

Chapter 9

**Technical and vocational education and
training, and skills development for rural
transformation**

Darol Cavanagh, Greg Shaw and Li Wang

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1 Introduction

The discourse on education for rural transformation (ERT) and the exploration of the concept began with a study undertaken by the UNESCO International Research and Training Centre for Rural Education (INRULED) in 2001, entitled *Education for Rural Transformation: Towards a Policy Framework*. Since this publication there has been growing attention paid to the concept of rural transformation, and the role that general education, technical and vocational education and training (TVET), and skills development play in it. Across the world, rural communities are experiencing fundamental changes, which are both impacting on and being impacted by people. In some communities these changes are about variations in the social fabric, with urbanization and rural industrialization playing significant roles. In other cases, these changes are reflected in depopulation, as people migrate to the cities.

1.1 The authors' view

The definition of rural transformation through TVET that we take in this paper is the significant, fundamental and beneficial change that takes place in people (individually, and in families and communities) where people are empowered and enabled to make decisions and take action to improve their life (in all dimensions: economic, vocational, social, political, cultural, health and environmental) in ways that result in a broad positive impact on society. Our view of rural transformation is centred on people, at the community level, and on their impact on their society and environment (Shaw, 2011a).

When we think about transformation in rural contexts, it is easy to think in terms of the physical transformations that occur, particularly through the processes of economic development. Economic development is often very much the driving imperative that determines what many people see as the vehicle for improving people's lives. And this is often the case: that is, when economic development takes place that impacts positively on individuals, then very often people's lives are improved. However, things are more complex than this, because economic development also brings with it other

aspects of issues that can have a negative impact on the quality of people's lives. Transformation of rural communities involves more than just economic development, and is imperative that we consider the broader impact that changes have on the ways in which people live their lives and how people's quality of life is determined.

The negative impacts that economic development has on people and their environments are well known. Environmental pollution, degradation of natural environments, depletion of resources, extinction of species, global warming and climate change are all very much to the fore as issues of concern, at least for various groups. And while the impact of some of these factors is still under debate, there is a general consensus that there is a 'dark side' to economic development, and the transformation of environments and individuals' lives to which it leads. Indeed, there is clear evidence that some aspects of current economic development are unsustainable under the existing approaches.

Also often missing from the conversation on these issues is an awareness of the role of individuals and communities in the processes of transformation. Where transformation is seen as a process that is 'done' to communities, the role of individuals in this process is normally a consequential and reactive one. That is, individuals need knowledge and skills and capacity in order to be able to adjust to the changes in their environment and society. Education and training clearly plays a pivotal role in this, because educational institutions provide people with the knowledge and skills they need to be able to adapt to the changes that occur around them. In this process individuals as well as their environments are transformed.

The broad question that we might ask is, 'What kinds of skills are required for people in or from rural areas, in order for them to be successful in life: to respond to and to facilitate rural transformation, and themselves be transformed?' Subsidiary questions include 'Is there a need for a minimal set of skills?' 'Are there enabling skills that are needed in order to acquire TVET skills?' and 'What issues, problems and success stories can be found from TVET activities in developing contexts?' These questions and others are addressed later in this paper.

1.2 Poverty and Millennium Development Goals

Poverty is still a major problem in many rural areas, and rural transformation has contributed to alleviating poverty, as well as increasing poverty in some cases. It is very clear that increasing people's skills in most cases provides them with opportunities to improve their lives, and more importantly to adjust to the changes occurring around them, and even themselves act as a catalyst to changes.

The dynamics of rural transformation in the globalized world of the twenty-first century have created new educational imperatives, which go beyond the traditional approaches to education and TVET in rural communities. There is an urgent need therefore to re-examine the role of education and TVET within the dynamics of rural transformation, both now and for the future.

In 1990 at the World Conference on Education for All (EFA) in Jomtien, Thailand, a framework of action for world education development was put in place. Ten years later at the World Education Forum in Dakar, Senegal in 2000, revised goals were developed. However, unlike other parts of the Dakar Framework, Goal Three (skills development) has been significantly neglected. It has been conspicuous by its absence not just from the agendas of high-level inter-government development summits, but also from campaigns of government and non-government organizations (NGOs).

In the emerging knowledge-based global economy of the twenty-first century, learning and skills play an increasingly important role in shaping prospects for economic growth, shared prosperity and poverty reduction particularly for the vulnerable population in rural areas in most developing countries.

Today, three out of every four poor people in developing countries live in rural areas, and most of them depend directly or indirectly on agriculture for their livelihoods (World Bank, 2008). The world's rural populations experience problems including being illiterate, unhealthy, malnourished, marginalized and oppressed people. While land and water are critical assets in rural areas, education is often the most valuable asset for rural people. It enables them to pursue opportunities in the new agriculture, obtain skilled jobs, start businesses in the rural non-farm economy, proactively manage their communities, and move to urbanized areas and secure employment successfully if the need arises.

