

CAPTURED India Country Evaluation

Professor Rob O'Donoghue
Dr. ir. Jan Brouwers

Evaluation Report



Wageningen UR Centre for Development Innovation (CDI) works on processes of innovation and change in the areas of secure and healthy food, adaptive agriculture, sustainable markets and ecosystem governance. It is an interdisciplinary and internationally focused unit of Wageningen University & Research centre within the Social Sciences Group.

Through facilitating innovation, brokering knowledge and supporting capacity development, our group of 60 staff help to link Wageningen UR's expertise to the global challenges of sustainable and equitable development. CDI works to inspire new forms of learning and collaboration between citizens, governments, businesses, NGOs and the scientific community.

More information: www.cdi.wur.nl



Innovation & Change



Ecosystem Governance



Adaptive Agriculture



Sustainable Markets



Secure & Healthy Food

environmental
LEARNING RESEARCH CENTRE



The Environmental Learning Research Centre is a new facility at Rhodes University for teaching and research in environmental education. It houses a post-graduate program in environment and sustainability education, a social learning research network, and an internationally recognised research program focussing on environmental learning, agency and societal change; and associated implications for education and training systems in South Africa.

CAPTURED

India Country Evaluation

Professor Rob O'Donoghue
Dr. ir. Jan Brouwers

Evaluation Report

The Dalai Lama was asked what surprised him the most. He said, "Man, because he sacrifices his health in order to make money. Then he sacrifices money to recuperate his health. And then he is so anxious about the future that he does not enjoy the present; the result being that he does not live in the present or the future; he lives as if he is never going to die, and then he dies having never really lived."

August 2012

Project code (CDI admin): 8141210100

Report number CDI-12-018

Wageningen UR Centre for Development Innovation

CAPTURED India Country Evaluation

O'Donoghue, R.O.

Brouwers, J.H.A.M.

August 2012

Environmental learning & research centre, Rhodes University

Centre for Development Innovation, Wageningen University & Research centre

This report provides the findings of the India Country Evaluation and is produced as part of the overall CAPTURED End Evaluation. After five years of support by the CAPTURED project the End Evaluation has assessed that results are commendable. I-AIM was able to design an approach in which health folk knowledge was validated by Ayurveda and Modern health Science through the PhD research program. This has been shared with communities and partners through an outreach program.

Cornerstone results and outputs were the establishment of cheap technology for drinking water, researching effective village based malaria prevention practice, exploring wider holistic health concerns with health producing and curative medicines, addressing dietary deficiency producing concerns as in the case of iron and anaemia, setting priorities for conservation and verification of changing plant uses as species become more rare, probing a pressing need for authenticating plant drugs and quality, and pharmacology efficacy in biodynamic practices. These research focus areas in the PhD program have been expanded to include partnered research, materials and course development for a revival of ethno-veterinary practices and further extended to a dairy co-operative partnership program to resolve the problems of milk quality and costs related to veterinary treatment.

Orders

+ 31 (0) 317 486800

info.cdi@wur.nl

Preface

This report provides the findings of the India Country Evaluation and is produced as part of the overall CAPTURED End Evaluation. As noted in the ToR document, the purpose of this evaluation of the Program for Capacity and Theory Building for Universities and Research Centers in Endogenous Development [CAPTURED] is “to assess the results (products and impact), to learn from the experiences in terms of strategy and efficiency, and formulate recommendations about the possible ways in which the program activities may be continued in each of the three cases and about the options for mutual cooperation and up scaling of the program in the future” (p. 4-5).

The Program for CAPTURED was initiated in 2008, funded by the Ministry of Foreign Affairs, directorate general for international cooperation (DGIS/DCO-OC) in the Netherlands. This international program involves The University for Development Studies in Ghana [UDS]- as main implementing agency, in cooperation with AGRUCO of the University Major San Simon of Cochabamba in Bolivia [UMSS] and the Institute of Ayurveda and Integrative Medicine [I-AIM], part of the Foundation for Revitalisation of Local Health Traditions in Bangalore, India [FRLHT].

This partnership built on experience of the University Consortium of COMPAS (Comparing and Supporting Endogenous Development) Network, and ETC, The Netherlands. Before the CAPTURED project the Universities and research centres provided technical support to COMPAS partner organisations. Cooperation with COMPAS and ETC foundation and expatriate support have been part of the program design of CAPTURED which also runs with an international advisory board monitoring the program and offering advice on a yearly basis.

The evaluators are grateful to all CAPTURED stakeholders involved in the India evaluation program that shared their views and perspectives. Without their insights, ideas and suggestions we would not have been able to write this report. We are especially grateful to Darshan Shankar and Balakrishnan Nair. Without their institutional memory and guidance in the reflections we would not have been able to make this report. We are also in debt with all other I-AIM-FRLHT staff that assisted in the logistics and to the PhD scholars and partners that reported and deliberated their work at seminars that gave us in-depth insights into their scholarship and the community engaged roots and focus of the entire initiative.

The views expressed in this evaluation report are the responsibility of the evaluators and involved institutions are not formally represented in the findings of this report.

Bangalore, August 2012,
Professor Rob O'Donoghue (Rhodes University, South Africa)
Dr. ir. Jan H. A. M. Brouwers (Wageningen University & Research centre, The Netherlands)

Table of contents

Preface.....	v
Executive summary.....	vii
Evaluación India: Síntesis en español	viii
List of abbreviations and acronyms	x
1 Introduction	1
2 Methodology	3
3 Findings	5
3.1 Summary results end of project	5
3.2 Reporting back to the evaluation questions.	7
3.3 Other observations	11
4 Analysis, conclusions and recommendations	15
4.1 Analysis	15
4.2 Conclusions and recommendations	17
Appendix 1 – Program and overview resource persons	23
Appendix 2 – Documentation	25
Appendix 3 – Overview of assessment five capabilities (5C model)	29
Appendix 4 – Terms of Reference	35
Appendix 5 – Methodological commentary on PhD Research Program.....	43

Executive summary

The Project for Capacity and Theory Building for Universities and Research Centres in Endogenous Development (CAPTURED) has started in 2008 and is currently in its fifth and last year (2012/13). The project was funded by the Ministry of Foreign Affairs, directorate general for international cooperation (DGIS/DCO-OC) in the Netherlands. It involved the University for Development Studies (UDS) in Ghana as main implementing agency, in cooperation with AGRUCO of the University Major San Simon (UMSS) of Cochabamba in Bolivia and the Institute of Ayurveda and Integrative Medicine (I-AIM), based at the Foundation for Revitalisation of Local Health Traditions (FRLHT) in Bangalore, India. Cooperation with COMPAS and ETC foundation and expatriate support have been part of the program design. An international advisory board monitored the program and advised on a yearly basis.

In India the CAPTURED project was developed in an organization with well-established structures, which allowed growth and drew on a sound research infrastructure. It was therefore possible for I-AIM through CAPTURED to initiate a developmental sequence across three progressive areas reflected as interacting streams. These three progressive areas are: 1) foundation of theoretical framework; 2) research; and 3) course development through outreach that extended to partners, who also became involved in outreach. The integration of research materials and development capacity to establish partnership and deliver on courses is probably the biggest strength of the CAPTURED initiative in India. This is most notable in the coherence of the model for endogenous knowledge and community managed health practices.

All planned capacities have been achieved: setting up and running a PhD research programme, designing and delivering a series of core courses and capacitating partners; and finally outreach in rural communities. Nine collaborative research programmes were established. The core program allowed I-AIM to resource the partner universities, colleges and government organisations with development materials and programs around ethno-botany and health provision. The PhD program engaged topics that are relevant for renewing the health situation of people and domestic animals of the rural areas in India.

Cornerstone results and outputs were the establishment of cheap technology for drinking water, researching effective village based malaria prevention practice, exploring wider holistic health concerns with health producing and curative medicines, addressing dietary deficiency producing concerns as in the case of iron and anaemia, setting priorities for conservation and verification of changing plant uses as species become more rare, probing a pressing need for authenticating plant drugs and quality, and pharmacology efficacy in biodynamic practices. These research focus areas in the PhD program have been expanded to include partnered research, materials and course development for a revival of ethno-veterinary practices and further extended to a dairy co-operative partnership program to resolve the problems of milk quality and costs related to veterinary treatment.

Eight recommendations have been formulated: to document the I-AIM approach and apply it elsewhere in Asia; design a short introduction course, design a rural program with partners with outreach into education institutions; strengthen the PhD program; provide regular updates of manuals; formulate a PhD alumni strategy; revise, refine and update the theoretical framework underpinning CAPTURED; and consider the use of E-learning tools.

Evaluación India: Síntesis en español

El proyecto CAPTURED ha comenzado en 2008 y actualmente está en su quinto y último año (2012/13). El proyecto fue financiado por el Ministerio de relaciones exteriores en los Países Bajos, dirección general de la cooperación internacional (DGIS/DCO-OC). Se trata de la Universidad para Estudios de Desarrollo (en inglés: UDS: “University for Development Studies”) en Ghana como principal organismo de ejecución, en cooperación con AGRUCO y la Universidad Mayor de San Simón (UMSS) de Cochabamba a Bolivia y el Instituto de Ayurveda y Medicina Integral (en inglés “Institute of Ayurveda and Integrative Medicine, I-AIM”), una iniciativa de la Fundación para la Revitalización del Tradiciones Locales de Salud (en inglés “Foundation for Revitalisation of Local Health Traditions”) en Bangalore, India. Había también una cooperación con la Fundación COMPAS y un apoyo expatriado ha sido parte del programa. Una Junta Consultiva Internacional supervisaba el programa y aconsejaba sobre una base anual.

En la India, el proyecto CAPTURED estaba desarrollado en una organización con estructuras bien establecidas y se basó en una infraestructura de investigación establecida, lo que permitió un crecimiento rápido. Por consiguiente, era posible que a través el proyecto el I-AIM iniciaba una secuencia de desarrollo en tres áreas progresistas que interactúan. Estas tres áreas progresistas son los siguientes: 1) la fundación de un marco teórico, 2) la investigación, y 3) el desarrollo de un conjunto de cursos que se extendió a los socios, y después también los socios se involucraban en actividades de extensión (“outreach”). La integración de los materiales de investigación y el desarrollo de los capacidades para establecer el red de los socios y asegurar sus capacidades a través los cursos es probablemente la mayor fuerza de la iniciativa CAPTURED en la India. Esto es sobre todo notable en la coherencia del modelo de reconocimiento endógeno y las prácticas de salud aplicadas por los comunidades.

Todas las capacidades previstos se han alcanzado: la creación y ejecución de un programa de investigación de doctorado, el diseño y la entrega de una serie de cursos básicos y la capacitación de los socios, y, finalmente, la compartición con las comunidades rurales. Nueve programas de investigación se han establecido en colaboración de los socios. El programa básico ha permitido a la I-AIM de compartir con las universidades asociadas, colegios y organizaciones gubernamentales las materiales y programas de desarrollo relacionados con la etnobotánica y la prestación de salud. En el programa de doctorado se seleccionaban temas que son relevantes para la renovación de la situación de salud humana y animales domesticadas de las zonas rurales de la India.

Los resultados principales fueron la creación de tecnología barata para el agua potable, la investigación de la prevención de la malaria basada en las practicas de los comunidades, la exploración de preocupaciones más amplias de la salud holística y la producción de medicamentos curativos, abordar las preocupaciones dietéticas deficiencia de productos como el hierro y la anemia, el establecimiento de prioridades para la conservación y la verificación de plantas intercambiables para remediar el fenómeno que ciertas especies son cada vez más raros, la necesidad urgente para la autenticación y la calidad de las drogas vegetales, y la eficacia de la farmacología basada sobre las prácticas biodinámicas. Estas áreas de enfoque de investigación en el programa de doctorado se han ampliado para incluir la investigación asociado y los materiales y el desarrollo de los cursos para un renacimiento de las practicas de la etno-veterinaria , y también un programa sobre productos lácteos producidos para una asociación cooperativa que trata de resolver los problemas de la calidad de la leche y los costos relacionados con el tratamiento veterinario.

Ocho recomendaciones se han formulado: documentar el enfoque de la I-AIM y aplicarlo en otras partes de Asia, diseñar un curso breve de introducción, diseñar un programa rural con los socios con alcance en las instituciones de educación, fortalecer el programa de doctorado; proporcionar actualizaciones regulares de los manuales, formular una estrategia de comunicación con la red doctorado alumnos del I-AIM, revisar, perfeccionar y actualizar el marco teórico que sustenta el proyecto CAPTURED, y considerar el uso de herramientas de aprendizaje electrónico (“E-learning”).

