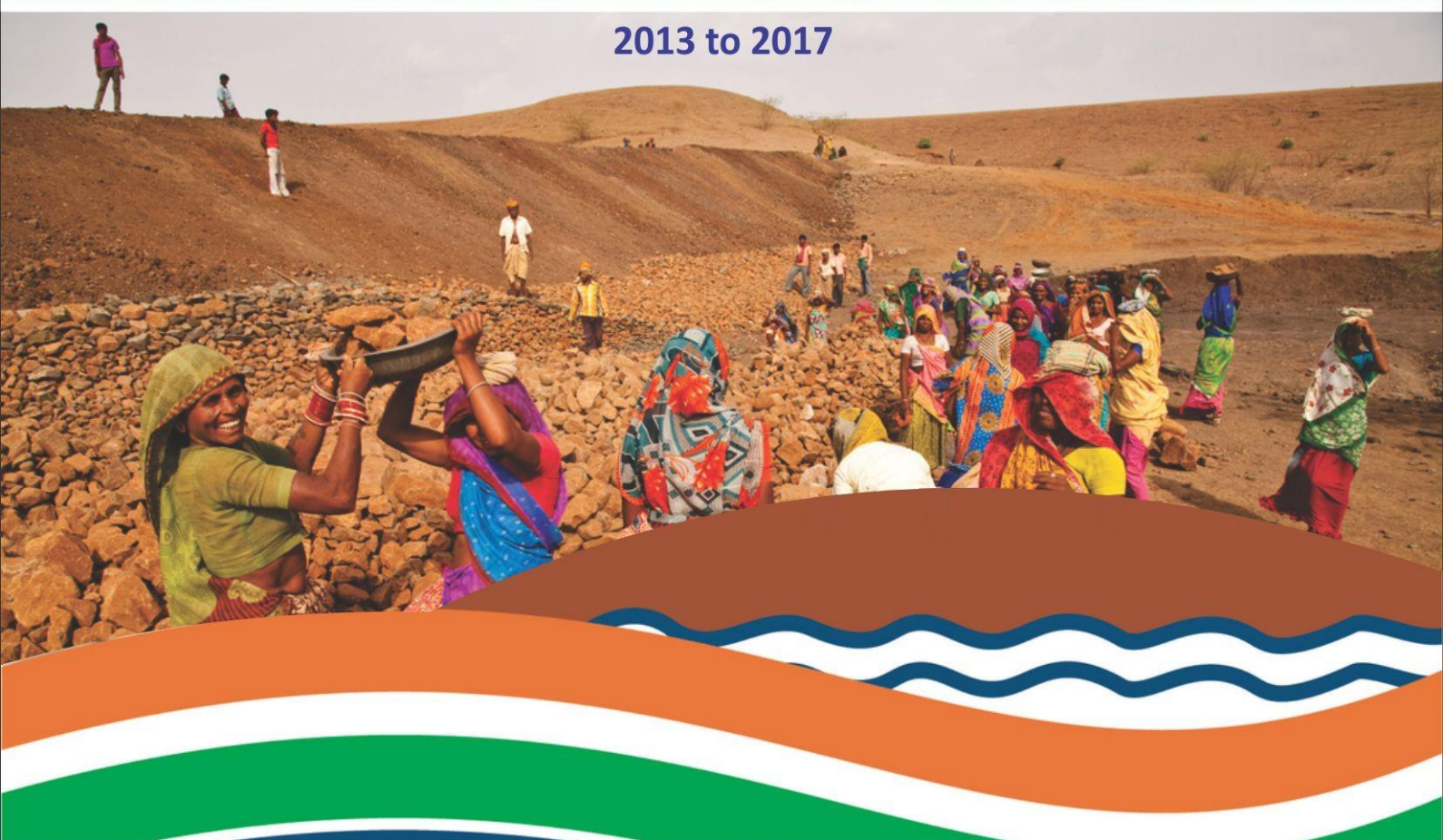


UNIVERSITY GRANT COMMISSION

Major Research Project

Ergonomical Choices for Energizing Women Working under Mahatama Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

2013 to 2017



Research Team

Dr. Nidhi Gupta
(Principal Investigator)

Ms. Padamaja Puppala
(Co-Investigator)

Ms. Komal Patel
(Project Fellow)



S. M. PATEL COLLEGE OF HOME SCIENCE

(A Charutar Vidyamandal Institute)

Accredited "A" grade by NAAC & AAA

Vallabh Vidyanagar, Gujarat

UNIVERSITY GRANT COMMISSION

BAHADUR SHAH ZAFAR MARG

NEW DELHI-110002.

