

PRISM approach: A program designing tool used by international development enterprises (IDE) for poverty alleviation

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Abstract. PRISM stands for Prosperity Realization through Irrigation and Smallholder Markets. This is a unique market-oriented approach to rural economic-prosperity developed and implemented by an international organization called International Development Enterprises (IDE-International). It is a set of tools that are used to develop an understanding of the unique situation of the rural poor and to create sustainable solutions to rural poverty. It creates sustainable opportunities through market-oriented interventions by: (1) creating networks of small enterprises to provide agricultural supplies needed by poor farmers; (2) working with farmers to improve small-farm productivity; and (3) linking small-farm families to markets for effective and sustainable poverty reduction. Its goal is to alleviate poverty by activating rural farm families towards sustainable agro-economic activities and expanding agricultural markets. Its activities are based on the principles of smallholder focus, make market serve the poor, improve water control, listen and learn and sustainable resource management like soil, land and water. PRISM is basically an approach of intervention design that helps in increase of smallholder's income. The planning of PRISM intervention is usually accomplished in four phases: situation analysis, intervention design, project implementation and monitoring, evaluation and adaptation. This approach has helped the rural poor households in the successful production of high value crops on commercial basis and resulted in generating employment and income of the rural farm households and contributed towards poverty alleviation. A couple of PRISM projects are being implemented by IDE Nepal both in hills and terai of Nepal and have been found effective in income generation of the farming community of Nepal up to US\$300 per household by the end of three years of the PRISM project by growing high value crops in a commercial basis. Using the PRISM model, IDE has integrated millions of small farm households into markets and created sustainable businesses to generate average increase in net annual micro/small entrepreneur's income of US\$ 456 and reduce rural poverty in more than 14 under developing countries including Nepal.

Keywords: PRISM, market based approach, market participation, entrepreneurs, high value crop.

INTRODUCTION

International Development Enterprises (IDE) is an international non-profit organization that has pioneered a market-based approach to strike at the roots of rural poverty in the world's least developed countries. IDE has offices in Denver (US), London (UK), and Winnipeg (Canada). IDE has been working in Nepal since 1992. IDE programs take a market-based approach by creating sustainable market systems that improve access to clean

water, micro-irrigation, diversified agriculture, and economic opportunities. The program objective is sustained poverty alleviation through market participation of the poor as producers, buyers and sellers of products and services.

IDE Nepal has about 106 staff and is implementing 10 projects in more than 24 districts covering the plains, hills and mountains. Its programs have reached more than

150,000 farmers – helping them to generate an average net additional income of \$200 per year. IDE Nepal's strategic goal is to reduce poverty in Nepal by bringing 150,000 poor smallholder farming households above the income poverty line through increased on-farm income by 2008.

Within the overall context of global poverty, IDE focuses on *Rural Poverty* because 70% of the world's extremely poor people live in rural areas. Among the many forms and causes of rural poverty, IDE focuses on *Income Poverty* because a secure source of income provides the poor with a basis for addressing other poverty factors such as food security, housing, health, and education. IDE focuses primarily on increasing *Agricultural Productivity* because agriculture is the basis of rural economies and builds on the limited assets that the rural poor have already: small amounts of land and water plus their own labor and know-how. Among the many factors that contribute to agricultural productivity, IDE focuses on *Water Access and Control* as the primary entry point because its absence is the most important single productivity constraint facing millions of small farmers throughout the developing world. Among the many approaches to development, IDE focuses on *Smallholder Market Development* because IDE believe this leads to wider and more sustainable impacts and more efficient use of development resources. The approach widely used by IDE is PRISM ((Prosperity Realization through Irrigation and Smallholder market). IDE-Nepal has designed; implemented, monitored and evaluated several projects by using PRISM Approach that really helped the rural poor farmers generate income by US \$ 300 at the end of three year's PRISM Project (HURDEC, 2004). IDE has implemented total of 58 PRISM projects across the globe. The total project expense was US Dollar 7,179,301 and the total investment made by the participating households was US Dollar 10,398, 009. The total number of micro/small enterprises reached was 5081 with the average increase in net annual microenterprise income of US Dollar 456 (Robert, 2005).

