DESIGN INSPIRED INNOVATION FOR RURAL INDIA

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ABSTRACT
The need for reducing poverty and to develop the standard of living in rural areas around the world is enormous. Ideas for new approaches have to be created, developed and implemented. Design thinking and methods combined with innovation in practice and management – as Design Inspired Innovation – could be such a concept to provide for rural people to empower themselves and improve their living conditions. On the other hand it is important to learn from the sustainable lifestyle practices being followed in rural villages and extrapolate them to the urban setting. The purpose of this paper is to discuss an initiative between Swedish and Indian researchers, MBA students and their networks. It is based on appropriate design research methodology, ethnographic design research and innovation science. Experiences from initial empirical studies show that master students gathering data in the field (focusing in the areas such as ICT, banking & finance, health care, entrepreneurship, energy and agribusiness), analyzing and interpreting the data together with researchers can get new insights of opportunities in innovation and entrepreneurship at the ´bottom of the pyramid´.

Keywords: Design thinking, design inspired innovation, management education, rural village and urban slum development, the bottom of the pyramid.

1 INTRODUCTION
In a more open and globalized world there are many new players in the market of products, services and experiences. Technology is easy accessible today. But this is not enough for development. The accelerating changes and the rising power of the huge Asian market will drive the global competition to peak performance in every aspect. But peak performance is not just doing ´things´ better. It is also about doing things more different and user-centric, which needs focus on innovation and design in all kinds of societies. Sustainability and social responsibility must be present in every days work for companies and organizations with the main purpose to create growth and a better quality of life for people in privileged as well as in underprivileged milieus and societies in the world [1; 2; 3; 4].
India with its about 1,150 million people is growing globally in many high-tech fields, as car manufacturing, advanced health-care, ICT and software engineering. But still poverty and struggle for everyday´s survival and living is a major concern of the Indian people. About 40 percent of the World´s poor (below US$1.25/day) is estimated to live in India and India accounts for about 50 percent of the world´s hungry, over 46 percent of Indian children are undernourished [5]. The very survival of many of India´s women and children is threatened according to United Nation Development Program [6]. The needs of proper health care, appropriate education for young people, accessible financial services, women empowerment and employment opportunities are enormous in India. But India has also in the last years been successful in giving primary school education to children, providing access to water and conserving environmental resources [6].
There are many definitions of poverty besides the US$1.25/day measurement depending on the context of the situation and the views of the person giving the definition. The Human Poverty Index Definition by the United Nations summarizes a decent standard of living and some basic dimensions captured into the human development index – the likelihood of a child not surviving to age 60, the functional illiteracy rate, long-term unemployment and the population living on less than 50 percent of the median national income. For high-income countries this last dimension for example shows that about 37 million Americans (12 percent) live below the poverty line (less than 50 percent of median national income [5]. For selected OECD countries has also been added the dimension of social exclusion [43].

Manfred Max-Neef and his school of human needs and Human Scale Development have gained international reputation for the work on development alternatives. He classifies the human fundamental needs as: subsistence, protection, affection, understanding, participation, leisure, creation, identity and freedom. The needs are also defined according to the existential categories of being, having, doing and interacting in a 36 cell matrix. [44]. Similarities are here to Abraham Maslow´s human needs [45], and Amartya Sen´s view on poverty as capability on primary goods and the idea of justice [46; 47].

Gandhi often expressed that most of India lives in villages and unless village life can be revitalized the nation as a whole can hardly come alive. About 70 percent of Indian population resides in more than 627,000 villages. Individuals, corporate as well as Government of India are extensively participating for the serving and developing rural India and also to bridge the digital gap between the urban and rural life. ICT has become a ´test bed´ for innovations and entrepreneurship in serving the rural user. This happens in different sectors, including retail, healthcare, energy, governance, agriculture and education [7].

The need for new managerial inputs is demanding in rural development and also a prime focus of Government. No long term plans can be successful without the involvement, willingness and partnership of the villagers themselves, in the rural management process. The poor also represent resilient, design, brand, and value-conscious consumers as expressed in the groundbreaking book The Fortune at the Bottom of the Pyramid (BOP) and *"a better collaboration between the poor, civil society organizations, governments, and large firms can create the largest and fastest growing markets in the world"*. [2, p. 4]. Some successful BOP innovations in India are among others, The ITC e-Choupal, who created information centers linked to Internet and to connect rural area farmers with larger firms to get better prices for them; ICICI Bank, who provides insights how banking can covert the poor into customers and at the same time empowering them through team and leadership training; Aravind Eye Care System, who brought world-class eye care to the poorest people and is now the largest eye care system in the world [2].

