

## Building Indigenous Knowledge Capacity for Development

Amer Al-Roubaie

Ahlia University, Kingdom of Bahrain

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**Abstract:** The aim of this article is to highlight the importance of indigenous knowledge for fostering economic growth and sustaining development. The article focusses on the role that traditional knowledge and local cultural values play in the process of development. Recent literature on development studies considers knowledge as a key resource that can alleviate poverty, promote innovations, enhance competitiveness and create wealth. Development is a complex process of multidimensional factors involving both local and external forces. Knowledge for development must be appropriate in relation to a country's environmental, social, cultural, spiritual and economic landscape. This article highlights the relationship between the traditional knowledge system and the modern knowledge system driven by globalisation. Benefiting from the global economy requires building capacity to ensure leapfrogging and sustained development. In this regard, traditional knowledge becomes vital for speeding up the process of transformation and reducing the knowledge-gap. Indigenous knowledge, although often short-shirted, establishes a harmonious relationship between the social system and the environment in any given developing country.

**Keywords:** Development, Capacity Building, Indigenous Knowledge, Environment, Globalization, Poverty

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### 1 Economic Development

During the last few decades, many developing countries adopted Western knowledge through technology transfer, educational programs, international institutions, non-governmental organisations, industrialisation and training with local knowledge contributing little content. Mistakenly, industrialisation based on technology transfer and Western managerial and organisational skills has been considered as an important step for promoting social and economic development. However, industrialisation just for the sake of development often results in undesirable consequences including environmental degradation and structural imbalances. Technology transfer and industrial development require specific managerial and organisational skills while often mandating a level of waste disposal and pollution control lacking in most developing countries. Economic development highlights the importance of creative knowledge and effective planning for utilisation of human and physical resources to increase productivity and sustain economic growth. Recent literature on the development recognises knowledge as a necessary condition for promoting development and catching up with industrial countries. Beyond sound macroeconomic policies, an effective capacity for absorbing, acquiring and sharing knowledge is the *sine qua non* for building an overall strategy for development. Countries that fail to invest in building capabilities to use both local and global knowledge are likely to suffer from slow economic growth and weak global linkages.

Modernisation theories have adapted western historical experience with development as a yardstick for measuring economic progress in non-industrialised countries. Economically, such an approach may provide a roadmap for development but cannot be a substitute for the indigenous components of development. As a process of societal change, development is a multidimensional concept driven by several others components in addition to economics. Among others, for instance, the cultural, social, environmental, institutional and religious elements of a given society are equally important in impacting the process of transformation. In Latin America, some parts of Asia and Africa, experience with development has not been satisfactory to alleviate poverty, promote economic diversification, encourage industrialisation, improve human development and increase global access. Short-term economic and trade gains arising from the adaptation of

Western scientific and technological programs could produce negative results in the long run because of pollution, higher prices, migration, health problems and inequalities. The free market economy, driven by capitalistic ideas, is biased toward those with financial capital, whereas those with no access to capital suffer from isolation. Economic development, on the other hand, requires public participation by giving people equal opportunity to participate in economic activities. It is a broad-based concept that requires the involvement of all socio-economic groups in society. Economic development is a multidimensional concept that includes social, economic, political, scientific, cultural and environmental forces. During the last several decades, experience with development has proven unsatisfactory due largely to incompatibility of theoretical models and inadequacy of macroeconomic policies. Recent literature on development studies has been greatly influenced by Western development trends and policies. These models imbed a fundamental flaw in terms of their being the basis for devising practical approaches for tackling the problems of development: it is not possible to separate development from the local environment. Development involves processes of structural reform that include all aspects of society. In other words, decisions to promote development must take into consideration all factors that impact human transformation, be they cultural, religious, social, environmental, technological, economic or political. Development involves building institutional capacity to facilitate implementation of decision-making and to foster change. To this end, development involves both indigenous and exogenous elements that influence allocation of resources and determine future growth rates. In particular, the indigenous factors are vital for accelerating economic growth and sustaining development. Traditional knowledge and cultural values represent the core for building a strong foundation that will ensure sustained growth. In most developing countries, the failure of development policies to achieve satisfactory levels of development has been correctly attributed to the neglect of local ingredients in the potpourri of development.