PRISM APPROACH

PRISM stands for Prosperity Realization through Irrigation and Smallholder Markets. The ever-increasing population is the root cause of all social, environmental and economic evils. If dramatic steps are not taken to address the population growth rate then sooner or later the world is heading towards its doomsday. Cultivable land are been converted into settlement areas thereby reducing the crop yields of the land and the overuse or under use of chemical fertilizer have virtually exhausted the fertility of the soil. In such a scenario, it is crystal-clear that poverty grips the people and it poses a great challenge to the society to accelerate sustainable socio-economic development. As a result most of the Afro-

Asian countries are being tormented by a situation where majority of the people are compelled by circumstances to experience the woes and miseries of object poverty, statistical data reveal that more than 1.2 billion global population live below the poverty line and mostly they are rural based depending on subsistence farming in their meager plot of land holding. Thus, in order to solve rural poverty the farmers plagued by poverty, must be placed on priority agenda (Polak, 2008).

In order to resolve the poor farmer from their poverty ridden existence, International Development Enterprises in start (IDE) has been instrumental and it mainly focuses on income generation among the farmers so that they can address other needs like education and medical care. IDE is primarily very active in Afro-Asian countries in assisting the farmers to enhance their agricultural yield and generate income since 1981. IDE currently has programs in 14 underdeveloped countries, employing nearly 500 staff (98% in the field). IDE and its affiliates are registered in Switzerland, the United States, Canada, India and the United Kingdom. The net result is that there is a visual transformation of improved living condition among the farmers and enhanced economic activities. Thus, IDE launched Poverty Reduction, now called Prosperity Realization through Irrigation and Smallholder Markets (PRISM) to create sustainable solutions to rural poverty of durable nature. PRISM is operative in the following activities:

- i) Creating networks of small enterprises to provide agriculture supplies needed by the poor farmers.
- ii) Working with farmers to improve small farm productivity and
- iii) Linking small-farm families to markets for effective and sustainable poverty reduction through farm income generation.

PRISM goal and principle

The goal of PRISM is to reduce poverty among the farmers and activate them towards sustainable economic activities and also to expand agricultural markets. PRISM has been based its activities on the following principles.

Smallholder focus

Majority of the world's poor falls in the smallholder category. Smallholders are so 20 square meters to 2 hectares of land (Paul, 2008). PRISM attaches utmost importance to their needs and wants

Make market serve the poor

PRISM acts as a formidable pivot from where the economic activities of the poor farmers get activated. It

ensures more participation of farmers to achieve economic benefits for their self-sustenance. Thus, PRISM provides necessary remedial measures to the farmers to start self-sustaining market system without posing environmental challenge to the eco-system. PRISM also renders invaluable assistance and guidance to the disadvantaged groups like women and marginalized social groups by addressing their needs and wants.

Improve water control

Water being the essence of life is also a medium to reduce poverty as access to and control of water is very important for raising farm productivity and check crop failure. PRISM therefore, is an activity involved in providing irrigation technologies to the farmers and farmers by their important skills and information in the use and maintenance of the irrigation system. It stresses mainly on small plot irrigation farming.

Listen and learn

IDE associates itself with the poor farmers and addresses their needs by being active listeners to their grievance and helping them to overcome their problems.

Sustainable resource management

Natural resources being the base of any economic activities of the rural poor are getting deteriorated at a tremendous pace. As a result, the physical, biological and environmental aspect of the eco-system is in great peril. To check this phenomenon, PRISM promotes sustainable resource management mainly focusing on soil, land and water resources.

