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Education for Rural Transformation (ERT)

Good Practices from National and International Perspectives

The 3rd ERT International Symposium, 2012
Vadodara, India

Volume 2

The "Schooling" Challenge

Edited by

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It is of utmost importance that in the journey towards rural transformation and the critical examination of current good practices and/or policies, innovative theoretical, conceptual and analytical frameworks; the voices among the rural poor, their perspectives and the impact on the social, cultural, ecological and economic sustainability of such practices are considered thoroughly. It is in light of the persistent challenges of the grassroots perspective that further advocacy regionally, nationally and internationally can be effectively pursued and disseminated.

The discourse on Education for Rural Transformation (ERT) has become increasingly developed and enriched with inspiring research, projects and initiatives. With this in mind, the organisers of the 2012 ERT International Symposium have created a platform within the broader theme of ERT, "Good practices from National and International Perspectives" held in Vadodara, India.

This book is one of two volumes. The first volume focuses on 'theory and practice' of ERT in its eighteen chapters. The second volume, composed of fifteen chapters, focuses on 'the schooling challenge'. Each chapter in both volumes reflect the opportunities and challenges that are evident in the path of transforming the lives and well being of rural people through education. The wide scope of definitions and conceptualization of "good practices," and its application to ERT reveal the underlying differences which represent the true nature and diversity of ERT contexts.

On behalf of the Institute of International Education (IIE), Department of Education, Stockholm University, Sweden, the co-hosts, the M.S. University of Baroda and the ERT Team members, I would like to express my gratitude to all the distinguished guests, presenters, and collaborators for their valuable contributions to the discource of ERT and specifically "good ERT practices". This present publication is a result of the collected wisdom, experiences and insights of many. I would also like to thank especially the IIE editorial team members Mrs. Karen Ann Blom, Mrs. Patsy Åkeberg, Mrs. Sarit Grinberg Rabinowicz, Ms. Emily Williams and Ms. Snigdha Roy for their hard work in the finalising of this publication.

Professor Vinayagum Chinapah

Introduction

Education for Rural Transformation (ERT) Good Practices from National and International Perspectives

Vinayagum Chinapah, Karen Ann Blom and Khaleda Gani-Dutt

> *A great majority of rural population still languishes in extreme poverty and deprivation, and education has failed them utterly by not being relevant and adequate. As would be expected, the major concern of the rural poor is being able to produce enough for themselves and their non-farming compatriots, and improve their living conditions in terms of better nutrition, health care, education and other social services (Endris, 2012, p.358).*

More than half of the world's rural people can be found in the most populous countries of India and China. It is through the lens of these two and other E-9 countries that good practices and lessons have been assessed and gleaned from the previous Education for Rural Transformation (ERT) Symposiums, the first one in Stockholm, Sweden 2010 and the second one in Chengdu, China 2011, respectfully. The in-depth comparative studies, both qualitative and quantitative, have provided much needed research in the attempt to reverse this phenomenon and embrace the dynamic possibilities of rural transformation through the vehicle of education. Collective information resulting from these researches, all point to the necessity to re-examine the role of education and learning as well as to re-evaluate present policies and priorities (both national and international) with regards to the perspectives of rural people.

These **ERT good practices** are what this 3rd International ERT Symposium in Baroda, India was focused and motivated by. All contributions (keynote addresses and symposium papers) have focused on existing good practices of ERT or ERT-related programs, projects or activities that have been well documented (i.e., described, evaluated and reported on the basis on empirical evidence in quantitative or qualitative nature or both) as well as innovative ERT theoretical, conceptual or

analytical models for future data collection and analysis of good practices. It is not enough to merely state what changes need to occur within governmental policies for ERT, but rather to observe and elicit further good practices within contextual bases. For example, Zhang, W. (2012), in the IIE-commissioned forthcoming book on ERT good practices from China, identified six possible perspectives from which these good practices could be viewed from, namely:

1) poverty reduction
2) skills training: including technical and vocational skills training, life skills training and the use of Information and Computer Technology (ICT)
3) capacity building of local community and lifelong learning systems
4) the spread of new concepts such as sustainable development
5) spiritual civilization building
6) women empowerment

(Source: Zhang, 2012)

Zhang (2012) disseminates several excellent ERT good practices established and implemented in China through the lens of these perspectives such as the following example.

- **Jade Polishing Plan** and subsequent **Seed Plan**: Women were empowered from grassroots to become leaders through which they train participants in the "seed plan". The training is participatory, scenario-based and includes case-based pedagogy in order to engage women leaders, assist in the development and understanding of themselves, the concept of women leadership. Learn basic ICT skills, management skills, how to mobilize resources, interpret laws and regulations and design effective projects for their own villages (Zhang, 2012).

Similarly, Dave, S. (2012) in the same IIE-commissioned ERT publication, in this case good ERT practices in India, observes several initiatives set forth by the Indian Government in the attempt to achieve Universalization of Elementary Education (UEE). Dave mentions several examples in depth that have been highly effective in reversing the deteriorating pattern of high drop-outs, challenge of absence due to migration, child labour, absence of the girl child etc. Innovative programmes deriving from **Sarva Shiksha Abhiyan**, India's answer to Education for All (EFA) creates successful results that are child-centred, community and contextually based, and quality focused. Schemes that involve the focus to be given to these challenge areas are inclusive of:

- **Bridge Course Centres:** A programme to answer the challenge of students at risk due to migration (high absence rate or drop-out). Creates opportunities for students to repeat/attend a class for three months with the purpose to re-enter into the mainstream at the next standard class level.

- **The National programme for Education of Girls at Elementary Level (NPEGEL, 2003**): an amendment to existing scheme of Sarva Shiksha Abhiyan. Implemented in Educationally Backward Blocks concentrating in areas where female literacy is low and gender gap is above the national average. Model Cluster Schools are established under this scheme.

- **Model Cluster Schools**: includes learning with computers, film shows, reading materials, self-defence, life skills, riding bicycles, reading, games etc.

- **Community Mobilization**: inclusive of school repairing grants, school development grants, teaching / learning material grants, etc.

- **Ksjitij (Horizon)**: the establishment of Libraries within schools to develop literacy and leadership qualities.

(Source: Dave, 2012)

The key to the success of such examples of excellent good practices derives from the ability of these initiators to think beyond the "rule of thumb" and effectively initiate innovative ideas developed according to the contextual needs and desires of the rural poor people themselves. Such good practices demonstrate the power of combining academic knowledge, innovation/ creativity, and the reality of the rural contextual needs.

It is important to assess the quality and not just access to education in the rural, poverty-stricken areas with marginalized populations. Low quality education has been proven detrimental to the reduction of poverty (Millennium Development Goal [MDG] 2), social equity and inclusion, social coherence and political stability, while creating severe impediments for attaining the aim of Education for All (EFA) (Chinapah & Wang eds., 2012). Equitable education of quality is necessary to achieve success at an individual, regional and global level. In the process of examining education as an instrument for Rural Transformation, common challenges, hindrances and trends of these two pillars of education - quality and equity- must be addressed within the context of globalization and the local context.

This context of global interdependence, decentralization and the rapid development of civil-society organizations present opportunities; provided that the rural poor can influence institutions, policies and decisions that affect their lives and determine the benefits they draw from economic activity. Modifying such unequal power relations would contribute significantly to reducing poverty, thereby enabling disadvantaged impoverished producers, especially in rural areas, to develop their full potential to become the driving force of development (IFAD, 2003).

Additional ERT Successful Stories

The forerunning ERT International Symposiums (Stockholm 2010 and Chengdu 2011) both produced a plethora of good practices and overarching trends within the diverse and far-reaching issues examined. A few examples are as follows:

ICT: Information and Communication Technology towards the Obtainment of Education for Rural Transformation (ERT)

Wei & Qifu (2011) in their ERT Contribution entitled '*The E-learning Service System as a Model of Lifelong Learning for Rural Transformation: The Current Practices and Experiences in China'* closely examined the implementation of Learning Centres in various areas and found that although many regarded computers as a "gaming instrument" rather than an educational tool, several farmers within the Wulimiao area benefited greatly through the introduction and training received. Digital learning became regarded as valuable and information technology and subsequent distance learning was advanced within the rural community. Farmers were able to improve their economic status and knowledge through the practical and innovative measures taken in the exercise of e-learning systems. In addition, those migrant workers who took part in the digital learning project were able to develop career-changing skills and thus adapt to rapid urbanization of areas such as Beilun. Similar ERT good practices and implementation of ICT were found throughout China, India and many other countries in the move towards an increasingly knowledge-based economy (Wei & Qifu, 2011).

Anjali Khirwadkar and Praful Mogera (2011) wrote similarly on the ICT initiatives for Rural Transformation found in India. Their findings found that ICT literacy and access to ICT tools has tremendous potential to raise literacy and information literacy; bridge the gap between rural and urban populations; allow the building of capacities and improve quality of life; and facilitates towards the achievement of the MDG goals. Several successful practices were found inclusive of the e-Choupal services that reached more than one million farmers and the e-SEVA centres of Andhra Pradesh that launched self-help groups to economically uplift the poorest women within

India. The challenges they highlighted were the need for surveillance of e-governance and the necessity to bring further innovation; cost effectiveness and efficiency; the redesigning of ICT to aid in-service teachers; the development of basic ICT competencies for teachers; and the need for additional developmental research using case studies and community participation approaches (Khirwadkar & Mogera, 2011). "Learning for Farming Initiative" is a longitudinal study tracing the lifelong learning of farmers activities in Tamil Nadu, India conducted by a team of researchers (Thamizoli and Francis et al., 2011). Research found that mobile phones used as a tool for both educating and disseminating information resulted in the empowerment and strengthening of the livelihood of marginalised women. Women were able to strengthen their position in business consultations with financial institutions and other agencies increasing their social capital within the household and wider society. In addition, the project resulted in the strengthening and improvement of the sustainability of agricultural crops and goats (Thamizoli & Francis et al., 2011).

Balanced Development: Interactive and Inclusive Education a Necessity for Rural Transformation

In the desire and need for Rural Transformation, urban areas and the increasing population of migrant workers should not be forgotten. Several examples of innovative practices in the pursuit of balanced sustainable development for rural areas were presented.

Yu Lei (2011) provides detailed information in regards to the formulation, management and alliance of schools that constitutes the chain of schools between rural and urban areas. Lei reveals the success of collaboration and exchange of teachers, management and the strength of shared goals and training modules, resulting in the increased level of quality of instruction and a more equitable distribution of resources (Lei, 2011). Similarly, Zhaoyu Jia (2012) and Fumin Lei (2012) both describe a variety of projects implemented in Shuangliu County and Chengdu Municipality, in China respectfully. In Shuangliu, the projects were intended to optimize school facilities and capabilities; and promote equality and equity resulting in the reduction of disparity between rural and urban areas. This was conducted through a variety of projects inclusive of the establishment of education groups to relay and extend the quality of educational resources. These groups were sponsored by prestigious schools and established long term interaction and collaboration between teachers, management and other personnel of rural and urban areas (Jia, 2012).

Another ERT success story is the Wuhou District in Chengdu, China that encompasses both urban and rural areas. In order to address the widening gap between its rural and urban areas educational achievements, the decision was made to adjust the strategic plan to focus on the "bundling"

of urban and rural school development. This plan intended for rural teachers' quality, professionalism and teaching ability to increase through shared curriculum and experiences of other teachers. In addition the curriculum was reformed to modernize the teaching-implementation plan, placing emphasis on "informationalization" approaches to improve interaction and knowledge through effective teaching. The results in Wuhou District were positive, reducing the gap significantly to achieve the narrowest gap in the Chengdu research examination of 2005. In addition, Chengdu research examination of rural schools in 2009 resulted in average scores for math and English higher than those in urban areas. To ensure that these academic developments are balanced, the district implemented a quality–orientated project recently entitled "Happy learning, Excellent Education in Wuhou" focusing on students' mental and physical health (Lei, 2012).

Previous ERT Symposium Summaries and Recommendations (Stockholm, 2010 and Chengdu, 2011)

The inaugural symposium held in Stockholm, Sweden 2010, marked a collaborative initiative to critically examine the concept, policy and practice of Education for Rural Transformation. The aim was to undertake research in capacity building, share good practices, identify policy choices and determine workable programmes and priorities in varying contexts. China and India were the initial focus as more than half of the world's rural population resides in these two (E-9) countries with the intention to gradually include other developing regions of the world, increasing the varied and rich experiences shared. It was found that rural areas are of wide diversity and are in a state of transition due to the pressures of adverse consequences of rural economy, environmental issues, and rapidly increasing urbanization. Despite growing awareness, it was indicated that the 2015 MDG goals cannot be fully achieved partially due to the large proportion of rural people, particularly in developing regions, who remain deprived of quality and equitable education. Struggling to address the challenges of education a) access with equity b) quality and relevance and c) efficiency and accountability, developing countries have made some progress yet the aim of the 2015 education goals has remained eluded. Several papers were presented inclusive of: holistic system thinking; Education Development Initiatives; the assessment of children learning; disparity, deprivation and discrimination of educational provision for disadvantaged groups; the potential of e-learning and ICT; the importance of teachers and teacher support; balanced and integrated development of educational services; civil society role and participation; the role of higher education; vocational and skill development; adult literacy; and the importance of training and capacity development for food security and poverty reduction. The resulting recommendations regarded the urgency for "systematic research, academic studies and training and policy dialogue and

advocacy at the international, regional and national levels". In addition, participation is to be broadened to include other regions and countries; collaborative research programmes, and an interdisciplinary group for guidance of research, an international post-graduate programme should be designed and implemented in addition to consideration of publishing a journal on ERT to further disseminate research (Ahmed, 2011).

The following 2011 Dujiangyan International Forum held on August 7-8th, 2011 in Chengdu, China addressed several of the aforementioned challenges in regards to the quality crisis within education. Focusing specifically on balanced rural transformation, encompassing sustainable practices within local and global contexts, the Forum focused on promoting balanced development of education for rural transformation; education and training for rural transformation; and enhancing the level of internationalization of education (Chinapah & Wang (eds.), 2012). The objectives of the Forum were to share experiences and good practices; to provide empirical evidence for stakeholders and clarify their roles and responsibilities in achieving balanced sustainable development; and to reach a consensus for immediate action in empowering rural communities especially the rural poor for enhancing quality and promoting equity of education.

Those who presented papers raised several issues as well as many successful examples of good practice. Inclusive was the persistent question of quality and equity; the integration of development and rural transformation; addressing diversity of students; the critical questioning of data on Human Development; inclusive balanced development (chain schools); innovation; education communities; community learning centres; human resource development; skill and training development; vocational education; economic stability; professional development of stakeholders; improving learning achievements of disadvantaged students; management challenges and actions; psychological development; experiences from Africa, Tanzania, Namibia etc.; disaster preparedness; Education for International Understanding (EIU); and global education.

Pushpanadham and Panigrahi (Chinapah & Wang (eds.), 2012) highlighted the importance of skill development for sustainability and the ability to overcome future challenges in Rural India. Elaborating on several innovative programmes set forth by the Government of India, Pushpanadham and Panigrahi emphasized in the context swiftly paced economic growth, it is essential to provide the skill development required. In addition, the two authors recognized that despite concerted efforts, there remains significant potential for sustainable growth, in particular among youth and women who traditionally have been are largely undervalued. This

overview among the many others discusses the remaining challenges for provides a contextual basis for the approaching 3rd International Symposium.

Intended Key Objectives and Expected Outcomes of the 3rd International Symposium

The ERT International Symposium in Baroda, Vadodara-India (2012), is the third in the initial series of international symposiums and expected to produce a synthesis of ERT good practices from experiences and empirical findings from previous symposiums as well as additional recently gathered research. Participants were challenged to identify existing ERT good practices of empowerment and concretely come to a consensus of the role of education in promoting rural transformation; action-orientated and tailored programmes and activities that can address the roots and causes of challenges facing the existing rural infrastructure, social and educational services; and further establish and nurture sustainable international cooperation and partnerships between researchers, institutions, organizations and nations.

International Symposium Format

The international symposium consisted of several sessions inclusive of keynote papers, panels of participant presentations and subsequent time for chaired discussions. Between presentations and discussions there were breaks for tea/coffee and lunch as well as a social gathering open to all participants.

Participants

The 3rd international symposium was both a continuation and summation of the forerunning symposiums. The symposium participants were internationally renowned educators, researchers, high-level policy-makers and practitioners from different parts of the world who joined together in the purpose of promoting further research, training, and capacity development in the field of ERT. Many of the invited participants had previously attended and participated in the two preceding international symposiums, which took place in Stockholm, Sweden (2010) and Chengdu, China (2011) respectively. As a result, this particular symposium had distinct significance in the level of discussion and familiarity of the subject.

Results & Recommendations

Results and Recommendations gleaned from Symposium participants and contributions were many. The following few key points were discussed at length and are proposed to be developed further in future ERT Symposiums and Forums.

- Some participants were critical of the lack of "authentic rural" voices-mainly those attending remain from academic and higher-level delegations. This is in danger of perpetrating the prevalent "white-tower" or "us" and "them" dichotomy.
- A good variety of individuals including a large international representation from around the globe. It was a shame that several participants had visa challenges despite the best efforts of organisers.
- It was interesting to see the wide variance of what each individual considered being "good practice". This is something that Bhola; Chinapah & Blom; and Löfberg among others attempted to address and was further challenged by Marmar Mukhopadhyay in the final panel to develop further in future ERT Symposiums/Forums.
- Finally, it was proposed that the next ERT Symposium be hosted and held by Kasetsart University, Bangkok, Thailand.

CHAPTER SUMMARIES

There are fifteen chapters in this current volume. The publication has been divided into two volumes as the contributions to the 3rd International ERT Symposium were excellent and add valuable insight into the current discourse of Education for Rural Transformation.

In **Chapter One** Khirwadkar and Chaudhari discuss the potential of ICT education to help develop India's rural communities. They advocate for ICT initiatives that focus specifically on bringing ICT education into rural areas in order to create job opportunities, which in turn will lower the rural unemployment rate, prevent urban migration and boost local economies. They cite several programs that have successfully used ICT to provide employment opportunities to rural communities and argue that further support from the government, industry, NGOs and the rural communities themselves is needed to implement these programs more broadly.

Chapter Two provides an in-depth look at the achievements and challenges encountered by the Integrated Child Development Services (ICDS) in its efforts to improve the functioning of Aanganwadi centres in India's rural areas. The centres were established to support expecting mothers and mothers with young children by providing early childcare development assistance and information to improve their nutrition and overall health. The report identifies the best practices of the ICDS' training and extension program and provides recommendations for future programs.

In **Chapter Three**, Rajput's case study on CARE India's residential education camp, *Udaan*, illustrates the positive impact such programs can have in rural communities. The program places an emphasis on marginalized children, especially girls, who for various reasons have been left behind or left out of the education system. The report explores the structure and evolution of the program and provides real-life accounts of graduates' personal experiences. Rajput concludes that the success of Udaan has demonstrated the efficacy of learner-centred curricula in transforming education for marginalized populations, which CARE is now helping to introduce on a national scale.

Chapter Four discusses the importance of foreign language education in an increasingly globalized world. Moore cites the example of Thailand and its government's efforts to promote foreign language education, with particular emphasis on English and the languages of the ASEAN region. Her

report examines a multilingual program at Kasetsart University's Laboratory School in Chonburi, Thailand, which has successfully introduced foreign language education into its school curriculum.

Doss, in **Chapter Five**, discusses the significance of certain educational initiatives, or schemes, in the context of rural transformation in Pondicherry, India. The objectives of the report are to identify various educational schemes and to study the impact these schemes have on rural students. It is the author's goal to highlight the good practices that are currently implemented for the benefit of Pondicherry's rural students, such as safe transportation to and from schools and career counselling centres, and to advocate for the revival of defunct programs, such as the pre-examination coaching centres, as well as the introduction of new programs and reforms.

Rural transformation in China has been approached through the shaping of a "new countryside," a process that addresses "three rural issues": agriculture, rural inhabitants, and the rural area. The focus of **Chapter Six** is on a university project associated with this movement to transform the countryside, Chengdu Vocational College of Agricultural Science and Technology's (CDCAST) Sci-tech teams. The author describes the purpose and functions of various Sci-tech teams, which have specific objectives, such as poverty reduction and improving scientific and technological quality. The author argues that such programs utilizing a teamwork approach that is organized by agricultural colleges and research institutes offer significant contributions to rural transformation in China and its development of a prosperous society.

Rumpagaporn, in **Chapter Seven**, discusses the integration of ICT education in the teacher-learning process in small-sized, rural schools in Thailand. She suggests that an ICT integration policy is a necessity for rural transformation. The report suggests that Government support should have two focuses: on individuals (teachers) and institutions (schools). Since the integration of ICT in the learning process was found to increase students' learning achievements, a key challenge is to improve teachers' knowledge of ICT and how they can effectively integrate ICT into the teaching-learning process.

In **Chapter Eight**, Poudel discusses how decentralizing education management can positively transform rural communities by increasing their involvement in education processes. Poudel argues that community-managed schools (CMS) empower the entire community through shared decision-making and governance responsibilities that increase participation and

impart a sense of ownership. This type of school-based management encourages the involvement of parents, increasing the likelihood that they will send their children to school, and fosters the professional motivation of school staff in rural communities.

Chapter Nine discusses the powerful role of teachers in rural transformation. Central to this is Siddiqui's appeal for increased government investment in teacher education and teacher development programs in order to improve the quality of rural education and to strengthen rural teachers' roles as agents of change. In particular, Siddiqui suggests that education quality can be improved if teachers apply child-centred pedagogic processes. Cited in the study are instances of successful private initiatives that demonstrate the positive changes in teachers' practices that can be achieved through improved teacher education.

Education plays an important role in sustainable socio-economic development. **Chapter Ten** discusses the role of higher education in rural transformation. Buasuwan highlights one university's achievements in bridging the gap between rural and urban populations. Kasetsart University in Thailand supports sustainable rural development through giving rural citizens the skills, knowledge and capacity, or *self-sufficiency*, to improve their living conditions. Buasuwan believes that Kasetsart University can serve as a model for higher education institutions and demonstrates their potential for supporting rural transformation.

Bissoonauth in **Chapter Eleven** has focused on the challenges regarding teacher education in rural Africa. She addresses the problems that exist within several initiatives taken to improve the quality of teacher training in rural areas. She focuses on Communities of practice to resolve these challenges.

In **Chapter Twelve**, Neogy and Shahi express the urgency of women's autonomy and male involvement in women's reproductive health care in order to bring a positive health outcome for Indian women. This expression has been firmed by illustrating a few examples of good practices conducted in Uttar Pradesh state of India.

Periodi and Karopady, in **Chapter Thirteen**, depict a case study, conducted in North-East Karnataka region of India, which focuses on the activities of a non-profit organization, the Azim Premji Foundation. The Foundation works to provide a healthy, hygienic, safe and happy environment for the most marginalized children, which are crucial to ensure

quality of primary education. The Foundation has been able to bring about comprehensive and sustainable quality of education in identified government schools in partnership with communities.

In **Chapter Fourteen**, Sarnswang first discusses the theory of 'Sufficiency Economy,' introduced in Thailand, which includes sustainability, moderation and broad-based development without overexploiting natural resources. Sufficiency Economy is an approach which offers a feasible alternative for sustainable production and sustainable consumption. The chapter goes on to illustrate the theory through some examples of best practices of Sufficiency Economy.

Jewcharoensakul in **Chapter Fifteen** describes a successful case study in Thailand that examines how the promotion of 'Thai food to the World' has been able to bring about socio-economic development in rural areas by increasing agricultural productivity along with introducing Thai culture with the rest of the world. This attempt is successful in educating rural Thai people through lifelong learning.

CHAPTER ONE

INFORMATION COMMUNICATION TECHNOLOGY DEVELOPMENT (ICTD) FOR GENERATING EMPLOYMENT OPPORTUNITIES FOR RURAL YOUTH IN INDIA

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INTRODUCTION

Youth of any country are the wealth of the country if properly guided and developed. The youth are the steering force for national and international development. Young people are the major human resource for development, key agents for social change, and driving force for economic development. Harnessing this resource is a major challenge. The youth potential is considered as the most critical of the 21st century's economic developmental challenge. According to International Labour Organization (ILO, 2012), there are over one billion youths (aged 15 – 24) in the world today. Eighty five (85) per cent of these youths live in the developing world, where 99 per cent of population growth is occurring. Around 50 per cent of the population in developing countries lives in rural areas. Some 61.5 per cent of youth live in Asia.

Table 1: Population of Youth in India

	Population of Youth
Census 2001	~422.3 million
Census 2011	~550 million

Source: www.censusindia.net/

India has a total population of approximately 1.21 billion as per the 2011 Census. India has the largest youth population in the world. Seventy per cent (70%) of India's population is below the age of 35 years. The youth population in the country including adolescents is around 550 million (Census, 2011). As per the Census of India 2001, the size of the youth population in the country was 422.3 million. Between the 2001 and the 2011 censuses, the youth population was increased significantly by 127 million.

Table 2: Unemployment Rate in India

Year	Youth Unemployed
2007	~70.8 million
2011	~74.8 million

Source: Mahendra and Venkatanarayana, 2011

As indicated in Table 2, in India 70.4 million youths were unemployed in 2007. The number of unemployment has increased to 4 million since 2007. As the number of unemployed youths remained essentially unchanged in 2012, and as the number of young people withdrawing from the labour market altogether continues to rise, on the present course there is little hope for a considerable improvement in near-term employment prospects for young people (Mahendra and Venkatanarayana, 2011). National Youth Policy (2011) also indicates that the youth population requires greater focused attention from policy makers and programme planners and concerted efforts in order to attain gender equity among the youth.

Rapid growth of the Indian IT (Information Technology) and ITeS (Information enabled Services) sectors has created a lot of new jobs in the country. Over the last decade, the IT and ITeS industry in India has grown from 8.7 billion US dollars to 64 billion US dollars. About half of all incremental employment created in India comes from this sector (Rasheed et al, 2011). Such job opportunities are available to urban educated youth, but rural youth do not have adequate skills for such jobs. Although, with the increase in school and college enrolment rates, the proportion of youth in the labour force has been declining. Their high proportions in the labour force indicate that the problem of youth unemployment and underemployment would remain a serious policy issue for many more years to come in India (Varada and Yunus, 2010).

Table 3: Literacy rate and Youth attending Education

Year	Literacy Rate for Youth
1983	56.4%
2007-08	80.3%
2011	87%

Source: Mahendra and Venkatanarayana, 2011

According to Mahendra and Venkatanarayana (2011), the literacy rate of the youth population rose with the number of youths attending educational institutions. The problem of unemployment among the youth is mainly due to lack of formal schooling, poor access to information, early marriage, lack of decision-making power, poverty leading to migration, and presence of sexual exploitation at home and work. In the absence of adequate support and services at home and society, youths are susceptible to risky behaviour, including substance abuse, migration, trafficking, delinquency, and mental and physical challenge. The frustration leads them to alcoholism, which is the root cause of poverty, premarital sex, domestic violence, smoking, gutkha consumption and other abuses. If we analyze the current scenario of ICT, it has the potential to increase job opportunity among the youth of rural India and required ICT skills for youth for economic and employment opportunities. It is very important to increase ICT based training programs for the rural youth and develop a plan of action to make it successful.

EMPLOYMENT

Employment defined by the International Labour Office (ILO, 2012) is a person who during a specified brief period, such as one week or one day, (a) performed some work for wage or salary in cash or in kind, (b) had a formal attachment to their job but were temporarily not at work during the reference period, (c) performed some work for profit or family gain in cash or in kind, (d) were with an enterprise such as a business, farm or service but who were temporarily not at work during the reference period for any specific reason. In this paper authors have adopted the definition given by ILO (2012) for defining employment and unemployment.

The Indian economy is a developing economy, where two-third of its labour force is still dependent on agriculture. Agriculture, which is the principal occupation in rural India, is a seasonal occupation. The agricultural workers face seasonal unemployment. According to National Sample Survey (NSS, 2010), the level of employment and unemployment to a great extent depends on normal monsoon, floods and drought conditions in the country. Therefore, the measurement of employment and unemployment situation is quite difficult.

Youth is considering important and Active earning member for Family as well as Country. Youth age in between 15 to 25, should earn enough amount of money to take responsibility of family and help them to fulfill their needs. Employment and Unemployment among Youth is one of the major issues of India today.

SOURCES OF EARNING IN RURAL INDIA

Two thirds of the rural population relies on agriculture and farm income for their livelihood, but rural on-farm workers do not get the full benefits of their labour, which translates into uncertainty, food insecurity and unwillingness to take risks. Factors such as inequality in land distribution and associated poverty restrict the choices available to farmers and there is no land for young people to make a living (ILO, 2012).

Table 4: Distribution of persons (per 1000) in rural area by age-group

Rural area		**Age group (in years)**													
		0-4	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**	**55-59**	**60 & Above**	**Total**
Male	*Gujarat*	*100*	*124*	*108*	***98***	***79***	71	88	78	59	47	45	39	66	1000
	All-India	93	117	124	***109***	***79***	72	70	70	60	55	41	34	77	1000
Female	*Gujarat*	*111*	*90*	*93*	***87***	***77***	93	88	71	56	53	47	42	92	1000
	All-India	95	106	111	***91***	***88***	84	79	77	61	53	40	35	81	1000
Male+ Female	*Gujarat*	*105*	*108*	*101*	***93***	***78***	81	88	74	57	50	46	40	78	1000
	All-India	9	1	1	***1***	***8***	7	7	7	6	5	4	3	79	10

Source: The National Sample Survey Office (NSSO, 2011).

Table 5: Distribution (per 1000) of workers according to usual status approach by industry sections of NIC-2004

Rural area		**India industry sections of NIC-2004**																
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**All**
Male	*Gujarat*	709	4	4	78	1	54	51	4	53	1	3	8	11	3	15	1	0	1000
	All-India	623	5	8	70	2	113	72	10	41	3	4	12	15	3	15	3	0	1000
Female	*Gujarat*	921	1	0	17	0	24	8	2	5	0	0	3	10	0	6	3	0	1000
	All-India	792	1	3	75	0	52	23	5	2	1	1	5	20	5	9	5	0	1000
Male+ female	*Gujarat*	780	3	3	58	1	44	37	3	37	1	2	6	11	2	12	1	0	1000
	All-India	676	4	6	72	2	94	56	8	29	3	3	10	17	4	13	4	0	1000

Source: The National Sample Survey (NSS, 2011).

Table Notes: Agriculture sector: Sections A and B, Secondary sector: Sections: C to F, Tertiary sector: Sections G to Q
***A**: Agriculture, hunting and forestry, **B:** Fishing **C:** Mining and quarrying, **D:** Manufacturing, **E:** Electricity, gas and water supply, **F:** Construction **G:** Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, **H:** Hotels and restaurants, **I:** Transport, storage and communications, **J:** Financial intermediation, **K:** Real estate, renting and business activities, **L:** Public administration and defence; compulsory social security, **M:** Education, **N:** Health and social work, **O:** Other community, social and personal service activities, **P:** Activities of private households as employers and undifferentiated production activities of private households, **Q:** Extraterritorial organizations and bodies*

The previous table 4 indicates that 183 people out of 1000 people belong to the age group of 15-24 years in rural India. In India, 188 males per 1000 people and 179 females per 1000 people belong to rural areas. It is very important to increase employment opportunity among youth as it will increase national income and lead to national growth.

The Indian rural economy mainly depends on the agriculture sector. In the agricultural sector, youth employment is less than adults. It was 54.4% for youth and 57% for adults in 2007-08. Youth take more interest in the industrial sector in comparison to the services sector. Unlike adults, the share of industry for youth is higher than services in 2004-05 (Mahendra and Venkatanarayana, 2011). From table 5, it is clear that 680 people out of 1000 are involved in the agriculture sector and the other 320 people (all-India) are involved in secondary and tertiary sectors. In all in India, 628 males and 793 females are involved in the agricultural sector. Three hundred and seventy-eight (378) males and 207 females of all-India are involved with secondary and tertiary sector. So, large numbers of people are involved with secondary and tertiary sector.

RURAL YOUTH AND UNEMPLOYMENT: A CONCERN

A youth is a person between the ages of 15 and 24 who is in a transitional period from childhood to adulthood and represents 1.8 billion young people in the world today. About half survive on less than $2 a day, while more than 100 million adolescents do not attend school. Sixteen million adolescent girls become mothers every year. Almost 40 per cent of the 6,800 new HIV infections each day are among young people (UNFPA, 2012). Forty (40) per cent of the jobless worldwide are young people. There will be nearly 75 million unemployed youths aged 15 to 24 in 2012, an increase of nearly 4 million since 2007 (ILO, 2012). Although urban poverty is visible, rural poverty is argued to be more extensive and severe. In terms of India's pattern of rural employment there has been a sectorial shift, with the proportion of male workers engaged in the primary sector steadily declining in comparison to the proportion of male workers in the secondary and

tertiary sectors. Thus, total non-farm sectors have witnessed a steady increase for all non-agricultural sectors. For females, the trend in sectorial shift is less sharp indicating their relative inability to gain access to jobs in the secondary and tertiary sectors (Chadha, 2003).

Some important employment and unemployment indicators

The National Sample Survey Office (NSSO) during the period July 2009 - June 2010 carried out an all-India household survey on the subject of employment and unemployment in India to generate estimates of various characteristics for employment and unemployment and labour force characteristics at the national and State levels. They gave following indicators of Employment and Unemployment:

Labour force participation rate (LFPR), defined as the number of persons/ person-days in the labour force per 1000 persons /person-days. At the all-India, for persons of age 15-59 years, LFPR is nearly 570 persons per 1000 persons (57 per cent) are active members of family.

Worker Population Ratio (WPR), defined as the number of persons/person-days employed per 1000 persons/person-days. WPR in the rural areas (37 per cent) was higher than that in urban areas (34 per cent). Female WPRs in both rural and urban areas were lower compared to their male counterparts.

Proportion Unemployed (PU), defined as the number of persons/person-days unemployed per 1000 persons/person-days. PU for persons of age 15-59 years at the all-India level, PU is 25 per cent and it is 35 per cent for rural male and 16 per cent for rural female.

Unemployment Rate (UR), defined as the number of persons/person-days unemployed per 1000 persons/person-days in the labour force (which includes both the employed and unemployed). UR for persons of age 15-59 years at the all-India level, UR is nearly 4 per cent.

From these indicators, we can find out the causes of employment and unemployment among the youth of any country. The following paragraph mentions the reasons for unemployment.

REASONS OF UNEMPLOYMENT

Youth unemployment is becoming a serious problem in developed and developing countries. The problem is compounded by worst working conditions for some sections of the young people. Among the most common features of youth unemployment identified by Majumdar (2011), Chadha (2003), Mahendra and Venkatanarayana (2011) are:

- Youth are generally less-educated and have little or no skills.
- Rural youth have migrated to urban area and considered as unemployed due to part time, seasonally and contract based job.
- Less scope for employment in rural area due to lack of adequate facilities, opportunity and scope of investment.
- Among the unemployed youth, women number more than men due to being more insecure and vulnerable to exploitation in non-formal sectors.
- School curricula not designed for the situation, future needs or interests of rural youth. Many drop out because what they are taught seems irrelevant to their needs.
- Rural families cannot afford the opportunity costs of keeping youth at school and many children discontinue education due to their requirement as labourer in off-peak season.
- Rural children and youth cannot attend school during the monsoon months due to swollen rivers and impassable muddy tracks.

TECHNOLOGY AND RURAL DEVELOPMENT

SITE (Satellite Instructional Television Experiment) is considered to be one of the biggest technological experiments in education and rural development. The one year experiment (August 1975-July 1976) aimed to provide direct broadcasting of instructional and educational television programming in 2400 villages in the states of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Orissa and Rajasthan and Gujarat was also part of SITE (Ghosh, 2011).

The contribution of information and technology in bringing about social and economic development has been recognized globally and increasing demand for mobile telephones and Internet resulted in experimentation with various ICTs and its application in areas of rural development to increase job opportunities among rural youth through higher quality education with the help of ICT. Though these initiatives have benefited rural India, it still requires attention to increase employment of youth. The broader objective of the Eighth Millennium Development Goal calls for cooperation with the private sector to address youth unemployment and make available the benefits of new technologies.

According to Rao (2010), several states have initiated the creation of State Wide Area Networks (SWAN) to facilitate electronic access of the state and district administration services to the citizens in villages, which are listed in Table 6.

There have been a large number of ICT experiments or pilot projects in the country. Donors, intergovernmental agencies, national governments, NGOs and the industry (IT and non-IT) during the last two decades have invested significantly in extending the reach of ICTs. Many of them have also experimented with its new and varied applications in promoting development and this includes areas such as health, agriculture, governance, financial services, employment and education. Though many of these pilot projects provide important lessons on using ICTs for development, the scalability, sustainability and impact of many of these initiatives remain as a matter of concern. Only a few ICT initiatives have tried to explicitly focus on employment of rural youth.

Table 6: The State Wide Area Networks and Rural Development Applications

Sr. No.	State	Initiatives of the creation of State Wide Area Networks (SWAN)
1	Andhra Pradesh	Rural Development Department connectivity over APSWAN APSWAN Connectivity to Police Department across Andhra Pradesh.
2	Karnataka	Bhoomi Monitoring Cell: would be responsible for managing the centralized Bhoomi database which would be shortly hosted in the State Data Centre. Rural Digital Services (RDS) to offer value added services, including video conference, to citizens across the state by charging minimal costs.
3	Tamil Nadu	The pilot project called Sustainable Access in Rural India (SARI) Project was implemented in different states of Tamilnadu. Its aim was to help villagers harness the power of the Internet for social development, wealth creation and job generation and to establish rural connectivity at a low cost.
4	Kerala	Akshaya Project aims to set up a network of 6000 information centers that would be able to impart basic IT literacy to at least one member in each of the 6.5 million families in Kerala. The Akshaya project is being implemented through Panchayati Raj Institutions, and involves private enterprise in the development of training institutes and content generation.
5.	Maharashtra	SETU: Integrated Citizen's Service Centers SETU has been established in 25 District Headquarters and 225 Taluka places. At this stage these centers provide all the collector office related facilities. Warana Wired Village: covering 70 villages- executed by the NIC and the Warana Vibagh Shikshan Mandal. The project aims to provide agricultural, medical, and educational information to villagers by establishing networked "facilitation booths" in 70 villages.
6.	Gujarat	Gyan Ganga Project with nLogue Communications Pvt. Ltd: 5 Talukas commissioned, 3 Talukas final stages, 70 kiosks connected and operational. Services started: Computer education, photography, email, video mail, and video conference. E-governance, Health, Veterinary – to start soon SWAGAT (Online Grievance Redressal System) Mahiti Shakti in Panchmahal district
7.	Madhya Pradesh	Setting up of information kiosks for providing email, internet and other value added services. Mandi Board has prepared a scheme to computerize its activities and for integration of Mandi network through Internet/Virtual Private Network.
8.	West Bengal	Government-to-citizen portal: Anybody can download non-saleable government forms and avail many more facilities through the Internet. Three major hospitals have been connected to rural hospitals to provide the benefits of their quality healthcare facilities to the rural populace.
9.	Himachal Pradesh	The State Government has recently taken up the implementation of LOKMITRA project on a pilot basis in Hamirpur District. The project envisages the setting-up of a District-wide INTRANET with Servers at the District headquarters, connecting 25 Citizen Information Booths located in the rural areas throughout the District.
10.	Pondicherry	Information Village Research Project: The project was implemented by the M.S. Swaminathan Research Foundation, for Pondicherry fishermen. The weather report is broadcast by loudspeakers and through VHF radios which enabled fishermen to determine low and high tide before sailing off to the sea to fish.

Source: Rao (2010)

ICT AND JOB OPPORTUNITY

Information and Communication Technology (ICT) is useful for mass communication. Such innovative application is a blessing for rural development. With 723.28 million telephone connections, India has the second largest network in the world. Despite the rapid growth of mobile telephones in recent years, rural tele-density in India continues to develop but has lagged behind the urban tele-development (TRAI, 2011).

Successful implementation of Mahatma Gandhi National Rural Employment Gurantee Act (MGNREGA) enacted by legislation on August 25, 2005, is dependent on the establishment and operationalization of proper computer-based Management Information System (MIS) to interconnect all the Gram Panchayats, Blocks, Districts, States and the Union Ministry through an ICT network (Ghosh, 2011, b).

The Centre for Development of Employable Skills (CDES) has developed Basic Communication Skills, English Language Learning, Sales Orientation, Basics of Computer Hardware and Networking, Business Applications and Basic Accounting Process among youth in rural India. In the past few years, the Indian economy has grown, but the growth can be accelerated and made more inclusive by providing an impetus to IT education in rural India that in turn will impart modern IT skills to rural youth (HCL Infosystems Limited, 2009).

According to Koshi (2007), rural cyber enterprises were used to manage and maintain different documents and data and provide different services that one gets from a village/Panchayat office or head office, like rail ticketing, educational information, etc. With the step taken by governments in this area, such information is easily available on the Internet. With the technological knowledge and skills, rural areas can take advantage of it and create new job opportunities for rural youth, which would prevent migration to cities and help the rural economy. The Anudip's Mass Employment through Rural IT (MERIT) program provides opportunity to rural youth of India with ICT skills, English communication skills and provided opportunities to enter the IT sector. The Ministry of Rural Development (MoRD), Delhi, has launched poverty alleviation programmes and has funds for income/employment generation programmes that can be tapped into by Anudip Foundation (Anup Foundation, 2012).

Examples of ICT for Rural Development are mentioned below:

- Cellular technology for Business:

E.g.: A 16-year-old girl in rural India has made a business using a cellular phone. By charging members of her community to use the phone as a public telephone, this rural youth was able to make over US$8 on a good day (Curtain, 2002).

- Low-cost technology such as cellular phones, fax machines and basic computers with internet access have been used by rural youth to establish small business with low start-up costs, providing communication services in their communities (Mitter and Millar, 2001).

- The advancement in ICT can be utilized for providing relevant information and service to the farmers, thereby facilitating an environment for more rewarding agriculture. Farmers of rural areas can be educated with modern means of cultivation through ICT (Mukherjee, 2011).

- As the need for access increases globally, so too does the need to improve and incorporate ICT into educational frameworks. Increasingly, schools, communities, governments, teachers, students, vocational training centres and rural communities are realising the need to invest heavily in education which implements ICT and new technologies. Such is the case of the 21st Century Virtual Schoolhouse; "a virtual high school involving students from around the world who collaborate over the internet to address environmental challenges both locally and globally" (Berdichevsky, 1999).

Rasheed et al. (2011) explores the role of ICTs in empowering Indian rural women. Most of the ICT initiatives are disseminating new information and knowledge that is useful for rural women. A few of them are as follows:

- Farm & Home programme of AIR provides information about agriculture and creates awareness to improve the quality of farmers' lives. These programmes also include programmes for rural women, rural children and rural youth.

- Television provides education to the rural areas of India. Gyan darshan is an exclusive educational television channel of India set up by IGNOU, MoHRD and Prasar Bharti. It provides a blend of core curriculum-based programmes in the area of primary, secondary, higher, distance, technical and distance education.

- In 2007, the Department of Science and Technology (DST), Government of India, sanctioned project by the Kongu Engineering College to organize a special programme for rural women through CR (Community Radio). This programme was named, *"Kongamma Kelamma"*. Programmes on agriculture generated the most interest at 24%, and also traditional vocational training like tailoring, handicrafts, food processing, etc.

- Video SEWA (VS), established in 1984, registered as a co-operative *"Shri Gujarat Mahila Video SEWA Mahiti Communication Sahakari Mandali Limited*" in 2002, has been working towards bringing technology into the hands of common people and using video as a tool for development communication. One objective is to forge fresh connections and wider sharing of information with the SEWA members and with the world outside thus bridging the gap between various groups, women and technology.