1. **TITLE OF RESEARCH PROJECT:** “ERGONOMICAL CHOICES FOR ENERGIZING WOMEN WORKING UNDER MGNREGS”.

2. **NAME AND ADDRESS OF THE PRINCIPAL INVESTIGATOR:**

Dr. Nidhi Gupta
Associate Professor,
Dept. of FRM
S. M. Patel College of Home Science

3. **NAME AND ADDRESS OF THE INSTITUTE:**

S. M. Patel College of Home Science , Vallabh Vidyanagar, Gujarat

4. **UGC APPROVAL LETTER No. AND DATE:** F.42-101/2013(SR)

5. **DATE OF IMPLEMENTATION:** MARCH 2014

6. **TENURE OF THE PROJECT:** FROM 2013 TO 2017

7. **TOTAL GRANT ALLOCATED:** Rs.11,84, 400/-

8. **TOTAL GRANT RECEIVED:** Rs. 11, 02, 200/-

9. **FINAL EXPENDITURE:** Rs.11, 36, 712/-

10. OBJECTIVES OF THE PROJECT:

I. Brief Objective of the project:

✓ **Broad objective:**

- a. To understand women’s activities in rural areas and their ergonomical implications. With this main objective in mind the present study was carried out with the following sub objectives.

✓ **Sub objectives:**

- a) To study the existing work practices of the selected rural women working under MGNREGs in Anand District
- b) To observe the capabilities and limitations of the women working under MGNREGs related to manual material handling.
- c) To identify the areas where maximum ergonomic intervention is required for rural women workers under MGNREGs.
- d) To develop standardized training modules and platforms for rural women workers under MGNREGs based on local good practices.

- e) To analyze the impact of training on selected group of rural women workers under MGNREGs.
- f) To build consensus on feasible improvements.

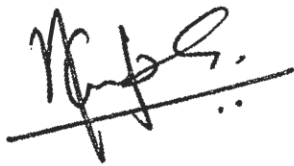
❖ **SUMMARY OF THE FINDINGS: (IN 500 WORDS)**

The project titled “Ergonomical Choices for Energizing Women Working Under MGNREGS” aimed in improving women’s overall health, efficiency and productivity is explained under different objectives.

- ✓ Most of the target group is illiterate i.e. 70% and are in productive age group, earning up to Rs.3000/- pm. Two-third of target group are working since 2 years in MGNREGA for employment and only 36.4% of women receive help from family members, out of that one-fourth are their spouse.
- ✓ The main activities carried out in MGNREGs are rural connectivity and land development, afforestation and they use tools Pavado and Tagaru for most of the activities. When we observed the postures adopted most of the time through REBA and the analysis revealed that one-fifth of the respondents are at **very high** and two-fifth at **high risk** level while using tagaru and the reason identified is lifting the load from the ground level several times a day.
- ✓ The body pain areas of the beneficiaries were identified through Body Mapping Technique which revealed that 49% of the beneficiaries felt extreme pain in fingers, approximately half of women felt pain in right palm and left palm felt extreme pain in right forearm and left forearm and one-third of women suffered with ear pain.
- ✓ When it comes to back pain, three-fifth of the respondents are suffering with extreme pain and only 15% of women felt severe & moderate pain. Three-fourth of the women are suffering with extreme pain in both the legs and thigh region. Same way three-fourth of the women suffer from extreme pain in all the joints, right knee being the highest i.e.74%.
- ✓ The results indicated that women are suffering with pain in upper, middle and lower palm. When the perceived comfort aspects with the tools are analyzed, more than half of the women are facing problems with the tools. When discussing the social restriction on clothes, majority (97%) of the women wear ghunghat while working and half of the respondents need permission from home to work in MGNREGs and 83% of women’s wages are handled by their men.
- ✓ The body built of the women usually fall in Ectomorph and Mesomorph category when the physical capabilities of the beneficiaries were analyzed with age.

Young adult group i.e. 30 to 39 years showed better fitness than 20 to 29 years i.e. young group of women.

