

SOCIO-ECONOMIC DEVELOPMENT THROUGH HUMAN CAPITAL INVESTMENT

IN KANBAUK AREA OF TANINTHAYI DIVISION (1997-2008)

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Abstract

Kanbauk Pipe Line Corridor (PLC) area is located in Yephyu Township, Dawei District, Taninthayi Division in southern Myanmar. In 1995, **Yadana** Project has started exploration and production of natural gas in Mottama Gulf. Since then, Yadana Project has started implementing a Socio-Economic Program there as a part of its Corporate Social Responsibility. It is a good example of Public Private Partnership on sustainable social and economic developments of the host community. Time series data was used to analyze the impacts of the Socio-Economic Program over time on the social and economic developments through human capital investment in Kanbauk PLC area from 1997 to 2008. The findings revealed that the Socio-Economic Program provided not only financial and technical assistances to beneficiaries, but also changed them from the mere recipients of donation to the implementers of the community development activities and turned the vicious circle of human deprivation into a virtuous cycle of long-term growth and development in the area

Key Words: Yadana Project, Corporate Social Responsibilities, Public Private Partnership

Introduction

Kanbauk Pipe Line Corridor (PLC) area is located in Yephyu Township, Dawei District, Taninthayi Division in southern Myanmar. It is 60 kilometers from Dawei in the south and 90 kilometers from Ye in the north. The major occupations of the area are farming and fishing. The ethnic made up of the region is fairly diverse. The population of the area is mainly composed of Dawei (subgroup of Myanmar national group), Karen and Mon. The coastal villages are mainly inhabited by Mon fishermen. Three villages in the center of the area, near the Dawei River, are occupied by Karen, usually Christians (Baptists). The other villages are dominated by Myanmar Buddhists. The largest city, Kanbauk, also has a small Muslim community and a mosque.

In 1995, **Yadana** Project (a partnership of TOTAL Exploration and Production – Myanmar; UNOCAL; Petroleum Authority of Thailand Exploration & Production; and Myanma Oil and Gas Enterprise) has started exploration and production of natural gas in Mottama Gulf. The extracted natural gas has been exported to Thailand, passing through Kanbauk PLC area.

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Since then, Yadana Project has started implementing a Socio-Economic Program (SEP) as part of its Corporate Social Responsibility (CSR) (Socio-Economic Program, 1998-2009). It is a good example of Public Private Partnership (PPP or P3) on sustainable social and economic developments of the host community. The said program officially covers 25 villages with an estimated population of more than 32,000 people. It is estimated, however, that the overall population benefiting from the program is over 50,000 people. It has assisted local community in the areas of sustainable social and economic development activities such as health, education, community development, agriculture and livestock breeding (veterinarian), infrastructure, and microcredit (Socio-Economic Program, 1998-2009).

Development is not only in growth in GDP of country but also increasing social status of the people in the country. Human Development Index is one of the development indicators. Human capital plays an important role in development on both individual and aggregate level.

Yadana's Socio-Economic Development Program has been implemented in Kanbaw PLC area for over a decade. The development in the area may be due to SEP's investment in human capital, that may have impact on regional development. Improvement in social and economic sectors directly affects the quality of life and well-being of the community. This research performs time series analysis and quantifies the impacts of social and economic developments through human resource investment. The policies, strategies, and best practices of the program could be used to apply in other rural areas of Myanmar where applicable.

The objective of the study is **to review and analyze the impacts of SEP over time on the improvement in social and economic services through human capital investment in Kanbaw PLC area from 1997 to 2008**. The study used descriptive method using time series data of Kanbaw PLC area from 1997 to 2008.

The rural development activities, outcome and impacts were reviewed and analyzed to determine improvement. The social development of the area were also compared with national data to determine **comparative** improvement. The comparisons of the trends of social status with those of Myanmar using double difference method was recommended by the World Bank (World Bank, 2007).

The study applied time-series secondary data were mainly from Yadana Project's annual reports, relevant data from current Socio-Economic Program, Public Health Office, and national data from Central Statistical Organization (CSO).

Socio-Economic Development in Kangauk PCL Area

Before SEP started implementing in the Kanbaw PLC area, there were rampants of human deprivation including illiteracy, malnutrition, and poor access to water and sanitation in the area (TOTAL, 2009). Therefore the SEP has tried its best to meet the needs of the residents while respecting their culture and way of living. Its priorities, which were defined with the villagers, focus on four key areas: economic development, health, education and infrastructure. Its success comes from the commitment of the villages and villagers, since it must drive a sustainable improvement in living conditions throughout the region. It also provides enabling environment for community empowerment by allowing community in decision making. All members of the Socio-Economic Program are Myanmar nationals and all the related projects