Because opportunities from globalisation are available only for those with adequate training and skills to make use of modern technologies to increase learning and enhance market activities, indigenous areas are further prejudiced. Development requires practical and applicable solutions capable of reducing environmental risk and enhancing productivity. However, the trained skill base in indigenous areas is tenuous at best. Establishing networking, partnership and informational exchange can facilitate use of external knowledge to the benefit of indigenous people, provided that there is at least a minimal absorption capacity, by giving them access to practical knowledge.

The concept of sustainable development should not be confined to the relation to the environment only. The United Nations stress the fact that communities must preserve their cultural, social and traditional heritages to bridge the present generations with those of the future. Knowledge of local people provides substantial incentives for creating new methods and creating new knowledge.

Strategies to close knowledge gaps should focus on the following three issues:

1. What policies foster the acquisition of knowledge?
2. What policies enhance a country's learning capacities?
3. What policies improve the effectiveness of communications and reduce the costs?

## **2 Meaning of Indigenous Knowledge**

In many developing countries, indigenous knowledge has been viewed as inferior due largely to the adoption by local elites of the concept of Western modernisation. In view of many Western educated economists, development is about giving up traditional systems in favour of westernisation. Indigenous people practicing traditional techniques were regarded as uncivilised and incapable of meeting the pace of realities driven by Western development. As Ocholla (2007) explains that indigenous knowledge (IK) was

illegitimated, illegalised, suppressed and abandoned by some communities, and the countries and peoples practicing it were condemned and associated with out datedness, a characteristic most people find demeaning. This form of marginalisation produced a generation that for the most, does not understand, recognise, appreciate, value or use IK. Arguably, this situation has produced an intellectually colonised mindset.

Such attitude towards indigenous knowledge by modern economists has encouraged policy-makers not to pay much attention to traditional knowledge in development. In turn, they began to draw on external knowledge without questioning its impact on long-term sustainability of the eco-system and allocation of resources. Mechanisation brought by technology transfer and scientific experiments could provide short-term solutions to alleviate poverty and increase productivity but in the longer term it may jeopardise sustainability by increasing the risk of environmental degradation. Most techniques used in development are alien to the local economy. Elites in developing countries favour a course of development driven by modern knowledge and advanced technology in place of indigenous knowledge of the local community. Yet, initiatives to sustain development through balanced management of local resources are antithetical to economic development policies predicated solely on external explicit knowledge. To this end, it is the tacit knowledge that needs to be exploited and integrated into the modern knowledge system to ensure environmental control and reduce the risk of marginalisation.

Creativity is about exploiting ideas and transferring them into practical uses. Most of these ideas are in the form of tacit knowledge exists in the mind of people that can be further developed through the use of modern technology and the acquisition of global knowledge. In other words, indigenous ideas enable producers to join local knowledge with learning to create appropriate knowledge environmentally friendly and more applicable in production. As defined by Warren and Rajasekaran:

Indigenous knowledge (IK) is local knowledge that is unique to a given culture or society. It is the information base for a society which facilitates communication and decision making. IK is the systematic body of knowledge acquired by local people through the accumulation of experiences informal experiments, and intimate understanding of the environment in a given culture.

Knowledge has become a powerful instrument in creating wealth and fostering economic growth. Recent literature on globalisation links the new economy to capacity to absorb, apply and create knowledge. Among nations, inequalities are no longer measured by the size of the income gap; rather, by the knowledge gap, which represents the main challenge facing nations, especially developing countries. Accordingly, investing in human capital, building sound infrastructure and strengthening the institutional structure must be given high priority in national development strategy. In industrial countries, for example, more than 50% of all goods and services produced are classified as knowledge-based products.

Knowledge creation is vital for development in non-industrialised countries. Locally, knowledge creation increases economic potential by allowing producers to improve the quality of products as well as enhances the development of new methods and invention of new techniques in production. In this age of global interdependencies, developing countries must compete in global markets on the basis of producing good quality products. In this respect, creativity becomes important for strengthening the knowledge economy and foster economic growth. Economic creativity is a 'dynamic process leading towards innovation in technology, business practices, marketing, and so forth, and is closely linked to gaining comparative advantages in the economy' (United Nations, 2008). However, creativity is a product of local environment in which indigenous knowledge and traditional heritage play a determining role. Thus, a creative economy must ensure that indigenous factors including the four forms of capital – social, cultural, human, and structural or institutional – will be considered in the developmental process.