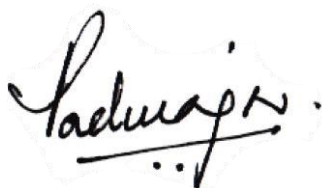
- ✓ Consumption of Energy Expenditure suggested that lifting load from the ground level repeatedly was found to be very heavy to moderately heavy by little less than half of the respondents when assessed in terms of subjective exertion.
- ✓ The gaps were identified in aspects like Posture, Misfit of tools; Fatigue and Manual Material Handling so standardized modules were developed for intervention programme.
- ✓ The awareness levels of the aspects covered in intervention programme were tested before and after the training and 79% of the target group gained knowledge on fatigue, half of the women gained on suitable tool selection. While most of the women (90%) respondents learnt the correct weight lifting techniques in the training and 50% gained the knowledge of manual material handling. Majority of the women learnt about advantages of maintaining good posture.



(PRINCIPAL INVESTIGATOR)



(REGIATRAR/PRINCIPAL)



(CO- INVESTIGATOR)

✓ **List of Publication out of the Project:**

1. Puppala.P. & Gupta.N. (2013), “Impact of MGNREGA on Empowerment of Rural Women with Special Reference to Consumer Decision-Making”, Paper presented on National Conference on “Understanding Indian Rural Consumers sponsored by UGC under SAP-DRS-II.
2. Puppala.P. & Gupta.N. (2013),”Empowerment of Rural Women Working Under MGNREGs Through Collective Participation”, Paper presented in National Seminar, organized by Department of Extension and Communication, Faculty of Family & Community Sciences, M.S. University, Baroda.
3. Puppala.P. &Gupta. N. (2012),”Farm Tools And Rural Women-Understanding Through An Ergonomic Lens”, Paper presented in National Seminar on “Understanding Rural Consumers”,Organized by G.H.Patel College of Business Studies, S.P.University,V.V.Nagar.
4. Gupta.N. &Patel.K. (2014)“Extent of women empowerment through MGNREGA in Anand District “paper presented in National Seminar on Gender Discrimination in Geographical perspective under UGC on 23rd August, Brick Publication, ISBN:978-93-83047-13-0,Pp.117-126.
5. Dr.Gupta.N. &Patel.K. (2015), “Women empowerment through MGNREGA in Anand District” International Journal of Applied Home Science,Vol. 2 (1&2), ISSN:2394-1413,Jan 2015, Pp. 60-64.
6. Gupta. N. & Puppala. P. (2015), “An in-depth analysis of Body Pain areas of the Women Working in MGNREGA”, Paper Presented on International Conference on Humanizing Work & Work Environment, IIT Bombay.
7. Pandya. E. & Gupta. N. (2015), “To study the Extent of Hand Pain Experienced and Risky Postures adopted by Rural Women”, Paper Presented on International Conference on Humanizing Work & Work Environment, IIT Bombay
8. Patel.K. & Gupta.N. (2016) “Indicators of Women Empowerment Under MGNREGs: A Review”, International Journal of women in Science & Technology: Creating Sustainable Career (ICWSTCSC: 2016), ISBN:978-93-84339-11-1, Pp.36-47.
9. Gupta.N.& Puppala. P. (2016),” Understanding Women's Activities Under MGNREGS Through An Ergonomic Lens”, International Journal of women in Science & Technology: Creating Sustainable Career (ICWSTCSC: 2016), ISBN:978- 93-84339-11-1, Pp.37-44.

Research Documents / Monograph Academic Papers:

Women empowerment through Mahatma Gandhi National Rural Employment in Anand district

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V.V. Nagar (Gujarat) India

ABSTRACT

The National Rural Employment Guarantee Act, 2005 (NREGA) guarantees 100 days of wage employment in a financial year to any rural household whose adult members are willing to participate in unskilled manual work. The Act is an important step towards realization of the right to work and aims at arresting out-migration of rural households in search of employment simultaneously enhancing people's livelihood on a sustained basis, by developing the economic and social infrastructure in rural areas. This is renamed as Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) from 2010 onwards. It is an Act that aims to strengthen women employment by enforcing that about 33 percent of total work force should be women and also that there will be equal wages for men and women. It is playing a substantial role in creating employment for women thereby, leading to greater independence and self-respect among women. As far as women's role in MNREGA is concerned, these programmes have noted a number of positive impacts on women such as their large scale participations in these programmes, increase in their self-earned incomes and use of these incomes for well-being of their own household. The present paper has made an attempt to study the participation of women through MNREGA in various states of India and also in districts of Anand. The highest employment status amongst women in terms of person days can be seen in Kerala. When we consider the total employment status of Anand District through MNREGA, a total of 33,05,473 person days employment is generated, out of which the share of women stands at 38.76 percent. The highest employment status amongst women in terms of person days can be seen in Tarapur district with 45.66 percent.

