted in getting clearance, in local bodies. Town Planning, Pollution Control Board, Public Health Factories and other departments and getting power connection under Single Window Scheme.

Also the Escort cell have been set up in district industries centres which take care of providing necessary assistance in arranging technical inputs to newly emerging SSI units.

CENTRE FOR ENTREPRENEURSHIP DEVELOPMENT:

To encourage educated men and Women and also other needy persons, the present Government has established a entrepreneurship development centre at Guindy. The centre will help the entrepreneurs in identification of project, tie up for financial assistance and will conduct continuous training programme at EDP.

FORMATION OF WOMEN SELF HELP GROUP

- Total women SHGs formed as on 31.07.07 — 15847
- Total SHG Members — 250319

- Total SC Groups — 3328
- Total SC Members — 69137
- Subamathi Group — 313
- Physically Handicapped Groups — 13

WOMEN ENTREPRENEURS DEVELOPMENT PROGRAMME:

Women's development has been given top priority in 1997-1998. The Government of TamilNadu has stressed the need to augment resource for such programmes. Women entrepreneurs particularly, the first generation women entrepreneur, face many constraints particularly paucity of margin money assistance to start their ventures by getting finance from the financial institutions. To overcome the difficulties experienced by these entrepreneurs, Government have sanctioned a sum of Rs.3.00 lakhs to give the first generation women entrepreneurs a subsidy of 10% margin money support to the project cost subject to a ceiling of Rs.50,000/-. The margin money assistance will be distributed through the financial institutions at the time of disbursal of loan by them.

SUBSIDY FOR UNITS PROVIDING EMPLOYMENT FOR WOMEN:

A special subsidy of 5% on total investment is available to the SSI units providing employment for women at least to the extent of 30% of the total strength.

OFFICERS TO WHOM APPROACH:

Training for women General Managers, District Industries Entrepreneurs Development Centres in the Districts. For Chennai Programme Regional Joint Director, Chennai-2 and Special Officer, Women entrepreneurs development at Central office.

TAMIL NADU SUPPORT FOR TRAINING TO SHG IN CHENNAI :-

- Members Training — 14530 SHGs
- Animator/Representative Training — 14326 SHGs
- EDP Training — 8750 Members
- VTP Training — 5084 Members
- Skill Training — 1856 Members
- Skill up gradation Training — 672 Members
- Special Skill Training — 120 Members

- Youth Skill Training — 350 Members

SPECIAL TRAINING :

- ❖ Information Technology (Computer Training) — 111 Members
- ❖ Fashion Designing — 226 Members
- ❖ Plastic Waste Management
 - Five Days Training — 4004 Members
 - One day Training — 500 Members

TAMIL NADU GOVERNMENT'S SAVINGS / LOAN DETAILS FOR WOMEN ENTREPRENEURS IN CHENNAI :

- Total Savings — Rs.21.07 Crores
- Credit linkages for SHGs — 11593
- Total loan amount — Rs.38.32 Crores

SCHEMewise CREDITLINKAGE DETAILS:-

- Direct Linkage — Rs.30.62 Crores
- SJSRY (Swarna Jayanathi Rojgar Yojana) — Rs.1.75 Crores
- Revolving fund — Rs.3.58 Crores
- TAHDCO loan — Rs.0.57 Crores
- Others — Rs.1.80 Crores
- Total — Rs.38.32 Crores

CONCLUSION:

Existing Entrepreneurial Development programmes are largely adequate and appropriate to help women entrepreneurs for their betterment. A new entrepreneurial culture is developing among women entrepreneurs based on the values and strengths, such as Creativity, Flexibility openness to Cooperation, a human approach to business relations, and attention to social and cultural as well as financial goals in business. In India, women constitute 48.2 per cent (49.6 Crores as per 2001 census) of the total population. Therefore, development of entrepreneurship among women has become an important aspect of the overall economic development of women. The Government and Non Government organizations have come up to cater the needs of potential women entrepreneurs.

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DRUDGERY AMONG WOMEN IN RURAL HILLY AREAS IN UTTARAKHAND

Deepak Paliwal & Dr. Rajesh Ch. Paliwal

The whole economy revolves around the women but attempts have neither been made to reduce their drudgery by applying the region specific technologies for their trainings and development.

A woman is identified as a mother, a wife, daughter-in-law or a daughter but she is not identified as an independent person. Women constitute almost half of the population, perform nearly two-third of its work hours, receive one-tenth of the world's income and own less than one hundredth of the world property. By the time a young girl has reached age 5, she assumes adult responsibilities, both inside and outside the household. Inside the home, she cares for her younger siblings, and makes dung cakes for fuel.

Women in the hills is seen working so much and so often, that her health is taken for granted. Dominated by men and guided by traditions, women in hills live a very hard life. The women of hills, although act as a backbone of the economy posses immense tolerance, intellect, high level of coordination but the gender disparity does not allow them to use their full potential. Her day is typical. She rises early in the morning and performs all household activities and then her duty is to collect fodder for animals, fuel wood and drinking water for home. They didn't get



Women play a major role in economic development

any time for themselves in between work till night. They grow the food crops, provide water, gather fuel and performs most of the work which sustains the family. They are responsible for sowing, weeding, and crop maintenance and harvesting. The terraced village fields hardly provide enough food because of with most of the male migrate to cities in search of jobs. Women bear the multiple burdens of tending the fields and domestic animals and carrying out their normal domestic chores. They work ten to nine hours daily to collect the resources they need, primarily from the forest. As wood supplied become scarce women walk substantially long distances to collect wood after spending ten to nine hours in working and in result the diet they get is insufficient for their body because of which they suffers from various diseases.

The fabric of the society in which the women are considered subordinated to men in every respect, lack of literacy, migration of the male population, tough topography and the environmental degradation has intensified their problems. The whole economy revolves around the women but attempts have neither been made to reduce their drudgery by applying the region specific technologies for their trainings and development. The major problem in the village that disadvantaged women are unawareness towards their rights and privileges. Despite all the efforts of the government, empowerment of women had made no difference in the lives of rural women in terms of decision making.

Work-load of Women in Hill

Malinowski (1913:287) suggested that women, owing to their docility, are forced to do domestic work: Division of labour is rooted in the domination of the weaker sex by the stronger. "They name is women; thou shall not strive nor seek" said Plato. On the plight of women Edmund Burke said that politics is a game of compromise, "shed a few tears, you women, and you would have none, expect your own lovely hands to wipe them off".

In hills, the condition of women is somewhat different from their counterparts elsewhere. Some development indicators pertaining to women are very favorable compared to the elsewhere in the State of Uttar Pradesh (Uttarakhand State was carved out of Uttar Pradesh in November 2000). For example, the sex ratio is comparatively better with a couple of districts even reporting a reverse sex ratio. Literacy rates and age of marriage is also higher.

But despite these advantages women remain the 'second sex' in this traditional hill society. The most

important feature of a woman's life in Kumoan Hills is her workload. Women are expected right from girlhood to do all the household chores and contribute substantially to agriculture. The 1991 Census has recorded high female workforce participation rate in the hill districts. While it is quite low in the U.P plains (12%), in the hills the rates are comparatively higher with highest in Almora district: 49.6% (Bose: 2000). They are responsible for gathering fuel, fodder, and leaf-litter and for caring of animals. They often work up to 14 hours a day. Still, women do not have much right to either domestic or personal decision-making, due to the patriarchal nature of the hill society. Even the education of girls has not led to any significant changes in their socio-economic status: the educated daughter-in law is expected to be working as hard in fields and forest, and is as much under the prohibitive taboos as any other woman. Over occupied with breeding & nursing, the rural mothers have no time even to think about their own comforts, status recognition and independent career. Defeatism, fatalism and pessimism dominate their psyche, which are transmitted to their children, particularly to the daughters. Absence of education and courage, the sense of having low status and their social customs weigh on them throughout their lives.

Drudgery, Deprivation and Miseries:

Uttarakhand stands out as one of the few states in India where an overwhelming number of women have always been part of the active work force, due to their total involvement with agriculture, forest protection, cattle care & dairying. Women here have emerged as the main stage of the rural economy and as the female heads of the families where men have migrated to towns or joined services. Even where men continue to reside in the villages, it is the women and girls who look after agriculture and cattle. In agriculture & animals care the women contribute 90 percent of the total work force. Thus 98.54 percent of the rural work force participates in agriculture and cattle. However working in the land and undertaking other para agricultural activities has not meant women's economic empowerment. Nor does the land yields so much production or income that it gives women the much needed cash and decision making power to look after her needs and those of children. Despite being the heads of these household, women still cannot overcome the patriarchal system. Life of the rural women in the hills is one of extreme drudgery and deprivation. The government of the welfare state has been a silent spectator of their miserable existence and their men folk have allowed the perpetuation of this drudgery and misery. The women of hill region have to undergo a very hard life due to the geo-physical

conditions of the region. The household activities performed by women consume the maximum time of the women folk. The major household activities mostly done by female in the hill region are rearing of the children and old aged, cleaning utensils, arranging fodder for animals, bringing water and extending help in the marriage and religious ceremonies of neighbours and relatives. It is generally observed that work related to animal husbandry is solely carried out by females, however in some cases feeding and grazing of animals is done by male members also. Besides the drudgery and monotony of life, the kumauni women are compelled to contend with worries, and frustrations borne out of their deep sense of helplessness against an extremely harsh nature and rigours of weather. Leafy foliage gets scarce after the month of March and the women folk have to trek long distances to collect it. Women are quite experienced in the art of climbing trees for fodder, but the risk of fall and resulting mortality or disablement is obviously enormous. In recent years uncontrolled illegal distribution of liquor in village sides has made the life of the women very miserable and unsafe. Kala Bisht (1987) observes "The hill women are in chains of

economic servitude and are victims of quarrels, breathless struggle & unending tensions. The married life of kumauni hill women is nothing more than an unending spell of tensions and tortures." Living in hills is not very easy. Basic requisites of even a moderate living are not available, such as potable water, fuel wood, fodder, hospitals and maternity centers, schools, postal and telegraph services etc. A 1996-1997 study carried out by Jashodhara Dasgupta of Sahayog, a research and activist group, in Uttarakhand, western India - involving over 1,000 women in ten locations across 12 districts - found the proportion of miscarriages upto 30% which is five times higher than the average rate reported in the National Family Health Survey of 1992-1993. It is noted that women have a grueling schedule during pregnancy - including lifting heavy loads of wood, manure and grass - which added to the risk of miscarriage. The women of Uttarakhand are also under continuous mental stress from anxiety over how to sustain the household. There is high male migration to urban areas, while depleted forests have made the trek to gather fuel wood and fodder much longer and tougher. The details of women participation in work in Uttarakhand is shown in Table 1.