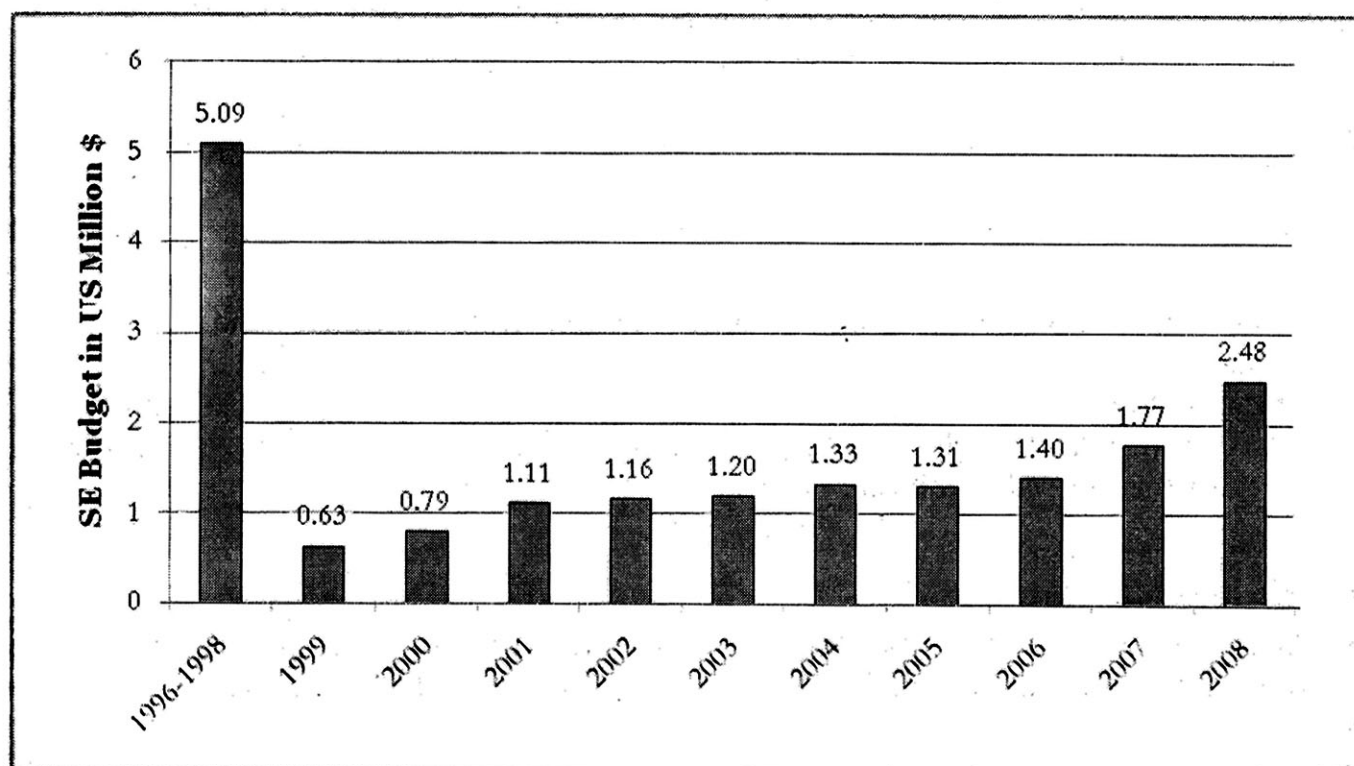
(e.g., health clinics, schools, transportation infrastructure) are owned by the local communities concerned or by the villagers themselves (agricultural and small business projects) (TOTAL, 2009).

As a support to agricultural and veterinary activities, the Socio-Economic Program provides technical assistance (4 veterinarians, 3 agronomists and 32 auxiliaries), vaccination program, supply of plants, and fertilizers to the villagers. Model farms (pigs, poultry, perennial crops, plantations) have been established. The microcredit scheme (more than 5,000 beneficiaries since 1997) has been running successfully. As a result, production and productivity have been increasing in the area, successful development of many small farm operations, support given to fishing and small business, and general improvement of living conditions have been observed in the area. Regarding infrastructure, complete revamping of the local road network, health and educational facilities, irrigation and drinking water supply programs, renovation of community facilities such as meeting rooms, soccer fields, markets, churches and pagodas have been built (TOTAL, 2007).

Investment of Socio-Economic Program

The Socio-Economic Program invests heavily in SEP's budget, especially on the human capital, since the beginning of the project and spending increases substantially. In 2008, Socio-Economic Program spent US \$ 2.48 million (figure 1). It is a good example of Corporate Social Responsibility (CSR) – multination corporation (MNC) serving the community where it does the business. The trend of annual budget on SE program can be seen as follow:

Figure 1: Annual budget for Socio-Economic Program (US \$ Million), 1996 to 2008



Source: Annual reports of Yadana's Socio-Economic Program (1997-2008)

Since 1995, Socio-Economic Program (SEP) has been implementing Primary Health Care (PHC) program along the pipeline corridor villages in order to improve health status of local people as well as to build a high level of trust and confidence with them aiming to achieve community empowerment. The aim of the activities of the health sector in the program is "promoting health and preventing diseases by balance of preventive and curative services". The objective of program is to reduce mortality and morbidity of local people by providing the requisite facilities, promoting immunization programs, introducing free medical consultations and public health supervision for the villagers, and improving hygiene. These initiatives, which were funded by Yadana Project, had been carried out in close collaboration with the Ministry of Health.

The SEP's PHC program consists of medical care, health education, immunization program for children under one year and pregnant women, and birth spacing, annual school health program, distribution of insecticide treated (impregnated) bed nets (ITNs) program for malaria control, village sanitation program for control of food and water borne diseases – FWBD (*by construction of fly-proof latrines, concrete water well boundaries construction, chlorination of water wells and hilly stream water supply*), tuberculosis control program and hospital referral program. Today, ten medical doctors: a public health supervisor and 9 public health (village) doctors, are working in Kanbawk area representing 34 doctors per 100,000 population, increased eleven times - from three doctors per 100,000 population in 1995 (TOTAL, 2009).