Key Words : Empowerment, Women empowerment, MNREGA

INTRODUCTION

Empowerment refers to increasing strength of individuals or communities in the different spheres of life such as economic, political, social, spiritual etc. It also refers to instilling confidence in people in their own capacities. (Savaiah.H.2014)

Women Empowerment essentially refers to empowering women to change power relations between them and men in their favour. Women in general and women in developing countries in particular are observed to be lagging behind men in the different spheres of life such as, labour and employment, health and nutrition, education and skills, asset ownership, political and social participation etc., with the result that power of decision making in the multiple spheres of life lies more with men than with women, on the economic front, women own no/low assets as compared to men. This restricts their access to credit, to technology, to markets and to upward mobility. Women also

Cite this Article: Gupta, Nidhi and Patel, Komal (2015). Women empowerment through Mahatma Gandhi National Rural Employment in Anand district. *Internat. J. Appl. Home Sci.*, 2 (1&2) : 60-64.

EXTENT OF WOMEN EMPOWERMENT THROUGH MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT SCHEME IN ANAND DISTRICT

Dr. Nidhi Gupta , Komal Patel***

Introduction

Women empowerment essentially refers to empowering women to change power relations between them and men in their favour. Women in general and women in developing countries in particular are observed to be lagging behind men in the different spheres of life such as, labour and employment, health and nutrition, education and skills, asset ownership, political and social participation etc., with the result that power of decision making in the multiple spheres of life lies more with men than with women. Women are lagging because they do not possess power to change their inferior status, and they do not have power to change their status because they lag behind in most inputs needed to change power. There is a need to break this vicious circle to empower women and to enable them to take their own decisions.

MGNREGS:-

Being the first ever law in the country that guarantees wage employment on an unprecedented scale, MGNREGA aims at enhancing livelihood security of households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. Unique features of the Act inter alia include, time-bound employment guarantee and wage payment within 15 days, incentive disincentive structure to the state governments for providing or not providing employment as per demand, emphasis on labour intensive works prohibiting the use of

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INDICATORS OF WOMEN EMPOWERMENT UNDER MGNREGA SCHEME

Komal Patel*, Dr. Nidhi Gupta†

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Abstract

The Government of India initiated many employment generating programmes to address unemployment problem in rural area, however it remains major challenges to India's development. The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGs) is one of the major flagship initiatives which enhance the employment opportunity to rural women. The MGNREGs aims to enhance livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult member volunteer to do unskilled manual work. In the rural milieu, it promises employment opportunities for women and their empowerment. However, women's decision for participation and their share in NREGA jobs is hindered by various factors. The present paper throw lights on the innovative MGNREGs which helps in empowering women socially and economically leading to sustainable development of the society. The current study is an effort to analyze the various motivating and de-motivating internal and external factors of women empowerment in MGNREGs. This paper was based on secondary data; an attempt has been made to comprehensively understand the development effort to rebuild the rural life and livelihood on the basis of various secondary data. Many research studies revealed that this programmes had major impact on rural areas positively as well negatively. The major motivating factors which lead to increase women participation explored through various research studies revealed were locally available work, self- earned income opportunity, reduce unemployment, increase self-confidence, awareness about banking system, reduce gender inequality and de- motivating factors found in the related literature were no basic facility in the work place, delay payment, poor administrative & planning skill in rural women. However, the scheme has to enhance the motivating factors which will help increase participation of the women in rural areas and to reduce the factors which de motivate the rural women in joining MGNREGs which ultimately act as obstacles in women empowerment.

Key Words

Empowerment, Women Empowerment, women and MGNREGA

Introduction

The "Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)" was enacted to reinforce the commitment towards livelihood security in rural areas. The Parliament



TO EXPLORE THE CONSUMER BEHAVIOR RELATED TO ECO FRIENDLY PRODUCTS



¹ Ms. Komal Patel and ² Dr. Nidhi Gupta

¹Ph.D Scholar, S. M. Patel College of Home Science, V.V.Nagar.