PRISM in action

Market research for market-led production

IDE conducts market research and analysis to understand demand for small farm products and encourages the farmers to act accordingly, which directly or indirectly helps in generating profits for them. For instance Zambia, IDE encouraged the farmers to produce market high value paprika and lemon grass crops and the result was that the farmers' net income increased by more than \$300 (IDE, 2007).

Pro-poor technology innovation and marketing

IDE develops and promotes affordable small-scale technologies to the farmers. It also distributes, sells,

installs and repairs their technologies thereby reducing the financial burdens to the farmers. It also ensures the availability of necessary parts and accessories. Therefore, IDE helps the farmers in paying avenues for them to expand their products by creating strong and sustainable market-system. To cite an example, in India IDE initiated low cost drip irrigation. It is suitable for small farm plots and these kits generate \$800 annually for 28,203 very poor farmers. (IDE 2007)

Training and services in farm production and processing

In order to increase small holder's income, IDE trains the farmers in crop selection, production, post-harvest handling, processing and avails market information. For example, in Nepal in 2004, IDE trained 4,016 female and 5,277 male farmers in production of off-season vegetables for increased profits.

IDE uses any one of the following approaches in implementing PRISM projects (IDE, 2006).

Water approach

IDE examines untapped, underutilized or inefficiently used water resources in areas where there is a very good scope for providing significant benefits to the large member of smallholder. For example in Nepal IDE developed Treadle pump in Terai and drip and micro-sprinkler systems and low-cost water storage tanks linked to micro-irrigation of high value crops in the hills and the result has been encouraging (IDE, 2002).

Market approach

IDE identifies crops that many smallholders can produce as per the market demand and sell for profit. In other words, it encourages the smallholders to go in market oriented production like onions, potatoes, vegetables and pond fishery so that the smallholders would be in position to generate more income by specializing in growing and selling vegetables and through other income generating activities (IDE, 2006).

Opportunistic approach

In this approach IDE interacts with the community members and inquires about their financial limitations, productivity or capacity to meet household food needs and tries to render assistance. It mainly tries to identify the smallholder's constraints and helps them to overcome it. For example in Cambodia, IDE successfully helped the smallholders to overcome the following constraints and enhance their productivity (IDE, 2007):

- i) Lack of water control system in the lean period or dry season
- ii) Lack of access to quantity inputs like seeds for farm production
- iii) Lack of horticultural know-how and
- iv) Food security risk

Combination approach

Often the three approaches are combined to meet the set objective through:

- i) Establishing supply chains in micro-irrigation and agricultural inputs including technical support, quality control and training of dealers and sub-dealers to provide effective services to the farmers.
- ii) Providing technical assistance to smallholders willing to adopt new ideas.
- iii) Establishing collection centers for smallholders produce.
- iv) Linking farmers to micro-credit sources.
- v) Training farmers in green house management so that the farmers can produce off-season vegetables and obtain the highest possible price.
- vi) Post harvest processing of small holder produce.

IDE also establishes services for farmers in several ways through embedded fees, informed fees or fee based services with the main aim of letting the farmers earn profit.

PRISM STRATEGY

The PRISM strategy is to increase smallholder's income. It also develops strategies for effective natural resources management, gender equity and policy change. This helps the smallholder families lift themselves from poverty. Planning a PRISM intervention is usually accomplished in four phases (Figure 1).

Phase 1: Situation analysis

The objective is to examine a large geographical area so as to:

- i) Understand general patterns and trends
- ii) Collect background information
- iii) Understand the smallholder situation and assess the smallholder constraints and opportunities.

Phase 2: Intervention design

The objective is to address the constraints that prevent small holders from participating in market opportunities. A Project Implementation Plan has been developed in

accordance with PRISM's social and environmental principles and small holder's activities based on it.

Phase 3: Project implementation

In this phase, the project is implemented with regular monitoring, reflection and feedback regarding the project's effectiveness and efficiency.

Phase 4: Evaluate and learn

In this phase, the program is evaluated to assess whether the goals and objectives are being met through adaptive knowledge management, risk management and impact documentation/reporting.