In the decade since the ERT study, an even greater need for a focus on rural transformation and the role of education in it has emerged. New sources of vulnerability for the poor, especially the poor in the rural areas, have arisen. This is graphically illustrated by the recent global financial crisis, which originated in the financial markets of the developed countries but affected poor people everywhere; new threats to people's food security; and human-made and natural disasters, including the effects of climate change, which are endangering the life and livelihood of millions. These hazards affect rural people disproportionately, because the poor are typically in rural areas.

The United Nations (UN) General Assembly's review in September 2011 of progress towards the 2015 Millennium Development Goals (MDGs) made it clear that many of the MDGs that envisioned a new future for humanity in the twenty-first century, including those for education, will not fully be achieved. An important reason for this failure is that a large proportion of rural people, especially in the developing world, remain deprived educationally, missing the opportunity to acquire the skills and knowledge to develop their capabilities, and become aware of and expand their choices in life.

The structural problems of global, national and local economies, and the dominant development model of unlimited consumption, show no signs of disappearing. Two phenomena symbolize the structural fragility. First, agriculture and rural production in the developing regions is diminishing as a share of total national product. It now typically accounts for about a quarter of gross national product (GNP). However, more than half of the world's economically active people are dependent for their livelihood on agriculture. The plight of rural people cannot be improved and the tensions of rural–urban disparity cannot be solved unless this imbalance is rapidly reduced.

Second, the economic development goals and aspirations of the developing world are premised on the consumption habits and patterns of North America and Europe, which means they are dependent on ravaging the non-renewable resources of the planet. This is simply unsustainable, because this path will lead to the collapse of the natural and biological balance of resources of the planet. The world has to move towards a new pattern of economic growth and development that better recognizes

the fine natural balance required for sustainability. Rural transformation, even if it is not fully recognized yet, is at the epicentre of this tectonic shift. But this shift in thinking and vision will not happen through natural forces like a physical tectonic shift; people must will it, plan it and work for it.

The anticipated shortfall in the MDGs in numerous countries indicates that many national development plans and programmes need to be reassessed. Some policies are just not having the impact that was planned and required. The fundamental issues driving the MDGs have not gone away, but in many cases approaches to bridge the gap have not been successful yet or they need significantly more resources, including time.

The aim of this paper is to provide some contextual information about the nature of rural transformation and the role of education and skill development in it. In developing these ideas, we have drawn upon some of the changes that have occurred over the last decade or so in rural communities, and in education and training approaches. We also grapple with the concept of rural transformation, and the roles of individuals, communities and government in it. Additionally, we provide some case studies of rural transformation where education and training has played a significant role, in order to draw out principles that might be applied elsewhere.

2 TVET and skills development for rural transformation

Developing countries have been struggling to address the main challenges in education, which can be described as the triad of access with equity, quality and relevance, and efficiency and accountability. Although progress has been made in every country, the shortfall in achieving the 2015 MDGs in education in many countries indicates that national plans and programmes need to be reassessed and re-examined to ensure that the rural dimensions of the educational agenda

are adequately and specifically reflected in these efforts. The dynamics of rural transformation in the globalized world of the twenty-first century have created new educational imperatives, which go beyond the current traditional concerns regarding rural communities, and need special attention.

2.1 Social production and reproduction

Education has pivotal roles in social production and in social reproduction (Willis, 1981). Social reproduction is the process of ensuring from one generation to the next that the fundamentals of a society are passed on, whereas social production is about the generation of the goods and services, and systems and processes that are necessary for society to work and individuals to be able to live useful, productive and quality lives. Critical to both these processes are the skills that individuals need as they take their place within roles of social production and reproduction. Skill development or skill education is very often embodied in the concept of technical and vocational education and training (TVET), although there are skills and knowledge embodied in education that go beyond this. Work is a central requirement of most people's lives. People work in order to obtain the things that they need in order to live. At a basic level these include food, water, shelter, good health and sanitation, security and safety. However, there are other things that people need in order to achieve a good quality of life, including continually evolving skills and the opportunity to further improve their life quality. Also, people need to be able to take control of their lives and proactively engage in processes individually and corporately, to both adapt to their environment, and proactively adapt their environment.

To take control of their lives and to engage in work both in order to live, and to improve their living standards, people need skills. Very often, these skills are vocational skills. That is, they are the skills they need in order to undertake their vocational work. Where such work is through self-employment, which is the case with much farming activity, people need skills and knowledge about agriculture and agricultural processes in order to be engaged in this vocation. To improve their lives, and go beyond existing ways of working, people need skills that will enable them to work better. When people live in rural environments where the social organization is based on employment by others, then they need employability skills.

In addition to these vocational skills, people need life skills that are not necessarily related to a vocation in order to create improved living environments, to ensure the health and safety of themselves and their family, and to take an active role as responsible citizens of their society. For both vocational skills and life skills, the concept of lifelong learning is important. It is not possible now to learn all the skills required to live and work in society in the course of the single phase of life when people attend school. People need to learn throughout their lives in order to acquire the skills they require as their society evolves around them.

This popular notion of an evolving society suggests that people are pawns of societal change and not a critical part of its discourse and evolution. We explore this notion later on in this paper, when we discuss the need for a paradigmatic shift in thinking about rural transformation.

