Sustaining Livelihood Security with Village Cluster Approach for Resource Conservation

C. S. Praharaj, Ummed Singh and K.K. Hazra
Indian Institute of Pulses Research, Kanpur 208 024 Uttar Pradesh (India)
cspraharaj@hotmail.com

Key words: Farm income, Participatory approach, Resource conservation technology, Resource use efficiency, Village cluster approach

Abstract
The total number of food insecure people in the globe is probably half the population of the world and is mainly attributed to the direct or indirect consequence of inadequate nutrition. This reveals the enormous magnitude of the vicious cycle of agriculture production systems that operate in the backdrop of rural areas which generate income for livelihood security from the scarce resources. And the most concern one is the huge degradation of our scarce resources such as land, water and livestock as a consequence of over-exploitation and improper technologies coupled with inadequate infrastructure to transfer appropriate technologies. The concerned social issue is multiplication in the status of unemployment, low income, food insecurity, loss of bio-diversity and above all, environmental pollution affecting human & animal health.

In Southeast Asia including India, over 50% of the poor (including the landless & small farmers) have <0.4 hectare land holding and have very limited access to irrigation. They can neither maintain large herds of livestock nor are they able to earn a livelihood from agriculture or any other single activity. Therefore, providing sustainable livelihood and gainful employment to the rural masses through developmental research, appropriate use of regional resources, expansion of suitable technologies and skill development is of prime concern now than ever before (Rafael 2008).

It is crucial to promote a development Programme for all the sections in a society through an approach commonly known as Village Group (VGA) or Cluster Approach (VCA). A need is felt in our thinking process focusing on a concept called “viable unit areas of development in rural space”. It is in this context that an understanding of a cluster of villages comes as a useful grassroots level unit for setting up and organizing rural development programmes at micro-level planning (Shamsul 1999). It is more relevant now-a-days in the case of many agricultural crops as the commodities where farmers face uncertainty with respect to their requirement for planning materials (seed), production, productivity and finally marketing. For example, ‘VCA’ is established to be a gain to cotton farmers for getting them agriculturally sustainable and economically sound. Similarly, keeping in view the economic significance of insects and pests for example in pulses, important decision for a control measures can be adopted.

Typically, a cluster is a contiguous group of 12-15 village Panchyats (group of villages) comprising of 5000 to 6000 families where farmers in a cluster of villages are goaded to take part in holistic development for livelihood opportunities through resource conservation based on interventions involving multiple disciplines (Baif 2006). The underlying principle of mutual trust is the basic element of such a partnership among all the stakeholders. The objectives of such a group approach include solving common felt needs, formulation and execution of action plan through participatory approach involving all the stakeholders. Innovative approaches like contract farming, farmer field school (FFS) and other participatory mode help farmers to enhance their income. FFS is a group-based learning process that has been used by a number of governments, NGOs and international agencies to promote certain goal like integrated pest management (IPM). There is always a possibility of incurring additional costs due to human resources and backward integration operations, yet that could be covered in long run. Therefore, VCA for conserving resource has the key role in enhancing farm income and upliftment of rural masses that will in turn help enhancing overall productivity and resource use efficiency (Praharaj et al. 2013).
**VCA activities encompasses in the outset**, the extension personnel interact with the local community to identify the local problems without any pre-conceived ideas/activities. The community is then encouraged to interact closely and organize the participant families into 3-4 economic categories based on their income and access to various resources. Mostly families that are homogeneous on socio-economic status interact regularly to identify resources and opportunities for individual families belonging to different categories to earn the livelihood. Thus, while the marginally poor and small farmers get smaller support through 3-4 developmental interventions, the poorest families having limited resources are participating in several activities and thus, the chance of failure is less. Moreover, it enables in maintaining transparency and promotes harmony among the members although major challenges encountered in the programme related to finding an appropriate long term solution (Adrian 2002) for farmers requiring a suitable off-farm production and service activities such as cottage industry, hire-service and civil construction etc. for them (Silvestre 2006).