Moreover, as the capacity building, SE program has trained local people interested in health as healthcare volunteers such as community health worker (CHW) and auxiliary midwife (AMW) in each village for provision of services to their people (TOTAL, 2009). CHWs were trained to address minor ailments at village level, and to promote safe practices in local population. AMWs are also able to assist in child delivery and address minor ailments. During absence of the doctor, CHWs and AMWs provide consultations in village clinics, that villagers have been encouraged to build with the support of SE program. The SE Program has also provided monthly incentives to 20 AMWs and 35 CHWs.

For long-term sustainability of health status of local people, community participation, involvement, and empowerment are very important in public health services and it is enhanced by initiation of SE program's Public Health team. SE program's Public Health team moved forward an optimum balance among comprehensive and integrated health care (promotive, preventive, curative, and rehabilitative) activities in public health program and started to initiate community-based health care system.

Trends in health status

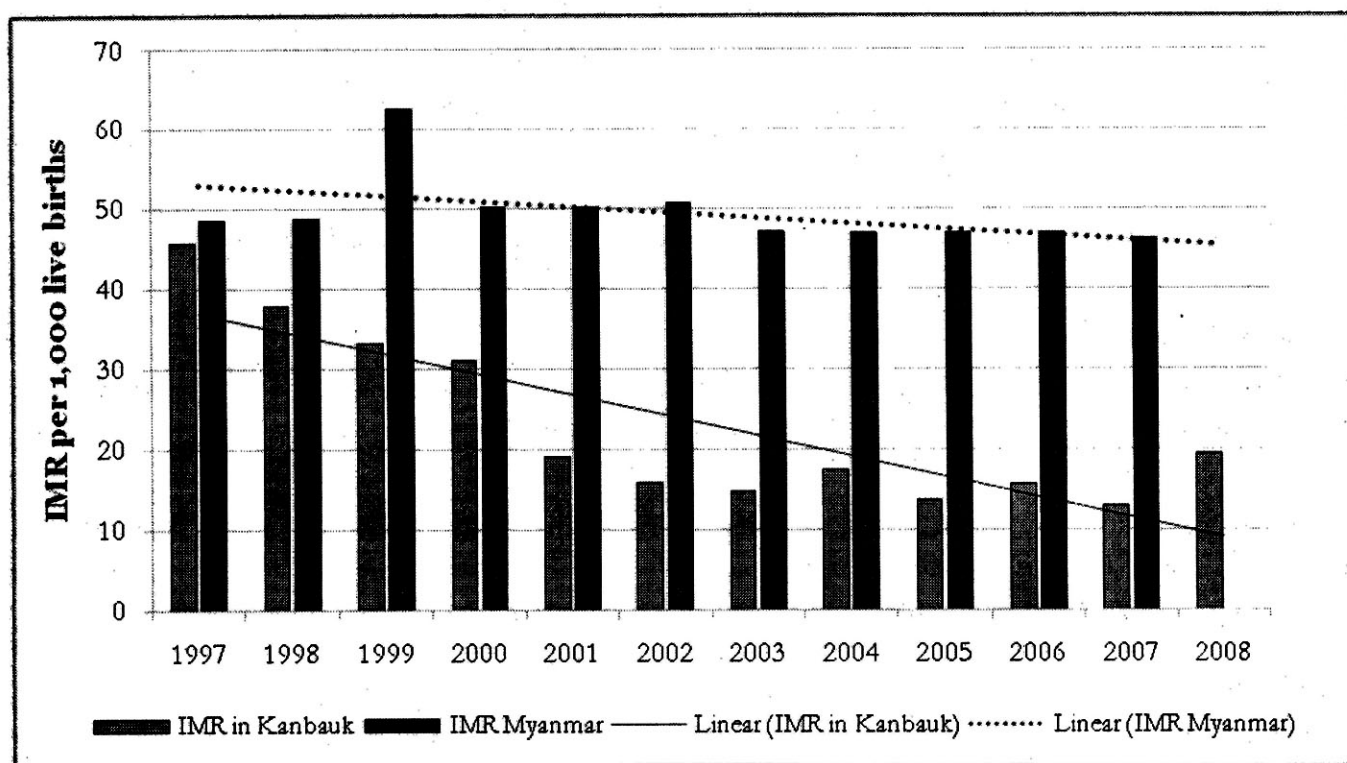
Health conditions in the Kanbawk PLC area were said to be poor prior to the arrival of the Socio-Economic Program. It had had high infant mortality rate (IMR) and maternal mortality ratio (MMR), widespread malaria, tuberculosis, poor water quality and bad sanitation facilities. Health staff appointed by the government was minimal and the only health infrastructure was a station hospital in Kanbawk which had lacked necessary resources (TOTAL, 2009).

Infant mortality rate (IMR)

Infant Mortality Rate (IMR) and Under-Five Mortality Rate (U5MR) are important basic health indicators for a nation. **IMR** is the single most sensitive indicator of the **socio-economic** situation in any given community. There was a steady downward trend of IMR in Kanbawk PLC area for more than 10 years (until last year) from 45.7 per 1,000 live births in 1997 to 13.1 per 1,000 live births in 2007 – a decline of more than 71 percent in 10 years. The IMR of Kanbawk area has already achieved the Myanmar's MDG target (28.3/1,000 live births in 2015) (Ministry of National Planning and Economic Development, 2006) since 2001. However, the IMR went back to 19.5 per 1,000 live births in 2008.

