

## Involving Village level Para Extension Worker (VPEW) to Address Gender Issues in Extension - Experience from Action Research

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### ABSTRACT

*A project entitled "Designing gender sensitive extension model and testing its efficacy" was implemented by Directorate of Research on Women in Agriculture in action research mode by selecting two clusters (irrigated and rainfed) and involving a group of four young men and women each from a cluster. The workers were designated as Village level Para Extension Workers (VPEWs) who were trained by multi-disciplinary team of subject matter specialists and exposed to the contents for carrying out location and gender specific extension activities. The role and activities of VPEWs were finalized on the opinion of VPEWs and objectives of the project which were also monitored at suitable intervals. Studies on changes in the capacity of VPEWs, message delivery by women VPEWs and men VPEWs, perceived field level outcomes were undertaken by interviewing the VPEWs (8) and 120 farm men and women after completion of half of the project tenure. The VPEWs were found significantly empowered in four areas namely knowledge in farming, skills in location specific technology application, organizing group discussion and village meetings and solving problem of farmers and farmwomen. The message delivery was studied by comparing the men and women VPEWs on broad parameters like modus operandi, correctness and content coverage. The field level impact of the model was evaluated concurrently on 16 areas as perceived by men and women. It was found that significant changes had taken place in all the 16 selected aspects implying that there were significant positive impacts of the model on the gender covered by the project. The three most important changes (from -ve to +ve) perceived by farm men and women to have taken place in descending order were 'general awareness on scientific farming' (95.83%), 'demand for farm information and technology' (95%) and 'organization of extension activities' (93.33%).*

Agricultural extension services are an important instrument for the provision of information on new technologies and crops (Anderson and Feder, 2003; Evenson, 2001; Doss and Morris, 2001). In addition, need for gender sensitive extension in agriculture and allied fields has gained considerable importance at the national level to streamline extension services for farm women. Alternative approaches, models and methods are discussed in different institutions, fora and task forces to address the information and extension needs of the rural women who constitute almost half the total population. Policy shift together with new instruments in the planning process have given clear direction to design and implement extension programmes in gender perspective with a hope to achieve equity in extension services.

In India changes have taken place in extension approaches in series from post-independence period giving rise to different extension models such as conventional, mass media, target group, training and visit, front line extension, broad based extension, training and extension for farm women, ATMA and agri-clinic models. Several different efforts have been made in recent years to develop comprehensive frameworks delineating the various dimensions along which women can be empowered (Malhotra, Schuler and Boender, 2002). However, extension services often fail to reach female farmers, in particular female-headed farming households (Doss and Morris, 2001; Quisumbing, 1994; Saito et al., 1994); even though, female farmers often indicate a strong demand for such services (Saito et al., 1994).

Broad analysis of the above models has

identified shortcomings and reforms, in the area of gender sensitivity, regular availability of change agents at grass root level, provision of extension services at grass root level in all fields of agricultural development, cost effectiveness, research support and participatory approaches. The Directorate of Research on Women in Agriculture has begun efforts to understand the extension scenario around the farm women and develop logistic extension model to encompass the reforms. The said attempt has given rise to test gender sensitive extension model with a focus on involvement of a group of Village level Para Extension Workers (VPEWs) in extension. The model was designed in such a way which can be accommodated within the institutional frame of the State and Central Government. Although the concept of para worker has been found effective in the domain of public health services and rural development programmes, it is new to agriculture development especially for gender mainstreaming in agriculture.

To describe briefly it is a model aimed at involving public institutions like extension agencies of the State Government, research institutions and private actors namely Village level Para Extension Workers to manage agriculture extension services at the village level. The Village level Para Extension Workers (VPEWs) are considered as the most important pillar to support the model. In the said back drop it was felt to examine the performance of Village level Para Extension Workers and evaluate the changes taking place in agriculture specially to address the gender issues. The study had the following specific objectives.