List of abbreviations and acronyms

AGRUCO	Centro Universitario Agroecología Universidad Cochabamba (Bolivia)
CEDBTC	Centre for Education Beyond The Curriculum
CAPTURED	Capacity and Theory Building of Universities and Research Centres in Endogenous Development (www.captured-edu.org)
COMPAS	Comparing and Supporting Endogenous Development (www.compasnet.org)
CU	Christ University
DGIS	Directorate General for International cooperation (Netherlands)
DGIS/DCO-OC	Sub directorate in DGIS in charge of Culture & Education
ED	Endogenous Development
EE	Endogenous Education
ER	Endogenous Research
ETC	ETC Foundation Netherlands (http://www.etc-international.org)
FRLHT	Foundation for Revitalisation of Local Health Traditions (Bangalore, India www.frlht.org)
I-AIM	Institute of Ayurveda and Integrative Medicine (an initiative of FRLHT)
IGNOU	Indira Gandhi National Open University
IK	Indigenous Knowledge
MoU	Memorandum of Understanding
MU	Manipal University
POP	Pelvic Organ Prolapse
SU	Sastra University
TANUVAS	Tamil Nadu Veterinary & Animal Science University (TANUVAS),
ToR	Terms of Reference
ToT	Training of Trainers
UDS	University of Development Studies (Tamale, Ghana, www.uds.edu.gh)
UMSS	University Mayor San Simon (Cochabamba, Bolivia, www.agruco.org)

1 Introduction

From 2008 to 2012 an international project has been going on: The Program for Capacity and Theory Building for Universities and Research Centres in Endogenous Development: CAPTURED. This project was funded by the Ministry of Foreign Affairs, directorate general for international cooperation (DGIS/DCO-OC) in The Netherlands. It involved the University for Development Studies (UDS) in Ghana as main implementing agency, in cooperation with AGRUCO of the University Major San Simon of Cochabamba in Bolivia and the Institute of Ayurveda and Integrative Medicine / Foundation for Revitalisation of Local Health Traditions in Bangalore India (I-AIM-FRLHT). Cooperation with COMPAS and ETC foundation and expatriate support has been part of the program design. An international advisory board monitored the project and advised on a yearly basis.

The project was based on an agreement between UDS and DGIS and subsequent MoUs between the other partners mentioned above. The project was carried out in line with the objectives and budget as specified in a project document that was agreed by DGIS as the basis for the funding.

The CAPTURED project scheduled an End Evaluation in the last year of its existence (2012), for which a Terms of Reference was formulated (see Annex 4). In all three countries a Country Evaluation will be conducted, producing a Country Evaluation Report. Based on the three reports a Synthesis Report will be produced afterwards.

The present reports presents for the India Country Evaluation the methodology of the evaluation (Ch. 2), the main findings (Ch. 3), and finally analysis, conclusions and recommendations (Ch. 4). Annexes are provided for I the program; II documentation; III summary on the five capabilities; IV Terms of Reference; and V conceptual comments on the PhD research methodology.

2 Methodology

Based on the ToR a Work Plan was made for the country evaluation. This work plan was tailor made to the circumstances at I-AIM-FRLHT (short abbreviation: I-AIM) and minor adaptations were included. The methodology was made in such a way that the perspective of the different I-AIM stakeholders was made explicit and the capacity development activities and results in function of endogenous education and research assessed. The main elements of the methodology were:

- Documentation review (see Annex II)
- Interviews with key informants and a group reporting and interview process on PhD research, emerging courses and partnerships with participants applying Appreciative Inquiry (see Annex I and V)
- Collect and assess data on curricula innovation, quality and quantity of acquired capacities of I-AIM staff applying the five capability model (see Annex III) and Appreciative Inquiry
- Triangulation and validation of findings.

The research/evaluation questions for the present evaluation are:

- A. To what extent have the planned activities been carried out and the results and outputs as mentioned in Log frame been achieved.
- B. What is the reason and justification for not fully achieving the results and outputs?
- C. Which products and outputs, which were not specifically planned, have been achieved?
- D. Have the activities been carried out in an efficient way? (Quality of management and scientific support staff, timeliness of decision making, quality of reports, flexibility and adaptability of implementation).
- E. In what sense have the capacities of the participating institutions for carrying out ED, ER and EE been enhanced (specify: knowledge, skills, attitudes, aspirations and number of staff; availability of appropriate research methods, educational materials, institutional support and organizational modifications).
- F. How have the results of the program been received by the traditional knowledge community, University, the I-AIM staff and students involved in the program, policy makers, other universities with which cooperation took place?
- G. How much spin off and outreach has the program had so far and what are the perspectives for such spin off in the pilot region and beyond?
- H. Which of the approaches and experiences can be used on a larger scale in the pilot region and beyond?
- I. On the basis of the experiences, what should be the orientation, scope and strategy for future activities in ED, EE and ER in each of the three lead institutions, for intraregional and intercontinental cooperation and for up scaling the activities

Unit of analysis

CAPTURED especially worked at University level. The program innovated by redirecting Higher Education to bring on board endogenous development into curriculum, teaching and learning. Therefore, the unit of analysis will be performance and capacity of the Universities involved in the initiatives, in this case I-AIM.

Main methodologies

CAPTURED has a main result area on capacities, for which an evaluation model was applied called the five Capability Model (see below). In addition, a main value is the recognition of endogenous knowledge as a central element. Therefore, the evaluation proposes a specific evaluation approach: appreciative inquiry (AI). Both methodologies are presented below. It is important to note that the two methodologies complement and inform each other in the sense that changes in capabilities were further probed by AI

before continuing with the analysis of areas where capabilities were lacking behind with respect to planning or the need for new capabilities to deal with emergent issues.

Five capability model to assess changes in capacity

The five Capability model is a model to analyse capacity, capacity development (CD), support to CD and how to include CD into planning and M&E. The model is based on extensive research by ECDPM and associates¹. The model is used by DGIS (donor CAPTURED) as the main model for CD. The five C framework distinguishes capacity as 'producing social value' and five core capabilities that together result in that overall capacity. Capacity, capabilities and competences are seen as follows:

- Capacity is referred to as the overall ability of an organisation or system to create value for others.
- Capabilities are the collective ability of a group or a system to do something either inside or outside the system. The collective ability involved may be technical, logistical, managerial or generative (i.e., the ability to earn legitimacy, to adapt, to create meaning, etc.).
- Competencies are the energies, skills and abilities of individuals, including attributes of leadership.

The five capabilities are: capability to act and commit; capability to adapt and renew; capability to relate to external stakeholders, capability to achieve coherence, and the capability to produce services and products.

A recent reference document for all experiences in applying the 5C model to planning, monitoring and evaluation is the document "Bringing the invisible into perspective. Reference paper for using the 5Cs framework to plan, monitor and evaluate capacity and results of capacity development processes", available at www.ecdpm.org/5Cs

Appreciative Inquiry

Appreciative Inquiry is an evaluation methodology introduced by Cooperrider et al (2008) that seeks to first explore successes and understand why positive results have been achieved. Only after a shared reconstruction how these results were achieved, the evaluators and the evaluatees will proceed by exploring why other results were not or only partly achieved. The methodology also allows the evaluation to be informed on unplanned results that emerged in the course of the project life.

The AI methodology implies that the evaluating team sees its role as that of an informed facilitator providing the structure for a process of common [everyday] sense making. Appreciative inquiry approaches evaluation as a learning experience using dialogue, reflection and challenge to distil learning opportunities, to create a learning environment and to develop inquiry skills. Learning from evaluative inquiry is a social construction occurring through the involvement of multiple constituencies each representing different perspectives. It is socially situated and is mediated through participants' previous knowledge and experiences. One key element therefore was the progressive deepening, validation or refuting of first findings with other stakeholders and the joint reflection of first findings and validating lessons learned. This provided the basis for recommendations that were based on a joint reflection process.

¹ Baser & Morgan: Capacity, Change and Performance, (2008).

3 Findings

Firstly, a description and assessment is given in § 3.1 of the results and the process of institutional development, educational development and research innovations as undertaken by I-AIM to summarise the situation for each of the main objectives as per end of the project period. This is followed by an assessment of the evaluation questions in § 3.2. Some other observations are added in § 3.3.

3.1 Summary results end of project

After five years of support by the CAPTURED project I-AIM has been able to achieve commendable results. They can be summarised as follows:

Objective 1: Building capacities for an Endogenous Development program

This is a main outcome of the CAPTURED project in India. In India the CAPTURED project was developed in an organisation with well-established structures, which allowed growth and drew on a sound research infrastructure. It was therefore possible for I-AIM through CAPTURED to initiate a developmental sequence across three progressive areas reflected as interacting streams. These three progressive areas are: 1) foundation of theoretical framework; 2) Research; and 3) Course Development through outreach that extended to partners, that also became involved in outreach. This model has been appraised as coherent and is outlined later in the report (Theory of Change, § 4.1). The different capabilities and their changes over the project period are summarised in § 4.1 and detailed in Annex III. All planned capacities have been achieved: setting up and running a PhD research program (planned: six, delivered nine PhD students), establishing supervision committees for each research that include relevant disciplines, designing and delivering a series of core courses, and capacitating partners (details: 2011 I-AIM CAPTURED self-evaluation).

Objective 2: Establishing linkages between AIM, other universities and capacity building in Endogenous Development

In India five collaborative research programmes were planned, but nine were established in total:

1. Indian Institute of Science, Bangalore
2. Christ University, Medical College, Bangalore
3. National Institute for Malaria Research
4. National Institute of Mental Health & Neurosciences, Bangalore
5. National Institute of Cholera and Enteric Diseases (NICED), Kolkata
6. Kerala Forest research Institute, Peechi
7. National Institute of Nutrition, Hyderabad
8. M.S. Ramaiah Memorial Hospital, Bangalore
9. Centre for Indian knowledge Systems, Chennai

The following linkages established in the course of the project period provide examples:

I-AIM established a partnership on veterinary research with the University Tamil Nadu Veterinary & Animal Science University (TANUVAS), which was taken up as a jointly taught module that has now been taken into their mainstream veterinary training curriculum (one of five modules in first year programs at TANUVAS). The research teaching and extension post graduate diploma has seven modules. The expansion is reflected in one module in four components: 1) ethno concepts of livestock health; 2) ethno botany, 3)

ethno pharmacy; and 4) applied natural products. The program is undertaken in the University TANUVAS over two semesters with material compiled and published through CAPTURED. It is taught across two campuses: I-AIM and TANUVAS.

I-AIM also collaborated with the Christ University (CU), Bangalore and established with CU an anthropological approach to understanding botany developed with UBCHEA (The Christian College Association). This is a module for enrichment and discovering local knowledge, undertaken within the Centre for Education Beyond The Curriculum (CEDBTC). There is also a short two day course on ethno-botany that is included in the development of the medicinal garden on the CU campus with five modules: 1) general botany; 2) anthropology & culture; 3) biogeography, 4) ethno-medicine; and 5) ethnic concerns. Currently the program involves 25 students on a three months course. After the start-up of this program there have been requests for its extension and the plan for the next phase is to run it as a ToT so that other University partners can take it up as an addition to their existing programmes.

I-AIM also had exposure with the other two CAPTURED partners. Students and staff went to the INDO-Ghana study and conference visit where they presented their proposals for sharing with participants from other countries. Lectures were delivered to graduate students at AGRUCO, Bolivia. I-AIM also hosted two research seminars (one of ten days, one of two weeks), which was beneficial for the PhD students in terms of being able to present and strengthen their research.

Objective 3: Evolution of networking, collaboration and sharing systems on experiences in Endogenous Development

As presented above I-AIM is networking on ED with an expanding range of Universities in India. There is also a wide range of NGOs and government organisations involved in the outreach function. MoUs have been signed with:

1. Manipal University (MU),
2. Sastra University (SU),
3. Christ University (CU),
4. Tamil Nadu Veterinary & Animal Science University (TANUVAS),
5. Indira Gandhi National Open University (IGNOU).

Exchange with Ghana and Bolivia: there were two exchange trips overseas and hosting two overseas visits, one of two weeks and one of ten days (see objective 2).