During the same period, Infant Mortality Rate was not markedly changed nationally. National IMR fluctuates around 50 per 1,000 live births (TOTAL, 2009). The IMR of Kanbawk area declined much faster and steeper compared to national levels (figure 2).

Figure 2: Infant Mortality Rate (IMR): comparison of trend in Infant Mortality Rate in Kanbawk PLC area with that in Myanmar, 1997 to 2008



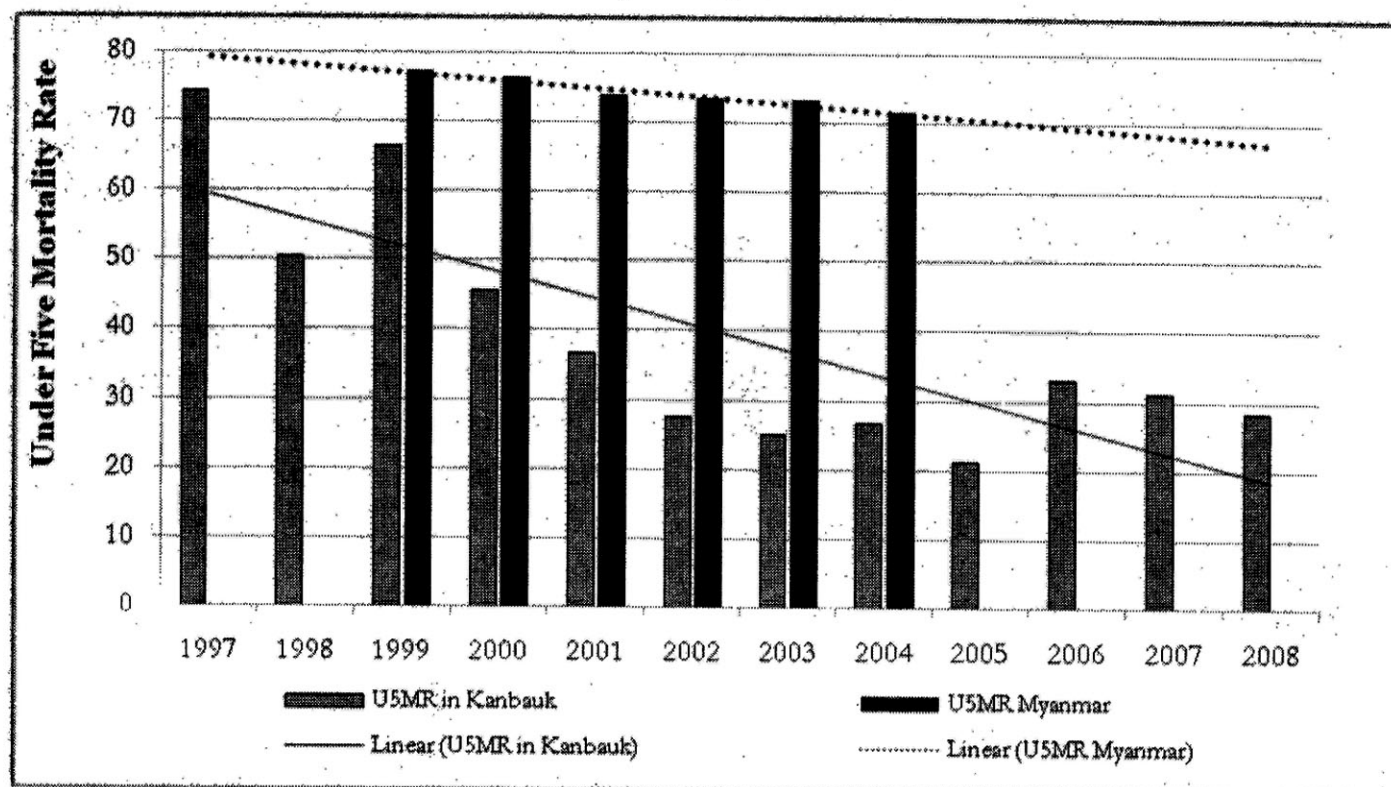
Source: Annual reports of Yadana's Socio-Economic Program (1997-2008) and CSO's data

Under five mortality rate (U5MR)

There was a steady downward trend of Under Five Mortality Rate (U5MR) in Kanbawk PLC area from 74.3 per 1,000 live births in 1997 to 21.3 per 1,000 live births in 2005 – a decline of over 70 percent in 8 years. The U5MR of Kanbawk PLC area has already achieved the Myanmar's MDG target (38.5/1,000 live births in 2015) (Ministry of National Planning and Economic Development, 2006) since 2001. However, the U5MR went back to 33.1 per 1,000 live births in 2006 and stays around 30 per 1,000 live births since then.

U5MR was well below national level of over 70 under five deaths per 1,000 live births in the same period (figure 3).