Table 1 : Women's Participation in work (in percentage)

District	Total Workers	Total Women Workers, Rural	Total Women Workers Urban	Main Worker	Main Worker (Rural)	Main Worker (Urban)
Uttarkashi	45.94	47.53	19.42	43.96	45.65	18.87
Chamoli	50.44	53.96	21.60	44.79	49.46	19.89
Rudrapur	52.67	53.35	4.54	48.66	49.46	4.65
Tehri	49.76	53.62	9.01	41.55	46.13	7.25
Dehradun	18.46	24.92	11.84	15.04	19.53	11.16
Pauri	49.99	53.86	12.72	43.30	48.20	12.22
Haridwar	13.26	14.84	9.50	8.09	8.160	7.95
Almora	55.25	57.95	12.93	52.03	55.46	12.81
Bageshwar	55.07	55.58	12.03	53.06	54.07	10.59
Nainital	30.72	37.68	11.14	25.23	31.72	10.35
U.S. Nagar	19.90	24.07	9.73	11.63	13.52	7.74
Pithoragarh	50.25	52.70	21.40	42.97	46.15	16.06
Champawat	46.44	50.51	16.66	35.37	39.70	15.51
Uttarakhand	35.98	42.17	11.47	29.08	35.23	10.21

Education: India has the largest population of non-school working girls. Indian constitution guarantees free primary school education for both boys and girls up to age 14. This goal has been repeatedly reconfirmed, but primary education in India is not universal. Parents have several incentives for not educating their daughters. Foremost is the view that education of girls brings no returns to parents and their future roles, being mainly reproductive and perhaps including agricultural labour, requires no formal education. In hill area still girl's education is given lesser importance in so far as the priorities of the parents are concerned. While the male children are sent to schools even if located in remote places, and they are not supposed to do domestic work. Despite the heavy emphasis on girl's education the dropout's rate of girls is quite high. It is 17 percent of the primary stage and 35 percent at the secondary level. This indeed is a very high rate and has to be attributed to the load of domestic chores and work on the land that the girls of Uttarakhand are expected to do. They share the burden of mothers in collection of fuel and fodder. Above all they stay back to look after the younger siblings particularly because the mothers leave home early in the morning for cultivation and collection of fodder and fuel. In the economy and social frame work of the Himalayas, a woman occupies an important place but unfortunately her condition is ridiculous because of illiteracy. Parents consider that if they send their girls to school they will lose the fetcher of water, wood and caretaker of small children when their mother is out on the field for work.

Unwanted From Birth: For thousands of years, South Asian families have valued their sons more than daughters. They expect that sons will carry on the family name, and provide for the family economically. Daughters will eventually be married into their husband's family. They are never considered real members of their parent's family. In this era of modernization and globalization still in hill areas boy occupies higher position than girls. Girls still considered as a second sex and they lack boy in every field because of traditional feelings towards girls. They consider as a Paraya Dhan. The male child is perceived as an asset for the landless rural labourer, a dowry earner for a greedy middle class family and a simple matter of pride for the mother and this very much in hill area of Uttarakhand. The reality of a girl's child's existence is drudgery both inside outside the home. By the time a young girl has reached age 5, she assumes adult responsibility, both inside and outside the household, she fetches water, fuel and makes dung cakes for fuel, she cleans and arrange the home, including utensils and kitchen tasks. She didn't get time for his education

as a result she fails or leaves education in b/w to carry out his daily work which her family members considered more important than education. Dowry system in the marriage is another newly emerging tradition and is prevailing particularly among the educated ones.

Health Status: Health is one of the indicators of development of any society. The existing studies show that the women are relatively less healthy than men even though, they belong to the same class. It is estimated that 10 to 15 percent of the rural population of developing countries live in environmentally degraded or ecologically vulnerable areas. Both women and men are involved in environmental degradation, but women particularly poor women are the first to suffer due to their looseness and dependency on the environment and work burden and the time entailed in the collection of water and fuel gathering. Women in some developing countries spend much of their time cooking with biomass-wood, straw and dung in poorly ventilated areas thus making them likely to suffer the consequences of indoor pollution. When a woman is playing a multiple role as a mother, wife for her children, food producer and worker, doing of this involves physical and psychological stress leading to ill health. Almost one-third of women in Uttarakhand are undernourished as per the weight-for-height index or the body mass index. Nutritional deficiency is more prevalent among illiterate women and women belonging to household with a low standard of living. Pregnant women get no extra food, and continue doing strenuous work throughout their pregnancies. In India, nearly 3/4 of all births take place at home and 2/3 of all births are not attended by medical personnel. The result of ill health and unsanitary conditions in motherhood is sometimes death. Less than half of pregnant women (44%) in Uttarakhand have received at least one antenatal check up compared with 65% in India as whole. The percentage of pregnant women who received at least three antenatal check ups is as low as 18%. In general, utilization of antenatal services is lower among illiterate mothers and among those from household with a lower standard of living. Women in Uttarakhand suffer mostly due to the delivery practice. In the rural areas some of the traditional practices are still continuing. though education rising economic standard and social awareness have somewhat reduced them, many women who deliver babies are still subjected to isolation in unhealthy conditions, deprivation of proper nutritional food and other amenities due to false beliefs also with this there is also widespread practice of Dais as the " Deliverer" in villages and small towns. These dais experienced

in traditional ways and inspiring ways and inspiring confidence in families are preferred by elders in the family than the doctors. Also in the remote hilly area there are no medical facilities available. PHC (Primary Health Centre) sub centre are few and far and the ANMs and health workers are rarely available. In Uttarakhand, more than 82% of deliveries occur at home in rural areas: more than half of these get assistance from dais. Only one of seven births that occur outside a medical facility receives a post-partum check-up within two months of delivery. Facilities available for emergency obstetric care are grossly inadequate in the rural hill area. They have more faith in dais instead of doctor one of the important reason behind this is low level of awareness and unwillingness of doctor to visit rural hill area. Almost one third of 32% of women in Uttarakhand are undernourished as per the weight for height index or the body mass index. Nutritional deficiency is more prevalent among rural, illiterate women and women belonging to households with a low a standard of living. About 46% of the women in Uttarakhand are anemic compared with 52% for India as a whole. Half the world's population is exposed to indoor air pollution, mainly through the burning of solid fuels for cooking and heating. Biomass is still the main source of energy for 60 to 90 per cent of households in developing countries - some 2.5 billion people. It is the mothers and their children, primarily in rural areas, who are mainly exposed to the effects of poor ventilation of biomass fuel while using primitive stoves, and who pay the price in illness and premature death.

Conclusion:

The status of women is low although women have been playing a very important role in the economy of the state for generations. Being a money order economy where men migrate in search of work the task of planning is let to women. Women bears the burden of not only looking after the family and trudging long distances for water but are left to farm the land. Women have been deprived from availing various kinds of opportunities and advantages by our traditional society for the past several centuries. An overwhelming majority of Indians, rich or poor long for a son because they believe that they can attain nirvana or go to heaven only when a son performs funeral rights. Yet another problem is that in our patriarchal social structure, the family name is continued only through men. There are numbers of factor responsible for drudgery among hill women in Uttarakhand like, illiteracy, ignorance, Traditional value system and non availability of proper guidance etc. The women folk constitute the nerve centre of families, vital section of societies and back bone of

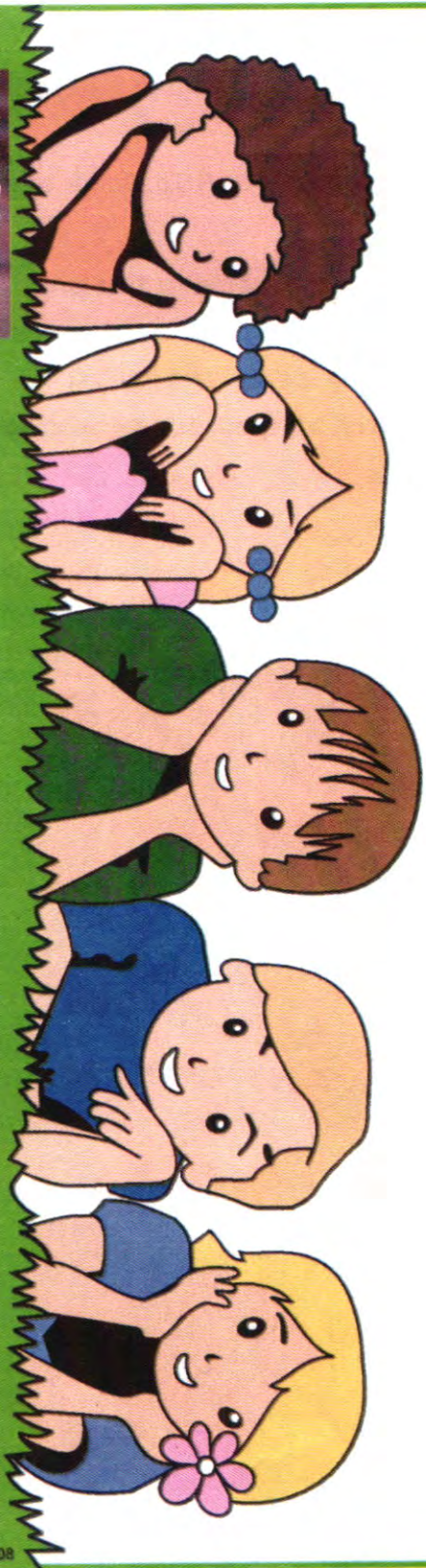
the nation. Women in Uttarakhand are involved in agricultural and road labour, animal rearing fuels collection, fodder and management :women also typically used traditional methods of performing these tasks while alternative method exist of which they are unable to access/use. Due to modernization, urbanization and technological advancement, the role of women in all spheres of life is continuously increasing thus national development cannot possible without developing this important factor in development .They are the mother of next generation and share a number of duties and responsibilities of maintaining the daily life of its family more than on equal terms with its man folk, hence require greater attention. Equal access to education for women and girls will have to be ensured. Special measures shall be taken to eliminate discrimination, universalize education, eradicate illiteracy, create a gender-sensitive educational system, increase enrolment and retention rates of girls and improve the quality of education to facilitate life-long learning as well as development of occupational/vocational/technical skills among women. To be able to grow into active, skilled and confident women, who can realize her potential, girl must be brought up in an environment of dignity and opportunity. The conditions of hill women cannot be improved by piecemeal approaches and fragmented legislative action. It is largely a matter of a cultural improvement, attitudinal change, economic betterment and technological grafting appropriate to the conditions of habitat.