Like this, there are other initiatives in the field of Information and Communication Technology (ICT) for the upliftment of the rural youth. Examples of these initiatives are given in Table 7 (Varada and Yunus, 2010).

Table 7: Organizations and their Initiatives for Rural Youth Empowerment

Organizations	Initiations
Elitser IHA Consultancy Services Private Limited, Andhra Pradesh	It helps the rural poor by providing ICT training in specific sectors and also provides placement services.
Technology Development Board (TDB), Delhi	It mandated to accelerate the development and commercialization of local and imported technologies; it provides funding assistance for training youth in ICT.
Confederation of Indian Industries (CII), Delhi	It provides fund for the training of rural youth for ICT based livelihoods.
Department of Science and Technology (DST), Delhi	It provides grants for organizing Entrepreneurship Development Programmes (EDPs) for youth having science and technology background.
Micro Associates Consultancy (MAC) India Private Limited, Maharashtra and Bhugol GIS, Maharashtra	It is working in the area of Geographic Information System (GIS) solutions; has developed a GIS Self-learning Kit as a tool for self-employment for rural youth.
Kudumbashree, Women's network of Kerala	It explore microenterprise development through SHGs may be tried to promote ICT based enterprises for rural youth.
Darbar Sahitya Sansad (DSS), Orissa	It is working in area of livelihood, health, disaster management, education on climate change; they can use the GIS self-learning toolkit developed by MAC for training rural youth.
Small Industries Development Bank of India (SIDBI), Uttar Pradesh	It works for strengthening the micro, small and medium enterprises; can fund the ICT base enterprise development for rural youth.
Council for Advancement of People's Action and Rural Technology (CAPART), Delhi	It Supports projects from NGOs working in rural areas; can be contacted for funding the project on using the ICTs for enterprise development for rural youth
United Nations Conference on Trade and Development (UNCTAD), Delhi	It Works for integration of developing countries into the world economy; it can be a funding source for developing ICT based enterprises for rural youth.
United Nations Educational, Scientific and Cultural Organization (UNESCO), Delhi	It works for education and promoting intercultural dialogue in India; can be collaborated with for developing ICT based enterprise development programmes for youth.
United Nations Development Fund for Women (UNIFEM), Delhi	It Works to promote women's rights and equality; it can be a potential funder for developing ICT based enterprises with a special focus on young women in rural areas.
International Labour Organization (ILO), Delhi	It works for inclusive growth and providing social security to informal economy workers; can be collaborated with for funding ICT based enterprises for rural youth.

Source: Varada and Yunus, 2010

Examples from Dang District in Gujarat State, which is located in southern Gujarat, are presented below.

Dang District is located at 20.39 degrees to 21.05 North (Latitude) and 73.29 degrees to 73.51 degrees East (Longitude). It shares its border with the state of Maharashtra. It distributed in the area of 1764 km² with the 226,769

populations, least populous district in Gujarat. Growth rate of the district is 21.44 per cent and literacy rate is 76.8 per cent. The main language spoken in Dang District is the Dangi language. Ninety-eight (98) per cent of the population belongs to the ST/SC Category and the economy of the people depends on farming. In such areas, Information and Technology has entered and it has to some extent increased job opportunities among youth and contributed in the development of rural area.

CASE 1

Emily Cunningham, a Harvard University undergraduate and social activist, met Team Point10, a diversified business group focused on rural empowerment and promoting entrepreneurial culture among youth. They worked collaboratively on a fair trade social enterprise named "Sweetly" that sells jewellery made by rural women in India and the United States. Sweetly creates jobs for rural women in Dangs District and markets their products globally through an online Web store (sweetly.co), community events and Sweetly partners.

Sweetly works with members of Aadesh Mahela Mandal, a self-help group of Sajupara village of Dang district. Sweetly provides direct employment to rural women and global exposure of the jewellery with the help of ICT.

Figure 1: Rural Women of Dang District engaged in preparation of handmade jewellery

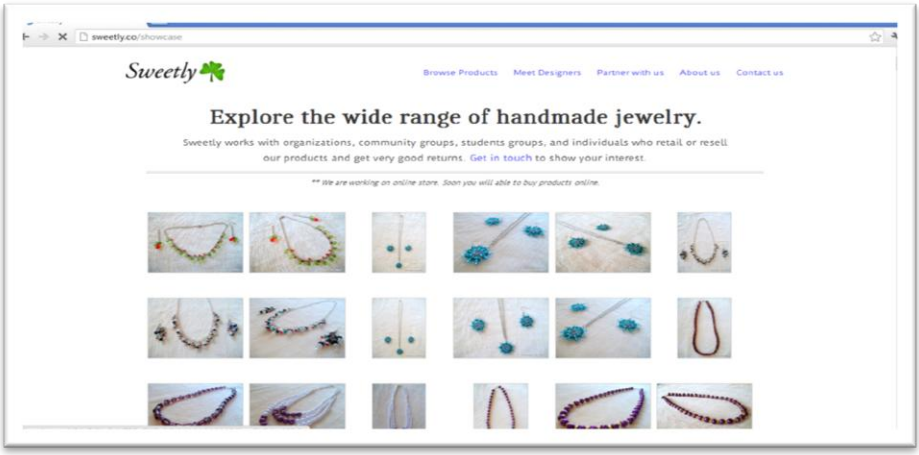

Figure 2: Sale of handmade jewellery through Sweety.co website

CASE 2:

Industrial Training Institute (ITI), in Ahwa, is providing computer training to the youth in rural areas and providing certificate courses on Data Entry Operator, Data Processing and Computer Software, Computer Operator and Programming (COPA), Software Programming, Web Design, E-commerce, Multimedia technology.

Figure 3: Students of Industrial Training Institute (ITI) learn computer training course

CASE 3:

Under ICT @ School Project, students and teachers of Eklavya Model Residential School of Ahwa, Dang District, Gujarat, gain knowledge about computer literacy and computer aided education. The state government provides basic facilities, such as computers, Internet connection, printer, scanner, LCD TV, DVDs, etc. Responsible Agencies provide training to the students and teachers on Ubuntu, Linux based operating system and Open office. School co-coordinators are regularly visiting schools once a week and teach students, as well as teachers, basic functioning of computers and their applications, which help students to better understand subjects. Through these initiatives, young students of the school gain knowledge about ICT and in the future such knowledge will help them to find jobs in an ICT driven society. For teachers, it is very useful because they can use ICT to teach their students.

Figure 4: Students of Eklavya Model Residential School, Dang taking advantage of ICT@School Project

CASE 4

On the celebration of 150th birthday of Swami Vivekananda, Directorate of Employment and Training, the government of Gujarat started a programme named eMPOWER (Electronic Man Power). The aim of this programme is to develop skills in Information Technology and train youth in such a way that they can take advantage of Information and Communication Technology. Under this programme, Training of Basic Computer literacy and Information Technology is provided to the youth of every taluka of Gujarat and provides additional facilities to those students who are interested in careers in this field. Dang District has two such centres for this programme. One is in Ahwa at the Employment Office and the other is in Waghai at Krishi Vikash Kendra (KVK). This programme provides excellent opportunities for rural youth to develop necessary skills in Computer and Information Technology, which will open the door for new job opportunities in this technologically driven society.

CASE 5

Farmers of Dang District used Information and Communication technology to expand their business of selling vegetables in the market of Ahwa. Now, with the advancement of television and mobile technology, farmers come to know about how mobile and television help them to get more income from their crops. The main crops of Dang District are nagli, rice and vegetables. With good transport facilities and mobile facilities, they learn the market price of their crops and come to the centre of Dang District, Ahwa and Waghai to sell their crops. Nagli is a crop similar to rice, but a little sweeter in taste. Previously, farmers sold rice and nagli at a lower price less, but now they sell papad, made from nagli, to big cities such as Valsad, Navsari, Surat and other places in Maharashtra. Even now they have expanded the market of biscuits made from nagli and pickle made from young bamboo teak to the large cities of Gujarat and Maharashtra. In this way, young children help their parents, who are not aware of how mobile technology can help to expand their market.

Figure 5: Farmer and young child use mobile communication to elaborate their market

Figure 6: Farmers from Interior region of Dang District sell vegetables in Ahwa

Figure 7: Venders selling vegetables

Thus, global media has already entered villages and promise to increase job opportunities for the rural youth. The Youth Employment Summit (2012) addressed factors affecting effective implementation ICT:

- Testing, adaptation and revision of technologies to ensure their appropriateness and effectiveness is required before they can be confidently implemented and bring productivity improvements.

- Rural youth lacks capital, but represent an abundant supply of labour. The technology chosen should be labour based rather than capital-intensive.

- When technology is affordable and appropriate, it can be applied in a number of ways and youth can develop the technology suitable for their needs while creating employment for themselves or enhancing their productivity.

- Most countries have post-primary vocational training programs, but these are rarely logically linked to the labour market. They have paid special attention to new opportunities to train young people to work in the Information and Communication Technology industries.

Thus, the benefits of globalisation and technological development can be harnessed and the advantages for rural youth are evident. The growth of ICT can be advantageous to rural youth used for the development of rural India.

Some Barriers of ICT in Rural Development

- With technological developments such as the computer and Internet, physical barriers, economic and language barriers are found on the road to success.

- Technology needs to be appropriate and useful to the community in which it is implemented. The generic application of technology that globalization has offered and is often not suitable for rural India.

- One fear of implementing new technology is failure of it, maybe it is not appropriate for the common people of the country. Therefore, the factors that inhibit risk-taking must be identified before implementation.

- Major power-cuts affect effective implementation of technology. Even though uninterrupted power supply systems are used, they prove insufficient to cope with power breakdowns.

- Appropriate guidance and leadership that could ensure implementation of the ICTs at the grass root level is not found yet. Unfortunately, most professionals want to work in the urban areas, not in rural areas.

Information and Communication Technology has great relevance in today's world. If implemented properly, ICT can surely bridge the gap between the economically and technology backward and forward classes. With the IT boom in India, technology is readily accessible to government machineries and is cheap and convenient. Proper training

and implementation of ICT programmes in a simple way and in a language that is easily understood by the rural people can surely bring about revolution in rural development and short out problems of unemployment.

CONCLUSION:

Youth is the key element in earning as it develops the nation and increases national income. In rural areas, various successful e-governance initiatives, the improvement of IT infrastructure and many ICT projects for development are giving hope to abolish the digital divide in India. To eradicate the problems of unemployment among youth, we should take advantage of advanced Information and Technology. Additionally, adequate

financial support, government and industry support, community participation, encouraging private partnerships, and a massive campaign on e-governance involving rural people are required. Many technologies are developed for the literate, but we need to build technologies for the masses.

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CHAPTER TWO

STRENGTHENING AANGANWADIS FOR RURAL DEVELOPMENT

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INTRODUCTION

India is one of the fastest growing countries and has emerged as an important and powerful player on the pitch of the world. Like other countries, the growth and development of India highly relies on the transformation of the society through the advancement of communication and education. Education, being one of the most effective weapons for development, becomes greatly responsible for the transformation of the society and enhances the quality of social life. Today, the wave of education and advancements has changed the scenario of India. A majority of the cities of the country are well equipped with advanced amenities and luxuries such as academic institutions, universities, health care centres, shopping malls, restaurants, hotels, recreational centres and more. However, the overall development rate of the nation has not improved as desired. The government is still struggling to overcome the vicious circle of poverty, malnutrition, child mortality, illiteracy and many more issues. This is because there is a wide gap between the developed and developing parts of the nation. The disproportionate development of the nation has divided the country into two major segments: Rural India and Urban India.

"India lives in its villages", rightly said by Mahatma Gandhi. The statement justifies the present scenario of India as more than 65 per cent of the total population of the country resides in the rural spectrum. The widening gap between the urban and rural segments has put up a big question to the overall development of the agricultural nation and rural development has become a challenge. Rural development is a complex process which seeks the transformation of the socio-economic structure of the rural society. Hence, it is a continuous process in conception and ever stands as an interminable process of development (Sharma and Rajgopal, 1995).

Rural Development has been the major concern of the national economy and has been stressed in Indian planning through the years. Attempts have been made to improve the situations through the implementation of the Five Year Plans and Panchayatiraj. Although, the present strategy of rural development mainly focuses on poverty alleviation, better livelihood opportunities, provision of basic amenities and infrastructure facilities, the issues, such as child mortality and malnutrition, maternal health, reproductive health of women, have been the major areas of worry. Children and women form an important part of the social structure and therefore their development becomes essential for the growth of the nation. In this context, the functional and structural modifications in the developmental policies and programs are required to obtain the optimum efficiency. The establishment of Aanganwadi centres is the biggest step towards this direction.

Each Anganwadi caters to a population of around 1,000 in rural and urban areas and to around 700 in tribal areas. The roles of Aanganwadi involve providing supplementary nutrition to children 0-6 years of age, as well as to pregnant and lactating mothers from lower socio-economic groups, immunizing children and mothers, and providing nutrition and health education to women and providing prenatal and post natal care to expectant mothers. In brief, the Aanganwadi centres function as primary health centres for children and women. Serious cases of illness are referred to the district hospitals. Apart from that, the centres also provide literacy education to the children. Celebration of Mamta Divas, organization of Sakhi Mandals, Mahila Mandals, etc., are the additional functions performed by the Aanganwadi centres.

In spite of the efficient functioning of the Aanganwadi centres, there had been no significant improvement in the health status of the community women and children. Several efforts have been made by the government to cope up with such challenging situations such as planning and implementing new policies for the development of women and children, awareness programs and many more. However, the results did not appear to be satisfactory. Therefore, with the motive of overcoming the persistent problems of hunger, malnutrition and strengthening the functioning of the Aanganwadi centres, the Integrated Child Development Services (ICDS) was launched in October, 1975 in India.

ICDS (Integrated Child Development Scheme)

"ICDS Scheme represents one of the world's largest and most unique programmes for early childhood development. Today, ICDS is the foremost

symbol of India's commitment to her children – India's response to the challenge of providing pre-school education on one hand and breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality, on the counter part" (Source: wcd.nic.in/icds.htm).

The ICDS team includes the District Program Officers (DPOs), Child Development Project Officers (CDPOs), supervisors, Aanganwadi workers and Aanganwadi helpers. Aanganwadi workers and helpers are selected from the local community and are considered as frontline volunteers of the ICDS team. The task of Aanganwadi workers becomes crucial as they help in bringing about positive social change through the mobilization of community support in favour of better health of young children, girls and women. Apart from that, ICDS also has connections with the national medical team. The Lady Health Visitors (LHVs) and Auxiliary Nurse Midwife and Female Health Workers from nearby Primary Health Centres (PHCs) and Health Sub-Centre form a team with the ICDS functionaries to achieve convergence of different services (Source: http://wcd.gujarat.gov.in/The%20ICDS%20Team.html).

Objectives of ICDS

The Integrated Child Development Services (ICDS) Scheme was launched in 1975 with the following objectives:

i. To improve the nutritional and health status of children in the age-group 0-6 years;
ii. To lay the foundation for proper psychological, physical and social development of the child;
iii. To reduce the incidence of mortality, morbidity, malnutrition and school dropout;
iv. To achieve effective co-ordination of policy and implementation amongst the various departments to promote child development; and
v. To enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education.

The previous objectives are sought to be achieved through a package of services comprising of:

i. Supplementary nutrition,
ii. Immunization,
iii. Health check-up,
iv. Referral services,
v. Pre-school non-formal education and
vi. Nutrition & health education.

During the 11th Five Year Plan, the Government of India has laid much emphasis on strengthening the training component of ICDS in order to improve the service delivery mechanism and accelerate better programme outcomes. An allocation of Rs. 500 crore has been kept for the ICDS Training Programme during the 11th Five Year Plan. (Source: http://wcd.gujarat.gov.in/The%20ICDS%20Team.html)

Being a crucial element to achieve the desired goals, three types of regular training are imparted to AWWs, AWHs, Supervisors, CDPOs/ACDPOs and Instructors of AWTCs and MLTCs, viz.:

- Induction Training (*on initial engagement/appointment*) mainly to AWWs
- Job/Orientation Training (*once during service period*)
- Refresher Training (*in-service, once in every two years)*

In addition to it, need based training programs are organized to deal with the specific problems of regions.

To achieve these objectives, ICDS needs the support of the local organizations or institutions. Therefore, it collaborates with different universities and colleges to obtain the help of the youth of the nation. Through that, the young students are sensitised and trained for the developmental work as extension personnel or change agents. Collaboration of ICDS with the Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda is one of the significant efforts towards the attainment of the above mentioned goals.

COLLABORATION OF ICDS WITH THE FACULTY OF FAMILY AND COMMUNITY SCIENCES

The Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda, was established in December 1948 and was initially known as Faculty of Home Science. Since its inception, the faculty has made conscious efforts toward redefining and broadening its view in response to the rapidly changing national and global scenarios. Grounded in the philosophy of ensuring individual, family and societal well-being, the programs offer a judicious mix of basic and applied disciplines. Based on its unique disciplinary perspective, each department trains students to understand the interface between micro and macro level issues in their socio-political, economic, and technical environment.

Some of the defining features of the Faculty of Family and Community Sciences are its professional culture, vibrant teaching learning ethos, engagement with issues of social relevance, teamwork, and intrinsic motivation to better the best. Students are trained to become effective, resourceful, and forward thinking professionals in different fields.

In light of this, it was jointly agreed upon by all the departments, namely the Department of Foods and Nutrition (FN), the Department of Extension and Communication (EC), the Department of Clothing and Textile (CT), the Department of Human Development and Family Studies (HDFS) and the Department of Family and Community Resource Management (FCRM) of the Faculty of Family and Community Sciences, as a part of their field work to join hands towards strengthening ICDS activities in urban and rural ICDS centres. Thus, the project aimed at the overall development of the village children.

Keeping in mind the objectives of ICDS, the departments of the Faculty of Family and Community Sciences developed strategic plans to overcome the prevailing problems.

This paper represents the extensive work done by the Department of Extension and Communication, Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda, Vadodara in the academic year 2011-12. The Department of Extension and Communication, which started in the year 1953, offers courses that include experiences and training in the theories and practices of the modern communication process with special reference to Extension. The Department of Extension and Communication contributes in the National Development through the rural program planning since its inception. Hence, the department became the facilitator in extending the services for the upliftment of the rural population by joining its hands with ICDS. This collaborative effort was carried out strategically on the field by following objectives for the betterment of the community people.

OBJECTIVES OF THE PROJECT

- To strengthen the functioning of the Aanganwadi centres through various developmental activities.
- To make the children and the women aware of the importance of cleanliness, personal health and hygiene and health and nutrition aspects in their day-to-day lives.
- To generate awareness amongst the adolescent girls and the women about anaemia and maternal health care.

- To provide training to the Aanganwadi workers to develop effective IEC material and utilize them efficiently to educate the community members.

METHODOLOGY

Areas Covered

Under the collaborative efforts of the department and ICDS, twelve Aanganwadis were selected from the rural and urban areas of the Vadodara District.

The list included the Aanganwadis of Navapura Marathi Mohalla, Near Pandya Hotel, Near Samta, Gotri, Behind ISCON Temple, Sanjay Nagar-Sama, Govind Nagar, Bharvad vas, Ambedkar Nagar, Tarun Nagar, Chani, Indira Nagar-Sama, Sanjay Nagar II- Mangal Pandey Road, Sonar Kui, Ankodia Indira Awas and Sherkhi village.

The Aanganwadis were selected through purposive sampling and convenient selection.

Data Collection

The data was collected through field and home visits, observation and interaction with the Aanganwadi workers, helpers and the community people.

A qualitative analysis approach was utilised to interpret and evaluate the information collected.

PRE ANALYSIS

The Aanganwadis were located in good areas and surrounded by plants and trees. The building of the Aanganwadi is small, but attractive, and has painted walls. It was newly constructed in April 2011.

- **Location and Surrounding Area of Aanganwadi**

  The Aanganwadi centres were located near the main road in the outskirts of the villages. They were surrounded with plants and trees. The plants and trees around Aanganwadi were trimmed and small approach roads were made reaching to the steps of Aanganwadi. The village archways were made of asphalt and the internal narrow paths were rough and sandy. Later it was found that the Aanganwadi workers sponsored the maintenance of the surrounding area. A disappointing observation was that the Aanganwadi centres were also surrounded by heaps of garbage,

especially garbage in plastic bags. This was a clear indication of the ignorance of villagers about the disadvantages of using plastic bags. At the same time, it could be generalised that the villagers were not aware of hygiene practices and measures of cleanliness.

- **Infrastructure of Aanganwadi**

The Aanganwadi centres were well constructed, coloured with pleasant and attractive colours and were fairly maintained. Each Aanganwadi centre had a main activity room (approximately 15 x 10 feet) and an undersized kitchen (approximately 5 x 2 feet) with a washroom and a toilet. The floors of the centres were even, clean and smooth. The main activity room had two windows whereas the kitchen had one window for ventilation and to get sufficient natural sources of light and air. The doors and windows were fairly maintained and could be closed properly. There was no electricity or availability of electrical equipment in the centres. Apart from that, a few plastic chairs and one table was the only furniture in most of the centres. The Aanganwadi also had a small platform compound where children had free play.

- **Aanganwadi Staff Members**

There was one Aanganwadi worker and one Aanganwadi helper positioned in each centre. The Aangawadi workers and helpers were found to be experienced, friendly, hardworking, punctual and co-operative by nature. The Aanganwadi workers maintained all records, such as the number of children coming to the centres, distribution of resources and premixes to the children and their mothers provided by the Government, birth and death records of the villagers, number of pregnant and lactating mothers and vaccination. The helpers would assist the workers in this work and go door-to-door to call children to each centre. Snacks and meals were given to the children at 11:30 am and 1:30 pm, respectively, in each centre as per the timetable suggested by the government. This clearly reflects that they were not reluctant in performing their tasks.

- **Facilities for Children in the Aanganwadi Centres**

The average number of children regularly attending the Aanganwadi centres was approximately 35-40. The convenient location of the Aanganwadi might be one of the reasons for high attendance. There were many plastic toys available for the children, such as slides, see-saws and a rattler (Khanjari), but the Aanganwadi helper did not let children play with the toys because she could not handle them while playing. For this reason, they were stored or dumped in a bathroom, or in the kitchen storey. Large mats were provided from the government for the children to sit on, but they were in poor condition. Napkins and

plates with spoons were available for the children in the centres. There was no other recreational facility available for the children in the Aanganwadi centres.

- **Activities conducted in the Aanganwadi centres**

Different activities were conducted in Aangawadis involving the children, such as singing rhymes and storytelling. Most of the time children play amongst themselves. Sometimes Aanganwadi workers had the children play games, such as recognizing shapes, or gave colouring activities. There was no other activity conducted on a daily basis in the centres. The snacks and meals consumed the majority of the time period as the children took a very long time eating by themselves. Apart from that, they celebrated festivals and events, such as "Mamta Divas," and many young girls and women of the village participate.

- **IEC Material Available in the Aanganwadi Centres**

Another positive aspect of the Aanganwadi centres was the display of IEC material. There were many charts and posters displayed in the Aanganwadi centres including a fruits and vegetables chart, animals chart, chart of human body parts, growth chart, immunization chart, story posters, and calendar, etc. They had posters, rhyme books and pictorial activity books provided by UNICEF for the academic sessions and stored in closed containers. The Aanganwadi walls were covered with the laminated flex-formed IEC material, though immediate change was required in the display pattern. They did not have any place to preserve the IEC material. The Aanganwadis did not receive much supply from the government with respect to sustainable IEC material and only a few charts were provided from the government. However, it was observed that the Aanganwadi workers themselves developed some of the simple IEC material at their own cost to make the teaching-learning process interactive.

- **Kitchen and Hygiene Standards of the Aanganwadi Centres**

As mentioned above, there was a small kitchen in the Aanganwadis. The gas bottle, gas stove and utensils were provided by the government for cooking purposes. Besides that, cooking charts were prepared by the Aanganwadi worker according to the government chart of nutritional requirements of the children, but were not used by the workers or the helpers. The kitchen did not have a constructed platform so the gas stove and other things used for cooking were kept on the floor only. The centres lacked storing facilities for the groceries so they were just kept on the floor, which was very unhygienic due to the high chance of contamination. Though there were a few shelves constructed in the kitchen, the space was not enough to arrange everything. Furthermore,

the vessels were too big and unclean. The helpers did not wash and clean them before cooking. The hot water was not used while cooking. On the other hand, prepared food and raw food was covered to avoid contact with flies and mosquitoes. The food was served in the lunch box brought by the kids from their homes. Spoons were not provided. In addition, only a few children were following the eating habits nicely and only some children could finish the quantity of food given. The rest did not eat properly and wasted a large portion of the quantity they were given. Surprisingly, neither Aanganwadi workers nor the helpers motivated the children to finish their food or taught them proper eating habits. On the contrary, the Aanganwadi helpers became annoyed and shouted at them for making a mess on the floor. So, high wastage of food resources was noticed. None of the Aanganwadi staff members made children wash their hands before or after eating. This was one of the unhealthiest practices as it can increase the spread of germs amongst the children.

- **Food Schedule in the Aanganwadi Centres**

The meal schedule given by the government was adhered to by the Aanganwadi workers and helpers. The meals and snacks were served on time and as per the schedule. For instance, on Thursday they should be given "Sukhadi" and "Masala Khichdi." The food was prepared by the helpers in Aanganwadi centres and served to the children. In addition, the menu chart for the year 2011 was displayed on the wall. The meals were prepared in the Aanganwadi centres and the leftovers were given to the children.

- **Cleanliness and Maintenance of Aanganwadi Centres**

From the above description, it could be judged that cleanliness and hygiene standards needed more attention. The Aanganwadi structures were well constructed and fairly maintained, but still some awareness is required to improve their conditions. The very first observed drawback was the usage of toilets. The toilets were used as a storage area for the toys and were home to flies and mosquitoes. Furthermore, they were not cleaned regularly. The children used to relieve themselves outside the Aanganwadi centres or sometimes on the steps of Aanganwadi centres, which is extremely unhygienic and unhealthy. This practice could be the prime source of illness and diseases, such as diarrhea and infections of various types. The main activity room and the kitchen were cleaned regularly, but were not mopped with sanitizer to avoid the problem of flies, mosquitoes and other rainwater insects. On the other hand, the official records were well maintained. The feedback forms were filled in and signed by the Aanganwadi workers only, not the villagers.

In a nutshell, it could be deduced that there is an urgent need to improve the existing functioning of the Aanganwadi centres through training and

extension. Extensive planning was done to implement the project through various methods, such as illustrative talk, demonstration, drama, Bhavai, puppet show, educational games, etc. To make the process more interesting and interactive, new IEC material was developed by the students of the department, such as charts, posters, flip books, flash cards, mobiles, puppets and audio-visual aids, documentaries and videos.

IMPLEMENTATION OF THE PROJECT

The department executed a project of improving the functioning of the Aanganwadi centres of the Vadodara district for the year 2011-2012 by dividing the students into different groups and allotting Aanganwadis as per their reach and convenience.

In the first phase of the project, the field visits were carried out by the students and information was collected through observations and interaction with the Aanganwadi and community members. On the basis of the collected information, the whole project was planned and programmed for each of the selected centres. The outline of the program was designed by the students, keeping in mind the needs and the priority areas of the Aanganwadi centres and communities.

To make any program a success, proper orientation of the target audience is very essential. Therefore, the first week of the program was arranged for the field and home visits to understand the target group and to become familiar with the location and the people. This rapport building exercise proved to be extremely helpful for the students to realize the needs of the territory. The information was collected through observation and interaction with the Aanganwadi worker, helper, children and other community members. After the minute analysis of the collected facts, the program activities were prioritized and planned to achieve the best possible results.

A program cannot be effective until it passes the intended messages to the audience with clear and common understanding. Hence, it is essential to design and develop relevant and attractive IEC material to attain the best probable results. After designing the plan of action, design and develop the relevant IEC material with specific messages to generate awareness amongst the community people.

After developing the colourful, attractive and appropriate IEC material carrying specific messages, effective dissemination of the information was implemented. To begin with, anaemia was discussed in terms of its causes and preventive measures to generate awareness. It is the most commonly

prevailing disease amongst the rural women. To make the session the most effective, methods such as informal talk, illustrative talk, discussion and the most famous folk form named as Bhavai were deployed. Use of IEC material such as flipbook, charts, posters, and PowerPoint presentation served as the best supportive teaching aids.

As "seeing is believing," IRF information amongst the village women were spread by demonstrating the iron-rich recipes at Aanganwadi centers. The demonstration method gave concrete experiences to the adolescent girls and women and motivated them to participate in the process and adopt the same in their homes. Informally, the information pertaining to the importance of nutrients in daily diet and healthy food habits were given and discussed with the women wherein the IEC material, such as charts, posters and flash cards were used and explained to clear doubt. This is how the efforts were made to enhance the healthy cooking skills of the village women.

Apart from the information related to healthy cooking habits, the adolescent girls were provided information pertaining to menstruation and the hygiene measures to be taken during that period. Informal talk and illustrative talk helped in extending the information and generating awareness about menstruation. IEC material, such as charts, posters and flexes, served as a reliable basis. Discussion of the video on the menstruation cycle sensitized the adolescent girls and left them to think critically and to introspect. Such an effort provided the concrete base for generating awareness about the physical and psychological effects of this period and motivated the adolescent girls to adopt the suggested ways to deal with them.

According to medical science, the stage of pregnancy is critical for the mother and the child. Care during pregnancy has a lifelong impact on the child's health and growth; therefore, this critical and important aspect was also covered under the programme planning. The pregnant and lactating mothers were explained the care to be taken during these critical stages. Relevant videos and presentations using the e-posters and e-flip books generated awareness amongst the women regarding care to be taken and food to be eaten. Some other concepts, such as childbirth, registration procedure, and making death records were clearly explained by using the flexes designed by the Government of Gujarat. Vaccination schedules, health and hygiene care of the neonates and health care during pre- and post-natal periods were explained and emphasised in a specific manner. Role plays gave actual experiences to the women of the selected villages.

Aanganwadi children were also exposed to the formal literacy of numbers with the motive of enhancing their creativity. Some of the art activities such as drawing, colouring, and pasting were conducted as a part

of recreational activities. Moreover, the children were given formal literacy information on numeracy and recognition of colours through games. The adolescent girls of the selected villages were introduced to the concepts of "Best out of Waste" and income generation. With these concepts, the girls learned the ways of utilising the waste material to create beautiful articles and profit from them. Demonstrations were held for various articles and finally the workshop was conducted to motivate them and to provide them the first-hand experience. Display of different samples for the same article gave an idea about the variety that can be created by using the same material. The cost effectiveness of these homemade articles was explained to motivate them and enthuse them.

POST ANALYSIS

The purpose of conducting the extension program in Aanganwadi was to bring about positive changes in the conditions of the Aanganwadi. Therefore, the specific indicators were made to analyse the outcome of the extension program.

- **Regular Usage of Dustbin:** In the extension program, enormous importance was placed on the usage of dustbins. It was very essential for children to learn the basic steps of keeping the environment neat and clean. Thus, throwing away waste here and there was strictly opposed by the extension students. Moreover, the Aanganwadi staff members were also discouraged from discarding garbage anywhere outside the Aanganwadi centres, which might increase the problem of flies, mosquitoes or other insects. Furthermore, there was no dustbin at all in the Aanganwadi centres. However, through the extension activities, the children and the staff members were taught to use the dustbin and not to throw rubbish anywhere else. The dustbin was placed outside the Aanganwadi centres and the children were trained to use it to throw away chocolate wrappers, peeled skin of fruits and any other waste.

- **Availability and Usage of Doormat:** The use of the doormat must be taught to the children, especially since many of them are barefoot. Surprisingly there was no doormat in any of the Aanganwadi centres. Therefore, the Aanganwadi workers and helpers were taught the importance of the doormat and its necessity. As a result, the very next day they either used old rags as a doormat or brought a new one and trained children to wipe their feet before entering the Aanganwadi centres.

- **Improved Conditions of Aanganwadi Toilets:** As mentioned earlier in the indicators, the toilets were used to store the children's toys. So, the extension program explained the importance of using and keeping the toilets neat and clean and in functioning condition. The program focused on the diseases spread by not using the toilets and not keeping it clean and hygienic. The children were taught when and how to use the toilet facilities. The Aanganwadi staff members were asked to take away the toys from there and sanitise them. The broken door and windows were repaired in the Aanganwadi centres and the workers and the helpers constantly reminded children to use the toilets.

- **Improved Storage Facility:** The storage facilities were significantly improved by the end of the program. As the toilets were emptied, the Aanganwadi workers and helpers started rearranging the amenities of the Aanganwadi centres. The training of Aanganwadi staff members also consisted of the proper utilisation of the space. They were guided how to preserve edible items and how to arrange them so that effective utilisation of available space can be made. The extra toys were arranged in the storey of the kitchen and the kitchen stuff was rearranged on the shelves and on the platform to prevent contamination by insects.

- **Improving Food Safety and Hygiene Standard:** This was the most important indicator to be worked on. It is very essential to maintain the food safety and hygiene standards in the kitchen and while cooking. The helpers were provided with information regarding food safety measures to ensure the quality of food given to the children. The safety measures included using boiled water for cooking and cleaning the utensils on a regular basis. To maintain a high standard of hygiene, they were taught better methods for preserving and serving food, and they were taught to wash fruits and vegetables before consuming, to maintain kitchen cleanliness, to cover food, to not use stale food, to serve food in clean plates and provide spoons for eating, to make children wash their hands before and after meals as well as after using the toilet, and so on. It was surprising that the helpers did not know the importance of following certain practices. However, by the end of the program, the helpers and the workers both were aware of food safety and hygienic practices and followed them regularly.

- **Effective Display and Use of IEC Material by Aanganwadi Workers**
  The workers and the helpers were made aware of the significance of teaching aids and how they could be best used to instruct children. They were trained to use various materials while passing on information through stories and were also trained to provide illustrative talk, conduct discussions, implement games and perform demonstrations. They were guided the proper ways of displaying the IEC material in the centres so that they could be used to the maximum. Consequently, the display was redone as per the guidelines given by the extension communicators. Thus, significant difference was observed in the condition of Aanganwadi centres and remarkable improvement was noticed in the practices followed by the staff members, children and their mothers. Therefore, it can be said that the extension program turned out to be fruitful.

PROBLEMS FACED DURING THE PROGRAM

The voyage of the extension program in the selected Aanganwadi centres of the Vadodara District had been smooth and fruitful. However, good results can never be easy. The extension communicators also faced some difficulties in completing the program successfully. The very first issue was transportation. There were few public transport services available till the destined Aanganwadi centres. However, that issue didn't last long as the students were conveyed by a faculty van.

Another problem was assembling the mothers and women of the Aanganwadi children. The program not only focused on Aanganwadi children, but also on their mothers. Therefore, they needed to be present during the program activities. However, they were not regularly available during the time of the program as they had to either do household chores or go to the farms during that time of day. This problem was managed by the extension communicators by giving advance intimations through home visits about the upcoming program and explaining its importance so that the mothers could plan their work schedules to attend the program. Overall, the program went flawlessly and without any obstacles. Though, we could suggest few ideas to perk up the effectiveness of the extension program.

SUMMARY OF THE PROJECT

In a nutshell, we can say that the planned extension program had been successful. Through the program, the extension communicators could understand the actual needs and requirements of the villagers. They experienced their way of life and gained awareness of their problems. The modules designed included: (i) community cleanliness, (ii) personal hygiene,

and (iii) training Aanganwadi workers. These points were in line with their development needs. We could plan and execute well our program activities due to sufficient time allotment. Various methods were implemented to make the program worthwhile and effective. The community people were equally interested and participated willingly in the program. Thus, we could reach our objectives and achieve success in bringing about positive changes in the condition of the selected Aanganwadi centres of the Vadodara district for the year 2011-2012.

BEST PRACTICES

- Sensitising community people to their own needs and areas needing development served as the real boost for the implemented developmental program.
- Channelling and mobilising the available resources smoothed the implementation process.
- Flexibility of the program schedule along with the alternative plan of action was the best way to fit the prevailing situations.
- Efforts to generate awareness through folk media, such as Bhavai, role play, puppet shows were successful. Drama could make a long lasting impact on the minds of the community people.
- The active involvement of the Aanganwadi workers and helpers played a key role in the success of the program. Moreover, the skill development training sessions, which were held for the Aanganwadi staff members for developing and utilising the IEC material to educate the community members, helped to enhance quality of life.
- Attaining maximum participation of the beneficiaries through the participatory approach could be considered as the best practice to implement the developmental program.
- The effective and efficient utilization of new Information and Communication Technologies (ICTs) proved to be the most advantageous mode of delivering the developmental messages fruitfully.

RECOMMENDATIONS FOR FUTURE PROGRAMMES

More outdoor space should be provided with some safety boundaries so that children have more outdoor free play. Some shaded areas should also be developed outside the AWC, so that academic sessions can be conducted in nature. More trees should be grown around the AWC to reduce the temperature of the centre during sunny days.

Infrastructural damages should be well maintained to avoid the nuisance of birds building nests in the centre and rats and cats spoiling the food stocks of the centre. More hardware for displaying the IEC materials should be provided, such as hooks, anchors, jute curtains, etc. More focus should be laid on the regular follow-up activities and more developmental activities should be carried out in an interesting and creative manner so that it helps to retain the interest of the children. The craft activities completed by the children should be displayed in the centres to help motivate them, arouse their interest in learning and participating in the activities carried out in the centres.

The low food budget of Rs. 2/child/day should be increased keeping in mind the economic updates of the state to provide quality food to the children and for inculcating healthy eating habits.

The Aanganwadi workers and helpers should be enriched with training sessions at regular intervals to polish their efficiency in carrying out various activities in the AWC.

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CHAPTER THREE

UDAAN –'FLIGHT TO A PROMISING FUTURE': AN ACCELERATED LEARNING APPROACH IN PRIMARY EDUCATION FOR GIRLS

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SETTING THE CONTEXT

"Education is not preparation for life; education is life itself" – John Dewey. The quote profoundly states the importance of education. So much has been written about the importance of education that it may seem needless to reiterate; however, it is particularly worth mentioning in the context of the female child.

India is a rapidly growing country with the second largest population in the world. With over 1.2 billion people it is the most populous democracy in the world. Though India has become one of the fastest growing world economies, it still suffers from poverty, illiteracy, corruption, disease, and malnutrition. Education is one of the areas where achievement is still considered to be inadequate. At the time of independence in 1947 only about 12% of the population was literate. Following independence, major efforts were undertaken to improve the state of education as education was seen as a means to ensure economic growth, as well as a right of each and every citizen (Rizvi, 2005). From 1951 to 2011, literacy improved drastically and India increased its literacy rate from 18.33% to 74.04%. This progress is steep, but still far below the world literacy rate of 82%.

It is evident from the available data that there has been a remarkable gap between the male and female literacy level even after independence and this situation is worse in rural areas compared to urban areas. There is a wide disparity between the level of male and female education with only 65.46 % adult literate females compared to 82.14% adult literate males. The gender gap is particularly significant in rural areas with much lower literacy rates for women. The data shows that the literacy rate in rural areas is only 68.9%. There is more than a 20 percentage point gap between the male and female literacy rate as per the census 2011 data.

Certain states, such as Bihar, Jharkhand, Rajasthan, Uttar Pradesh, Arunachal Pradesh and Andhra Pradesh, have literacy rates worse than the national literacy rate with literacy rates of 63.8%, 67.6%, 67.1% and 69.7%, 67.00% and 67.7%, respectively. Here it is important to first analyze the situation to determine why there is a large gap in the literacy rates of males

and females. It is important to understand the barriers or major factors affecting girls' education and their lower participation in learning processes. Research indicates that a number of factors are responsible for creating hurdles to education for girls and prevent them from even seeing schools. Socio-economic status, lack of awareness among the parents, social access or cultural attitude, inadequate school facilities, shortage of female teachers and gender bias in curriculum are some of the major factors impacting girls' education.

A Promising Strategy: Udaan

Initiatives were taken by the Government of India to achieve the goals of Universalization of Elementary Education by providing schooling facilities across the country through various schemes and programs, such as Operation Black Board, non-formal education, Lok Jumbish, District Primary Education Program, later Sarva Shiksha Abhiyan (SSA), and so on. Despite these initiatives, all children could not be brought into the ambit of education due to several factors, such as poverty, poor access to schools, insufficient facilities in schools, such as infrastructure, lack of teachers, insensitivity of teachers towards children, especially girls and the marginalized, malnutrition, etc. Researches quote that inflexible school timings, uninteresting teaching, lack of conducive environment at home for learning and revision and no provision for shelter to street children and children without adult protection also contributed to children remaining out of school and poor retention. To complement government efforts towards EFA and to reach marginalized children, the bridge course centres or community based alternative education centres were initiated primarily by Non-Government Organizations (NGOs) under the scheme of non-formal education by the Government of India in 1979-80.

In order to combat the low literacy level and low enrolment rates of females, CARE India has undertaken various programs across the country to improve the quality of education and to emphasize the importance of education in order to raise enrolment rates and retention for successful transition from lower to higher grades. Realizing the dire situation of girls in rural areas, many of the programs have focused on girls' education. The organization in the end of 1990s came up with an approach known as *Udaan* for bridging the gap for children who could not access school or dropped out in early grades due to various reasons. The approach placed an emphasis on girls and marginalized children with the goal of mainstreaming them into formal education.

Evolution of Udaan

How did the idea emerge?

Formal Equivalent Centres (FECs)/Community Schools were started in the Hardoi district of Uttar Pradesh in a joint effort with CARE India and Sarvodaya Ashram, a grassroots level NGO to provide for children, especially girls, who did not have access to a formal school between the ages of 6-14 years. The community allocated spare space to run these centres along with financial resources up to 45% in kind or financial contributions to infrastructure. The experience of working with the community had shown that in many villages there were large numbers of uneducated girls who had either never been to school or had dropped out after brief periods of irregular schooling. These girls were reluctant to come to FECs because this meant studying with younger children. Therefore, a need emerged to run a program for the girls in similar age groups. It was decided to target girls who were in the age group of 10-14 years for enrolment in Udaan. It was also felt that the program should be aimed at the most deprived group, hence preference should be given to girls who had never before been enrolled in school.

About Udaan…

Udaan (which literally means *flight*) is a residential primary education initiative designed to provide wings to 10-14 year-old girls so that they may fly back to the fold of education. These are the girls belonging to deprived and marginalized communities, who either dropped out or had never been to schools. The aim of the program is to provide an opportunity to girls who have "missed the bus," not only to complete primary school education, but also provide them with social education that helps build an independent personality with critical capacities to discern and decide.

The project was started in 1999 in one of the most educationally backward districts, namely Hardoi in the eastern part of Uttar Pradesh. Each year a group of 100 girls from educationally backward blocks of targeted districts were enrolled in the residential camp for 11 months. After successful execution for 10 years, the project has now been executed in other states, such as Odisha, Bihar and Haryana, targeting girls belonging to Dalit, Tribal and Muslim minority groups. In three of the states, the program is being implemented with the help of grassroots level NGOs, whereas in Haryana a corporate agency has joined hands with CARE to serve the educational needs of these deprived girls. In Haryana, the program is being implemented in a district, namely Mewat, which has the highest number of out-of-school children with more number of girls in the country.