Central to all of the skills required is literacy in its broadest sense, which includes reading, writing, computer and computational skills. These skills form the centrepiece of learning and lifelong learning. Literacy skills not only provide a vehicle for learning vocational skills, they are central to the skills that empower people to engage proactively in processes of control and adaptation, and to contribute to the transformation of their community and society. In this, literacy has a strong link to individual transformation as a worthwhile product of education.

2.2 Education, experience and skills

In educational theorizing, planning and implementation there is some confusion about the best approach to skill development for rural transformation. Should a broad general education or a narrow focus on TVET be used? In the first instance the term 'education' is used correctly. In the second it is not.

By this, we mean that we see education as the continual reconstruction of experience that adds to and guides subsequent experience (Dewey, 1971). Generally the term 'training' is used when there is a focus on vocational skill development. Further, the notion of skill development within the educational paradigm is one concerned with broad general across-the-board transferable skills, which are often though not exclusively concerned with life as a whole, and not just a single vocation. In the

training matrix, skill development is loosely conceptualized as industry-based, with the unit of production being the worker, who must be skilled up. The focus is on an industry. However, much of the skill base is, by definition, lost if this industry diversifies or closes down. In this context, specific industries tend not to see transferability as an essential element of their workforce's skill base. Transferable skills take more time to impart, which means extra cost compared with job-specific training. When there is a surplus labour market (with more people chasing jobs than there are jobs available), this extra cost cannot be justified on narrow economic grounds.

There are many other mismatches between the world of work, the required skill base, and the current skills of rural populations. The following examples are merely the tip of the iceberg that clouds conceptual thinking in relation to measures necessary to transform rural areas in line with the MDGs.

For example, in school environments, especially in the lower grades, literacy teaching is often focused on teaching numbers and letters in a way that makes it difficult for pupils to see the real-life relevance of what they are learning. In the later stages of schooling, the curriculum often becomes further disassociated from the world outside school. Youth leave school to work with little or no knowledge concerning the world of work. When rural youth seek training, often the training they receive is inappropriate to the skill base needed for their local community and the local industries. The training is often short term, designed to cover immediate gaps in the labour market, and not geared to providing trainees with lifelong sustainable living and working skills. Often those who are newly trained enter the workforce and are confronted with workers who have always 'done it this way', when this is in conflict with how they have been taught to do the job. As a result, they find that they are at odds with the entrenched workforce, and have a difficult time assimilating into it.

Another common problem is that many trainers have been out of the workforce for a long time, and have lost touch with how things are actually done today in the working environment. As a result, the training they give and the curriculum and materials used are inappropriate, and trainees find it difficult to obtain the jobs they were being trained to fill. Often institutional training has a basic curriculum that is used for all trainees, which is so general in scope and function, and so removed from

the day-to-day press of individual workplaces, that it is useless to the individual seeking to enter a specific industry.

2.3 Other issues

Other issues that need to be addressed are concerned with the commercial changes that are demanded by owners of production facilities. This is particularly related to the need to increase efficiency through mechanization. Technical advances of this nature often lead to a need for fewer workers, so the result is a surplus labour supply. There is then a need to upskill these surplus workers so they can seek employment elsewhere. This situation raises the issue of how specific TVET should be. It needs to strike a balance between addressing the need for individuals who can operate in a specific industry based on the current technology, and imparting broader (though still industry-based) skills which are specifically geared to enabling people to cope with technological innovations.

Another issue that should be considered – one that needs to be addressed at the policy level – is the question of what constitutes fair and decent work for youth and adults. The desire of employers to increase profitability, either by technical innovation, or through pressing employees to work harder or for longer hours, needs to be balanced against the interests of the employees themselves. Each side needs to acquire the notion of what are reasonable expectations, and society as a whole perhaps needs to consider whether displacing employees by investing in technology is always in the interests of the wider society.

The International Labour Organization (ILO) (2012) has defined decent work as employment that occurs under a set of conditions that include freedom, equity, security and dignity. It is work within a framework that protects the rights of workers, who are remunerated adequately and covered by social provisions concerning other distribution of benefits beyond income, such as access to health, education and welfare. These issues all have an impact on the broad field of education and training, but decisions on them are clearly not within the remit of TVET alone.

However, if it is accepted that the aim should be to ascertain what constitutes 'freedom, equity, security, dignity, adequate remuneration and social welfare', and

to determine how training can prepare people for work with these characteristics, this implies a new way of thinking for examining the notion of rural transformation through skills development, and the contribution that TVET can make to this. What appears to be necessary is akin to a paradigm shift in the concept of TVET.

2.4 A paradigmatic shift

One way of conceptualizing the paradigmatic shift necessary for sustained rural transformation through education and training is by using oppositional couplets. One element in each couplet represents the current paradigm, the other indicates the desired new paradigm. If the paradigm shift is to be implemented, then the decision-makers at all levels of government, in industry, in NGOs, and groups and individuals concerned with developing training through TVET, need to move towards adopting the new way of thinking. If they orient policies and plans along these lines, it should result in the type of rural transformation that is necessary for success in the rapidly changing globalized environment.