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Today is Chacha's birthday - so is mine



Pt. Jawahar Lal Nehru
14 November, 1889 - 27 May, 1964



DIRECTORATE OF INFORMATION AND PUBLICITY
GOVERNMENT OF N.C.T. OF DELHI



Smt. Sheila Dikshit
Chief Minister, Delhi

DIP/1531/07-08

KE-1/08/4

TRENDS IN WOMEN'S CONTRIBUTIONS TO AGRICULTURAL PRODUCTIVITY—A SOCIOLOGICAL PERSPECTIVE IN HIMACHAL PRADESH

Suman Chandel, K.S. Chandel, Rajiv Dogra and Samsher Singh

Although some efforts have been made in the past decades or so to improve the situation of women in most aspects, a lot more remains to be tackled. In the state, women continue to carry the brunt of an ever worsening food security situation, particularly at community and household levels.

Despite all the rhetoric on gender equity over the past two decades or so, women continue to face economic, socio-cultural and legal

barriers that constrain their capacity to participate in decisions that hinge on farming and natural resource management, a situation that affects their ability to



Women are overburdened

generate enough incomes that would go towards improvement of standard of living of their households. Truly, most women are still cocooned in traditional systems where cultural practices and norms are dying hard, while many still are caught up in some complex cultural transition which they would like to break out. Positive progress for such women is difficult. Women in Himachal Pradesh contribute the major share to food production yet their contribution is hardly recognized; that concern continues to be raised today. Women continue to be primary custodians over food acquisition, food processing, food marketing and ultimately over household food security. This is not to mention the many other chores that face them.

WOMEN'S ORGANIZATIONS

The Government and development agencies decided to take advantage of the very unique situation of the Himachal Pradesh woman - her resilience - and saw the best way to eradicate poverty, disease, hunger and malnutrition as involving channeling funds and various other forms of support to women. This decision was, clearly, made without a deep enough understanding of the cultural norms that govern decision making roles, distribution and control of resources at the household level and in communities. Customs truly die hard. Most Himachal Pradesh households - over 80% are in rural areas, where communities are patriarchal and, therefore, male controlled and still very traditional. In one sense, awareness has been created and legislation revised to accommodate women's needs. In areas of agricultural productivity, however, which entail having to deal with land tenure issues, natural resources, and access to credit, all of which would enhance investment in agriculture to boost returns have met with little success. Control of natural resources has been masculinized for centuries and as land tenure started to be institutionalized, it automatically became a practice to register land ownership in men's names only. However, with land size diminishing and families becoming more nucleated, a number of scenarios have emerged.

Before demarcation and registration, land was commonly owned and utilized and the issue of who owned it or had rights to the outputs did not arise; in any case, whatever came out was mostly for home use. With registration, however, there is not just household but individual ownership. The proceeds are used to meet a variety of needs - food, medical, education and material requirements - for the family. Money is "sweet" and men want to control it. Also as a resource diminishes, the more control is

imposed on it and the same applies to land. Meantime, women are left with little choice but to become dependent, and sometimes destitute. So as land has become masculinized and agriculture continues to remain feminized. So far the support given to women's role in Himachal Pradesh's agriculture remains at the lip service level, except for a few bilateral donors who take the courage to support women groups in a variety of ways.

TECHNOLOGIES DEVELOPED FOR HIMACHAL PRADESH WOMEN

A few technologies have been transferred to farmers as they became available and efficacious. Many appropriate technologies still lie with the innovators. The main problem with technology transfer in agriculture has had to do with the fact that they get transferred to the men, who in Himachal Pradesh are not the primary food producers. Commercialization of agriculture involving new technologies has, therefore, marginalized women further. It denies them the most productive land for food production, and transfers modern or appropriate technologies to the men. This leaves women to continue with their old-fashioned drudgery on increasingly infertile and acreage-diminishing land. Further, women's other chores continue to remain largely unaddressed. These include household level tasks which consume a lot of women's time, and those that involve travelling long distances such as fetching firewood, water and getting to healthcare facilities.

Easing women's roles at the household level by modernizing the technologies there and releasing more time for more effective farm work should also be supported parallel to supporting education. Market-oriented farm work needs modern tools and technologies. Many technologies have proved to be socio-culturally unacceptable or have not reduced the time or saved energy over existing technologies or practices. Technology is considered appropriate if it makes optimum use of the available skills and resources of any given economic environment. Similarly, some of the technologies have been beyond the financial capabilities or skill levels of women who have less access to the resources that are supposed to make things happen.

In essence, therefore, as Himachal Pradesh women, whether in urban or rural areas become more and more overburdened with chores, their men become more and more redundant. This trend is bound to continue unless agro industry develops alongside commercialization of agriculture, and men are made to take up their responsibility and justify

the title they always demand of "household head". Women's roles are becoming more and more complex as the world goes through various forms of technological advancement. The area of information technology is one which could empower rural women in a very meaningful way and already is being tried in many rural communities in the developing world. The challenge for any nation now is to produce food for not only the immediate community but also for a consumer population that is growing fast and is becoming more diversified in their food tastes.

EFFECT OF STRUCTURAL ADJUSTMENT

Industrial development in Himachal Pradesh has been adversely affected that almost everybody has become a small player in the so-called market economy. Women have been impoverished and pushed further away from the decision making level as they struggle to earn for their families, moving from little job to very little job, trading, and trying to make ends meet. Women just cannot compete in the new fiscal and trade arena - they fear to borrow amounts of money which can make a difference, and with unfavorable borrowing interest rates and lack of preferential conditions for the agricultural sector, women are unable to borrow to invest in quick maturing intensive crops which are potentially fairly lucrative. For meaningful returns to be realised, however, heavy investment is required in terms of labour, technology and cash, all of which are very scarce commodities for women.

WOMEN IN AGRICULTURE

Women usually undertake agriculture to address household food security. However, their main concern is availability of food because women are expected to put food on the table or in front of the family. Traditionally, it was the prerogative of men to bring food to the house to be prepared by women. The food men used to bring home was hunted in the wild, but this is no longer feasible as hunting is no longer done, at least not on any reasonable scale.

Women now have resorted to cultivation which continues to be alien to men except where it is commercialized. When soil and rain were dependable, farming for women was a bit manageable. However with the weather pattern becoming increasingly unpredictable, women are finding it difficult to provide their families with food. Additionally, wild fruits and vegetables that were easily available and could be relied on as snack and during off season are now disappearing items.

In Himachal Pradesh, women have been targeted

through groups to enhance and improve their role in agriculture. District Rural Development Agencies, Agricultural Departments, and various NGO's encourage and support women in agriculture, in an attempt to improve household food security. For example, women are assisted to engage in organic farming, Mushroom cultivation, tea plantation because these are cost-effective. By using manure generated out of keeping animals, women are able to increase their food yields. Indigenous vegetables production is being promoted, and livestock rearing at the same time, for both food and manure generation. Chemical fertilizers are quite expensive but organic farming is affordable. Needless to say, these farmers are likely to benefit as the demand for organically grown products picks up among the elite.

Despite their contribution, women in Himachal Pradesh face major constraints of access to, and control over land and agricultural technologies necessary to increase the efficiency of the agricultural operations. There is a systematic exclusion of women from extension education despite the fact that they are the backbone of the agricultural economy. This significantly reduces both the opportunities for accessing and adopting agricultural technologies. Therefore, targeting men for extension education is based on the erroneous premise that the men will share this information with all the others involved in agricultural work at the family level, including the women. On the ground, reality is very much contrary to expectation.

Therefore, for women to acquire skills that will improve their economic wellbeing and thereby influence development especially in rural areas, agricultural education is vital. Education generally is often seen as a panacea to social, economic and political problems. Since the role of women in agricultural production is quite significant, it is necessary to target them in agricultural development. This means enabling them to access quality and timely information in agriculture. Although agriculture continues to be quoted as the mainstay of Himachal Pradesh's economy, it appears that not all is going well in this sector as far as sustainability of livelihoods is concerned.

GENDER AND HOUSEHOLD FOOD SECURITY

Women almost always will spend their income on nurturing activities. Recent studies have shown that women as compared to men are likely to spend more of their income on family food. Also, despite lower incomes and additional demands on their time as housewives and mothers, females heading households, petty traders and street food vendors

have the largest percentage of food insecure households. Generally, women allocate household income differently than men and favour the provision of basic goods and services required to meet the needs of their family. Even when women are farming they are thinking of food for their family.