### 3 Knowledge Transfer

The new technology driven by modern information and communication technologies (ICTs) have connected world markets into one trading area enabling nations to access to knowledge, skills, technology and information at a very low cost. Nations with adequate human and physical infrastructures will most likely be successful in taking advantage of the new markets. Such countries as Singapore, Finland, New Zealand, Australia and Ireland have recognised the economic potential of the knowledge-based economy and invested in research and development to create new techniques and invent new products.

The Internet provides a powerful tool for global access by connecting countries with each others. It enables users to acquire knowledge, information, ideas and skills that enhance the nation's capacity to apply, absorb and create knowledge. Developing countries, whose main exports are primary products, could learn lessons from the newly emerging knowledge-based economies to reorient their economies toward knowledge production. Governments should allocate large proportions of their total expenditures to induction of innovation and the creation of knowledge through education and learning, that is, to build capacity that uses ICTs for acquiring and producing knowledge and disseminating information. 'The ability to take full advantage of the information economy for the benefit of all in a given country or jurisdiction requires vision, discipline, planning and method. The ICT vision and strategy should focus on people and not just on technology. For this to happen, it is important to develop both the ICT vision and strategy with people in mind and with the input of these very same people' (United Nations, 2005).

Technological globalisation, driven by ICTs, could strengthen developing countries' capabilities to use indigenous knowledge through access to external knowledge. Building ICT capacity increases a society's potential to develop new techniques, invent new products and create new knowledge. Economic development is a process of change influenced largely by local factors. Although external forces are important for promoting development, the main decisions concerning allocation of resources and planning for development lie within the framework of the indigenous elements governing the society.

### 4 The Importance of Indigenous Knowledge

The local knowledge of a given society is created through a dynamic process driven by the local environment and its relation to productive activities of indigenous people. These activities are influenced by the creativity of the local people to ensure their survival and meet their daily requirements. Internal knowledge also represents an integral element of the socio-cultural features that prevail in a given society or a given culture. Economic activities involve making decisions which require information and communication among community members. Knowledge of local culture is deeply rooted in the skills, experiences, customs and spiritual ingredients that are attributed to any given society. Thus introducing new knowledge without being integrated into the indigenous knowledge system could increase the risk of marginalisation of local communities. In learning about poor people from poor people, Gorjestani, Nicolas (2000) explains that indigenous knowledge is the 'social capital of the poor, their main asset to invest in the struggle for survival, to produce food, to provide for shelter or to achieve control of their own lives'. Similarly, Gilmore (2003) describe the importance of the local knowledge this way:

Indigenous knowledge is the basis for local decision making and problem solving in areas including, but not limited to, agriculture, health care, food preparation, education and natural resource management. Indigenous knowledge is tacit knowledge traditionally held by communities rather than individuals and is commonly embedded in community practices, institutions, relationships and rituals and therefore, difficult to codify.

External knowledge is useful only if it is incorporated into the local system to supplement indigenous knowledge. Scientific information and technological innovation are widely practiced and used in allocation

of resources and environmental management including the alleviation of soil erosion and climatic changes. In developing countries, lack of information and inadequate skills could increase the risk of mismanagement and abuse of technology transfer and external knowledge. Access to global knowledge and information allows indigenous people to minimise the risk of externalities by enhancing the capabilities of local knowledge system to function more efficiently. First and foremost, development is concerned with allocating local resources to reduce poverty and foster economic growth, which requires creating a balance between external and internal knowledge systems. Indigenous Knowledge entails the following features:

1. Indigenous knowledge is the local knowledge that is unique to a given culture or society. It is the basis for agriculture, health care, food preparation, education, environmental conservation and a host of other activities.
2. Much of such knowledge is passed down from generation to generation, usually by word of mouth.
3. Indigenous people have a wide knowledge of the ecosystem they live in and ways to ensure that natural resources are used sustainably. Therefore, indigenous knowledge that has been accumulated over centuries has potential value for sustainable development.
4. It can also help other people learn how to live in harmony with nature and the environment in a sustainable fashion.
5. Indigenous knowledge is largely experiential based on experience including trial and error than theoretical knowledge. It is inherited through time and, therefore, it is constantly changing (World Bank, 1998).