The four phases of PRISM strategy are described in brief as under:

Phase 1: Situation analysis

Objectives: The main objectives of situations analysis is to assist the smallholders to generate additional income or produce enough food for sustenance and identify suitable geographical areas for high value crop production and establish market potentialities and links for them.

Strategy for situation analysis

In this, two or three potential market opportunities to increase smallholder's income are identified. The planning team then evaluates the physical and socio-economic characteristics of the grower and assessment is done keeping in mind the vision, goal and principles of PRISM. If accurate situation analysis is carried out then the small holders would benefit in terms of production, employment opportunities, market demand for their products and enhances economic gains.

It is very useful to establish a good support with the smallholders by trying to understand their constraints and giving feedback on possible regions and projects that would give them high returns. For instance, in Nepal IDE gathered and reviewed macro-level information on different aspects through literature reviews, secondary data collection, field visits and through workshop.

Situation market opportunity identification

Good market opportunities for smallholders are agricultural products having comparative advantage such as low production costs, family labor, extra care to cultivate high quality produce, familiarity with local market needs, low transport costs and growing of off-season

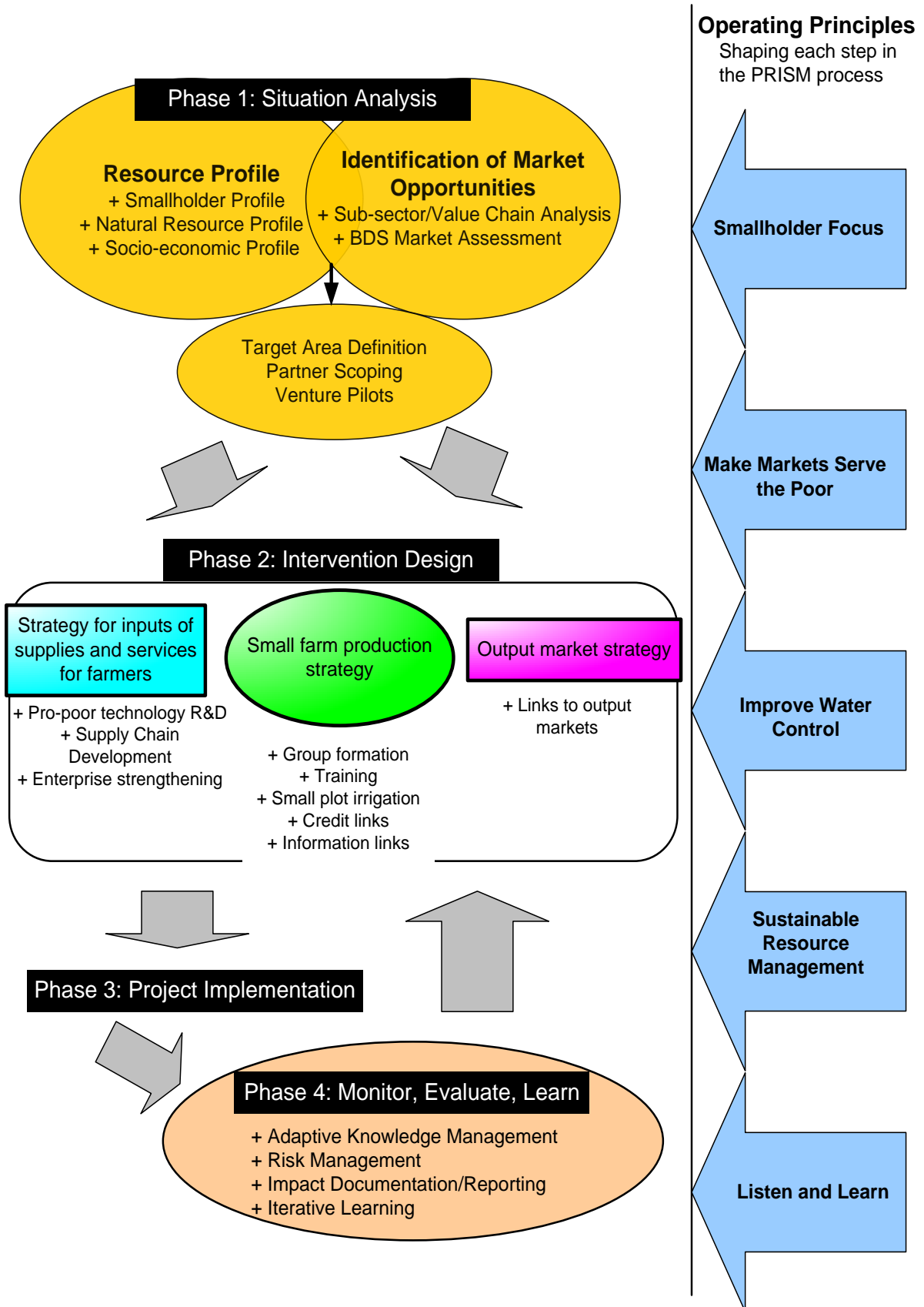


Figure 1. Operative principle of PRISM model.

Table 1. Profile of small holders.

Small holder household farm	Natural resources	Socio economic situation
Common crops and livestock livelihood practices skills and knowledge	Water	Environment policy
Land issues, land size, land revenue, land use and access rights, cultivation potential of land, fragmentation of land	Aquifers	Situation of women
Other income sources (farm vs off-farm)	Surface sources	Situation of different ethnic cast or other social groups
Gender division of labour access and use of resources	Rainfall/ climate	Food security situation
Farm water access	Flood/ drought cyebes	Poverty of spots
Access to extension, credit, information, markets	Land	Comparison of rural poor like small holders, agricultural laborers, farm workers etc.