In recent years, the gender debate has been raging and right now, it appears to have missed the target altogether in the area of agriculture and food security. Most research reports convey the false impression that in Himachal Pradesh, men and women operate separately although they may be living under the same roof. The donor community has not helped. Most have not understood the subtle conditions that obtain at the Himachal Pradesh household level. The traditional fabric has been rocked, leaving men more jealous and less supportive of women's efforts as their male egos feel threatened. An understanding of the gender dimensions and dynamics within households is critical.

In Himachal Pradesh indigenous societies, harmony was ensured through consensus mechanisms in which women were almost always mute participants. Although some changes are being realized, to a large extent, this aspect of tradition seems to persist to-date, even in communities where women have better educational opportunities than their male counterparts.

FINDINGS

- Most people in the state showed that there was a lot of ignorance about what "gender" means. Mostly people think and fear about gender that this was all about advocacy and activism for women's rights which, therefore, threatened to shake the status quo.
- Cultural norms in many communities still do not allow women to express themselves in front of men. Fortunately all this is changing, though slowly and now in some communities younger women are able to express themselves in a mixed gathering of both men and women.
- In terms of practices, more women used animal manure and intercropped maize. Fewer women used improved seeds, less machinery and ended up having to weed more. Enough attention has not been paid to livestock. The fact is there is not as much sensitivity about women owning livestock as owning land and this can be seen as a first window of opportunity to increase women's ownership of viable assets.

- Women contribute more than men in agricultural research activities. Although men are enthusiastic in participating in agricultural research activities such as farmers committee meetings and attending research site open days, this is not reflected in their actual farm activities which are performed mostly by their wives. It appears that for sometime to come, many African countries will continue to rely on agriculture as their main source of livelihood. There is still immense potential in agriculture for development.
- Unavailability of technology i.e. improved seed or lack of cash to purchase. Poor quality, processing difficulties and varied taste made majority of farmers keep away from improved seed and opt for indigenous seed instead. As extension methods, field days and demonstrations were not reaching most small-scale women farmers who find venue and timing inappropriate.

CONCLUSION AND SUGGESTION

- Women in Himachal Pradesh have proved their worth and this needs to be brought up-front. Women's roles continue to be documented and in lot of circumstances policies have been formulated. However, the implementation side is still wanting while the area of attitudes and deep rooted cultural norms and practices still constitute real hindrance to the way forward.
- It also appears that the logical route towards industrialization for Himachal Pradesh is via agriculture but this will not be automatic. A move from rhetoric to action will do Africa a lot of good. Realizing who the real farmer is and extending appropriate support to them would be a step in the right direction. Clearly, existing systems and structures: credit schemes, co-operatives, technologies and indeed policies have not served women well. A repackaging of these support systems and structures to suit women and men as well is important.
- Parallel to these efforts, there should be a design of innovative ways to bring men into agriculture. It truly does not make sense to go on believing that Himachal Pradesh's food security situation will turn around without meaningful male involvement. Continuing to heap burdens on women is not the answer.
- Cases of violence, both physical and emotional, against women are on the increase. These additional burdens on women demand an easing of current loads on them by, amongst other



things promoting time and energy saving technologies at the household level. Finally and most importantly, real commitment is required that brings women into the decision making ranks, thus enhancing their visibility and stature. Needless to say women themselves must make

deliberate efforts to support each other.

- In the current state of affairs, there are two main windows of opportunity for women in farming communities. One is the area of livestock rearing and the fruit, vegetable cultivation where the donor community has supported women to acquire livestock such as dairy animals; this has on the whole boosted women's status. Men feel proud of this because of the visibility it gives their families, they contribute their labour towards it and they enjoy the milk. The mechanism used to introduce the animal sensitizes both the woman and her husband to receive it as a family

project, and to emphasize care which the women alone cannot provide. This line is worth pursuing for all types of livestock although cattle have prime value. This is a project that not only improves family incomes but also empowers women. Involving women in fruit and vegetable growing would keep them close to natural resources which they value so much.

- Development workers should strive to look for these types of opportunities through which they can help effect change without "rocking the boat". Attempts should be made to pursue avenues which do not threaten men or the status quo as any provocative steps only make things worse for women.
- It is imperative to address women and men need to be addressed separately and that the assumption of a household as a homogeneous, cordial entity where everybody works for the common good is erroneous. Going into a community and hoping to shake the status quo might in fact make things worse for the women in the short-term. So, different tools, and approaches and indeed technologies are needed for each gender as deemed appropriate.

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RURAL DEVELOPMENT SCHEMES

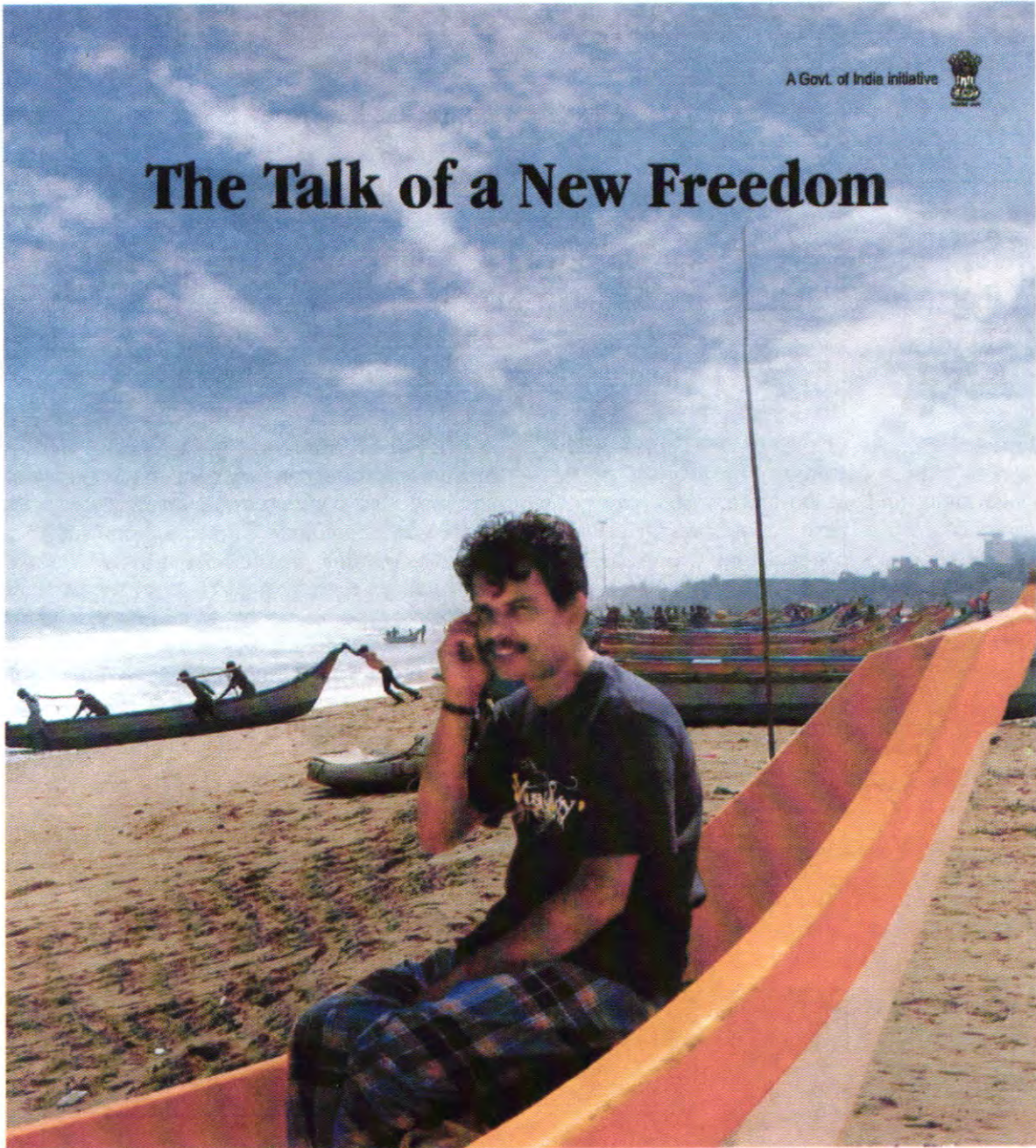
The Union Minister of State in the Ministry of Rural Development Shri Chandra Sekhar Sahu has informed the Lok Sabha that the Registrar General of India have estimated housing shortage of 148.25 lakh houses as per 2001 Population Census. The Ministry of Rural Development is implementing a number of schemes for poverty alleviation, employment generation and basic amenities like shelter to the homeless living Below Poverty Line (BPL) families, rural connectivity, safe drinking water and sanitation etc. in rural areas of the country.

The Ministry of Rural Development has developed a comprehensive system of monitoring the implementation of the Programmes including utilization of funds, through Periodical Progress Reports, Performance Review Committee meetings, Area Officer's Scheme. National Level Monitors, District Level Monitoring and Vigilance and Monitoring Committees at the State/District Level. Besides, the States have been advised to adopt a five-pronged strategy consisting of (i) creation of awareness, (ii) transparency, (iii) people's participation, (iv) accountability/social audit and (v) strict vigilance and monitoring at all levels. These measures will help in maximum utilization of funds under the rural development schemes and to improve the living condition of poor in rural areas.

A Govt. of India initiative



The Talk of a New Freedom



Connecting rural India to opportunities through a phone in every village

- ▶ 49,240 villages out of 66,882 villages provided telephone connectivity in two years
- ▶ The remaining 17,642 villages are getting connected
- ▶ Rural telecom density increasing by leaps and bounds



Bharat Nirman | National Rural Employment Guarantee Act | Sarva Shiksha Abhiyan | National Rural Health Mission

davp 22201/13/0075/0708

KE-1/08/3

WHY GENDER ANALYSIS IN AGRICULTURE

Dr. (Mrs.) Sabita Mishra & Dr. D.P. Mishra

The gender analysis framework are developed to address different aspects of gender equality and are therefore useful for different policy priorities. They are designed to explore the division of labour between men and women in agriculture.