1. To record the performance of the Village level Para Extension Workers (VPEWs) on selected

- gender sensitive extension parameters and message delivery.
- To evaluate concurrently the changes taking place in agriculture in the clusters as perceived by gender.

### METHODOLOGY

The gender sensitive extension model was designed and implemented on action research mode in two clusters namely Irrigated and rainfed of Khurda district of Orissa. Two young men and two women from each cluster were selected on some criteria qualification to functioning as Village level Para Extension Workers. Altogether 8 VPEWs (4men & 4women) joined in the project and worked nearly 3 years by this time. The VPEWs understood their roles and activities and attended a tailor-made pre-seasonal training and were exposed to several meetings, gender sensitization programmes, demonstrations, group discussions, diagnostic visits, review meetings, farm literature, self-help groups and human relationship management etc. as most of the available evidence suggests that education (usually defined as formal schooling or literacy) is an important additional determinant of the decision to adopt new technologies (as well as of the decision to adopt new technologies early) since it increases the ability of the individual to process relevant (new) information (Morrison et al., 2007). A group of multidisciplinary subject matter specialists provided location and gender specific knowledge and skills to para workers through the above means. The activities of VPEWs were constantly monitored and evaluated on selected parameters. The changes in the capacity of the VPEWs due to several interventions were also assessed through ratings by judges and the perceived field level outcomes were evaluated concurrently by interviewing 120 farmers and farmwomen of the project area.

#### **Role of Village level Para Extension Workers (VPEWs)**

Several rounds of discussions were held with the selected young men and women by the project team to understand their background and capabilities. Efforts were made to channelise their motives in an altruistic way achieving to all-round agriculture development of the cluster. The selected VPEWs agreed to perform the following activities and received a token of monthly honorarium to meet the objectives of the project:

- Collecting data on crops, livestock, horticulture, fish and home science.
- Providing agricultural information and technology to the farmers and farm women.
- Conducting demonstrations for increasing the skills in agriculture production.
- Bringing changes in the prevailing men-centered agriculture through women empowerment

- Organizing Self Help Groups (SHGs) and promoting different agricultural activities through group.
- Developing agricultural plan and programme suitable for farm women to enhance their socio-economic well-being including WSHG in the empowerment process.
- Participating in the pre-seasonal training programmes at DRWA.
- Assisting scientists of DRWA in participatory agricultural research and extension programme.
- Carrying the problems of the farmers to scientists and solutions of the problems from scientists to farmers in a two way process.
- Co-coordinating with different local institutions, projects and NGO's for all round development of agriculture.
- Recording weekly agriculture activities in the diary.
- Distributing critical inputs for the programme among the beneficiaries and supervising the utilization.
- Establishing healthy working relationship among themselves and with other villagers.
- Assisting the farming community specially in marketing of agricultural produces and getting institutional credit.
- Eradicating the prevailing gender related social superstitions.
- Sustaining the agriculture development of the village by mainstreaming gender in agriculture.

### RESULTS AND DISCUSSION

#### **1. Change in capacity of VPEWs**

Since capacity of the VPEWs working in the clusters is very important for effectiveness of the model, all out efforts were made in the said direction through various means. A study was undertaken to measure the change in capacity of the VPEWs as perceived by three categories of judges like self-assessment (VPEWs), audience (farmers and farmwomen) and supervisors (scientists and technical) involved in the project. The judgments given by them were compiled and analyzed by employing the statistics test 'W' (Kendral, Coefficient of Concordance). The result obtained from the analysis is presented in Table 1.