Table 1 suggests some couplets that can be considered in this context. It is intended as a first step towards a better theoretical understanding for decision-making. These couplets are derived from research literature and literature from government and non-government policy-formulating agencies concerned with rural reform and reconstruction, all within the more global concept of rural transformation.

Table 1. A New Paradigm for Rural Transformation

Current Paradigm	The New Paradigm
Wage workers	Entrepreneurs
Family subsistence	Community food security
Stable climate	Climate change
Absolute poverty	Poverty alleviation
Marginal literacy	Functional literacy
Women exclusion	Positive discrimination
Poor health	Increasing health

Produce consumed	Surplus production & distribution
Local market	Global market
Industrial-food production	Human food chain
Mono-cropping	Diversified production
Specific skills	Mobility skills
Resource depletion	Resource sustainability
Extractive economy	Sustainable practices
Inappropriate practices	Relevant practices
Rural-urban divide	Inclusive transformations
Inappropriate technology	Appropriate technology literacy
Unsustainable practices	Sustainable practices
Discipline curriculum	Personal curriculum
Experience	Experience and training

We have argued elsewhere that rural transformation involves much more than changes in rural environments, both constructed and natural. Governments often highlight the development of physical infrastructure when they emphasize their contribution to rural reform. However rural transformation is much more than this, and it also involves more than the conceptual shift that is political, social or economic reform. It concerns the transformation of people, so that they have power over decisions that affect their quality of life. The quality of life factors that need to be considered include poverty, literacy, decent work, equity, health, food security and climate change. Food security, including agreeing on a balance between producing food for immediate consumption, and foodstuffs for trade (not just for human consumption: this also includes crops grown to feed livestock, and for use in industry, including biofuels) is a particularly key issue that needs to be addressed at all levels within the new paradigm for successful transformation.

The oppositional couplets in Table 1 can form the basis for a shift in thinking and focus for successful TVET activity. The unpacking of the couplets allows theory and practice to become intertwined, so that legitimate training, grounded in research and theory, can be implemented. Some examples will clarify the directions necessary for successful curriculum planning within the new paradigm. The various case studies presented later attempt to unpack these couplets for better decision-making in TVET.

When developing and implementing policy, as well as when developing curricula and resources for TVET, the changing paradigm needs to be continually critiqued, developed and redeveloped, and kept at the forefront through intelligent rational debate.

In essence, the new paradigm template should be used to answer the questions of how, what, where, why and for whom skills need to be developed to improve the lives of rural populations as they confront and are affected by transformation. For example, a government might make the decision that there needs to be a focus on lifting the income levels of farmers who are at a subsistence level. The old paradigm suggested that actions to achieve these could include, for instance, training farmers to raise their level of efficiency, or programmes to implement the use of new seed technology. (This kind of initiative was often taken with little or no consultation with the farmers themselves.)

Under the new transformational paradigm a possible approach is to identify rural people's needs and skill base. The process would also identify people (often farmers) who are prepared to retrain in alternative entrepreneurial activities. Some farmers might prefer to remain in farming but take advantage of new technology. When an understanding of the issues and context, and agreement of all stakeholders involved is achieved, a TVET programme can begin the process of designing and implementing appropriate curricula and training packages (including detailed instructional materials for trainers and/or trainees).

The transformation for people and society, under this example, would result in a move from an economic pattern with subsistence farmers and some waged workers, towards one based on entrepreneurial farmers and off-farm workers (both waged workers and entrepreneurs). The training locations may vary considerably, and could include on-site farm sheds, schools, community learning centres (CLCs), universities and colleges. There might be a need for modification and/or upgrading of training facilities.

This example addresses an economic objective of transformation, but as we argue repeatedly in this paper, transformation is more complex than that. It encompasses broader social well-being issues, and the many-faceted human attributes that are impacted upon by change. Humankind functions in a context of ubiquitous

change. There are two main sources of change: some is a product of natural physical developments, and other change is the product of humankind's invention. The first type of change is often philosophically confused with the second, and gives rise to capitalist mottos such as 'We must learn to cope with change' and 'Change is inevitable'. This could be seen as an 'evolutionist' approach, in which change is something that just happens to people. This stance could continue to be maintained by governments, and schools and training institutions, unless it is challenged. That challenge must centre on the realization that much change is the product of human choices. The collective community can identify those changes that fit community needs and aspirations, and that are within the capacity of its members to address. Then it can work with government to develop training and educational regimes that fit the new paradigm (Cavanagh et al., 1991). This is a necessary step towards the resolution of the MDG.

3 Rural development and rural transformation: skills, empowerment and transformation

3.1 Rural transformation and development

How is rural transformation different from rural development? Rural development is mainly about economic development, and about actions and initiatives in rural communities that are undertaken to improve the standard of living in these non-urban environments. It is mainly about infrastructure improvement and the enhancement of existing industries and activity. Very often it involves bringing features of urban environments into rural settings. It is often about changes to environments, systems and processes that impact people. Rural transformation is a more dynamic concept. It is not just about changes of the physical environment, but embodies a transformation in people's perspective on life. In this paradigm, life in rural communities is fundamentally changed, even to the point at times where it makes us question what 'rural' really means. Rural transformation not only radically

changes places, it changes people, either by acting on them, or when people are part of the dynamic process of the transformation. (Shaw, 2011a).