Gender: Gender refers to the socio-cultural definition of man and woman, the way the society distinguish them and assign them social roles. It is the gender which is a major determining factor of the people's participation in development process. The term 'gender' was first used by Ann Oakley and others in 1970s as analytical tools to understand the characteristics of men and women which are socially determined in contrast to biological differences.

Gender Analysis: It seeks the answers to fundamental questions such as who does, what, how and why. The purpose of gender analysis is to tailor interventions to better meet women's and men's specific gender based constraints, needs and opportunities. Gender analysis is an essential element of socio-economic analysis. It provides information on different conditions that women and men face and the different effects that policies and programmes



may have on them. Gender analysis is a primarily practically oriented and qualitative planning tool. It is tool to better understand the realities of the women and men, whose lives are impacted by planned development. It include gender issues with respect to social relations, activities, access and control over resources, services, institutions for decision making and networks of power and authority and needs, the distinct needs of men and women, both practical and strategic. It also provide insights on how gender equality can be promoted within efforts for sustainable development.

Gender Bias - an universal phenomenon:

- Eighteen states / union territories accounting for 56.74% of population record a lower sex ratio than the national average of 933 (Census, 2001).
- Though the overall literacy rate in India has increased from about 15% in 1951 to 65% in 2001, the male female gap has not narrowed down (Census, 2001).
- Among the world's 900 million illiterate people, women out number men two to one (UNDP, 1995).
- 70% of 1.3 billion people living in poverty are women (UNDP, 1995).
- Wages of women are 30-40% lower than men for comparable work (UNDP, 1995).
- Women constitute less than 1/7th of administrators and managers in developing countries (UNDP, 1995).
- 10% seats in world's parliaments and 6% in national cabinets are held by women (UNDP, 1995).
- Women own less than one hundredth of world's property and one tenth of world's income (UNDP, 1995).

Gender Analysis Framework: The gender analysis framework are developed to address different aspects of gender equality and are therefore useful for different policy priorities. They are designed to explore the division of labour between men and women in agriculture. The various frameworks are:

(1) **Harvard Analytical Framework:** It is useful for collecting and organizing information that can then be used at any stage of the project cycle. It provides clear picture of gender division of labour and makes women's work visible. It is

more useful for projects than programmes and depends on micro-level analysis.

- (2) **Moser Framework:** Its approach to planning challengeges unequal gender relations and supports the empowerment of women. The triple role concept is useful in revealing the wide range of work that women engage in. It can also be used for gender training.
- (3) **Gender Analysis Matrix:** It encourages "bottom-up analysis" through community participation. It assists the community to identify and challenge their assumptions about gender roles in a constructive manner.
- (4) **Equality and Empowerment Framework:** This aims at "enabling women to take an equal place with men and to participate equally with men in the development process in order to achieve control over the factors of production on an equal basis with men".
- (5) **People Oriented Framework:** It aims to promote more appropriate targetting of development assistance and more efficient use of donor's resources and also to ensure disparities between the sexes are reduced.
- (6) **SEAGA:** This approach is based on an analysis of socio-economic, patterns and participatory identification of women's and men's priorities. It aims to close the gaps between what people need and what development delivers.

Tools for Gender Analysis and Purpose:

- (1) **Social and Resource Mapping:** It indicates spatial distribution of roads, forests, water resources, institutions, households etc.
- (2) **Seasonal Calender:** It assess workload of women and men, cropping patterns, farming systems, food security, climatic conditions etc.
- (3) **Economical well being Ranking:** Helps to identify relative wealth and the different socio-economic characteristics of households and classes.
- (4) **Daily activity schedule:** It is based on daily pattern activity on an hourly basis and understand how busy women and men are in a day, when they have spare time for developmental activites.
- (5) **Resource analysis:** It indicates access to and control over resources by gender.

- (6) **Mobility mapping:** Understands gender equities / inequities in terms of contact of men and women with the outside world.
- (7) **Decision making matrix:** Helps to know the decision -making on farming practices by gender.
- (8) **Venn diagram:** Identifies and priorities the problems as experienced by men and women.
- (9) **Community action plan:** Understand development alternatives and options and give opportunity to men and women to learn from each other's experiences and knowledge.

- Socio-cultural constraints create problems for women to participate the meeting.
- Integration of workload at home prevents women to go outside for community meeting.
- Do not have full freedom to express as male interventions arise in between.
- Women being shy in nature may not express freely before male PRA team.

Short comings in Gender Analysis through PRA:

- Rural women as perceived "not important" are neglected to participate in development process.

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THE GOVERNMENT IS COMMITTED TO ONE-THIRD REPRESENTATION TO WOMEN IN ASSEMBLIES AND THE PARLIAMENT – DR. MANMOHAN SINGH

The Government is committed to provide one-third representation to women in State Assemblies and the Parliament and it is working for a broad consensus on the matter, this was stated by the Prime Minister, Dr. Manmohan Singh while inaugurating the 2nd East Asia Gender Equality Ministerial meeting in New Delhi. He said that participation of a critical mass of women in politics at the highest level would bring about a revolutionary change and in ensuring good governance. Recalling the contribution of late Shri Rajiv Gandhi for introducing one-third reservation for women in local bodies, PM said that mobilization of large numbers of women in public life through Panchayats has brought about a significant shift in public policy and in social attitudes towards women.

Calling for a mass movement for gender equality, Prime Minister said that it is a fundamental necessity for promoting social economic development. "Women's empowerment unleashes a potential that has remained suppressed for centuries. It enables society to tap into the huge reservoir of talent in one half of the human race", he added.

Highlighting India's initiative to achieve gender equality, Smt. Renuka Chowdhury, Minister for Women and Child Development said that number of initiatives had been taken to improve the status of women and empower her politically, educationally, economically and legally. An inter-Ministerial committee has been constituted to look into the aspect of legal equality for women in all spheres and specially to remove discriminatory legislations and to enact new legislations for this purpose. Smt. Chowdhury said that the Bills for Protection of Women from Sexual Harassment at workplace, Unorganised Sector Workers Social Security Bill and Amendment in the Maternity Benefit Act are on anvil.

TRADITIONAL AND MODERN HEALTH CARE SERVICES IN TRIBAL AREAS: PROBLEMS OF ACCESSIBILITY, AFFORDABILITY AND ACCEPTABILITY

Dr. B. Chakravarty

The World Health Organization (WHO) has estimated that 8% of the population of developing countries rely on traditional medicines, mostly plant drugs, for their primary health care needs.

The tribal population including Scheduled Tribes, Nomadics and Semi-nomadics constitutes more than 10% of the Indian population as per the 2001 Census. The tribes in India live in different climatic zones and their livelihood systems, traditions

and customs vary from one tribe to another even though they live in close harmony with the nature and ecology. In the name of development and mainstreaming, the self-reliant tribal economies have been dislocated and many tribal families have lost



Getting treatment is not easy in tribal areas

their perennial sources of forest-based livelihood and have become dependants on the non-forest sources of livelihoods. Being prone to periodic natural calamities/disasters, incidence of starvation deaths and malnutrition are very common among tribals. As a result, they are susceptible to variety of diseases, which are normally treated with traditional herbal medicine. The studies of Sharma (1979), Patel (1985), Menon (1987), Ali (1988), Dasgupta (1988), Chaudhuri (1990) and Basu (1990 & 1992) on different tribes across the country have highlighted as to what extent the social beliefs, customs, ecological imbalance and external interventions have adversely affected the economic and demographic profile of the tribes in general and their health and sanitation in particular.

Some observations of the above studies:

- In addition to the malnutrition and additional workload, the destruction of traditional herbs through deforestation and lack of access to modern medicine combined with the increasing ecological imbalance resulted in diseases such as TB, stomach disorders, malaria and other diseases related to malnutrition
- Average working hours for woman were 14 as against 9 hours for man in tribals of kondhs
- The extensive felling of trees by the vested interests, the distance between the villages and forests had increased forcing the tribal women to walk longer distances in search of minor forest produce (MFP) and firewood.
- Expected mothers to a large extent were not inoculated against tetanus (Bastar tribal groups) during pregnancy was poor.
- Taking of alcohol even during pregnancy was common.
- Some tribal women (Dudh Kharias and Santals) reduced their food in-take because of the fear of recurrent vomiting and also to ensure that the baby may remain small and the delivery may be easier.
- 90% of deliveries were conducted at home attended by elderly ladies of the household.
- No specific precautions were observed at the time of conducting deliveries, which resulted in an increased susceptibility to various infections.
- Services of paramedical staff were secured only in difficult labour cases
- Vaccination and immunization of infants and children were inadequate among tribal groups.
- As for as childcare was concerned both rural and tribal illiterate mothers were observed to breast-feed their babies upto the age of 3 years or till they give birth to another child.
- But most of them adopted harmful practices like discarding colostrums, giving pre-lactated feeds, delayed introduction of breast-feeding and delayed introduction of complementary feeds.
- Extremes of magico-religious beliefs and taboos aggravated the problems.
- Christian missionaries instilled a faith of healing through prayers / worship to Jesus and as a result the some of the tribals have ignored taking medicines for any ailments
- Lowest literacy among tribals in A.P (14.5%) and highest literacy in Mizoram (80%) were reported
- Tribals were affected with HIV/AIDs due to migration in urban areas and also tradition of free sex
- Health and treatment were closely related with environment particularly, the forest ecology.
- Many tribal groups used different parts of plant not only for the treatment of the diseases but for population control as well.
- The common village customs and practices connected with health and disease were found to be intimately related to the treatment of disease. It was felt necessary to make a holistic view of all the cultural dimensions of the health of a community
- In most of the tribal communities there was a wealth of folklore related to health. Documentation of the folklore available in different socio cultural systems would be very rewarding and it could provide a model for an appropriate health and sanitary practices in a given eco-system.
- Good health and good society go together and tribals wish to live in their own style.
- Sexually transmitted diseases (STD) were very common due to ignorance and lack of knowledge about the sanitation and safe sexual practices
- Workload even during the advanced stage of pregnancy was very common among tribal women