Significant agreements between the judges were found with respect to following four areas out of thirteen areas of capacity taken for the study:

- Knowledge in farming
- Skills in technology application
- Organizing group discussion and village meetings
- Solving the problems of farmers and farm women in agriculture and allied sectors

**Table 1**  
**Change in capacity of the VPEWs**

Sl. No.	Parameters	Rating of the changes in a 5 point scale by			'W' Co-efficient of concordance	$\chi^2$
		Self (VPEWs) (M.S.)	Audience (M.S.)	Supervisor (M.S.)		
1.	Capacity to listen and analyze	4.00	3.56	2.87	0.266	5.586 NS
2.	Meeting and talking to men	3.37	3.80	2.62	0.615	12.910 NS
3.	Meeting and talking to women	4.12	4.12	3.00	0.140	2.940 NS
4.	Identifying farm problems and needs of men and women	3.50	3.00	2.75	0.559	11.739 NS
5.	Knowledge in farming	4.00	3.56	2.87	0.862	18.102**
6.	Skills in technology application	3.75	3.50	2.75	0.679	14.259*
7.	Organizing group discussion and village meetings	3.75	3.93	3.37	0.673	14.133*
8.	Solving the problems of farmers and farm women in agriculture and allied sectors	3.62	2.81	2.50	0.686	14.406*
9.	Organizing technology demonstrations	4.00	3.06	2.56	0.360	7.560 NS
10.	Sharing knowledge and information with clientele	3.37	3.06	2.81	0.103	2.163 NS
11.	Facilitating marketing, input supply, credit and other line department activities	2.50	2.25	2.25	0.467	9.807 NS
12.	Strengthening women self-help groups and their activities	3.37	3.25	3.00	0.562	11.802 NS
13.	Motivating the farmers and farm women in adopting farm technology	2.87	2.87	2.81	0.246	5.166 NS

\*Significant at 5% level, \*\*significant at 1% level, N.S. – Not Significant

In the rest nine areas, divergent opinions were observed among the judges suggesting that further actions were needed to improve the capacity of the VPEWs.

## 2. Performance of VPEWs

Attempt was made to know the level of performance of the para workers which is presented in Table 2.

Data recorded on the performance of the VPEWs (Table 2) at six monthly intervals indicate that there was fair improvement in extension services particularly for farm women. However, it has conformity with Doss and Morris (2001) who argue that the extent that women are under-represented among these better-off farmers, the more likely extension agents are to overlook them in their

extension programs. All the para workers maintained weekly diary highlighting the problems faced and solutions offered. The contact of VPEWs with the scientists of the centre has increased considerably due to growing demand of men and women for solution to their problems.

## 3. Message delivery by VPEWs

Focused group discussions were held separately with men VPEWs (4) and women VPEWs (4) to study the message delivery on the parameters like peak time, audience, contact, use of aids, change in public speaking skills, correctness of the message and content of the message which are presented in the Table 3

It is observed that men VPEW's peak time message delivery was evening (6 pm – 8 pm) whereas it was afternoon 3 pm – 5 pm for women VPEWs. As

**Table 2**  
**Monitoring of extension activities of Village level Para Extension Workers (VPEWs)**

Parameter	Reference month September 2008				Reference month February 2009			
	Irrigated		Rainfed		Irrigated		Rainfed	
	VPEWs (Men)	VPEWs (Women)	VPEWs (Men)	VPEWs (Women)	VPEWs (Men)	VPEWs (Women)	VPEWs (Men)	VPEWs (Women)
Writing of weekly diary	Regular	Regular	Regular	Regular	Regular	Regular	Regular	Regular
Avg. Number of farmers contacted per week in the preceding month	19	13	25	17	22	15	25	18
Avg. number of farm women contacted per week in the preceding month	16	25	18	30	20	28	22	30
Avg. No. of field visits per week in the preceding month	9	4	12	9	10	8	15	10
Avg. No. of problem identified in the preceding month	4	2	6	5	5	3	5	8
Avg. no. of demonstration conducted in the preceding month	2	2	3	2	3	2	3	3
Avg. no. of other related agencies contacted in the preceding month	3	5	3	3	3	5	3	4
Avg. no. of consultation made with scientists and technical for capacity building in the preceding month	14	15	10	15	15	16	11	16
Avg. number of exposure to agriculture information leaflet, newspaper, TV, Radio programme etc. in the preceding month	4	5	9	5	5	6	8	6