²Associate Professor, Family Resource Management Department, S. M. Patel College of Home Science, V.V.Nagar.

Abstract

Due to increased in global warming and climate change the public concern for environmental issues has gradually increased over the past decades. The customers started demanding eco-friendly products and they pay more attention to the environment, wealth and health. The companies have started adopting green marketing practices in their activities as a part of social responsibility and are trying to reach the customers with their green messages. The "Green movement" then has entered the mainstream status in many developed countries, where eco-friendliness is becoming a major consumer preference.

But though in India, the green movement has started in the late 1990s and 2000s, it was still in the infancy stage. Eco-friendly products are those products that will not pollute the earth or deplete natural resources, product which can be recycled or conserved, products with natural ingredients, products containing organic elements and products contents under approved chemical. Environment concern had become the most important issue for mankind in the present world. The businesses are no exception for this issue and they are responding through environment-friendly products.. The depletion of oil resources, raw materials and pollution are making organizations to rethink about their products and services. The eco-friendly products are being introduced by modern organizations to protect the environment. (Gupta. S. & Kapoor. M. 2014). Throughout this paper the terms environment friendly products and green products mean the same and are used interchangeably

Key words: Consumer Behaviour, Eco-friendly product, Influencing Factors.

Introduction

Green Marketing:

In recent years the term green or eco marketing have come to prominence and reflect a growing concern at levels of the impact of the increased consumption on physical environment. The implications of the destruction of the forests, the appearance of 'holes' in the ozone layer etc. were widely published and have created a wave concern about the destruction of our natural environment. Therefore many consumers have turned to eco-friendly products. This has created great impact on marketing.

Green marketing refers to the process of selling products and/or services based on their environmental benefits. Such a product or service may be environmental friendly or produced and/or packaged in an environmentally friendly way. Such marketing generates and facilitates satisfaction of human needs and wants with minimum detrimental impact on the environment. The obvious assumption



of green marketing is that potential consumers will view a product or service's "greenness" as a benefit and base their buying decision accordingly. The not-so-obvious assumption of green marketing is that consumers will be willing to pay more for green products than they would for a less-green

Rural women and hand tools: an ergonomic analysis of mgnrega activities in anand district

Puppala Padmaja and Gupta Nidhi

S. M. Patel College Of Home Science, V.V.NAGAR, INDIA, nidhi.gupta.smp@gmail.com

Abstract: Rural women form the most important productive work force of India and its economy. Though women are labelled as child raisers and cooks they became the backbone of agriculture as they perform the activities which are traditionally carried out by men. Along with agriculture women are also involved in various welfare schemes put up by the government namely MGNREGA (Mahatma Gandhi National Rural Employment Guaranty Act). Most of the tools which women are using have been developed with 'men' as farmers and do not suit the physical stature of women. This study aimed to explore the drudgery faced by women by using the existing tools in relation to their anthropometric measurements and their adopted postures. It is found that hand breadth and palm length is between 4.49 cm to 7.28 cm which is more than the width of the handle of pavdo, making it unfit for the women to use and 50% of the women working in MGNREGs are found at high & very high risk of Muscular Skeletal Disorder through REBA.

1 Introduction

'Women feed the World' by UN's Food and Agriculture Organization.

As we all know that rural women are the important productive work force of India and much has been written in the recent years about the dual role of rural women. Along with household activities, caring of family members and cattle, they are undertaking several farm activities traditionally carried out by men and also occupy 50 to 90 percent in MGNREGA activities in different states of India because men are pulled away into higher paying employment or migrating to urban areas. The available statistics resoundingly conform that the stereotype of the farmer as a man is patently false (www.wikipedia.org/wiki/ergonomi)

Under MGNREG Scheme women benefit better because work is provided 100 days in an year, in and around 5 km radius of their village and also has 33 % reservation for women but they constitute almost half of the work force engaged in MGNREGS activities. This activity provides daily wages to local people while creating community resources for sustainable development

This shift in the paradigm brings in to focus our attention on farm and other manual tools as manual labor still forms the most essential component in agriculture and in MGNREGS. A variety of handmade tools and equipment's are used for different activities and most of these tools have been developed with 'men' as farmers because agricultural engineering traditionally has been viewed as a male dominated technical discipline. With feminizing of agriculture these tools and implements are adopted by women which do not suit the physical stature and leads to various physical health hazards like injury, fatigue, exhaustion, and eventually lead to occupational health hazards. As this also effects their performance in the field and at home. Keeping in view of the ergonomics and women, the development of