Figure 3: Under Five Mortality Rate (U5MR): comparison of trend in Under Five Mortality Rate in Kanbaw PLC area with that of Myanmar, 1997 to 2008



Source: Kanbaw PLC area Public Health Office data (1997-2008) and CSO's data

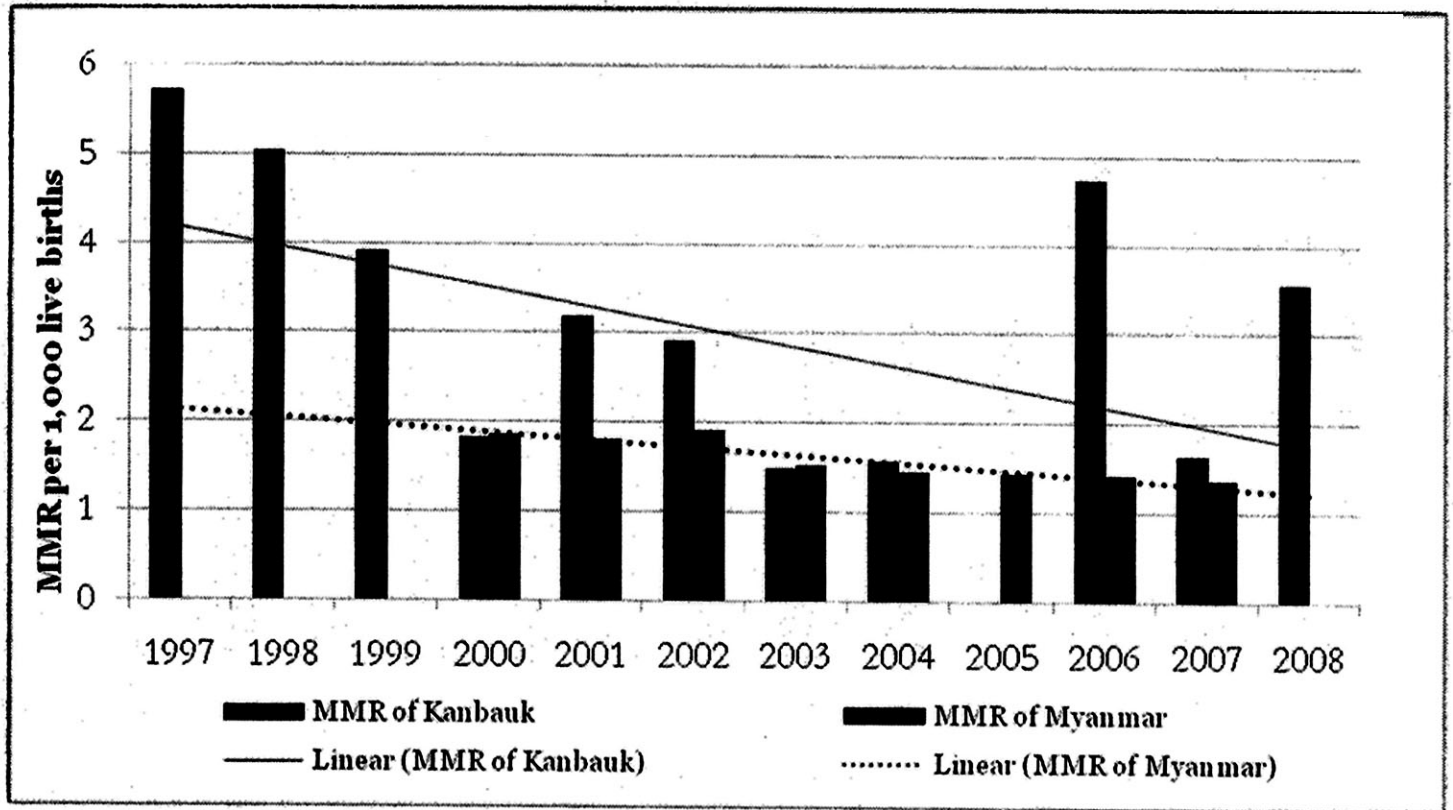
Maternal mortality ratio

Maternal Mortality Ratio (MMR) is a very sensitive indicator of **quality of health services**. It also reflects the **overall status of the health** of any population.

There was a steady downward trend of maternal mortality ratio (MMR) for more than 10 years from 5.71 per 1,000 live births in 1997 to 1.64 per 1,000 live births in 2007 – a decline of more than 70 percent in 10 years. However, the MMR went back to 3.55 per 1,000 live births in 2008. The current situation was five times higher than the Myanmar's MDG target (0.58/1,000 live births in 2015 for rural area) (Ministry of National Planning and Economic Development, 2006).

Although there was a steady downward trend of maternal mortality ratio (MMR) for more than 10 years in Kanbaw PLC area, it was still much higher than national level of about 1.5 maternal death (or pregnancy related death) per 1,000 live births (figure 4).