3.2 The roles of education

It is not normally the case that parents are able to provide all the knowledge and skills their children will need to survive and live productive lives. We send our children to schools to gain literacy and numeracy skills, some principles of science and nature, and learn of the complexities of our society; in short, to gain an education. Schools also provide some base-level vocational skills, imparting the abilities and knowledge that people need in order to produce materials for their survival. Schools also provide a base level of skill and knowledge that people need in order to progress to other levels of education and training. So schools, and the education and training they provide, are a critical component of what people need in order to be able to live and produce in society.

Education also plays another role. Education is also about social reproduction. That is, it is the way in which we pass on from one generation to the next the knowledge and values that we hold as a society, and our various cultures. Skills are also required in this process, such as skills of language and communication, and artistic, social and cultural skills that are important for the cohesiveness of the societies in which people live. People's lives are formed by the cultures in which they exist, and by the physical environments where they live.

3.3 Critical transformative perspectives

Individuals can and do play a role in the transformation of their communities. That is, they can be active agents in the processes of environmental and cultural transformation of their communities. As we have pointed out, humankind exists in the context of two kinds of change: changes that we need to be able to respond to, and changes that we drive proactively. Both kinds of change require skills and knowledge, and both are reflective of the transformations occurring in society. However, when people themselves change, and when together people bring about societal changes, individuals also go through a process of transformation. The transformation in this

case is not necessarily a physical transformation in terms of the environment or person, but a perspective transformation, where individuals take on a whole new way of viewing their community, society, environment and the world.

The term 'perspective transformation' is pivotal to transformative learning theory (Mezirow, Tennant et al., 1994). Perspective transformation as a consequence of education and training is a radical change in an individual's world view. To proactively achieve perspective transformation, education and training provide scaffolding for learning that results in the transformation of individuals and their communities.

A view of education as an empowering tool for not only providing people with skills to produce goods and services for society and to reproduce society, but also providing them with the knowledge and skills to change themselves and society, is not new. Paulo Freire (1972), in his seminal work in South America involving literacy teaching, took an approach that placed literacy development in the context of individual empowerment. When education and training provide for the development of skills that people need in order to live and survive, and also empower people with knowledge and skills they need in order to take charge of their lives and bring about changes in the society in which they live, it takes on a new and powerful meaning. In this new paradigm, people can take control of their lives rather than just respond to the things imposed on them.

In order for TVET to be effective and to provide what people require, it must provide people with not just the skills and knowledge that they need in order to live and survive in their society, as it is transformed around them, but also the skills and knowledge that they need in order to shape the transformation of their society. This is certainly the case for people undertaking TVET activity in rural contexts.

Clearly, in many situations rural contexts are changing. There is a general shift from agrarian pursuits to industrialized agriculture and other industries. In order to be able to increase agricultural outputs, farmers need to apply contemporary agricultural methods and technology. Although there are some exceptions (such as specialized smallholder plots), in general, in order to be viable using such contemporary approaches, farms need to be bigger. As rural areas become more industrialized, and host a range of industries in addition to those based on agricultural products, people need new skills that will enable them to gain employment in these industries.

Schools and post-school agencies should take a leading role in helping people to gain the skills they need. This calls for education and training that is adaptive and responsive. However, this is often not the case today. Centralized and fixed approaches to education are often focused on an academic curriculum designed to provide knowledge and skills for the next academic level, rather than knowledge and skills designed to help people engage usefully in society when they leave school.

3.4 Valuing rurality

It is a little more difficult to train people in the skills and knowledge that are needed for the members of a society to shape its transformation, than it is to impart specific vocational skills. But this is a need that must be addressed. As part of this process, it is important that the positive attributes of rural communities are fully appreciated. Rural communities are where most natural resources are located. When rural transformation centres on the industrialization of rural environments, it often leads to a degradation of these natural resources. If the change process is left to market forces and policies focused on 'development', the natural resources of rural communities often come off second best. It is often rural people themselves who are in the best position to do things proactively to ensure the survival of the natural resources that make up their landscape, their rural communities and their way of life. However, this only happens when rural people themselves have a good understanding of the value of their natural resources, and the threats that industrialization and development often bring to them. Again, education has an important role to play here in raising people's awareness of the importance of protecting the valuable natural assets found in rural communities.

The protests by indigenous people over the last ten years in various South American countries, as a backlash against development activities focused on large-scale agricultural initiatives and mining, are examples of communities taking a proactive role in monitoring and managing the transformation, or potential transformation, of their environment (Kenemore and Weeks, 2011).

When TVET is designed to provide both the knowledge and skills needed for people to respond to rural transformation, and the skills and knowledge that are needed

for them to proactively bring about rural transformation, and their individual transformation, it provides the best opportunity not only for rural transformation but for personal transformation (Shaw, 2011a).

4 Critical transformative approaches in practice

Examples of critical transformative approaches exist in many developmental and rural contexts. Typically these result from local responses to local needs. They arise when local education providers take steps to adjust national policies and requirements to address local needs and achieve appropriate local outcomes.