	Soil types and quality	
	Nutrients requirements	
	Slopes and erosion	
	Land use trends (crops, forest, pasture etc)	

vegetables etc. for example in Zambia, IDE encouraged the farmers to cultivate paprika in their small plots and the outcome was quite encouraging in terms of monetary returns (IDE, 2007). The types of market opportunities to look for include:

- i) Higher sale price from off-season production
- ii) Import substitution
- ii) Export opportunities
- iv) Product differentiation and
- v) Emerging markets.

Situation analysis: Natural resource profile, smallholder profile, socio-economic profile

Taking into consideration the smallholder household farm, natural resource base and socio-economic situation, PRISM develops a broad understanding of the smallholder context (Table 1).

Situation analysis: Sub sector selection and sub sector analysis

Sub-sector selection

Certain criteria are to be taken into account while selecting a sub sector for PRISM intervention such as:

- i) Number of small holders.
- ii) Time limit for small holders to benefit.
- iii) Cost of the proposed intervention.
- iv) Impact on smallholders, the environment etc.
- v) Sustainability of the proposed intervention
- vi) Resources available

- vii) Synergy with other programs
- viii) Donors' interest etc.

Based on the above mentioned criteria, IDE developed PRISM projects in Bangladesh particularly in vegetables and pond fishery involving many smallholders so as to enable them to earn a net additional annual income of \$200. The IDE projects also created employment opportunities for many unemployed and also encouraged women's participation (IDE, 2007).

Situation analysis: Assessment of services and supplies for small holders

PRISM addresses the constraints through market based mechanisms to ensure sustainability, efficiency and cost effectiveness. For instance in India IDE successfully brought the needs product and services into the value chain through market-based mechanism (IDE, 2007).

IDE also supports small enterprises in order to improve the supply and quality of services for smallholders. In Nepal and Cambodia, IDE identifies leverage points and tries to address many constraints of the smallholders by clustering many smallholders in one geographic area or by introducing new technologies or by formulating smallholder friendly policies (IDE, 2007).