To study on the extent of hand pain experienced and risky postures adopted by rural women working with sickle

1.0 Introduction

Ergonomic is the applied science of fitting tools and tasks to the persons performing them in such a way that the strengths of the human body and psychology are maximized and exposure of weakness to stressors is minimized. Most people fail to recognize the work of women which constitute almost half of the work force engaged in farm activities. Several constitutional and legal provisions do exist to safeguard the interests of women. In spite of these provisions, the women continue to be neglected and often exploited because of biasness. Though they make enormous contributions to the work, still they are suffering because of dual responsibilities and poor design of tools at the work place.

The tools and implements used by women are defective in design or do not suit the physical structure of women, which leads to various physical health hazards like injury, fatigue, exhaustion, etc. It also affects their performance, which in turn influences in all family activities carried out at home. Keeping in view of the ergonomics and women, the development of tools has to be standardized in terms of comfort, quality and efficiency.

There are the very few studies found on the present problem. To bring the women in light the investigator would like to work on this topic. The beneficiaries of the current topic are physiotherapists, orthopedics, NGO's, ergonomists, students, equipment tools.

The present study was carried out with the following objectives:

- To identify the existing hand tools used by rural women working in farm.
- To study the type of postures adopted by the women while using sickle.
- To identify the extent of pain areas in hand of the rural women while using sickle.
- To assess the rate of perceived exertion of the respondents after the day's work with sickle.
- To examine the hands of the rural women physically for redness, corns, scraped skin, irritation etc.
- To impart suggestions for improving the working of the rural women with respect to sickle.

2.0 Methodology

The study was conducted in three villages Tarapur, Sojitra and Umreth of Anand District, Gujarat. List of women working in five different farms of each village was made. Randomly two women working in each farm were selected for the survey. Total 40 women were selected who are working with sickle in the farm. This study was conducted to assess the drudgery of farm women at the time of harvesting with sickle. Well prepared Performa was used for assessing the data, while collecting the data special attention was given on the selected sample size as regarding to pain area, awkward postures and analysis of comfort aspects while using sickle and observations related to it.

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Annexure - XI

Final Report Assessment / Evaluation Certificate

(Two Members Expert Committee Not Belonging to the Institute of Principal Investigator)

(To be submitted with the final report)

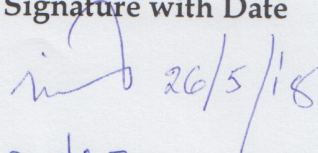
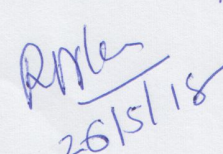
It is certified that the final report of Major Research Project entitled "Ergonomical Choices for Energizing Women in Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGs)" by Dr./Prof. NIDHI GUPTA Dept. of Family Resource Management has been assessed by the committee consisting the following members for final submission of the report to the UGC, New Delhi under the scheme of Major Research Project.

Comments/Suggestions of the Expert Committee:-

1. It's a good study, done on scientific parameters to analyze the parameters for improving work quality of very important segment of the MGNREG scheme on women beneficiaries.
2. Ergonomic intervention on various aspects is planned and implemented well. The pictorial booklet for Energizing women has come out well in participatory mode.
3. It is an innovative study done to improve the work quality of MGNREGs specially the misfit between work and workers on ergonomic parameters.
4. The results are classified and presented well with respect to framed objectives.
5. The results are extensive on various parameters. Graph and tables are clear and good. The pictorial depiction of feeling of pain in form of Smiley's is interesting. The depiction of Posture by line diagram on photographs is good.
6. The project has successfully generated awareness about postures, selection of tools, occupational health hazards in larger society.




Name & Signatures of Experts with Date:-

Name of Expert	University/College Name	Signature with Date
1. Dr. Nirmal Kumar J. I.	ISTAR, Sardar Patel University	 26/5/18
2. Dr. Rita N. Kumar	N.V.Patel College of Pure and Applied Sciences, Sardar Patel University	 26/5/18

It is certified that the final report has been uploaded on UGC-MRP portal on

It is also certified that final report, Executive summary of the report, Research documents, monograph academic papers provided under Major Research Project have been posted on the website of the University/College.




(Registrar/Principal)

Seal

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