The innovation and entrepreneurial imperatives – with close links to each other – are obvious and probably the most important ingredients in any society today – rich and poor – to find new opportunities and new solutions for a better life for all. Entrepreneurs exploit new ideas, solutions, innovations and businesses in the society or in other ways create value for themselves and their families. And no where is the ´entrepreneurial revolution´ so present than in Eastern Asia [8; 9; 10]. Here the unemployment rate is already high and the young generation is growing rapidly, especially in India. The new systems of microcredits by banks and organisations such as Grameen Bank, ICICI Bank and the Swedish initiative Hand in Hand have increased the possibilities of generating employment and encouraging entrepreneurship among millions of poor people [3; 2; 11; 12], and especially for women with a system of self help groups (SHG). The micro-credit system is a great and important innovation service concept founded in Bangladesh by Muhammed Yunus and embodied in Grameen Bank already in the 1974. Now this concept has opened the opportunities for people all over the world. Criticism to the microcredit system in developing countries has however increased after the millennium for examples about high interest rates and that it has not reached the poorest part of people [48; 49]. In a study of six villages in Tamil Nadu in South India over 25 years, Lindberg et.al., concluded that the women´s entry into politics and into microcredit groups signal significant social changes and reinforcing the empowerment of women but also about the difficulties to reach the poorest people. [50]

Imagine the ´hunger´ for development in all aspects especially in education of the largest young population of all countries in the world. This is one of India´s greatest strength for the future and they are already active and successful on the open ´world flat arena´ of ICT. The average age of an Indian is 25 years, compared to Chinese, who is 34 years and European, American or Japanese who may be 40-45 in age. In 2020 the average Indian will be only 29 years old, compared to the average age of 37 in China and the United States, 45 in Western Europe and 48 in Japan. 71 percent or about 770 million people are below 35 years of age in India [51].

The access to higher education in India today is 8-9 percent of the aspiring population (18-23 years) to the 8000 colleges and 250 universities. Research studies have so far not been a priority because of the great demand on developing the education accessibility. India produces today more than 300,000 graduates in engineering at the global high ranked Indian Institute of Technologies (IIT) and about 9,000 PhDs every year [13; 14; 15; 52]. To compete in a global knowledge society, research must be

linked to higher education. Universities and other higher educational institutions can also be more of important facilitators as a whole for the development – including rural India.
The purpose of this paper is to present and discuss ideas and new perspectives in business design and innovation management in education and research which can change mindsets. And further on how to provide for rural village development to make it possible to reduce poverty, empower themselves and improve their living conditions. Specific objectives of this initiative in the long run are to,

- create a 'Centre for Rural studies' with the aim of learning from and contributing to the growth and development of rural India. This would be done by collaborating with the government and non-government organizations for implementing the developmental plans using the R&D and managerial expertise of the partnering institutions;
- create an R&D platform for exploring and developing at the grass root (village) level;
- use design thinking and methodology of this R&D platform serving as inspiration and guidance to innovation and innovation management;
- provide education and research for master, doctoral students and faculties to study, test and learn the rural/slum environment and lifestyle;
- implement new methods for development at grass root level in Maharashtra;
- creating ´new global managers´ with a heart for both high-tech business design and for rural development with a social awareness and responsibility;
- build an Rural Entrepreneurship Centre and start up educational programs for Rural Innovation Management, and make it possible also for rural village inhabitants to get access to these programs with different learning methods including distance learning formats.
- serve as a model for other academic institutions and organisations in India and other countries.

Some theoretical definitions and a theoretical framework relevant for the research will be presented as follows and further on the research cooperating institutions in Sweden, India and their partners and networks. The methodology in test and in practice is in main focus at this present first phase of the research and also in this paper. Some experiences from initial studies will also shortly be presented, where master students and doctoral candidates carry out the data gathering in the field, supervised by Indian and Swedish supervisors and researchers. A conclusion ends the paper and proposes that a combination of design research methodology, ethnographic design research and innovation science and management will be appropriate for the coming research and development.