The specific objectives of the program:	**Core Beliefs and principles** :
Break the social and psychological barriers that make girls believe that education is unimportant and irrelevant. Provide a competent system equivalent to primary education. Develop independent and critical thinking abilities. Develop analytical skills and a spirit of inquiry. Equip girls with relevant information, skills and attitudes that would enable them to deal with the world from a position of strength. Provide a joyful learning environment and enhance their interest in continuing further education.	Concern for *Equity; Democratic values have been central* to the program; learning is considered *meaningful* when girls get an opportunity to construct their own knowledge. On one hand, the *Environment and relationships* at the camp were to be enabling and on the other, the C*urriculum* too is influenced to provide a holistic and sensitive experience. These influenced all aspects of the camp, including the planning and management, teacher selection, curriculum, and community interactions. (Source: Menon, 2006)

Operational Strategy

Community mobilization- In order to run a residential program for girls, it becomes important to win their support and the support of the parents and the community (Jha & Jha, 2005). In this case, the girls were adolescent; therefore, initially there were a number of difficulties in convincing the families, especially male members, of the need for girls' education and to allow them to participate in a yearlong residential course. In view of such challenges, a combination of formal and informal strategies was designed. At the village level, workers were appointed for the purpose of contacting and convincing the parents. They acted as the link between Udaan and the community. Though initially there existed a need to mobilise the parents and girls to enrol into the residential camp, gradually the girls' learning, confidence, articulation and examination results at the end of the earlier camp served to motivate many others. As a result, the numbers of parents who wanted to send their girls to such camps increased threefold. Also, the girls themselves played the role of change agents (Menon, 2006).

Induction camp- Prior to the beginning of Udaan, a three day residential camp called the 'induction camp' is organized. Generally it is organized a week ahead of the start of actual program. This is a three-day familiarization exercise for all the stakeholders: students, teachers and organizers. On the fourth day, the parents are invited and there is a structured discussion with parents in groups with the purpose of sharing the schedule and life of Udaan and motivating them to allow the girls to stay throughout the year.

Objectives of induction camp:

- To ensure that the girls like the venue, find the teachers caring and are motivated to come back.
- To ensure that the parents are assured of the safe stay and appropriate learning of their girls.
- To ensure that the teachers and the organizers are equipped to manage Udaan effectively.

Long-term residential camp – The initial period of about one to two weeks is that of developing readiness amongst girls and setting up systems. This includes encouraging the girls to get to know each other and their teachers and to begin to feel at home. This requires sensitivity. Then, the girls are divided into four groups of twenty-five each in order to maintain a comfortable pupil-teacher ratio. There are six teachers in the camp and each teaches the subject in which they have special expertise, such as Language, Maths and EVS. The day begins early in the morning before daybreak. Classes start at nine in the morning and last until seven in the evening with a few breaks during the day. However, at no point does it become tiring for the girls because the classroom processes are usually engaging, fulfilling and fun. It is intended that classroom processes should not be biased towards any section of the class and that it does not generate a sense of inadequacy amongst any learner due to their social, religious or economic background. Apart from girls with different ages and experiences being able to learn with this approach, all of this made it possible for some differently-abled girls also to participate in the camp (Menon, 2006). In order to ensure smooth implementation of camp activities, student support plays a big role. Different committees, such as for cleaning, serving food, supporting the kitchen, maintaining the library and sport materials, conducting morning assembly, etc., have been constituted through democratic elections. Each girl gets the experience of being in each committee as they move on a rotational basis. The experience benefited them in more than one way. The girls know everything about the process of election, the importance of democracy and the significance of transparent functioning (Jha & Jha, 2005).

Teachers- Preference is always given to teachers from the same community from where the girls are coming in order to overcome the language issues and provide a feeling of togetherness. To ensure a comfortable pupil-teacher ratio and for an effective management of the camp, six teachers and one camp coordinator were appointed per one hundred girls. Preference is given to candidates who have graduated. However, wherever lack of such qualification is found, candidates with intermediate qualification were also appointed based on experience and evaluations of several other programs (Jha & Jha, 2005). As far as training of teachers is concerned, a provision of total twenty days training has been made. The first ten days residential training before starting of Udaan is designed for teaching methods, basic pedagogical approach, transaction of class I & II curriculum, use of unit cards and transaction of social learning. Another round of five days in two phases has been planned before the students reach level III and then level V. The process of teacher training is not only aimed at building teaching skills, but is also meant to in enable a team spirit and start a process of change in their attitude and beliefs. Apart from the training, regular on-site support from CARE personnel is also provided for better teaching-learning and to build confidence among them.

Approach for Curriculum and Learning- An effort has been made to provide a holistic education for girls. Therefore, rather than using the text books developed by the state board, a structured curriculum is designed by grade and broken down into a system of weekly unit cards that act as the guiding format for the teachers in arranging the class. The time allocations for the different grades vary. A library has also been set up along with many other activities to aid the learning process. Teachers develop local TLMs as per activity banks designed for Math and Language. Teachers develop daily plans on a weekly basis keeping the children's progress in view. Other than the **core subjects of language, mathematics, and environmental science**, the camp also includes a **social learning curriculum**, which is aimed at developing a broader worldview and creates a forum for critically examining many social issues (Menon, 2006).

The curriculum also provides for relative thrust and emphasis on certain aspects. For example, since language is a tool for learning other subjects as well, this will be given much more space in classes I and II. Here the language teaching is not only an issue of teaching to read and write, but includes other aspects as well so that the children can reflect, imagine and communicate easily. Mathematics and EVS are given relatively more emphasis in later classes. The math curriculum aims to provide an opportunity for the child to explore the nature of mathematics and to acquire the knowledge, concepts and skills required for everyday living and for use in other subject areas. Environmental science, on the other hand, is seen not only as means of developing concepts of science, history and geography but

also a way of developing many of the applications and sharpening of skills. The social learning curriculum is also planned to sharpen the skills of reading, writing and other communication forms. Social learning is allocated time separately with the curriculum interwoven and intertwined on strands of equity and empowerment.

The important points for formal **evaluation** have been marked in the curriculum for the convenience of teachers. A spiralling rather than linear pattern has been utilised for progression. That is, there is provision to go back to earlier work (especially basics) repeatedly. A broad pattern has been followed across the major units of time. Each week incorporates provision for revision in the early sessions and for consolidation in the later sessions. While teachers keep track of students on an on-going basis, the last working day of the week has been kept aside for the purpose of evaluation and planning for the next week. The evaluation strategy changes as students go into higher classes and they work on different aspects of the curriculum, including social curriculum. Thus, non-cognitive aspects also come within the ambit of evaluation.

Community Seminars are forums where the progress of children is shared with the parents and parents also get an opportunity to share their observations with teachers. This served as a forum wherein very controversial issues, such as those revolving around caste and gender roles at home were also dealt with. This discourse helps to bridge the communication and expectation gap between teachers and parents and helps to find constructive ways ahead for the girls (Menon, 2006). This platform is also used to motivate the parents to let their daughters study further in formal schools and also to provide an environment at home conducive to studying.

After completing primary education in this mode, the girls are encouraged and supported for admission to upper primary in neighbourhood schools or in KGBVs as per their convenience and a variety of measures are taken to ensure that they do not drop out before completing their upper primary level schooling.

After the Camp 'Follow-up Activities'

It is one of the important and needed activities recognized by the project team that proper tracking of Udaan graduates would not only ensure their continuity in schools but also keep them motivated for further studies. As the camp course comes to an end, teachers of schools where these girls are likely to be admitted are invited for an interaction and informed about the camp and its approach. They are also prepared for the kind of students they might get from here. A detailed profile of each student is prepared and handed over to the principal/teacher of the school concerned along with suggestions of

how they may actually help the student. An event is also planned on quarterly basis where girls from different batches are invited to meet their classmates, teachers, alumni and juniors and share with them their achievements and challenges. This event, besides helping them to get their problems and challenges addressed, provides them an opportunity to connect with each other and develop a sense of solidarity to take their mission ahead.

Table 1: Snapshot of education status of graduated Udaan girls in UP

Year	Enrolled	Continued	Passed grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	BA I	BA II	BA III	MA
2000	100	96	91	87	81	74	43	40	31	20	9	9	9	7
2001	100	97	95	80	77	66	37	33	24	22	5	5	5	
2002	101	101	98	92	91	85	44	43	28	24	11	11		
2003	100	100	98	76	66	59	35	29	17	4	3			
2004	103	103	101	83	73	68	47	43	21	20				
2005	75	75	71	67	61	58	43	30	19					
2006	BHC supported batch													
2007	100	98	96	93	87	51								
2008	103	100	99	95	70									
2009	103	102	100	85										
2010	100	100	98	88										
2011	100	99	99	96										
2012	104													

Source: CARE, UP

Table 2: Status of Udaan girls in Odisha

Academic Year	Enrolled	Continued	Passed Grade V in Govt. system and passed out	Mainstreamed					
				Kalinga Institute of Social Sciences (KISS)	Schools under SC/ST department	UP Schools under S&ME Dept.	High Schools under S& ME Dept.	KGBVs	Total
2009 -10	95	**87**	86	57	10	14		5	**86**
2010 -11	110	**103**	103	13	18		2	70	**103**
2011 -12	110	**102**	102					101	**101**

Source: CARE Odisha

Mainstreaming Learning of Udaan:

In order to address the needs of girls enrolled in KGBVs in class VI onwards, CARE has designed a special curriculum that helped the enrolled girls to reach age appropriate grades. This support to Kasturba Gandhi Balika Vidhyala (KGBV) has resulted in the Government of Uttar Pradesh, Gujarat, Orissa and Bihar formalizing a bridge course within KGBV, which has enabled never enrolled and drop out girls to complete primary education curriculum before starting grade VI curriculum. CARE's work is largely based on the assumption that once students develop basic skills in language and mathematics, a scientific temper and some relevant computer skills, they would be better equipped to benefit from the learning opportunities in life, be able to question disparities and negotiate a better space for themselves in society.

IMPACTING THE RURAL POPULATION; BRINGING TRANSFORMATION THROUGH EMPOWERING PERSONALITIES: A FEW CASE STUDIES

Udaan, or 'flight' as the name suggests, is an attempt to enable adolescent girls to take-off from their restrictive lives of the past to more self-directed and awakened lives in the future. The outcome of the program suggests that the goal is being achieved in a true sense. It has thus been a very meaningful attempt for re-socialization. Research studies have shown that the environment and practices in Udaan, through its curriculum and

transactional strategies, provided a strong scaffolding base which not only helped to enrich the cognitive abilities of girls but also developed the skills of critical thinking and good observational skills. They are more articulate and capable of expressing themselves well. The sense of self of Udaan educated girls is characterized by having much more agency and control over their own lives.

A study by Ranganathan and Jaimini, 2005, found that Udaan has succeeded in meeting a number of its objectives and promoting ***psychosocial empowerment*** in various ways. This study compared the Udaan educated girls with their non-schooled age-mates and girls undergoing formal schooling, on the dimensions of their sense of self, and personal identity, their construction of gender identity and their world of cognition and perception (Sachdeva, 2012).

The findings of the above study showed that Udaan has had a very positive and meaningful impact not only on the girls who studied there, but on their families and villages as well. For many of them, Udaan has been a vicarious learning and empowerment experience. The men of the community also showed a positive attitude towards the changes they observed in their girls. The initial resistance had now changed into support and patronage.

The personality changes in the girls, reflected in their confidence, boldness, ability to communicate effectively, competence in discharging work and capacity to deal with issues beyond the traditional domain of women, were particularly highlighted as part of their positive impact.

Many social changes, such as a reduction in family size, more patronage to girls' education, an increase of age at marriage, resistance to dowry in some cases, and being more expressive and outspoken, were also attributed to the Udaan impact. The importance of cleanliness and leading an organized life were also perceived as significant family learning from Udaan.

In order to measure the impact of Udaan on girls, a review of the program was done in 2010 in Hardoi, UP. During an interaction with alumni (girls from the very first batch to the most recently graduated) at the program's 10^{th} anniversary celebration, the following aspects were seen:

(a) Out of a total of 195 Udaan graduate girls only 10 married after reaching the age of 16. They also raised their voice against dowry during their own marriage as well as of relatives.

(b) During the discussion, girls were asked about what kind of profession they would like to follow on completion of their

education. Almost all of the girls expressed their desire to be independent in life. A majority of the girls wanted to become teachers and some said that if they could get opportunity they would become a teacher at Udaan. Some girls showed a desire to become doctors, but at the same time they were worried about the financial implications of such a professional course. Few of them opted for tailor, police or jobs related with computer. It was most surprising when 19% of girls showed their desire to become like Mayawati, the then chief minister of the state. From here, it can be clearly understood that Udaan has given them an indication of how important is to develop their own identity. A hidden answer came out after more discussion about the purpose behind choosing these types of career and it was their ambition to serve their community and society at large.

(c) These girls also stated that after completing their course in Udaan, people at home started taking their advice and listening to what they had to say. The girls were also asked how their lives have changed after Udaan as well as if their family's outlook towards education has changed after they returned home from the program. What was interesting in the responses was that many parents now wanted their daughters to study further and had started sending their other children to school. Not just parents of the students, but other people in the neighbourhood and community as well saw the benefit of educating girls and started sending their own daughters to school. They said their confidence has improved tenfold and they now believe that they can talk to anyone, become anything, and do things on their own without having to depend on the male members of their family. Many of the girls also claimed that the overall environment and atmosphere of their homes has changed after coming back from Udaan.

Few case studies:

Through some of the cases cited below, an attempt has been made to capture the achievement of the Udaan graduates in terms of their academic journey, capability to assert themselves and influencing their community to mobilize support for girls' education. An effort has been made to show the challenges still lying in the path of girls' education and gender justice that were discovered during interaction with the girls.

"Aarti had left school as her parents thought she was too weak to study and therefore it was better to employ her in housework. She had lost all hope and confidence to study further. Then she learned that other girls from her village were enrolling in higher grades in school after returning from Udaan camp. She thought, "If they can learn so much in one year, it may also be possible for me to study." She asked her parents to send her to Udaan, but they didn't agree at first. They were counselled by a village-level worker, who finally convinced them to send her to Udaan. During her stay at in camp, Aarti developed confidence and an interest in her studies. After returning home she insisted on going to private school. Again, her parents didn't agree and said that it would be a waste of money, but Aarti kept insisting and eventually was able to get herself enrolled in a private school.

This is an example of the kind of personalities girls have developed at Udaan. They have learned to decide for themselves and negotiate, which is a great achievement. Aarti is just one of many girls who have taken the liberty of choosing the school they want to go.

Girls also shared that now they can pass the admission tests in good schools. Many girls even passed admission tests into higher grades than expected. They are no longer scared at school since they understand the subject well and feel prepared. They are rather better than most students at school and therefore they feel a sense of pride. They are treated with respect by teachers and fellow students.

*"**Aruna** had left school due to being beaten by her teacher, who had caused her palm to bleed. After studying at Udaan, she enrolled in the same school and performed very well. The teacher who had previously beaten her was full of remorse for his action and asked Aruna to forgive him.*

Moved by the learning achieved by girls and the willpower demonstrated by them to continue their study, support came from all quarters – parents, relatives, teachers and even neighbours. People now trusted in their abilities.

Sarita's *father said he wouldn't be able to support her study further and didn't send her to school. After a few months, her Mama (paternal uncle) came to visit them on the occasion of a festival. Sarita told him about her plight. He offered to support her studies and convinced her father to let Sarita stay with him. However, by that time the deadline for school admissions was over. Mama applied for a private exam and provided tuition for her to study at home.*

Shasi's *father was against her going out to study and didn't admit her to school. Her brother got information about admission in Kasturba Residential School and got her admitted there.*

Anupam's *brother didn't allow her to go to school, but his friend councelled him and so agreed to admit her to school.* ***Priyanshi's*** *aunt supports her to study at home by sharing her responsibility of household work.*

Some parents have employed tutors, as was the case with Mamta from Saraiya village. Mamta faced difficulties in English and Sanskrit in school because these subjects were not taught at Udaan learning camp.

It is remarkable that parents who didn't bother about sending these girls to neighbourhood schools earlier suddenly agreed to pay the fee for private schools. The reason appears to be a rekindling of hope that it is possible for their daughters to be educated and improve their lives and that of their families.

Distance of school, especially beyond primary level, without means of transport and therefore threatening the safety and security of girls seems to be a real problem without any hope of being resolved in the near future. Girls typically have to walk long distances on deserted roads in order to reach schools. In some cases, bus service is available, but only for partial distance.

Mamta *is a 2007 graduate of Udaan. She was enrolled in grade 6 after leaving Udaan. Now she is in grade 10. She has to walk 6 kilometers to reach her school. She also must cross a river by boat. She wakes up at 4:00 am and does household work. She has to reach school at 8:00 am. She has to run to reach school on time. Sometimes, if the boatman does not arrive she must return home.*

There have been cases of molestation, although not with Udaan girls. However, it certainly raises concern in the minds of most parents, who are not only worried for their daughter's wellbeing, but also concerned about family honour, which is largely dependent upon the physical purity of females.

CONCLUSION

CARE India has created and implemented strategies aimed at providing access to education to some of the hardest to reach children, including girls. CARE has piloted and refined a residential education camp model called Udaan (the flight), designed to help girls aged 10-14 who are at extreme social and economic risk and who have missed out on education. Based on twelve years of successful implementation in Uttar Pradesh, Udaan has been running in Odiha, Bihar and Haryana and is part of a CARE India education portfolio that reaches more than 100,000 marginalized girls.

Udaan and its learning to KGBV have had success in promoting girls' school enrolment and completion. Many Udaan graduates have made a successful transition to secondary schools. Udaan has also been a proving ground for learner-centred curricular innovations that CARE is now helping to introduce on a much broader scale in national education initiatives such as KGBV. Students at the KGBV schools that CARE India supports in Uttar Pradesh, Gujarat and in Odisha have achieved substantial gains in both language and math over the years, compared to baseline educational data taken at the outset of the program. Such improvements in learning have opened the door to education that was previously out of reach for many marginalized girls.

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CHAPTER FOUR

EDUCATION FOR RURAL TRANSFORMATION

A MULTILINGUAL PROGRAM SCHOOL TO ENHANCE LANGUAGE ABILITY OF THAI STUDENTS FOR ASEAN COMMUNITY

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INTRODUCTION

As the forces of globalization gather strength and speed, there is a growing realization of the benefits to be gained from an international outlook. In the educational system, it is therefore becoming increasingly important to merge foreign languages into schools' curricula. With the current dominance of English in the labour markets and international communications, there is a demand from families who wish to offer their children an education that includes English. For this reason, there is an increasing demand for types of education that are more general than those traditionally delivered by national systems. At the same time, parents might wish to give their children opportunities to enlarge their social network in this more globalized world.

With the economic growth of Japan and China and their economic expansion into the South East Asia region, there is a need for Thailand to develop a workforce with the appropriate education, knowledge and skills that will be necessary in the future. At the present time, both limited enrolments and the poor quality of schools in developing countries mean that many young people in these countries do not acquire the skills that will be needed for their future employment.

In addition to increased globalization, the movement towards knowledge-based industries makes the completion of at least secondary school particularly critical. In recognition of this need, the Thai government has made education free for students up to the age of 15 years. It has also recommended that students should study English from year 1 to year 12 and that bilingual schools should be established in every province of Thailand. In addition, because of the ASEAN community, the government has acted to develop multilingual schools in border areas that teach Thai, English and the language of the neighbouring ASEAN country.

The aim of this paper is to describe the multilingual program at the Kasetsart University Laboratory School in Chonburi, Thailand, which has successfully integrated foreign language teaching into the Thai school curriculum.

SEVERAL DIFFERENT TYPES OF NEW EDUCATION PROGRAM MODELS:

Bilingual schools

Before 1992, Thai parents who wished their children to have a school education where curriculum content was taught in English had two choices: an international school in Thailand or an overseas school. However, these choices were available to only a very small percentage of the Thai community because of the high expense. In addition, many Thai parents did not wish to send their children abroad or to schools in which Thai culture and language were given little or no attention.

According to the policies of the Royal Thai Ministry of Education, teaching a Thai curriculum that includes English (English Program, EP) is possible at Thai schools within the following framework: Pre-primary level: Subjects conducted in English must not exceed 50 per cent. Primary level (phratom 1-6, equal to grades 1-6): Teaching and learning in English can only be given in the subjects English, mathematics, science and physical education with content that is the same as in the Thai curricula for mathematics, science and physical education and with a guarantee that the students understand the concepts at the same level as the Thai-language students. Secondary level (matayom 1-6, equal to grades 7-12): Teaching and learning in English can be given in all subjects except Thai and social science and parts of Thai law, culture and tradition.

Bilingual education in Thailand involves teaching academic content in two languages, in the Thai language and in a secondary language with varying amounts of each language used in accordance with the program model. Since 1992, the option of education in two languages has become available to a much greater number of students through the development of bilingual schools and the study of content through English has been possible without loss of Thai language and culture. The context of bilingual education in Thailand is one in which most parents are economically in the middle class or higher. There are several difficulties that arise in teaching English in bilingual schools. These difficulties include the following: most students are likely to communicate in English only in the school environment and most Thai teachers are not sufficiently fluent in English to enable them to provide consistently authentic models of English. As a result, bilingual schools in Thailand are seeking out new ways of educating Thai children.

International schools

An international school is a school that usually follows the curriculum of an American, British or other foreign school and is aimed at the education of children of foreign parents who may be in Thailand for a limited period. Thai parents will also send a child to an international school if they intend to send their child to complete university or advanced education in a foreign country.

BEGINNING OF MULTILINGUAL PROGRAM OF KASETSART UNIVERSITY LABORATORY SCHOOL

In the beginning of 1998, AMATA corporation donated land in Chonburi (a predominantly rural area approximately 100Km east of Bangkok) to Kasetsart University for the purpose of establishing a Laboratory school for education of local families and families of their workforce who lived and worked in the region. Because the main purposes of the Kasetsart University Laboratory School (KUS) have always been to develop new curricula, to train teachers and to provide a high quality education, Associate Professor Kuakul Thasit, principal of KUS at that time, accepted the challenge to develop the new school. With her vision, the high-quality education system developed at the Bangkok campus was successfully transferred to the new Chonburi campus. Further, because of the presence of foreign companies in the Chonburi region, and especially Chinese and Japanese companies, it was decided to develop a multilingual school in which students from the region could learn English, Chinese and Japanese from native speakers of these languages. However, as the school was a Thai school there was also an emphasis on Thai language and culture.

In 2001, the Kasetsart University Lab School Multilingual Program was established under the supervision of the Faculty of Education, Kasetsart University. The school, known in short as Kasetsart University MP Lab School (KUSMP), is a regular school that also serves as a laboratory for educational research and for training student teachers. Being part of a laboratory school experience is a unique and rewarding experience. In addition to providing an engaging learning environment for the students, the classrooms and meetings serve as a laboratory for researchers and educators to explore innovative ideas about teaching, learning and child development. The school also provides a place for Chinese and Japanese student teachers to improve their skills in teaching their language to non-native speakers.

Methodology and data sources

The author of this paper has been involved with Kasetsart University Laboratory School as an instructor and administrator since its inception. The

data in this paper are the result of extensive reviews of curriculum and detailed information collected from administrators, Thai and foreign teachers, students, parents and graduates.

Limitation of study

This study focuses on the KUSMP model that involves teaching Thai students by trained native-speaker teachers of the 3 major foreign languages, English, Chinese, and Japanese. In each of the other subjects, Thai teachers use successful KUS curricula from the Bangkok campus.

This study focuses on four aspects: curriculum integration, instructional strategies, learning activities and multicultural understanding, and human resources management.

Documentary and statistical data

Report and formal document

This study had access to a number of recent reports relating to the current situation of KUSMP, Chonburi, Thailand. The Foreign Languages section supplies extensive background information, from which the L2 and L3 curricula have been constructed. Other documents used include the school guidance report booklet on teacher-parent meetings and the document of regulations for the formation of KUSMP.

School brochures, publicity and other documents.

During the study, numerous documents were consulted including publicity brochures, information on multilingual program activities, and handouts produced by academic committees entirely in Thai language. The handouts included photos and details of how the school works. In addition, an impressive 281 page colour book that was produced on the occasion of the school's 10th anniversary was consulted. This book described the contribution of people who helped to establish this multilingual program and is full of colour photographs of the teaching and administrative staff from the school opening to the present. It included photos of students engaging in various culturally oriented activities.

Test and statistical data

School guidance records were available that recorded the National Examination scores for KUSMP students. These scores appeared to be higher than those for students from other schools in the neighbourhood. These records also recorded the percentage of students who gained entrance to universities and showed that more than 90% of KUSMP students gained entrance to universities each year.

Interviews and meetings
Numerous interviews and meetings were conducted with a range of stakeholders, including the following

- Principal and former principal
- School administrative staff
- Thai teachers
- Foreign teachers
- Students and former students
- Parents

Observations

School observations
KUSMP provides education from grade 1 through grade 12. It has 1300 students taught by 104 Thai teachers, 9 Chinese teachers, 8 Japanese teachers, and 12 English teachers. The school is in new buildings designed by a school architecture board. It consists of 7 buildings and includes an indoor swimming pool and a 1500 seat auditorium. All classrooms are well equipped with appropriate technology and materials. As a multilingual school, there are Chinese and Japanese enrichment rooms, a language lab, phonics rooms for students of grades 1-2 and a CLC Creative Learning Centre, which provides help for students who require assistance with their English assignments. All students in KUSMP study English with native teachers from grades 1-12. Students are asked to choose either Chinese or Japanese as their third language (L3) when they enter grade 4 and they can continue this language to grade 9.

Other subjects are taught in Thai. Students who enter high school are able to elect to continue in their L3 or they can decide to shift to Chinese or Japanese as their L4.

Classroom observations
As per school policy, each classroom has a maximum of 35 students and two Thai classroom teachers are allocated to each class to help maintain good relationships with students. From observation, the classroom teachers play a vital part in ensuring good student habits and behaviour and the effectiveness of student learning.

Other data sources

Besides the relatively formal data sources noted above, this study has used numerous informal observations made over the lifetime of the school. The information obtained were of considerable importance, since they offered insights not only into what participants or stakeholders believed, but also into what actually happened in this unique multilingual program of Kasetsart University Laboratory School. These informal data sources include posters,

notices and other signs and displays. This study also gained information from questioning students about the advantage of knowing more than 3 languages.

Some of the important features noted from the above data sources and interviews include the following:

School environment

KUSMP has developed an outstanding co-educational facility on a 34 rai campus in AMATA NAKORN, a large industrial park in Chonburi, THAILAND. The school currently consists of 7 modern buildings, which were completed in late 2006. The buildings contain a wide range of specialist facilities for teaching and extra-curricular activities. Specialized teaching and learning facilities include a large library with a 34 seat sound laboratory, computer rooms, laboratories and classrooms. Extra-curricular facilities include a sports building, gymnasium, indoor swimming pool, basketball courts, and tennis courts. A morning canteen offers an early welcome to parents and students who wish to enjoy breakfast together. A coffee shop provides snacks and beverages of many kinds throughout the school day.

School Mission

The mission of KUSMP is to promote innovation and excellence in education through research, and teaching learning methodology. The school is dedicated to meet the needs of children with a diversity of backgrounds. Teaching and learning environments are provided to meet each child's learning style and to encourage critical thinking and creativity within a disciplined approach to intellectual inquiry. KUSMP prepares each child to be a global citizen. Assistant Professor Kannika Limpasutha, chairperson of KUSMP shares her value of the school saying, "School should be a place where individuals feel valued and welcomed and where each student feels appreciated and accepted. At school, all students should be encouraged and challenged to do their very best."

Curriculum integration

KUSMP has maintained a tradition of quality education since its establishment in 2001. KUSMP offers a multilingual curriculum with native-speaker teachers of English, Chinese and Japanese for children from 5 years old to enrol in grade 1 and further the study through grade 12.The aims are to prepare Thai students to face a future globalized multicultural society while stile remaining proud of being Thai. The Thai curriculum is taught by highly qualified Thai teachers. KUSMP believes that an immersion approach develops language proficiency as well as intercultural awareness, and

creative and critical thinking. Students are taught English by native English speakers from grades 1 to 12. From grades 4 to 12, students are taught either Chinese or Japanese by native Chinese or Japanese teachers. All teachers are trained to teach their native language as a second language to non-native speakers. In the language classrooms, all instruction and discussion is conducted in the appropriate language and Thai is not used.

Instructional strategies

KUSMP uses the guidelines of the National Curriculum to provide a framework for the setting of learning goals for each grade level. Teachers design thoughtful instruction that builds on children's interests and helps them to develop an understanding of science and social studies, Thai language and culture, mathematics and art through projects of choice and in-depth study. These projects help children to develop and refine their skills by requiring use of those skills in a context and for a purpose and in ways that encourage each child to set and achieve high standards. As children learn, they represent their understanding in a variety of ways according to their own learning styles. Teachers need to appreciate and award these different ways. The combination of structured goals and engaging experiences is designed to help children develop a lifelong love of learning. The academic program prepares students for study at higher educational universities and institutes both nationally and internationally. KUSMP aims to ensure that students have the academic and life skills required for success in their future endeavours. Students learn to respect others, and to care for, understand and serve others in a world rich with diversity.

KUSMP provides an innovative learning environment that encourages respect for the individual and care for the community. All instruction aims to encourage children's ideas and creativity and imagination in their projects while also providing a strong academic foundation. The curriculum is rich in real-world experience and thought-provoking activities that help children develop the ability to think critically, to use and analyse a variety of sources of information and to apply their knowledge to solve complex problems.

Learning activities and multicultural understanding

There are 3 principles that have been handed on from the first former principal Professor Ubon Rengsuwan in designing any activities for students: First, that activity gives opportunity to every student. Second, the activities will give a chance for students to learn and experience by themselves and last the activity will help to bring students to their optimal potential. With these fundamental ideas, the learning activities will provide vital knowledge for students.

At KUSMP, we found a number of students who were of mixed race, with either a Thai father or mother married to a father or mother of different nationality. These students are better able to adjust themselves if they are young. However, a teenage individual seems to need skills in problem solving, and they may need advice from a school counsellor and more communication between school and home to assist in their adjustment to the school. Students learn to accept the diversity of tradition, culture and languages through their subjects, classroom projects and from foreign exchange students from the USA, China, Japan or Singapore. Some parents volunteer to be a host family for these exchange students or for the foreign student teachers. As one speaker for a host family said, "First I thought it will be difficult for us to have a foreign student teacher from Japan to stay with us, but I was wrong. We share a good communication even though I can't speak Japanese. The advantage comes to my children that they learn to live with other people and be more generous."

Human resource management

Teachers in this school are highly qualified with teaching qualifications from Thailand or their home country. The English, Chinese and Japanese teachers are native speakers recruited from their home country. They bring expertise gained from teaching in a variety of schools, both public and private. In language classroom, the use of a collaborative or co-teaching model in which two to three teachers; native language teacher, Thai coordinator and classroom teacher, share the responsibility of meeting the diverse needs of all students, results in better academic and social outcomes for KUSMP students.

Many of the Thai teachers have extended their knowledge by participating in research projects and in professional development programs. Many have also participated in outsource accreditation and in professional conferences to share their work and gain new knowledge.

In the middle school classroom, the school provides a specialized counselor to train the classroom teacher to work effectively with teenage students with special educational needs or disabilities. Students who are detected as dyslexic (about 16 students in grade 9) are given more opportunities for one-on-one instruction (CS 1) and are engaged in more individual work.

Foreign teachers who teach English, Chinese and Japanese are native speakers who have a bachelor degree from their home country in teaching their language to students of other languages. Chinese teachers are recruited in cooperation with universities in China, such as Peking University, Beijing Normal University, Xiamen University and Yunnan University of

Nationality. "We have good relationships with many professors in my home land, such as Professor Zhang Xi-zhen, Professor Wu Cheng-nian and have the respect of other academics," said Ajarn John Tian head of native Chinese teachers.

Japanese teachers are recruited with the help of Japanese professors who work in faculties of education in Japanese universities, such as Prof. Hiroko TAKAGI from Jesse Woman University, Prof. Takeo AYUSAWA from Akita International University. "We have Japanese student teachers who gain their teaching experience here. When they return back home they often apply to teach in KUSMP when they graduate," said Ajarn Y. Akuchi, head of Japanese Curriculum.

There are three ways to recruit English teachers. First, there is an organization called Teach in Thailand. This organization proposes young Americans, who have newly graduated and want to see the world and can support themselves through teaching English. Second, is from an agency which supplies native speaking teachers to schools. Third, are direct applications through school personnel recruitment.

> *There are advantages and disadvantages in each of these three recruitment methods. Volunteer teachers from Teach in Thailand are less experienced in teaching and their performance can vary depending on their personal character and background experiences. Teachers from an agency have more experience and are well managed, but can request a high salary. For a teacher who applies directly, it is usually quite hard to check their ability and enthusiasm in teaching through an interview and the process of checking their original certification can require a long period of time.*
> *Comment by member of Foreign Language and Promotion Development Committee (FLPD).

In order to maintain a high standard of foreign language teachers, KUSMP has the FLPD, which works to set standards. It also conducts orientation for all teachers at the beginning of their school year. FLPD conducts accreditation for every foreign teacher at the end of each semester. It will make a teacher evaluation that will be given to each teacher in written form. Teachers evaluate themselves and the FLPD evaluates them. At the end of a school budget year, a teacher's salary can be increased by 7/5/3 per cent of their salary according to their performance. KUSMP provides medical benefits and social security, a work permit and a return air ticket after they complete their contract.

LESSONS LEARNED

The Ministry of Education has allowed schools or private sectors to reform regular curricula for English, bilingual, or multilingual programs to meet the need of parents in the community. Research has shown evidence that in recent years the number of bilingual schools has decreased especially in the rural areas. Some suggested reasons for this decrease include poor management, lack of suitable teaching and learning material, and being unattractive to foreign teachers. Kasetsart University Laboratory Multilingual Program has not only found a way to achieve success in this new curriculum path but it has also found a way to ensure that the education of young Thai children will enable them to live in this increasingly diverse world. Apart from a rich school environment, the development of an integrated curriculum which meets market needs, global and cultural learning activities and a strong program for developing human resources, the study found some strong elements that will serve as a foundation for the future development of the program. These elements include the following:

Institutional Influence

KUSMP is an expansion campus from KUS in Bangkok. Its development can be used as a model to bring the laboratory teaching approach to rural areas. The model of teaching learning and school administration at KUSMP will play a vital role in creating successful multilingual programs in other provinces of Thailand.

Organizational Support

From an organizational perspective, KUSMP has the advantage of networks of mutual support from KUS Bangkok campus, teachers have a chance to interact with their supervisor and peers by attending school seminars and sharing their pedagogy together.

Adequate and Appropriate Teaching and Learning Materials Support

KUSMP provides adequate and appropriate teaching and learning materials to assist teachers in updating resources and enhancing student capacity. KUSMP uses text books of KUS which are written by high qualified team teachers KUSMP has its own textbooks in Chinese and Japanese language study. The English text books are of high standard compared to the ones that are used by other schools in the same area.

Parallel Support Service Systems

KUSMP administrators have a good overview of the infrastructure of the school and provide parallel support as Technical and IT assistance to teachers and school personnel. The administrators also aim to improve

school- community relations and organize in-service training with the help of KUS. The administrators also organize support from publishers on how to increase the effective use of teaching materials in classroom as well as to increase classroom teachers' knowledge and skills in key academic subjects.

The administrators also aim to improve school standards through cooperation with sister schools in USA, China and Japan and by providing opportunities for teachers to study abroad.

Improving Benefit Support Service

In order to maintain the school standard to at least the same level as the main campus in Bangkok, and to meet the needs of the ASEAN community, KUSMP has plans for their support service to avoid teacher turnover when compared with permanent positions in government schools. KUSMP is an institute of Kasetsart University, which runs as a private sector with the supervision and support of Kasetsart University.

The importance of job satisfaction is not underestimated. Possibilities for improving salary include providing a benefit or bonus of x2, x4 and x6 salary for 5, 10, and 15 years of teaching, respectively. Subsidies for hospital expenses have been granted in amounts of 10,000 baht per person/per year to teachers and their spouses and children. This applies to both Thai and foreign teachers.

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CHAPTER FIVE

EDUCATIONAL SCHEMES AND THEIR IMPACT ON RURAL STUDENTS FOR EFFECTIVE RURAL TRANSFORMATION: AN EXPLORATORY STUDY

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INTRODUCTION

Education is a liberating force, and to our age it is also a democratizing force, cutting across the barriers of caste and class, smoothing out inequalities imposed by birth and other circumstances. India's education system has expanded exponentially over the past five decades and there has been a considerable increase in the spread of educational institutions. However, the problems of access, equity, inclusiveness and quality in education are prevalent issues in all parts of the world. It is expected that there should be equity of opportunity for the people of the different regions, gender and social and economic groups to enter the educational institutions, which provide opportunities to enrich their educational qualifications.

Education that brings knowledge for survival is the key to empowering underprivileged groups in order to overcome poverty and to ensure equitable development. The objective of education has been recognized as an instrument of social change. In many countries, social change and economic development have been organized by providing not only education, but also specific training to improve techniques employed in the rural economy. Education and training are two of the most powerful weapons in the fight against rural development. Rural transformation will require increased investment in education and training. One of the major inequalities affecting rural students is their unequal access to quality education, which is essential for socio-economic development.

Education cannot solve all problems, thus promoting human development through domestic policies that recognize rural issues, including educational policies, is highly necessary (Hernes, Monyo & Gudmud, 2009). Education aid policies and operational activities are the real requirements for rural transformation. Even after 60 years of continuous rural development activities, India could not improve in terms of its human development. In modern time, people have been reduced to beneficiaries and consumers rather than effective partners of rural transformation. To bring about the needed changes in the rural areas, educational institutions have to be reorganized to meet the requirements of the community. The schools are the

catalytic centres, or bridging units, that connect the governments and communities. Despite various schemes, projects, policies and numerous action plans, they do not reach the field. The village life situation has to be transformed by implementing constructive programmes or schemes. The central government evolves excellent policies, schemes and programmes and allocates plenty of resources for rural development activities, but they do not reach the field for various reasons.

Various educational schemes through domestic policies for rural education include: development of vocational and pre-vocational skills among the secondary and higher secondary students, life skills development, guidance and counselling for rural students in F2F mode, tele-mediated educational guidance programmes for school and college students, pre-examination coaching scheme, Way to Success programme, inclusive education, free bus scheme, habitational learning centres for rural students, mid-day meals and breakfast scheme, and rural education scheme including community colleges. These schemes are designed and implemented through various departments: State Training Centre for Teacher Education (STC) attached to the Directorate of School Education, Employment Exchange, NSS, SSA, DIET and NGOs, Pondicherry. With these good practices, rural students have gained confidence and academic courage to face the competitive world so as to become highly competent in the market of employment.

The study was conducted with the following objectives:

- To identify the various domestic schemes that relate to education.
- To study the impact of the schemes on rural students

Normative survey method was employed to achieve the objectives of the study. Interview schedule was used to interview rural students and teachers about the domestic schemes in order to collect first hand data for the study and their impact on them. Students and teachers were randomly selected to collect their opinions on the schemes.

In the present paper, an attempt has been made to bring out the tremendous potential of various domestic policies and activities and to suggest the authorities to revive certain training and skill development programmes.

RURAL EDUCATIONAL SCENARIO IN PONDICHERRY

In the 70s, rural students had to walk long distances for secondary education. After the advent of NPE, 1986, permission to start matriculation schools in rural areas was granted as an extension of education to rural students. Rural

parents preferred to admit to their wards into matriculation schools for English education due to various shortcomings of the public school systems. These matriculation schools were further upgraded to matriculation higher secondary schools in the rural areas to provide post-secondary education. Considerable contributions by SSA to primary and upper primary schooling in rural areas cater to and support downtrodden and distressed groups. Industrial training institutes are established in urban and rural areas and impart vocational skills for better employability.

Most of the medical and engineering colleges are established in rural areas of Pondicherry region and are prototype institutions. These institutions are in no way connected with rural development and it is just coincidence that they are located in rural areas. The Directorate of Higher Education, Pondicherry, has established Arts and Science colleges in three different places to increase rural enrolments in higher education. The courses introduced in these colleges are traditional. However, a few courses are suitable: co-operative management and social work.

The following courses are also suggested to multiply the skills of rural students in the following fields for quick employment.

B.A. English and Communication
B.A. French and other Foreign Languages
B.A. Rural Management/Development
B.Com. Vocational
B.S. Rural Technology

The community college system provides job oriented, skill based, work-related and life coping education. It enhances and promotes human resource development of the area. It is a holistic and comprehensive formation that builds personal skills, communication skills, social skills, language skills, and other skills. When life skills are provided, the disadvantaged students in rural areas become empowered and when work skills are imparted, they attain the employment eligibility (Alphonse, 2003).

Central University in Pondicherry introduced community college in October 1995. Community college is an alternative system of education that is aimed at the empowerment of disadvantaged sections of the society and the underprivileged through appropriate skills development leading to gainful employment in collaboration with local industry and the community (Alphonse, 2005). It offers 5 associate degrees, 31 postgraduate diplomas for graduates, 1 five-year integrated masters of art course in Economics, and 21 diplomas for plus two students. These courses are designed in response to the needs of the local community, business, industries and government conducted in close collaboration with the industries. This positive feature

attracts more rural parents to admit their wards into this system of education. It is disheartening to note that there are no community colleges established in three regions, Mahe, Yanam and Karaikal, for the welfare of the rural students.

TECHNICAL AND VOCATIONAL EDUCATION

The present educational system has been criticized because it does not provide skill-oriented or skill development programmes. The lack of skill-oriented, need-based, and vocation-based education produces only clerks. It is felt that the graduates only contribute to the number of unemployed, many of whom are unemployable and were not exposed to a meaningful work culture. Sharma (1994) expressed an opinion that the establishment of professional schools in any occupation marks a comparatively advanced stage in the development of that occupation. Srinivasan and Vijayan (1986) highlighted the importance of vocational education by stating that there is heavy employment on one side and dearth of skilled persons for certain jobs on other side. Hence, it is advocated that the government, as well as employers in the public and private sectors, should establish vocation education institutions in areas with need.

In Pondicherry and Tamilnadu, only government schools provide vocational courses, whereas private matriculation schools do not. They offer only lucrative courses, such as biology and mathematics, but not commerce and accountancy courses.

Government schools that offer vocational courses have semi-vocational courses for commerce and accountancy students, such as insurance management, auditing and accounting, secretarial practices and bookkeeping. They do not impart vocational skills relating to: auto ancillary sectors, textile sectors, leather and leather goods, healthcare, and IT hardware and electronics. Rural students who belong to the middle or lower-middle class may opt for these technical-based vocational courses if government higher secondary schools introduce the above-mentioned technical courses.

REVIVAL OF PRE-VOCATIONAL TRAINING CENTRES (PVTC)

Pre-Vocational Training Centres (PVTC) were established in rural areas in the early 70s in the U.T. of Pondicherry with the goal of developing vocational skills among upper primary school students. The rural students who completed class VIII were guided to continue their education in Junior Technical schools (JTS) and then to Government Technical Higher Secondary schools, respectively. At the high school level they were exposed to the following trades for 3 years: moulding, turning, sheet metal, plumbing,

carpentry, general machine, welding and others. At the upper primary level they were also exposed to radio mechanics, automobile, general machine, household electrical works, and electronic maintenance.

In a survey conducted by the author of this paper, it was revealed that most of the PVTC and JTS students were immediately employed either by the government or private sectors. Additionally, students with moderate family backgrounds often started own workshops. It is heartening to note that even the dropouts of the pre-vocational courses were employed in the industrial estates of the Pondicherry and Karaikal regions, whereas the graduates were unemployed or underemployed. It has been proved that it is vocational skills development that brings economic sustainability to the lives of rural students. The role of technical institutions is greater than other institutions and investment in technical education makes a valid contribution to economic growth (Arumugam, 2003).