presented by Blackden and Wodon (2006), an important constraint for women labour is the time burden imposed by domestic tasks. According to Baden et al., 1994; Sarpong, (2006), extensive responsibilities in the household, combined with demands for working on husband's land or farming activities, limit the time women spend on their own productive economic assets, or it means they work many more hours a day

than men. Both farmers and farmwomen were contacted almost equally by men VPEWs whereas women VPEWs contacted more the farmwomen than farmers. Similarly, Wier and Knight (2000) found that 88 per cent of adopters indicated that their decision was influenced by somebody of the same gender. Group contact was most preferred by women VPEWs whereas it was individual contact for men VPEWs. Women

**Table 3**  
**Message delivery by VPEWs**

	Sl. No.	Parameters of message delivery	Men VPEWs n = 4	Women VPEWs n = 4	
<b>Modus operandi</b>	1	Peak time	Evening (6 p.m. – 8 p.m.)	(3 p.m. to 5 p.m.)	
	2	Audience			
		a.	Gender	All most equally	Farm women (Rank I) Farmers (Rank II)
		b.	Class	Weaker Section	Weaker Section
	3.	Mode of Contact	Individual (Rank I) Group (Rank II) Meeting (Rank III)	Group (Rank I) Individual (Rank II) Meeting (Rank III)	
4	Use of Aid	Verbal (Rank I) Demonstration Specimen (Rank II) Farm Literature (Rank III)	Verbal (Rank I) Demonstration Specimen (Rank II) Farm Literature (Rank III)		
<b>Correctness</b>	5	Public speaking skills	***	**	
	6	Message			
		a.	Steps in the process	76.00%	72.00%
b.		Facts, figures, quantity etc.	68.00%	65.00%	
<b>Content cover</b>	7	<b>Content</b>	<b>Irrigated (Rank)</b>	<b>Rainfed (Rank)</b>	
		Nutrition gardening	<b>I</b>	<b>I</b>	
		Value additional	<b>II</b>	<b>II</b>	
		Vegetable cultivation	<b>III</b>	<b>VIII</b>	
		Livestock production	-	<b>III</b>	
		Pest management	<b>IV</b>	<b>VI</b>	
		Floriculture	<b>V</b>	-	
		Farm input and credit	<b>VI</b>	<b>VII</b>	
		Mushroom cultivation	<b>VII</b>	<b>IV</b>	
		Rice farming	<b>VIII</b>		
		Gender sensitization	<b>IX</b>	<b>X</b>	
		Ornamental fish production	<b>X</b>	-	
	Market information	<b>XI</b>	<b>IX</b>		
	Soil management	<b>XII</b>	-		

\*Indicate the ability of the VPEWs to address audience.

VPEWs gained relatively more public speaking skill than men but lagged behind the men VPEWs with respect to communication process and correctness of the message.

#### 4. Perceived Field Level Outcomes

As the project has completed half of its approved duration by December 2008, it was felt rational to have a concurrent evaluation on the effectiveness of the model. Altogether 16 possible areas of changes (effectiveness) were identified and 120 beneficiaries consisting of 60 farmwomen and 60 farmers were

selected randomly from two clusters to indicate changes as perceived by them. To find out the direction of changes due to project implementation, a non-parametric statistics i.e., McNemar change test was employed. The data on changes as perceived by the beneficiaries together with the result of the analysis are presented in Table 4.