2 THEORETICAL DEFINITIONS AND FRAMEWORK

The theoretical framework is based on design science, innovation science & management and entrepreneurship. All these disciplines and practices are open to each other with a multi-functional; questioning-the-present; opportunity finding; and creative approach [3; 14; 16; 17; 18; 19; 20; 21; 4; 13, 22].
Design has often been described in two distinct ways – as a process of designing or as designed products – goods or services [23; 24; 25]. Design occurs in engineering as engineering design and in many other related and linked design domains, such as industrial design, spatial design, information design and organizational design. Design is also used in a broad sense, such as processes and strategies. Design science, design thinking and acting is a practical human-centered activity to distinguish and create solution for survival and development as well as for making life easier and more interesting – depending on what society and needs.
In a similar way *innovation* is used today – here defined as the implementation of a new or significantly improved product (goods or services), but also as a process, a new marketing method, or a new organizational method in business practices, workplace organization and external relations [26; 27]. An innovation can be incremental or radical. It can be of a component level or on a system level. Innovation can be regarded as new to the company or new to the market or even ´new to the world´. The explanatory linear innovation models from 20th century have been replaced by integrated, open and networked models and in recent years, with approaches for synthesizing technological, organizational and commercial aspects of innovation processes [28; 29; 30; 31; 13]. Today also a lot of creative and innovative activities flourish on Internet within the concept of ´open innovation´, such as www.openinnovators.com and www.innocentive.com. Examples of companies working with such approaches and open-space are Proctor & Gamble, LEGO and Google.
Design Inspired Innovation was ´coined´ in 2006 in a research project (where one of this paper´s author was a team member) between Sweden, United States, Italy and England together with more

than 100 design firms and other companies in the four countries [19]. The purpose in writing a book of the project was to explore the ways in which communities of art, design, technology and engineering are merging and influencing each other, when complexity in product, processes and services is rising and business competition as well in world. And in the same time as simplicity is wanted and needed from consumers and users. Today, a product (goods or service) must emphasize more than functionality, esthetic elegance, simplicity, economy of means and low impact but also tells us a message – a meaning – we as customers can identify ourselves with. A conformance between the product and the company message is desirable in this sense. Design is about understanding the users and customer needs (often latent), the product´s message and meanings (what story the product tells) as the deeper wishes, values and emotions [18; 19; 25]. Further on when talking about design inspired innovation, it is not just a tool. It is more as a dimension of innovation processes. Design can be seen as the radical innovation of the meaning of things, not (only) a tool for improving features or performances. This lies in the nature of design, being open-ended and holistic. And this way of looking at design makes it natural to talk about process and strategy of Design Inspired Innovation. The communities of art, design and innovation are merging to find new applications, new products and services [19].

Innovation management is about managing and organizing strategies and processes for realization of products, services or business models. To find the balance between thinking and acting effective versus different is a complex and crucial task for managers today as well as for quality versus innovation. Today most organizations have implemented systems for quality assurance and strategies, but few have done the same for innovation. Total Quality Management (TQM) is well established but Total Innovation Management (TIM) is not – yet! European Committee for Standardization created in 2008 ´CEN/TC 389 Innovation Management' to support a culture of innovation in Europe and accelerate the access of innovation to both domestic and global markets. Topics now TC 389 currently working on is for examples Guidelines for an Innovation Management System and Design Thinking [www.cen.eu, Jan 10, 2011].

Innovation is not an ad hoc activity, but as most other serious business processes a well structured and organized management process. To understand and actively work with design and innovation in theory and practice and in management processes are important factors when customer demands on differentiation and tailoring of products and services. But to ´listen to the customer voice too much´ will be risky [32; 33; 34; 35]. The reason is that customers often want more and better performance of the same product or service – more power, more speed etc. In the complexity of realizing new products, services and processes a great variety of sources and networks are necessary for an organization. To look for new opportunities in technology and market; changes in people´s values and communication systems will be crucial to find ideas, select the good ones, implement and capture the benefit, experience and learning of such processes [13; 36]. To manage such a complex flow as an innovation process has to be given a lot more focus, time and efforts in the coming years. And as mentioned in the Introduction, the poor also represent resilient, design-, brand- and value-conscious consumers. *"If we stop thinking of the poor as victims or as a burden and start recognizing them as resilient and creative entrepreneurs and value-conscious consumers, a whole new world of opportunities will open up. Four billion poor can be the engine of the next round of the global trade and prosperity. It can be a source of innovations."* [2, p. 1].