Objective 4: Up-scaling capacity building and establishment of programs for Endogenous Development related research

The core program allowed I-AIM to resource the partner Universities, colleges and government organisations with development materials and programs around ethno-botany and health provision. The strongest amongst these was the ethno-veterinary work which produced modules for a new distance education program for veterinary post graduate work. The other programs have primarily been additive enrichment that has been taken up into mainstream courses. The demand is becoming difficult for I-AIM to meet, necessitating a change in strategy to do it through a ToT program supported by practical resourcing with botanical materials and perspective on Indian folk medicine and manuscript medical heritage. What is notable is that the outreach initiated through I-AIM in the CAPTURED program is being extended by the partner institutions through innovative curriculum programming where students use the practical resources to start-up home herbal gardens as well as to explore primary health care with villagers. In the case of Mount Carmel College in Bangalore and through practical projects in the case of the Christ University certificates were developed in veterinary ethno-botany and home medicine. Mount

Carmel also has an advance diploma in medical plants and primary health care for 50 post graduate students. Their community development program has five credits and is run over the weekend as an enrichment program that over the past five years has had over 200 students in batches of 40-50 who work on a 12 week program with an examination practical test and seminar.

3.2 Reporting back to the evaluation questions.

- A. To what extent have the planned activities been carried out and the results and outputs as mentioned in the Log Frame been achieved?

Most of the objectives outlined in the program have been achieved with significant extensions, particularly in the area of partner engagement in training and in the formalising of curricula materials for training programs. This is best accounted for in the way that the CAPTURED program developed around a well-established and integrated framework that was village practice informed and partnered at the outset. This led to the establishment of sound and coherent foundations for the core materials to resource the PhD program that developed as the core of the CAPTURED activities feeding back into foundations and been taken up and out into courses and outreach that also reached back into the very community structures and partners with which the initial program was build. In this way the unique and involving strategy produced an endogenous program that has intellectual coherence and reach into other Universities and Colleges partnered activities. The assessment of the I-AIM team and evaluators is that the output of the CAPTURED program has established a platform to deepen and broaden this program in significant ways.

Cornerstone results and outputs were the establishment of cheap technology for drinking water, researching effective village based malaria prevention practice, exploring wider holistic health concerns with health producing and curative medicines, addressing dietary deficiency producing concerns as in the case of iron and anaemia, setting priorities for conservation and verification of changing plant uses as species become more rare, probing a pressing need for authenticating plant drugs and quality, and pharmacology efficacy in biodynamic practices. These research focus areas in the PhD program have been expanded to include partnered research, materials and course development for a revival of ethno-veterinary practices and further extended to a dairy co-operative partnership program to resolve the problems of milk quality and costs related to veterinary treatment.

Throughout the developing research program, the problems in modern medical practice has been used as a foil for a traditional and integrative approach that re-orientates medical practice to holistic and contextual initiatives that take up prevention and supporting health and general health well-being that extends to the 70% of Indian population without access to formal health services. The research topics have served to strengthen the position of traditional medicine, both at the scientific modernisation at I-AIM as well as the traditional health practice which is being fed back to village practitioners with relevant material. In this way it operates from an endogenous foundation (together), out into trans-disciplinary research and then back into a strengthening of village and family health practices. It was notable from village folk medicine respondents that they appreciated what came back because it allowed them to build and strengthen their practice from what they know.

The PhD curriculum documents operate in two volumes and two areas (Readings on theory and laboratory and statistical techniques). The challenge of a program of this nature is to keep the curriculum updated, current and informed by wider scholarship. It would be a useful function to monitor if students find their work relevant and regularly check which material needs to be updated in the course manuals in order that the theory represented in the manuals is consistent with the methodologies and statistical verification that is being used. There is an impressive range of core professional and expansive learning materials (see annex II). The challenge is to make the appropriate processes of teaching and learning more explicit.

B. What is the reason and justification for not fully (or partly) achieving the results and outputs?

There is only the MoU with the University of Peradeniya, Sri Lanka that was planned and not achieved. However, one Sri Lankan PhD student is coming from this University.

C. Which products and outputs, which were not specifically planned, have been achieved?

An additional target was the feeding back through a certificate program on medical plants and primary health care practices. This seems to have been particularly effective in a system that has suffered fragmentation and marginalisation into the modern era. It was noted here that the knowledge being brought back in a holistic framework had immediate relevance adding coherence and confidence to the folk medicine participants operating at a village community level. It also brought the challenges of expanding existing knowledge practices and had normalising effects as the I-AIM team both gleaned more knowledge and noted variations and substitutions that needed verification. The feedback courses allowed village health workers to have confidence in their own knowledge but also to take up both old and new knowledge practices with confidence in their endogenous coherence. Notable here are water treatment and the treatment of anaemia both of which fed back from PhD research as this was developing. This is unusual in PhD research and is a telling characteristic of the CAPTURED program in India as is how the feedback courses also brought additional knowledge that was ploughed back into the I-AIM data bases, research program and agenda. What appears to have developed through the CAPTURED program is a trans-disciplinary expertise spanning research, curriculum development and institutional development in a coherent way. The core seems to be the trans-disciplinary research which has been called “translational” research. The translation of EK occurs as a village partnership process of contextual profiling that is taken up into research that models traditional practices using modern bio-technology such as DNA profiling to produce markers to ratify and extend endogenous practices. It is a quick and responsive process that has merely started at this stage, with a vast and expanding array of relevant work emerging.

Another expansion was the Panchakarma therapy with a new course, another integrative trajectory which is part of production of development materials into the strengthened modern practices in the Ayurveda hospitals. The manuals to normalise professional practice draws on heritage and the practical concerns of professional hospital management, nutrition, local health and plants, midwifery, medical research and also extends to systems of personal health, beauty care and spiritual well-being. This diversification reflects an expanding field and responsive course development in a form that can be communicated to strengthen the diversification and the mediating knowledge across these specialised practices of holistic health care for community and individual well-being.

I-AIM did not plan to enter the dairy industry but were approached to do so out of the problem of chemical medical residues in the milk and the costs of veterinary services to community co-operatives where each participant owns only a few cattle. Of interest here was that the training methodologies in the dairy industry were very top-down and technically framed. And yet the community engaged practices were participatory and partner directed. What I-AIM appears to have contributed here is an improvement in animal health, a reduction in the residues in milk and an approach of working on the training that was seen as an endogenous process.

One of the additional results in the PhD program has been the very successful publishing in peer review journals along with the production of three handbooks that strengthened the foundation knowledge (see appendix II).

D. Have the activities been carried out in an efficient way? (Quality of management and scientific support staff, timeliness of decision making, quality of reports, flexibility and adaptability of implementation)

Efficiency compares the results (effects, outputs) with the invested means and verifies if invested means could have been used for obtaining more results. Based on the verification of documents, quality and quantity of reports, appreciation of PhD students and key partners, background provided by I-AIM management and feedback by other resource persons the End Evaluation observes that activities at I-AIM have been operated in an efficient way. Almost all planned results were achieved and a number of unplanned but important additional results were achieved as well (see C above). The CAPTURED program has contributed to FRLHT leveraging research funds from the Department of Science and Technology, Government of India

- E. In what sense has the capacity of I-AIM for carrying out ED, ER and EE been enhanced (specify: knowledge, skills, attitudes, aspirations and number of staff)

From the nine PhD students three are at the stage of their final writing up. All involved I-AIM staff has benefited from the program in terms of a stronger confidence in the relevance of carrying out ED, ER and EE, establishing a network in India, and aspiring to upscale the program in the next years. More details on capacities are given in § 4.1 and annex III.

It was notable to the evaluation team that researchers and trainers within the institute are all salaried staff. The research grants are being used to provide salaried support so that the Centre operates in an integrative way and in teams and departments that draw on and support each other through well-structured supervision teams. Most researchers take an extra year to complete their studies. PhD students often take a 4th or 5th year to conclude a PhD. See also annex V.

- F. Availability of appropriate research methods, educational materials, institutional support and organizational modifications.

The integration of research materials and development capacity to establish partnership and deliver on courses is probably the biggest strength of the CAPTURED initiative in India. This is most notable in the coherence of the model for endogenous knowledge and community managed health practices that have been extracted through the evaluation process. Ref. annex II documentation and annex V PhD research program.

- G. How have the results of the program been received by the traditional knowledge community, University, the University staff and students involved in the program, policy makers, and other Universities with which cooperation took place?

Traditional knowledge practitioners who attended the report back workshop on day III presented themselves as part of the program and were concerned with the research that was being done as well as being co-engaged with I-AIM in the strengthening of village based health delivery based on their traditional knowledge practices. Their knowledge practices were clarified and strengthened through the activities by I-AIM and fed back by the courses. I-AIM took up a leadership and supporting role in their view. They still felt grieved that the Government did not join yet at a more substantial level.

Students in their appreciative comments reflected a strong identity and commitment with the research. In discussions it was noted that the scope and demand of the projects they were engaged in appear to be more substantive compared to a normal University PhD program. The evaluation team attributed this scope and depth challenge to the PhD initiatives being started up and needing to become more programmatic in the next round. But we also noted that the quality and debt of support in the supervision team was very well managed along with the links into indigenous practice and the reporting back of the PhD in community based training that was integrated and focussed around community concerns like water, health, and well-being as a whole.

There was no discussion with policy makers during the evaluation but clearly some of the participants in the program and contributors to the seminars were drawing on policy challenges like the formulation of more inclusive regulations and the exemplifying of the efficacy in current practices that have not been researched and proven within the conventions of the day that are dominated by modern scientific technical medicine. I-AIM has developed partnerships with very reputed knowledge institutions in the country like the Indian Institute of Science, the National Malaria Research Institute, the Christian Medical College, Vellore, National Center for Cholera and Enteric Diseases

I-AIM staff is highly motivated and there is no distinguishing between staff and researchers as the research grant holders are taking in as staff for the duration of their PhD studies that are often extended into a fourth year write-up. Graduated PhD students will remain staff at I-AIM.

It was notable at the partner workshop that there was a two way process that was operating. Firstly I-AIM providing something that was additive and of value to the partners involved. And secondly, the partners were showing the capability and the passion to take the programs further by establishing nurseries and including assignments that involved the start of home gardens. We noted that this is part of a cultural orientation on our tour at the Ayurveda medical centre where the practice prescribes that the patient goes to the nursery, buys medicinal plants and keeps it at his/her household. At the hospital it was also noted that 25% of the patients are treated free of charge as they came from rural areas. Clearly the culture of taking medicinal plants back home is a notable sign of outreach.

- H. How much spin-off and outreach has the program had so far and what are the perspectives for such spin-off in India and beyond?

Spin-off is there as described above but what are the drivers and what is needed to maintain it? Clearly the spin-off is part of the resourcing provided through the CAPTURED program. Two initiatives can be reported, one in the UK and one in the USA where invitations were extended for training in holistic medication. In India, however, the CAPTURED support had a limited driver application and yet there was a much stronger take-up and expansion that happened in its own right through the practicality and appropriateness of the courses and material offered by I-AIM. What was notable in the veterinary sciences is that the community based herbal practices were initially independent from I-AIM but the groups involved were independently engaged in a networking activity. For the perspectives beyond India: see below.

- I. Which of the approaches and experiences can be used on a larger scale in the pilot region and beyond?

This program is rewriting the frontiers of endogenous development research & education. Clearly, endogeneity needs to start in context and in the community. But the assumption was made that this was the way that ED would open and expand. What is coming out of the I-AIM model of together, out into research and back in training courses is an interplay of endogenous practice and research producing exogenous perspective and innovation that feeds back providing an additive coherence and strengthening of endogenous practice at the village level.

Health seeking behaviour studies (reported in the WHO global atlas on traditional medicine 2008) point out that in the UK, USA, Western Europe and several other regions of the world there is clear evidence that consumers seek help for their healthcare needs from different medical systems. It is a big shift from an earlier situation when western medicine was the main stream and the sole refuge. There is therefore a new emerging healthcare scenario world over which is currently called “complementary medicine”. This is a pluralistic scheme of healthcare based on the integration of different healthcare knowledge systems and practices. Very useful results from I-AIM's work are the research findings on Malaria and Copper for drinking water, which were derived from folk traditions and prove to be effective at low costs. Publishing

by I-AIM of these findings derived from TK prevented patenting of knowledge generated by CAPTURED researchers and put the knowledge in the public domain. This knowledge cannot be privatized by IPRs.