Figure 4: Maternal Mortality Ratio (MMR): comparison of trend in Maternal Mortality Ratio in Kanbaw PLC area with that of Myanmar, 1997 to 2008



Source: Kanbawk PLC area Public Health Office data (1997-2008) and CSO's data

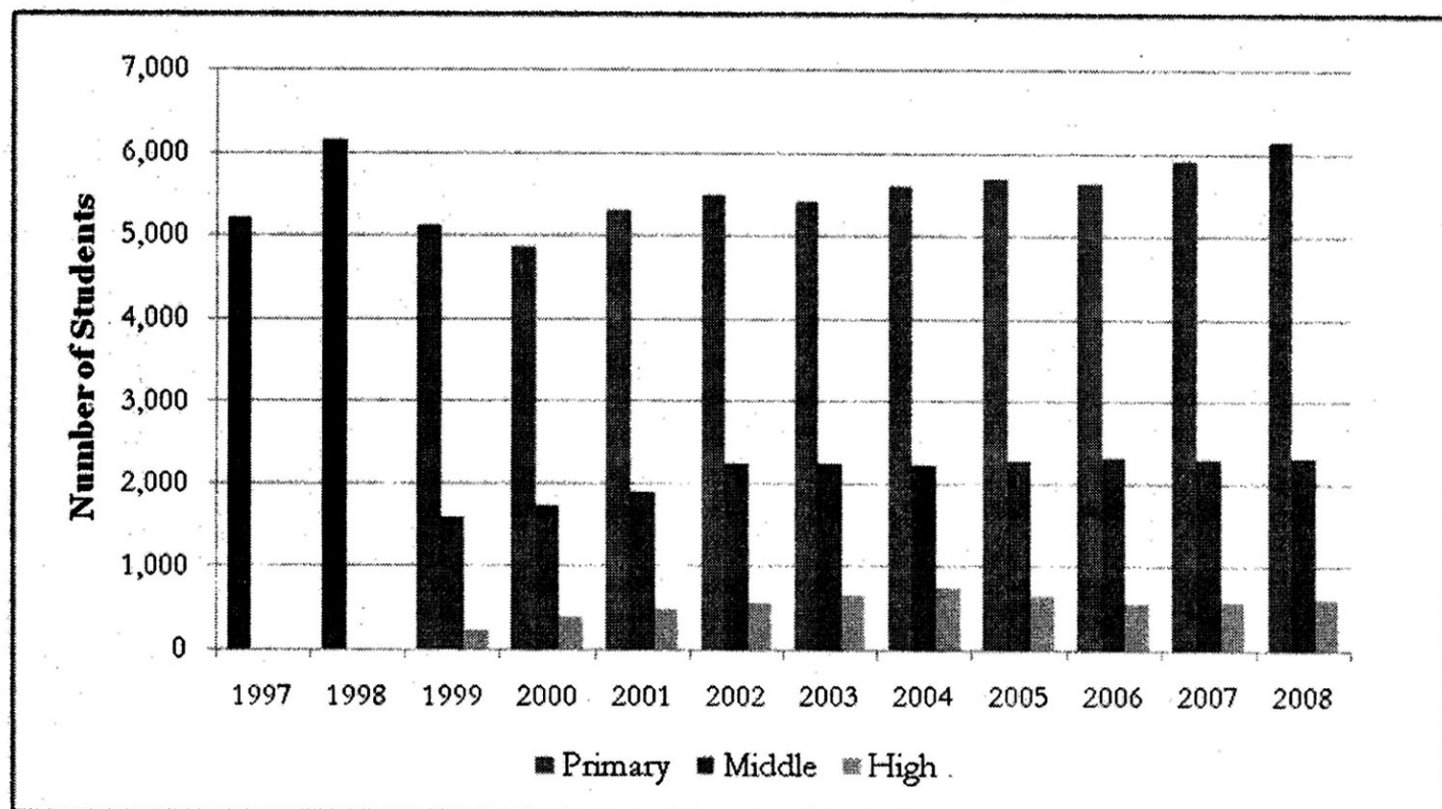
Education For All (EFA)

Myanmar attains the high education status in Asia Pacific region and education level of Myanmar was 94.89% in 2009 (Ministry of Education, 2009). According to a finding from the household survey conducted in Kanbawk PLC area in 2008, the area also has a high adult literacy rate of 92.29% (Tun Myint, 2008). Equity in access to education was also observed: only small difference in the education status was seen among males and females - 96.9% among males and 87.9% among females with a less than 10% difference (Tun Myint, 2008).

Total student enrollment

Villagers living in the Kanbawk PLC area showed strong aspirations in education. An extensive program to improve the region's educational infrastructure was launched in 1996 and now, each village has at least one school. Teaching materials have been supplied by the Socio-Economic Program and a school library program has been established in 16 schools. During early years, 44 schools were constructed and 20 were renovated. The basic education student enrollment has increased gradually from 5,210 in 1997 to 9,110 in 2008 (an increase of 78% in 11 years period) (figure 5).

Figure 5: Education: trend in student enrollment in schools in Kanbawk area, 1997 to 2008



Source: Annual reports of Yadana's Socio-Economic Program (1997-2008)

