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## Participatory Videos: A New Media for Promoting Organic Farming in Northern Bangladesh

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### Abstract

*Organic farming in Bangladesh is still operated by NGOs and private sector due to lack of proper attention from public sector. Thus, use of effective media is very essential in its mass promotion. The present study showed that farmers led participatory videos have the potentials to show the worth of organic farming (i.e., vermi-compost & botanical pesticides) as well as convincing the farmers towards adopting organic farming as these sorts of videos are made on their voices and actors are also their peer groups.*

### Introduction

Bangladesh is a very small country in South Asia with 160 million people. Agriculture is the lifeblood of its economy which contributes 19.95% in GDP and 21.34% in total employment (BBS, 2011). However, sustainability of agricultural system, poverty and food security is great concerns in the country. Department of Agricultural Extension is the leading organization here in responsible for promotion of latest agricultural technologies to ensure sustainable agricultural growth. To fulfill this goal DAE adopted the New Agricultural Extension Policy (NAEP) in 1999 targeting "Integrated Environmental Support" as one of the major components.

However, it is observed that total consumption of pesticides has doubled in the last two decades (MOA, 2010). The use of pesticide is much higher in vegetable which are harmful for human health. The chemical based agricultural system of the country is aggravating environmental degradation and cause of 5-10% of the GDP cost (BBS, 2011). On the other hand due to increasing health awareness among the consumers demand of organic food is increasing sharply both in national and international context.

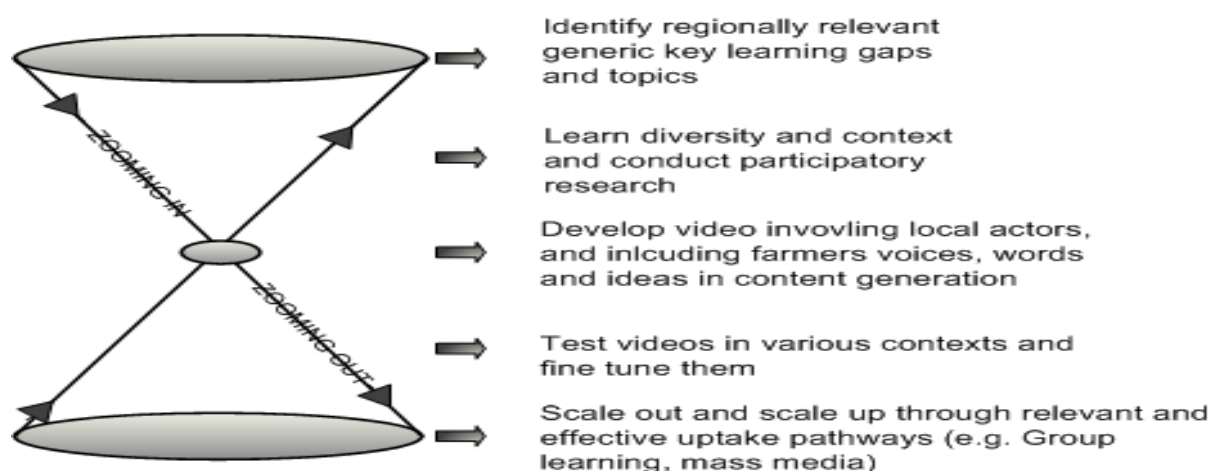
Organic farming movement has been started in Bangladesh in 1978 with the support of few NGOs. However, the public sector extension organizations don't have any initiative to promote organic farming in Bangladesh. This is due to misperception of the policy makers and partly due to lack of creative and innovative ways to support farmer-to-farmer learning. However, poverty elimination through rice research assistance (PETRRA) project has successfully used videos in disseminating innovation in rural extension program in Bangladesh (Salahuddin *et al.*, 2008). Video is not a new media used for agricultural extension activities in Bangladesh. However potential use of this media is more often remained within mass media (e.g. TV) and classroom training material in Bangladesh (DAE, 1999). PETRRA introduced video mediated learning approach in combination with participatory learning and action research (PLAR) and FFS to reach out poor men and women rapidly (Van Mele & Braun, 2005). Thus, the researchers decided to use participatory videos as a medium of extension to promote organic farming in northern Bangladesh and took the project entitled "Fostering Women Voices through Videos in Bangladesh" which is organizing the female farmers under the umbrella of participatory rural video centre (from hereafter PV centre). Use of videos in the extension services is not merely new, however the concept of participatory video is really new in the context of Bangladesh. Participatory video is a form of participatory media in which a group or community creates their own film. The idea behind this is that making a video is easy and accessible, and is a great way of bringing people together to explore issues, voice concerns or simply to be creative and tell stories. PV process can be very effective in empowering, enabling a group or community to take their own action to solve their own problems, and also to communicate their needs and ideas to decision-makers and/or other groups and communities. Thus the project promotes farmers' innovation (botanical pesticide) through videos for its rapid expansion in the study area for curbing down environmental pollution and enhances household food production.

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## Material and methods

The project entitled “Fostering Women Voices through Videos in Bangladesh” has been implemented in the north-west region of Bangladesh since 2010. One of the project is village Kamarpara under Bogra district which is famous for vegetable cultivation. Farmers of this village were completely dependent on using chemical fertilizers and pesticides while cultivating vegetables and other crops. Due to over utilization and regular price hike of agro-chemicals many of them led to quit farming in the recent years. Thus the project took the initiative to train up the local farmers especially women regarding utilization of alternatives of agro-chemicals. After attending the training program PV team members concentrated on participatory research to solve their problems of chemical pesticides and develop a botanical pesticide from locally available plants (i.e., *Azadirachta indica*, *Polygonum tomentosum*, *Adhatoda vasica*, *Aphanmixis polystachya* and *Swietenia mahagoni*) for insect and disease pest management of their crops. Video developed through ZIZO has been coined as farmer-to-farmer video in recent publications (Van Mele, 2006).