In India I-AIM is a pioneer in this field and the CAPTURED PhD program has contributed to advancing I-AIM's vision of developing a knowledge base for trans-disciplinary health sciences and technology, which form the foundation for complementary medicine. I-AIM would therefore in a 2nd phase of CAPTURED like to intensify its PhD program but design it in such a manner that the research students are actively and organically linked to long term field stations in hospitals and rural communities so that the research takes on the character of "action-research". The experience of I-AIM have a high potential in Asia but also for countries that do not have a rich IK tradition. Future collaboration on healthcare and nutrition between I-AIM and the CAPTURED partners in Ghana and Bolivia has a high potential to upscale results.

Alongside the action research doctoral program, I-AIM could also upscale using distance learning e-tools preventive healthcare programs for rural and urban households (both for human and veterinary health).

- J. On the basis of the experiences, what should be the orientation, scope and strategy for future activities in ED, EE and ER in I-AIM for intraregional and intercontinental cooperation and for up-scaling the activities?

International cooperation thus far has been largely based on transfer of science and technology from the North to the South. The assumption has been that only western knowledge system possesses universal attributes. The I-AIM CAPTURED experience suggest the enormous potential of South-South and South to North cooperation based on endogenous knowledge. This is because it is seen that although the concepts and categories of Indian endogenous knowledge in health sciences is different from western sciences, the Indian traditional health sciences do possess universal attributes and can be learnt by any culture. Some examples are:

- Ethno-veterinary practices in India in terms of diagnosis and treatment principle, could be shared with dairy farmers all over the world.
- Nutritional concept and principles of Ayurveda can similarly be shared particularly in Asia but also with other regions.

The PhD program methodology of trans-disciplinary and translational research as it matures can be shared with all countries which have rich indigenous knowledge heritage but also other countries that are interested in the methodology and valuation of IK.

3.3 Other observations

Important role of the PhD program

Also in India the future of health care will be in integrative health care. As in many places in the world, mainstream health western practitioners and their government funding agencies do not recognise alternative ways of medicinal treatment. Meanwhile, folk knowledge and other alternative ways to deal with health are continuing, being it often in underground circumstances.

To legitimise EK practices and bring them in the mainstream, I-AIM has chosen the strategy to validate these practices through research. A set of relevant research topics have been selected through an interactive process with partners, including representatives from folk knowledge (see § 3.1 and § 3.2). As the trend of shifting health towards integrative health practices is growing it is important for organisations like I-AIM to validate EK practices and confirm their complementarity. Therefore, also in a next phase it will be important that I-AIM assures the validation and mainstreaming process by continuing and deepening its PhD program on a number of areas that address health priorities. The program is complemented by core

short term courses on specific topics as explained before. Only after this next phase I-AIM could complement this with a Master program to distil knowledge that has been created through the PhD program and validated in practice through deeper learning (see below).

Triple loop learning

A good assessment of the I-AIM model might be that integrated and expansive learning loops took place in the India CAPTURED program. A first loop took place at the village level where health practices are explored together on how things (health practices) have been done are making it a start-up site of doing things right. A second loop was build were the relevance of the knowledge practice was grounded in Ayurveda and Modern science and in the case of malaria and ethno-veterinary, how it was grounded in folk knowledge and in the local knowledge communities (associations of healers). Out of this a third loop is built of research exploring how the right things are best done in moral, ethical empirically coherent ways that can be taken back into the community structures to strengthen these but can also be taking further to reflect on the emergent practice and get to the level of explanatory causality within the logic of heritage medical practice that has a long history in the Indian sub-continent. The feedback to the local knowledge holders and supporting these to apply the insights and possible modifications in their own environment is strengthening the endogenous knowledge communities.

Methodological appreciation

The I-AIM experience gave methodological considerations for dealing with ED in a project like CAPTURED. In one sense there is in the I-AIM model a coherent though somewhat implicit methodological process of translation and empirical verification, an innovation in itself and well situated in the Ayurveda perspective. On the other hand there are tensions threads across the endogenous development research perspective, some of which the evaluation tried to clarify to open spaces for a more explicit methodological perspective with appropriate diversity for the scope of the research practices that will grow and strengthen culturally grounded health practices.

The appreciative inquiry process allowed an articulation by I-AIM of some of the implicit perspective traced in the PhD research program design. What came out was a two stage research design perspective the first being practical and endogenous out of the relationship between folk and manuscript where "for the practical where you want to name and use then talk to forest dwellers and shepherds" (Quote by Darshan Shankar). Here the endogenous implication is historical research and a design to get to inter-subjective objectivity on what might become a topic and bring its relevance into focus for more probing translation and empirical research. What comes into play then is the orientation to mitigate bias that comes with the development of a scientific temper and an impersonal open mind as one finds in the sage.

In this way one is looking at a translation and process modelling that is taken into empirical work with further tools and theory that help uncover a better grasp of the objects in the world, taking care to reflect this back into the ontology, history and culture of context with critical reflexivity towards making things clearer and better. Alongside this the implicit ontological, philosophical, and real world process of involving inter-subjectivity (stage 1) in interplay with the representational detachment to achieve a deeper objective sensory and cultural grasp (stage 2) is revealed as a social epistemology in a 6 senses space. The usual senses are listening well, tasting to detect differences, touching and working within the process, hearing and seeing that is happening, which informs the sixth dimension of the retrodictive sense (deductive back-analysis) borne of a clear reading of things towards greater object congruence and opening the prospect of achieving the natural necessity for enhanced well-being.

Given this process map for identifying and enacting a situated (endogenous) research agenda for explicating and enhancing health practices, the questions we are asking are: How will some ground clearing research on World View and Paradigms help clarify methodology? And how might recent critique of western science methodology provide additive tools to strengthen the explication of methodologies

necessary to do the best research possible to inform the developing program?

4 Analysis, conclusions and recommendations

4.1 Analysis

Assessment of the project environment (relevance of ED, the socio-political context and perspective of ED at I-AIM, new insights and perspectives of international cooperation):

Whereas the rich Ayurveda body of knowledge provides a sound background for historically grounded health practices, also in India people tend to regard modern science as the mainstream for sourcing the health practices and standards. Mainstream and endogenous have different positions and lack good exchange and dialogue or joint research. Only 30% of the Indian population has access to government or private medical care and 70% relies on folk medicine. This points at the relevance to build on the one million folk healers of India and assist them in their practice.

In the project period the position of the Gol versus Ayurveda and folk medicine became more positive and I-AIM has been accepted by Gol institutes as a Centre of excellence, which is illustrated by the fact that the Centre receives funds from several ministries, I-AIM board member was appointed as an advisor to the prime minister, and the accreditation for folk healers.

Assessing the project structure, coordination/management and international support:

CAPTURED has one International Director. In each region of the CAPTURED project the Country Program is headed by a Regional Coordinator, in the case of India Dr. Darshan Shankar, who provided strategic guidance and liaison with national and international contacts. In addition a project manager was appointed in the person of Dr. Balakrishnan Nair. The appointment of a Project Manager turned out to be very efficient in the case of India as Dr. Nair was able to handle project management in an effective and efficient manner as well as bring in his experience in academic research program design, co-ordination and management.

International support was provided through the COMPAS program and expatriate support, which was much appreciated by all consulted stakeholders. It provided access to other networks, assistance to document experiences, support in lecturing ED courses, guidance for PhD students and strategic linkage with international actors interested in ED. The Advisory Board, meeting once a year, has been very useful to guide the project strategically. The Board of Directors met each year three times for operational issues. ETC has administrated the funds with regular audit reports, which was much appreciated by all Consortium partners. Every partner found its own fit to host the project, in the case of India the Institute of Ayurveda and Integrative Medicine.

Capacity and Capacity Development

The analysis of the five capabilities (see Annex III) revealed that the capabilities to act, to renew and to balance diversity and achieve coherence were already quite strong at the start and remain by the end of the project in 2012 capabilities on which I-AIM can rely. The capability to relate was weak at the start, has improved and could still become stronger in the next years. I-AIM can build on its other capabilities to strengthen its coalition building with other actors: it has achieved coherence in its profile and product offer which will guide its networking and further positioning. It can continue to engage with partners also interested in renewing and learning (like CAPTURED partners and COMPAS). I-AIM can also rely on its capability to act to continue to be a partner for organizations also interested in endogenous research and education as it provides an excellent partner in a reflexive ED, ER and EE practice.

The I-AIM change model as applied in CAPTURED

Through the appreciative inquiry process staff and partners from I-AIM reconstructed with the evaluation team the following Theory of Change how I-AIM operated in the project period (see Figure 1).

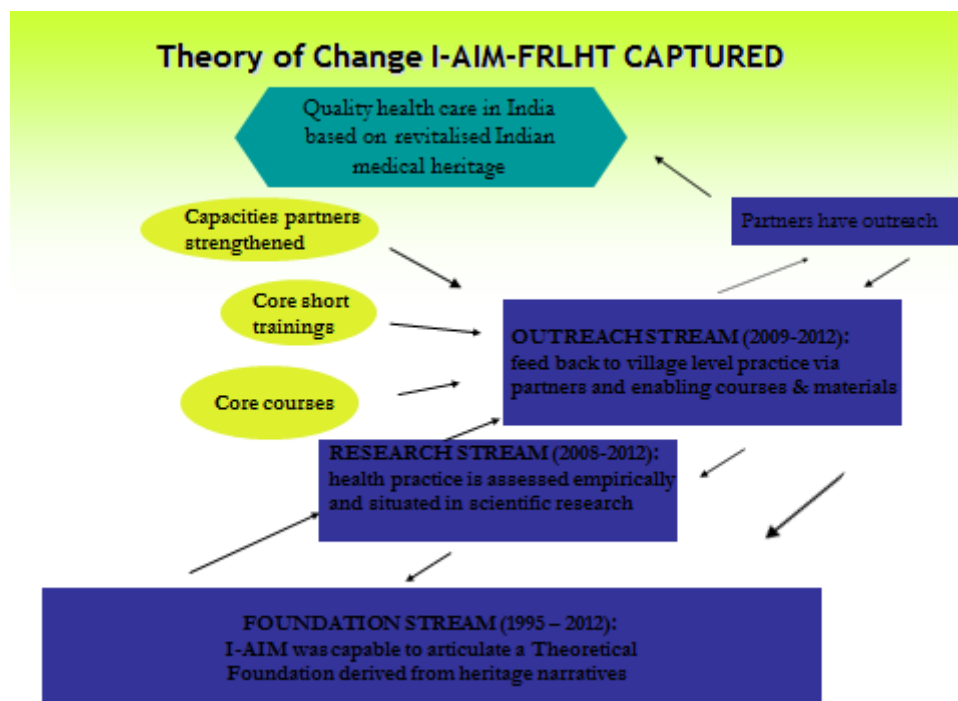


Figure 1: Visualization of the Theory of Change I-AIM India case

Regular Theory of Change visualization would typically present a flow of outcomes that would be discerned into early, intermediate and final outcomes during the course of the project's life. In the case of I-AIM the reconstructed change trajectory is described by a number of streams that continue to flow as depicted by the feedback arrows in Figure 1.

The first stream that started before the project in the mid 90ties is the foundation stream. I-AIM articulated the theoretical foundation of folk heritage narratives and combined it with the Ayurveda manuscripts. This allowed the second stream of research to start at the beginning of the CAPTURED project. Through the PhD research health practice was assessed empirically and situated in scientific research. This allowed a third courses and outreach stream to start afterwards based on the first two streams. This last stream provided feedback to village level practice by a series of courses and professionalization of partner staff. Finally, partners were able to carry out outreach and contribute to quality health care based on revitalized Indian medical heritage. Building up what was already known into a bigger picture that was brought back and seen as relevant, particularly as a “green health emphasis” on preventive medicine had the effect of increasing confidence at the village practice level.

The endogenous roots in India are interesting as they came from both an oral tradition in village practice and ancient manuscript tradition (Ayurveda framework). The oral and the ancient manuscript traditions reflect an interplay of engagement at the village level and narrative modeling in writing to guide and strengthen emerging health mediating practice as an holistic tradition. The knowledge producing process to constitute the foundation texts for the PhD program reflects work with village-engaged folk medicine practice in open-ended interplay with Ayurveda texts. This interplay and emerging tensions in the modern

world of Western Scientific Medicine served to open up topics and questions for PhD research through processes of translation with empirical verification using modern biotechnology tools. The PhD research insights and verifications were then fed back both into endogenous development with village partners and into the theoretical foundation of Ayurveda that underpin the CAPTURED Project. This process makes the CAPTURED project at IAIM somewhat unique and an interesting contribution to the field of ED.