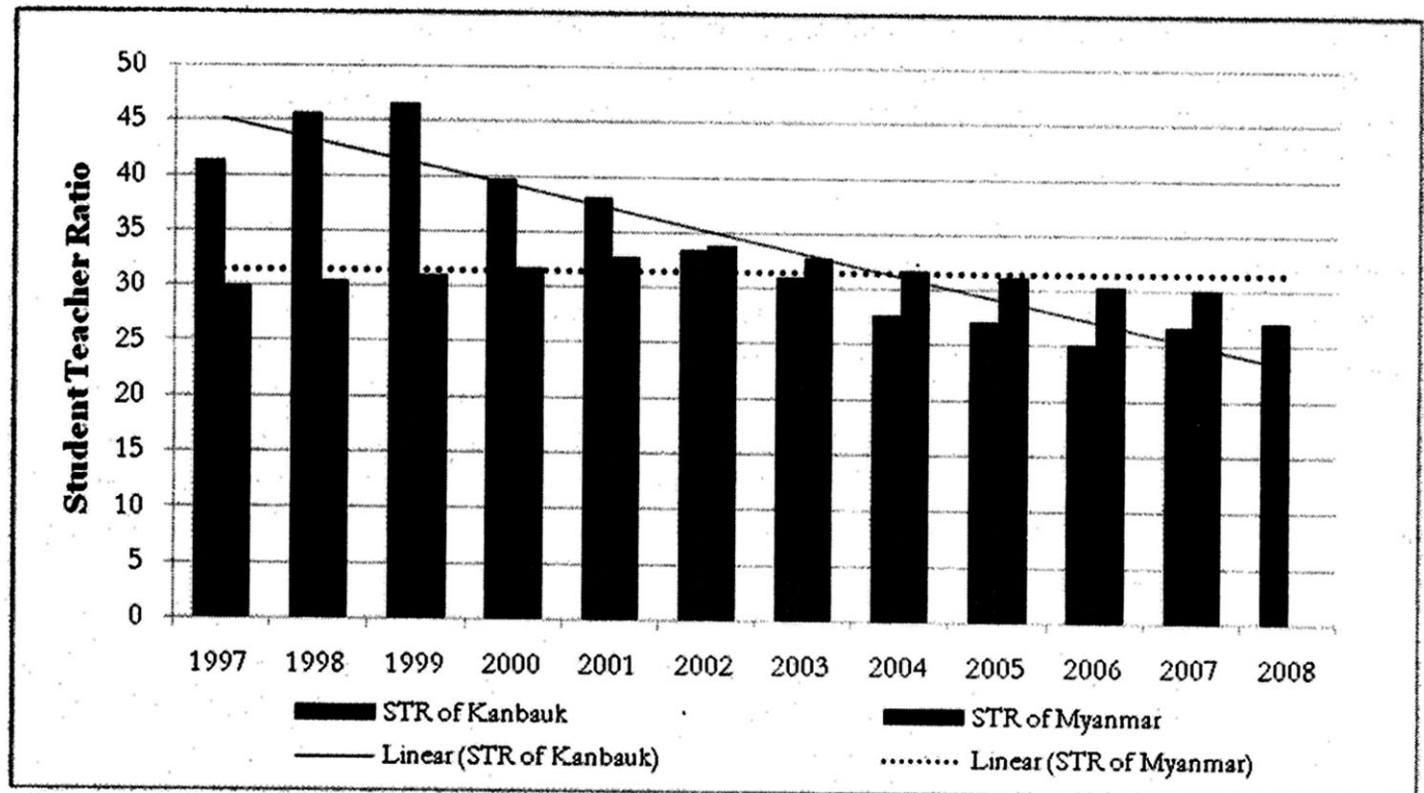
Student-Teacher Ratio (STR) and scholarship program

The measures designed to support education were implemented in collaboration with the Ministry of Education in-line with local practices and programs. The school teachers are civil servants paid by the Ministry of Education. To enable teachers to encourage serving in remote regions and maintaining an acceptable standard of living, salaries are supplemented with financial aid granted for over 350 teachers and assistants by the Socio-Economic Program.

The student-teacher ratio (STR) was down from more than 41.3 students per teacher in 1997 to 27 students per teacher in 2008. While the student-teacher ratio of the nation has been stable around 30 students per teacher for decades, it was prominent that the STR in Kanbaw area has improved significantly (figures 6).

Once they had their high school diplomas, young people who wanted to continue their studies were supported by scholarships program that had allowed some students to go on to higher education in Yangon and Dawei. The numbers of scholarship recipients for college/university education had grown gradually, from four students each for 2003 to 2005, five students in 2006, six students in 2007, and 13 students in 2008.

Figure 6: Education: Comparison of trends of Student-Teacher Ratio (STR) in Kanbaw area with that of Myanmar, 1997 to 2008



Source: Annual reports of Yadana's Socio-Economic Program (1997-2008) and CSO's data

Key Findings

The trend of gradual increase in annual SEP's budget was seen since its inception in 1997 and the budget for 2008 was US \$ 2.48 million. Due to increase in SEP's investment in human capital, the parallel and significant health development has also been seen in Kanbauk PLC area.

IMR declined from 45.7 in 1997 to 13.1 in 2007 per 1,000 live births - a decline of more than 71 percent in 10 years, although recent increase to 19.5 deaths per 1,000 live births was seen in 2008. IMR was still well below national level of around 50 infant deaths per 1,000 live births and it has already achieved the Myanmar's MDG target since 2001.

U5MR also declined from 74.3 per 1,000 live births in 1997 to 21.3 per 1,000 live births in 2005 - a decline of over 70 percent in 8 years. U5MR was well below national level of over 70 under five deaths per 1,000 live births and it has already achieved the Myanmar's MDG target since 2001.

MMR declined from 5.71 per 1,000 live births in 1997 to 1.64 per 1,000 live births in 2007 - a decline of more than 70 percent in 10 years. However, MMR of Kanbauk area was much higher than national level of about 1.5 maternal deaths per 1,000 live births and five times higher than the Myanmar's MDG target of 0.58/1,000 live births in 2015 for rural area.