3 COOPERATING INSTITUTIONS AND PARTNERSHIP

The approach to the initiative of Design Inspired Innovation in Rural India has its´ roots in the last four years of collaboration in design and innovation science and management between Welingkar Institute of Management Development & Research in Mumbai and Bangalore (WESchool) www.welingkar.org; The School of Innovation, Design & Engineering at Mälardalen University in Sweden (MDU) www.mdh.se/idt/ipr; and Munktell Science Park (MSP) www.munktellsciencepark.se. Welingkar Institute/WE-School entered its 30th year of inception in 2006, and had pioneered a number of successful academic programs in the field of Management in the past. Today WE-School with a student base of over 25,000 students is among the Top 10 business schools (of about 3000) in India and a frontrunner in the field of contemporary and futuristic management education at the master level. It has an integrated concept of design & innovation thinking with a social responsible approach. The pedagogy is based on learning by doing, prototyping, experiential learning, multiple media use as in distance learning, holistic thinking and a human centered approach of project based learning incorporated into management education. The InnoWe – Innovation Lab, inspired from the 'IdéLab' at

MDU, supports ideas and entrepreneurial initiatives for students, faculty and partners. In the network there are prominent Indian companies and also NGOs and voluntary organizations, such as Yuvak Biradari, active with the project 'Udaan' towards economic empowerment and entrepreneurship for youth and women in rural areas; Vasundhara Bachao-Bharat Banao on environmental issues through workshops with rural citizens; and Tata Institute of Social Science on health issues in rural villages and in the urban slums. The rural initiatives are also supported by Appropriate Rural Technology Institute (ARTI) and the Centre for Study of Social Change (CSSC).

In WE-School´s 5 Point agenda, the way forward is expressed in the proceedings at the Rural Summit – GramSabha - at WESchool in Feb 2010, well attended by participants from more than 100 participants from the Government, Non-Governmental Organizations, R&D institutes and companies [37]. The 'Way forward' being : 1) Build a center for rural studies. 2) Become a nodal agency to work with Governmental agencies, universities and research agencies, NGOs and corporate. 3) Become a preferred partner for education in innovation, entrepreneurship and management to institutions and enterprises with rural focus. 4) Promote rural innovation and entrepreneurship under the auspices of Innowe Lab. 5) Sensitize and educate urban youth to the opportunities for balanced urban-rural development. As the Director of WESchool in Sep 18, 2010 expresses in a letter in the view of our way forward collaboration in undertaking research in rural India: *"…provide students with rich knowledge of the opportunities that exist at the bottom of the pyramid. Since this requires expertise in methodology in research, collaboration with Mälardalen University on the research front will be a good future collaboration for the benefit of both the nations."*

Mälardalen University/MDU is one of the leading academies imparting education and research in the field of innovation, design and engineering in Sweden. Here are students fostering on undergraduate, master and doctoral level in both theory and practice to become designers, innovators and entrepreneurs. At the Research Profile & Research School – Innovation & Product Realization (IPR) – are about 30 senior researchers and about 60 doctoral students working yearly with more than 50 research projects. 2007 we signed an Agreement of Collaboration of academic exchange of students and faculty members, development of educational and research programs, creating innovation labs and development of a learning organization with an innovation culture. We have been frequently cooperating successfully since 2006. The Agreement between MDU, WE-School and MSP was renewed in Jan 10th 2011, including a focus on rural development R&D.

Munktell Science Park (MSP) with its Incubator Create is a milieu for innovation, entrepreneurship, business and financial advisory in close collaboration with MDU and has been involved and active in developing the long term collaboration with WESchool. Doctoral students at both MSP and MDU are as well innovation and business advisors at MSP. MSP is also interested and motivated in expanding their industrial network concept of ´open innovation´ in partnership with Indian companies and similar organizations within the Science and Technology Park field.