The building of training and curriculum materials progressed from foundation books through a lecture program that was produced as training manuals in 2010-2011, further strengthening the core curriculum component for the PhD programme. The systematic building was possible through supervision teams that reflected all of the disciplinary and technical support for the research to advance with foundations in the endogenous roots of Ayurveda and folk knowledge. The folk knowledge where the naming and using came from the forest dwellers and shepherds that were strengthened by the Ayurveda body of knowledge. This shows epistemology where there is a relation between folk and health management that leads to research validation in different ways and different areas. This reflects a well situated life experience and theory develop process that is of relevance across folk and medicine practice.

IAIM appears to have broadened the scope of the concern for endogenous development and research in particular in the context of the Indian medical heritage that they have directed their attention to. The program staff has worked from a strong contextual endogeneity with well-developed and explicit trust in a co-engaged endeavor. They have also brought clarity and strengthening back into a fragmented but still evident folk medicine practice at the village level to form an anchor and a center of gravity into which the folk practitioners can feed and draw benefit. This is still only a successful conclusion of a first phase of integration, because as IAIM acknowledges, the field and its challenges is only just opening and the village connection which has been developed until now is going to be a costly challenge to continue to support in the future. The successful methodology continues to develop and bears fruits on the practical value and efficacy of traditional health practice.

The next paragraph will provide conclusions and recommendations as identified by the End Evaluation.

4.2 Conclusions and recommendations

The following conclusions were formulated by the CAPTURED India End Evaluation:

1. IAIM has delivered the majority of the outputs and results scheduled at the start of the project. There is an impressive range of core professional and expansive learning materials. The capacity of partners has been substantially strengthened to assure outreach of the program. There is a large return on the CAPTURED investments as confirmed by partners and the observations from the End Evaluation.
2. IAIM has designed a trans-disciplinary research (translation and empirical) approach that validates EK health practice through and in community, outside and back into course based participatory training processes at village level. Folk knowledge on health, Ayurveda and modern science provided orientation and enhance insights that exposes health knowledge that is confirmed by evaluation respondents as being integrative, relevant and contributing to well-being of people. The approach resonates with the Indian contemporary history, heritage and context and has allowed for systemic changes in the health system in terms of recognition and inclusion of EK practices.
3. The PhD program covers topics that are relevant for renewing the health situation of people and animals of the rural areas in India. PhD students are on track with their studies and the first three PhD studies are in their final phase. Cornerstone results and outputs were the establishment of

cheap technology for drinking water, effective village based malaria prevention practice, wider holistic health concern with health producing and curative medicines, deficiency producing concerns as in the case of iron and anemia, priorities for conservation and verification of changing plant uses as species become more rare, need for authenticating plant drugs and quality, and pharmacology efficacy in biodynamic practices. This has been expanded to include revival of ethno-veterinary practices and to resolve the problems of milk quality and costs related to veterinary treatment.

Recommendations of the CAPTURED India End Evaluation:

Recommendation 1: Document the approach and application in Asia.

The approach designed by I-AIM merits further documentation and seems to have the potential at least in Asia to be applied in other countries like China, Indonesia, Thailand and Sri Lanka.

Recommendation 2: Design short introduction course

A web based support start up program could be a lucrative and purposeful activity where people leave with books and plants and develop their own program.

Recommendation 3: Design a rural program with partners with outreach into education institutions.

Rather than a site and partner based program I-AIM could start a program that is village based with institutional partners supporting this. The potential for this might lie in research on integrated health service across government employed health workers and the over one million traditional health practitioners of India. The I-AIM research approach developed and refined within the CAPTURED Program would be vital for a modernizing resolution on points of difference across both cultures of practice.

Recommendation 4: Deepen the PhD program

It is important that I-AIM can assure the validation and mainstreaming process of folk and Ayurveda practices by continuing and deepening its PhD program on a number of areas that address health priorities. Only after building up a reasonably substantial knowledge base in trans-disciplinary health sciences and technologies, I-AIM could consider to start a MSc Program in Integrative Health Sciences & Technology and distil knowledge validated in practice.

Recommendation 5: Regular updates of manuals

It would be a useful function to monitor if students find their work relevant and regularly check which material needs to be updated in the course manuals in order that the theory represented in the manuals is consistent with the methodologies and statistical verification that is being used. The theoretical foundation stream (see ToC visual) will provide new theoretical epistemology as basis for the manuals.

Recommendation 6: Formulate PhD alumni strategy

The first three PhD students will shortly finalize their studies. Former PhD alumni constitute a new and potentially important group of resource persons in terms of professional experience, networking, advice, funding and other possible support. It is recommended that I-AIM formulates its policy with regard to PhD alumni. All the PhD students are presently part of the I-AIM staff and will be strengthening the EK research program of I-AIM also after defending their thesis. In the long run some will proceed with their career, which makes a PhD alumni strategy important.

Recommendation 7: Revise, refine and update the theoretical framework underpinning CAPTURED

The originating theory that informed CAPTURED could be revised, refined and updated in light of the knowledge-producing research designs and epistemological oeuvre developing within the I-AIM foundational, research and course-based partnering outreach (and other CAPTURED country cases). Research into these emerging practices could inform the re-orientation and more refined differentiation of dialectical endogenous perspectives.

Recommendation 8: Consider the use of E-learning tools

Alongside the action research doctoral program, I-AIM could also upscale by using distance E-learning tools for preventive healthcare programs that benefit rural and urban households (both for human and veterinary health).

Appendices

Appendix 1: Program and overview resource persons

Appendix 2: Documentation

Appendix 3: Overview of assessment five capabilities (5C model)

Appendix 4: Terms of Reference

Appendix 5: Methodological commentary on PhD Research Program

Appendix 1

CAPTURED Program India Country Evaluation 5 – 12 August 2012

Program for external evaluation of CAPTURED, 6-12 August 2012

No	Date	Activity	Responsibility	Remark
1	5 th August, 2012	Arrival	Ravi, Nair	Arrange for the accommodation, pick up from the Airport, food
2	6 th august, 2012 10AM- 1.00 PM	Briefing with FRLHT & agree on logistics & documentation	The evaluators, DS, Padma, Nair	
3	7 th August, 2012	Presentation of Ph.D. Programme	Nair, Girish, Kumar & Mahesh	Please see the detailed programme
4	8 th August	Work shop with key partners	Nair, Girish, Kumar & Mahesh	See detailed programme
5	9-12	Joint analysis& write final country report	The evaluators, DS, Nair	Any help needed will be provided by CEI

Presentation of Ph.D. Programme

Time	Name	Topic	Remarks
10.00-10.40	Ms. Preethi Sudha	Traditional knowledge based contemporary methods (s) using copper and herbs for enhancing the quality of drinking water.	Discussion 10.20 to 10.40
10.40-11.20	Dr.B.N.Prakash	Pre-clinical Validation of Traditional Plant Based Remedy for Prevention of Malaria	Discussion 11.00-11.20
11.20-11.40	Tea break		
11.40-12.20	Mr.Subramanya Kumar	Study of Abhava and Abhava Pratinidhi Dravyas	Discussion 12.00-12.20
12.20-1.00	Dr. MK Vivek Sanker	Comparative studies on a Master Health Check-up integrating allopathic and Ayurveda Systems	Discussion 12.40-1.00
1.00-2.00	Lunch		
2.00-2.40	Dr. Shwetha	Evaluation of the traditional conservative management of the Pelvic Organ Prolapse (POP)	Discussion 2.20-2.40
2.40-3.20	Mr. Balasubramani S P	Development of Appropriate in vitro and in vivo Bioassays to Study Rasayana Products (Ayurvedic Nutraceuticals) with Particular Focus on Iron Deficiency Anemia	Discussion 3.00-3.20
3.20-4.00	Ms Geetha Suresh	Developing nursery protocol for four prioritized medicinal plants using an integrated approach with conventional and Vrikshayurveda practices.	Discussion 3.40-4.00
4.00-4.20	Tea		
4.20-5.00	Ms Suma T.S	A multi-disciplinary approach towards authentication of highly traded plant drugs from selected centre of trade in Tamilnadu, South India	Discussion 4.40-5.00

	Vindya	Pharmacological efficacy and Biodynamic Practices Used in the Preparation of Local (Deshiya) Medicinal Formulation (Nai gal/ Snake stones) for Adsorption of Snake Venom from Site of Attack.	From Sri Lanka Her report available
--	--------	---	--

8th August workshop presentation

Time	Name	Topic
10.00-10.20	Dr.Susamma & Girish	Certificate course on PHC & Medicinal plant
10.20-10.40	Dr. Xavier & Nair	Certificate course on Ethno-botany & PHC
10.40-11.00	Tea break	
11.00-11.20	Prof.Punnamurthy & Kumar	P.G. Diploma course on EVP
11.20-11.40	Vakeel –Ur- Rahman Milk Union/ Kumar	Training of trainers of dairy farmers
11.40-12.00	Mallapa, President Karnataka Paramparya vaidya association	Training of Trainers on Traditional Knowledge & Primary Health Care for Humans & Animals conducted for Rural woman health workers based on themes from Ph.D topics
12.00-12.20	Dr. K. Haridasan	VB programme
12.20-12.40	Mahesh	Certificate course on Pancha karma
12.40-1.00	Thread NGO	Field work on Malaria
1.00-2.00	Lunch	
2.00-2.20	Girish	Overseas training programme
2.20-2.40	Hariram	Certification of prior learning of folk healers
2.40-3.00	Kumar	Training Program on Introduction to Quality Control of Herbal Medicines, Techniques of Ayurveda Medicine preparation and Ayurveda Food processing for Bangladesh Participants

Appendix 2

Documents consulted for Captured Country Evaluation India

A. Overall CAPTURED

A.1 Project documentation

- Budget CAPTURED (Excel sheet)
- CAPTURED Project Proposal: A South-South research, education and development initiative involving Universities, Research Institutes, NGO's and local communities
- Captured year ending 2009 Composite Report
- Captured year ending 2010 Composite Report
- Captured year ending 2011 Composite Report
- Response to DGIS concerns (David Millar)

A.2 Publications

- Millar, Apusigah, Boonzaaijer (2012): Endogenous Development in Africa revisited. A systematisation of experiences. ISBN 9964-92-356-2
- Millar, Haverkort, Apusigah (2012): Learning Together. Developing Inclusive Knowledges and Sciences
 - Volume I: Concepts and Challenges in Endogenous Development, Education and Research
 - Volume II: developing inclusive knowledges and sciences. Towards operational methods for endogenous research, education and development
- Millar et al (2012): "Our Sciences". Indigenous knowledge systems of Northern Ghana.

B. I-AIM/India

B 1: List of Publications

1. **Darshan Shankar, P.M.Unnikrishan and Padma Venkatasubramanian** 2007 Need to develop Intercultural standards for safety and efficacy of traditional Indian systems of Medicine. Curr. Sci, 92 (11): 1499-1505.
2. **Padma Venkatasubramanian, Subrahmanya Kumar K, and Venugopalan S.N. Nair** *Cyperus rotundus*, a substitute for *aconitum heterophyllum*: studies on the Ayurvedic concept of Abhava Pratinidhi Dravya (Drug substitution). JAIM.1: 33-39
3. **Padma Venkatasubramanian, Subrahmanya Kumar K and Venugopal S.N. 2009**. Use of *Ksiravidari* as a substitute for *Vidari* as per Ayurvedic Descriptions. Indian Journal of Traditional Knowledge (IJTK). 8 (3):310-318
4. **V.B.Preethi Sudha, K.Ojit singh, S.R.Prasad and padma venkatasubramanian 2009**. Killing of enteric Bacteria in drinking water by a copper device for use in the home: Laboratory evidence. Transactions of the Royal society of Tropical Medicine & Hygiene. 103: 819-822
5. **Ashwini Mathur and Vivek Shankar 2010**. Standards of reporting Ayurvedic clinical trial- Is there a need. J. Ayurveda & Integrative Medicine Vol.1 (1) 52-55