Importance of Traditional Medicines:

The World Health Organization (WHO) estimated that 8% of the population of developing countries rely on traditional medicines, mostly plant drugs, for their primary health care needs. Also, modern pharmacopoeia still contain at least 25% drugs derived from plants and many others which are synthetic analogues built on prototype compounds isolated from plants. Demand for medicinal plant is increasing in both developing and developed countries due to growing recognition of natural products, being non-narcotic, having no side-effects, easily available at affordable prices and sometime the only source of health care available to the poor. Medicinal plant sector has traditionally occupied an important position in the socio cultural, spiritual and medicinal arena of rural and tribal lives of India. Medicinal plants as a group comprise approximately 8000 species and account for around 50% of all the higher flowering plant species of India. Millions of rural households use medicinal plants in a self-help mode. Over one and a half million practitioners of the Indian System of Medicine in the oral and codified streams use medicinal plants in preventive, promotive and curative applications. There are estimated to be over 7800 manufacturing units in India. In recent years, the growing demand for herbal product has led to a quantum jump in volume of plant materials traded within and across the countries. An estimate of the EXIM Bank puts the international market of medicinal plants related trade at US\$ 60 billion per year growing at the rate of 7% only. Though India has a rich biodiversity, the growing demand is putting a heavy strain on the existing resources. While the demand for medicinal plants is growing, some of them are increasingly being threatened in their natural habitat. For meeting the future needs cultivation of medicinal plants has to be encouraged.

National Rural Health Mission (2005 - 2012):

Since independence Govt. of India has created a vast network of health infrastructure such as sub-centres PHCs and Community Health Centres with qualified doctors nurses and paramedical staff. This infrastructure available at different levels is able to cater 20% of the health care needs of the population while the 80% of the health care needs are still being provided by the private sector. Against this backdrop the Govt. of India launched National Rural Health Mission (NRHM) in April 2005 to provide effective health care to rural population through out the country with special focus on 18 states, which have weak public health infrastructure and very poor

performance in respect of demographic and health indicators. These states are Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, J & K, Manipur, Mizoram, Meghalaya, Madhya Pradesh, Nagaland, Orissa, Rajasthan, Sikkim, Tripura, Uttaranchal and Uttar Pradesh.

The NRHM will cover all villages through approximately 2.5 lakh village based "**Accredited Social Health Activities**" (ASHA) who would act as link between villagers and health centres. One ASHA will be formed in every village or cluster of village across 18 states to advise villagers about sanitation, hygiene, contraception and immunization. They also provide primary medical care for diarrhea; minor injuries fever and also escort the patients to medical centres. The government is committed to invest 5%-6% on health services. An amount of Rs. 67 billion was provided in the budget during 2005-06. A National Health Insurance Scheme has also been launched for BPL families to ensure annual health coverage of Rs. 30,000/- for family or an individual. An amount of Rs. 1,00,000/- will be paid to the families of those who die in accident and same amount is paid in case of disability. An amount of Rs. 50,000/- is paid in case of partial disability.

Goals and Strategies of NRHM:

- Reduction in IMR and MMR
- Universal access to integrated comprehensive public health services
- Child health, water, sanitation and hygiene
- Prevention and control of communicable and non-communicable diseases including local endemic diseases
- Health plan for each village through village health committee of GP
- Train and hence capacity of PRIs to own, control and manage public health services
- Strengthening Sub-Centres through an untied fund of Rs. 10,000/- for each centre to enable local planning and action. This amount is deposited in a joint account of ANM and sarpanch of GP and it is operated by ANM in consultation with village health committee.
- More multi-purpose workers to provide health care services.
- Provision of 24 hours services in 50% PHCs through main streaming AUYSH (Ayurved, Unani Yoga, Sidha and Homeopathy) man power.

- Preference of district health plan and its implementation
- Integrating vertical health and family welfare programmes at national, state, district and block level

State / UT Minor Forest Produce (Ownership of Forest Dependent Community) Act 2005: The tribals are in need of forest based sustainable livelihoods and for which the ownership of forest resources and the management of the ecology a very crucial. The Govt. of India has come out with Minor Forest Produce Act (MFPA) 2005. As per this act, collection processing and trade in minor forest produce should be endowed with the forest dependent communities on the principle of "Share and Care". Other provisions of this act include coverage of a minimum of 1/3 of area under trees, demarcation of area under Biological Diversity Act 2002 and safeguarding forest area covered under Wild Life (Protection) Act 1972. If these initiatives are effectively implemented, ecological balance will be restored in the forest areas and the tribals will have safe and self-reliant livelihoods with assured participation and ownership. The medicinal aromatic plants should be cultivated in the degraded and deforested lands with assured backward and forward linkages. The present JFMs / Villages Forest Committees should be strengthened and species which cater to the needs of the villagers should be planted with appropriate performance linked incentives.

Common Diseases and Use of Herbal Medicine in Tribal Areas:

The tribals are inherited to traditional herbal medicines and all their diseases are treated locally by themselves. The tribals in general suffer from skin diseases, diarrhea, malaria, TB, Joint pains and other diseases related to malnutrition. Some of the diseases like jaundice and night blindness are successfully treated without complications. The people living in plain areas also depend on herbal medicines as they are very cost effectiveness and do not have side effects. Most of the products of some of the pharmaceutical companies like Dabur, Zandu, Zinda Tilismath, Amruthanjan etc. are herbal based, and they have big demand in both national and international markets.

Problems of Accessibility:

The tribals due to ignorance, illiteracy and social traditions normally do not accept any new positive interventions in their lifestyles in general and medical care in particular. Therefore they don't avail

themselves of the health care facilities available in sub-centres and PHCs. With the improvement in the literacy levels and exposure to non-tribal villagers / towns the tribals are aware of the medical facilities available in the government hospitals. But the distance, road connectivity and economic compulsion do not allow them to make use of such medical facilities. The doctors and medical staff in the government health care centres are available during a stipulated working hours and most of medicines are not available in adequate quantities due to which the tribals have developed negative attitude towards the government medical care.

Problems of Affordability:

The tribals cannot afford both time and money even to get their diseases treated out side. Getting treatment outside is almost a laborious task in terms of walking and locating the correct source of treatment and also expenses towards treatment and medicines. In the case of serious ailments, which need in-patient treatment, most of the tribals are reluctant to get admitted in government or private hospitals. Out side treatment involves family dislocation and opportunity cost as a result they prefer to be treated locally by using traditional medicines.

Problems of Acceptability:

The allopathic medicines cannot be taken without the guidance of the physician, as some times certain medicines will create reactions and side effects. The herbal medicines usually do not have side effects and they are cost effective and also locally available. Normally the tribals ignore the treatment at the initial stage of disease and they resort to allopathic treatment when the disease becomes serious and in most of such cases the patients normally die by the time the disease is diagnosed.

Suggestions and Recommendations:

- Creation of awareness about preventive and curative medical care through traditional and modern health care systems.
- Appropriate blending of modern medicine with traditional medicine for treatment of certain diseases.
- Awareness and understanding about healthy food habits and food processing
- Cleanliness and sanitation in their surroundings
- Use of balanced diet to solve the problems of vitamin and protein deficiency

- Awareness towards use of Iodized salt / calcium related food stuffs
- Awareness about use of milk products
- Awareness about pre-natal and post-natal care
- Training for the traditional birth attendants
- Periodic mobile medical services
- Health Check-ups at Shandies/weekly market yards
- Plantation of aromatic and medicinal plants to promote the traditional herbal health care systems
- Preservation and documentation of traditional medical practices and examine the scientific validity of the traditional medical practices
- Promote safe sex practices to avoid the incidence of HIV/AIDS
- Effective implementation of wage and self-employment projects to stop migration
- Establishment of traditional medical care centres with qualified doctors in Ayurved, Homeopathy, Unani and Sidha
- Availability of PHCs with 24 hours service and with adequate equipment and medicine
- Training of tribal youth in basic medical care

through traditional and modern health care systems

- Effective implementation of PDS to meet the basic food requirements
- Provision of basic amenities such as electricity, safe drinking water, road connectivity, schools, hostels
- Marketing for Minor Forest Produce with an assurance of lucrative prices
- Effective implementation of Health Insurance Schemes
- Treatment of tribals in super specialty hospitals should be free of cost and the NGOs should develop appropriate network with sponsorship from Multinationals
- Godowns and cold storage facilities for preservation of forest produce and medicinal products.
- Establishment of agro/forest based processing units by encouraging local entrepreneurs

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NUTRITIONAL MANAGEMENT OF DIABETES

Venus Ratnani

Diet and diabetes have always been intimately connected. Since what one eats has a major impact on the blood sugar and insulin, food is a prime player in triggering, exacerbating and controlling diabetes.

Food is the basic necessity of life. On one side the world is facing the problem of under-nutrition while on the other side Diet Related Chronic Non-Communicable Disorders which were considered earlier the problem of the affluent, are also increasing in developing nations. The most important diet related chronic disorders which are prevalent in the country are cardiovascular diseases, hypertension, obesity, diabetes, etc. Thus, the challenges are immense.

It is a matter of concern that not only the rich but also the poor are getting increasingly affected due to sedentary life styles and bad food habits. The number of juvenile diabetes is also on the rise.

The word diabetes is derived from a Greek word meaning "to siphon; to pass through" and mellitus comes from a Latin word "honey". Thus the two characteristic symptoms copious urination and glucose in urine gives the name to the disease.