Richardson (1998) describes a primary (elementary) school in a small rural aboriginal community in the Northern Territory of Australia that was operating as an informal community learning centre (CLC). It helped parents to solve a range of problems, either directly or by accessing other sources of assistance. However, children at the school were not getting good scores in state and national literacy and numeric tests, so it was perceived as not being a successful establishment. It could be argued that the real problem here was not such much the failure at the tests, as the inability of the educational system to recognize the school's real achievements.

The curriculum and state requirements for education need to recognize and adjust to local cultural needs. In this example the school had real and transformational achievements in community health, finance, communication and cultural perspectives. It was acting as an agent for change in a variety of contexts, and was achieving some excellent educational outcomes, but in ways that were not reflected in the standard tests. The state was imposing inappropriate requirements on a school that was acting in a transformational way.

Policy-makers needed to adopt flexibility over aspects that go beyond the mere pedagogical, but broadly encompass both children's and community needs. To achieve these requirements, parents, teachers, policy-makers and the local community need

to collaborate in identifying and working through appropriate strategies to focus on sustained transformation of the people in the community. Teachers as the change agents need both pre-service and continual in-service training and education. They need to be empowered to determine aspects of the local operation and curriculum (Cavanagh, Connell and Marriner, 2005, 2007).

This situation represents a new paradigmatic approach. The old paradigms require teachers to be submissive to dominant state-wide rules and processes, and not make attempts at adjustments because of local needs. When education and training is flexible in content and process, reflecting local needs, then it will be more likely to achieve outcomes that go beyond what was originally intended.

In another case located in the same jurisdiction of Australia, the government identified an issue that required intervention at the local level. In this case, it concerned teachers' mental health: some teachers were encountering problems when they were posted to isolated rural communities where the dominant culture was indigenous (Parker and Ben-Tovim, 2002). The response was an intervention programme called Mind Matters (www.mindmatters.edu.au), which provided government funding for communities to take proactive approaches to support these teachers. The new paradigmatic approach makes an attempt to recognize the impact of a new environment and culture on people whose background is very different. It recognizes that in such a situation, different individuals may need different types and levels of support.

Wang (2005) describes how the Agricultural University of Hebei, Baoding, People's Republic of (PR) China, challenged the conception that the prime function of universities is research and not extended education and learning. It established an ideal example of how universities can combine theory with practice. The 'Taihang Mountain Model: A Road to Prosperity' project, in which the university played a core role, became a foundation stone for policy-making in rural economic development and rebalancing the ecological environment in China. Pivotal to that success was a close and collaborative relationship between the university, communities and individuals, in which individuals and the community were empowered to make decisions and act.

Xiaoxi (2011) describes the 'Sunshine Project' in PR China, launched in 2004 by the PR Chinese government to address poverty, socio-economic exclusion and the

integration of migrants into urban society. Its main programmes were designed to provide vocational training to young women, and training to returning migrants to help them reintegrate into rural zones. The programme in particular addresses the rights of labourers and ways of helping their transition from rural to city work. A collaborative cross-ministry approach, the programme fosters partnerships with organizations such as universities and NGOs/NPOs at both national and local levels. However, its strength is derived from its activity at the local level.

CLCs have been shown in a number of cases to provide sound transformative models for rural and community development and transformation (Lakin and Gasperini, 2003). A CLC is a local educational institution that normally lies outside the formal education system. It is usually set up and managed by local people to provide various learning opportunities for community development and the improvement of people's quality of life (UNESCO, n.d.). The CLC represents a bottom-up model, where the local community is closely involved in establishing and operating the centre. The general goal of a CLC is to empower learners and the community as a whole through the flexible delivery of educational programmes and the adaptation of the educational content to specific community needs. These result in individual, family and community transformations as well as transformation of the environment, which is managed by the people directly affected.

The empowerment and mobilization of people at the community level is thus critical in the process of rural transformation. However, rarely can this happen without guiding and enabling government policy. Education in Indonesia, for example, is undergoing radical change (Bangay, 2005; Bjork, 2004). For most of its history the education system has been a centrally prescribed and directed undertaking, using didactic information-dissemination processes centred on national examinations. However, through shifts in government policy this is changing towards a community-centred and community-needs-responsive approach, adapting more learner-centred pedagogies based on learner needs. Of Indonesia's population of 250 million, over 60 million are living on less than \$1.25 a day. Poverty is widespread, and many people's lives as well as their communities are in need of transformation.

The key to undertaking any educational change, and improvement, at the grassroots level is through the school principal (Grubb and Flessa, 2006). Indonesian government

Regulations 13 and 28 define competency standards, grounded in the realities of the principal's work, for school principals. The training programmes that have been developed focus on identifying a strong match between professional practice, and through this the development of skills, and the professional standards and appropriate and practical ways of assessing them. Shaw (2011b) describes Indonesian professional development programmes that take into account the transformation requirements of the local context and of the children being taught at school. The training programmes also have a strong and purposeful focus on promoting transformational leadership, which involves bringing about the transformation of leadership approaches in schools. In the past these were dominated by traditional hierarchical top-down controlling approaches, but they now include collaborative and inclusive approaches. The secondary objective with this transformational leadership approach is to endeavour to bring about individual transformation of each principal so that they themselves have a perspective transformation of their view of education, and of their role in providing leadership and direction in their school, to bring about improved and more relevant educational outcomes at the local level.