6. **Darshan Shankar. 2010.** Conceptual framework for new models of integrative medicine. J. AIM I (1). 3-5.
7. **Nair M. N. B. & G. Hariramamurthy 2010.** Access and Benefit Sharing and the *In Situ* Protection of Traditional Knowledge. Policy Matters 17:185-188
8. **Padma Venkatasubramanian , V.B.Preethi Sudha and Lalitha 2010.** Quality Control of Indian Traditional Medicines: A practical guide for the Medicinal Plant Collectors, Cultivators and Small Scale Manufacturing Units. IAIM, Bangalore.
9. **Subramani Paranthaman Balasubrahmani, Ramar Murugan, Kaliamoorthy Ravikumar and Padma Venkatasubramanian, 2010.** Development of ITS sequence based molecular marker to distinguish, *Tribulus terrestris* L. (Zygophyllaceae) from its adulterants. In Fitoterapia 81 (503-508)
10. **Bhushan Patwardhan, Gerard Bodeker & Darshan Shankar 2010.** Ending medical dominance over the developing world. **Science and Development Network.** News, views and information about science, technology and the developing world
11. **Gina R Kuruvilla, M.Neeraja, ASrikrishna, G S R Subba Rao, A V S Sudhakar & Padma Venkatasubramanian 2010.** A New quinine from *Maesa indica* (Roxb.) A.DC, (Myrsinaceae). Indian J. of Chemistry. Vol.49 B, 1637-1641.
12. **Balasubramani, S.P. & Padma Venkatasubramanian 2011.** Molecular identification and development of Nuclear DNA ITS Sequence based marker to distinguish *Coscinium fenestratum* Gaertn. (Minispermaceae) from its adulterants. Current Trends in Biotechnology and Pharmacy. Vol. 5(2) 1163-1172.
13. **Girishkumar V, M Sreepriya, S Praveenkumar, Geetha Bali and M S Jagadeesh 2010.** Modulating effect of *Leptadenia reticulata* (Rerz) Wight & Arn against chromate (IV) – induced immuno-suppression and oxidative stress on mouse splenic lymphocytes and bone marrow derived macrophagus. J. Ethnopharmacology. 131:505-508
14. **Preethi Sudha, V.B., K. Ojit Singh, Sasirekha Ramani, Anu paul & Padma Venkatasubramanian 2011.** Inactivation of rotavirus in water by copper pot. J. Water, Sanitation & hygiene for development. 01.3:165-169.
15. **S.P.Balasubramani, G.S.Sreepathy, Padma Venkatasubramanian. 2011. Nuclear ribosomal DNA-ITS region based molecular markers to distinguish botanical entities traded as 'Viari' . J.Herbal Med. DoI.101061/J.hermed.2011.09.003**
16. **Preethi Sudha, V.B., Sheeba ganeshan, Pazhani, G.P., Ramamurthy, T., Nair,G.B. & Padma Venkatasubramanian 2010.** Storing drinking water in copper pots kills contaminating diarrhoeagenic bacteria (accepted for publication in J.Health Popul Nutr.2012
17. **Pradeep A S, Prakash B N, Padma Venkatasubramanian, *Ghosh S K 2010.** PfHRP2-based Rapid Antigen Test not Suitable for Diagnosis of Endemic-*Falciparum* Malaria, India. Journal of clinical microbiology (submitted)

B 2: Books & chapters in the books

18. **Gangadharan G.G, M.A. Lakshmithathachar. M.A. Alwar, R. Shankar and M.A. Ananth, 2009.** Ksemakutuhalam (a work on dietetics & well being) of Ksemasarma with English translation – IAIM, Bangalore

19. **Darshan Shankar, Unnikrishnan PM, Lokesh Kumar HP, 2010.** Traditional Orthopedic Practitioners' Place in Contemporary Health. In: Kabir Sheikh, Asha George, "Health Providers in India: on the Frontlines of Change", Rout ledge Taylor & Francis Group, London.
20. **Nair M.N.B. & P.M. Unnikrishnan 2010.** Revitalizing ethnoveterinary Medical tradition: A perspective from India (Chapter 5) in *Ethnoveterinary Botanical Medicine-Herbal medicine for animal health*. CRC-Press, Taylor & Francis group, USA.
21. **Nair M.N.B. and N.Punyamurthy 2010** (Eds) Proceeding of the International workshop on Ethno-veterinary Practices, Jointly organized by I-AIM & TANUVAS at Thanjavur from 4 to 6 Feb 2010. I-AIM, Bangalore
22. **Prakash, B N & P.M.Unnikrishnan. 2011.** "Documentation and Validation of traditional practices for management of Malaria". In *Testing and Validation of Indigenous knowledge, the COMPAS experience from South India.*(Edts) A V Balasubramanian, K Vijayalakshmi, Shylaja R Rao and R Abarna Thooyavathy. CKS Chennai. Pp110 – 122.
23. **Nair, M N B & S Raneesh 2011.** "Documentation and Assessment of Ethno-veterinary Practices – A strategy for mainstreaming local health traditions for sustainable veterinary care" in India in *Testing and Validation of Indigenous knowledge, the COMPAS experience from South India.*(Edts) A V Balasubramanian, K Vijayalakshmi, Shylaja R Rao and R Abarna Thooyavathy. CKS Chennai pp 60-94

Appendix 3

Overview of assessment 5 Capabilities (5C model)

1. Capability to relate to external stakeholders

Pointers/Indicators:

1. Linkage with communities, Local health workers/traditional healers- build & maintained
2. Linkage with Non –Government organizations - build & maintained
3. Linkage with Government departments: MOEF (Ministry of Environment & Forestry), AYUSH (Ayurveda Unani Siddha and Homeopathy), DST(Department of Science & technology), NBA (National Biodiversity Authority), State Forest departments-build & maintained
4. Linkage with Research Institutes: IISc. (Indian Institute of Science), NCBS(National Centre for Biological Science), NIMR (National Institute of Malatia research) , Niced (National Institute of Cholera and Enteric Diseases), KFRI (Kerala Forest Research Institute), NEIFM (North Eastern Institute of Folk Medicine)- build & maintained
5. Linkage with Universities & colleges: MU (Manipal University), Christ University, MCC (Mount Carmel college), SDM (Shree Darmasthala Manjunatha) College, SYMBIOSIS, TANUVAS (Tamil Nadu veterinary and animal sciences University) , IGNOU (Indira Gandhi National Open University)- build & maintained
6. Linkage with Thai traditional medicine department government of Thailand-build & maintained
7. Linkage with Ayurveda Association of Singapore -build & maintained
8. Linkage with University of Peradeniya, Sri Lanka-established
9. Linkage with policy makers established
10. Linkage established with KSVC (Kerala State Veterinary Council)

Start (reconstruct 2007) Weak capability
1. Weak linkage with 5 Research Institutes, 5Universities & 2 Colleges 2. Understanding of EK& ED was weak 3. No clarity about trans-disciplinary research 4. No Ph.D. research programme 5. No strategy to revitalise folk healing traditions 6. Limited experience in curriculum development, teaching & evaluation methods
Presently (end project 2012) fair to good
1. Good linkage with Universities & research Institutions establish on the theme of endogenous knowledge 2. Ph.D. program in trans-disciplinary research initiated 3. Curriculum developed for 10 courses & pilot tested 4. Good linkage between Thai Traditional medicine Institutes&Ayurveda Association of Singapore & conducted training programmes in topics related to traditional health sciences 5. PG Diploma course on Ethno-veterinary practices along with Tamil Nadu veterinary and animal sciences University (TANUVAS) 6. Certification of folk healers (prior learning) initiated with Indira Gandhi National Open University 7. No experience in e- learning 8. Inadequate number of Ph.D. Guides 9. Fair experience gained in scientific writing

Projection/suggestions for improvement 2017
1. Upscale the courses through e-learning 2. Expand the Ph.D. Programme 3. Increase cross-section of students intake from natural & social sciences to Ph.D. programme 4. Engage with experts for curriculum development, teaching & evaluation methods 5. Engage with eminent scholars as (adjunct) faculty and research guides 6. Build capacity in our own researchers for “action - research” 7. Submit action research projects for funding 8. Involve more closely community based stakeholders for every research

2. Capability to adapt & renew

1. Innovative research programme
2. Innovative education program initiated
3. Bridge TK & western sciences
4. e-learning platforms & modules to upscale educational programme

At start (reconstruct 2007)
1. EK existed but not as a doctoral research activity 2. No systematic educational program on traditional knowledge were designed or implemented in FRLHT-IAIM 3. Universities did not encourage trans-disciplinary topics for Ph.D. 4. Limited networking with international agencies
Presently (end project 2012) assessment –good to excellent
1. New approach adopted for Ph.D. research design - trans-disciplinary Research & EK oriented topics have got some credibility in the conventional University system 2. A creative dialogue is emerging within our Institute between conventional and indigenous knowledge systems. 3. Influenced universities & colleges to include curriculum based on EK as part of teaching material 4. Initiated accreditation and certification of prior learning (EK) in Indira Gandhi Open University (IGNOU) 5. IAIM initiated Good Clinical Management (GCM) course for fresh Ayurveda Graduate 6. Organised reorientation training program for Ayurveda teachers (Vaidya scientist)bridging relevance of Indian knowledge Systems and science 7. Initiated certificate course on Panchakarma Therapy& Yoga Basics for rural youth 8. Initiated certificate course on Medicinal plants & Primary Health Care for Degree college students 9. Pioneered P.G. Diploma In Ethno Veterinary Management for Field Veterinarians (In Collaboration with TANUVAS, Tamil Nadu, India)
Project/suggestions for improvement (2017)
1. Deepen the bridge between TK & western sciences through strategic research initiatives that contribute to paradigm shifts 2. Develop curricula and teaching materials on EK & ED for innovative courses and enhance capacities of educational staff

3. Develop e-learning platforms & modules to upscale educational program for wider public dissemination
4. Encourage research students to apprentice with traditional knowledge holders
5. design and improve methodologies for Endogenous research, cross cultural research
6. Increase peer reviewed publications

3. Capability to act & commit

1. Committed & Inspiring leadership
2. Resilience to address clear vision & mandate
3. Executive structure with legal basis are present
4. Clear mission & mandate

At start (construct 2007)assessment at start: good
1. No team 2. Teaching and learning program did not exist 3. The CAPTURED program was welcomed with “open arms”. 4. I-AIM-FRLHT identified need to strengthen the self-reliance of thousands of rural & urban households in primary health care
Presently (end of the 2012) good
1. Created committed & inspired leadership 2. Rearticulated a vision of I-AIM - FRLHT viz. to revitalize Indian Medical Heritage through creative applications of traditional health sciences for enhancing the quality of healthcare in rural & urban India, & globally 3. Affirmed the mission of I-AIM viz. to demonstrate the contemporary relevance of Indian Medical heritage by designing & implementing innovative programmes on a size & scale that will have societal impact 4. Engaged in fundamental & clinical research to uncover the theoretical foundation of Ayurveda and promote good clinical management 5. Visualised in near future engagement in high priority trans-disciplinary research that will bridge Ayurveda with biomedicine, life science, engineering, pharmaceuticals, social sciences and art & culture to build new paradigms, credible standards, products, process technologies & communication strategies
Projection/suggestion for improvement (2017)
1. More resources for corpus funds to attract & support core faculty 2. Focus on the epistemology of Ayurveda 3. Design novel integrative course on theoretical foundations of TK & sciences 4. Identify and make smart partnerships with mainstream knowledge institutions

4. Capability to balance diversity & achieve coherence

1. Allowing different views & perspectives to be expressed
2. Formulating a clear strategy
3. Finding a coherent niche & profile with clear products & services
4. Leadership committed to achieve coherence between values principles and operations

At start (2007)Unclear/good
1. EK was understood clearly by majority of staff 2. ED was not clear the balance between & education 3. No clarity on trans-disciplinary research 4. Operation & human resource management was good 5. Activities were isolated & stand alone
Presently (end of the 2012) good
1. The activities of I-AIM are carried out through 14 centres which are attached to 4 schools (school of Health sciences, School of trans- disciplinary studies, school of education innovation. School of conservation of Natural resources) with one vision, “the revitalization of Indian medical heritage“ 2. The Researchers from multiple disciplines in I-AIM are sensitised to various dimensions of traditional knowledge 3. Created a model integrative health care centre for clinical management health problems through innovative application of traditional health system suitably integrated with biomedical sciences
Projection/suggestion for improvement 2017
1. Identification of applied research problems both from natural & social sciences from the selected geographies 2. Creation of research teams involving Ph.D. students & research collaborators drawn from knowledge Institutions & community to work on selected research problems 3. Enhance inputs of traditional experts in educational programs

5. Capability to deliver on development objectives

1. Ability to generate services/products that are appreciated by the clients
2. Human resources that match required tasks & performance
3. Adequate facilities equipment & premises
4. Agreed standard & performance measure

At start (2007) Unclear/good
1. No Ph.D. programme 2. Health centre with 20 beds only 3. Training program on health sciences were limited 4. Ph.D. guides were not available 5. Pioneered rapid thread assessment studies of medicinal plants 6. Conceived, designed & technically guided the creation of forest gene bank 7. Limited information products

Presently (end of the 2012) good
1. Ph.D. guides available 2. Ph.D. Research program initiated 3. Undertake development of cost effective scientifically researched and contemporary products based on traditional knowledge (TK) for prioritised health problems of the country 4. Innovative copper devise developed as highly affordable means of ensuring microbial safe drinking water 5. 200000 Home herbal gardens established in rural areas 6. 265 Folk healers associations in 8 states 7. 40, 000 herbarium (3027 medicinal plant species) 1638 accessions of crude drug 8. 100 bed health care centre established 9. Could main stream some of the courses in the university & college curriculum 10. Adequate facilities & premised available
Projection/suggestion for improvement 2017
Strengthen Institutional capacities for high quality endogenous knowledge education, trans-disciplinary research & community outreach

Appendix 4

Terms of reference

1.0 Introduction

From 2008 to 2012 an international program has been going on: The Program for Capacity and Theory Building for Universities and Research Centers in Endogenous Development, briefly CAPTURED.