The adult literacy rate in Kanbauk area was 92.29% in 2008. Only small difference in the level of education was seen among males and females: 96.9% among males and 87.9% among females, less than 10% difference.

The basic education student enrollment has increased from 5,210 in 1997 to 9,110 in 2008 (an increase of 78% in 11 years period). At the same time, the student-teacher ratio from more than 41.3 students per teacher in 1997 to 27 students per teacher in 2008, an improvement of 35% in 11 years.

Discussion

Increasing public resources for human capital investment especially in health and education poses critical challenge in government financing. Alma-Ata declaration promoted health as a tool for socio-economic development of a nation. It requires multi-sectoral approach and health is expressed as not just an 'output' of economic development, but also an important 'input' to development (Primary health care: Alma-Ata). Although, Government of Myanmar now acknowledges building human capital as "investments" than simply "expenditures", it remains one of many competing priorities for government revenues and therefore limited.

In Kanbaw PLC area, fortunately, Yadana Project's Socio-Economic Program activities filled the gap by investing in human capital to promote social development. The findings revealed that social development and improvements in the quality of life of people in Kanbaw PLC area by investing in human capital has led to access to free health care for the community and a dramatic decline in the leading causes of death; and better educational opportunities and conditions for all children, along with other economic opportunities. The approach also invited local beneficiaries in the process of development with the concept of community participation, ownership, empowerment, and sustainable development. The impacts of the program has accelerated economic growth, achieved equitable and balanced development, and reduced the socioeconomic development gap between Kanbaw and urban areas. Social spillover effects were also seen in Kanbaw PLC area. Social spillover effects are externalities of social development upon those who are not directly involved in SEP's activities.

The findings of the study were compared with the results of a cross-sectional survey conducted by the public health consultant in April 2008 in Kanbaw area. A total of 1,627 respondents from 291 households were interviewed regarding practices of health-related issues and heights and weights were measured to observe the health status of community (Tun Myint, 2008). The findings were similar to the trends of the findings of socio-economic development mentioned in previous parts of this paper.

To be able to achieve Integrated Rural Development, we may have to escape from the vicious cycle of various poverty creating forces (cumulative causation) and change it to virtuous cycle (Myrdal, 1968). Making social development through investing in human capital in the Kanbaw PLC area has cut and escaped the vicious cycle of human deprivation. The SEP has shown not only the impacts on social development but also the community participation, ownership, empowerment, and sustainability, as these activities have already built in the program.

However, due to increase in IMR, U5MR, and MMR in recent years, the quality and quantity of maternal and child health (MCH) activities should be enhanced. It is also recommended that due to contradictory findings of better results of IMR and U5MR and worse situation of MMR of Kanbaw PLC area compared to national level data request future detailed analysis of causes and effects, both qualitatively and quantitatively.

Recommendations

The SEP has shown a dramatic improvement of social conditions in Kanbaw area. The lesson learned was that SEP provided not only financial and technical assistances to beneficiaries, but also trained the local community; changed them from the simply recipients of donation to the decision makers and implementers of the community development activities; or let them stand on their own by training them those of community participation, ownership, empowerment, and sustainability issues. The SEP has created enabling environment for the community to become partners, decision makers, and implementers of their community affairs. The SEP played important role in improving social development (health and education) in the area.

Conclusion

In conclusion, the Socio-Economic Program has demonstrated a constant commitment to local community and host country by applying the principles of Corporate Social Responsibility (CSR) and Public Private Partnership (PPP). The impacts were quite promising in the area of Integrated Rural Development (IRD) and regional development. The findings revealed and confirmed the effectiveness of the program by showing improvement in social status of the community. Other portions the Socio-Economic Program including development of agriculture and veterinary services, infrastructure development, community development, and microcredit provide more fruitful and integrated impacts in the community.

The impacts of the social development through human capital investment in Kanbaw PLC area by Socio-Economic Program has turned the vicious circle of human deprivation into the creation of an environment conducive to entrepreneurship, long-term economic growth, basic health and education – a virtuous cycle of long-term growth and development in the area. Application of such policies, strategies, and best practices with the concepts of PPP and CSR to other rural areas of Myanmar where multinational corporations (MNCs) are doing business after fine-tuning, adjusting, and customizing according to local context would help in building Myanmar as a new, modern, and developed nation.

References

- Central Statistical Organization (2009) *Myanmar Data 2008*, Nay Pyi Taw, Ministry of National Planning and Economic Development, Union of Myanmar.
- Ministry of Education (2009) World Literacy Day. *The New Light of Myanmar*. Yangon, Ministry of Information.
- Ministry of National Planning and Economic Development (2006) *Myanmar Millennium Development Goals Report 2006*, Ministry of National Planning and Economic Development, Union of Myanmar.
- Myrdal, G. (1968) *Asian Drama: An Inquiry into the Poverty of Nations*, Periodicals Service Co.
- Socio Economic Program (1998-2009) Annual Reports (1997-2008). Socio-Economic Program.

Total (2009) The Socio-Economic Program.

World Bank (2007) *Impact Evaluation - The Experience of The Independent Evaluation Group of the World Bank.*

Yi Aye (2010) Social and Economic Development of Taninthayi Division , *Yangon Institute of Economics Research Journal* Vol.1, No.1, Ministry of Education .

Map of Kanbauk PLC area, Taninthayi Division, Myanmar