**Potential outputs of VGA includes** a) **Livelihood security** involving access to technology, information and market, increase in productivity of crops, livestock including that of natural resources, access to micro-finance, banking and critical inputs etc.; and b) **Community welfares** concerning availability of safe drinking water, drainage and sanitation facilities, health care/nutrition and literacy, gender equity and higher social values etc. The overall impact of such programmes will be capacity improvement for improved livelihood opportunities and self governance. The target oriented impacts mostly include motivation to all round development, substantial increase in agricultural produce, boosting income through Best Management Practices (BMPs), formation of Self-Help Groups (with participation of women), awareness to technical skill development, improvement in milk/meat yielding herds, increased awareness for soil & water conservation practices, efficient use of water and reclamation of degraded lands for agri- horti-forestry & mixed farming systems etc.

**Applications of cluster approach** through resource conservation finds place in seed village, integrated pest (resistance) management, farm mechanization, higher efficiency in share of common resources (land & water) and watershed development, organic farming, precision farming, reduced cost of cultivation, increased margins through higher production efficiency, risk & uncertainty avoidance, agro-services and entrepreneurship, effective integration with other institutions (banks) for mutual benefits, logistic arrangement, capacity building and skill development (Praharaj et al. 2013). Various case studies involving village cluster approach for enhancing farm income through resource conservation such as crop revolution in Punjab State, **BAIF programme** for sustainable development, Tamil Nadu precision farming project, **Periyar PURA** (Provision of urban amenities in rural areas), summer mungbean farming in Fatehpur, Uttar Pradesh State and Project Siruthuli (revitalizing water bodies) are some of the successful examples.

Two model system are described here. **Cultivation of summer mungbean programme in Fatehpur(U.P.), India** where a model seed system implemented by Indian Institute of Pulses Research, Kanpur and sponsored by ISOPOM. It has started in the year 2006-10 in Fatehpur District of Uttar Pradesh, India. The main focus of this programme is to produce quality seed of chickpea and pigeonpea in the background of traditional rice-wheat cropping system. Latest introduction of Meha and Samrat mungbean genotypes has resulted in realization of net profit of ₹ 1000/- per day for a period of 60 days (of crop duration). Besides this, there is an increase of yield, net profit and BCR following adoption of modern practices including containing of insects pests in many pulses through viable IPM approach. Thus, the technology expanded to an area of 150 hectares in Malwan block of Fatehpur District in U.P. Development of infrastructure like tube well was also included in the cluster of villages (Singh 2011, IIPR 2010).

**Consortium for Sustainable Village-Based Development - Village Earth:** This model is outside India and publicly supported by non-profit, non-governmental organization (NGO) based in Fort Collins,
Colorado (Teigland et al. 2005). The organization works for the empowerment of rural and indigenous communities around the world with active projects with the Oglala Lakota on the Pine Ridge Indian Reservation in South Dakota, the Shipibo-Konibo of the Amazon region of Peru, India, Cambodia and Guatemala (Solvell, 2009). It is associated with the International Institute for Sustainable Development at Colorado State University. The Village Earth includes a sustainable livelihoods approach that recognizes the multi-layered and interrelated survival strategies of rural families and communities and seeks to build on assets and eliminate underlying constraints through an ongoing process of participatory reflection and action (Teigland and Lindquist, 2007). It also includes the clustering and networking of local institutions to promote regional self-reliance without compromising local autonomy (Silvestre and Dalcol, 2009). The development of multi-sector service centers to link local institutions to local, regional, and global resources is also one of its goals.

To conclude, some of the typical resource conservation mediated VGA applications are observed and evident worldwide. Thus, it is now pertinent to highlight them following their importance in resource conservation and enhancing livelihood securities of rural masses. Clusters are a striking and common feature in today’s economy as it aids in conservation and judicious utilization of scarce resources. Therefore, an understanding of clusters adds an important dimension to the more commonly debated role of personal contact networks in the success of entrepreneurial farming. This will enable increase in livelihood and farm income of rural masses/farmers through resource conservation.

References