Achieving education and training changes relevant to the local level is difficult when the education and training agenda, curriculum and approaches are set nationally. Often too, education and training is driven by academic agendas focused upon academic content, where success in tests and exams leads learners to the next level. National examination processes, themselves dominated by academic agendas, give little opportunity for flexibility at the local level. Students who do not go on to the next level are often seen as 'drop-outs' or 'failures'.

The few cases mentioned here enable us to identify certain principles that focus on individual learning needs that can be realized through appropriate learning situations. The application of these principles under the new paradigm can lead to concurrent individual, community and rural transformation.

The curriculum planning that is needed to meet individual learning needs within this rural transformational development paradigm also constitutes a shift away from the current paradigm of community transformation through development (Cavanagh and Fielding, 1983; Cavanagh and Rodwell, 1992). Community participation and

activity at the local level is essential for rural transformation. Often communities themselves do not have the resources to initiate the desired activity, and external resources and expertise are needed. However to ensure the effectiveness of external experts under the new paradigm, they need to become insiders so that trust and partnership are established at the community level.

The learning process in TVET, and in adult education generally, relies on the significance and relevance of the learning to the individual. When adults (or indeed any learner) can make links from the proposed new learning to their existing knowledge, and can see how the new learning will bring personal benefit to them, they are more inclined to actually engage in learning (Shaw, 2005). Adults also prefer to be part of the planning and implementation process when it comes to their own learning (Moore, 2006). Building a learning environment that is inclusive and collaborative requires skill. It is helpful to use a facilitator or teacher trained in new paradigm principles. Continual professional development for those involved is an essential prerequisite for successful good practice in implementing rural transformation through individual capacity-building.

Learning approaches for learner transformations need to be multi-method, fun, cooperative, have space to build individual self-esteem, and be carried out in a mental and physically safe environment.

The brief case study examples and discussion here suggest that there needs to be a substantial change in the way the development of rural people and their communities is undertaken if the MDG and the EFA goals are to be achieved. However, more importantly, such change is necessary to give millions of individuals a better quality of life. This requires a paradigm shift at all levels of the debate, and in the ways that governments act. This paradigm shift also needs to occur in education and training approaches and activity. TVET that is appropriately focused on individual and community needs can provide significant opportunities for skills development linked to improved life opportunities and vocational outcomes,

However this presupposes a level of skills for sustainable practice in rural areas, and the capability of personal transformation to work towards a wide variety of goals: to reduce poverty, increase food and water security, decrease conflict, maintain culture, and protect and rehabilitate the natural environment. Rural development

must be couched in terms of the rural transformation of people, communities and industries, in a way that results in narrowing equity gaps between rural and urban people. This new way of thinking and acting must be at the forefront of government policy formulations. This is not just about development, it is about helping people live better lives, now and in the future.

Under the old paradigm, the ideology of economic development through capitalism did not necessarily help the rural poor. Indeed, capitalism, with its credo of Darwinist 'survival of the fittest' and individualism, typically discriminates against the marginalized. Bottom-line economic principles of 'development at all costs' in the old paradigm need to give way to a transformation economics which depends upon the Keynesian principle of the 'marginal propensity to consume' as its driving force. Central to this, and an integral part of the necessary shift in thinking, is personal transformation. To operationalize this philosophy, people need to have disposable income and leisure time to spend. This requires a different way of conceptualizing work, production and leisure, and people's roles in rural transformation. In all aspects these roles need skills development at a variety of levels (Cavanagh and Marriner, 2005).

Governments must be the major sponsors of this view of rural transformation, ensuring that policy is set in a way that guides sustainability, protection and rejuvenation of the environment, and individual citizen transformation, as well as ensuring the good of the nation and all of people, rural and urban. At the local community level, government officials need to collaborate in programmes with schools and their principals and teachers, and with community elders and other decision-makers. Expertise may need to be brought into communities to advise and support, in the short term, but in the long term such transformations need to be directed and implemented by the communities themselves.

At the school level, the school principal will have a changed and changing role. In educational institutions (including schools) principals are the key to providing local leadership, and their roles as change agents are critical. Inevitably, school principals too will experience perspective transformations and be transformed. This requires competency training and appropriate assessment so that the principal's personal transformation becomes the enabling device for engineering the needed

transformational changes in the school and community.

Programmes at night, which sometimes operate with different staff, need to be conducted after the teachers identify community needs. These may be related to the needs of the farming community: for example, training in tractor maintenance, breeding practices, low-tillage harvesting, sustainable irrigation practices and water conservation. On the other hand the skills development may be related to the urbanization of the rural environment or the skills needed for new industry. Under the new paradigm, the skills development must be related to personal transformation as the key principle of rural transformation, and the school or evening-class principal can play a leadership role in this.