In our common network are also some other partners such as Stanford University Design School (D-School) www.stanford.edu has since some years ago collaboration with both WESchool and MDU. D-School has in the last years initiated and implemented several design and innovation projects in underprivileged societies in the world for examples on energy and health issues**.** D-School has been a valuable partner in conducting a case study on energy in rural villages within the framework of the rural initiative of Welingkar. Collaboration in a similar way as with D-School has also been going on with IDEO, one of the largest global design and innovation consultancies, www.ideo.com. IDEO has one of their focus areas in developing countries based on design and innovation thinking, practice and methods such as appropriate technology for water cleaning. In 2011 they have an intention to explore the possibilities to open a new design office in Mumbai, India. Both Stanford D-School and IDEO are members in the MDU advisory board for research from 2010.

4 METHODOLOGICAL ASPECTS, INITIAL STUDIES, FURTHER PLANS AND EXPECTED OUTCOMES

The methodology we are testing and so far using in the rural studies and research is based on design and innovation sciences as Design Research Methodology – *DRM* [24], Ethnographic Design Research – *EDR* [38] and Innovation Management Research – *IMR* [10].

Four main phases exist in DRM, (1) Research Clarification, (2) Descriptive Study I, (3) Prescriptive Study and (4) Descriptive Study II [24]. A close cooperation with the participating villages will also

ensure a focus on relevant issues. Characteristic for DRM is the time spent on research clarification, the first and most important step to get a successful result. In this first phase objectives, research questions, methods and state of the art are formulated. By that we avoid time waste from collecting unnecessary data or asking wrong questions. In both DRM and EDR qualitative data is gathered by various types of methods such as observations on diaries, sticky notes, video clips, photos and interviews in the field. A formula with more than 200 interview questions and observation points has been initially developed [7].

Characteristic of IMR is a multi-disciplinary approach with technology, market, management and organizational perspectives in a process on (1) searching new opportunities, (2) creating and selecting ideas, (3) implementation and (4) capturing/learning from the out-comes. Similarities are many in methodology of design science and innovation science.

The field design process starts with broad problem area identification, which includes identifying the ecosystem and the potential users for the design research. Design research methods are useful in the preliminary stage to identify the latent need gaps and ´points of pain´ in the ecosystem [39; 7; 40]. It involves the deeper understanding of the potential customer need by design research tools such as observation, data recording, shadowing, photographic and video-taped information [41].

After spending time in collecting user centric data, the identification phase helps in converting the data into meaningful insights with further quantifies by using market research. This helps to validate the insights and the need identified during the design research [18]. Both market research and design research complement each other in terms of analyzing the data.

With large research projects it could become unmanageable with a huge amount of qualitative data if resources as software tools are not available. General existing ethnographic software is available on the market. But to find a better and more appropriate software tool, WE-School has started to develop their own software tool as well with their expertise in ICT Rural village energy has been used initially to test this tool. The software helped to capture qualitative and quantitative data from nearly 80 field researchers (master students, doctoral candidates and senior researchers engaged.

The analyzed data is then conceptualized and prototyped. The customized and tailored software, developed as an appropriate prototype, enabled to not only store the great amount of data in digital form, but also analyze it more rapidly. Thereafter comes interpreting data and transform the findings into ideas for development and possible solutions, innovations and in real entrepreneurship. The benefits of the energy project software helped to accumulate 1,401 observations collected from the research field team of students and seniors of total 37 villages. The software provided also support for research based pedagogy in management education. As it is web-based software it helped for the collaborative work among student researchers as well as the faculties. It has given the opportunity to look at the possibilities to enhance the software for the subsequent project. Encouraged by the positive experiences, the software is being enhanced to become a generic tool for further design/ethnographic analyzes in the research [7]. The initiated project as a whole have brought a lot of insights about rural lifestyles, which also helped to conceptualize the Rural Summit – GramSabha – in 2010 at WE-School, as already mentioned [7; 37].

The first pilot study carried out in the summer of 2009 consisted of 80 master student researchers organised into 10 groups. The students stayed in villages for a week to understand the demography, village organization & management, the eco-system of energy, water supply, agribusiness, banking & finance, ICT, health care, retail, education and entrepreneurship. See figure 1 for pictures from the field research work in one village [42]. Preparation as finding focus areas, studying theory on rural development was carried out and after the field work data were processed, analyzed and interpreted together with learning outcomes and ´creative sessions´ to find ideas and opportunities for new solutions and innovations to communicate with the village people.