These schools are highly essential to cultivate vocational skills to proliferate the skills of employability in the industrial world. When schools follow the principle of "Catch them Young and Teach them Vocational Skills," students never become a burden to their families and the nation.

INCLUSIVE EDUCATION

The Government of Pondicherry has a social responsibility to serve the weak and vulnerable in the rural environments, including students with some form of physical or mental challenge and suffer from poverty, illiteracy, lack of skills, lack of resources to support them. The government is running Special Education Schools for Deaf and Dumb in the Pondicherry region. Similarly, private entrepreneurs and NGOs are also encouraged to run special schools in rural areas to serve this special category.

Sarva Shiksa Abhiyan (SSA), Pondicherry, has organised counselling programmes for parents and they also train teachers how to take care of special needs children. Special care allowances are distributed to parents to take care of their children. In order to create awareness of learning disabilities among parents and teachers, the following hand-outs/charts are prepared to display in schools.

Symptoms of Learning Disabilities in School Age Children

- Difficulty understanding and following instructions.
- Trouble remembering what someone just told them.
- Failing to master reading, spelling, writing, and/or math skills and therefore fails schoolwork.

- Difficulty in telling the difference between "right" and "left," problems identifying words or a tendency to reverse letters, numbers or words (e.g., confusing "b" with "d," 18 with 81, or "on" with "no").
- Lacking psycho-motor coordination when walking, playing sports, holding a pencil or trying to tie a shoelace.
- Frequently loses or misplaces homework, schoolbooks or other items.
- Unable to understand the concept of time, confused by the differences among "yesterday," "today," and "tomorrow."

Training of In-service Teachers in Special Education

SSA, Pondicherry conducted in-service training programmes for special education school teachers. During training, teachers are exposed to the theoretical aspects of special education, pedagogy, evaluation, materials for using the Braille system, use of electronic gadgets in the teaching-learning process and are taught a few intervention strategies to overcome special education problems.

Interventions to Help Learners with Disabilities

1. For improving writing, meaningless lines and strokes as they wish to draw should be introduced in primary classes.
2. Next, direction to draw a letter with an arrow mark should be shown in the English Reader.
3. English Readers with bold scripts are suggested
4. To improve reading ability, phonemic words with a change of one letter like ‘pin’, and ‘pan’ may be introduced in the beginning.
5. Small sentences with one or two meaningful units may boost reading comprehension. This will also help them to pause while reading.
6. Writing on sand, water and even on ones’ skin creates a stronger impact on children.
7. Self-learning materials for learning letters with engraved letters in a wooden block.
8. Every government has to provide Individualized Education Programme (IEP) to students with learning disabilities to learn basic skills.
9. Arrangement of computers with specially designed software to repeat the sounds with slow speed.
10. Systemic changes like necessary modifications of assessment and examinations keeping in mind the nature of the disabilities in students should be taken for consideration.

Parental Counselling in Special Education

Parents should be optimistic and think about positive ways to minimise the problems of learning disabilities (LD). They should believe that their continuous effort and cooperation will help their children to join the mainstream of education. They should approach service organizations for academic help, if available within their areas. They should consult clinical psychologists and learner specialists for proper remedy. With a doctor's advice, prescriptions may also be tried. Three drugs, Ritalin, Dexedrine, and Cylert, have been used successfully. Support groups can be a source of information, practical suggestions, and mutual understanding. Many parents find that joining a support group also makes a difference. Counselling can be very helpful to people with LD and their families. Talking with a counsellor or psychologist also allows family members to voice their feelings, as well as get support and reassurance. Self-help books written by educators and mental health professionals can also be helpful. Behaviour modification also seems to help many children with hyperactivity and LD. In behaviour modification, children receive immediate, tangible rewards when they act appropriately. When children have learning disabilities, parents may need to work harder at developing their children's self-esteem and relationship-building skills.

Life Skills for Rural Students

We live in an age of unprecedented levels of violence with constant threats posed by intolerance, fanaticism, dispute and discordance. Ethical action, peace and welfare are facing challenges. Under these circumstances, educating students and the public is a significant dimension of the long-term process of building up peace, tolerance, justice, intercultural understanding, and civic responsibility. School is one of the social institutions that nurture ethical development, inculcating values, attitudes and skills required for living in harmony with oneself and with others. However, education as practiced in schools often promotes forms of violence. So the need of the hour is to safeguard the individual first and then the group from social disharmony, destruction of social fabric, conflict, religion and fundamentalism by imparting Life Skills Education to rural students. Life Skills Education is a social vaccine to rural students that helps them act meaningfully and reflectively and is defined as the skills, abilities and positive behaviour that enable individuals to deal with the demands and challenges of everyday life. These abilities facilitate physical, mental and emotional well-being of an individual (AEP, 2008).

The State Training Centre in Pondicherry, in collaboration with HIV Society of India, has organized one-day Life Skills Education programmes for rural students to highlight the importance of life skills and how these life skills save the rural students from the dangers of social and political

disharmony. Role play competitions were organized among the secondary school students and six students were selected in the semi-final that took place in Tiruvandrum, Kerala and participated in the final competition, conducted in New Delhi.

The students in schools should be trained how to make use of these life skills in various situations to safeguard themselves from the perils of social disharmony. In this regard, role play can be introduced in schools and colleges in order to use those skills in simulated situations.

Language Labs for Communication Skills

Speech skills are more important than any other skill, such as listening, reading, and writing, and this skill is gaining momentum in corporate sectors in India that offer lucrative careers in IT industries. Post-secondary education should aim at the development of speech skills among higher secondary school students.

With a view to improving speech skills, RMSA should take steps to establish language labs in rural areas to provide training in communication and other soft skills to rural students. The District Centre for English (DCE) in Pondicherry has conducted 3 workshops to identify the ways and means to make the rural students speak English. As an outcome of the workshop, MLL in Spoken English, small pamphlets that consist of 150 practicable English sentences for rural upper primary school students were issued.

Mobile Habitational Learning Centres for Rural Students

In ancient India, education was confined to a particular social group and restrictions were imposed on others for socio-political reasons. With the help of social reformation and new regulations, education was made open to all sections of people in the latter period.

In India, computer education has been gaining momentum. This is due to the rise of the global market and the subsequent lifestyle changes this has brought to many Indians. It is quite apparent that rural students are more deprived than urban students in all respects. This academic disparity between the rural and urban on the one hand and digital disparity on the other hand will create many stumbling strictures in the development of the nation. There is a huge digital divide between urban and rural India and a real danger that the information technology revolution sweeping the globe will bypass rural villages in India. Access to the Internet and related technologies is still a mirage for rural children.

Communication technology has immense social implications. It is concerned with every aspect of human life, such as education, environment, health, safety, quality of life and so on. The contribution made by communication technologies has been decisive for the socio-economic progress of every people.

Keeping in view the above-mentioned scheme, the concept of a Mobile Habitational Learning Centre has emerged to proliferate knowledge of information and communication technologies among the disadvantaged rural students in order to minimise the digital divide. The Union Territory of Pondicherry has pioneered the concept of the mobile library, mobile audio-visual unit, mobile soil research unit, etc., for the welfare of the citizens of Pondicherry. In the same line of thought, the Government of India may navigate Mobile Habitational Learning Centres for the welfare of rural students. In this regard, a specially designed mobile truck fitted with 15 - 20 computers and staffed with co-coordinators and a few teacher-educators visits rural areas according to a schedule. The goal is to improve the proficiency of rural students through computer assisted learning, using educational CDs in science, spoken English, English Grammar, General Knowledge, story-telling for moral development, subject CDs on e-learning principles for X and XII students, CDs for All India Medical and Engineering Entrance Examinations to teach all categories of children. The above mentioned CDs, which are either complementary or supplementary to the prescribed texts, are carefully procured to cater to the needs of the children by a group of experts. This mobile unit, a new intervention strategy, will bring the children to the fold of education and moral values. Moreover, the visit of the mobile unit to the specific area as per the schedule will undoubtedly increase the awareness of the parents about their children's education and at the same time children's education at the habitational learning centres will improve classroom performance in turn.

Way to Success Programmes for Rural Students

The State Training Centre, attached to the Directorate of School Education, Pondicherry introduced one-day “Way to Success Programmes for Rural Students in different places to score more marks in the SSLC Public Examinations.

In this programme, five subject teachers and one career counsellor will visit the schools to speak to the students about study skills and study habits, including some psychological techniques to be used while writing examinations. Since the resource persons are highly experienced teachers in their respective fields, they guide and motivate students to have confidence, wiping out unnecessary exam fear from their mind. Each subject teacher will talk about their subject in one and a half hour duration by taking into

consideration of question banks, blue prints and other source materials. While teaching, some resource materials and keys for the questions will also be distributed to them along with stationery materials. After subject teachers' discussions, the career counsellor will talk about a few approaches that could be helpful for rural students to score more marks with ease and confidence. He will deliver on the following topics also.

- How to score more marks in School subjects?
- How to eliminate fear of the examination from students?
- How to become Toppers in the Public examinations?
- Concept of Time Management in the examination
- Diet system at the time of examination

Following the departmental activities, media also have come forward to organize these courses for rural students. Dinamalar, a Tamil Daily, All India Radio and Doordarshan, Pondicherry periodically organize Way to Success programmes every year for the benefit of rural students, facing public examinations. Question and Answer sections have been introduced in Tamil Dailies for each subject and are published periodically, which has received an overwhelming response from rural masses.

Career Guidance for Rural Students F2F Mode

In the months from January to May of every year, universities, groups of colleges in Tamilnadu and other NGOs organize career guidance programmes for students. Here they are informed what they can do after their school education. In addition to pamphlets and brochures, experts at high education levels are usually invited to deliver lectures on various career topics. Mostly, they talk about Medical and Engineering education focusing on urban students and they do not talk about the value of the pure sciences, which are available in the local colleges.

It is understood that rural students are neglected and that their career based needs are not fulfilled from this kind of campaign. Hence, the State training centre, attached to the Directorate of School Education, has been organising career guidance programmes for rural students since 2002. Career guidance programmes were organized in various rural areas covering both SSLC and HSc students in Pondicherry and Karaikal regions. NSS, Nehru YuvaKendra and NGOs also joined hands to create awareness of various career information by organizing similar programmes for rural students. The following topics are discussed with rural students and parents. Oral discussion and question answer method were used for interaction. With the help of the career posters designed by the experienced counsellors, students

and parents were educated on career and course matters and then they are encouraged to ask questions on expenditure break-up, standard colleges, application process, etc.

These interactive and participative methods were highly useful to gain more information without shyness and fear on the part of the students and parents living in rural areas. The following topics are discussed in general:

- Students' motivation
- Professional courses
- Non-professional courses
- Courses for Commerce students
- Courses for Social Sciences students
- How to sustain motivation in studies
- How to become Toppers in the Public Examinations
- Courses for Women Empowerment
- Guidance for Civil Service exams
- How to take an exam without fear and anxiety

ANALYSIS

The major problem affecting the present system of education in India is its lack of direction. Indian education has become a slave to economic development with the result that most students view their education as a means of entry into the economic market, especially IT industry (Mohajer, Sahoyal, 2003). Sahoyal's statement became true when the researcher conducted a study on the selection of the courses for the higher study by the rural students. Two hundred and fifty (250) students who belonged to the backward district of Thiruvarur, Tamilnadu, were asked to respond to the following question.

Read the following list of courses and tick any TWO you are willing to study in your higher education.

B.E. Agricultural Engineering
B.E. Hydrology
B.E. Irrigation
B.Tech. Rural Technology
B.Tech. Crop Technology
B.Tech. Diary Technology
B.Tech. Computer science and Engineering
B.Tech. Electronics and Communications
B.E.Mechanical Engineering
B.Sc Agriculture
B.Sc. Forestry

B.V.Sc Veterinary Science
B.F.Sc. Fisheries Science
B.A.M.S Indian Medicines
B.Sc Geology
B.Sc. Plant sciences
B.Sc. Para-medical courses

M.B.A. Rural Management
M.Tech Rural technology

More than 85 per cent of the rural students opted for computer science and IT subjects and 8 per cent of them opted for Indian medicine. It is disheartening to note that none of them selected rural based courses, even though they belong to rural areas.

Parental Counselling

Man needs guidance in all spheres of his life. Students and parents should get awareness on the importance of education and its impact on others. In order to achieve the objectives of the guidance, Parent Teacher Association (PTA) and Mother Teacher Association (MTA) Forums may be organized to discuss academic and non-academic matters of their wards. In this regard, Directorate of School Education has to train the parents in the field of educational psychology and life skills areas for better results. This will help them to understand their wards with sympathy and come forward to discuss with the teachers in the counselling unit. Counselling units in schools should develop a school climate conducive to the growth of moral values (Downey, & Kelly, 1978).

Parental counselling meetings are arranged during pre-examination and post-examination periods to discuss the performance of their wards. The contributions of parents to their ward's educational achievements are discussed in detail with clear examples. The role of literate parents and the role of illiterate parents to provide support in the academic and non-academic matters of their wards is also discussed to make them realize the value of study.

It is universally known that family is the first school and that mothers are the first teachers of preliminary concepts to children. According to Bharathithasan, the national poet, "Education imparted to a woman in a family is equivalent to the education given to all the members of the family". The great philosopher Confucius also said that with a greater emphasis on family that if you want to improve your society, improve your family. In the home environment, the mother has a more influential role than the father in developing the following: rudimentary knowledge of education, discipline,

orientation towards better study habits and behaviour, understanding ethical and moral values – to make the children become better citizens of a country.

- Mothers should be properly counselled on how to assist their children in academic matters
- Gender specific educational motivation of the parents should be discouraged
- Career Exhibition may be organized both for students and parents to gain information about studies
- Periodical pamphlets and related literature about career options and decision-making regarding the selection of education should be distributed.
- Establishing Information Resource Centres for rural communities
- Showing films depicting the importance of education to village parents

Telephone–Mediated Career Guidance Scheme for Schools and Collegiate Students

With a view to increasing awareness on career and course information at higher levels of education among the school and collegiate students, the project "Telephone-Mediated Educational Guidance Programmes was launched in Pondicherry on 7 January 2009. Dr. M. Doss, author of this article, designed this project and it was navigated to the public use in collaboration with the Pondicherry Women's Commission with the following objectives:

1. To create awareness on course choice and career choice after SSLC and HSc via telephone among the school and collegiate students.
2. To guide them how to study and how to score more marks in the Public examinations.
3. To help them get necessary advertisements/applications for various studies and posts for their future development.

This scheme is a boon to urban and rural students who can clear their educational and career doubts by raising questions over the phone to the project coordinator. Students or parents may raise the questions on the following areas: course choice, career choice, expenditure break-up, name of the standard colleges, cut-off marks for each discipline, study habits, study skills, scholarships and fellowships, personal life skill problems, particulars about competitive examinations, entrance examinations, particulars on distance education, and other educational rules. The willing parents and students may raise questions twice a week: on Wednesdays from 6:00 p.m. to 8:00 p.m. and on Saturdays from 9:30 a.m. to 12:30 p.m. Those who would like to ask questions on other days may write their questions on paper

along with a telephone number and put it into the QUESTION BOX kept at the entrance of the Pondicherry Women's Commission. A reply will be sent to the student concerned within 24 hours. The students may use the following phone numbers for conversation: 0413-2201154; 0413-2254092 and e-mail ID to communicate academic and non-academic problems: pwc_careerguidance@yahoo.in; dcedoss@yahoo.co.in.

This is a pioneering attempt to keep the students informed about courses and career choices and the first time it is launched in the UT of Pondicherry. Initially, urban students were asking questions on choice of courses at higher education and related cut-off marks, but then, after advertisement through media, rural youth, parents and students of rural areas raised a volley of questions over the phone. Some of them requested to conduct F2F counselling especially for girl students in rural areas.

For a two-year duration, the project coordinator received 1856 phone calls from Pondicherry and Tamilnadu regions out of which 879 calls came from rural areas asking about higher education, cost factors, places of study, and rankings of the colleges and the cut off marks for professional courses. Some parents visited the tele-mediated centre with their sons and daughters to discuss problems relating to study and delinquency.

Pre-Examination Coaching Centres

The world we live in is highly competitive and challenging. Mere school education will not provide competitive skills to face the future. Consequent upon this, the Government of Pondicherry introduced Pre-examination coaching centres for school and college students in 1980. Both rural and urban students were admitted for various courses, such as JEE, AIEEE, AIIMS, JIPMER and other competitive examinations including civil services. More than 30% of the students were rural whose parents were highly motivated to educate their wards by any means.

As per the action plan, the students were selected from entrance tests with MCQs and classes were conducted during weekends: Saturdays and Sundays and other terminal holidays with the help of the experienced faculties from universities and colleges. The impact of the coaching centre was very high, when students got selected for various professional courses in India and Pondicherry without any expenditure being incurred from the family budget. It is significant to note that there were no coaching centres in those days in Pondicherry. In the course of time, other agencies started private coaching centres and they started to devour the fame of the government centre on various unfair means, which led to closure of the centre ultimately. After liquidating the centre, parents who belonged to middle and lower middle classes were not able to pay the exorbitant fee for

the private coaching centres. It is high time the Government of Pondicherry took steps to revive the coaching centres for the welfare of the rural students in particular and urban students in general.

Establishment of Residential Schools for Girls in Rural Areas

The Kasthurba Gandhi Balika Vidyalaya Scheme (KGBV) is a visionary initiative as it is one of the first conscious efforts in post-independent India designed for enrolling girls from rural and marginalized groups at the block level. The KGBV runs residential schools for girls from SC, ST, OBC, and BPL in North India especially in Himachal, Uttar Pradesh and Rajasthan. It is also spread in different regions of the country and in the Educationally Backward Blocks of 27 States and Union Territories. This kind of establishment should be recommended in rural areas in order to encourage girls' education because parents and society have numerous restrictions in connection with girls' education. Any rural family that lives below the poverty line may send their daughters to the free residential schools established either at Taluk level or at District level.

In Pondicherry, even though other centrally sponsored schemes have been introduced, the KGBV scheme is completely neglected in all the four regions for unknown reasons. One cannot say that there are plenty of hostels in Pondicherry for girl students, other than the Social Welfare board hostel and Adi-Dravidar Welfare Hostel, which could admit marginally less number of girls from rural areas. In order to enhance girls' enrolment in schools, the government of Pondicherry should commit to establishing 5-7 KGBVs in the Pondicherry region and 2 each in the regions of Karaikal in Tamilnadu, Mahe in Kerala and Yanam in Andhra Pradesh. Proper and timely education of girls will prevent the following:

- Early marriage
- Drop-out rates in education
- Familial conflicts
- Pregnancy at an early age

Transport Scheme for Rural Students

The government of Pondicherry has launched a "one-rupee bus facility" scheme for rural students who are studying in city schools and colleges. Mobility is the critical need of rural students that involves money and time factors. Rural parents are not able to spend Rs.25 to 30 for transportation every day, even though they make their wards ready for schooling in the early hours of the day. This problem leads to an increase in the dropout rate, lowers the rate of enrolment in higher education in urban areas and increases the selection of unfair institutes and the rate of early marriage of girl students.

In order to lend a helping hand to the parents, the government of Pondicherry introduced this one-rupee bus scheme in 2009 for the welfare of the rural students. Buses are operated from nine Commune Panchayats as per the school and college schedule both in the morning and evening, and one rupee is collected from students as charge. There are separate buses for school students and college students and a few separate buses for grown-up girls studying in city colleges and universities. The minimum distance to be travelled for one rupee is 4 km and the maximum is 36 km.

Regarding this bus service, 45 to 50 students were interviewed randomly. Previously, only rural parents with moderate family backgrounds and educational awareness had sent their wards to urban schools, but after the advent of the transport scheme 25-30 per cent of the parents sent their wards to urban schools and colleges. Some parents opine that the safety of their wards is higher, since students are sent to schools in government-run college buses.

FINDINGS

- Pre-vocational training centres, as they created indelible impact on students and society, should be revived in the so-called rural areas and there should be provisions to Junior Technical schools (JTS) and senior technical schools (STC) in the rural areas.
- Since rural students who have economic barriers are unable to pay exorbitant fee to private coaching centres, the Government has to take immediate steps to re-organize Pre-Examination Coaching Centres in Pondicherry.
- Career guidance to rural students should be imparted to them periodically (i.e. twice a year).
- Symptoms for all kinds of disabilities should be converted in the form of posters and be distributed to the rural schools for pasting on the walls.
- Mobile library and Mobile Habitational Learning Centres should be operated for rural students and those mobile centres must visit the rural centres periodically.
- Training and skill development programmes for rural students should be the prime targets of rural reconstruction.
- Telephone-Mediated Educational Guidance Centres should be established to get information about course and career information for parents and students.
- Vocational courses at higher secondary level should be based on workshop modal not on paper-pencil model, such as commerce and insurance.
- Girls Hostels under the scheme KGBV should be constructed to enhance the enrolment of rural girls' education.

- Time management, stress management, and some psychological techniques should be developed among the rural students and youth through organizing training programmes.
- Language Laboratory for developing communication skills for rural students should be introduced in rural areas so they can compete with urban students to get jobs in the corporate sectors.
- Life skills training for rural students are the need of the hour to lead a safe and secure life.

CONCLUSION

Various good practices through domestic policies are highlighted, which are already implemented in the UT of Pondicherry, and some schemes were theoretical papers yet to be implemented for the welfare of the rural students. Rural citizens are often considered to be politically marginalized and have little capacity to influence policy making and implementation. The training policy for rural areas needs to be focused to take into account and benefit from the wider reform of technical, vocational and skill-based training.

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CHAPTER SIX

RESEARCH ON AGRICULTURAL COLLEGE SCI-TECH TEAMS' SERVICE FOR THE BUILDING OF NEW COUNTRYSIDE IN CHINA

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INTRODUCTION

Since the building of China's "New Countryside" is a huge, systematic project, its implementation and operation is one of the important parts in the course of achieving the goal of a well off society. However, compared to the scientific and advanced long-term goal of a bright future, the current situation of rural areas is not optimistic in the following aspects: the development of economy and society, the quality of the population, infrastructure, and so on. There is a gap between the goal and the current situation, which has some negative impacts and delays the implementation and operation of the building of New Countryside. Under the leadership of the Chinese government through joint efforts with the whole society, the gap has been narrowing in recent years, with simultaneous progress of the building of New Countryside.

At the critical point, it is increasingly important to tackle the problem of how to get support from all members of society to serve the building of New Countryside, especially for agriculture-related colleges and research institutes. Construction of an agricultural sci-tech team is an unconventional project, which has been put forward during actual practice. A sci-tech team has played an unbelievable role in coping with the "Three Rural (agricultural, rural area and farmer) Issues" and serving the building of New Countryside, which reveals a unique spirit and power and is the highlight of this research project. The construction of a sci-tech team may involve many subjects at different levels and with extensive contents, including the relevant professional personnel, the application and extension of scientific research achievements partially or wholly into rural work, the rural carders and the villagers, the job innovation of agriculture-related colleges and research institutes and the like. The primary aim of the research project is to strengthen and improve the above-mentioned jobs and ultimately to boost and accelerate the building of New Countryside.

As for the work in recent years, it is quite effective for the agricultural sci-tech team to conduct research on how to boost the building of New Countryside, and it is of great significance for sci-tech team to improve the population quality in rural areas, to enhance the development of our social and economic construction, accelerate the transformation of scientific research achievements, to promote team members' service abilities and display the social service functions of agriculture-related institutes and organizations.

SIGNIFICANCE OF ESTABLISHING AGRICULTURAL SCI-TECH TEAMS

Under the leadership of the Chinese government, China has made marvellous achievements in the building of New Countryside. With joint efforts from the whole society, some substantive progress has been made in solving the problem of agriculture, village and farmer. When the agricultural productivity and farmer income are increased and rural economic development is promoted, there are some issues to be seriously studied on how to develop the innovation functions and how to boost and accelerate the building of New Countryside. To effectively tackle such issues, Chengdu Vocational College of Agricultural Science and Technology (CDCAST) has made good use of current scientific and technological manpower of its own to construct sci-tech teams (Zhang, 2006), and has made great efforts to give full play to innovation functions (Jia & Yan, 1993; Zhang, 2006) in research and practice. In that way the college not only serves the building of New Countryside and the development of rural economy, but also promotes scientific research and technology promotion and raises social influence.

FORM AND METHOD OF ESTABLISHING AGRICULTURAL SCI-TECH TEAM

According to the Team Role Theory (Belbin, 2001), construction of a high performance team involves the following elements: 1) A complete range of roles. Only with a complete range of roles can a team give full play to its functions. As a successful team, its membership should combine at least 8 roles with comprehensive balance. These roles are of implementer, resource investigator, coordinator, monitor evaluator, shaper, team worker, and completer/finisher; 2) Principles of suitability. When constructing a team, it is crucial to consider the characteristics of each member, which should follow the principles of suitability from the inspective of Team Role Theory; 3) Respect differences. Chances are slim that there is an ideal candidate who can independently accomplish one given job as expected, but a scientific and rational team can make it for it can realize mutual compensation of advantages to win popular support and gather more strength cooperatively instead of individually; 4) Flexibility and immediate supplement. To

construct a successful team, it is necessary to create an atmosphere characterized by collective discussion, co-decision, mutual responsibility, democratic management and self-supervision, which is the key difference from the traditional organization of common groups.

Agricultural Scientific and Technological Expert Courtyard (ASTEC)

As a new extension pattern of agricultural sci-tech, ASTEC has become the main form serving the rural development. Nowadays, after investigating planting, breeding and tourism resources, CDCAST, taking the advantages of farming specialists and their technologies, has established Shuangliu County ASTEC with 3 branches: Huayan, Hongbei and Yongxing. Each ASTEC is composed of over 10 experts, in or out of college, led by one chief expert, who is responsible for the management and transformation of the scientific and technological achievements in Huanglongxi Town, Jitian Town and Yongxing Town of Shuangliu County. According to the principle of "one variety for one village; one industry for one town", ASTEC, adopting recycling technology, has made remarkable achievements in introducing new varieties and new technology demonstration and has founded an exemplary base for technique standardization. For example, Huayan Branch has gained distinct achievements in the projects of orchard operation, woodland scatter-feed Fenghuang Chick and purification and rejuvenation of Erjintiao Pepper, from which the average annual income increased greatly, over 500 RMB more than those not participating in these projects in the same town. ASTEC has become the exemplary base for transformation, promotion, driving and influencing functions of science and technology, and it has provided a powerful support with technology and talent to serve the building of New Countryside. Moreover, it has also created conditions and built up a platform for team members to conduct research and apply their technologies.

Scientific Research Project Team

In order to construct a production-related sci-research team, CDCAST insists on the orientation of scientific research and especially supports the team-centered project teams to apply for and conduct relevant research. A basic hypothesis of Team Role Theory is that teamwork is helpful to bring each member's specialty into full play. Team members are able to get well-trained and improve their scientific research abilities. For example, our college established a research project for "Breeding of Cyan-Foot White-Feather Chicken." It constructed a team, headed by an associate professor, whose members comprised several young teachers with and students. Since the project was carried out, the team has made a notable effect in conducting research and achieved resource integration. As for this, the exemplary base has become the highlight because it has greatly increased economic benefit and helped the young teachers to improve ability and the standard of scientific research, as have the other scientific research teams.

Anti-poverty Project Team

Since 2007, CDCAST has undertaken the tasks of anti-poverty project of science and technology in Maoding Village of Huaikou Town in Jintang County of Sichuan Province. To ensure Maoding Village to increase the agricultural productivity and farmer income, over 10 teachers majoring in planting and breeding constitute an anti-poverty project team. The team, headed by vice-president of CDCAST, selected and recommended scatter-feed chicks, Taiwan Balsam Pear (Mao, 2008) and sweet-waxy maize. Some service activities were conducted by the experienced experts, including technical training, services, guidance and consultation. Through joint efforts, the team made a significant impact on economic and social benefits, which has made a great contribution to the economic growth of Maoding Village. Each member has improved every time they solved problems in agriculture production. The other anti-poverty project teams of CDCAST all have done well in Shuangliu County, Qionglai City, Liangshan Prefecture of Sichuan Province.

Sci-tech Special Commissioner Team

In order to bring the advantages of sci-tech talents into full play and proactively serve the building of New Countryside and modern agriculture development in Chengdu City, CDCAST selected experienced experts and scientific and technical personnel to form a Sci-tech Special Commissioner Team, whose members are mainly from the following specialties: agronomy, horticulture, animal and veterinary, crop protection, vegetable, aquaculture, etc. Its primary task can be described as follows: 1) to investigate the current agriculture-related situations of every district (or county) under administration of Chengdu Municipal Government, and to survey the urgent issues relating to agriculture technologies; 2) to find opportunities to collaborate with leading enterprises, economic cooperative organizations and large-scale producers during contact and communications; 3) to participate in the transformation of 100 scientific and technological achievements held by Chengdu Academy of Agriculture and Forestry Science, to direct the extension of new plant varieties and new technologies, and provide a powerful support for technology and talent so as to speed up the local economic development. This team has still been serving the modern agricultural development of Chengdu.

Agriculture Production Technology Service Team after May 12 Quake

After the Wenchuan earthquake, CDCAST organized a team to help the people in the quake-hit areas to restore and develop production. Team members were mainly from farming, architecture and the relevant specialties. They were assigned to the quake-hit areas, such as Chengdu, Ya'an, and Xichang, to investigate the situations of agriculture production. After careful

discussion based on the actual situations of producing season and industry structure, they recommended some new corresponding varieties and technology to help them restore and develop production. Moreover, some members made assessments on damaged buildings and put forward some suggestions on helping the local people and enterprises to rebuild the houses or workshops, which was greatly helpful to solve those urgent problems.

RESULTS

The research and practice in recent years shows that CDCAST has made great achievements in the building of Sci-tech Teams. With the joint efforts of all the team members, the teams have achieved effects, especially in increasing the agricultural productivity and farmers' income, promoting rural economic development and accelerating the building of New Countryside.

Science Research Projects

During the extension of agriculture technology, sci-tech teams were encouraged to apply for scientific research projects at all levels closely related to agriculture, farmers and rural society. There are more than 6 research projects proposed since 2008, such as *Research on Construction and Operation of ASTEC in Huanglongxi, On Cultivation and Extension of Jiulong Gongting Fenghuang Chicks* (both sponsored by Shuangliu County Bureau of Science and Technology), *Exploration on the Mode of Production, Teaching and Research based on ASTEC* (sponsored by Center for Sichuan Educational Development and Research), *On Extension of Purified- and Rejuvenated-Erjintiao Peppers, Study on Cultivation and Extension of Cyan-Foot White-Feather Chicken, Research on Cultivation and Extension of New Peach Variety, On Cultivation of High Quality Wheat Varieties* (sponsored by CDCAST), etc. With the great effort of these years, sci-tech teams have introduced over 20 new plant varieties, 16 vegetable varieties and 3 fruit varieties to Shuangliu County, Jintang County, Liangshan Prefecture. Meanwhile, they have offered 10 new technologies.

Improving Scientific and Technological Quality of Farmers by Sci-tech Training

Sci-tech Teams have made ASTEC and each base the window of CDCAST to the outside. According to the implementation scheme of ASTEC in every base, corresponding sci-tech trainings were conducted to farmers in the period of production preparation, producing, and post-production. Farmers participate in training on planting and culture techniques, vegetable planting and flower breeding. Pertinent training is an effective way to improve scientific and technological quality. In recent years, sci-tech teams have run agricultural sci-tech training classes more than 80 times in Shuangliu County, Jintang County, Qionglai City and Zhaojue County of Liangshan Prefecture.

More than 20,000 people took part in the training, with 10,000 training materials distributed. As a result, CDCAST was successively rewarded a series of honorary titles on farmer training, especially on sci-tech training.

Great Achievements in Extension of Scientific Research Achievements and Anti-poverty

The Erjintiao Pepper, a well-known variety at home and abroad, was regarded as the key product in Mumashan of Shuangliu County. In view of the problems of serious degeneration in Erjintiao Pepper planting, Sci-tech Teams conducted a research program to purify and rejuvenate Erjintiao Peppers. After purification and rejuvenation, the variety is of good quality and high yield with high marketability, which bring 1000 yuan RMB per 667 m^2 more than the ordinary ones.

In Huayan Village and Xiangshui Village of Huanglongxi, Sci-tech Teams recommended *Jiulong Gongting Fenghuang Chicks* bearing in the orchard, while *Cyan-Foot White-Feather Chicken* scatter-feed in the woodland and orchard was introduced into Maoding Village of Huaikou in Jintang County (Mao & Zhou, 2008).

In Huanglongxi Town, ASTEC experts went to 8 villages to conduct special sci-tech training and helped some of them to be the model households so as to lead more farmers to learn and apply for the new sci-tech knowledge. By the end of 2007, there were more than 20000 Fenghuang Chicks in the whole town with 10 hectares of orchard, and no pollution was caused by feces, which were recycled successfully. The total output value of chick reached nearly 4 million RMB, with a profit of more than 1.5 million RMB. In 2008, production scale was expanded in Huayan and Xiangshui, husbandry farmers of the two villages sold out more than 80,000 Fenghuang Chicks, which realized a total cost of more than 4 million RMB, with a profit of more than 1.6 million RMB, 20 RMB per chicken. In 2008, sci-team introduced Cyan-Foot White-Feather Chickens to Maodingshan Village in the anti-poverty project (Mao & Zhou, 2008), and there were over 150 households raising more than 25000 chickens with a total value of 1.2 million RMB. Together with the values of Taiwan Balsam Pear and sweet-waxy maize, the annual income per capita increased by 1170 RMB. Since 2011, 16,000 high-quality chickens developed by us have been introduced into Jiaguan Town, Qionglai City and Sanxing Town, Shuangliu County, with an output value of over 1.6 million RMB. In Zhaojue County, 10,000 young peach trees and 7,000 Cyan-Foot White-Feather Chickens were introduced.

All of the above-mentioned projects attracted so much attention as to be reported by China Education TV, Sichuan TV, Liangshan TV, Chengdu Daily, Sichuan Sci-tech Newspaper, Sichuan Farmer's Newspaper and so on. There were many consultations on chicken varieties and culture technologies, by mail, telephone and in-person, from other parts of China, such as Guangzhou, Guangyuan, Liangshan, Panzhihua, Chongqing and so on.

Designing and Planning of the Agriculture Science and Technology Park

It is one of the many duties of CDCAST to serve the building of New Countryside and the development of modern agriculture in Chengdu. Sci-tech team experts proactively responded to the development plan of Chengdu, and made some deep investigations into the situations of rural economy development and industry structure. Taking advantage of conducting sci-tech service in the countryside, sci-tech team experts put forward some suggestions on how to design the agriculture science and Technology Park, and proposed advice on how to build a sound New Countryside. Between 2009 and 2010, sci-tech teams helped two villages to make adjustments to Construction Schemes of New Countryside and assisted two towns in making plans for an Agriculture Science and Technology Park. These plans were highly praised and adopted by the local governments.

Publications of Sci-tech Teams' Achievements

Based on the actual situations, sci-tech teams met the requirement of farmers to compile 9 training textbooks, such as *Poultry Raising and Disease Control, Swine Raising and Disease Control, Forage Cultivation and Processing Technologies, Agricultural Marketing and Practical Skills*. The series of books were rewarded the first prize in the election of excellent textbooks of Rural Training Sunshine Project sponsored by Chengdu Municipal City. One training textbook, *Forage and Breeding*, was compiled for the quake-hit areas and won a Grade Three Prize at a Chinese national contest of agricultural vocational education achievements for playing a good role in popularizing and promoting new agricultural technologies.

Based on the survey and research in serving the building of New Countryside, sci-tech team members have published a series of academic papers, such as *Run Agricultural Expert Courtyard Well to Promote Combination of Production, Education and Research, On Making Contributions on the Rural Economy Development based on ASTEC, Agricultural Vocational Education Should Serve Construction of New Countryside Better, Practice and Study on the Social Service Function of Agricultural Vocational College in Conducting Rural Sci-tech Training, Taiwan Balsam Pear Successfully Grown in Maodingshan Village, A Success Has Been Made in Randomly Rearing Chicken in Maodingshan Village, High-quality Peaches Introduced and Produced Fruits in Maoding Mountain,*

Successful Experience on Randomly Rearing Chicken in Mountainous Area and a series of academic papers on the study of cyan-foot white-feather chickens.

CONCLUSION

Scientific research is the internal power of self-development of agricultural vocational colleges and agricultural research institutes. For agricultural vocational colleges and agricultural research institutes, the scientific research strength and academic level are closely related to the scientific research level and the amount of transformation of sci-tech achievements. With practice and research, it is concluded that colleges or institutes need the teachers and sci-tech personnel that have the ability to conduct scientific research work, for they are rich in professional knowledge and eager to be successful. More importantly, they have a strong innovative consciousness and cooperative spirit, which is urgently needed for an outstanding research team. As a result, it is of great significance for agricultural vocational colleges and agricultural research institutes to serve the rural social economic development, especially the building of New Countryside, as the most important part of future well off society. Undoubtedly, sci-tech teams have done some useful exploration for fulfilling the social service functions, solving the problems concerning "Three Rural Issues" and serving the building of New Countryside in China.

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CHAPTER SEVEN

EXPERIENCES AND IMPLEMENTATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) INTEGRATION FOR RURAL TRANSFORMATION THROUGH LEARNING PROCESS OF SMALL-SIZE SCHOOLS IN THAILAND

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INTRODUCTION

Section 39 of the 1999 National Education Act proposed that "the Ministry shall decentralize powers in educational administration and mangement regarding academic matters, budget, personnel and general affairs administration directly to the Committees and Offices of the educational service areas and the educational institutions in the areas" and Section 40, at education institutions, there shall be a board supervising and supporting the management of the institution. The school board shall be comprised of parent representatives, teachers, scholars, community and local administration organizations, alumni of the institution, Buddhist monks and members of other religious institutions in the area (ONEC, 2002). In terms of Thai Government policy, research was conducted to find out the results of decentralization from government policy to government educational institution in rural areas through eight stages, including: 1) the readiness of the educational institutions, 2) corresponding with law, rule, announcement, and the cabinet resolution, 3) the unity standard and education policy, 4) freedom of education administration and management, 5) focus of Community Participation, 6) the achievement of strong encouragement and flexibility, 7) increasing in quality and efficiency to educational institutions, and 8) decisions by institution administrators (Government Gazette, 2007). The Thai government provides an opportunity to educational institutions and schools to find out the levels of standard of power and resource decentralization through rural transformation in rural areas and make decisions to promote ICT integration through the learning process, especially in small-size schools in rural areas that have less than 120 students per school. In Thailand, there are around 13,185 small-size schools in rural areas and around 40% of schools under the Office of the Basic Education Commission (OBEC, 2006). Research found that one important factor for improving the quality of the teaching and learning process in small-size

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schools in rural areas is the need to apply and integrate ICT in a way that follows the same quality standard of educational institutions and schools that were under the Office of the Basic Edcuation Commission (OBEC).

This study aims to analyse and compare the implementation of ICT integration through the teaching and learning process in the classrooms of small-size schools in rural areas in order to recommend ICT integration policy for the improvement of schools, and to develop ICT integration indicators for small-size schools in the rural areas of Thailand.

PURPOSE OF THE STUDY

1) To study the current status and problems of small-size schools under OBEC in terms of strategies for rural transformation to develop teaching and learning qualities through ICT integration.

2) To analyse and compare factors in the desire and need for rural transformation of ICT integration innovation in different types of classrooms.

3) To recommend ICT integration policy as a necessity for rural transformation and to increase school potential and develop ICT integration indicators through learning and teaching process for small-size schools in rural areas.

PARTICIPANTS

Data was collected from 263 research participants who were administrators, members of the school board, and school teachers in small-size schools in rural areas in Thailand by means of questionnaires, informal school visits in 9 schools located in central, northern, southern, north-eastern regions of Thailand to observe ICT Integration-based classroom observations.

CONCLUSION AND DISCUSSION

Policy Input for Policy Formulation

According to quantitative data analysis, the research results found that the government promoted the integration of ICT in teaching and learning in the classroom at two levels, including 1) at the individual level and 2) at the institutional level. It has been concluded that the learning innovation was built from the individual beliefs, attitudes, and knowledge that were integrated with the organization support in term of the context of research. Therefore, the integration of ICT in the learning process that came from individuals, such as the educational institution administrators, school boards, teachers, students, and community, which included knowledge, belief, and

positive attitude about the research issue, in conjunction with the basic readiness of schools and the community (e.g. in budgeting, facilities, and code of ethics) increased students' learning achievements.

Most teachers and administrators had their knowledge at the moderate level from five point-rating scales: highest, high, moderate, low and lowest. Moreover, more than a half of teacher research participants were familiar with ICT integration. It was found that 56.65% of questionnaire responders had computers to use in their home, 53.02% of responders could connect to the Internet in their home, and 65.40% of responders learned the research issue on their own. Consequently, the Thai government should develop knowledge and skills of these school teachers to create learning innovation in their classrooms. In the second target, 93.16% of research subjects confirmed that they had direct experience using ICT integration in teaching and learning in their classroom. However, there were 10% of research responders who did not have experience promoting ICT integration in their classroom, due to range of age, work load, low level of interest and difficulty with the subject. Hence, policy makers should separate groups of teacher professional development in part of ICT integration in teaching and learning process in the classrooms.

In the quantitative data analysis, most research respondents were male (55.89%). Most questionnaire respondents were male teachers in the age range of 40-59 years old and were interested in ICT integration in small-size schools in rural areas in Thailand. In addition, research results have concluded that male teachers (age more than 40 years) are the leaders in ICT integration change because of two main reasons: 1) male teachers were more interested in ICT integration than female teachers, and 2) school teachers who had long teaching experiences tended to apply their ICT experiences.

According to individual and organization motivation levels of ICT integration in teaching and learning, the Thai government should set up policies to develop the quality of teachers working in small-size schools in rural areas in Thailand in these three aspects:

1) Some teachers do not have computers at their home. Thus, the Thai government needs to establish a project that will support these teachers, around 200,000 persons, to buy computer notebooks under the project "Notebook Computer Financial Leasing Project". These teachers must give their names to the Ministry of Education to ask for a soft loan from this project in the amount of 4,000 baht per person.

2) The Thai government needs to provide soft loans to teachers in small-size schools in rural areas in Thailand to buy computer and other ICT equipment in the amount of 10,000-20,000 baht per person through The Saving and Credit Co-operative.

3) Seventy per cent (70%) of classrooms in small-size schools that had computers did not connect to the Internet. Therefore, Thai government must invest and financially support the acquisition of computers, ICT equipment, distance learning via TV satellite education channel, such as True Corporation Education Channel, in cooperation with the private sector in terms of financial credit support, ICT equipment donation, financial management for educational institutions, and ICT system installation for small-size schools.

In parts of the questionnaire, interview and observation survey, at the classroom level there were 54.74% of small-size schools that managed teaching and learning class mixed with different grade class level such as classroom of grade 1-3, classroom of grade 4-6 and so on. At the school level, most small-size schools located in remote areas are at least five kilometres from the town centre.

Importantly, researchers suggested that school administrators set a variety of ICT integration options in small-size schools in remote areas, such as using CAI in teaching and learning process in the class linked with TV learning equipment, developed curriculum and learning assessment for students by using learning ICT projects through learning student group and innovative construction, managed subject curriculum and teaching and learning class mixed with different grade class level.