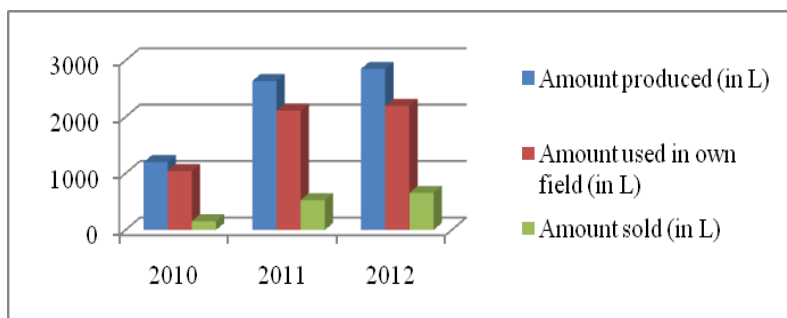


**Fig. 1 Zooming in zooming out (ZIZO): a new approach for developing video and learning tools to scale out sustainable agricultural innovations**

The project also trained up the PV team on preparation and use of vermin-compost. In later stage 02 participatory videos (preparation and use of botanical pesticides & preparation and use of vermin-compost) were prepared with the PV team and these videos were projected among 600 female farmers from 06 (six) different districts of northern and north-eastern part of Bangladesh for scaling out. Necessary data for the present study were collected from the records of the project as well as from Focus Group Discussion (FGD) with the PV members.

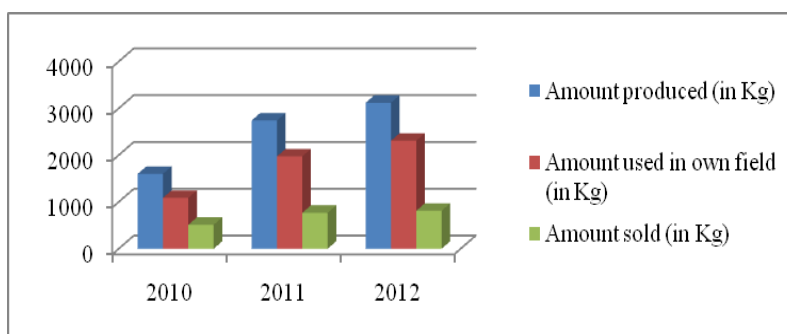
## Results

Through participatory research PV members of Kamarpara, Bogra has developed vermin-compost and botanical pesticides. To promote this outcome of participatory research after getting participatory video development training PV members has developed two separate learning videos (preparation and use of vermin-compost and preparation and use of botanical pesticides) following ZIZO approach. They are also projecting these videos among the people of the farming communities of Bogra and neighboring Gaibandha and Rangpur districts. The main intention of video projections were to increase adoption of organic farming for improving sustainability of agricultural systems as well as curbing down environmental pollution and ensure supply of safe food.



**Fig. 2 Trends of production, consumption and sale of botanical pesticide by the PV members (2010-2012)**

Like botanical pesticide PV members of Kamarpara are producing vermi-compost for using their crop fields to supplement chemical fertilizers. After using their crop fields PV members sale addition amount of vermin-compost to neighbors which is contributing to some extent in improving their income. As majority of the PV members are woman so with this addition income they are contributing in their household income which is ultimately empowering them in the society.



**Fig. 3 Trends of production, consumption and sale of vermi-compost by the PV members (2010-12)**

## Discussion

Results of the study showed that PV team of Kamarpara, Bogra has produced 6,689 liter botanical pesticide in 03 (three) years (2010-12) among which PV members used around 80% in their own crop fields and rest 20% they sold to the community members. With this amount of botanical pesticide they have covered around 465 acre of vegetables crops (shown in Table 1).

**Table 1: Calculation for pesticide (botanical & chemical) for 1 acre brinjal field**

Item	Botanical	Chemical
Amount of pesticide require	50 ml	5 g
Number of spray require in the entire season (@ 4 spray in each month)	16	16
Amount of pesticide require for 1 acre brinjal field in the entire season (@900 ml per spray)	14.4 liter/acre @900 ml/spray	960 g/acre @60 g/spray
Money required	720 BDT @50 BDT/Liter	8640 BDT @90 BDT/10g

On the other side, the scenario is quite different in case of using for cultivating the same crop in the same amount of land with chemical pesticide. From Table 1 it is clear that botanical pesticide can save 7920 BDT or 99 USD (1 USD=80BDT) from 1 acre brinjal field. Thus the PV centre of Kamarpara, Bogra has contributed in saving (99×465) 46035 USD chemical pesticide cost with their produced botanical pesticide. Similarly, PV members has saved huge amount chemical fertilizer's cost with their produced vermi-compost. In the scaling out face PV members have a target to demonstrate their produced learning videos directly among 600 farmers of six districts of north-east and north-west regions of Bangladesh. This endeavor obviously motivated huge amount of farmers to produce and use more amount of botanical pesticide and vermi-compost in organic crop cultivation.

### **Suggestions to tackle with the future challenges of organic farming extension through video-mediated learning**

It is evident from the study that participatory videos are significantly contributing in adoption of botanical pesticide and vermi-compost among the people of the farming community in the study area. Observing the success of the PV members neighbors, relatives and other community members of the study area have realized the importance of using botanical pesticide and vermi-compost in crop production and started to practice these environmentally friendly cultivation methods. In addition PV members are earning additional income from filming of various social programs like birthday, marriage ceremony etc. in their locality which is really contributing in adoption of organic farming as well as empowering the rural women in the study area. Hope this model will contribute to our journey towards rapid expansion of organic farming Bangladesh.

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