

# **Integrating EM Technology into Rural Development in Thailand**

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***Abstract** : In November 2000 with the assistance of APNAN I visited Thailand for a four-week period to do participatory research on the role of EM Technology in Thailand to explore livelihood potential using the Sustainable Livelihoods Framework. This was a pilot case study determining how people secured the resources they required to achieve their livelihood and to determine the role of institutions and organisations in enabling people to continue to achieve their livelihood through access to EM Technology.*

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## **Introduction**

The Asian economic crisis of 1987 played an indirect but pivotal role in the promotion and extension of EM Technology in certain areas of Thailand. The unsustainable use of chemical subsidies for some farmers in the north-east of Thailand and the need for the Thai government to severely restrain all government expenditure provided the impetus to look for sustainable, beneficial solutions to existing farming strategies. EM Technology was presented as a potential solution for achieving sustainable development. Discussions with APNAN and Kyusei Nature Farming facilitated the promotion and extension of EM Technology in conjunction with Thai municipalities and the Thai military. In terms of social and rural development EM technology is providing an authentic direction for sustainable livelihoods.

Prior to the Asian economic crash of 1987 Thailand was quickly rising to the western status of 'newly industrialised country' (NIC) (Europa Publications, 1999). The speed and wide-scale impact of Thailand's accelerated growth however had immediate and disastrous ecological and social impacts. As a result there arose an urgent need to implement strategies that would facilitate sustainable development. Sustainable development has been broadly defined as the balanced integration of the social, economic and ecological spheres of rural life. The rise to NIC status has come at a great cost to the potential for sustainable development amongst rural Thai people. The impacts from the depletion of primary forests and other resources continue to be felt today.

## **Methods**

Adjunct to the vision of economic growth associated with NIC status an influx of technologies have been introduced into Thailand. This research was primarily focused on livelihood effects associated with the adoption of EM technology; EM's effectiveness, and failings or otherwise using the Sustainable Livelihoods Framework (SLF) (Scoones, 1998). There was an emphasis and focus within the context of rural development aimed at sustainable livelihood outcomes. The Sustainable Livelihoods Framework was the methodological framework used to determine these outcomes (Scoones, 1998). In broad terms the research in Thailand was to explore livelihood strategies using SLF and the role of EM Technology and its alleged potential to facilitate and promote authentic sustainable development.

Livelihood potential can be defined as any activity or action which increases a person or family's asset base, reduces the vulnerability from indirect shocks and acknowledges tangible and intangible benefits which accrue to greater self-empowerment and truly sustainable livelihood outcomes. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain and enhance its capabilities and assets whilst not undermining the natural resource base. Shocks are not just matters of seasonality, for example drought. There is also the explicit relationship between institutions and organisations and policy-making, which directly impacts on this vulnerability context. It cannot be emphasised enough that there is the need to recognise and develop national and local policy that recognises communities' attempts for self-empowerment and self-determination.

SLF explores the explicit roles and interactions of institutions and organisations in enabling (or disabling) people's access to the resources required to fulfil their livelihood outcomes. Livelihood approaches work to support people to build upon their strengths to fulfil their potential. SLF facilitates this by acknowledging the effects and interactions of policies institutions, the vulnerability of shocks people's ability to 'bounce' back from those shocks as well as people's access to and security of their necessary resources. The framework identifies five types of assets: human, natural, social, financial and physical. These assets constitute livelihood building blocks and can be interchangeable. The recognition and inclusion of intangible values, for example happiness or well-being contributes to my belief that EM is facilitating sustainable development. Qualitative, albeit preliminary analysis indicates a sense of wholeness, an expression of benefits across all asset categories. As represented from the sustainable livelihoods framework people's basic needs are being met. The collation of information which forms the basis of my findings was provided via qualitative analysis of participatory research involving interviews, attendance of workshops and presentations as well as farm visits across all sectors of rural agriculture in Thailand-backbone of the Thai economy for millennia.

### **Social Capital**

One of the central tenets of the SLF is a people-focus. The SLF views one aspect of sustainable livelihoods through the increase and/or maintenance of different types of assets or resources. One example is social capital. The SLF enables analysis across all sectors, with an emphasis on resources, access to resources and the use of resources to fulfil strategies that enable livelihood strategies. Thus exists an opportunity for communities to develop a flexible, strategic plan for the future of their communities aimed at sustainable development, whilst facilitating a process of self empowerment and self determination. Strategic through proactive planning and implementing communally determined initiatives, and flexible to allow future generations the right to determine their own future, thus building on intergenerational equity. The SLF assisted in the identification of key organisations and their role in promoting ecological solutions that enamour the Thai economy and people's livelihood strategies. My research and observations suggest that the extension and promotion of EM contributes to improved socio-economic and ecological outcomes.