This program was funded by the Ministry of Foreign Affairs, directorate general for international cooperation (DGIS/DCO-OC) in the Netherlands. It involved the university for Development Studies in Ghana as main implementing agency, in cooperation with AGRUCO of the University Major San Simon of Cochabamba in Bolivia and the Foundation for Revitalisation of Local Health Traditions in Bangalore India. Cooperation with Compas and ETC foundation and expatriate support has been part of the program design. An international advisory board monitored the program and advised on a yearly basis.

The project was based on an agreement between UDS and DGIS and subsequent MOU between the other partners mentioned above. The project was carried out in line with the objectives and budget as specified in a project document that was agreed by DGIS as the basis for the funding.

2.0 Project origin and justification

Many universities and research centres in the South use research methods, and teaching materials that are based on or borrowed from mainstream or Western sciences and technologies. This is generally being justified under the assumption that these sciences and technologies are universally applicable and relevant, irrespective of the economic, socio-cultural or ecological environment in which they will find their application.

Yet increasingly voices from the South as well as from the North express the need for research, education and project approaches that address the specific perspectives, needs and potentials of non-western societies and environments. In this way poverty alleviation and other efforts to reach MDGs can be responsive to location specific contexts.

Knowledge systems from Africa, Latin America and Asia have their own systematics, logics and theoretical backgrounds. They have their own worldviews, epistemology, methodology values and knowledge community. Hence they can be considered as sciences on their own. Indigenous bodies of knowledge are widespread but experience shows that they do not get recognition from formal scientific institutions, or support from governments. The need to revitalise Indigenous knowledge systems is felt widely in the partners' working areas and a number of promising initiatives are emerging from the efforts.

Hence, the need has been expressed for research, capacity building and development initiatives that combine elements of Indigenous knowledge with mainstream sciences, trans-disciplinary sciences and social learning with a participatory and actor perspective. This applies both to the South and the North but the need for adequate research and training materials is urgent for universities and centres in Latin America, Africa and Asia. In these continents Indigenous knowledges play a prominent role in the lives of various population groups. All three continents share a history of colonial and post-colonial dependence during which most of their Indigenous knowledge and sciences have not been consciously developed.

Primary and secondary education, but also vocational training and teaching at colleges and universities generally do not adequately prepare students to recognise, appreciate, use and improve Indigenous

knowledge. This education often has the effect to alienate students from their own cultural roots and does not contribute to the enhancement of the dynamics of the Indigenous knowledge systems. Modern education often makes the students ill prepared to work in their Indigenous environments. Often they are educated to embrace modernity and to reject Indigenous knowledge.

Modern knowledge, through the way it is presented in educational systems, generally substitutes Indigenous knowledge rather than that it complements it. Hence Indigenous knowledge is not systematically subject to innovative processes nor further developed through experiments, publications, and debates, like it is being done by modern knowledge.

The recent increase in interest in Indigenous knowledge and the increasing realisation of the limits of modern knowledge, coincides with a re-awakening of cultural identities and importance attached to Endogenous Development. The time seems ripe to systematically develop research methods, theories and capacity building materials that start with and build on Indigenous knowledges, and that complement them with knowledges from elsewhere.

At the same time, it is important to look for ways to integrate Indigenous expertise and experts in research and educational systems. Universities are usually not open to Indigenous knowledges and sciences. The standards and protocols used for accreditation and assessing research are based on international (external) parameters and criteria. A development towards an open/virtual university that accepts, incorporates and improves Indigenous knowledges and sciences is called for. This may require a rewriting of the university rules of the game and could possibly be organised per country, region or cross region. The model of an open university could be taken as point of reference.

UDSS, UMSS and FRLHT have been pioneering in endogenous research, training and development processes. They have built up a reputation in this field and have started collaborative activities with other research and development centres in their respective regions. This has generated a growing demand for support of research, capacity building and development activities. Through the Compas program they have established mutual exchange mechanisms. However each of these centres is faced with the difficulty of limited numbers of staff capable of handling this approach, lack of research methods and results, and has inappropriate or insufficient training materials for undergraduate and graduate staff development.

To address these issues this proposal aims at enhancing the capacity of these three pioneering institutions for them to serve as spear points for wider out-reach in their respective regions. The way to achieve this includes intensifying research and capacity building related to endogenous development; intra- and intercultural dialogue; the training and employment of additional staff; development of curricula and training materials; intensifying training at academic level through outreach activities and South-South and South-North exchange. To this end, in the context of the University Consortium for Endogenous Development UDS, UMSS, FRLHT and ETC/Compas have decided to intensify their cooperation and efforts and have formulated this proposal.

As the program is pioneering in addressing a worldwide issue to develop capacities in universities to carry out and support endogenous development, endogenous research and education in their respective regions, the program is designed as a pilot and the general objectives and other elements of the Log frame have been formulated in that sense .

The CAPTURED program therefore should test the design of the approach of university reorientation and determine what can be adjusted in planning and implementation on the basis of the experiences. It should lead to valuable insight in the generalizability of the process and indicate what has been missing in the pilot study so that it can be added to the full-scale experiment to improve outcome of larger scale application.

3.0 Program Objectives

CAPTURED will specifically focus on capacity building of the institutions involved.

In the first 3 years it will focus on the capacity building of the three lead agencies, in the second part of the 5 year program it will outreach to 13 other universities in the regions. In the period beyond 2011 it envisages to play an important role as a strategic international network for endogenous development.

Goal of CAPTURED

To enhance the capacities of universities in the South to enable them to evolve programs (research, capacity building, and development) that will address poverty reduction, revitalisation of cultures and intercultural dialogues through Endogenous Development.

General objectives of the project are: Capacities for endogenous development related research, development, and training aiming at poverty reduction and revitalization of Indigenous knowledge systems built in 3 Higher Institutions in *3 pilot areas* of Africa, Latin America, and India in 5 years.

- Objective 1: To build capacities in 3 universities for an endogenous development program within 5 years.
- Objective 2: To establish linkages between the universities and field capacity building in endogenous development within the first 4 years.
- Objective 3: The three universities evolve networking/ collaboration and sharing systems on the experiences from the endogenous development program in the last 2 years
- Objective 4: Up-scaling the capacity building and establishment of programs for endogenous development related research, education, and development in 4 to 6 other universities or centres of learning in each of the 3 regions to start in year 5.
- Objective 5: Project Management and implemented established in year 1 and runs over the 5 years.

The sub-objectives, results, activities to be carried, outputs and means as well as the assumptions under which these can be realised have been spelled out in the log frame that is attached to this TOR.

4.0 Project implementation and available information

The project has been implemented since 2007 and has reported every six months to DGIS both in a narrative form where the specific activities, products, outputs and impacts have been reported and in financial terms, where the budget spending were specified. So far all reports have been approved and accepted by the Donor.

According to the reports, the achievements of the program and the budget spending are more or less in line with the plans. But there are variations among partners and among the different activities which are to be explained by flexible management in the differences in circumstances.

In 2011 the three partners have carried out an internal evaluation and reports of these evaluation studies are available for the external evaluators as relevant- but not exclusive- source of information.

The partners have kept files where the different reports, as well as the different products are available, which are open to the evaluators. The partners also have formulated the perspectives and preliminary plans for future activities in line with the experiences gained so far and in line with the changing contexts in national and international policies and changes in institutions for higher learning and research.

The outcomes of the external evaluation will also serve to modify these plans so as to include the learning experiences of the pilot project in the design and methods used in the follow up programs and initiatives.

The project partners will make available the following documents and materials:

- The formal DGIS project documents with its justification, objectives, activities, outputs and budgets. In an annex to this TOR the original log frame of the Captured program is included.
- Possible approved modifications of plans and budgets as specified by each partner.
- Copies of annual progress reports over the past 4 years.
- A brief historical overview: How did ED emerge in the program, what were the institutional barriers to overcome, how has that been approached and what are the present institutional strengths and weaknesses of the institution to carry out ED in education, research and development.
- A report of internal evaluation by each partner, describing the activities carried out, the outputs and results and impacts as seen by the partners, with copies of products (publications, training materials, course outlines, number of students and graduates, curriculums, institutional changes, research reports etc).
- A list with suggested resource persons to be interviewed by the evaluation team, a contact person for the evaluation within the institution to provide logistic support and provide additional information will be provided as and when required.

5.0 External Evaluation

Purpose of the evaluation

The purpose of the evaluation of CAPTURED is to assess the results (products and impact), to learn from the experiences in terms of strategy and efficiency, and formulate recommendations about the possible ways in which the program activities may be continued in each of the three cases and about the options for mutual cooperation and up scaling of the program in the future. The purpose of the evaluation is a combination of a formative and summative evaluation. Formative in the sense that recommendations will be identified for possible ways of program continuation in each of the three cases. Summative in the sense that the CAPTURE project model itself is evaluated for (potential) up scaling in the future.

The *research questions* that follow from this purpose are:

- a. To what extent have the planned activities been carried out and the results and outputs as mentioned in Log frame been achieved.
- b. What is the reason and justification for not fully achieving the results and outputs?
- c. Which products and outputs, which were not specifically planned, have been achieved?
- d. Have the activities been carried out in an efficient way? (Quality of management and scientific support staff, timeliness of decision making, quality of reports, flexibility and adaptability of implementation)
- e. In what sense have the capacities of the participating institutions for carrying out ED, ER and EE been enhanced (specify: knowledge, skills, attitudes, aspirations and number of staff; availability of appropriate research methods, educational materials, institutional support and organizational modifications).
- f. How have the results of the program been received by the traditional knowledge community, university, the university staff and students involved in the program, policy makers, other universities with which cooperation took place?

g. How much spin off and outreach has the program had so far and what are the perspectives for such spin off in the pilot region and beyond?

h. Which of the approaches and experiences can be used on a larger scale in the pilot region and beyond?

i. On the basis of the experiences, what should be the orientation, scope and strategy for future activities in ED, EE and ER in each of the three lead institutions, for intraregional and intercontinental cooperation and for up scaling the activities

Unit of analysis

Capture especially worked at University level. The program innovated by redirecting Higher Education to bring on board endogenous development into curriculum, teaching and learning. Therefore, the unit of analysis will be performance and capacity of the universities involved in the initiatives.

Evaluation methodology

The evaluation will use a mix of methods. It will involve field work in Ghana, India, and Bolivia. The evaluation methodology should be carried out in the spirit of endogenous development. It will make the perspective of the local knowledge communities explicit and assess the capacity development activities and results in function of endogenous education and research.

The methods will include:

- Documentation review (see end part 4.0, p. 4, especially external review 2011)
- Interviews with key informants and group interviews
- Collect and assess data on curricula innovation, quality and quantity of acquired capacities of University staff applying the 5 capability model and Appreciative Inquiry (see below)
- Triangulation and validation of findings
- Write shop methodology to document lessons learned

Evaluation team

It is proposed that in each of these countries an independent evaluator (regional evaluator) will be contracted with expertise and experiences in the higher education and endogenous development. Beyond that an international evaluator will be contracted who will join the regional evaluators in the field work in the three respective countries. On the basis of this TOR they carry out the field work in the respective regions: study the files and relevant literature on ED and development policy, interview key informants and have group interviews. They will verify quantifiable and qualitative information related to output and products that was the outcome of the internal evaluation and assess the quality and relevance of newly developed curriculums, teaching materials, research methods, publications. They make an assessment of the quality and quantity of the acquired capacities of university staff and on drawing lessons for the future in case the experiences will be applied on a wider scale.