Situation analysis: Target area definition, partner scoping, venture pilots

Target area definition

Also called boundary definition, the endeavor is to learn more and more about the smallholders and possible options for improving their lives. It is the intersection of

Table 2. Constraints and interventions in the PRISM project in Nepal.

Constraints	PRISM intervention
Weak supply	Develop the capacity of dealers Develop products based on small holder needs
Weak demand	Promote micro-irrigation technology to stimulate demand
Few transactions	Facilitate workshop between supplies and farmers

poor rural smallholder who will benefit from PRISM, suitable water, land and other agro-ecological necessities and market opportunities.

Partner scoping

The main reason for building partnerships for PRISM with private sector, NGO and the government is for far-reaching and sustainable results. The other reasons are to imitate constraints faced by smallholders and strengthen prospective interventions and sustainability, and finally for joint proposed development, fund-raising and effective project implementation for poverty alleviation.

Venture pilots

Venture pilots are short duration, small scale interventions to test hypothesis. It helps generate knowledge that may be useful for developing a project. It emphasizes on 'learning by doing'.

Phase 2: Intervention design

The main objective of intervention Design is to analyze the possibilities and develop project implementation plan (PIP).

Strategy for intervention design

For a PRISM intervention, there may be several possibilities depending on local capacity, financing options, focus and expertise of project planners and partner organizations. The intervention is unique as it is developed as per the local situation, local conditions and needs, farmers' interest local constraints and opportunities, etc.

Criteria and principle for an intervention:

For developing and implementing the PRISM intervention, it is essential to establish certain criteria for selecting interest such as number of smallholders saved,

impact on income, sustainability, cost of intervention/resources available, synergy with other interventions, programs and partners and timeframe. For example, in Nepal an intervention was developed as shown in Table 2.

Identify Interventions that address constraints:

It identifies market opportunities and address constraints that limit small holder from engaging in the opportunities. IDE also develops intervention measures that address constraints at the input, on-farm and output levels. When identifying potential interventions, it is useful to look for a business or service that when activated or promoted, improves the functioning of the entire value chain.

Project implementation plan

PRISM involves understanding the situation of smallholder farmers and then developing a plan that shows how small holders will benefit from the proposed intervention. Some important aspects of the projects may include the following:

Goal and objectives: To reduce poverty and manage the value chain according to social and environmental principles.

Boundary definitions: Defines the program area which may be geographic or a target population. It may also include input markets, the small farms producing the product and output markets.

Marketing PRISM: It is important as the products are not distributed for free. Smallholders purchase their own equipment and other inputs. Therefore, project planners may need to develop a strategy to educate smallholders regarding the products and may need to market PRISM to smallholders.

Market system development: It provides an overview, of the market chain in which smallholders will operate, describes market opportunities and limitations for the smallholder and elaborates strategies to address constraints. In Nepal IDE designs interventions to either

build the capacity of members operating within the market system or to create links among these members of the market system. Market chain development in Nepal includes manufacturers, wholesalers, retailers, installer and leader farmer.

Government partnership: Identifies relevant government agencies and relevant policies of these agencies.

Partnership development: Identifies partners and strategies to work together with partners. It may also define the roles and responsibilities of each party. In order to build the capacity of the NGOs, the public sector, for profit enterprises and farm facilities, it adopts strategies like financial, operational and technical support to strengthen the capabilities of the partners.

Environmental strategy: Define strategies to protect the natural resources base and environmental systems. It includes the promotion of resource, conserving technologies and practices in Nepal, which help to prevent degradation of natural capital and also to improve the natural resource base.

Gender and socio-cultural strategies: In Nepal, IDE conducts socio-cultural assessment which includes activity profile, an access and control profile and analysis of factors that influence the current gender and caste division of labour and access to and control over resources. It emphasizes women's participation in the sub sectors, involves income in training and links women with input and output markets.