Table 1: Standard of Professional Development for Teachers in ICT Integration

Individual Standard	ICT Integration Indicators
1. Knowledge and Understanding in ICT Integration Standard	1.1 ICT training periods in each semester 1.2 numbers of meeting per year
2. Skills in ICT Integration Standard	2.1 numbers of ICT using hours in school 2.2 numbers of ICT integration hours in the class 2.3 numbers of ICT rewards
3. Problem Solution Standard	3.1 numbers of KM participations per week in school 3.2 numbers of contribution from ICT helpers of schools 3.3 numbers of ICT problem solution with students
4. Standard of Measure and Evaluation in Student Center Standard	4.1 numbers of ICT portfolio of students 4.2 Pre/post-test of Learning achievement in ICT project 4.3 Questionnaire survey in students' satisfaction

Table 2: Standard of Educational Institution in ICT Integration

Educational Institution Standard	ICT Integration Indicators
1. Promotion in ICT Learning Resources	1.1 financial budgeting to develop library 1.2 budgeting in TV/ distance learning through TV education program 1.3 financial Maintenance in ICT materials and learning resources and ICT system
2. Promotion in Community Participatory	2.1 numbers of parent who can access computer and the internet at schools 2.2 numbers of financial donation support from community in rural areas 2.3 numbers of universities/educational institution in higher education level that support schools in academics areas through academic services

The education service areas in Thailand should conduct ICT strategies in ICT integration for school teachers with networks through the different ICT activities, such as setting the ICT activities or ICT projects, Knowledge Management (KM) in academic and ICT knowledge, small meeting and sharing knowledge and experiences in academic activities.

The major goal of the National Education Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545[2002]) to motivate teachers to develop knowledge, skills, and attitudes has shown that:

1. Teachers must get knowledge, understanding, belief, and attitudes related to ICT benefits to support education context in changing the development of thinking process for students.

2. Teachers need to realize that the main responsibility and major duties of schools is to educate students and parents on use of ICT. Interestingly, schools could invite parents to participate in school meetings to construct a school vision for teaching ICT in order to generate thinking skills and self-constructed knowledge.

3. Most teachers should understand individual differences in ICT use, such as changing from working individually to working in groups and learning to manage time limits for searching for information on the Internet.

4. Teachers need to change from a teacher centred approach to being the learning facilitators in classrooms. Students could be taught and trained to be teacher assistants to decrease teaching working load for their teachers. However, teachers must take action in problem solving together with classroom students in form of collective problem solving. So, educational service areas need to consider teacher who is the role model in ICT using and working with students in collective problem solving that are familiar with using ICT rather than rely on only teachers.

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CHAPTER EIGHT

COMMUNITY MANAGED SCHOOLS (CMS): INITIATION FOR ERT IN NEPALESE EDUCATION SYSTEM

Milan Poudel, Room to Read, Nepal

BACKGROUND

Governments all over the world are introducing a range of strategies aimed at improving the financing and delivery of education services. Recently the emphasis of all countries is on improving quality as well as increasing quantity (enrolments) in education. Decentralization of the education system by increasing parental and community involvement in schools, popularly known as Community Managed Schools (CMS), is one of the approaches. CMS focuses on decentralization in decision-making authority to parents and the community fosters demand and ensures that school provides the social and economic benefits that best reflect the priorities and values of those local communities (Lewis, 2006).

These days, a major concern in education in Asia and the world is the decentralization of authority from the central education offices to individual schools, allowing schools to develop their own management policies: school-based management (Chapman, 2002).

The aim is to empower school principals and teachers, strengthening their professional motivation and thereby enhancing their sense of ownership of the school. In CMS, tasks are set according to the characteristics and needs of the school itself. The members of the schools have greater sovereignty and accountability for the use of resources to solve problems and carry out efficient educational activities. Each of these tasks is focused for the long-term development of the school. The teachers and parents, who become directly active with students, have the most informed and plausible opinions as to what educational arrangements will be most beneficial to those students. Moreover, the primary stakeholders are key actors who have the best information about what actually happens in schools and how it can be improved by using limited means.

The concept of CMS is new in Nepal. The government of Nepal is now testing its implementation in some of schools, but has not decided whether to implement all over the country or not. This paper tries to analyse the situation of CMS in Nepal and evaluates on the practicality of CMS system in Nepal.

COMMUNITY MANAGED SCHOOLS (CMS)

CMS as an organizational delivery model for schooling has been well documented in the literature over the past decade (Barrington, 1997; Brown, 1990; Levacic, 1998; Whitty et al, 1997; in Cranton, 2001). A worldwide shift of the education reform and school reform in the 1990s was towards decentralizing power down to the school level so that schools can make full discretional use of their human and other resources to provide quality education to students according to their own structural context. With this delegation of power, schools can make better decisions at the site level and set their own development plans according to their needs and characteristics (Robertson & Briggs, 1998). At the same time, schools have to increase accountability of their work to their stakeholders, including students, staff, parents, alumni, relevant school organizations and community members. Ideally, all these parties take part in school management and decision-making (David, 1989).

The CMS system began in developed countries, such as Australia, New Zealand, the UK and Canada in the 1980s and 1990s. Hong Kong introduced CMS in the early 1990s, followed by Thailand and Malaysia. International bilateral and multilateral agencies, such as UNICEF, the World Bank, the Asian Development Bank, USAID and AusAID, have been assisting the government in supporting, strengthening and extending CMS to include governance.

In the words of Malen et al (1990, p 290), "CMS can be viewed conceptually as a formal alternation of governance structures, that identifies the individual school as the primary unit of improvement. It relies on the re-distribution of decision-making authority as the primary means through which improvement might be stimulated and sustained." Carldwell (2007) states that a CMS system is the systematic decentralization to the school level of authority and responsibility to make decisions on significant matters for school operations with centrally determined framework of goals, policies, curriculum, standards and accountability. A CMS system is an approach in which decision-making is at the individual school level. It assists in empowering the parents and the teachers for their professionalism with special focus on the shared decision-making among key stakeholders at the local level (Murphy, 1997, p 39).

Wohlstetter (1995) says that the CMS system as a form of governance will not in itself generate improvement in school performance. It is simply a tool through which school-level decision makers can implement various reforms that can improve teaching and learning. It shows that a community management system confers the responsibility and decision-making authority of school operations to its principals, teachers, parents, community

members and sometimes even the students. Though they are responsible for the management of the school, they need to operate within the set of policies determined by the central government. This system generally transfers all responsibilities, such as budget distribution, hiring and firing of the teachers and other school staff, designing and developing the locally applicable curriculum, management of textbooks and other educational materials, infrastructure improvements and evaluating the teacher performance and student learning outcomes, with the guidance of central level guidelines.

Models of Community Managed Schools

Morph and Beck (1995) suggest that Community Managed School systems usually take one of three forms: administrative control schools, professional control schools, and community control schools. Except these types one more is still visible in which power is shared and utilized equally by school professionals and parent/community (Leithwood & Menzies, 1998, p 25).

Administrative Control Community schools are aimed at enhancing responsibility to the school principals for the efficient expenditure of resources, on the supposition that such efficiencies will eventually pay off for students. These efficiencies are to be gained by providing local school administrators/principals authority on the key decision areas, such as budget, personnel and curriculum. Supporters of this model argue that such power in combination with the motivation to make the best use of school resources ought to get more of the resources into the direct services of the students. The teachers, parents, students or the community representatives can also be consulted informally for assisting to achieve the objective. To help the principal in decision-making, site councils are established.

In Professional Control Community schools, teachers control the management of local schools aiming to make the better use of their knowledge in key decision areas: budget, curriculum and human resources. The belief of this model is that professionals who are closest to the students have the most relevant knowledge for making decisions. Complete participation and authority to the teachers in the decision-making process will increase their commitment to implement whatever decisions are made because they are the ones who interact with the students for delivering the knowledge (Hess, 1991).

Community Control schools are established to make parents accountable and satisfied since they are the customers of the school. The basic assumption giving rise to this model of community managed school is that the curriculum of the school ought to directly reflect the values and preferences of parents and the local community (Ornstein, 1983). The supporters of this model claim that the school professionals are not as

responsible to such local values and likings as they ought to be. School councils in which parent/community constituents have a majority of the membership are the primary instruments for the exercise of such power. There is, however, another focus of community control in which parents are given a choice of schools, the most direct form of accountability by schools to the community.

A Parent and Teacher Control (Balanced) school model attempts to accomplish the purposes of both community control and professional control forms of CMS. It aims to make better use of teachers' knowledge for key decisions in the school, as well as to be more accountable to parents and the local community. Unlike the pure community control form of CMS, balanced control forms assume that professionals are willing to be quite responsive to the values and preferences of parents and the local community under conditions in which parents are in a position to act as partners with schools in the education of their children. It is assumed that both parents and teachers have important knowledge on key decisions about curriculum, budget and personnel. Site councils associated with this form of CMS have decision-making power and their membership is balanced between school staff and parent members.

Decentralization and School-based Management

Highly centralized systems tend to be bureaucratic and allow little flexibility to schools and local communities. Decentralized systems divert significant powers to the local level called self-management (Bush, 2003). Lauglo (1997, pp 3-4) connects bureaucracy with centralization and defines as follows:

> *Bureaucratic centralization implies concentrating in a central ('top') authority decision-making on a wide range of matters, …a ministry could make decisions in considerable details as to aims and objectives, curricula and teaching materials to be used, prescribed methods, appointments of staff and their job descriptions, admissions of students, assessment and certification, finance and budgets and inspections/evaluations to monitor performance.*

We can come with a number of solid arguments to clarify the introduction of CMS. It is more democratic, which allows teachers and parents to take decisions about an issue of such importance as education, which is certainly more democratic than to keep this decision in the hands of a select group of central-level officials. CMS is more relevant because it locates the decision-making power closer to where problems are being experienced. Local school staff generally understand their situations better than those at the central, administrative level. Decisions can be taken much faster if they do not need

to go through a long bureaucratic process (from school through several intermediary offices to the central level), which is possible in a CMS system. In CMS, the decisions can be made at the school level so that it is faster. The CMS system is more accountable to the focus group. It focuses the teachers to be accountable for the school results towards parents and the close community directly. Such accountability is expected to act as tool for greater effectiveness. Mobilization of the resources in CMS system is more reasonable and rigid. The parents and teachers especially will be more enthusiastic to contribute to the funding of their school using the locally available sources (Chautaut, 2005).

The CMS system is not easier to handle because the local people, including the school principal, might not have any training on educational management. Until and unless the management system is better, no promotion of an institution can be wished. Many management-related decisions, especially financing and staffing issues, are intricate and complex. Studies covering four OECD countries found that "principals were troubled by ethical dilemmas in all four countries and some reported an increase in the frequency with which they were confronted with difficult decisions in recent years" (Dempster, 2000, p 51). If the communities are not able to fund the school, a collapse of the school might occur. This can be an unwanted burden for the public and it is obvious that educational quality will decrease.

Autonomous schools and colleges may be regarded as potentially more efficient and effective, but depend much on the nature and quality if internal management of these potential benefits is to be realized (Bush, 2003, p 12). The effectiveness of CMS depends strongly on the responsibility that the school feels towards the community as well as pressure that the same community can exercise on the school.

COMMUNITY MANAGED SCHOOLS MOVEMENT IN NEPAL

The development of education in Nepal has a short history. During the prehistoric time religious schools, such as Gurukul (Hindu) and Bihar (Buddhist), with the characteristics of religious values were managed and funded by the religious community with their trusts. Most of the schools before 1951 were established and financed by individuals and communities. On the other hand, there were very few fully funded educational institutes from the government. In this way, school governance before 1951 was the responsibility of both the community and the state. Even though the people were not educated, people from different parts of the country started to establish new schools on their own initiatives. They did not wait for the government and took the initiative for establishing new schools and recruit teachers.

It can be said that the systematic development of education in Nepal started in 1951 after the establishment of Ministry of Education (MoE). In 1954, the government had formed an education committee, known as Nepal National Education Planning Commission (NNEPC), for the systematic development of education. Subsequently, several commissions were formed and reports were made available. However, education policy, planning, administration and management aspects were not made specific as compared to and in line with the expansion of the schools. In the past, it is seen that the people in the community have the sole responsibility of school governance with little support from the government. From the initiative of the community, several new schools were established in many parts of the community within a short period of time. Hence, most schools at the initial stage were community-initiated schools that received several types of contributions, such as land, funds, volunteer teachers, labour, and construction materials, from the community. Since the initiation was from the community, the community people were responsible for the management as well.

After the introduction of National Educational System Plan (NESP) (1971-1976), all community schools established earlier without any circumstances were brought under the direct control of the government which also shifted the governance role from the community to the central government. This plan was formed on the assumption that education is one of the prime functions of the state and, therefore, it received support and stimulation. This became an effort to implement a uniform system of education by nationalizing the educational institutions of the country. The feeling of the plan was that the educational system of a nation must be organized and supervised by the state itself. The Ministry of Education (MoE) planned to have solitary authority and responsibility for the management of all schools in the country carried out through its Regional Education Directorates (REDs). During this time, the National Education Committee (NEC) was formed to guide the central Ministry in its general policy and establish coordination between schools and higher-level education. Furthermore, it was for assisting the MoE in the easy implementation of the NESP and carrying out research and development functions. The school management committees were dismissed. The school supervision system was run through secondary and primary school supervisors. This centralized system of education could not manage thoroughly the local problems in terms of curriculum, resources, manpower and monitoring (Lamichhane, 1997).

As time passed, the educational system in Nepal also has been influenced by the evolvement of the CMS practice throughout the world. For administrative purposes, Local Development Act 1966 divided the country into 14 zones and 75 districts. The educational management was also

decentralized according to the administrative division. However, these structural administrative changes did not bring about any significant changes in educational governance (ibid., 1997).

After the Decentralization Act of 1982, the government granted authority and responsibility to the local village development committee for formulating and implementing local development plans. A system of block grants-in-aid was introduced in line with the government's commitment to meet the teachers' salaries for a fixed staff size so as to prevent indiscriminate hiring of teachers and also to encourage local resource mobilization by the schools. The management of public schools was thus handed over to the communities.

In 1990, the democracy was restored and the first elected government was formed. The government initiated several measures to expand the scope and participation of people in school management, but they remained less effective. Later on, the Government of Nepal amended the "Education Act" in 2001 (seventh amendment) and introduced the new "Education Regulations" in 2002. According to the amended version of the Education Act 2001 and regulations 2002, the government introduced major changes to the formation of School Management Committees (SMC). The guardians of the students were the members and they had the right to select or elect the SMC. In the history of Nepalese education development, this was the first time that community people were made responsible to government schools through the specific authority in the education act and regulations. However, the authority handed to the community was still fully under the control of the central administration. Thus, the SMCs became the administrators without any real power because the financing, curriculum, teacher selection, supervision and monitoring was still centrally handled (Lamsal, 2008).

After 2005, the government selected some schools as model-schools and handed over these schools to the community. The SMCs of the schools received a regular fixed amount of funding and a centralized curriculum from the central government, but the selection of teacher and staff, the school administration, supervision and monitoring became the responsibility of the SMCs. The government is adding the number of this type of community based model-schools every year (ibid, 2008).

In the remote past, Nepal almost exclusively relied on community-managed and, to a large extent, community-financed schools for primary education. However, those schools were not government schools. They were established and managed privately. During the time when the government became active in educational matters, community-managed schools were taken over with the anticipation of improving the overall quality of education through increased government funding and technical support. While there

had been an increase in government funding of the school sector after nationalization, the improvements in quality and efficiency of CMS lagged seriously behind the public expectation with comparison to the fund invested. It can be said that there was gradual erosion of governance, accountability and quality after nationalization of the school management.

The School Sector Reform Plan (SSRP) is a long-term strategic plan for the achievement of the goals and objectives of basic and secondary education. This is envisioned for the years 2009/10- 2015/16 by the Government of Nepal, Ministry of Education (MoE). It holds the key strategic interventions and estimated financial resources required to implement these strategies. For the continuation of the on-going programs such as Education for All (EFA), secondary education support program, community support program and teacher education project, SSRP is providing its input. SSRP also introduces new reforms characterized by strategic interventions, such as the restructuring of school education, improvement in quality of education and institutionalization of performance accountability. With these reform initiatives, the plan has placed emphasis on the access of the out-of-school populations and has guaranteed the learning of all children by raising efficiency and enhancing effectiveness in the delivery of services in the education sector.

The government's decentralization policy is gaining momentum and local governments are expected to play an increasingly bigger role in the planning and implementation of public services. The MoE identifies the role and scope of cooperation with local governments in the implementation of SSRP. Further, the MoE believes the annual planning process can be used as a vehicle for a regular assessment of the interest and capacity of local governments to take on new responsibilities in education service delivery as mandated by the policy and legal framework. However, until the local governments are able to handle the educational system independently, the existing system of management will provide the necessary framework for the implementation of the SSRP (MoE, 2009).

In the spirit of the decentralization, SMCs at the local level are entrusted to plan and monitor school activities through a school improvement plan. Schools prepare their improvement plan focusing on integrated aspects for their holistic development for five years. The SMC has the authority to allocate and use resources and hire and manage teachers. The role of government has been gradually shifted from a direct implementer to that of a facilitator by providing block grants based on the School Improvement Plan (SIP), Village and District Education Plans, and monitoring results of quality and access to education. In order to enhance the quality of education, steps like teaching license system, mandatory female teachers in preschool, at least one female teacher in primary level and a

school operation grant manual for a cost sharing in secondary education have been introduced to enhance quality and reduce the government's financial liability in education (CERID, 2010).

EVALUATIVE DISCUSSION

Community Managed Schools (CMS) are for the enhancement of the local society in terms of education. This process is not simple; enforcement of rules and regulations alone is not sufficient to make it effective and successful. It is a joint effort of policies implementation and empowerment of community and professionals. A key element to the successful operation of CMS is capacity development at the local level. Studies have shown that defining the responsibilities of the stakeholders, widening participation, developing professionalism of teachers, setting goals, evaluating effectiveness and developing characteristics of good schools are necessary for the implementation of CMS. For the community to participate, the following requirements should be present: (i) legitimate participation, (ii) knowledge and skill, (iii) power, and (iv) information and rewards. This is hardly the case in many communities, which puts in doubt one of the main beliefs of the advocates of CMS: that it will create a stronger accountability framework than the centralized management system.

In a CMS system, reform of administrative procedures and devolution of more authorities to schools in human resource management, use of resources and design and delivery of curriculum is sought. These measures are for creating more area for schools to develop quality education with their own unique characteristics. Nepal can adopt a CMS system, but the above-mentioned challenges require serious consideration. One important point is that the CMS system is not a magical solution for all problems, but this system is promoting Education for Rural Transformation (ERT) in Nepal.

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CHAPTER NINE

QUALITY EDUCATION THROUGH TEACHER DEVELOPMENT: KEY TO RURAL TRANSFORMATION IN INDIA

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THE CONTEXT OF RURAL DEVELOPMENT

The continued neglect of rural India in the post-independence development scenario has significantly reduced the contribution of this major region to the national development and has made the weak and powerless rural masses suffer from perennial poverty and deprivation. It was perhaps a deep concern for the lot of these masses that drove Gandhi to give the nation the great mantra that 'India lives in its villages' and that its development should be led by rebuilding its villages (Government of India, 1990). This mantra not only demands equitable attention to the development of rural and urban regions of the country, but also reminds us that for optimizing the gains and contribution of rural development needs of every sphere and section of the rural society would have to be fully addressed.

Rural India lives in approximately 638,000 villages, which are inhabited by more than 740 million people. However, it is a matter of concern that barring the First Five Year Development Plan, which mainly addressed the agrarian sector, succeeding Plans hardly devoted any special attention to agriculture, let alone the whole domain of rural development. The level of this neglect can be gauged from the fact that the cumulative expenditure in the States on rural development, as a percentage of total expenditure, has dropped from 7 per cent in 1992-93 to 4 per cent at present. Most states spend as little as 1.5 per cent of their total expenditure on rural development (Ashokvardhan and Vachhani, 2011). The immediate impact of poor rural development including low human capacity development is that the contribution of the agriculture sector to GDP has come to be the lowest (18% of GDP), as compared against the manufacturing (26.4%) and service (55%) sectors. A more equitable income distribution in the country requires more people earning their livelihood from the agriculture sector and less from the service sector. However, the reality on the ground is just the opposite.

The 18 per cent share of GDP comes from 58.6 per cent rural Indians through their agriculture and allied activities whereas less than 10 per cent Indians dependent on service sector contribute 55 per cent of the GDP. Due

to poor development of infrastructure and human resources in rural areas the annual rate of growth in agriculture is as low as 2.6 per cent (from a lower base of 18 per cent) whereas in the service sector this rate is 11 per cent (from a higher base of 55 per cent growth), which further increases inequality between the rural and urban regions (ibid, 2011) and becomes a matter of serious concern. The gapping hiatus in development between the rural and urban regions has, of late, made the Planning Commission concerned. In the Eleventh Plan document, the Commission observed that

> There was a widespread perception all over the country that economic disparities (….) between urban and rural areas, and between various sections of the community, have been steadily increasing in the past few years and that the gains of rapid economic growth witnessed have not reached all parts of the country and all sections of the people in an equitable manner and that this perception was well founded [and] was borne out by the available statistics on a number of indicators (Planning Commission, 2007).

Interestingly, India is not the only nation that has faltered on achieving egalitarian development of the country. In many other developing countries equitable development in rural regions is being neglected, which is depriving rural inhabitants of basic facilities and comforts of life that are available to their fellow citizens in urban areas. This reference to the skewed rural development in other societies, however, cannot in any manner be accepted as a justification for the unequal rural development in India. Big chunks of rural populations in developing countries are still struggling for their survival on account of the abject poverty and hunger they face, and owing to their lack of access to basic life supporting services, such as health, nutrition, safe drinking water, and basic education. It is said that globally there are: 840 million undernourished people; 1.5 billion people who live without access to safe drinking water; 860 million illiterate adults, more than half of whom are women; and 130 million out of school children. Within each of these groups the majority live in rural areas of different countries. In fact, more than 70 per cent of the world's poor are rural poor (Monyo, 2003). A sizeable proportion of these people live in India. Holistic development of rural regions would not only improve the quality of life of rural people, it would also remove a perennial cause of simmering discontent and conflict and of collective deprivation and human rights violation in the society.

EDUCATION AND HOLISTIC RURAL DEVELOPMENT

Rural development encompasses agriculture, education, infrastructure, health care, and capacity building for other than on-farm employment, rural institutions and the needs of vulnerable groups. It aims at improving rural

people's livelihoods in an equitable and sustainable manner, both socially and environmentally, through better access to assets (natural, physical, human, technological, and social capital), and services, and control over productive capital (in its financial or economic and political forms), that enable them to improve their livelihood on a sustainable and equitable basis (Atchoarena and Gasperini, 2003).

While all these facets of rural development are equally significant, a special place is occupied by social sector services, particularly in education, which is most important as it alone has the capacity to "permanently transform the lives of village people" (Richards, 2001). Even mere basic education acquired by rural citizens, particularly by the landless poor among them, gives them a sense of emancipation and power.

> Villagers believe that an educated individual has a choice in life. The illiterate is dependent on the literate and if the former could learn to read and write it would, in effect, liberate him from a state of dependency and economic exploitation…. For the rural poor, schooling is the only way by which they can alter their socio-economic status, while for the rich it may be an important basis for the continuation (and consolidation) of the *status quo*….Most villagers regard formal education as the panacea for their socio-economic problems (Rao, 1985).

However, for this panacea to be effective, especially for the poor and powerless, a commensurate expansion in employment opportunities in the region would also need to be made, failing which, demand for education particularly from the poor villagers may be weakened and the aim of inter-regional, intra-regional and inter-class equitable development may be missed. Lack of economic opportunities would not affect the influential and the rich in the rural areas as much as it would hit the poor. The rich, by way of acquiring education, and that too of a better quality, and owing to their access to better educational resources of the family, better ambience, support and means to acquire higher and diversified education, most of which are not available to the village poor, will be able to wield more political power. This will render them in a position to usurp both the educational and economic opportunities locally available. This will not only lead to the continuation of the status quo in the power structure and in the economic status for the poor but, more seriously, it would weaken their faith in education itself as a hope and as an instrument of change for them (ibid).

Williamson (1979) argues that,

> This situation of denial (of opportunities) has far more serious consequences for the poor. The social processes which allow those with power to appropriate educational resources for themselves leave the poor not only poor but unable to perceive the structures which cause their poverty.

Rao found this to have happened in the rural areas she studied. Foster, in his study in Ghana, also came across similar results who found that without significant changes in wider economy and its impact on the traditional structures, demand for education would have probably remained minimal (Foster, 1965; Rao, 1985). Affirmative action by the state for equalizing educational opportunities may work only for a section of the poor belonging to a particular social denomination and that also may not necessarily ensure quality education even for them unless many other conditions of educational content and process are satisfied. It is perhaps for this reason that in the 64th Round of National Sample Survey Organization (NSSO) survey (2007-08) it was found that 33% of parents did not send their children for education despite its availability almost at their doorsteps because they were just not interested in the education of their children for the reasons discussed above. So, mere constitutional provision of making education a fundamental right of children, as has recently been done in India, may not convince many rural poor parents to divert their children from work to education and may not persuade them to pay dedicated attention to their progress in education unless related socio-economic conditions for them are also improved.

Moving beyond educational access

The rural poor, especially, may not always be in a position to take advantage of educational provisions owing to many barriers their children face in accessing education. These barriers may appear in the form of malnutrition, recurrent illness due to this and also due to unsafe drinking water, child labour they are forced to resort to due to abject poverty in the family, etc. On the supply front, children may also face some hindrance in freely and fruitfully accessing and utilizing the educational facility. For example, they may find the curriculum uninteresting and irrelevant for them, instructional processes far removed from their life context, unmatched with their interests and incongruent with the purpose of learning they envision and the natural ways they are inclined to learn with, or the language used being incomprehensible for them. Access to education may lose its significance if simultaneous attention is not paid to removing these and similar barriers and to creating enabling conditions for acquiring education. These issues further justify the need for a holistic attention to be paid on rural development in which provision of education of acceptable quality must occupy the centre

stage but at the same time conditions impinging on educational development of children should also receive concomitant support for their amelioration.

The seriousness of these enabling conditions in Indian villages has been highlighted in a recent study conducted by senior civil servants that profiled rural life in the eastern region, covering the states of Orissa, Jharkhand, West Bengal, Bihar and UP. The study has revealed that infrastructural bottlenecks have been the major hindrance in human resource development as well as overall development of the rural economy in this region. The study found that lack of access to clean drinking water and non-existent health infrastructure have played havoc on the development of human capabilities in the region. Poor sanitation has aggravated the incidence of malaria and cerebral malaria in the region and there is wide prevalence of dysentery and cholera that continues unabated particularly among children. These problems create serious hurdles to education for children and affect their learning outcomes. However, in the debilitating situation obtained in the region, the study also saw a ray of hope on account of the supply of cooked food and some important medicines to children under the Mid-day Meal (MDM) scheme, which brought about a significant reduction in dropout rates (Saha, 2011). Though the impact of this intervention beyond merely improving attendance has not been fully explored yet, it is felt that there is a likelihood that mid-day meals may affect not just enrolment and retention, but also the level of alertness and concentration on which children's engagement with the teaching-learning materials and their larger capacity to learn depend (Alexander, 2008).

The issue of children's learning outcomes has been studied in detail both by the NCERT through its National Achievement Survey (NAS) and by some independent agencies. The low level of children's learning as reported in the NAS, which has been corroborated by the independent assessments, made the 16th Joint Review Mission (JRM) to record its concern (Government of India, 2012). Pratham, a private initiative, which releases an Annual Status of Education Report (ASER), has consistently shown that learning achievement of rural children has remained far behind their grade levels. The latest ASER report (2011) has, in fact, revealed a more alarming situation. It shows that learning levels have further declined. Nationally, the proportion of Grade 5 children able to read a Grade 2 text has fallen from 54% in 2010 to 48% in 2011 and there is a corresponding decline in basic arithmetic levels. There was a decline in the proportion of Grade 3 children who are able to solve a 2-digit subtraction problem using borrowing from 36% to 30% over the same period (Pratham, 2012).

Similar are the findings of PROBE Revisited (2006). In their survey in select villages of Bihar, Madhya Pradesh, Uttar Pradesh, Uttarakhand, Jharkhand and Chhattisgarh in 2006, after a previous one carried out in 1996

in the same places, PROBE found that despite significant improvement in enrolments in these villages during the last ten years, classroom activity and learning levels have not improved (PROBE, 2006). These assessments indicate that ensuring accessibility by itself is no guarantee of learning or quality education for rural children. It is rightly paraphrased that "enrolment does not mean attendance, and attendance does not imply learning" (Government of India, 2012).

Currently, an estimated 95% of the rural population living in 826,000 habitations in 638,000 villages has a primary school within 1 km and about 85% of the population has an upper primary school within 3 km (Ward, 2007). DISE reports claim that a majority of these schools do have basic infrastructure, drinking water and toilet facilities, and the required teaching-learning materials and also provide mid-day-meals for children. Almost 90% of the teaching positions in these schools are now filled by teachers, most of whom possess prescribed academic and professional qualifications (NUEPA, 2011). Despite these distinct strengths of the school system, schools fail to function as effective educational enterprises of the rural community and do not promote desired learning among students, as is vividly clear from the foregoing discussion. Poor quality education imparted in these schools, argues PROBE, threatens to ruin the lives and future of Indian rural children, who come to school with eager hopes to learn (ibid). This state can hardly build the knowledge and skill-based capacity of rural children on which really depends the rural transformation. So, for sustainable rural development, besides attending to other changes and improvements in rural areas, we need to focus on the issue of quality of education in rural schools.

UNDERSTANDING QUALITY OF EDUCATION

Before moving further, it would be pertinent to first discuss the concept of quality of education. Alexander (2008) has provided good discussion on this topic and has critically surveyed the definition of the concept of quality as adopted in some important documents and declarations on education by international and national agencies, such as UNESCO, OECD, European Commission, DFID, and NCERT. He argues that since the international debate about the quality of education has been dominated by those who operate in the domains of policy, accountability and funding rather than in the arena of practice, quality has tended to be conceived not as "what it actually is" but as "how it can be measured". That is why "indicators" have come to occupy a place in the discourse on quality, which those more closely involved in children's education might find decidedly odd; and that is why the "indicators" thereby nominated speak to the preoccupations of providers rather than those of teachers and learners (Alexander, 2008).

Currently, in European countries, educational outputs are given cognizance while assessing educational quality and the question, "how inputs contribute to these outputs?" is generally met with indifference. This emphasis on learning outcomes for measuring educational quality is driven by market forces, which require transparent information about the quality of labour. Certification based on assessment of learning outcomes, it is hoped, provides a guarantee of quality. This output driven way of looking at educational quality is based on the presumption that what the "users" of education need to know is what the learner is capable of. However, it is questionable to suppose that inputs (aims, curriculum, pedagogy, formative assessment) can be detached from outputs (summative assessment of outcomes) and ignoring them one can reliably know about the quality of education (Winch, 2010).

CHILD-CENTRED PEDAGOGY AT THE HEART OF QUALITY

So, in the alternative, to assess quality the inputs that contribute to learning outcomes are examined and among them "pedagogical process" occupies the central place. In this approach, quality is determined by the teaching procedures adopted by teachers and the extent to which these are made child-centred. Here, equality of learning opportunity afforded to all children has to be taken as one of the essential aspects of quality that demands creation of an environment of freedom in which each individual child can grow in his or her own unique way without facing any gender, caste, tribe, religion, region, etc., based discrimination or unequal treatment (Kumar, 2010). In such a pedagogic process, the teacher respects each individual child and her perspectives, social environment, needs, ideas, learning styles, etc. It is in this context of the concept of quality, asserts Shotton, that, instead of performance indicators and attainment targets, "*respect"* should be the main indicator to identify effective school and the extent of its effectiveness would depend on the degree of *respect* it affords to its learners of diverse background and abilities which is signalled in different ways (Shotton, 1998). This respect is communicated when teachers listen to students and are ready to take their ideas seriously. It is demonstrated in the care teachers take to ensure that curriculum content links in an important way with students own lives and developing perspectives. And it is reflected in the extent to which teachers make accessible to learners the logic behind the structures and procedures that shape, but often remain implicit in classroom practice (Rudduck, 1995).

Such a pedagogic process that respects the student and facilitates their growth in their own unique ways without any barrier is indicative of quality education. This is further clarified by Alexander that teaching that is truly child-centred is indicated not by materials or grouping procedures, but at a much more fundamental level in a consistent pattern of relationship between

teacher and student, and by a deep and sympathetic engagement with the way children think, feel and act, which informs every single aspect of the teacher's work from task preparation to interaction and assessment. Child-centeredness is a pervasive attribute of teaching, not a specific teaching method (Alexander, 2008).

PREVALENCE OF PEDAGOGY OF THE OPPRESSED IN RURAL CLASSROOMS

Contrary to the rhetoric of the government's statements on educational provision and achievements, in Shotton's research on Indian primary schools it was found that child-centeredness was almost completely missing from classrooms and thus quality of education was not satisfactory (Shotton, 1998). It was observed that the nature of pedagogy followed in these classrooms bore remarkable resemblance to the model which Freire has labelled as "pedagogy of the oppressed", essentially a pedagogy where teachers and students are trapped as different entities within the boundaries of authoritarianism, where one is either leader or led and the milieu resembles a banking system of education (Freire, 1974). In Freire's model, knowledge is a thing which a person acquires by cognition and then it becomes his private property. The learner in this model is restricted to receiving, filing and storing "deposits" and his role is essentially passive and submissive. Here, the teaching process is viewed as merely the transfer of information where the teacher is only to make a deposit in the mind of the learner and lastly, the model disregards the continuum of experience, that is, the banking approach will never propose to learners that they consider reality critically (ibid).

Shotton's work led him to conclude that pedagogically the typical Indian primary school classrooms follow the banking model. The teachers in this research were found completely alienated from the architects and thrusts of the government policy; regarded themselves as lowest status public servants; and had little professional regard for themselves and teaching, and children as drudge to be tolerated. This mind-set and pedagogic competence and practice of teachers need to be changed in the first priority to achieve the goal of quality education.

TEACHERS' PROFESSIONAL PREPARATION AND DEVELOPMENT BY THE STATE

In the drive for quality and for implementing educational programmes and educational organization, declares the national education policy of 1986, teachers are the principal means (Government of India, 1986). As key players in this enterprise, they need to be duly equipped and continuously motivated to use the child-centred pedagogy in rural schools, as also in the

other ones, through their initial preparation and continuous professional development. The culture in teacher training institutions, as well as in professional development centres like DIETs, Block Resource Centres (BRCs), Cluster Resource Centres (CRCs), etc., is not truly geared to empower teachers to follow these pedagogic practices.

The situation found in most of the pre-service training institutions in India, around 90 per cent of which are owned by the private entrepreneurs, is a cause for concern on account of their uninspiring curriculum and its mechanical implementation. The Freire's banking model of knowledge is very much in vogue in these training institutions where knowledge is treated as a "given" and embedded in a rigid curriculum that is never questioned or examined critically by student-teachers or by the teacher educators. They hardly get an opportunity to identify linkages between pedagogic theories and teaching methods, develop their language proficiency, or see the rubric of evaluation move beyond the practice of knowledge based summative testing.

Teachers trained through such a model are hardly empowered to respond to the demands of the National Curriculum Framework (NCF) 2005 and Right to Education (RTE) Act 2009. The bodies meant for granting affiliation and organizing examination and certification of teacher education programmes, such as SCERTs, universities and state boards of examination, who are also responsible to maintain quality in teacher education institutions on day to day basis, are least concerned about the renewal of curriculum and improvement in the quality of training processes followed in these institutions. Such is the general inertia in teacher education institutions and in their affiliation bodies that the new National Curriculum Framework for Teacher Education (NCFTE) developed by the NCTE (2009), which addresses the above mentioned concerns and stresses on training of teachers in child-centred pedagogy, has so far been adopted only by a handful of institutions across the nation. The quality of teachers who undergo training in most of these institutions is therefore not up to the mark and the training does not develop the required professional skills and attitudes and does not enthuse confidence in the teachers. On the other hand, an attitude of resignation towards initial teacher education and organization of piecemeal and isolated in-service training courses have become an integral part of the state provisioning for teacher education (NCTE, 2009). The vacuum created by this withdrawal of the State has quickly been filled by the commercially oriented private teacher education institutions.

During the last decade, school teaching has also received another big blow in some states of the country (Bihar, Jharkhand, Orissa, Chhattisgarh, and in North Eastern states) where the state governments have appointed more than half a million teachers in elementary schools, popularly known as

para-teachers, on paltry remuneration and ad-hoc terms, a majority of whom are untrained and deployed to rural schools. Recruitment of such teachers gained currency in many states, which found in their deployment a good cost saving device and preferred financial convenience over the quality of teacher and teaching (Khadar, 2008). With a view to train these serving para-teachers in pedagogic knowledge and skills, the state governments were later permitted to get them trained through an open and distance learning (ODL) programme specially designed and organized for them by IGNOU (Indira Gandhi National Open University). Evaluation of this programme by NCTE, however, revealed that the curriculum and delivery of this programme were seriously compromised by both the Open University and the state governments and the net effect of this poor training was that it failed to bring any visible change in the classroom practices of teachers (NCTE, 2010).

As a sequel to the provisions made in the NPE-1986, a network of institutions, including SCERTs, IASEs, CTEs and DIETs, was created with central funding for pre-service and continuous in-service training of teachers. In an evaluation done by the NCERT (2010), these institutions were found to be still operating in project mode and the in-service programmes organized were hardly incremental in nature and thus did not visibly enhance professional competence of teachers.

The role of teacher in imparting quality education needs to be transformed through four strategies, namely, involve the teacher in decision-making process in the school, place the teacher at the heart of the child-centred pedagogical and curricular development, accord the teacher greater professionalism and involve him in active research (ibid, 1998). These strategies would empower both the teachers and students so that together they will come to understand the nature and possibilities of learning and teaching and strive to maximize their potential. Teachers' engagement in their role in this manner would herald visible improvement in teaching and learning and would ensure education of satisfactory quality as envisaged in the RTE Act. This requires a transformation of the culture of training in teacher education institutions along the lines visualized in the NCFTE (National Curriculum Framework for Teacher Education) 2009.

The commercially oriented private sector, which today runs most of the teacher education institutions in the country, the past experience suggests, is least interested in taking any initiative for improvement and change in their training culture. In the Indian political setting where education, particularly at the school stage, is recognized as a public good and a right of children, the need for a highly pervasive engagement of the government with all those initiatives and strategies that ensure delivery of this good at high quality can hardly be overemphasized. It is needless to mention that these initiatives essentially include preparation of teachers and

their continuous professional development. Verma Commission on Teacher Education (2012), while expressing its concern about the proliferation of sub-standard private teacher education institutions in the country and the training culture and practices obtained in them, has rightly observed that the curriculum and its transaction in these institutions are both serious impediments to fulfilling the objectives of NCF 2005 and RTE Act 2009. The Commission has therefore pleaded for a much greater engagement of the government with initial teacher preparation responsibility and for a substantially higher investment by the State on this subject of fundamental significance. It has recommended that,

> This oddity (of organization of poor quality teacher education by sub-standard private teacher education institutions) can be addressed by increasing 'manifold' the State's active involvement in teacher education. States need to take necessary concrete steps to ensure the building of institutional capacity for pre-service teacher education in a phased manner within a stipulated time frame (Government of India, 2012).

The recommendation seems to be in tune with the general trend in provisioning of teacher education across the world. However, the Working Group on Teacher Education for the 12th Five Year Plan appointed by the Ministry of Human Resource Development has made a proposal to set up only around 200 new pre-service training institutions for elementary teachers in rural development blocks as Block Institutes of Teacher Education (BITEs) by the government and has asked for a small budgetary allocation of Rs. 400 crores. One fails to find any match between the tiny additional investment sought to be made by the government on putting up additional pre-service teacher education facility and the recommendation for "manifold increase in state's investment in teacher education" made by the Verma Commission. One also wonders how much of a dent such a small fraction of proposed government institutions together with 500 odd existing government DIETs will be able to make in the abysmal condition of initial teacher preparation created at the hands of more than ten thousand private teacher education institutions. This only highlights a state of complete lack of political concern about the urgency to improve quality of teaching (PROBE, 2011).

A resolute political will for a substantial state investment in teacher education and its unwavering commitment to the cause of quality education through better teacher preparation is the call of the highest priority. While planning to expand its role in teacher education, the government can always keep some room for any well-meaning and truly innovative effort made in the area by non-governmental organizations and can inform its decisions by

the results of their good practices. For example, the experiences gained in the innovative teacher training initiatives of Mirambika in Delhi and other similar organizations may be worthy of consideration.

The in-service teacher education scheme launched by the government in 1987 in fulfilment of its commitment made in the National Policy on Education 1986, with minor cosmetic changes made in its norms for funding support, followed an ad-hoc approach since its inception. It remained in a state of limbo during the recently completed 11th Plan period, which adversely affected the performance of the institutions set up under this scheme. Moreover, in the policy discourses of the government, the concept of professional development of teachers is yet to traverse beyond the confines of some fixed capsules of in-service teacher education programmes.

Expressing its concern over the unsatisfactory state of continuous professional development of teachers (CPDT), Verma Commission pleaded for formulation of a permanent policy by the central government in this regard as envisioned in the NCFTE-2009, which would be the first step towards affecting a major change in the quality and organization of professional development facilities and avenues for teachers. In the Commission's view, this will render teachers professionally more responsible for keeping their teaching equipment refreshed and classroom practices fully alive and relevant. Here again, the useful experiences of some well-meaning private/philanthropic institutions may be taken into consideration while formulating the CPDT policy and its implementation strategies. The in-depth knowledge gained by the Azim Premji Foundation while voluntarily organizing its massive teacher renewal programme for the uplifting of school education in rural India, for which the Foundation has donated a hefty sum of US $ 2 billion (Tehelka, 2012), and other similar initiatives may be used to inform the CPDT policy formulation and may also supplement government's efforts in this regard. These select instances of successful private initiatives reinforce the belief that change in teachers' practices is possible, provided it is firmly willed, sincerely implemented and duly supported.

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CHAPTER TEN

THE ROLE OF A HIGHER AGRICULTURAL UNIVERSITY IN RURAL TRANSFORMATION:

CASE STUDY OF KASETSART UNIVERSITY, THAILAND

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INTRODUCTION

Historically, Thailand is known for its strengths in agriculture and for its rich natural resources. Agriculture is recognized as one of the main assets that Thailand has had in developing a strong foundation for national development. Like many other developing countries, Thailand is undergoing a rapid change towards an industrial and knowledge-based economy. Many rural Thais have now moved to urban areas where they work in the industrial and service sectors. Today, globalization is posing new challenges to the living conditions of rural people. In the current situation of global climate change there is predicted to be increasing environmental pressures on crop production. Both of these factors will combine to put rural Thais and the agricultural sectors at risk and will require innovative responses.

Although the number of rural Thais has been decreasing over the years as part of the movement towards an industrial economy, approximately fifty per cent of Thais still live in rural areas and forty per cent of these rural Thais are classed as poor. For the nation to flourish and remain competitive in a global knowledge-based economy all Thais, including rural Thais, should have knowledge and capacity that can empower them to improve their living conditions. For the rural sector, this means that agricultural yields must be improved and that rural people must be given the skills and knowledge for profitable marketing of their produce.

Education plays an important role in sustainable socio-economic development. This paper discusses the role of higher education, and in particular, the role of Kasetsart University in rural development. Kasetsart University was started as the first Agriculture University in Thailand with a mission to develop agriculture, fisheries and forestry. Although it has now become a comprehensive university and is recognized as one of the top ranking Thai universities, it still has as one of its major aims the sustainable development of Thai primary industries. Kasetsart University is classified as a National Research University of Thailand. It has been ranked by

Universitas Indonesia as the number one Green University in Thailand and as number forty six in the World. It has also been appointed by the Royal Thai Government as ASEAN country coordinator to promote the study of and to strengthen university curricula on climate change, food security, and agriculture as part of the ASEAN Framework Action Plan on Rural Development and Poverty Eradication.