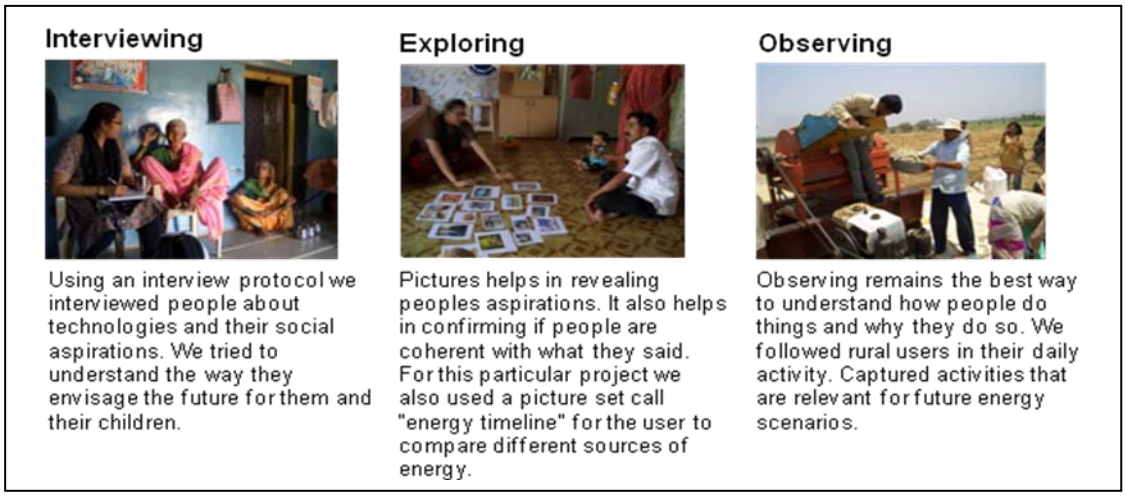

Figure 1. Methods in use at master student field work for alternative energy in a village, 2009.

A tentative project plan in three phases for further different activities has been developed, based on the two initial and previous field studies and experiences. See figure 2.

Phase 1: 2010 and 2011	**Phase 2: 2012 and 2013**	**Phase 3: 2013 and 2014**
-Research Clarification and Descriptive study I, to lay a foundation for a research organization and a research profile. -Develop methods and tools for rural management field research – Prescriptive study. -Test and evaluate methods and tools – Descriptive study II. -Opportunity searching – IMR 1 - and creating a concept for rural innovation management.	-Stimulate and support ideas, design thinking and entrepreneurial initiatives in villages. Introduce idea fests – IMR 2. -Based on Descriptive study II and IMR 1 & 2, develop programs for entrepreneurial and innovation management training for rural area people to become entrepreneurs – IMR 3. -Develop InnoWe Lab further and launch an Entrepreneurial Center for Rural Management.	-Develop design and innovation strategy and implement in rural areas and secure long term sustainability – IMR 3. -Develop a concept of a Science Park at campuses. Develop business &social eco-systems around the Science Parks. -Learn & evaluate - IMR 4 – in innovations, entrepreneurship and potential poverty reduction. Document in research reports, articles and popular summaries.

Figure 2. Overall objectives and activities in the 3-phased approach.

Expected outcome of the studies and research in this project are several and are summarized below (without ranking):

- Learn from the some of the sustainable lifestyle practices being followed in the villages and extrapolate them to the urban setting. This would not only help maintain a thread of socio-cultural fabric of the country but also hand down some of the 'best contextual practices' being followed by the people at the grassroots to the ones who have moved out into the cities for better prospects.
- Strengthen the research capability at WESchool in the area of high tech business design, design inspired innovation, innovation management and rural innovation development & management.
- Create a hands-on model for higher education & research in India to learn in action about the situation for rural village people.
- Create a Rural innovation management education & research profile.
- Create a hands-on model for higher education & research in India to learn in action about the situation for rural village people.
- Empower the grass root people to generate and implement ideas, innovations and entrepreneurship to improve their lives.