Policy/advocacy: The policy will determine where and how high level intervention is necessary to benefit small holders. It may involve in forming marketing groups to influence government policy. IDE also advocate for infrastructure development.

Exit strategy: It helps to ensure long-term sustainability of project results. It is possible to develop an exit strategy for the entire PRISM intervention and for each activity in their intervention.

In Nepal, exit strategy focuses on strengthening multiple partnerships among community based organizations, the community and the government agencies. The PRISM intervention may have a phased approach such as supply chain management, agronomic advice, information and market access, promotion and quality control.

Logistics: This part of the implementation plan includes the following:

- i) Baseline measure and anticipated impact
- ii) Financial aspects of the projects including costs and benefits

- iii) Project activities and timeline
- iv) Reporting
- v) Responsibilities

Phase 3: Implementation and Monitoring

Many IDE programs initially focus on implementing the intervention targeted action with these smallholders. Targeted actions may include building the capacity of smallholders, product and service marketing, information delivery, social marketing and policy advocacy.

Phase 4: Evaluation and adaptation

Evaluation is a tool for project and staff learning to reflect on the effectiveness of the approach and methodology. It may include the following aspects:

- i) In-depth, regular assessments of the short and long term intended and unintended impacts of the interventions.
- ii) Assessments of the methodology, including whether the approach and methods are cost effective means to benefit people in poverty.
- iii) Recommendations for improvements to the project and or the methodology based on the evaluation.

IDE's projects in Nepal are monitored both as a means to impacts and as a tool for project learning. It developed and monitored poverty indicators and other important parameters, such as gender equity and environmental sustainability. These indicators included the following:

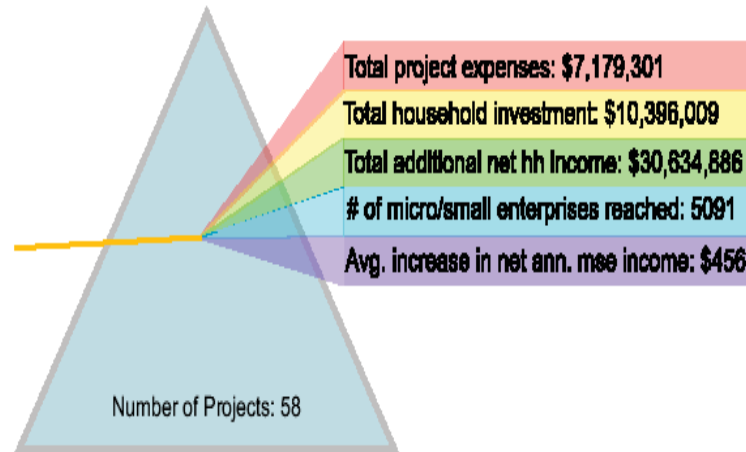
- i) Outreach – the number of target households reached.
- ii) Efficiency – the project cost per micro and small enterprise reached.
- iii) Effectiveness – the change in income poverty alleviation from services, understanding the program cost, farmer return on poverty investment.
- iv) Market development – the number and percent of micro and small-enterprises with access to needed services, the number and percent of suppliers offering these needed services to micro and small enterprises.

PRISM impact

The cumulative PRISM impacts are shown in Figure 2.

CONCLUSION

PRISM is an approach for planning of projects (micro, small/medium entrepreneurs) implementation, training and evaluation. It can help the poor farmers grow crops



Source: *Cumulative PRISM Impacts, 2003-2005*, presentation to IDE International Board of Directors, December 2005. Data collected by Michael Roberts, IDE Cambodia.

Figure 2. Impact of PRISM on small holders.

on a commercial basis. It mainly focuses on the successful production of high value crops by using the PRISM technology and methodology. This resulted in generating income from farming business and a positive move towards poverty alleviation. It helped in creating employment opportunities and also tried to involve women's participation on equal footing. Finally, its goal and objectives was to better address the needs of the smallholder farmers throughout the world.

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