Diabetes doesn't happen overnight. It usually takes years to develop. It is known that genetic factors predispose certain people to diabetes but all of the data suggest that lifestyle factors, particularly diet and exercise can determine whether those genetic factors actually manifest in the disease. Heredity is a major factor in the development of the disease. But it is important to note that heredity is like a cannon and obesity pulls the trigger.

Diet and diabetes have always been intimately connected. Since what one eats has a major impact on the blood sugar and insulin, food is a prime player in triggering, exacerbating and controlling diabetes.

Worldwide the number of cases of diabetes have been currently estimated around 150 million. This number is predicted to be double by 2025 with greatest number of cases being expected in India and China. Increases in both the prevalence and incidence of type 2 diabetes have occurred globally. But the increases have been specially dramatic in societies in economic transition in much of the newly industrialized world and

developing countries. Type 2 diabetes results from an interaction between genetic and environmental factors. The rapidly changing incidence rates, however suggest a particularly important role for the latter as well as potential for stemming the tide of the global epidemic of the disease. Noticeable increases are occurring in societies in which there have been major changes in the type of diet consumed, reductions in physical activity, and increases in overweight and obesity. The diets concerned are typically high in fats like butter, ghee, vanaspati (saturated fats), low in fruits and vegetables, and with a higher consumption of junk foods.

Role of Diet in Prevention and Management of Diabetes

The role of diet in healthy life-style is very important in order to combat the problem. Even in the developed world there is growing realization that the modern system of medicine alone is not able to address all the health problems particularly related to the life style diseases like diabetes. It is in this context that scientific wisdom contained in the traditional health care system can be used to find solutions to the present day problems.

The richness of Indian civilization with its glorious past has given the humanity vast knowledge about the usage of plants for food and health care. The strong tradition of health care practised and documented for more than 3000 years in the form of Ayurveda, Unani, Siddha and Yoga & Naturopathy systems of medicine have evolved through centuries of usage and have stood the test of times in providing holistic health care to the people and are based on a very intimate and well researched understanding that biotic and non-biotic components of the environment play in promoting holistic health care. There is growing interest in the world about the use of these systems and increasingly the developed world is prepared to adopt Indian systems. Today, Yoga has become popular the world over.

The author is a freelance journalist. (Source: PIB)

OZONE DEPLETION

Ultra-violet radiation at Earth's surface increases as the amount of overhead total ozone decreases, because ozone absorbs ultraviolet radiation from the Sun. Measurements by ground-based instruments and estimates made using satellite data have confirmed that surface ultraviolet radiation has increased in regions where ozone depletion is observed.

Q.1. What is Ozone and where is it in the atmosphere?

Ozone gas is naturally present in our atmosphere. Each molecule contains three atoms of Oxygen. Ozone is found primarily in two regions of the atmosphere. About 10% of atmospheric ozone is in the troposphere, the region closest to Earth (from the surface to about 10-16 kilometers). The remaining 90% Ozone resides in the Stratosphere, primarily between the top of the Troposphere and about 50 kilometers altitude. The large amount of Ozone in the stratosphere is often referred to as the "Ozone layer".

Q.2. How is Ozone formed in the atmosphere?

Ozone is formed throughout the atmosphere in multi-step chemical processes that require sunlight. In the Stratosphere, the process begins with the breaking apart of an Oxygen molecule by ultraviolet radiation from the Sun. In the lower atmosphere (Troposphere), Ozone is formed in a different set of chemical reactions involving hydrocarbons and nitrogen-containing gases.

Q.3. Why do we care about atmospheric Ozone?

Ozone in the Stratosphere, absorbs some of the Sun's biologically harmful ultraviolet radiation. Because of this beneficial role, Stratospheric Ozone is considered "Good Ozone". In contrast, Ozone at Earth's surface that is formed from pollutants is considered "Bad Ozone" because it can be harmful to humans and plant and animal life. Some Ozone occurs naturally in the lower atmosphere where it is beneficial because Ozone helps remove pollutants from the atmosphere.

Q.4. Is total Ozone uniform over the globe?

No, the total amount of Ozone above the surface

of Earth varies with location on the time scales that range from daily to seasonal. The variations are caused by Stratospheric winds and chemical production and destruction of Ozone. Total Ozone is generally lowest at the equator and highest near the poles because of the seasonal wind patterns in the Stratosphere.

Q.5. How is Ozone measured in the atmosphere?

The amount of Ozone in the atmosphere is measured by instruments on the ground and carried aloft in balloons, aircraft, and satellites. Some measurements involve drawing air into an instrument that contains a system for detecting Ozone. Other measurements are based on Ozone's unique absorption of light in the atmosphere. In that case, sunlight or laser light is carefully measured after passing through a portion of the atmosphere containing Ozone.

Q.6. What are the principal steps in stratospheric Ozone depletion caused by human?

The initial step in the depletion of stratospheric Ozone by human activities is the emission of Ozone-depleting gases containing Chlorine and Bromine at Earth's surface. Most of these gases accumulate in the lower atmosphere because they do not react and do not dissolve readily in rain or snow. Eventually, the emitted gases are transported to the Stratosphere where they are converted to more reactive gases containing Chlorine and Bromine. These more reactive gases then participate in reactions that destroy Ozone.

Certain industrial processes and consumer products result in the atmospheric emission of "Halogen source gases". These gases contain Chlorine and Bromine atoms, which are known to be harmful to the Ozone layer. For example, the

Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs), once used in almost all refrigeration and air conditioning systems, eventually reach the Stratosphere where they are broken apart to release Ozone-depleting chlorine atoms. Other examples of human-produced Ozone-depleting gases are the "Halons", which are used in fire extinguishers and which contain Ozone-depleting Bromine atoms.

Q.7. Why has an "Ozone hole" appeared over Antarctica when Ozone-depleting gases are present throughout the stratosphere?

Ozone-depleting gases are present throughout the Stratospheric Ozone layer because they are transported to great distances by atmospheric air motions. The severe depletion of the Antarctic Ozone layer known as the "Ozone hole" forms because of the special weather conditions that exist there and nowhere else on the globe. The very cold temperatures of the Antarctic Stratosphere create ice clouds called Polar Stratospheric Clouds (PSCs). Special reactions that occur on PSCs and the relative isolation of Polar Stratospheric air allows chlorine and Bromine reactions to produce the Ozone hole in Antarctic springtime.

Severe depletion of the Antarctic Ozone layer was first observed in the early 1980s. Antarctic Ozone depletion is seasonal, occurring primarily in late winter and spring (August-November).

Q.8. Is there depletion of the Arctic Ozone layer?

Yes, significant depletion of the Arctic Ozone layer now occurs in the late winter/spring period (January-April). However, the maximum depletion is generally less severe than that observed in the Antarctic and is more variable from year to year. A large and recurrent "Ozone hole", as found in the Antarctic Stratosphere, does not occur in the Arctic.

Q.9. How large is the depletion of the global Ozone layer?

The Ozone layer has been depleted gradually since 1980 and now is about an average of 3% lower over the globe. The depletion, which exceeds the natural variations of the Ozone layer, is very small near the equator and increases towards the poles. The large average depletion in Polar Regions is primarily a result of the late winter/spring Ozone destruction that occurs there annually.

Q.10. Are there regulations on the production of Ozone-depleting gases?

Yes, the production of Ozone-depleting gases is regulated under a 1987 international agreement known as the "Montreal Protocol on Substances that Deplete the Ozone Layer" and its subsequent Amendments and Adjustments. The Protocol, now ratified by over 191 Nations, establishes legally binding controls on the national production and consumption of Ozone depleting gases. Production and consumption of all principal Halogen-containing gases by developed and developing Nations will be significantly reduced or phased out before the middle of the 21st century.

As a result of the Montreal Protocol, the total abundance of Ozone-depleting gases in the atmosphere has begun to decrease in recent years. If the Nations of the world continue to follow the provisions of the Montreal Protocol, the decrease will continue throughout the 21st century.

Q.11. Does depletion of the Ozone layer increase ground-level ultra-violet radiation?

Yes, ultra-violet radiation at Earth's surface increases as the amount of overhead total ozone decreases, because ozone absorbs ultraviolet radiation from the Sun. Measurements by ground-based instruments and estimates made using satellite data have confirmed that surface ultraviolet radiation has increased in regions where ozone depletion is observed.

Q.12. Which are the Ozone Depleting Substances (ODS) presently used in India?

Chlorofluorocarbons(CFCs)-12 for Refrigeration, Chillers and Metered Dose Inhalers.

Hydrochlorofluorocarbons (HCFCs) - 22 for Air Conditioners.

Carbon Tetrachloride (CTCs) as solvent process agent mainly in the metal cleaning and textile industries. It is also used as feedstock in the manufacture of CFCs and DV Acid Chloride.

Q.13. Which ODS is no longer produced in India?

Halons, which were earlier used in fire extinguishers. Halons continue to be used in Defence sector, which is exempt from Montreal Protocol.

Inputs from Ministry of Environment & Forests

HARNESSING THE POTENTIAL OF POTATO TO MEET INCREASING FOOD DEMAND

Shailbala and Chitra Pathak

Potato is a wholesome and nutritious food. Therefore consumption of the fresh potatoes should be encouraged. Green revolution led to drastic increase in production of yield of wheat, rice and maize. It might be surprising for many to note that potato is widely grown at large scale and ranks fourth in food production following wheat, rice and maize as far as production is concerned. Potato continues to be among the most preferred and accessible food product especially for the poor. Potato can serve as a nutritious food complementing the regular diet.

Dry potato or fry potato but do try potato

One of the major problems faced by developing countries in general and India in particular, is the ever increasing population. As per the current trend, the population in India is expected to be around 1.3

billion by the year 2020. According to the projected estimate of the government, the country will have to produce an additional 5.6 million tones of food grains annually which are not going to be an easy task. This is going to be Herculean task for the agriculture fraternity.