Reporting

At the end of the field work in each of the regions the regional evaluator and international evaluator make a draft report on their regional findings and present this to the main stakeholders (university administrators, regional coordinators of Captured, teaching and research staff involved in the program, PhD students) in each region. After that the final regional report will be made between the regional and international evaluator.

The international evaluator will go through this process for Bolivia, for Ghana and for India and will subsequently make a draft synthesis report, which will be presented and discussed with the Board of directors of CAPTURED. The final report will be made after this meeting and be presented to the board of directors of CAPTURED.

The evaluators will make a report (maximum 20 pages for synthesis report and maximum 20 pages for each of the three pilot institutions) containing:

- Description of the methods used for the evaluation: Documents consulted, persons interviewed, methods of data collection and assessment, and the interactivity with stakeholders.
- A description and assessment of the process of institutional development, educational development and research innovations as undertaken by each of the partners.
- Assessment of the project environment (relevance of ED, the socio-political context and perspective of ED in the universities in the region, new insights and perspectives of international cooperation).
- Assessing the project structure, coordination/management and international support.
- Assessment of the project activities, products, outputs and impact for each partner and for the program as a whole.
- Identifications of reasons for not having (or partly) successes and for achieving scheduled results.
- Lessons learned by the pilot program
- Suggestions for improvement and for future activities for each partner, for international cooperation and up scaling.

The synthesis report summarizes the conclusions of the three pilot regions and formulates general conclusions and recommendations for the way forward.

The final report will be not more than 20 pages and each of the regional reports shall not be more than 20 pages (specific information can be presented as annexes).

Time frame

- The regional evaluations may take 10 working days and shall take place in the months of May to August. The international evaluator team leader will participate in this activity for 7 days in each region.
- The presentation of the draft of the final report by the international evaluator to the Program Director latest by the 30th of September 2012.
- The final report will be presented to Program Director and BOD by October 1; 2012.

Evaluation Principals and Standards

Evaluation principles that will apply for this evaluation:

- ED is a central principle of the project. Therefore, in each country mission the evaluation should explicitly be open for endogenous ways of analysing, reflection and communication of findings. It also means that elements of self-evaluation should be built into the evaluation.
- Capacity building has been a core activity of the project and assessment of acquired capacities is a central part of the evaluation. Combined with the ED principle it is proposed to analyse changes in skills, competences, attitudes, capabilities and overall capacity with the principle that these were already to some degree present at the start of the project and/or might have been not recognised or acknowledged in the past.
- CAPTURE has worked on institutional development and innovation grounded in different societies. This means that the evaluation should be open for inter- and cross cultural differences in appreciating changes in institutional performance and differences in types of innovation.

The evaluation should maintain the following standards:

- UTILITY: To ensure that the evaluation will serve the practical information needs of intended users.
- FEASIBILITY: To ensure that the evaluation will be realistic, prudent, diplomatic and frugal.
- PROPRIETY: To ensure that the evaluation will be conducted legally, ethically, and with due regard for the welfare of those involved in the evaluation, as well as those affected by its results.
- ACCURACY: To ensure that the evaluation will reveal and convey technically adequate information about the features that determine worth or merit of the CAPTURE project.

Stakes, stakeholders, evaluation use and consequences

The evaluation should take into account the stakes of the three country actors (UDSS, UMSS, FRLHT) and the project management and take care that the findings of the evaluation are presented in such a way that they can be used by the main actors and that these are aware of the consequences.

Evaluation approach

In view of the evaluation principals and standards it is proposed to apply a combination of Appreciative Inquiry with the Five Capabilities model. AI² builds on successes by first having a strong understanding why results have been achieved before proceeding by analysing what could not be achieved. The 5 C model is a mainstream model at DGIS to analyse capacity and how capacities have been developed. It allows to analyse internal capabilities within an organisation or society as well as how these change over time when relating to the context and other actors (www.ecdpm.org/5Cs).

² Cooperrider et al 2008: Appreciative Inquiry Handbook. Crown Custom Publ.

Program country evaluations

The evaluation will start in Ghana (end June, first week of July) as this will allow also contact with the project management. Each country mission will be evaluated at the end of its program to see if improvements can be made in the design for the next country mission.

Program country mission (to be adapted according to each country preferences):

- Preparation (regional evaluator 3 days, international evaluator 1 day): read relevant background and project documentation, prepare logistics, etc.
- Day I: Briefing with country contact(s), Agree on logistics and documentation. Two evaluators and country contact prepare Day II
- Day II workshop with key partners. Creating a shared understanding of the evaluation methodology, timeline, calibration of indicators by participants, focus groups on key results achieved (intended as well as unintended), exchange, validation and summary.
- Day III-IV-V perspectives different stakeholders, resource persons, documentation, drafting of first findings
- Day VI Workshop with key stakeholders/project partners. Present key findings, reflect together in a joint analyses, formulate together lessons learned and best practice (apply write shop methodology), evaluate the country evaluation
- Day VII-VIII: write final Country case report

Appendix 5

Methodological commentary on the contextual translation with empirical verification of PhD Research Designs

Ms. Preethi Sudha: Copper and water

Contextual profile of IK practices (Boiling, solar, filtration, chlorination). Ancient texts are used to profile a contextualising of the use of copper in endogenous know-how that recognises the water-cleaning role of copper vessels, a widely known fact. What is achieved in this study is however a translational empirical verification that not only opens up the invisible complexity behind the traditional knowledge practice but also produced an innovation that has the potential to make a now expensive technology more widely available. What is also of interest is the careful way in which the translation of endogenous orientation and differentiation was done into empirical verification experiments around the bridging idea that copper serves to 'inactivate organisms.'

Dr B.N. Prakash: Malaria Research Program. Validation of traditional plant-based prevention

The Prakash fieldwork on malaria is an elegant study where the logic that if it works with prophylactic effect and fits into the Ayurveda system, the findings can be extended to partnered work with French scientists to get to a deeper explanatory level in village-based work and within the integrating logic of the heritage medical practice. What is evident here is an empirical testing of the system using the I-AIM translation with bio-medical modelling research process as a knowledge-practice verification and elaboration, namely a morphogenetic process producing restorative insight with explanatory depth. There appears to be evidence of change where the claim to endogenous restoration and validation of heritage medicine is being accompanied by integration that is locating the Indian heritage in the wider modern bio-medical practices. Darshan describes this as a modernising of an ancient system so that its value is restored in an integrative way that is relevant to the health challenges in India.

Dr Subrahmanya Kumar: Study of Abhava and Abhava Pratinidhi Drayvas. The logic of substituting rare species tested

The logic of substitution found in heritage manuscripts and the contentions of current differences in village level practice have developed as streams of the ancient traditions of manuscript and folk medicine are interacted into widening integrative practice. This logic was tested in this study producing evidence that differing concoctions are not mere quackery but have an underlying logic of substitution that derives from the central logic of Ayurveda practice, simply put, that wellbeing does out of balance where something is absent. Applied to this study of substitution using the five imperatives of Ayurveda medical practice, the methodology was developed to look at what was there and what was not there in a case of substitution. The design resonates with Bhaskar's dialectical critical realism around absence and absencing, but extending this to a logic of substitutive inclusion to balance or offset (neutralise) a presence that does not fit. This study design was early evidence of an emerging methodological shift from identity-based binary oppositions (Indigenous – Western; reductionism-holism; endogenous – exogenous) borne of historical conflict, to a situated historiography (heritage) and reflexive empirical, critical engagement. The study thus extends the translation with empirical verification orientation of I-AIM to a deeper engagement with the shaping narrative in heritage manuscripts and some of the problems in an apparent unevenness in village-based practice.

Vivek Sankar: Integrative Master Health Check-up Allopathic and Ayurveda

Holistic value adding health check that is orientate to advice. Proposed public health intervention study.

The trajectory of change to more integrative health management is noted in the world-wide shift in the medical science from curing disease to producing health and wellbeing. Integration in the Sankar study thus includes both the vision for Indian medicine being restored whilst at the same time restoration of the balance across diseases being cured and wellbeing maintained within the un-wellness producing contours of modern lifestyles. Here the start-up insight of the Western legacy of reductionism being narrow and exclusionary is not necessary in a research design that is concerned with the empirical modelling of heritage practices with appropriate bio-technical tools. What was evident is that a research design where the case is translated and modelled with bio-scientific technologies directs attention to effects where the dialectic is real. An opposing of Western and Traditional is merely a source of start-up tension that is methodologically displaced by an empirical process of efficacy seeking that stands on its own in the wider logic of the practice. The outcomes cannot be taken back to make inferences on the originating dialectical logic across Indigenous and Western practices except in political rhetoric. This points to a need to refine the relationship between originating theory and problem that the study wishes to address and then develop a design to probe/resolve this. The study has this coherence and it is the logic of substitution and the need to extend the health check-up to meet the emerging health needs that are not being addressed by current practices or are not accessible to most.

S.P. Balasubramani: Rasayana Nourishment and acquisition, movement and circulation. Iron Deficiency. Improved nutrient fluid, tissue profusion and metabolism.

The study on improved nutrient fluid, tissue profusion and metabolism appears to have been an important biomedical turn exhibiting elegant translation and empirical verification from which insights on efficacious practice can be derived. The design reflects a sophistication that develops from what is being assumed to be done right and to have value (endogenous) into a verification that the practice reflects things being done right within the logic of practice to then be reflected back into a real world with an explanatory logic for best practice. The only possible limitations of this form of rapid appraisal is that the narrowing implicated in lab work can be published without being read within the wider logic of resolving iron deficiency.

Greetha Suresh: Comparative studies using conventional and traditional approaches to the propagation of medicinal plants. Testing the codifying of traditional germination practices for plant propagation.

The challenge of this as a village translation into empirical/lab study is that there may be too many variables and the traditional practices are under-stipulated in the manuscripts. Here the causal effects of the practices might thus best be modelled against biological processes of germination rather than percentages in germination trials. Being in start-up is a good amount of community engaged and lab piloting has already been done to inform a more refined research design. There are a lot of variables here so the design will not be an easy matter and the study might also be broadened to include more community engagement with endogenous intuition.

Suma T.S. (MSc) Study of raw drug markets and substituted.

This is a study of vast scope that might well be foundational to a future community-engaged research process into the raw drugs market. It strikes as being rather large in scope and seems to be necessary core work where the researcher by learning and doing the lab and documenting work gets an MSc. This is good practice that points the way to the possible inclusion of more positions of this nature, especially

around the co-learning with technologies by teams within a cluster program wherein there are a number of MSc and PhD studies clustered.

Dr Shwetha Suvarna: Traditional management of pelvic organ prolapse (POP)

This is opening up the area of clinical design trials and could be the foundations of a research program in the future. The discussion pointed to the possible need for a two-stage design, namely, an opening stage of field verification that then sets the ground for clinical trials that are informed by the complexity and diversity in endogenous practice. The danger here is that a clinically well-informed study can become an exogenous trial that is less easy to translate back through a training intervention. In this case the practical knowledge is well known to the researcher and all that may be necessary is a careful village practice review that situates the study.

Ms Vindya Nilukshi Jayawickrama, University Peradeniya, Sri Lanka: Pharmacological Efficacy and Biodynamic Practices Used in the Preparation of Local (Deshiya) Medicinal Formulation (Nai gal/ Snake stones) for Adsorption of Snake Venom from Site of Attack.

Ms Jayawickrama was not able to join the research seminar

This report provides the findings of the India Country Evaluation and is produced as part of the overall CAPTURED End Evaluation. After five years of support by the CAPTURED project the End Evaluation has assessed that results are commendable. I-AIM was able to design an approach in which health folk knowledge was validated by Ayurveda and Modern health Science through the PhD research program. This has been shared with communities and partners through an outreach program.

Cornerstone results and outputs were the establishment of cheap technology for drinking water, researching effective village based malaria prevention practice, exploring wider holistic health concerns with health producing and curative medicines, addressing dietary deficiency producing concerns as in the case of iron and anaemia, setting priorities for conservation and verification of changing plant uses as species become more rare, probing a pressing need for authenticating plant drugs and quality, and pharmacology efficacy in biodynamic practices. These research focus areas in the PhD program have been expanded to include partnered research, materials and course development for a revival of ethno-veterinary practices and further extended to a dairy co-operative partnership program to resolve the problems of milk quality and costs related to veterinary treatment.

More information: www.cdi.wur.nl