This paper examines the changing roles of Kasetsart University in rural development and highlights the university's practices in helping to bridge the gap between rural and urban populations. These practices are aimed at improving the quality of life of the rural population and to achieve the millennium development goals (MDG) adopted by the United Nations. This paper also discusses the prospective roles of Kasetsart University in transforming the ASEAN rural community. This study employed documentary analysis and qualitative research methods consisting of interviews with university administrators, faculty members, graduates, students, and rural/community people.

RURAL TRANSFORMATION: SUSTAINABLE RURAL DEVELOPMENT

The term "rural" is generally perceived as synonymous with agriculture because most rural people live outside urban areas and do farming for their livelihood. Although agriculture is the most important economic sector in rural areas as it produces food, agricultural production is not sufficient to transform the well-being of rural people. Most rural people in Thailand live sparingly with limited access to basic necessities and infrastructure. Poverty and illiteracy are more acute in rural areas than in urban areas where there are usually more jobs available at higher wages and the people have access to basic necessities and modern amenities. However, movement of the rural population to urban areas will not solve rural problems. It has been predicted that rural areas of developing countries will still contain more than sixty per cent of the poor in 2025 (Atchoarena and Gasperini, 2003).

The definition of rural development has been evolving as a result of changes in the perceived mechanism and/or goals of development. Anriquez and Stamoulis (2007: 2) give a reasonable definition of rural development as meaning "development that benefits rural populations; where development is understood as the sustained improvement of the population's standard of living or welfare." During the 1960s-1970s, industrialization was perceived as the main mechanism of national development. Today the rural development approach recognizes that there are many different stakeholders in rural areas. While some people in rural areas continue to make their living by farming and live on farms, others have a wide range of jobs in non-farm occupations and live in small villages, large market towns or peri-urban

communities. The rural world is now changing rapidly in many developing countries. Agriculture is also changing with new technologies, products, markets, and business environments. Because of these changes, many rural people will need to become engaged in nonfarm activities or migrate to urban areas. The needs for information, education, and skills of the rural populations of today, and especially of the younger generation differ from the needs of their predecessors who were primarily engaged in farming and lived in isolated areas. Rural development should therefore be redefined as a process that encompasses the whole rural environment rather than just as agricultural development. Issues of agriculture, food security, human security, infrastructure, education, capacity-building, health, and employment in both farm and non-farm occupations as well as the needs of vulnerable groups must all be addressed in both policies and practices of rural development.

Muktasam (2007) contends that rural development has been generally identified as efforts to improve the livelihood of rural people through changes in rural productivity, employment opportunities, income and wealth distribution, social structure and social mobility, resource management, information access, rural people's power, health and education, and others. He observes that many rural development successes have been broadly measured by these changes while ignoring issues of Human Security. He argues that human security has seven aspects, namely economic, food, environment, health, personal, community and political aspects and all of these aspects should be taken into consideration when promoting rural development. Several authors have argued that in many cases rural development practices have exacerbated social, economic and environmental problems that threaten the human being – issues of Human Security (Phongphit, 2001: Sukwong, 2004: Phongpaichit, 2003: Missingham, 2003: Muktasam and Mangestuti, 2007). These problems have also occurred even when the developers claim they are promoting sustainable rural development.

The eradication of rural poverty and illiteracy requires sustainable rural development that emphasizes holistic development of the rural people based on the empowerment of their inner strengths rather than by externally imposing urbanization and outwardly modern ideas on them. The impetus for rural development must spring from the people themselves. People must develop new ideas about themselves and the world around them. This is the transformation that education for rural development should be about (Atchoarena and Gasperini, 2003). Rural transformation does not deny the general notion of rural development; rather it calls for "recognizing new dimensions in the criteria for judging quality and relevance of educational activities" (UNESCO INRULED, 2012: 3).

CHANGING CHARACTERISTICS OF RURAL THAIS

Thailand is known for its rich natural resources and its agricultural production. The Thai saying "The river has fish, the paddy fields have rice" demonstrated Thailand's strengths in food supplies and its capacities in being "The Kitchen of the World." For many years Thailand was the world's number one rice exporter. In recent decades, industrialization and global economic opportunities have meant that Thailand has become a prominent exporter of labour-intensive manufactured goods in addition to having an impressive portfolio of agricultural export commodities.

During 1984-2000, Thailand shifted from being primarily an agriculture-based export economy to a more broadly based manufacturing and agro-industry export economy. During this period migration from rural to urban areas has been prevalent (Garip, Filiz, and Curran, 2009). Rural people have left their farms and villages to work in factories and cities where there are increased employment opportunities. A shift in national development towards industrialization has resulted in a weakening of agricultural-based rural development. Although the data supplied by the Community Development Department of the Ministry of the Interior shows that in 2011 only 1.1% of 30,588,615 rural Thais, aged 15-60 were unemployed and had no earnings, the second quarter national statistical data of 2012 supplied by the National Economics and Social Development Board revealed that approximately 7.75 per cent of Thai people are still living under poverty with a large proportion of these being rural Thais. Data supplied by the National Economics and Social Development Board also revealed that in 2004-2009 approximately forty per cent of poor Thais are farmers.

With the national transition from agriculture and manufacturing to a more mixed economy there has been an increase in the services and creative goods sectors and the rural economy has become more diversified to include non-farm activities such as agro-tourism, One Tumbon One Product, local medicines, etc. For instance, the north-eastern part of Thailand has the largest number of poor rural people with part of this being due to the lack of fertile land areas. However, the largest numbers of tourists now go to north-eastern provinces. In 2010, 33.3% of all tourists went to the north-eastern provinces and brought in a large volume of income to the region (National Statistical Office, Online). This indicates the potential of tourism to provide non-farm economic activity for rural people.

Although many rural Thais have migrated to urban areas during the shift toward industrialization, a recent study by the Department of Geography, Durham University revealed that industrial production in the Bangkok metropolitan area has become over-concentrated and that there is

now a trend towards the relocation of manufacturing production in rural areas (Rigg, online). This relocation in frontier regions includes 1) home-based handicraft production which is being incorporated into global commodity chains and 2) factories and industrial estates. The shift toward industrialization in rural areas has meant corresponding changes in the characteristics of rural Thais.

For the nation to flourish and remain competitive in the modern globalized knowledge-based economy, the rural Thai population must have knowledge and capacity that empowers them to improve their living conditions. The rapidly changing rural characteristics and the dynamics of rural-urban interaction require flexible and creative programs of education (UNESCO INRULED, 2012). Rather than solely focusing on increasing agricultural production, there should be emphasis on developing value-added agricultural products through increased knowledge and development of new technology. If properly implemented, these improvements should lead to sustainable rural development. The living standard and human capital of rural Thais must also be improved to reduce the gap between rural and urban Thais. Education and training are two of the most powerful mechanisms for reducing this gap.

NATIONAL POLICY ON RURAL DEVELOPMENT: FROM MODERNIZATION TO SUFFICIENCY ECONOMY

A national policy on rural development was introduced in the first National Economic and Social Development Plan in 1961-1966. This plan has been regularly updated and used to guide national development. Before the 8th National Economic and Social Development Plan (1997-2001), the plan for national development was a top-down approach with the main goal being to develop Thailand into an industrialized country. The economic crisis that struck Thailand in 1997 was an important turning point in the country's development planning. After the crisis, the plan was revised to give importance to participation by all elements of society and aimed for "people-centered development." In order to create a balanced development of the economy, society, and environment, the plan turned from a segmented approach to a holistic and integrated approach.

In the 9th National Economic and Social Development Plan (2002-2006), the Sufficiency Economy philosophy was adopted to guide national development while still retaining the holistic approach to people-centered development in the 8th Plan. This 9th plan emphasized the national building of strong internal foundations and resilience to external changes, while also aiming for a balanced development with respect to people, economy, and environment that would lead to sustainable development and the well-being of the Thai people. While the national economy under the 9th Plan grew

steadily at an average of 5.7 per cent a year, important problems still remained, including poverty, income distribution, quality of education, security of life and property, and transparency in government administration

The 10th National Economic and Social Development Plan (2007-2011) aimed at balancing economic growth with social and environmental sustainability, and to create a Green Society. The 10th Plan continued the directions of the 8th and the 9th Plans which were named "People at the Center of Development" and "Sufficiency Economy." Four strategies adopted in this plan included: 1) human resource development and community strengthening, 2) economic restructuring through the strengthening of high value-added production and the services sectors; promoting fair market competition and a balanced income distribution, 3) preservation of natural resources and biodiversity, and 4) promotion of good governance and democracy.

Since the 8th plan, Thailand has shifted the aims of its direction of national development from modernization to human-centered development, a sufficiency economy, and environmental sustainability. The fruits of this endeavour are reflected in the Human Development Index. Since 1980, Thailand's Human Development Index (HDI) has been improving steadily. In 2011 the Thailand HDI was 0.682with health 0.854, income 0.622, and education 0.597, giving the country a rank of 103 out of 187 countries with comparable data. The HDI of East Asia and the Pacific as a region increased from 0.428 in 1980 to 0.671 in 2011. Since 2005 (UNDP, 2011), Thailand has ranked above the regional average and has been comparable with the world average. However, the HDI index of 0.671 in 2011 shows a drop from 2005 when Thailand had a HDI of 0.778, and ranked 73out of 177 countries. Although Thailand is doing well on health and income index, education still poses challenges for the nation as it is moving forward to sustainable national development.

A community cannot foster development without educated people. Business communities are unlikely to invest in rural areas if skilled labour is not available. Basic education is at the heart of rural development because rural people with basic education have a greater willingness and ability to adopt new technologies in their agricultural activities. However, higher education also plays an important role in training people to work in rural development and to give them the ability to create knowledge and innovations that can respond to future global challenges. Higher education also builds human capacities of the rural people so that they can undertake life-long learning and so that the MDG goals can be achieved.

ROLES OF AN AGRICULTURAL UNIVERSITY IN RURAL DEVELOPMENT

Education and training are two of the most powerful instruments for fighting against rural poverty and increasing rural development. Traditionally agricultural universities were founded with the mission to facilitate rural development by increasing agricultural production. Higher agricultural education evolved to educate technical human resources and the professional needed to boost frontiers of technology for agriculture. Higher agricultural education has always been science-based and many degrees are classified as "agricultural science" (Maguire and Atchoarena, 2003). However, the rise of urbanization and the shift towards an industrialized economy since 1970 are two main reasons for declining interest in the agricultural sector. In addition, the notion of rural development as being only increased agricultural production is no longer compelling. The challenging paradigm of rural development is to be concerned about all the people who live in rural areas.

University-level agricultural education has a key role to play in rural development. Johnson and Bently (1992) suggest that higher agricultural education plays a critical role in developing human resources that can mobilize and combine all productive factors and eventually disseminate the results to all participants in the agricultural system, particularly to farmers and rural communities. According to them "That role is played by institutions specially established for teaching what is known about agriculture, discovering what is not known and disseminating the results to all participants in the agricultural system, particularly farmers and rural communities." Kunkel and Thompson (1996) also suggest that knowledge-based science in colleges and universities of agriculture will be more likely respond to the needs of consumers and stewardship of natural resources than to the production aspects of agriculture.

Maguire and Atchoarena (2003) propose two interrelated approaches to be considered in developing Higher Agricultural Education rural development courses. One approach is the professional development for people who will manage and implement the development process and the other is to provide meaningful contribution to the rural population. Higher agricultural education should play a key role in ensuring that critical knowledge and skills are imparted to both the teachers and students in higher agricultural education. These people should be educated to appreciate the role of agriculture and sustainable natural resource management so that they can work with the rural population to build human resource capacity for environmentally sustainable rural development.

CHALLENGES AND CHANGING ROLES OF AN AGRICULTURAL UNIVERSITY IN RURAL DEVELOPMENT: KASETSART UNIVERSITY'S EXPERIENCE

The expansion of agricultural education at the secondary and higher levels is now considered outdated. To meet the challenges facing the rural world today requires an integrated view of education. In addition, the issue of educational development in rural areas should be properly addressed with an examination of the disruptions that are taking place in the agricultural milieu.

Table 1: Higher Agricultural Education and Education for Rural Development

Type of support by HAE	Input	Output
Professional and technical education for rural development	HAE delivered programmes. Joint programmes with other parts of HE system. Contributions to other academic programmes (social, health, education, economics, infrastructure, environment)	Human resources with knowledge and skills to manage and implement the process and detail of rural development
Policy advice on education for rural development	Vision, strategy, analysis and data for policy-makers and leaders from other sectors and society at large concerned about rural development issues	Rational and sustainable education policies for agriculture and the rural space together with the resources needed to implement the policies
Support to primary, secondary, vocational and adult education for the rural space	Curriculum advice and input for each level. Materials preparation for each level. Teacher training related to agriculture and natural resources management in curricula. In service training for education for rural development practitioners	Key knowledge and skills for agriculture, NRM and related agribusiness activities available to the population of the rural space. Links between agriculture and NRM and the environment, health, nutrition and infrastructure clarified
Lifelong education for rural space population and others	Structured learning activities and debate on agriculture and NRM issues and their	An informed public supportive of the process of rural development from a position of

	importance to rural development. Short duration training for policy-makers, politicians and civil society leaders	knowledge and factual information. Alert and aware policy-makers and political leaders who provide sustainable support for rural development

Source: Maguire and Atchoarena (2003)

HISTORY OF AGRICULTURAL EDUCATION IN THAILAND

The evolution of agricultural education in the country also progressed to train technical human resources and the professional in agriculture. It began with the founding of a system of technical schools. This era may be divided into three periods (Kasetsart University, 2003).

In the initial period (1904-1913), agricultural education was established. In 1904, the Ministry of Agriculture founded the School of Sericulture in Bangkok, adjacent to the Sericulture Experimental Station. Initially, the School offered a two-year program devoted to sericulture alone, but in 1906, the program was extended to three years and expanded to include instruction on the cultivation of other crops and also on veterinary science. At the same time, the name of the institution was changed to the School of Agriculture.

In 1908, the Ministry of Agriculture merged the three schools under its jurisdiction, namely, the School of Surveying, the School of Irrigation, and the School of Agriculture, in order to train personnel to serve in the various departments and divisions of the Ministry. The school was named the School of the Ministry of Agriculture. At the same time, a new curriculum, Thailand's first tertiary-level agriculture curriculum, was drawn up and was inaugurated in 1909.

In the middle period (1914-1923), the first primary school agriculture teacher training school, the Primary School Agriculture Teacher Training School in Bangkok, was established. The School offered a two-year program for graduates of Secondary Level 3 (the entrance requirement was later raised to Secondary Level 6). Upon completion of the program, graduates were awarded a certificate in primary school agricultural education. In 1918, the School was relocated to Meuang District of Nakhorn Pathom Province.

In the later period (1924-1942), agricultural education at the primary and secondary levels was provided through primary- and secondary-level agricultural technical schools. Towards the end of the year 1931, agricultural

research stations were set up in the north-eastern, northern and southern, Regions together with primary school agriculture teacher training schools so that agricultural research and agricultural education could be carried out together. As a result, primary school agriculture teacher training schools and agricultural experiment stations were established in each region of the country, and in this way, the Ministry of Agriculture once again became involved in agricultural education. The operating of agricultural experiment stations in conjunction with the three primary school agriculture teacher training schools proved to be an excellent model of the interplay between research and education.

In 1935, agricultural education policy changed once again. The government, concerned that the numbers of agriculture teachers graduated would be in excess of needs, decided to close three of the new primary school agriculture teacher training schools, while retaining one as a secondary-level agriculture technical school. This was later elevated to become the College of Agriculture, with the status of a division in the Department of Agriculture and Fisheries.

In 1938, the Ministry of Agriculture established the Central Agriculture Station, or KasetKlang, in Bang Khen District of Bangkok, the area in which the main campus of Kasetsart University is now located. The College of Agriculture was moved from Mae Jo to Bang Khen, and Luang Suwan Vajokkasikij became the director. The College offered three-year certificate programs in three fields: agriculture, cooperative science, and forestry. Students of the agriculture program studied all three years at Bang Khen, while students of the cooperative science program studied their first two years at Bang Khen and their third year at the Department of Cooperatives at ThaThian in order to facilitate their practical training. The forestry program was conducted at the School of Forestry in Phrae Province. Then in 1943, The College of Agriculture was elevated to become Kasetsart University, which is now a comprehensive university offering a wide variety of programs.

CHALLENGES OF AN AGRICULTURAL UNIVERSITY IN THAILAND

The shift in rural labour markets towards non-farm activities and the persistence of rural poverty are two major causes for the declining interest in agricultural education. Many rural people do not wish to send their children to study in the field of agriculture because they do not want their children to live in hardship like them. An interview with a graduate in mathematics whose parents are farmers revealed:

> *My parents said that they don't want me to work hard in the farm like them and make no money. I also don't want to be like them. I would rather study in a field that I can make more money. If I have money I can hire labour to work in the farm for my parents. We can just be a landlord.*

Although higher agricultural education (HAE) has had many successes in providing education directed towards improved agricultural production, a failure to make curriculum and management adjustments that are relevant to a changed market demand can have an impact on quality of education. Curricula might not respond to the needs and expectation of employers and this can lead to high unemployment rates of tertiary graduates (Maguire and Atchoarena, n.d., Online). These challenges are echoed by a university administrator who states that *"Presently there is a declining interest for students to apply to the Faculty of Agriculture. Our most popular majors are Business Administration and Engineering."*

Another challenge facing agricultural education is that agricultural programs have become less attractive to the highest achievers from secondary schools. An associate dean of Faculty of Agriculture stated that,

> *We have fewer students applying into our program. So we have limited financial funding from tuition. Most of our funding comes from research….However, we are proud to say that the Faculty of Agriculture at Kasetsart University has the best program in agriculture in the country and that we are most recognized as the first priority of those who wish to study in this program.*

A guidance teacher in a secondary school said that although many students do not wish to study agriculture because they do not want to be a poor farmer, some students whose families own farming areas still have some interest. He also revealed that,

> *Nowadays some universities like Kasetsart University work with schools in giving career guidance to students. Students can see career prospects in agriculture that are*
> *more attractive to the globalizing economy like agricultural business or agro-industry. These fields are gaining more interests of students.*

A secondary student whose families are farmers and own farming areas showed his determination to study agriculture by saying that *"I want to study agriculture because my family own farmland. I want to be a good farmer who can make use of my family asset. If I have knowledge I can make good*

living of farming." Another student also said that "*I want to study agriculture because I want to help Thai farmers to have a better living.*"

Although during the past decades Thai agricultural education has faced many challenges, the growing global challenge in food security has brought more attention to the field. As echoed by one of the university administrators whose background is in agriculture:

> *During the past two years we have received more applicants to study in agriculture due to an increasing global awareness in food security and environmental sustainability. So we have to be innovative in designing programs that are more responsive to future needs.*

CHANGING ROLES OF KASETSART UNIVERSITY IN RURAL DEVELOPMENT

In responding to the shift in the direction of national development toward industrialization, Kasetsart University had to redirect itself from being mainly an Agricultural University to becoming a more comprehensive university. In addition, the university has come to realize that holistic and integrated disciplines of education are required in order to promote national well-being, and that equal access to quality education should be available for all qualified students. At present, Kasetsart University is a public university with the largest number of students in the country, or around 60,000 students across 29 faculties in four campuses as follows:

1. Kasetsart University Bang Khen Campus is the main campus situated on an area measuring 846 rai (135 hectares) in Bangkok. There are 16 faculties operating on this campus namely Agriculture, Agro-industry, Architecture, Business Administration, Economics, Education, Engineering, Fisheries, Forestry, Humanities, Science, Social Sciences, Veterinary Medicine, Veterinary Technology, the Graduate School, and College of Environment. The campus also houses 2 affiliated institutes: the Irrigation Development Institute and Boromarajonani College of Nursing Napparat Vajira.

2. Kasetsart University, Kamphaeng Saen Campus (KU.KPS) was established in 1979 as a campus in Nakon Pathom Province emphasizing education and research in Agricultural Sciences. Like other higher education institutions, it conducts research, provides academic services to society, nourishes national arts and culture, and take parts in national development.

There are now 7 faculties operating on this campus namely Agriculture, Engineering, Sports and Science, Liberal Arts and Science, Education and Development Sciences, Veterinary Medicines, and Center for Agricultural Biotechnology.

3. Kasetsart University Si Racha Campus was established in, 1988, and occupies an area of 199 rai (32 hectares) in Si Racha District of Chon Buri Province. The campus offers degree courses in 3 faculties: Management Sciences, Engineering, and Resources and Environment. The campus also includes a College of Graduate Studies and the International Maritime College.

4. Kasetsart University Chalermphakiat Sakon Nakhon Province Campus was established in 1996 to commemorate the Golden Jubilee Anniversary of His Majesty King Bhumibol Aduladej's Accession to the Throne. The campus occupies an area of 4,488 rai (718 hectares) in Mueang District of Sakon Nakhon Province. Its establishment was intended to provide much needed development for the upper north-eastern region of Thailand by providing high-level academic services. It was designed as the centre of education for the upper north-eastern region and as a centre of agricultural development which would provide academic support to the Royal Projects and Royal Initiatives in the region. The degree programs at the campus are provided by 3 faculties: Natural Resources and Agro-Industry, Science and Engineering, and Liberal Arts and Management Sciences. Chalemphakiat Sakon Nakhon Province Campus Research and Development Institute is also located on this campus.

Each regional campus of Kasetsart University is managed by a Vice President who is appointed by the President of Kasetsart University. Although each campus has administrative authority, they have to adhere to the philosophy, vision, mission, and uniqueness of Kasetsart University as a whole.

PHILOSOPHY, VISION, MISSION, AND UNIQUENESS

Kasetsart University has maintained its philosophy in creating knowledge of the land for the well-being of the nation. The university devotes itself to the task of accumulating and developing intellectual knowledge. It aims for the growth in academic wisdom including ethical and moral excellence. In addition, it has a responsibility to play a role in keeping our Thai heritage alive and enriching the culture of the nation.

Kasetsart University sets its vision to become an internationally-known university that is recognized for academic excellence and work of world standard. It is a prime mover in mastering intellectual resources to

help the nation achieve sustainable development and to participate in the world community. In doing so, the university's mission is to gather wisdom and knowledge, create and develop varied bodies of knowledge, and educate people who are intelligent, think rationally, behave morally, are conscious of the common good, and who can produce high standard work of world standard. The university aims to manage its resources efficiently, join in the development of the community, and be responsible to society. It aims to serve as an important instrument in ensuring the well-being and security of the country. Although Kasetsart University is a comprehensive university with 29 faculties, every faculty shares the same commitment to create knowledge of the land for the well-being of the nation.

With the aim of achieving "Research University" status, the university integrates its competence in all disciplines and its educational management to reach the goal of being selected as "Center of Excellence" in various commodities such as food, rubber, rice and energy. Its faculty members and researchers have received many prestigious awards from national, regional and international organization. Kasetsart University is also responsible for transferring bodies of knowledge to the public.

At present, Kasetsart University is one of 9 National Research Universities and has been designated a National Creative Institute in the area of Agro-Food-Industry. Kasetsart University has also been voted as the number one Green University in Thailand and ranked as number one in Webometrics. Students of Kasetsart University have also won an award "World Robotics Competition" for 4 consecutive years. These achievements reflect key strengths of the university in research and innovation, environmental sustainability, and ICT.

THE ROLES OF KASETSART UNIVERSITY IN RURAL TRANSFORMATION

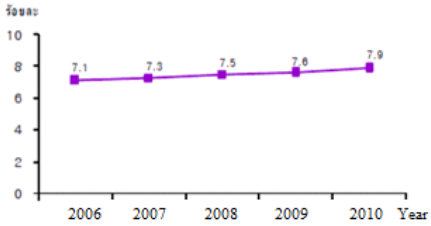
Kasetsart University is committed to its roles in rural transformation by adopting Sufficiency Philosophy as a guiding principle. Almost fifty per cent of Thai people are rural dwellers and it is now recognized that developing a rural community through urbanization is not an answer for sustainable rural development. Kasetsart University believes that rural well-being is necessary to lay down strong foundations for sustainable national development in which socio-economic development and environmental preservation are achieved. A higher educational institution has a key function in human-capacity building and knowledge creation. Kasetsart University, therefore, plays its roles in education, training, and knowledge creation and shares in bridging the gap between rural and urban populations. It aims to build capacities, improve quality of life, and ensure environmental

sustainability. The following are some evidences of the university's success in its commitment towards rural transformation.

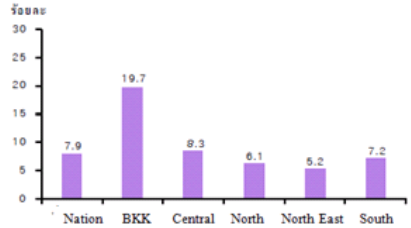
BRIDGING EDUCATIONAL OPPORTUNITIES BETWEEN RURAL AND URBAN POPULATIONS

One of the key missions of the university is education and training. As a result of basic education expansion in 2010 to twelve years, there are now 89.99 per cent of children in the 3-17 age range who have access to education, an increase from 88.90 percent in 2009. The number of people with higher education is also increasing slightly, but remains low at only 7.9 per cent (graph 1). People in Bangkok and central areas have the highest number of higher education degree holders, and people in the north-eastern part of the country have the least number of higher education degree holders.

Graph 1
Percent of Higher Education Degree Holders from 2006-2010

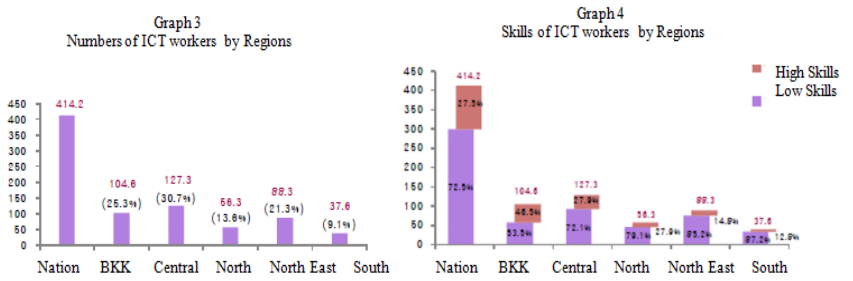


Graph 2
Region Comparison of Higher Education Degree Holders in 2010



Source: National Statistics Office (2012)

As shown in graph 1 and 2, there are large differences in higher education attainment between regions. The north-eastern region is the poorest region of the country and has the lowest higher education attainment. In trying to bridge the gap in human capacity building, Kasetsart University, known for its strength in ICT, has extended educational opportunities in regional areas by building regional campuses in areas where they are most needed. It also focuses on disciplines that are conducive to development in the local area. For example, Chalermphakiat Sakon Nakhon Province Campus is situated in Sakon Nakhon province of north-eastern region of Thailand where there are a growing number of people working in ICT sectors (graph 3). As there are many people in this region with a low ICT skill level (graph 4), Chalermphakiat Sakon Nakhon Province Campus focuses its key education and training areas in ICT and engineering. It also aims to develop ICT skill of people in neighbouring areas by acting as an ICT node for other educational institutes in the region. In addition to its degree programs, the campus also provides training courses to people in the region on ICT and computers. As a result, there are now a significant number of people in this region with higher education degrees and the living standard in the region is improving (Community Development Department, Online).



Source: National Statistics Office (2012)

IMPROVING QUALITY OF LIFE THROUGH RESEARCH AND INNOVATION

Kasetsart University is committed to the creation of knowledge of the land. Being a National Research University, the university aim is to create knowledge and innovation through clustered-research and centers of excellence. KU Institute of Advanced Studies includes 4 clustered areas of research, namely Center for Advanced Studies of Agriculture and Food, Center for Advanced Studies of Tropical Natural Resources, Center for Advanced Studies of Nanotechnology Agriculture, and Center for Advanced Studies of Industrial Technology. These centers focus on inter-disciplinary research into future globalization problems. Each center comprises researchers and administrators who come from various faculties and disciplines but who collaboratively work together on research in topics that require a multi-disciplinary approach. Due to limited land space and urbanization in the area of Bang khen Campus, the campus has moved most of its experimental farm research to regional campuses. At present, Bang Khen Campus aims to produce graduates and researchers of a high standard. With its large number of faculty staff and graduate students, it is playing a key role in developing advanced research centers of excellence, training the professional and technical human resources in agriculture while also sharing the results of this new knowledge with the local community and with rural areas through its regional campuses.

BUILDING CAPACITIES THROUGH UNIVERSITY LEARNING CENTERS

Kampaeng Saen Campus (KU.KPS) plays a key role in sharing agricultural knowledge and new practices with the rural community. This campus aims to become a leading agricultural learning university. At present Kampaeng Saen Campus is making every endeavour to build cooperation with neighbouring communities in the Kampaeng Saen district through the Integrated Community Development of 9 Villages, Temples, and Schools Project. In this project, 9 villages, 9 temples, and 9 schools in the area of

Kamphaeng Saen District have been recruited to develop His Majesties initiative "Villages of Well-Being & Happiness", "Drug-Free Villages", "Science & Technology Villages", " Schools of Self-Sufficiency Economy", "Schools of Science & Technology", "Schools to Build-up Prospectus Citizen with Virtue and Morality", "Monasteries as Centres for Preserving and Disseminating Thai National Arts & Culture" "Citizen of Quality and Ethics." In addition, since KU.KPS has a resort-like campus with over 20 learning centres, this campus has started a current project on KU.KPS Agro-Eco-Tour Promotion Project with a motto: "Why travel far? Visit KU.KPS". This project aims to promote a large number of tourist attractions and destinations in the district: Insect Living Dome & Museum, Beef Production R&D Centre /Cowboy Land, KU Prototype Farm for Vegetable Chemical-free Production, Innovative Health Park. The campus also has a store that sells the university's products developed through its research and innovation, such as rice, soap, dry and processed food, etc. Community people from across Thailand have come to visit these learning centres and stay on campus. They learn how to add value to their agricultural products and turn them into more money.

FACILITATING MDG: ENSURING ENVIRONMENTAL SUSTAINABILITY

Kasetsart University plays an important role in facilitating the MDG, particularly in ensuring environment sustainability. At present the university is acting as Thai National AGRIS (International Information System for the Agricultural Sciences and) Centre in compiling national agricultural information and knowledge and collecting national information with over 240 international organizations on food and agriculture. This center is managed by the university's central library and under authorization by the FAO.

Kasetsart University is known for its uniqueness in being environmentally friendly. The image of a bicycle-riding campus has been a unique long tradition. This core value has been passed down through generations and upheld by all campuses. Every Kasetsart University Campus highlights their green and environmentally friendly atmosphere. These core values have resulted in the recent world recognition award of "Green University." Kasetsart University was ranked as 1st place of the Green University of Thailand and 46th place of worldwide university. Universitas Indonesia (UI) has performed ranking of worldwide university, especially emphasizing to Green University. The guidelines for grading are 1) location and public utility system (24%), 2) Energy and climate change (28%), 3) waste management (15%), 4) water consumption (15%), and 5) transportation (18%). The worldwide university ranking was first held in 2010 and there were 95 institutions from 35 countries participating.

Kasetsart University also participated in 2011 when there were 178 institutes from 42 countries.

PROSPECTIVE ROLES OF KASETSART UNIVERSITY IN TRANSFORMING RURAL ASEAN

Kasetsart University takes internationalization as one of its major policies. Kasetsart University aims to play an important role in supporting ASEAN rural transformation by promoting university curricula on climate change, food security, and agriculture as part of the ASEAN Framework Action Plan on Rural Development and Poverty Eradication through the following activities.

1. Coordination with universities in ASEAN to promote the study of and to strengthen the university in areas of climate change, food security, and agriculture.
2. Giving policy advice to the ASEAN Secretariat on ways to support universities in promoting the study of climate change, food security, and agriculture for sustainable rural development.
3. Facilitating support to initiate and conduct various academic collaborative activities with universities in ASEAN such as training professional and technical human resources through degree and non-degree programs, and by developing and strengthening curricula for rural development.
4. Exchanging faculty members, researchers, staff, and students, and by conducting joint research, seminars, conferences and workshops on rural development.
5. Building regional clustered-research collaborative centers with sister universities in ASEAN to tackle existing and emerging regional problems.
6. Sharing knowledge with the ASEAN rural community through university networking and ICT. ICT can be used as a tool to gather and to share information with rural people in the ASEAN community. This in turn will allow policymakers and people working with rural populations to make better decisions on rural development activities (Rassameethes, 2012).
7. Encouraging public and private partnerships to work together to promote educationfor rural transformation (Buasuwan, 2011; Buasuwan and Thongtai, 2012).

CONCLUSION

Like many other developing countries, Thailand is undergoing a rapid change towards an industrial and knowledge-based economy. Many rural Thais have now moved to urban areas where they work as labour in industrial and service sectors. Today, globalization is posing new challenges to the living conditions of rural people. For the nation to flourish and remain competitive in a global knowledge-based economy all Thais, including rural Thais, should have the knowledge and capacity that can empower them to improve their living conditions. For the rural sector, this means that agricultural yields must be improved and that rural people must be given the skills and knowledge for profitable marketing of their produce.

Kasetsart University is committed to its role in rural transformation by adopting Sufficiency Philosophy as a guiding principle. The university believes that rural well-being is necessary to lay down strong foundations for a sustainable national development in which socio-economic development and environmental preservation are achieved. Kasetsart University plays its role in education, training, and knowledge creation and in bridging the gap between rural and urban populations. The university also builds the capacities of both professional and rural people in wide areas that are relevant to rural development. It aims to improve the quality of life through knowledge creation and innovation that ensures environmental sustainability. The university sets clear directions for all units to align their practices, to strengthen their core values of sufficiency economy and environment sustainability, and to build up key strengths of the university in research and teaching. The university also aims to create partnerships and connections with the local, national and international community and to employ ICT as a useful tool in achieving this connectivity.

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CHAPTER ELEVEN

RETHINKING ABOUT TEACHERS IN AFRICA: RETENTION AND TEACHER EDUCATION

Rita Bissoonauth, African Union Commission

INTRODUCTION

Presently rural people represent 71% of the total population in sub-Saharan Africa. The numbers will remain important for the next three decades as it is projected that rural people will represent 58% in 2030. For every 100 children who have access to primary education in urban areas in Africa, only 68 do so in rural areas. For every 100 children in urban areas who complete primary school, only 46 children do so in rural areas. The gender gap is also more pronounced in rural areas since the ratio of girls to boys at all levels of education is much lower in rural than in urban areas. The same is true for literate women to men in rural compared to urban areas.

It is believed that a large number of teachers in rural schools are either unqualified or under-qualified, as reflected in the declaration adopted by the recent Teacher Development Summit held in Johannesburg in 2009. Teacher education is a socio-cultural phenomenon which cannot take place without the understanding the broader social, cultural and political environment where teachers work. Teachers often see rural areas as offering fewer opportunities for professional advancement (Mulkeen, 2005).

There have been several studies which underline the fact that enough attention has not been paid to the specific training needs of teachers in rural areas (Buckler, 2011). Other reports emphasize that separate educational policies and programs are not necessarily the answer (UNESCO, 2001). The real question rests on the feasibility of having different training programs for teachers in urban and rural areas.

Moreover, teacher deployment policy and practice have resulted in marked inequities in teacher distribution, leaving small schools in remote locations less well served. This problem is difficult to resolve, as teachers are frequently unwilling to reside in rural areas. Many countries report the presence of unemployed teachers in urban areas and vacant positions in rural areas. African countries have used a variety of measures to address these challenges, including incentives for teachers who locate in rural areas and mechanisms to recruit local people as teachers.

Isolated schools present challenges for teacher supervision and support. Classroom teachers need continuing professional support and supervision, but provision is hampered by logistical difficulties. Some countries are turning to localized systems of support and supervision to ensure coverage in remote areas. Many countries are also trying to strengthen in-school support and monitoring systems, including training head teachers and senior staff, to reduce the need for external supervision.

ON-GOING INITIATIVES IN THE TEACHER EDUCATION

The Teacher Education in Sub-Saharan Africa Programme (TESSA)

The TESSA initiative (2005-2015) is currently engaged in producing teaching materials for schools and training materials for teachers at primary and secondary levels in Africa. It is led by a consortium comprising eighteen universities and international organizations spread across nine African countries with an aim to:

1. address the needs of the millions of unqualified teachers working in schools;
2. produce a wide range of country-specific text and on-line resources (open educational resources) that can be used in the development of school based teacher education programs;
3. promote practical classroom-based teacher development programs involving a wide range of active learning strategies.

The TESSA Initiative stresses the importance of school-based teacher development activities, which it says is the preferred modality of teacher in-service training in situations where most of the teachers in Africa work in rural and isolated sites away from opportunities for professional upgrading through other means.

NEPAD E-Schools Initiative

The main objective of this initiative (2003-2013) is to train a critical mass of African primary and secondary school teachers in using ICT in their teaching. Under this major objective, NEPAD's e-schools initiative strives to provide:

i. To provide ICT skills and knowledge to primary and secondary school students that will enable them to function in the emerging Information Society and Knowledge Economy;
ii. To provide teachers with ICT skills to enable them to use ICT as tools to enhance teaching and learning;

iii. To provide school managers with ICT skills so as to facilitate the efficient management and administration in the schools; and
iv. To make every learner health literate.

Nine countries have already officially launched the NEPAD e-Schools Project in their respective countries. The teacher training and Online Curriculum Content has provided teachers and learners access to relevant online curriculum content developed to address their requirements, and to enable current and graduating teachers to use ICT to improve the quality of teaching and learning.

The African Virtual University (AVU) Teacher Education Program

The AVU Teacher Education Program has as aim to address the challenges of quantity and quality that plague the teacher education profession especially in sub-Saharan Africa. This program was therefore expected to make a significant contribution towards the achievement of the Millennium Development Goals in education.

The teacher education program focuses on the use of ICTs both in and across the curriculum, with a particular focus on Mathematics and Science Education. The program will have the following impact/benefits to the beneficiary countries:

i. Improve the quality of teaching and learning in Maths and sciences through the use of ICTs;
ii. Increase the number of Mathematics, Sciences, and Basic Computer Science teachers by expanding access to training through the use of ODL methodologies;
iii. Develop and promote research in teacher education in order to encourage evidence-based decision-making in all aspects of teacher development; and
iv. Promote regional integration and strengthen relevant partnerships with other teacher education initiatives in Africa and globally

Developing Open and Educational Resources for Higher Education

The Commission of the African Union is collaborating with the *Agence Universitaire Francophone* (AUF) and the African Academy of Sciences to strengthen the quality of teaching and learning in African Universities, especially those in rural areas. This project has as aim to:

i. Develop common open educational resources.
ii. Provide free access to digital content broadcast, especially digital educational content of a new generation, and promote use of distance education
iii. Produce and disseminate African content in Science and Technology and provide an open forum of expression and exchange.
iv. Share 'best practices' in technology enhanced teaching and learning

Establishing Regional Centers for the Teaching and Learning of Science and Mathematics

The African Union Commission is in the process of establishing regional centres for in-service training of teachers in the area of Science, Mathematics and Technology using Open and distance learning. It is necessary to establish dedicated in-service training centres to exemplify best practices that have been found to enhance performance in science, math and technology. Already in some member states attempts are being made to address this issue through in-service training.

A particularly promising example is found at the Centre for Enhancing Mathematics, Science and Technology Education in Africa based in Nairobi, Kenya, sponsored by the government of Kenya, with support from JICA and technical support from the ADEA Working Group on Science and Mathematics Education. The impact of this centre, though positive, is limited considering the magnitude of the challenge spanning the whole continent.

A study was commissioned to identify other in-service training centers in the African continent.

CHALLENGES FACED BY TEACHER TRAINING INSTITUTIONS IN AFRICA

Even though there are many continental initiatives as well as on-going projects at national level, education is still beset with a lot of problems and challenges, especially in the rural areas. There is plenty of evidence that good quality teaching makes a difference. Good quality primary and secondary general education is important for helping young people from poor households take advantage of better paying and higher productivity non-farm employment opportunities (UNESCO, 2012).

Some teachers have underlined the fact that successful teaching in a rural school is different from successful teaching in other settings (Eppley, 2009). Presently the quality of education offered to children in many rural schools is poor. Rural teachers often have less access to support services than their urban counterparts, and fewer opportunities to attend in-service courses (Mulkeen, 2005).

As it has been noted in the Emerging Voices Report (HRSC, 2005), there is a nagging feeling that unless the real differences between rural and urban areas are appreciated and given special attention, inequalities will persist and come to haunt future generations. It is important to understand and interrogate so as to advance the quality of teacher education in rural areas (Balfour, 2012). Buckler (2011) concludes that a study of rural teachers' lives, suggests that a reconsideration of teacher education is necessary. There is enough evidence for us to re-think about re-modulating teacher education. However, this does not mean that there should be different programs for urban teachers and rural teachers. Teacher education should try to encompass the realities that many of our teachers face on the ground.

SETTING UP COMMUNITIES OF PRACTICE

One way of responding to the mentioned challenges would be to set up communities of practice, during pre-service and in-service training. These comprise of a group of individuals participating in communal activity, and experiencing/continuously creating their shared identity through engaging in and contributing to the practices of their communities (Wenger, 1998).

According to Wenger, three characteristics are crucial for a community of practice: the domain, the community and the practice. A community of practice is not merely a network of connections between people, but has an identity defined by a shared domain of interest. The community is established when members engage in joint activities and discussions, help each other, and share information and their interest in their domain. They then build relationships that enable them to learn from each other. Members of a community of practice are practitioners. They develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems—in short a shared practice.

Communities of practice are powerful tools for providing spaces for self-reflection to pre-service and in-service teachers challenging the dominant urban-based teacher education discourses in relation to rural schools (Islam, 2012). Communities of practice enable a dynamic environment representing different participants, including mentors, mentees, schools, society, learners and others, where the learning becomes a continuous process driven by the forces of reflection, self-improvement, and learning from others (ibid).

One means of doing this would be to set up communities of learners linking the learning of pre-service teachers with the learning of experienced teachers and teacher educators. Teacher education programs should set aside modules or seminars which allow the teacher during his three or four year

training to have on-going interactions with more and less-experienced peers. During weekly seminars, members come together to discuss various issues related to their growth as future teachers. There is no fixed agenda; students are allowed to choose their own themes. Each of these seminars should be led by a facilitator to discuss on expectations and their work in the schools, especially working conditions in rural areas. Students take turns leading the weekly sessions, planning presentations, bringing information to the group, and leading discussions.

These can be reflected through a portfolio, which will contain evidence of the student's professional growth and his/her readiness to face reality, especially for newly appointed teachers. The portfolio allows the student to reflect on the best teaching and learning strategy to put in place depending on his or her surroundings. The building of portfolios provides a rich opportunity for students to reflect on practice. Moreover, it is hoped that this dynamic interaction will continue informally even after the teachers have left the training institution and are in their teaching posts.

However, the biggest challenge for educators who are designing and facilitating communities of practice in the service of learning is to recognize the system tensions, identify how they impact community life, balance their influence, minimize potentially damaging conflicts, and allow the system to organically evolve as the community as a whole learns to balance the multiple needs of its members (Barab et al., 2002).

CONCLUSION

Even though there are numerous on-going initiatives in the African continent, these have to take into account the rural perspectives. Without sustainable communities of practice, the role of the teacher in rural areas will be compromised, only increasing the indifference between the urban and the rural teacher, thus impacting not only teaching and learning but also quality education. Communities of practice are an opportunity to address the challenges posed by rural education.