We have been relying heavily on the major cereal crops-wheat, rice and maize to feed the population in our country. Such an over dependence on cereals should change, if we have to ensure food security in the decades to come. So there are very few foods which are as versatile and nutritious as potato. It can help to widen the food supply as well as help to minimize the risk of serious food shortage. A large section of the poor population is dependent on potato. Today, potato is the bread of life or poor man's food in many countries including India.

Potato: A potential food crop

Interestingly, not many people are aware about the features that confer potato a special status. Dr. Goklesh Jha at the Rajendra Agriculture University, Pusa in Bihar has come up with *aaloo chalisa* on the verge of *hanuman chalisa*. The idea is to share with people about the beneficial qualities of potato in an effective and easy way. Some of the important characteristics of potatoes are:

Wider acceptability

Potato has been grown in wide range of different agro-climatic conditions. It is cultivated in hills as

well as in plain conditions. It can be grown in any season through out the year. In the hills of Uttarakhand, it is grown round the year in any type of soil except extreme alkaline and saline.

Contribute to national economy

Potato is cultivated in 0.5% area in the country and contributes approximately 2% of the total output of agriculture.

Value added products

Potatoes can be roasted, boiled, fried, toasted, baked or steamed. It can be easily processed into potato chips, *namkeens*, french-fries, patties, *samosas*, *allo tikki* etc. It can also be processed into dehydrated and canned products. It can be cooked with other vegetables as well. Boiled potatoes can be used in various kinds of salads. For lunch or dinner, one can have potato either in curry form or as dry vegetable.

Flexibility in production

There is wide flexibility in planting time of potato

so that it helps in planning and adapting to different cropping patterns. Many potato varieties are suitable in both short as well as long day conditions. These cultivars give maximum yield in a short period of time. It can be also grown when suitable temperature, moisture, irrigation etc. is assured.

Higher food production per unit of area and time

Our main objective is to maximize the food production and make our country self sufficient in terms of production. Potato produces more food per unit area and production. The total productivity of potato is considered to be 18 t/ha which is more as compare to wheat, rice and maize etc.

Nutritionally superior

Improved understanding of the nutritional value of potato helps in conceptualizing its role in our diet. Some of the important nutritional qualities are discussed below:

A low calorie food

Potato contains much greater amount of water



(80%) and lower quantities of carbohydrates than that of cereals and pulses. It yields about 80-100 kilo calorie per 100 g fresh weight which is less than cereals and pulses. Even cooked potatoes have a lower calorific value as compared to cooked cereals and pulses.

Good quality protein

It contains about 2% of protein. Crude protein of potatoes remain unchanged after cooking whereas in case of cereals crops, protein content goes down since it absorb large quantity of water.

Fat free food

Potato contains tiny amount of fat (0.1%) with majority being the unsaturated fatty acid (linoleic acid) which is nutritionally superior.

Rich in minerals and vitamins

Potato tubers consist 1% of mineral matter. It is rich in potassium and good source of phosphorous. Potato tubers are considered to be a good source of vitamin C and B group vitamins but their quality decrease during cooking.

Amino acids

Potato protein is high in lysine and only moderately limiting in sulphur containing amino acid (methionine and cystine). Despite its lower methionine content, potato protein is characterized by high biological value.

Superior dietary fiber

Potato fibers are accounted for by the potato peel and is considered as intracellular cementing material. It gives protection against diverticulosis, cardiovascular disease, colon cancer and diabetes.

Most versatile food

Potato produces more dry matter (47.6 kg/ha/day) per unit area than other cereal crops. Potato contains about 16 % carbohydrate on fresh weight basis. Potato has a high biological value because all amino acids are present in potato protein and in harmonized reciprocal quantitative ratio.

Importance of potato crop in Agriculture

Potato is grown in an area of 1.3 mha, with production 24 mt and productivity 18.5 t/ha. In order to overcome the shortage of food production, there is need to increase the productivity of the crop. Potato crop have a great potential to meet the

increasing food requirements. Change in planting as well as harvesting date, use of certified seed and resistant cultivar, intercropping of potato (potato with wheat, mustard, sugarcane, vegetables, etc.) with other crops are some of the important characteristics which should be considered in our cropping system.

Misconceptions

The most common misconception about potato is that it is responsible for obesity. However, its fat content is less than 0.1% and it is also a low calorie food so it hardly can cause fattening. Other false notion that potato is the main factor behind diabetes is not true because it provides balanced low calorie food. Potato is consumed with other vegetables but it hardly decreases the nutritive value of the meal. Potato contains glycoalkaloids known as solanine i.e. 5 mg/100 g of fresh weight tubers. Potato tubers with glycoalkaloid more than 20 mg /100 g fresh weight are generally considered harmful for human consumption.

Major problems associated with potato cultivation

Increase in production and productivity can be contributed to the adoption of improved technologies i.e. quality planting material, balanced nutrients, timely application of plant protection measures against major insect pest and disease. Today, India ranks fourth in the area and fifth in the production of potato in the world. Increase in area, production and productivity are likely to help to achieve the target set i.e. production of 30 million tones with average yield of 20 tones/ha. But there is a need to identify problem areas that potato crop is likely to face in the intensive cropping system in future. The following are the major problem areas in potato production which needs to be addressed:

Production related

- Lack of resistant varieties
- Inadequacy of planting material of improved varieties
- Break down of resistance
- Soil sickness
- Heavy dependence on rain

Protection related

- Incidence of diseases viz., late blight, bacterial wilt, early blight, black leg, brown rot etc.
- Incidence of specific pests (viz., aphid, potato

tuber moth, white grub, cut worm etc.) at various stages of growth and development

- Indiscriminate use of pesticide for immediate control of disease and pest
- Black heart, greening etc., which are basically man made problems

Post harvest related

- Lack of sufficient processing unit for production of quality produce
- Lack of proper storage as well as transport facilities
- Lack of improved variety as raw material for processing

Technology transfer related

- Poor adoption of technologies like IPM, INM, fertigation etc.
- Lack of managerial skills along with good package of practices

Marketing related

- Lack of cooperative with proper linkage with whole sale/retail marketing system
- Lack of transportation facility from farmers field to wholesale and retail market
- Communication gap among farmers

Man made problems

- Black heart: It is caused by sub-oxidation. Whenever potatoes are stored in pile, the air passage to the centre of pile is reduced drastically. This condition is likely to result in black heart. So proper ventilation in warehouses are needed to avoid this problem.
- Greening: It is caused by exposure of the tubers to direct sunlight. The green pigmentation is caused by solanin which is slightly poisonous. Proper earthening-up is required to prevent this.

How can we increase potato production?

There is a large gap between the demand and the supply of potato. Although our country has been able to achieve food security yet half of the population is mal or undernourished. In India, the per capita consumption of potato is 13 kg/capita/annum in comparison to 100-170 kg/capita/annum in several

countries of the west i.e. UK, Germany, etc. Thus, there exists a good scope for potato consumption and to increase its production so as to meet the good quality food requirements. Since, dietary pattern is changing and purchasing power in general is increasing so, there is a need to increase the production for processed products. Some measures if adopted have the potential to increase the potato production.

- Area expansion
- Use of certified seeds
- Development of disease resistant cultivar
- Proper inter culture operations
- Balanced use of fertilizers
- Intercropping system
- Integrated water management
- Integrated disease management practices
- Appropriate technology development and transfer
- Post-harvest infrastructure
- Marketing infrastructure and linkages
- Improved knowledge and skills of farmers

Conclusion

In developed countries, potato is considered as staple food but in country like India which is now a major potato producing country in the world, it is treated as a vegetable. Among developing countries, yield of potato is the highest and it is enough to recognize potato as a major food crop. If we consider the increasing population of our country and food demand, the potato will play an important role in meeting those demands.

If one has to survive on one food alone, the potatoes will be the best option than any other major food crop. The intention is not to replace other major foods by potato but to complement them with potato to draw maximum nutritional benefits from potato and other food crops. There is need to give due attention to this crop.

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सत्यमेव जयते

DSIR

Tepp



TIFAC

Ministry of Science and Technology
Technopreneur Promotion Programme (TePP)

Call for Proposals

TePP is the programme to extend financial support to independent innovators for converting their innovative ideas into working prototypes/models. Over 7000 raw ideas have been accessed, 1500 proposals evaluated and 200 supported. TePP now invites proposals on the following:

PROGRAMME	ELIGIBILITY
TePP Phase I :	
1. Technopreneurship Support(TS)	Any independent innovator
2. TePP Project Fund (TPF)	Any independent innovator

Interested? Contact:

The Head

Technopreneur Promotion Programme (TePP)
Ministry of Science & Technology
Department of Scientific & Industrial Research (DSIR)
Technology Bhawan, New Mehrauli Road
NEW DELHI 110 016
FAX : 011-2696 0629 E-mail: asrao@nic.in

Important:

1. TePP is a common programme of DSIR and TIFAC (DST).
2. Proposals of grass root innovators and school children are supported under NIF and not TePP.
3. Faculty research and student projects are not supported under TePP, but faculty start-ups and student entrepreneurs are eligible provided they possess technology commercialization rights.
4. dot.com start-ups are not supported under TePP but start-ups with innovative delivery models of S&T to rural beneficiaries are eligible for support.
5. Innovators are advised to protect their intellectual property rights by submitting provisional application before revealing details in application, essential for evaluation. For approved projects, subsequent patenting costs including international patenting in two countries are eligible for support.
6. The **application blank** appropriate to the category may be downloaded from DSIR Website: <http://www.dsir.gov.in>.
7. You may send an advance copy of the proposal by e-mail to asrao@nic.in
8. Innovators are encouraged to submit proposals through the TePP Outreach Centers. Their addresses and contact details are given on the web page. All outreach centers provide counseling and mentoring, some provide incubation facilities too. There will be no counseling sessions in DSIR/TIFAC.
9. Canvassing in any form is liable for summarily rejection of the application.
10. The decision of the Ministry will be final. **No correspondence shall be entertained on the proposals rejected.**

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