The adoption of EM onto farms in lieu of agri-chemicals has enabled the return of the family unit to the land. Of the farms I visited, over half recalled the re-integration of

family members back to the land and the home environment. The removal of agri-chemicals has re-kindled and maintained family bonds. This was also obvious at a communal level. The extension and adoption of EM by farmers collectively has maintained old and facilitated new social networks. New forms of social capital continue to emerge. The extension of EM Technology, its harmless, beneficial and holistic make-up has generated greater synergies within a communal context. The extension of EM technology at a village level has also facilitated intangible and tangible benefits for the community and at an individual level. To live in a chemical free, healthy environment promotes benefits across the social, financial and ecological spheres of life. From a spiritual perspective, integrity within a Buddhist context is thus maintained and enhanced, engendering a greater sense of respect and devotion, a contribution to inner peace and well-being. This promotes improved community and social relations and the maintenance of cultural and religious traditions and values. The adoption of EM as a microbial solution and the principles of Nature Farming have engendered gentler but greater interactions with the physical environment: a return to the traditional co-existential relationship which once flourished.

The adoption of closed-loop systems, the use of beneficial inputs and the adoption of other nature farming principles have imbued health to the environment and the rural people. EM Technology has facilitated synergies across the social and economic spheres of life. The fact that village people from Dateudom district northeast Thailand no longer have to travel to Bangkok to find alternative employment to service their debt loading incurred from the purchase of chemicals is one such example. The reunification of the nuclear family is another pertinent example. Furthermore SLF enables a correlatory exploration of macro policy and its impacts at a micro level namely people who eke an existence from the land. In order to truly address concerns of poverty and to promote sustainable livelihood outcomes the lessons learned at the grass roots level must be integrated into policy that recognises the intimate interactions of people and resources. Until such time that this is recognised and implemented environmental and socio-cultural concerns will continue.

## **Recommendations**

Preliminary qualitative results are positive with significant improvements having taken place that have enabled people to maintain and enhance their livelihood potential. The fact that the Thailand Eighth National Economic and Social Development plan has implemented a people-centred approach to development is encouraging (National Board of Economic and Social Development, 1996). The fact that 70% of the Thai population eke their existence from the surrounding environment and its resources (Centre of Agricultural Information, 1999) whilst internationally competing at a global level rightly demands the adoption of ecological rationality in order to sustain and maintain in essence the entire country's livelihood and well being.

To maintain the integrity of sustainable development, facilitated by the adoption of EM Technology, development must continue to educate the farmer and user in such a way that the process of extension leads to empowerment of the user. This is necessary if we are to be serious about enabling people to achieve their livelihood outcomes. The transfer of knowledge regarding the ability of EM solution to be expanded must be

'owned' by the farmer. Secondly, the work of NGO's and communities who develop strategic plans for their district must be recognised and integrated at the national policy-making level. The integration of communally defined statutes into national policy is one such possibility.

Our propensity to exist as a species under the guise of sustainable development is encouraging when facilitated by authentic development strategies. The dichotomy between economic development and sustainable development maintains necessary and healthy tensions if we are to truly invoke and achieve sustainable livelihood outcomes. EM Technology in a rural development context narrows this divide and offers possibilities for sustainable development. The extension of EM in a rural context maintains traditional traits of the Thai socio-cultural context whilst promoting an authentic attempt at improving livelihood potential through the adoption of appropriate technology.

EM technology is a tool that can offer a direction for authentic sustainable development. Professor Higa's philanthropic gesture must be honoured and remembered if in the realm of development we truly wish to alleviate poverty rather than reducing it to rhetoric. The aim is to take EM beyond the scientific exploration and integrate it into the socio-cultural context of people's lives. The success of this is dependent on macro-level policymaking recognising peoples strategies and developing policy, which honours the present, and future needs of people whilst remaining flexible enough to allow iterative change thus promoting greater intergenerational equity. The challenge for policymakers and institutions is to develop policy that recognises people's interaction with the environment in order to achieve sustainable livelihood outcomes. Only then when the macro and micro level of people environment interactions are recognised can we truly have sustainable development.

The complexities in achieving sustainable rural development and the broad spectrum of stakeholder views, beliefs and opinions as well as requiring access to finite resources highlights the critical need to develop effective policy. Sustainable development requires internal multilateral assistance and integration. A key guiding principle can be the acceptance of decentralised decision-making, not in an anarchic view of anti government but rather one of co-operation, co-existence and co-management. The extension and adoption of EM Technology within the SLF has enabled a greater asset base for people, a necessity for achieving and enhancing ongoing livelihood outcomes.

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