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CHAPTER TWELVE

YOUNG MEN AND WOMEN CAN STEER COMMUNITY TRANSFORMATION

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INTRODUCTION

The vulnerabilities and disadvantages that women and girls face emerge directly out of social constructions of gender – identities, attributes, socially expected roles and the social structures set up to enforce those roles. These social norms and identities are internalized by young women and girls and translated into cultural practices and individual actions of those who should protect girls and young women. The global discourse for empowering women and girls has generally focused on, among other things, girls' enrolment in public education, reducing or prohibiting early marriage, and economic empowerment of women. While all of these are key, even when they have been achieved, girls and women are still too often vulnerable. In Latin America and the Caribbean on the whole, for example, we see girls enrolled at nearly universal rates at the primary level (in some countries at rates higher than boys). But this enrolment does not leave girls immune to harassment and unwanted sexual advances. In a recent population-based survey in the Caribbean (where girls' rates of enrolment in primary school approach 100 percent, and are higher than those of boys), nearly 50 per cent of young women ages 10-18 reported that their first sexual experience was "forced" or "somewhat forced" (UN Millennium Project, 2005). It has been universally felt that for addressing the vulnerabilities of women and girls, it

is needed to involve men and boys in all programmatic interventions. In bringing men and boys into the question, we want to make it clear that this is not to propose or argue, whether we should devote more time and resources to engaging men and boys in redressing gender inequalities versus working directly with girls to protect and empower them. Both must happen.

To give an example, the Indian government has made numerous provisions to educate the masses about health and nutrition, yet the girls and women in India continue to be weak and malnourished facing many consequences due to social factors that have a bearing on her health. The Nutrition and Health Education sessions held in the villages are not enough. The universal presumption of high extent of malnutrition among women is substantiated by the large scale survey population named National Family Health Survey (National Family Health Survey III). It clearly mentions of high extent of anaemia among "ever-married women age 15-49" as 56.2% as against 24.3% among "ever-married men age 15-49". Anaemia is disturbingly common among adults and among women its prevalence has actually increased over the past seven years. Anaemia increased among women, from 52% to 56% among married women and from 50% to 58% among pregnant women. The monthly data generated by Integrated Child Development Services (ICDS) also points towards high extent of malnutrition among girls than the boys. And when the anaemic women bear children, they put their own and their newborn's life at risk. Educating communities on health care is easy, but when it comes to practices, the deep rooted social norms come in the way of behaviour change. Moreover, government programs across the country have always reached out to women and women alone for her health. It is high time that men and women both are equally engaged in education for behaviour change and social transformation.

Educating male members in women's health has always been a taboo according to the old age practice especially in the Indian context. Scholars like Woldemicael (2007) argue that current research and policy discussions on maternal and child health primarily tend to focus on female education and employment with little attention to women's decision-making autonomy. This, Jejeebhoy (2002) identifies as a critical knowledge gap. She notes that women's autonomy on various reproductive matters like contraception, fertility, and spousal communication, are influenced by individual partners' views of women's autonomy (Jejeebhoy, 2002). Increasingly, there is recognition that men's involvement in wives' utilization of antenatal and postnatal care services and family planning services are important determinants of women's reproductive health. The need to reach out to men with women's reproductive health programs was affirmed in 1995 at both the International Conference on Population and Development (ICPD) and

the Fourth World Conference on Women (United Nations, 1995; Khorram and Wells, 1997); yet it is only in recent times that it has merited the importance that it needs.

Studies from different parts of the world have shown that reproductive health programs are likely to be more effective for women when men are involved in some way (Gordon, 1995; Mbizvo and Bassett, 1996). Studies reveal that men are the key decision makers for women's choice of health care services, despite their limited knowledge about women's reproductive health needs and available services (Murthy, et al., 2002). The advantages of male involvement in women's reproductive health programs was affirmed in India by several studies: a study in five districts of Uttar Pradesh which focused on husbands' reproductive health knowledge, attitudes, and behaviour found that men who had access to information on reproductive health, resulted in a positive health outcome for women (Singh, KK, Bloom, SS, et al, 1998). Similarly, studies by Bhalerao et al (1984) and Becker (1996) found a direct positive link between men's involvement and fertility levels and contraceptive use.

Empirical evidence of women's reproductive health status being associated with women's autonomy and husband's involvement in women's reproductive health has resulted in renewed efforts to understand socio-cultural practices and gender norms that determine women's utilization of services. This has necessitated that research studies and programs interventions are aware of the realities of men and women's lives. They are aware of the relationship between men and women within families, their articulation of individual agency as well as their coping strategies in the absence of support. It is increasingly being recognized that such a nuanced understanding and realization will not only provide important leads to improve service delivery, but also inform program related health strategies.

While rates of maternal and newborn morbidity and mortality have dropped in many countries of the world, the global burden of maternal mortality has not significantly diminished in more than a decade, despite the calls for action by 2015 in the Millennium Development Goal (MDGs), as defined in the United Nations Millennium Declaration (United Nations, 2000). A series in the Lancet called for a more comprehensive approach to achieving health, to address factors outside the health care system, such as reducing poverty, improving women's attainment of higher levels of education and access to economic resources, in addition to community-based social protection and mobilization efforts (Ekman et al., 2008).

The Indian continent is a country of diversities. It is often said that within a few kilometres in India, the water, the food habits, the language and the culture changes. But one thing that binds India together is the prevalent

gender inequities. It may be less in some place and a bit more in the other, but generally inequities are visible across the country. Girls are not sent to schools even when they are enrolled but are trained to cook and do the house hold chores. Boys are generally never allowed to venture into the kitchen. It becomes a norm that boys will not cook and will not do the household chores such as cleaning utensils, washing clothes or cleaning the house. With the launch of Education for All (Sarva Shiksha Abhijan), the girl children are promoted to attend primary schools. But when it comes to send her for elementary and secondary level, the numbers drop as there are schools far away from the villages and they cannot be sent far. It becomes more important for her to be educated about the household chores. This unwritten rule of education at home continues till the girl is married off. With almost no education about how to begin her married life and plan her family, the rural Indian bride soon finds herself in a family way.

For decades, health programs have been working to improve the quality and accessibility of health services for rural and urban communities, including a focus on improving capacity of health facilities and community outreach and mobilization to generate demand and better self-care. CARE designed its programs to reduce maternal and newborn mortality and morbidity by following tested strategies, such as promoting access to health education that will inform choices about family planning, basic elements of antenatal care for all pregnant women, skilled delivery at birth, referral to basic and comprehensive emergency care when complications arise, and essential newborn care including warming, cord care, and immediate and exclusive breastfeeding. These strategies have been proven to improve maternal and newborn health and survival (Darmstadt et al. 2005; Campbell et al. 2006). CARE's experience working in maternal health spans many decades and that made CARE learn through its work that improving quality of health services is not enough, nor is improving demand for health services or even educating people about health behaviours. CARE learned that cross-sectoral strategies to address such social barriers to good health like lack of education or poor access to decision-making about household finances can help improve the health of the community. Moreover, the issues that were long considered unchangeable parts of cultural norms, like early marriage, or women's limited mobility, or household violence can all influence health outcomes. CARE also learnt that when young women and men are educated and involved in deeper discussions, they are more open to challenge social norms and have the potential for transforming the rural society.

Furthermore, CARE now has some experience in how to carefully design and incrementally implement programs that holistically address such "social determinants" of poor health in collaboration with communities, so

that each program is contextually appropriate and uses the strengths of a community to achieve change. Not only health, this learning can go in any other rural programming, be it girls' education or livelihoods.

Because women and men live in households and communities where peer pressure and expectations play a large role in how people behave, it is important to include both individual behaviour change models as well as social change models that mobilize communities on issues related to inequities based on gender, race, ethnicity or caste. It is also important to link the work at the community level with health service capacity strengthening, so that the health service sector can contribute to the efforts to reduce the barriers of discrimination, stigma, and unfairness that keep women from achieving their full human developmental potential.

INNER SPACES OUTER FACES INITIATIVES: CHALLENGING AND CHANGING SOCIAL NORMS

CARE implemented Inner Spaces Outer Faces Initiative (ISOFI) in Barabanki district in Uttar Pradesh in India, to fully integrate activities designed to address gender-related factors of discrimination into state-of-the-art interventions to reduce maternal and newborn mortality and morbidity. Because of CARE's dual commitment to improving access to and use of quality sexual and reproductive health (SRH) information and services, and to addressing the underlying causes of poor SRH status in the form of gender-related discrimination, CARE implemented a unique action research project from 2007-2010 to build a program that addressed both.

Inner Spaces Outer Faces Initiative, was designed to share a simple lesson: each individual has both an internal space, that contains perceptions of issues such as gender, sexuality, family and identity, and a more public "face" that each person presents, meaning the way that a person talks about and presents information outwardly in a public or professional environment. Although they are very connected and mutually reinforcing at times, they may also sometimes be in conflict. In the context of staff who are implementing reproductive health programs, the inner beliefs and moral, cultural values that a person carries may not necessarily be in alignment with the 'public face' of traditional public health paradigms. For example, a public health professional whose job it is to reduce risks for HIV infection of commercial sex workers may experience shame and stigma from family members who wonder why someone with an 'upstanding' reputation is working with people who are considered morally questionable. A married, middle-class professional may be harassed for his or her public health work in demonstrating proper condom use. Another public health professional working with unmarried adolescents may believe that sexual and reproductive health information and services for unmarried people is not

proper, based on his or her cultural or family upbringing, even though the project interventions and his or her own professional responsibilities are to serve the needs of an entire community, including unmarried people.

Education and practice on key health behaviours targeted by the project included: birth preparedness, recognition of danger signs in pregnancy, immediate and exclusive breastfeeding, and clean cord cutting practices and thermal care for newborns. In order to achieve a high level of awareness and better health practices by pregnant women and new mothers, the project initiated community-level interventions through existing committees established by the government of India's National Rural Health Mission (the Village Health and Sanitation Committees) and establishing new committees called the Mother's Committee (includes the AWW[2], ASHA[3], pregnant women, mother-in-law or sister-in-law, cord cutter, local 'dai' or birth attendant) Meetings, as well as Block and district level consortia meetings. Some home visits were scheduled for the pregnant women who do not come for the Mother's Committee (MC) meetings, and for all pregnant women living in communities.

GOOD PRACTICES:

Transform staff capacities:

ISOFI showed the importance of 'personal reflection and transformation' as an initial step to critically thinking through programmatic changes necessary to address gender and sexuality factors. ISOFI gave staff the opportunity to weigh their own values, beliefs and opinions about gender and sexuality through dialogue with their peers. Moreover, many issues related to gender and to sexuality are considered taboo for public or "polite" discussion, leaving many people feeling uncomfortable or shy in these discussions. In ISOFI experience, many people, including public health professionals, lack experience or skills in how to discuss such topics using respectful language.

All staff in the project were health professionals and were well educated in behaviour change methods to improve health related behaviours. When introduced to the idea of addressing factors related to gender and sexuality in addition to health behaviours, many of the staff were interested and excited, but many were also skeptical. Many felt that the time to implement the behaviour change strategies was too short to allow for

[2] Anganwadi Worker is a community volunteer who runs a preschool in the village and provides, preschool education and nutrition to the children enrolled. She also counsels the community members on Reproductive and child health issues.

[3] Accredited Social Health Activist is also a volunteer based organization at the community level. She counsels the couple on healthy behaviours assists ANM during immunization sessions in the village and motivates and accompanies woman for institutional delivery.

"additional topics." Those who were interested wanted tools and practical strategies, since their professional training had not prepared them for addressing these issues.

Knowing that a one-off training was not sufficient, ISOFI incorporated multiple opportunities for staff to explore the issues and begin a process of self-transformation, including iterative opportunities to reflect and think critically about the issues. These included: training workshops, monthly project meetings, quarterly all-staff meetings, qualitative and participatory assessments with community members, cross-visits to other field sites, and a retreat off-site that included an invitation to spouses and children.

In addition to the trainings, periodic meetings for reflection and learning for staff who implemented ISOFI were introduced. On-going critical observation and learning encouraged staff to reflect and learn through "reflective practice." Some of these sessions were facilitated by outside facilitators, while others were facilitated by ISOFI staff members. The reflective practice sessions allowed staff to share with each other what gender or sexuality issues were most pertinent to the work, how they were integrating ways to address those factors, and to share something that they had noticed related to gender since the last discussion with men and women in the rural communities.

Rural interventions: Couples' Meets

One of the innovations of the ISOFI project was invention of the public couples' meets at a village level. ISOFI invited young married couples to meet together in a public setting such as a school yard or clinic yard. By inviting the couple together, the project was able to overcome women's traditional limitations on mobility, and while accompanied by their husband, women were able to leave their houses in a publicly sanctioned way. The meeting itself was outside of normal "couple" activity in the village, and generated much interest. The activities engaged the men in public discussions about gender issues, and allowed everyone, including their wives, to hear their opinions. The meetings lasted less than 2 hours and consisted of facilitated exercises and games that kept everyone entertained and interested. The couples participated in the games, exercises, and discussions on women's rights, mobility, family planning, couple communication and decision-making, and father's participation in the maternal and new born care. At the beginning, the meets were organized and facilitated by CARE staff, but with coaching and mentoring and training, the community health workers (ASHAs) were facilitating these sessions at the end of the intervention period.

The community health worker facilitated this 'couple's meet' in 2009. One popular exercise focused on more equitable sharing of household and farming tasks between husband and wife.

Rural interventions: New Parents' Meets

Generally the new parents included the first time pregnant women and their husband. The idea to launch "New Parents" Meet emerged from one of the reflective practice sessions with staff, where the discussions focused on how to support an enabling environment for pregnant and lactating women in the home. The teams felt good about the success they had achieved in educating pregnant women and their mothers-in-law about health issues, but they felt that they had not yet found a good way to reach the men; the husbands and fathers with information, support and coaching about playing a supportive role in pregnancy and in caring for newborns. While some men in the villages had participated in "couples meets," the teams wanted to find a way to invite active participation of husbands/fathers in a public setting, in a way that would reinforce positive parenting behaviours and also be fun. The final design of the New Parents' Meet was different from the village-level Couples' Meet. It was larger, longer, and involved more stakeholders in planning and implementing. The New Parents' Meet was designed as a "mela" or fair, advertised among 7-10 villages for a particular day, and lasting 6 - 7 hours. It was a collaborative event that was jointly supported by 3 projects, with booths staffed by health providers that provided information on child health and nutrition, breastfeeding, family planning, etc. Anganwadi workers were present to weigh babies as part of a normal weight check. There were also competitive exercises, quizzes, and films. In each, fathers were invited to compete for a prize in correct bathing of a baby.

Coming at the end of the project intervention cycle, this was the "farewell" exercise in each village to publicly announce the end of ISOFI activities. Four New Parents' meets were held (one for each sub-district) and all the communities participating in the ISOFI interventions were invited. Almost 1,000 people attended the new parents' meets between July 2008 and April 2009.

Other popular tools: Bead Game

One game that was especially popular among the women was the "Bead Game" which, with the help of two coloured beads representing the XY chromosomes, showed how the sex of a child is determined. The key information that it is a chromosome from the men which determines the sex of the child, was overwhelmingly popular with the women, who said they were often blamed (if girl) or rewarded (if boy) by their husbands or families for the sex of the baby. This game became so popular that it was used in most of the group meetings, and community-based auxiliary health workers such as AWWs and ASHAs were trained to facilitate the exercise as part of their routine job activities.

FINDINGS

Health indicators improved over time in both the control and intervention communities. As can be seen in Table below, skilled attendant at birth, preparation for childbirth, immediate breastfeeding, and family planning use improved in both districts. Neonatal death declined. In some cases, the rate of change in the intervention community was greater than in the control community but not in all cases. There were also improvements in the sexuality and gender indicators among women of reproductive age, including improved mobility, autonomy of decisions, gendered division of household labour, and spousal communication about sex and family planning. In many instances, the rate of improvement was greater in the intervention community compared with the baseline community. Among the factors related to gender, the greatest rates of change were related to women's reports of mobility, that they could refuse sex with her husband for one or more reasons, and that the woman could express her sexual needs to her husband.

While the quantitative survey did not measure changes in men's attitudes or behaviours, the qualitative data at endline showed that some men interviewed as new fathers reported that they were involved in maternal and newborn care. Of the men interviewed at endline, several mentioned that they had accompanied their wife to the health facility at least once as part of her ante- or post-natal care. Some men saw themselves as responsible for helping to care for their wives. Other men reported wanting to be involved but lacking the time to do so, citing heavy workloads and multiple responsibilities, especially when living in a nuclear household setting, without additional family members to help.

Table 1: Percentage of respondents reporting selected gender and health attitudes and behaviours by site, Uttar Pradesh, India (2007 and 2009)

Outcome Variable	Intervention		Control	
	Baseline n=336	Endline n=329	Baseline n=327	Endline n=339
Maternal and Newborn Health Indicators				
Trained delivery care	37.05% (123)	84.80% (279)	52.94% (171)	74.34% (252)
Preparation for childbirth	56.76% (189)	91.38% (297)	83.80% (272)	92.98% (311)
Current use of family planning	7.14% (24)	34.65% (114)	6.79% (22)	27.43% (93)
Antenatal care use	42.99% (144)	87.23% (287)	82.72% (268)	97.64% (331)
Breastfed within 1 hour	27.41% (88)	39.29% (121)	64.42% (203)	75.00% (246)
Neonatal deaths	9.12% (22)	5.45% (17)	10.02% (18)	3.34% (11)
Gender and Sexuality Variables				
Can go out alone (mobility)	18.15% (61)	37.69% (124)	26.71% (89)	12.09% (41)
Involved in decisions about household earnings	24.40% (88)	39.51% (141)	38.27% (126)	49.26% (178)
Woman can be justified in refusing sex	36.61% (123)	94.53% (311)	54.01% (178)	71.09% (241)
Help with household chores during pregnancy	55.52% (186)	79.03% (260)	78.40% (257)	75.81% (257)
Spousal communication about family size	64.88% (218)	70.52% (232)	65.53% (212)	55.16% (187)
Express physical or sexual needs to spouse	25.37% (85)	67.48% (222)	36.45% (120)	35.40% (120)

Most of the men interviewed at endline mentioned various ways they tried to help their wives in their most recent pregnancy and delivery. Most of this care was directed at ensuring that their wives had nutritious food like green

vegetables and fruits. Most men spoke about taking care of their wife's food intake, some mentioned specifically that they helped with household chores, such as lifting heavy things or doing heavy physical work like fetching water from the tap. However, these men also mentioned fear of ridicule by family members. They reported that the remarks of family members were sometimes a deterrent to helping their wives. One new father in the intervention district reported:

> *When my wife asked me to get her something, I would bring it separately for her. I would fill the water, wash my own vest and underwear and she washed my pants and shirts. Even if I asked her not to wash them, she would not listen. Of course, I used to feel shy as other members in the family would say that not only does he wash his own clothes, he washes his wife's clothes too! [man, intervention district].*

Another respondent said:

> *I wanted to take my newborn daughter out for a walk in the village but people would say that look there goes the woman with her child or would say that he is slave to his wife!* [man, intervention district]

At endline, the qualitative data showed that some women and men reported greater communication between husband and wife, and greater sharing of participation in health-related activities.

> *We learn to go out together, to go to the health center together, and to show love between each other [woman, intervention district].*

Capacity of Health Care Providers

The ISOFI intervention provided training, mentoring and support to staff of the government of India's community based health workers (ASHAs, AWWs, ANMs) to begin to think critically about gender and sexuality factors, and to address discrimination as part of their work. In-depth interviews and focus group discussions with community-based health workers at the endline revealed some new insights and ways of thinking and working. One reported:

> *I am touched by my own unequal treatment of the girl child. We prefer the boy child even though men drink and treat us bad while girls take care of us. We need to appreciate our daughters. [ANM, intervention district]*

At endline, the community-based health workers spoke about the change in their own attitudes about men's involvement in MNH. They reported how they now actively seek out and encourage men to become more knowledgeable and involved. Some reported feeling more open and confident to discuss issues like sex during pregnancy, and felt that not only was it their responsibility to speak with husbands about the importance of respecting their wives' right to ask for or refuse sex, they themselves felt more comfortable doing so routinely.

In general, the community-based health workers reported that at endline they had greater confidence in talking with men, in speaking out in general, and in their own mobility to move about the community. They felt more confidence in their own skills and abilities, and felt they received more respect from community members. One ASHA reported that the role modelling and mentoring she received from CARE staff gave her the skills and confidence to find a new way to work. She reported:

> *I am now visiting other ASHAs in my neighbouring villages to discuss the themes I learned through ISOFI. I now speak with husbands, comfortably talking with women at home or in groups, and role modelling women's rights.*

TAKING THE ISOFI LEARNING FORWARD

ISOFI model was tested to inform CARE's programming that gender integration can speed up social change interventions. ISOFI asserted CARE's Gender Empowerment Framework, through three interactive dimensions of empowerment—agency, relation change, and structural change that are necessary for women's empowerment. CARE International uses the ISOFI tool kit that comprises of tools used for staff and community members across CARE countries. The learning have influenced CARE's other programs on Girls Leadership, Maternal and Child Health programs. In the Girls' Leadership Program, that works for promoting girls' education and leadership skills, reflective sessions were held with staff, teachers and mentors so that they can address their own biases around gender equity.

The most important learning of working with men and boys alongside women and girls has been not only effective in accelerating change, but it also has the element of fun to learn.

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CHAPTER THIRTEEN

HOLISTIC PRIMARY EDUCATION

A CASE STUDY OF THE CHILD FRIENDLY SCHOOL INTERVENTION BY AZIM PREMJI FOUNDATION IN SHORAPUR, KARNATAKA

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INTRODUCTION

Setting the Context

Azim Premji Foundation (The Foundation) is a not-for-profit organisation headquartered in Bangalore. It works in the education and related development sectors with a vision to **'facilitate a just, equitable, humane and sustainable society'**. Since its inception in 2001, it has been working in several parts of the country on projects and support activities for improving the quality of education in the rural areas. This paper discusses a project by The Foundation being carried out in the Shorapur block of Yadgir district of North East Karnataka (NEK) region. This block was selected keeping in mind that it is one of the most marginalized areas in the state. It is in one of the poorest and most under developed districts of Karnataka. This section provides an overview of the socio-economic and educational context of this region.

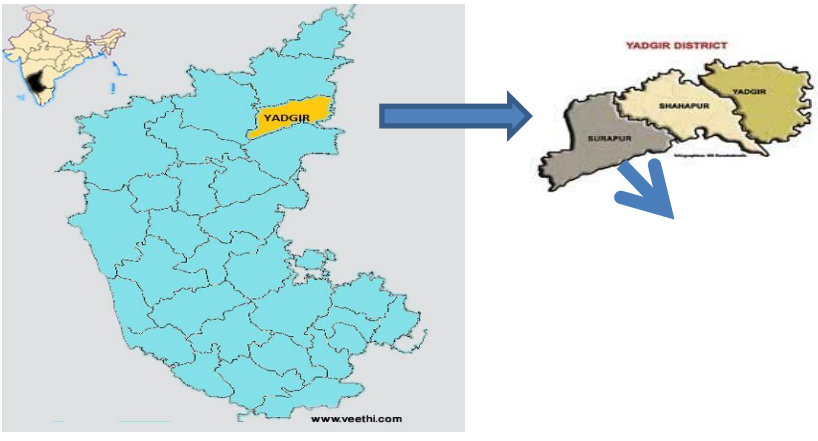

Figure 1: Map of Yadgir District of North East Karnataka (NEK)

Educational Indicators

Data from the state educational census conducted in 2002 highlights that 7.4 per cent of the over 90 lakh children in the state aged between six and fourteen are out of school. As a result of several initiatives of the Government of Karnataka (GoK), the number of 'out-of-school' children has decreased to 6.6 lakhs in 2002. The percentage of deprived groups however continues to be higher than the rest of the population: 10.5 per cent and 12.8 per cent of children from the Scheduled Caste (SC) and Scheduled Tribe (ST) groups respectively are out of school[1].

The statistics pertaining to North-East Karnataka tell a different story, though. The literacy rate in this region is 56% compared to state average of 67%. About 6 out of 10 'out-of-school' children in the state belong to the NEK region. Among these, Yadgir district has the largest proportion (22.3%) followed by Koppal (16.3%), Raichur (15.9%), Bellary and Gulbarga (11.3%). The NEK region also has a higher dropout rate of 17% compared to the state average of 13%. The region also suffers from poor facilities and service delivery. The teacher to pupil ratio for the region is 1:46, much worse than the state average of 1:36[2].

Historically, Shorapur block has had very low literacy rate. As per 2001 census, the total overall literacy in the block is just 43%. The female literacy rate, particularly in rural areas, in spite of large improvement over the last decade, is still very poor[3].

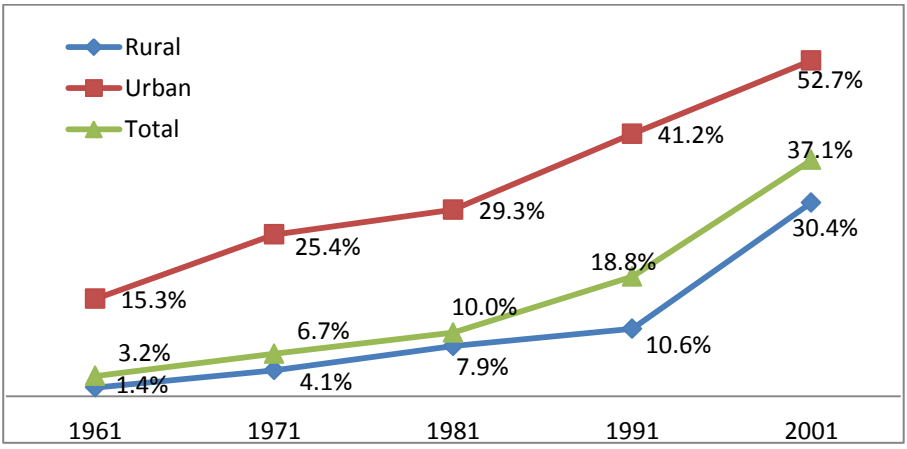

Figure 2: Literacy rates

[1] State Educational Census 2002, Government of Karnataka State
[2] State Educational Census 2002, Government of Karnataka State
[3] Census data from 1961 to 2001, Census of India

Female Literacy Rate in Shorapur Block

The school access ratio for the block is around 96%. On the infrastructure indicators, this block is considered backward. There are huge gaps in terms of availability of various facilities in the schools. Both gross enrolment rates in the Shorapur block are lower than the district avarage while the student drop out rate is higher. On the SSLC (Secondary School Leaving Certificate) board examination level as well, Shorapur is well below the state average in terms of 'pass percentages'.

Human Development Indices

All the blocks in Yadgir district are listed as backward blocks. On various indicators of Human Development Index[4], these blocks have shown poor performance over the years.

Table 1: Human Development Indices – Yadgir District

Block Name	Health Index	Education Index	Income	Overall HDI
Shahapur	0.663	0.499	0.549	0.57
Shorapur	**0.675**	**0.554**	**0.528**	**0.585**
Yadgir	0.668	0.445	0.518	0.543

Shorapur block, though relatively better off than the other blocks in the district, is listed as 157th (Out of 174 blocks) in the state in terms of backwardness.

Initial Efforts in NEK Region

In the initial period (2002 – 05), The Foundation launched a few programs in the region. These included the Accelerated Learning Program (ALP), Computer Aided Learning Program (CALP) and the Learning Guarantee Program (LGP) aimed at bringing about improvements in the learning levels of the children and moving the system away from 'rote memorisation' to learning with understanding. The ALP was designed as a bridge program through the year, to prevent children from dropping out by helping children lagging behind in class to catch up. This program was operational during 2002-03. The CALP was in response to the requests from schools to help them in making use of the computers provided by the department. This consisted of deployment of curriculum based CDs which were specially designed as self-learning material for the children to make the learning process enjoyable through computer based games and activities.

[4] District Human Development Report, Gulbarga 2008

The LGP on the other hand was a school and teacher recognition program where participation was voluntary and was for the lower primary classes (class 1 – 5). The participating schools had to demonstrate specified achievement on three parameters – enrolment, attendance and learning achievement measured through independently designed, competency based written and oral tests. The successful schools were felicitated and publicly recognized. This program was operated from 2003 to 2005.

It was hoped that the programs would bring about changes in the way assessment was carried out in schools and improve the class room teaching processes. While the programs were well received by the participating schools, there was very little improvement on the ground in terms of learning levels among the children or class room processes. In particular, Shorapur block showed negligible forward movement. Only 2 schools showed consistent performance in the entire block – the lowest in the region.

It was in this context that The Foundation launched the Child Friendly School (CFS) intervention in the entire Shorapur block. This is a holistic program and involves all the relevant stakeholders. This was launched in 2005 and is still continuing. This paper uses a case study approach to describe the concept and the core areas of intervention, how these worked, key success factors and the challenges at the level of implementing the intervention. Data was gathered from various sources like quantitative analysis of learning levels, qualitative analysis of classroom observation, pedagogical processes and analysis of documents. Data was collected from multiple stakeholders consisting of teachers, community members, and educational functionaries.

THE INTERVENTION

The Concept

The initial programs operated till 2005 provided an understanding that stand alone programs could not bring about sustained improvements and that overall development of school is only possible with an integrated holistic approach. It also provided enough evidence to show that in an education program investment/engagement has to be long term. With this understanding the Child Friendly School Intervention was designed jointly[5] with UNICEF for bringing about improvement in the quality of education at the primary classes level in Government Schools in Shorapur block. The block had 309 government elementary schools in 2005. These included both the local Kannada medium as well as some Urdu medium schools. Currently

[5] The Foundation would like to acknowledge the leadership provided by Mr. M N Baig, the then Joint Director of Education, Govt. of Karnataka in conceptualising and initiating the CFSI project while on deputation with The Foundation.

though, there are 340 schools in the block, all of which are part of the program. The work was focused around the following five **Core Intervention Areas**:

1. **School environment**- to build attractive, safe and secure school premises.

2. **Classroom environment** - to create conducive, democratic environment within the classroom.

3. **Teaching learning process** - to develop activity based, joyful classroom learning transactions.

4. **Teacher development** -to enhance teacher capacity towards providing quality education.

5. **Community participation** - to promote active community participation in school activities.

Experience had demonstrated that there are no short cuts to addressing the issue of quality education. Improving quality requires a multi-pronged strategy involving improvements in all elements of the educational system. This includes supporting interventions like enhancements to the curricular package, the teaching-learning environment and fostering positive school-community linkages. Successful quality initiatives require local, area based planning and management that need specific skills such as strategic and participatory planning, mobilization and utilisation of available resources and willingness to be held accountable.

As a concept, the Child Friendly School Intervention fosters democratisation of education. It seeks to provide a healthy, hygienic, safe and happy environment for children to learn. It promotes classroom activities and behaviour that is gender sensitive and results in effective learning. It incorporates the involvement of children, families and communities in their children's schooling. Through the CFS initiative, Azim Premji Foundation has attempted to demonstrate comprehensive and sustainable quality of education in identified government schools in partnership with the schools, the community and the education functionaries. CFS deals with issues both within the classroom and school, as well as the community. In-school intervention provides support to curriculum implementation, the teacher, teaching-learning processes and improvement of the school and classroom environment as well as the active participation of the community.

The Objectives of the Intervention

The aim of the CFS Intervention thus is to ensure that the primary school education provides the following:

A. Child seeking: child is excited to enrol and attend the school
B. Inclusive: addresses all children irrespective of gender, socio-economic status.
C. Hygienic: provides clean school surroundings
D. Child centered: school / class-room culture is conducive to child's learning.
E. Active involvement: of children, families, and communities in child's learning and school management.
F. Child development: that addresses habits, attitudes, values and life skills (co-existence, respect for others, group work, peer learning etc.)
G. Completion of school cycle: by all children successfully at least up to class 5

The Design

The intervention has been implemented in three phases – the Three E's of implementation.

Phase I: **The Establishment phase** (2005-2007) – This phase was devoted initial activities with a view to get deeper understanding of the environment and establish ourselves very firmly with all the stake holders.

Phase II: **The Experimentation phase** (2008-2010) – In this phase, we explored and experimented with a wide variety of programs and support activities as demanded by the ground realities.

Phase III: **The Extension phase** (2011 onwards) – This phase is devoted to working more in-depth and in a focused manner to consolidate the gains of the previous phase and to strengthen the sustainability.

The initial efforts (2003 – 05) in the region had provided us very valuable lessons on implementation processes. These have been strongly incorporated in our subsequent work and have perhaps made a significant contribution to the success of the Intervention.

1. Be close to the scene of action: In the initial period till 2005, all the programs were launched, implemented and monitored from Bangalore. While this was understandable in the setting up stage of The Foundation, it had its own serious limitations in terms of acceptance and sustainability on the ground. Hence, an office was started in Shorapur town, the headquarters of the block.

2. Carry out detailed documentation: To help in our own learning process, improving our activities and also to help in wider dissemination, paper and video documentation of all important activities and processes has been made an integral part of our work.

3. Regular evaluation and impact assessment of our efforts: regular and rigorous evaluation of all our efforts has been made a corner stone of our functioning. We have identified indicators which are constantly monitored. In addition, these are also reviewed and modified from time to time to make them contemporary and relevant. In addition, the key outcome variable – the learning achievement of the children is being tracked through baseline and midline measurements in each phase of the intervention. This has helped us remain focused on our key stakeholders.

In each of the three phases of implementation, all the five Core Intervention Areas were addressed in varying measure, intensity and depth. The following table provides a quick overview of the efforts put in each phase.

Table 2: The Three Phases of Implementation

Core Area	Initiatives
Phase I (2005 – 07)	
School Environment	School Improvement Plan (SIP), Identifying and monitoring Indicators
Classroom Environment	Cleanliness and Hygiene, Teaching-Learning Material and Display in class
Teaching – Learning Processes	Implementing 'Nali Kali' (Activity Based Learning), Worksheets for children
Teacher Development	Head Teacher orientation and training program
Community Participation	'Shrama Daan'(voluntary contribution in kind and effort), Bio-gardens
Phase II (2008 – 11)	
School Environment	Tightening Indicators, focusing on key Indicators
Classroom Environment	Children's creativity workshops, children's libraries
Teaching – Learning Processes	Strengthen Nali Kali with class room involvement, Provide Teacher support
Teacher Development	Teacher capacity building, Teacher Learning Centers (TLCs), News letter
Community Participation	Community Jathas (group meetings), School Melas (exhibitions in schools)

Phase III (2012 onwards)	
School Environment	Focus on improving further indicators
Classroom Environment	Participative learning by the children
Teaching – Learning Processes	Teacher recognition program, Teacher experience sharing forums
Teacher Development	Support to help teachers and education functionaries run their own TLCs
Community Participation	Rejuvenating School Development Monitoring Committees (SDMCs) and involve the Gram Panchayats

THE IMPLEMENTATION

Phase I: 2005 - 2007

With a view to establish ourselves and to start a long term relationship with all the concerned stakeholders, The Foundation set up an office in Shorapur town. Without fussing too much about infrastructure, efforts were directed at recruiting 25 'Margadarshis' (volunteers). These were locally recruited graduates who were familiar with the geography. The stakeholders could also relate better to them. The Margadarshis had no formal 'education' background but more than made up for that by their enthusiasm and energy. These were provided training to undertake school visits and interact with the teachers and the community. The focus in this early period for them was on monitoring and not on any serious intervention inside the school.

A set of 214 indicators were identified for regular monitoring. Though these covered all the five core areas of intervention, the focus was on school environment and infrastructure. These were monitored every month by the Margadarshis with cooperation from the Head Teachers of the respective schools.

The Head Teachers of all the schools were provided a 10 day training program which covered all aspects of their intended role with emphasis on the administrative and managerial aspects. This was the first time that the Head Teachers were being provided formal training on their role as 'leaders'. The state government had not considered it necessary to provide such training to Head Teachers anywhere in the state till then.

A school improvement Plan (SIP) was developed with involvement of the Head Teachers. The intention was to get the school to work on the indicators and ensure that there was all round improvement of the school. The schools were expected to work at their own pace and with their own efforts to bring about the improvements. They were encouraged to take help from the community and the education functionaries. It was hoped that this would ensure greater ownership among the schools for the entire process.

A unique classroom process was also introduced in about one third schools (110) of the Block by the state government. This program called Nali Kali was essentially an activity based learning program designed for class 1 and 2 children. All the learning was supposed to take place through a series of activities which also was designed to encourage group learning and peer-learning. Though The Foundation was not involved in designing this program, our Margadarshis contributed to monitoring elements of this class room process.

Simultaneously, efforts were made to get the community involved in the activities of the school. Until then, the community in general and even the parents of the children in school had very little connection with the schools. Annual 'Shrama Daan' programs were organized where in the community members made contributions in kind (materials, furniture, reconstruction/repair to structure etc.) to the school in their area. In addition, bio gardens with help from the community were initiated in the school premises. These were meant to grow vegetables which could be used to increase the nutrition for the children in the mid-day meals provided by the government. In addition to the nutritional aspect, the bio gardens could provide an opportunity for the children to get involved in the horticultural work and also learn in the process.

In this entire effort, the government education department was kept informed and was also a party to all the activities and efforts on the ground through the Block Education Officer (BEO), the Block Resource Coordinator (BRC) and the various Cluster Resource Persons (CRPs).

As indicated earlier, the learning achievement of the children was tracked during the intervention process. Though it was recognized that the written and oral assessment of curricular content could not fully capture all aspects of learning, it was accepted as an easily measurable indicator and a good surrogate. The finding from the written 'competency based' assessment tests across a sample of about 230 schools including schools where the activity based Nali Kali program was introduced as well the other schools is summarized below.

Table 3: Average Written Achievement Levels – Phase I

	Nali Kali Schools			Non Nali Kali Schools		
	Class 2	**Class 4**	**Total**	**Class 2**	**Class 4**	**Total**
Baseline						
Language	40.8%	41.7%	40.7%	33.2%	36.7%	34.4%
Maths	38.7%	37.6%	37.6%	34.0%	32.1%	32.6%
Total	39.6%	39.0%	39.4%	33.4%	34.1%	33.7%
Endline						
Language	39.8%	38.3%	38.8%	36.1%	37.8%	36.6%
Maths	43.4%	33.2%	38.3%	36.3%	32.6%	34.2%
Total	41.8%	35.5%	38.5%	36.2%	34.9%	35.3%

Table 4: Average Oral Achievement Levels – Phase I

	Nali Kali Schools			Non Nali Kali Schools		
	Class 1	**Class 2**	**Total**	**Class 1**	**Class 2**	**Total**
Baseline						
Language	44.7%	43.3%	44.0%	38.0%	31.8%	36.1%
Maths	47.2%	37.4%	42.2%	39.7%	27.0%	35.2%
Total	45.7%	40.4%	43.0%	38.7%	29.4%	35.5%
Endline						
Language	27.1%	39.9%	32.3%	25.6%	33.6%	28.1%
Maths	32.1%	35.5%	33.0%	30.0%	31.9%	30.3%
Total	29.1%	37.7%	32.4%	27.4%	32.8%	28.9%

The findings from the assessment tests showed that the performance during the endline test was about the same or a little lower than the performance in the baseline in 2005.

Evaluation of the performance in this period provided the following key learning:

- The head teachers and the teachers needed hand holding and support in academic matters. The head teacher training addressed mainly the administrative issues.
- The School Improvement Plan remained largely on paper. In the absence of hand holding and support to the teachers no real action took place on the ground.
- Though Nali Kali was an excellent intervention, there were problems related to implementation and teacher preparedness.
- The efforts to involve the community failed to take enthuse. While the idea of bio gardens floundered due to lack of water, Shrama Daan remained a 'one day in a month' activity without any real involvement or sustainability.

These were the initial years and the efforts had still to gain traction. Clearly, modifications were needed to the approach and focus needed to shift to strengthen the class room processes, teacher preparation and community ownership. These results were clearly disappointing for the team, though not disheartening. The data only spurred the team to redouble its efforts.

Phase II: (2008 – 2011)

During this phase, The Foundation modified the efforts on the ground to some extent to strengthen the processes in all the core areas with added emphasis on the class room and the Teaching-Learning processes.

As a first step in the renewed efforts, the Margadarshis were provided detailed training in class room education processes, variety of teaching methods besides subject matter competence in language and mathematics as appropriate. With this preparation, the Margadarshis started helping the teachers inside the class room and provide them guidance where needed. They could also undertake some 'demonstration' classes to show some best practices in class room processes. In addition to helping the teachers, the Margadarshis were also able to gain their confidence and respect. Further, a team of 30 teachers from the schools were identified and given intensive training in effective transaction of Nali Kali classes. These were then developed as the Master Resource Teachers and encouraged and helped to share their skills with other teachers.

Simultaneously, the list of 214 indicators was reviewed and a modified set of 60 sharply defined and more appropriate ones were developed. This was shared with the Head Teachers as also all the other teachers and their significance and importance was explained. Now, since the Margadarshis had been able to gain the respect of the teachers in general,

the indicators were better received and teachers began to work towards improving them. This process was further helped by identifying just a limited number (five out of the 60) of indicators which could be more easily improved. The Margadarshis worked with the teachers and where needed with the community to bring about improvement in the identified indicators. The success achieved in these small aspects helped the teachers to start believing in themselves and the program. This also helped in getting the teachers to better own the SIP and work towards its overall implementation. The teachers are now unknowingly becoming change agents in the system.

In addition to the capacity building of teachers as above, two other significant steps were taken to build their confidence and professional competence and self-respect. Firstly, a Newsletter ('Bala Snehi Shaale Varta Patra') for teachers was started. This was meant to be a platform for the teachers, of the teachers and by the teachers. Though initially the response for this was lukewarm, it has since picked up and the teachers are voluntarily coming forward to manage it themselves. The Newsletter is now the face of the Shorapur teachers to the outside world. Secondly, four Teacher Learning Centers (TLCs) were started (including one Urdu TLC) in different parts of the block. Each was devised as a 'space where the teachers could voluntarily strengthen their knowledge, expertise and skills'. Each TLC had a library, small laboratory, computers with internet facilities, video recording and play back equipment, magazines and journals etc. In addition, educational films on topics of relevance were screened from time to time and teachers were encouraged to discuss and critique ideas and thoughts freely. The TLC in many ways has become a game changer. Teachers from many new areas are coming forward wanting to set up TLCs on their own. Many teachers have acquired the skills to make their own educational films using the simple equipment at the TLCs.

At a different level, community Jathas (group meetings) has been initiated. These are meant to involve the members of the community in discussion about the activities and performance of the schools in their area and thus bring them closer to the schools. In addition 'Children's Melas' (Exhibition of activities and experiments by the children in their schools) have been started. These are daylong activities which show cases the work of the children in specific subjects like Maths, Science, Language etc. to which the community members are invited. This has become an excellent forum where the children, the teachers and the community come together with the specific objective of sharing the learning and experiences of the learning. These have become a roaring success in the region and there is enthusiastic and meaningful involvement of all stake holders. These require minimal resources but are extremely effective. Starting with just four Melas in the first year of this phase, by the last year, as many as 100 schools have carried out their own Melas – a great success story in itself.

The children have been extremely enthusiastic participants in many of the efforts, particularly the Melas. To unlock their hidden talents, children's creativity workshops have been conducted across the block. These have not only instilled confidence in them but have also encouraged them to ask questions, experiment with different ideas and be more active learners. Children in some of the schools have started their own small libraries and are managing to run them on their own.

Simultaneously a very important change has taken place among the functionaries of the education department. They are now coming forward and are also getting involved and participating in running the TLCs, helping with the Melas, contributing to the Newsletter etc. This has been a very significant change. The functionaries, who till then were very passive spectators, have started taking active role in the process of change and would now, actually would like to take ownership for the change.