- Find new sustainable ideas and solutions for environmental protection and use of existing and new resources in better ways, as energy, banking and financing, water supply, health care and ICT.
- Develop the InnoWe – Innovation Lab at WESchool to also become an Entrepreneurship Centre for rural development and education on rural innovation management.
- Develop a concept for science parks at the Mumbai and Bangalore campuses with MSP and other partners.
- Assist and supervise the research in WESchool, with a focus on the business design team of faculty, doctoral students and master students.
- Introduce insights and knowledge on rural village problems and opportunities with design inspired innovation at MDU in education and research.
- Develop ´new managers´ for the future innovation society with awareness and social response-bility at both WESchool and MDU.
- Document and present research findings in papers in conferences, information in public media as well as in communication with the rural areas. Distribute the methods, models and findings to other areas and countries. Preliminary 2-3 doctoral dissertations could be real at the end of the project supervised by both WESchool and MDH senior researchers.
- Exchange of meaningful knowledge and experience within the cooperation of WESchool, MDU, MSP, Stanford D-School and network of partners.

All these expected outcomes have to be further discussed and considered as for detailed research questions, objectives, resources and activities within the collaboration between the partners.

In Jan-Feb 2011, still in Phase 1 of the 3-phased approach in Figure 2, and based on experiences from the field study in 2009, a second field descriptive field study was conducted. This study took place in six villages near the city of Phaltan in the Satara district in Maharashtra state (marked in red at the map of India). 40 new master students from the MBA Business Design Program worked on the field together with researchers from Welingkar Institute and Mälardalen University to gather data and to get insight in the village life concerning agri-business, banking and finance, health system, education, entrepreneurship, ICT, energy, water supply and retail. 20 students and researchers worked with about the same issues in Mumbai (Bandra) slum. The rural initiatives were also supported by Appropriate Rural Technology Institute (ARTI) in Phaltan and the slum initiative by the Centre for Study of Social Change (CSSC) in Mumbai.

The research tools for the five days field study were target pointing, contextual enquiry, visual mapping, value profiling, observation lob, ecosystem chart, design insights/directions, framework/ patterns, socio-types, personas, perspective ideas and scenarios. In total 187 interviews were carried out by multidisciplinary student teams with the villagers in their own environment regarding agribusiness, retail & marketing, banking & finance, entrepreneurship, ICT, healthcare, administration, lifestyle, energy and education. The data analysis is going on at the time of this paper is finalized. The findings results and ideas for ´innovation´ will be presented in another paper in 2011.

But some preliminary empirical results can here shortly be presented from the empirical studies so far. After conducting the design research study at the villages and preliminary analyzing some of the data gathered through the process of ethnography and other tools of design research, we found that the perception of the urban born and brought up students of the MBA level program, changed in some areas like poverty, health, technology and sustainability. For instance, the data analysis of the 40 field researchers who were students of the Business Design program (the 2 – year MBA level program with Design thinking and Innovation management as the core) showed that before going the students thought that there will be poverty and scarcity of modern resources in the villages. On the contrary the villagers' behavior and lifestyle gave an impression of contentment and curiosity towards the 'modern' things. They were buying the latest FMCG products just by watching the advertisement on the Television. The cost also did not matter so much to them. Also the technology was easily embraced if it came in as a user friendly concept. The mobile phones are a typical example of the same. They are not computer savvy but when it comes to using the mobile phones, they never feel handicapped by the lack of knowledge about how to use this product.

The empirical study has emphasized the fact that about 80 percent of students changed their perceptions about the villages. Out of which maximum change came in the field of health and hygiene, followed by banking and education.

5 CONCLUSION

This paper has presented and discussed the need for new approaches on research and management education in understanding and developing rural India with a multi-scientific platform of design-, ethnographic- and innovation science – a design inspired innovation concept. Initial studies with focus on methodologies and tools have been tested including developing of new appropriate software for handling multiple data. Further research and education will deepen this initiative in collaboration between Welingkar Institute of Management Development & Research in Mumbai, Mälardalen University and Munktell Science Park in Sweden and all their networks of companies, NGOs, and other institutions. Universities and other higher educational institutions can be more of important facilitators for development of the quality of life for people in rural villages and at ´the bottom of the pyramid´. We feel of course a lot of respect for the great challenges the world is facing in this urgent and crucial matter and of course for our own humble but hopefully meaningful contribution.

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