It was found that significant changes had taken place in all the sixteen selected aspects implying that there were significant positive impacts of the model on

**Table 4**  
**Concurrent evaluation on changes among farmers and farmwomen**

(n=120)

Sl No.	Area of changes	Extent of change			$\chi^2$ Value
		-ve to +ve (f)	+ve to -ve (f)	No change (f)	
1	Providing a general awareness among the audience on scientific farming.	115	-	5	113.08**
2	Sensitizing the men and women for gender mainstreaming	110	-	10	108.01**
3	Contact with change agents	98	-	22	88.011**
4	Access to farm information and advisory	77	-	43	75.0138**
5	Learning of farming skills	91	1	28	86.097**
6	Organization of group activities	112	-	8	110.08**
7	Assistance provided in identifying problems	83	-	37	81.02**
8	Solutions provided to you	68	-	52	66.014**
9	Adoption of new farm technologies	80	1	39	75.111**
10	Organization of extension program to facilitate learning	111	-	9	109.009**
11.	Assistance provided received in other related activities like input supply, credit mobilization, marketing	61	-	59	59.016**
12.	Cooperation among the stakeholders	87	2	31	79.288**
13.	Conflicts among the stakeholders	64	3	53	53.73**
14.	Demands for farm information technology	114	-	6	112.088**
15.	Extent of success of technology given under the project	90	-	40	88.011**
16.	Meeting your current needs in farming	85	-	35	83.011**

the beneficiaries of the project areas. The three most important changes (from -ve to +ve) perceived by farm men and women to have taken place in descending order were 'general awareness on scientific farming' (95.83%), 'demand for farm information and technology' (95%) and 'organization of extension activities' (93.33%).

#### CONCLUSION

The experiences obtained from the action research is indicative that (i) educated young men and women living in the villages have capacity to learn

location and gender specific farm information and act as agents of change for agriculture development in a gender sensitive manner; (ii) VPEWs can address the gender issues in extension while delivering technology through different methods and (iii) the perceived field level outcomes of the model involving VPEWs as local non-formal change agents have brought improvements in major aspects of agricultural development.

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## REFERENCES

1. Anderson, Jock, and Gershon Feder. 2003. "Rural Extension Services." *World Bank Policy Research Working Paper 2976*.
2. Baden, S., Green, C., Otoo-Oyortey, N. and Peasgood, T. 1994. Background paper on gender issues in Ghana. Report prepared for the West and North Africa Department, *Department for Overseas Development (DFID), UK. Bridge, Brighton*.
3. Blackden, Mark, and Quentin Wodon, ed. 2006. Gender, Time Use, and Poverty in Sub-Saharan Africa. Washington, D.C.: *World Bank Publications*.
4. Doss, Cheryl, and Michael Morris. 2001. "How Does Gender Affect the Adoption of Agricultural Technologies? The Case of Improved Maize Technology in Ghana". *Agricultural Economics 25:27-39*.
5. Evenson, Robert. 2001. "Economic Impacts of Agricultural Research and Extension". *In Handbook of Agricultural Economics, Vol. 1, ed. Bruce Gardner and Gordon Rausser, 573-628. Elsevier*.
6. Malhotra, Anju, Schuler Sidney and Boender Carol, Measuring Women's Empowerment as a Variable in International Development, 2002, Paper commissioned by the Gender and Development Group of the World Bank, in support of an ongoing policy research effort on gender and development issues, and by the World Bank's Social Development Group, with funding from a Norwegian trust fund, as part of a larger study on Empowerment and Social Inclusion.
7. Morrison, Andrew, Dhushyanth Raju, and Nistha Sinha. 2007. "Gender Equality, Poverty and Economic Growth." *The World Bank, Policy Research Working Paper 4349*.
8. Quisumbing, Agnes. 1994. "Improving Women's Agricultural Productivity as Farmers and Workers." *The World Bank, ESP Discussion Paper 37*.
9. Saito, Katrine, Hailu Mekonnen, and Daphne Spurling. 1994. "Raising the Productivity of Women Farmers in Sub-Saharan Africa". *World Bank Discussion Paper 230*.
10. Sarpong, G.A. 2006. Improving Tenure Security for the Rural Poor: Ghana Case Study. *LEP Working Paper Number 2, FAO*.
11. Wier, Sharada, and John Knight. 2000. "Adoption and Diffusion of Agricultural Innovations in Ethiopia: The role of education." *University of Oxford, CSAE Working Paper 2000-5*.