The findings from the assessment carried out at the beginning and end of this phase are presented in the following graphical form:

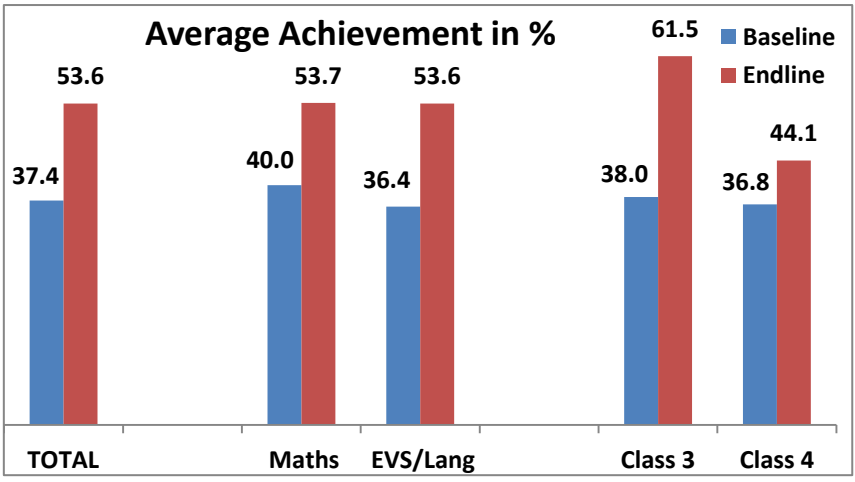

Figure 3: Assessment Findings

Learning Achievement Levels – Phase II

The assessments above and the qualitative evaluation carried out seem to confirm the progress. In many ways thus, this second phase has been a game changer. The intervention has slowly but surely gained traction and is well on its way to becoming a block wide movement.

The key success factors have been identified as

- A group of teachers becoming the Master Resource teachers and hence the change agents.
- The start of the TLCs and the response received from the stake holders.
- The initiation of Melas in school with active participation of all.
- The education functionaries starting to take an active role and ownership of the intervention.

Phase III: (2012 onwards)

The aim of this phase is to build on and consolidate the gains of Phase II. The work with the TLCs is being strengthened further. More groups of school teachers, some from even outside the Shorapur Block, are coming forward with intention to start similar activities in their area. The Melas have now really become a part of the regular feature of the schools in the region. These are being conducted and managed entirely by the schools and the community without any help from The Foundation.

The group of Master Resource Teachers is being enlarged further. These teachers are now being sought out even outside the Block and the District for providing their guidance to the local teachers.

A new teacher recognition program is being initiated. This involves identification of the best teachers in the block by an independent team of evaluators. These would include academics and experts in education from outside the District who would assess the schools on various pre-defined parameters which would include aspects related to infrastructure, class room processes, learning levels and extracurricular development of children and community involvement. This was carried out on a pilot basis last year and is being finalized for implementation. This is expected to be a regular feature in the block and could become an important element of the efforts to bring about significant improvement in the quality of primary education in the region.

At the community level, the institution of the School Development and Monitoring Committee is sought to be rejuvenated. The committee comprises the Head Teacher of the school and parents of eight children in the school. This had been in operation since the last 10-12 years. However, its functioning has been very sporadic and erratic at best. Efficient SDMCs are the corner stone of community ownership of the schools and can act to ensure accountability.

The response of the community and the education functionaries has been beyond our expectations. This has been the most heartening feature of the program. This will be particularly helpful in ensuring its continuance and its sustainability even after The Foundation withdraws from the block. This has given us the conviction that it is possible to bring about significant change with sincere efforts and dedication.

CONCLUSIONS

The Key Success Factors

The program is in its third phase now – an essentially consolidation phase. The results at the end of Phase II have been very positive and heartening. Some of the critical factors which have contributed to the success of the intervention so far are as follows.

1. **Involvement of the teachers**: These are the most critical players in the overall efforts to bring about improvement in the education scenario. They have been the key change agents in the intervention. While their initial response was slow, they have participated whole heartedly in the later years. The specific activities which have helped in this are the **Teacher Learning Centres**, the capacity building efforts to develop Master Resource Teachers besides acceptance of the School Improvement Plans.
2. **Participation of the community**: The community is the most critical stakeholder in sustainability of any social change effort. In this intervention, they have demonstrated that they can be involved in a meaningful manner and play their part well. The **Melas** have been largely responsible for this.
3. **The interest and support of the education functionaries**: They have initially participated and subsequently taken ownership as well of the program. Without their contribution, this program would not have made any significant progress.
4. **The dedicated team from The Foundation**: The most important part of the program who have made this possible with their dedication and hard work.

The Challenges

Some of the critical challenges that were encountered and overcome are summarized below.

1. **Building a team:** Quality work needs a quality team. The area has a dearth of quality talent. Using local talent is a very critical requirement for the success of any program. The socio cultural and educational

profile of the region has been historically very poor. Hence building a quality team with sustained motivation was a major challenge. The Foundation used a variety of professional help in building a core local team. Professional development of the team members is a constant and on-going activity which has helped in the efforts.

2. **Bringing all stakeholders together**: Getting all the stakeholders on the same plane is a major challenge. Unless all the stakeholders are together nothing much can be achieved. Regular communication and demonstration of successes has contributed to achieving this.
3. **Overcoming the local negative forces:** There are many forces, like feudal forces, fundamental forces, patriarchal forces which hinder the process of development. These are prevalent in any society but are all the more prevalent in areas like Shorapur which have had a feudal past. All these forces are powerful and can be overcome only through sustained effort.
4. **Conflict between depth and scale:** Bringing about social change requires in depth work. But such work, especially in education tends to be localised and can best be achieved in a small geography. However, scale is also important and cannot be ignored. Achieving both together is a major challenge. This has been sought to be achieved in stages and in small steps.
5. **Sustainability:** This has been the biggest challenge. Past experience had shown that withdrawal of support and involvement by outside agencies invariably results in the eventual demise of the good practices. The Foundation has consciously tried to involve the local administration, government functionaries at lower levels and the community from the beginning. While it is too early to claim complete success on this front, indications are that this could sustain. However, much more time would be needed for it.

The Learning

The program so far has provided several learning opportunities.

1. Bringing about change in the education sector is a slow process: Social change in general and educational change in particular is an extremely slow process and we need to be patient and persist over the long term to bring about the desired results.

2. One-off interventions are not sustainable: Stand-alone programs do show some impact but this is more likely to be short term. There is a clear need to address the problems at a holistic level involving all stakeholders.

3. Teachers need support on multiple dimensions: The Government teachers need to upgrade their abilities on many dimensions – academic knowledge, pedagogy, assessment, cooperation and partnership, administration etc. Unless all are addressed, change is unlikely to come about.
4. Involving the village community: This is the most critical segment which has tended to be largely ignored till now. Accountability and sustainability in school education can best be driven by this group. Getting them involved is a slow process to start with but, once enthused, they can bring about significant changes.
5. Getting the government education functionaries to own the processes: Ultimately, the system needs to be driven by these individuals. When they see value in the improvements and the community getting seriously involved, they can make significant contribution.

CHAPTER FOURTEEN

SUFFICIENCY ECONOMY: SOME BEST PRACTICES FROM RURAL SCHOOL DEVELOPMENT IN THAILAND

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BACKGROUND

It is clear to many of us that the goal of all countries should be sustainable development. As examples of unbalanced development in the rural Thai community, farmers are confronted with debt problems and the prices of their agricultural products are often less than the cost of production. Rural communities have to rely on unstable income from middlemen and the food industries. It can be concluded that many of the poor share three traits: they live in rural areas, they survive by agricultural work, and they are subject to crop failure because of uncertain weather conditions. Thus, their income is often not sufficient to meet their basic needs and they may have to go into debt to survive.

The economic problem seems to be an enormous problem for the Thai government but the social problem is also comparable or even more urgent. Social problems such as corruption among government officials and a growing number of criminals have caused the economic development of the country to slow down. In addition, there has been an increase in other social problems such as drug use, teenage pregnancy and misconduct.

In the past, we used to believe that these kinds of economic and social problems could be cured by education. However, at the present time education in Thailand, especially in the rural areas, is also facing major problems. Student literacy rates are falling, teachers are facing many new problems associated with social changes and changes in government education policies, and parents are worrying about the country's educational standard.

Moreover, the number of schools with fewer than 120 pupils has increased dramatically since 1993 from 10,741 to 14,056 in 2011. Most of this decline has been in rural areas. This reduction in school size means that almost half (approximately 45%) of the small schools in Thailand may be forced to close. The only way for these schools to survive is either to increase their student numbers or else to keep working within their reduced

budgets with a probable decrease in quality of education. In rural areas the closure of a local school means that children may have to travel long distances to schools in other villages every school day.

His Majesty King Bhumibol Adulyadej of Thailand has supported the philosophy of a Sufficiency Economy. From 1997 onwards, the King has reiterated and expanded on the Sufficiency economy philosophy in many of his remarks. Since 1997, the Sufficiency Economy has been recognized by many people as an answer to the country's problems. Sufficiency Economy is a set of tools and principles that can help communities, corporations and governments make wise decisions that promote sustainable development, equity, and resilience against economic shocks and environmental threats. It also helps them to manage economic crises by maximizing benefits and minimizing costs.

This paper aims to present best practices from rural schools from the four regions of Thailand that apply the philosophy of sufficiency economy in their management. The article will include successful practices that help schools in three areas: 1) income generation and expenses reduction, 2) beneficial use of social capital such as natural resources, culture, tradition, and occupational experience, 3) coordination with educational and related networks to increase cooperation and support.

SUFFICIENCY ECONOMY PHILOSOPHY

Definition and principles

The foundation of King Bhumibol's theory includes sustainability, moderation and broad-based development. The Learning Centre of King Bhumibol's Philosophy of Economic Sufficiency states that the concept focuses on living a moderate, self-dependent life without greed or overexploitation of, for example, natural resources. The Sufficiency Economy is not a theory about how the economy of a country works, but rather a guide to making decisions that will produce outcomes that are beneficial to development. Sufficiency Economy is a philosophy that stresses the middle path as an overriding principle for appropriate conduct by the populace at all levels. This applies to conduct at the level of families and communities, as well as at the national level, so that modernization of the nation is carried out in line with the forces of globalization in a sustainable manner. The "Thai Middle Path" is regarded as a key to fighting poverty, coping with economic risk and promoting corporate social responsibility.

"Sufficiency" means moderation, reasonableness, and the need of immunity to provide sufficient protection from impacts arising from internal and external changes. To achieve this, an application of knowledge with due

consideration and prudence is essential. In particular great care is needed in the utilization of theories and methodologies for planning and implementation at every step. At the same time, it is essential to strengthen the moral fiber of the nation, so that everyone, particularly public officials, academics, and business people at all levels, adhere first and foremost to the principles of honesty and integrity. In addition, a way of life based on patience, perseverance, diligence, wisdom and prudence is indispensable to create balance and be able to cope appropriately with critical challenges arising from extensive and rapid socioeconomic, environmental, and cultural changes in the world.

The philosophy of sufficiency economy includes three elements: moderation, reasonableness, and self-awareness and requires two conditions for the philosophy to work: knowledge and virtue as illustrated in Figure 1. The philosophy of sufficiency economy has been developed and advocated for the past 10 years and finally has been applied to rural school problems. Its practical application has been proved to be successful in farming, business, and even everyday conduct.

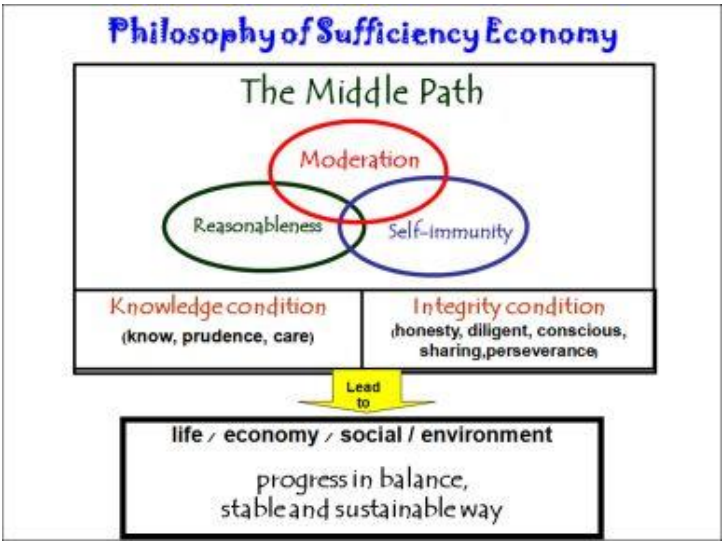

Figure 1: Philosophy of Sufficiency Economy

Application in agricultural context

The Sufficiency Economy is a means towards community empowerment and the strengthening of communities as foundations of the local economy. (UNDP Press Release: 2007) Generally, the New Theory of H.M. the King is an example of a practical way that adopts the "sufficiency economy" philosophy. His Majesty's "New Theory" for agriculture offers the

opportunity for farmers to use and apply their wisdom and skills to support themselves in ways which are consistent with their respective environment.

The three phases of the New Theory are as follows:

The First Phase: To achieve full efficiency of resources, The King suggested the careful planning of land use, more rational use of resources, and varied agricultural systems suited to the local environment. As the average land tenure of most farmers is only 15 rai of land, the King said, wherever water can be reached, farmlands should be developed in an integrated way to yield optimal benefit. (FAO Corporate Document Depository RAP publication 1999/40). It is based on the division of the agricultural land of each rural household, which averages 10 to 15 rai (=1.6 ha to 2.4 ha), into four parts to be used in the proportion of 30-30-30-10 in the following way. Thirty per cent is used for a reservoir. Thirty per cent is devoted to rice cultivation. Another thirty per cent may be used for growing more rice or horticultural crops, depending on the local conditions and market demand. The remaining ten per cent of land is used for building a house, paths and ditches and also for growing household vegetables and raising livestock. (see Figure 2).

The Second Phase is the formation of groups in the form of cooperatives to collaboratively produce goods, organize markets, and develop community welfare to increase social solidarity and prepare communities to keep pace with the world outside.

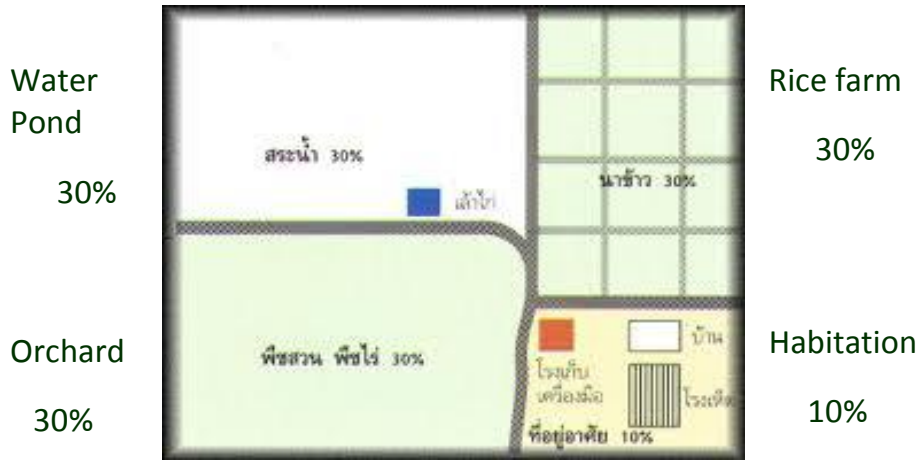

Figure 2: **Division of agricultural land according to the New Theory**

The Third Phase is to build contacts and partnerships with outside institutions such as banks, businesses, government and non-government organizations, to obtain the financial, knowledge and technical support necessary for further development.

In conclusion, Royal initiatives stimulate and support collaboration and integration using community resources to develop strong social and business networks, while encouraging members to abide by morality and wisdom in their decisions and actions. A strong foundation should be created using self-reliance before building up more market reliance in the advanced stage.

Application to community development

Applying Sufficiency Economy Philosophy in community development starts from reducing expenditure, saving money as a community fund group, and launching community shops and enterprises to have a stable income and to repay debt. The community creates a new way of selling agriculture products with controllable prices by grouping together as a network of agriculturists. Moreover, they have a community immunity system of supporting additional occupations, launching community saving groups for occupation, education and welfare. The Sufficiency Economy Philosophy was used, as a start, by a model village identified in each of the country's provinces. Many of these households had followed a by now well-known formula: *We shall plant everything we eat, we shall eat everything we plant, we shall use everything we make, we shall make everything we use,* in order to reduce expenditure. (UNDP, 2007:48) Nowadays, these communities have a stable income from agricultural products which is traditional and environmentally friendly and has additional income from green tourism activities. These activities are based on the ideas of self-reliance and self-immunity which are key components of the Sufficiency Economy Philosophy.

From the research by Vallop Supthpun (2012), it was found that farmers who are using Sufficiency Economy Philosophy are changing their farming practices by turning away from heavy reliance on chemical fertilizers, pesticides and insecticides. The villagers reduce their use of inorganic fertilizers by using organic fertilizers such as Biothai. They also adopt a way of life that is more in harmony with nature by introducing practices which help to conserve the environment, increase self-reliance, and promote community resilience. The villagers have focused on six performance areas: cutting expenses, generating additional income, saving, learning, improving the environment, and providing mutual assistance and support.

Application in the education context as instrument for rural transformation

The Ministry of Education cooperates with local administrations and private firms, in formulating curricula based on the concept of Sufficiency Economy, case studies on Sufficiency Economy, and dissemination of the philosophy to academic institutions at all levels. (UNDP: 2007**)** However, it is the school and teachers who can voluntarily choose what and how to integrate the Philosophy into their teachings. Usually, teachers are well aware of the usage not to force students to learn and remember the concept of Sufficiency economy, instead, students are encouraged to think of how to apply it and really put it into action. Therefore, it is quite a practical way of teaching. Students at different age or classes are persuaded to actively use their creativity in variety of projects.

For example, Children at the lower-primary level learn how to keep their own income-expenditure balance sheets as a tool to make better use of their money and time. Later, they take part in savings schemes projects to learn the value of frugality through recycling items used at school, and growing garden vegetables for use in school meals.

At the secondary level, children work on community development projects, take part in activities at the local temple or mosque, and develop projects to promote local wisdom, historical sites, and the inheritance of Thai culture. Special emphasis is placed on local projects for environmental conservation. Secondary schoolchildren also learn more about natural resource conservation, community development, national development, and globalization. Exemplary units for vocational students involve Sufficiency Economy and business, and Sufficiency Economy and integrated farming. This concept will also be part of the learning units for students in non-formal education.

A subject on Sufficiency Economy is part of the core curriculum of basic education in 2008 under the social education, religions, and cultural subject groups. By completing this subject, students will have learned to manage resources necessary for production and consumption, efficiently make use of limited resources, as well as understanding the philosophy of sufficiency economy so that they know how to lead a balanced life. Not only student knows, but the way they perform a balanced life at home will be such a good model for their families and neighbors too.

BEST PRACTICES

Schooling based on sufficiency economy principles has played a leading role in strengthening local communities. Real education should rely not only on

classrooms and textbooks, but should also be an important part of students' daily life and incorporate the welfare of their community as well as constructive social values and moral principles. Schools also act as centers of learning that manage, generate and facilitate interdisciplinary knowledge transfer both inside and outside their community – and create learning opportunities that enable exchange of knowledge and encourage applications of knowledge for sustainable development. Therefore, the strength of 'sufficiency economy' communities depends on the education of the younger generation. The young need alternative education models that develop practical and vocational skills that promote creativity and equip graduates so that they can be self-sufficient upon completion of their formal education.

Best practices from rural Thai temple (Wat Doi Pha Som)

In 2007 the Alternative Education School at Wat Doi Pha Som was established. Eight students were enrolled in the first grade. The revolutionary school seeks to serve students, families, local communities and Thailand by teaching sustainable development practices and self-sufficiency to the next generation of Thai citizens. **(**Khunsiri, 2011)

Students are empowered to be self-sufficient citizens through project-based learning that encourages entrepreneurial development and requires integration of traditional subject material into practical application.

In making this economic theory a practical model for sustainable development, the monks at Wat Doi Pha Som define four necessary concentrations of development. The first and central concentration is on "Environmental Restoration and Protection". In the Samoeng District, this concentration narrows to focusing on preserving the forest ecosystem. The second is "Organic Agriculture". The application of chemical pesticides and chemical fertilizers has harmful ecological effects and also creates dependency on distributers outside of the local community. The third concentration is the creation and usage of "Alternative Energy". The discovery and development of renewable and environmentally-friendly alternative forms of energy is essential for creating environmentally healthy, self-sufficient communities free from a destructive dependence on fossil fuels. The fourth and final concentration of development is "Education".

Wat Doi Pha Som has applied the principle of sufficiency economy in the local villages of the Samoeng District, Chiang Mai Province, Thailand. The King's guidelines of Sufficiency Economy promote the planting of three types of plants: 1) Plants that are edible (Food). 2) Plants that can be used for medicinal, cosmetic, sanitation, and other household purposes (Usage). 3) Plants that can be transformed into products for sale (Economic).

Plants can belong to one or all of the three plant categories. For example the coconut tree produces food for consumption (coconut milk, coconut shavings), the coconut husk can be turned into charcoal for home usage, and the tree trunk can be turned into lumber for sale. By focusing on these three types of plantations, local communities benefit in four areas: Livelihood, Environment, Economy, and Society.

Community members (humans, animals, plants) have resources capable of satisfying the basic needs of life (Livelihood). The local ecosystems are revived through the regeneration of diverse plant species and protected through the application of conservational practices (Environment - organic farming, formation of tree banks). Communities generate natural resources that can be turned into products for sale or exchange in local or regional markets (Economic). Ultimately, communities become self-reliant and in control of their own social-wellbeing (Society).

Best practices from Muang Nan District Non-formal and Informal Education Centre

Learning sources on natural farming were developed within Muang Nan District NIE Centre and include fish ponds, two mushroom nursing shops, a manure shop, vegetable garden, herbs packages, dried fertilizer, dish washer liquid, toilet cleaner, etc.

A teacher saving project called "One Baht a Day" was developed with 29 participating members at the beginning, after which the project has been able to put aside savings of 14,100 Baht in the 10 months from July 2006 to April 2007. The project has 38 participating members with a revolving fund of 15,877 Baht from agricultural products (mushroom growing, fish raising, micro-organism liquid products). The members can borrow some money from the profits of revolving fund (with a low interest of 1%). In summary, the project was able to make an overall profit of 23,837 Baht within 10 months of its operation.

Training activities are based on income raising and expenses reduction in parallel with increased awareness of sufficiency economy way of life. The training has led to the existence of a wide variety of occupational groups in the community, for example, Mushroom growing by a group of 13 people from Ban Don Udom (Moo 9), Muang district of Nan province, where the group has a revolving fund of 5,000 Baht from their daily income of 120-200 Baht.

Best practices from Prince Royal College School, Muang District, Chiang Mai Province.

Under the supervision of the Office of Private Education Commission, the Prince Royal College School is an example of an urban school that applies the Sufficiency Economy philosophy to the school administration system. Having learned and recognized the philosophy, students have changed their behavior and practiced living self-sufficient lives. In addition, students have been taught the importance of saving as a way to future security. They learn the concepts of personal finance, such as how to earn, spend, and save money. Occupational training is also promoted so that students learn how to generate income. Furthermore, students are instilled with the right attitudes towards life and work, such as honesty, diligence, tolerance, and sufficiency. One Person, One Job, One Occupation: Sufficiency Family. This is an activity that encourages students to use their time effectively, by searching for a job that they are capable of performing, such as grocery store employee, dish-washer, growing vegetables, and making handicrafts. The purpose is to encourage students to earn extra income for their family during their free time. As part of this activity, certain values have been emphasized, such as diligence, hard work, and frugality.

Bottle Bank Project is a project that integrates the Sufficiency Economy concept with the school's 8 core learning concepts. The idea is derived from the huge amount of bottles students use each day, which then become garbage left around the school. The project encourages students to collect these bottles and put them into a bottle bank. In this way, they will take part in environmental protection and be able to earn extra money at the same time. They will help to reduce global warming by the sufficiency path: from green classroom to green school. A series of campaign and public relations activities have been implemented so that all school members are aware of the impact of global warming. The project includes the following activities;

1) **Sustainable travel:** Students are encouraged to ride a bicycle or to walk to school instead of riding a motorcycle.
2) **Energy saving:** Students in primary education grades 1-3 run campaigns to promote electricity and energy saving.
3) **Garbage reduction:** Students compete in finding solutions to reduce garbage, such as making books from recycled paper, bringing bottles of water to school instead of buying them every day, global warming reduction campaigns, and making organic fertilizer from leftover vegetables and fruits.
4) **Expanding the green area:** Students in secondary grades 4 and 5 plant trees in the school in order to expand the green area.

From the survey of 40 schools in four parts of Thailand conducted by the writer, it was found that four practices which most commonly used among schools are as follow:

1) Managing resources necessary for production and consumption, efficiently make use of limited resources, as well as understand the philosophy of sufficiency economy so that one leads balanced life.

2) Bottle bank, bottles and paper for recycle, garbage bank for making organic fertilizer, Old stuffs Market.

3) Vegetables gardening for sale and for lunch, herbs gardening for herbal drinks, school cooperatives, school-coops shop, making Enzyme Ionic Plasma from food left-over, products from milk packages, and raising chicken over a fish pond.

4) School's integration of many subjects and students' ideas about how to make use of something, for example, the Banana Day which is how students organize and event to exhibit how useful is for the whole banana tree, i.e., leaves, fruits, flowers and trunks.

5) It was also found that some schools has made agreement with private sectors or government units to cooperate with schools as learning resources, offering some student trainings or funding some charity projects. This is a good sign that schools are getting stronger with the support from outside networks.

These practices have helped schools, administrators, teachers and students, understand the concept of how to be self-reliance. Not only that schools can teach in lively and with thought provoking lessons using low budgets on the media, but the outcome is greatly beneficial to all people concerned. Some of the projects derived with some earnings for the schools to use for learning instruments and school lunch and some for buildings improvement. However, the most profits derived are the attitudes that students will convey to their parents and community, that is, to live a balanced life.

IMPLICATIONS

1. Recognition of knowledge and experiences of the community people should be well recognized. Attempt should be made to provide more support for non-formal education which responds to the needs of communities for life-long learning;

2. Development of potential leaders to render cooperation in planning and implementation is very important. The leaders must undertake all forms of good and effective communication continuously and always use good management in the form of committees so that the system operates in a transparent manner. They should also coordinate with networks from

government and NGOs as well as local organizations, local wisdom, business operators and all forms of public relations in order to gain good cooperation and support.

3. It should be noted that concentrating on moral principles and local wisdom in terms of sufficiency economy should not be forgotten. This can be done by making wise and beneficial use of social capital such as natural resources, cultures and traditions, occupational experiences, etc.

4. Building up motivation by undertaking study visits on activities to promote income generation and expenses reduction.

CONCLUSION

The examples of best practices given in this paper are just some examples of attempts being made to make schools more self-reliant. The students engage in planting vegetables, raising poultry, and other activities to provide the school with necessities. These projects not only reduce the cost of running the schools but they also help to earn money for the students' families and to provide the students with a practical education in the values of Sufficiency Economy. These initiatives have begun to have an impact on the villagers' way of life. They now rely less on agricultural chemicals and other factors linked to debt-creation, such as careless spending, and have switched to a more self-sufficient approach to life, and to environmentally-friendly farming.

Professor Medhi Krongkaew (2003) comments that it is possible to see the Sufficiency Economy as consisting of two frameworks. One is the inevitability of facing the globalized world in which economic efficiency and competition are the rules of the game; the other is the need for economic security and the capacity to protect oneself from external shock and instability.

On the economic or efficiency basis, Sufficiency Economy can also promote happiness with fewer requirements for resources both at the micro and macro levels. Hence, Sufficiency Economy Approach increases efficiency and equity in production and consumption. For a world with increasing resource limitation, Sufficiency Economy Approach offers a viable alternative for both sustainable production and sustainable consumption (Indaratna, 2007).

In a "sufficient economy", generation of material wealth is not the ultimate aim. Instead the final goal is to create environmentally healthy, self-sufficient communities in which basic human needs are met through local natural production methods **(**Khunsiri, 2011).

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CHAPTER FIFTEEN

SUCCESSFUL CASE "FROM FARM TO FORK": EDUCATION PROMOTION FOR RURAL DEVELOPMENT IN THAILAND

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INTRODUCTION

As the world population continues to increase, the world and all its nations need to be concerned whether there is enough food to support human needs. Because of this, all nations need to promote economic growth to support the citizen's wellbeing and so the "Thai Kitchen to the World" has been announced and promoted for at least ten years. The promotion of **"Thai food to the world"** became an impacted part of the socioeconomic development in Thailand, in which the stake holders in the whole production process starting with the agriculture products on the farm side to the consumers of these products, needed to meet the world standard requirements. Nevertheless the promotion of Thai food to the world includes not only agricultural products and food productions, but also all kinds of Thai culture such as furniture, fabric, costumes and so on. This is because the Thai eating culture is concerned with all kinds of lifestyle and culture, and has been both a mixture of royal and local wisdom.

Objective

The objectives of the study were to find:

1. The success of promoting education to the farmers who produced the agricultural products to support the export sectors.
2. The acceptance of fruit and vegetable exporters, in the case of goods rejected and consumer satisfaction, such as Thai restaurants abroad.
3. The acceptance of the restaurant owners and / or the cooks or chefs of the agriculture products from Thailand for their Thai food.
4. Different agenda besides the food business sector to bring an increase in the socioeconomics of Thailand.

Knowledge and theories supported

1. **Self – sufficient economy theory**: means **"Having enough to live on and to live for"** as His Majesty King Bhumibol Adulyadej, the present King of Thailand said, (The Chai-Pattana Foundation: 2003). The theory was promoted to guide Thai people to the concerns of living for oneself and to not cause problems to others. The main

concept was to convince Thai people to be conscious by working to support oneself, then form a social network for the others' needs, such as to sell whatever has been leftover.

2. **New Theory:** also initiated by the present King of Thailand, (The Chai-Pattana Foundation: 2003) to serve as a model of land and water management for Thai farmers. The New theory was implemented and promoted in 1992. The main idea was the concern in farming for the need to have enough of a supply of water; the land is divided into four parts with a ratio of 30:30:30:10. Based on this ratio; 30% is set aside for fish pond culture and on top of that, for raising chickens in the stable, then chicken manure can be used for fish feed, 30% for rice paddy field cultivation, (because normally Thai people eat rice three meals a day), 30% for growing fruit and perennial trees, and the remaining 10% for housing, growing vegetables and herbs for household needs, raising animals and other activities.

3. **Integrated farming:** was promoted to the farmers who were not expected to grow paddy fields of rice, but instead grow varieties of fruits, vegetable and perennial trees to rotate the land use and to concern of mineral need for each pants, which would be of benefit to plantation management in the long term.

4. **Organic farming or healthy concerned farming**: become as necessary to the farmers, because insecticide becomes dangerous to the farmers themselves and not good to the consumers. Also researchers and mass media have spread information and educated people to the concerns of consuming insecticide which has been leftover from farming that can cause sickness to the consumers.

5. **Group process working**: was found to be an important process for gaining a successful impact to the system, that to do organic farming and healthy concerned farming need to cooperate in a large area, if not it would have effected to the neighbors and hardly become success to all. His Majesty graciously granted additional suggestions that, to strengthen the ability of farmers, the farmers needed to cooperate as a group in order to handle the production, marketing, management, and educational welfare, as well as social development.

6. **Business base concerned farming**: become as the successful result of the end of farming system, the present King of Thailand had researched and promoted through the dynasty area of the King's palace, Harin Hongsakul (1996), said the farmers needed to build up connections within various occupation groups and to expand businesses through cooperation with the private sectors, NGOs and the government supported, in order to assist the farmers in the areas of investment, marketing, production, management and information

managements. In order to be able to produce good quality of the agricultural products and sale was necessary for the long term of the farmers themselves, market needs and consumer's health.

7. **World standard concerned**: as we had learned that, **"We are what we eat"** meant that if we consumed healthy food, bring us good health, not to get sick, have happy life, safe individual and safe government budget to pay hospital expenses. Those concerned also met the International Standard Organization's requirement for the global business as well.

Methodology

The population is divided in to three groups

1. There were 30 Thai farmers whom produced agriculture products, fruit and / or vegetable for exporting to support the Thai restaurants abroad and grocery stores in abroad.
2. There were 10 fruit and vegetable exporters.
3. There were 10 Thai restaurant owners or cooks or chefs, whom had used Thai food agricultural products from Thailand in abroad, which had got the information form six zones, as the following;

    - 2 from the United States of America, such as Thai Ra-Cha Restaurant in Seattle, Washington State, Talay-Sai Restaurant at Los Angle less.
    - 4 from Europe as the following; 1 Blue Elephant Restaurant in Brussels, Belgium and 1 Blue Elephant Restaurant in Paris, France. 1 Thai Lucky Restaurant in Vienna and 1 Cha-Ba Restaurant in Stockholm, Sweden.
    - 1 from Middle East; Cha-da Restaurant in Manama, Bahrain.
    - 1 from Australia; Yai Restaurant in Sydney, Australia.
    - 1 from South Africa; Sai-Thai Restaurants in Johannesburg, South Africa**.**
    - 1 from South Korea; Thai Orchid Restaurant in Seoul, South Korea.

Tools for data collections

Interviewing forms and export data were tools for data collection.

Statistical analysis

Frequency, percentage, mean and standard deviation were used as statistical tools for analysis.

Results

The result of the study revealed into three categories, the following:

Phase 1: The Thai farmers who produced agriculture products for exporting to support the Thai restaurants and grocery stores abroad found that:

Basic information

Gender: there were 24 male, 80% and 6 female, 20%. Education background: 17 graduated with a bachelor's degree, 56.7%, 11 graduated from High School, 36.7% and 2 graduated from primary school, 6.6%. The number of family members average 3.7, there were 21 families, where the children did not work in the field, 70%, 9 families children worked with the family in the field, 30%, because the parents still thought that work in the field was hard work, and expected that education would help their children to easily get a good job in the future, also they would have a chance to work in urban areas. All of the farmers hire workers to help in the farm; average 4.6 and all of the farmers were happy with their careers.

Table 1: Basic information on the farmers n=30

Item	Amount	Percentage
Gender		
Male	24	80.0
Female	6	20.0
Total	30	100.0
Education background		
Bachelor degree	17	56.7
High School	11	36.7
Primary School	2	6.6
Total	30	100.0
Living together		
Children not stay in family	21	70.0
Children work in the field	9	30.0
All of them happy with their career	30	100.0
Number of the family, average;		3.7
Hire workers to work in the field; average;		4.6

Property and owned land

Most of the Thai farmers whose plantation was for export had their own land; there were 28, who had their own land, 93.3% and 2 renting land, 6.7%. More than half, 16 cases, 53.33%, owed money from the bank. Normally they did not have any problems, unless there was a flood or any serious disaster. All of them owned motorcycles, televisions, and radios. 22 of them,(73.33%) had their own truck.

Table 2: Farmers' owned property and land n=30

Item	Amount	Percentage
Property		
Owned motorcycle, television	30	100.0
Owned truck	22	73.3
Owed from the bank	16	53.3
Owned land		
Owned land	28	93.3
Renting land	2	6.7
Total	30	100.0

Training and knowledge gaining

All the Thai farmers had learned and gained knowledge from Royal projects contributions on average 3.4 times. All the Thai farmers agreed that they had learned a lot from training and knowledge transfer farming through the King's theories; of Royal and government training, 26 farmers were satisfied with the training 'very much' (86.7%), and 4 of them were satisfied 'much' (13.3%). 24 farmers believed that the training programs were 'very much' practical (80%), and 6 of them believed that the training programs were 'much' practical (20%). 22 of the farmers felt that they had 'very much' gained thinking skills (73.3%) and 8 of them felt they had 'much' gained thinking skills (26.7%). 21 farmers were satisfied training in the topic of business skill concerns 'very much' (70%), and 9 of them were satisfied in the training in the topic of business skills 'much' (30%). All of the farmers satisfied farm visits of the successful cases, process training of group working for their future and they believed that the training program was worth the time used (100.0%).

Table 3: Training and knowledge gaining from Royal and government training n=30

Item	Level of training satisfaction (amount/percentage)							
	Very much	Much	Moderate	less	little	Average	S.D.	Mean
Knowledge increasing	26 (86.7%)	4 (13.3%)	-	-	-	4.9	1.3	Very much
Practical	24 (80.0%)	6 (20.0%)	-	-	-	4.8	1.7	Very much
Farm visit	30 (100.0%)	-	-	-	-	5.0	-	Very much
Gain thinking skill	22 (73.3%)	8 (26.7%)	-	-	-	4.8	1.4	Very much
Process of group working	30 (100.0%)	-	-	-	-	5.0	-	Very much
Businesslike concerned	21 (70.0%)	9 (30.0%)	-	-	-	4.7	1.8	Very much
Worth for time used	30 (100.0%)	-	-	-	-	5.0	-	Very much

DISCUSSION

1. All of the farmers were satisfied with their career, but most of them still expected, their children to work in urban areas in the future, for an easy job, but not such hard work like their parents. This is because in Thai culture people believe that to dress up nice and work in an urban area can give a good reputation and good face to themselves and to their family. This is why we may need to change our image and the way of believed and to be proud of our style of living, instead of trying to save face.

2. All of the Thai farmers who attended the Royal and government training reached a good level in the training level and this was probably because it was provided for free and supported by the government. They had a chance to relax and meet new friends, and they also learned and were able to improve their work and business skills. They had gained a new dimension of thinking and were successful in implementing it on their own farm.

Phase 2: The Thai exporters of fruits and vegetables to Thai restaurants and grocers abroad, revealed the following: Over the past fourteen years, overall international trade with Thailand has grown 340% (http://www.boi.go.th/index.php?page=opp_logistics). The increase of the volume of exporting each year, except during the year of the flood or disaster.

Table 4: The volume of exported fruit from Thailand over 10 years

Fruits exporting	**Years** (Value / USD millions)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Longan	152.46	133.17	175.67	133.18	159.59	162.89	220.07	198.36	484.55	483.17
Lichee	19.56	19.03	21.01	25.46	23.40	19.21	27.24	17.13	12.58	15.61
Mangosteen	9.87	14.85	23.46	8.87	24.39	23.98	60.56	63.08	66.78	76.88
Mango	6.07	5.68	4.26	8.28	9.49	11.37	15.55	16.27	22.67	23.19
Tamarind	0.11	0.12	1.20	1.20	1.97	0.30	0.31	0.27	1.36	2.45

Thailand's export of rice normally increased every year, except in the year when it was damaged from flood or disaster.

Table 5: The volume of exported Thai rice over 10 years

Exporting	**Years** (Value / USD millions)
2002	2474.18
2003	3494.49
2004	2999.77
2005	3167.08
2006	3845.67
2007	6555.48
2008	5555.08
2009	5425.59
2010	3626.36
2011	2940.78

Thailand's export of vegetables normally increased every year, excepted in the year when it was damaged from flood or disaster.

Table 6: The volume of exported vegetables from Thailand over 10 years

Rice and vegetable exporting	**Years** (Value / USD millions)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ginger	11.39	11.47	13.49	10.09	16.57	27.85	27.36	29.27	25.89	15.07
Chili	1.86	2.37	2.78	2.92	16.55	6.56	4.93	4.23	4.96	3.55
Pepper	1.68	1.87	1.47	1.09	1.87	2.65	3.27	3.98	1.89	1.04
Bamboo shoot	0.20	0.13	0.18	0.50	2.25	2.36	3.06	3.86	5.39	2.07

The Thai exporters were informed according to the market needs, high competition and world standardization had made the farmers aware of production. The exporters received less rejection and lower complaints from customers.

Phase 3: There were 10 Thai restaurant owners or cooks and chefs who had used Thai agricultural products for cooking from Thailand while abroad as the follows:

Basic information

Gender: there were 8 female restaurant owners, 80% and 2 male restaurant owners, 20%. Education background: 7 graduated with a bachelor's degree, 70%, and 3 graduated with a master's degree, 30%. The size of the restaurants was between 100 – 150 seats and they had cooks, chefs and workers from between 8-21 persons.

Table 7: Basic information of the restaurant owners n=10

Item	Amount	Percentage
Gender		
Female	8	80.0
Male	2	20.0
Total	10	100.0
Education background		
Bachelor degree	7	70.0
Master degree	3	30.0
Total	10	100.0
Size of the restaurants between		100 – 150 seats
Amount of cooks, chefs and workers		8 – 21 persons

The Thai restaurant owners, cooks and chefs agreed that fruit, herbs and vegetables from Thailand produced better flavor and aroma when cooking Thai food. They were able to create the authentic Thai taste. As time passed by, the agricultural products from Thailand were easier to get and the price became cheaper each year. This may be the result of well-organized logistics and competition from other countries. Nowadays it has become convenient and readily available to obtain.

In Europe, it was very difficult to get hold of kefir lime leaves for cooking Thai hot and spicy soup because it was declared as an illegal herb. In winter, the basil leaf and other leaves used to create the aroma of traditional Thai food were very difficult to obtain and were very expensive. This meant that they had to use some other leaves as a substitute for the ingredients.

The Thai restaurant owners, cooks, chefs and Thai workers had agreed that the **"Thai food to the World"** project had promoted Thai culture and Thai foods to foreigners and brought socioeconomic development to the farmers and Thai workers. Nevertheless, most of the Thai restaurants abroad always promoted Thai culture and created a Thai atmosphere, which meant that the products, such as furniture, curtains, cloth and decorations, had to be available for sale and promotion to foreign countries as well.

CONCLUSION

Education promotion in the rural areas in Thailand had been a very big success with informal education and non-formal education so as to educate Thai citizen to "Lifelong Learning" (Thailand, Education Act 2002). Education improvement for each individual person needed to be promoted in the whole process of all sectors of the stake holders in order to reach to the world standard. World standard requirements also must be one of the key success factors to promote and convince the Thais to improve themselves for their future chances in finding a better job and for the socioeconomic development of each individual concern. As we are in a consumption society, with all kinds of technological development, than people need to have convenience, be comfortable and ease of living.

DISCUSSION

1. The promotion of **"Thai food to the world"** has impacted the socioeconomic development in Thailand, which stakeholders in the whole process of production from the farm side of agricultural products through to the consumers who eat these products needed to be aware so as to meet the world standard requirements, such as good sanitation and good hygiene where necessary. As globalization gave us a chance to learn from each other, we needed to be able to get involved in the competition and to improve our working style and concept of living.

2. The agriculture extension within formal and non-formal education in Thailand was quite successful in educating and encouraging Thai farmers to change their farming styles. It also taught them to be careful and concerned for healthy farming so as to meet the world standard requirements where necessary. This has resulted in the growing business of exporting agricultural products, increasing each year. Self - sufficient economy philosophy, the new theory procedure and integrated farming promoted by the present King

of Thailand had greatly motivated the Thai farmers to become successful. This knowledge has been implemented in Thailand successfully and so it would be of benefit to all who share this knowledge. This would help people to improve so as to be able to survive comfortably.

3. Nowadays, we may not dare to refuse the world disaster and all kinds of damage due to the farm lands being destroyed by floods and disasters. This can cause low agricultural production and has shown very well the expectations of the future climate. Then, as humans, we need to be aware of the basic factors for living; food, clothing, housing and medicine for when we are sick. Creating happiness by being kind to each other is necessary.

RECOMMENDATIONS

1. Self-sufficient economy philosophy, the new theory procedure and integrated farming promoted by the present King of Thailand has greatly motivated the Thai farmers to become successful with self-reliance. We now need to concern to each individual to survive; work and not to harm to each other.

2. Socioeconomic development for each family member can be promoted so as to convince to each human person of the importance of living healthy and wealthy lives and to also find happiness in the future.

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