Of course at the teacher training level pre-service teachers need to be familiar with this new philosophy of transformation literacy, and on-going professional development is needed for teachers, to ensure their ability to facilitate learning and personal transformations. University lecturers who have spent time working on farms to familiarize themselves with likely scenarios of transformation will have undertaken enabling experiences themselves, that give them the knowledge required to run appropriate pre-service programmes.

At the in-service level, principals, teachers, children and youth need to visit farms and community enterprises together to weed, pick and pack. Outsiders from other communities with expertise, and trainers from within TVET colleges, need to undertake training to provide them with the knowledge and skills to work under this new paradigm.

Celebrating personal and community development and achievements will further strengthen and add value to rural transformation. Communities each year could organize various celebrations such as a market day, fair or festival to showcase their transformations to other communities. Governments need to play an increasing role, including providing subsidies, bonuses and incentives that encourage rural people to attend courses and gain TVET competencies. Certification needs to form an integral part of the assessment of programmes. Communication at all levels of government, in policy documents and implementation strategies, needs to be explicit, with appropriately trained and committed people to carry the tasks out under national goals and frameworks for rural sustainability and transformation. TVET for capacity

building at all levels of professional and personal development will play an increasing role in this new conceptualization of rural change.

5 Conclusion

Numerous publications over the last decade have focused on the issues of rural transformation to bring about poverty alleviation and to meet various developmental goals from the point of view of policy (for example, UNESCO-INRULED, 2001; Atchoarena and Gasperini, 2003; Chinapah, 2011). While we recognize the importance of appropriate and good policy, it is our view that when policy is focused on a developmental approach which seems development as something that is done to people and focused on large groupings of people, on the scale of regions or even a whole nation, it will have limited success.

Rural transformation that has as its rationale and focus the improvement of people's lives must occur at the community level, and be focused on the transformation of individual lives. It is through the transformation of individuals that families are transformed, and they in turn collectively transform communities. TVET is about providing skills to people individually so that they may improve their current vocational activities or branch out into new activities or employment. TVET is also about providing people with knowledge and skills to not only respond to changes occurring in their communities and adapt to different communities when they migrate, it is also about empowering people with knowledge and skills so that they can themselves be catalysts for community change.

Fundamental to bringing about rural transformation to improve the lives of people and to halt and reverse environmental degradation is a paradigm shift in the ways that we apply education and training. The old paradigms are often not effective, as is evident from the failure so far to meet education and training developmental goals. New and pressing challenges require new paradigms. However, bringing about such changes in perspective and practice is not easy, as we are typically grounded in our

cultural, philosophical, political, historical and personal experience base. Yet the lives of millions of poor, often found in rural locations, depend upon our applying new paradigms to resolve old and some new problems.

Rural poverty reduction requires a cross-sectoral or multi-sectoral approach, and few governments or aid donors take this approach. When it comes to public funding in rural communities, it is funding of agriculture that still dominates. The new paradigm of rural development addresses agriculture as just one of a host of other rural industries (actual and potential) that are important for the improved livelihood of rural people (Ellis and Biggs, 2001).

Acronyms and abbreviations

CLC	community learning centre
EFA	Education for All
ERT	education for rural transformation
GNP	gross national product
MDG	Millennium Development Goals
NGOs	non-government organizations
TVET	technical and vocational education and training
UN	United Nations
UNESCO	UN Educational, Scientific and Cultural Organization
UNESCO INRULED	International Research and Training Centre for Rural Education

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About the authors

Professor Darol Cavanagh's consulting, teaching and research interests are in educational policy, curriculum theory, development, implementation and evaluation. These areas cover a broad comparative spectrum spanning pre-school, primary, secondary, and tertiary levels in rural and urban areas in a number of countries. He specialized in teacher and adult education and training and published 4 academic texts adopted by tertiary institutions in Australia and overseas, in excess of 100 papers, and various chapters in books. He successfully supervised over 50 doctoral and masters research degree candidates in: comparative; technical and vocational; teacher education and training; curriculum development; and rural education.

Greg Shaw (PhD) is Associate Professor of Education and Associated Dean Learning and Teaching at Charles Darwin University, Australia. He teaches in postgraduate programmes and supervisors Ph.D. candidates at the University. He is an adjunct professor at Xinjiang Normal University and UNESCO-INRULED. Greg is an active consultant in the Asia-Pacific region in areas of ICT in education, teacher education, professional development, education in rural and isolated contexts and open and distance education. He has extensive experience working across cultures, and has recent consulting activity in China, P.N.G., Fiji and Indonesia. He is focused on exploring the nexus between teaching and research.

Li Wang (PhD) is Professor and Deputy Director of UNESCO International Research and Training Centre for Rural Education, located in China. Prof. Wang Li 's areas of interest include Rural Education and Rural Development, Water Resources, Rural and Town Planning and Geothermal Utilization, He has contributed to more than 60 books and papers, undertaken about 50 international research projects and organized/participated in more than 100 international conferences, symposia, forums, and workshops. Professor Wang Li has represented INRULED and Chinese Ministry of Commerce in projects in Cambodia and Pakistan and in many international conferences, forums and meetings.