The usefulness of indigenous knowledge to the local community can be measured in several ways:

1. It is deeply rooted in various practices and skills related to the local community. Indigenous people inherent certain cultural, social, environmental and spiritual practices closely related to the natural environment. Economic activities including production and consumption are influenced by local and traditional methods and customs. These characteristics usually influence the knowledge system of the local community by adapting indigenous methods and traditional techniques for conducting economic activities.
2. Modern development needs to incorporate local knowledge into the process by integrating traditional methods and indigenous practices in production into the national planning policies for development. Policy makers must carefully evaluate modern techniques and scientific applications to ensure preserving the natural environment and minimise the risk of destroying biodiversity.
3. Global knowledge that supplements local knowledge increases productivity and maintains environmental balance. Western methods in production and use of technology become useful if modified to suite local conditions. Decisions must be based on careful monitoring of modern techniques and scientific methods in relation to the process of development. In some countries, water management, climate change, cultural features and natural environment require local solutions for sustaining the use of resources and protecting the local system of production. However, developing countries can benefit from access to information and knowledge produced in countries with similar conditions. For instance, in Africa, several countries share similar or common cultural and environmental features. Shared knowledge in these countries reduces costs and enhances productivity. We need to move from applying knowledge to solve developmental problems to learning by focusing more on how we learn than spending so much time and resources on what we learn. Economic development comprises practical solutions that require learning as how to solve them. To this end, finding practical solutions must involve the indigenous knowledge of the community and adapt method as of how to build upon them to speed up the process of development.
4. 'Gender will often need to be included as a critical variable in political ecology approaches.' In some countries, women are heavily involved in non-monetary economy, especially agricultural production

and animal husbandry, which is important for food production and meeting the family basic needs (Pimbert, 2008).

Indigenous knowledge is important for a number of reasons:

1. It is more applicable in solving local problems. Across developing countries, development is largely influenced by local forces for which only a local solution is appropriate if development is to be sustained. In this regard, planning for development must integrate traditional knowledge into developmental strategy for increasing planning effectiveness.
2. Development is about socio-cultural transformation in which indigenous knowledge represents a driving force for change. Learning about the local community is vital for promoting development and sustaining growth.
3. Local knowledge strengthens the process of development because of their close relations to the traditional values held by the society.
4. Indigenous knowledge facilitates the creation of new knowledge through rapid innovation. An effective technique must interact with the local environment.

Becoming creative and productive, local people must be given support through building suitable environment capable of transferring local ideas into creative techniques for development. Local people must be given an opportunity to contribute through better educational programs and better communication services. It is the duty of the government to provide knowledge, information, skills and incentive to local people in a manner to increase their participation in the economy. Special programs should be created to learn more about indigenous people and earn their trust by giving them say in policy construction and decision makings. Local knowledge helps communities to construct economic strategies capable of solving problems directly related to development process. As Brohman (1996) explains:

Increased use of indigenous knowledge may make development programs more appropriate, provide innovative solutions to certain problems, contribute to a sense of self-worth and collective self-esteem and enhance popular participation and empowerment. To take advantage of these possibilities, development programs should start with the premise that local people, despite the constraints they often face, are knowledgeable and skillful managers of their own environment. If provided with adequate resources, their knowledge and skills place them in an ideal position to devise locally appropriate solutions to their own development.

## **5 Creativity and Knowledge Creation**

Learning about new methods and alternative techniques in production enhances the country capabilities to innovate and create new knowledge. Learning is the act of acquiring and discovering new ways as well as mastering new skills to enable the process of development to continue. In developing countries, learning could advance the knowledge system by helping local enterprises improving the production process and enhancing competitiveness. This enables the country to adapt technologies and external knowledge to local conditions. Building indigenous capacity in developing countries will require investment in education and training, increasing access to global knowledge and technology transfer and labour market flexibility to catch up with the industrialised countries.

It is important to acknowledge that creativity is about practicing ideas to create new products or more efficient techniques. Most of these ideas are in the form of tacit knowledge stored in the mind of people who live in a given environment influenced by unique features related to their worldview. Some of these ideas have been in existence for thousands of years that could further be developed in the light of the new knowledge and technologies. In this regard, access to global knowledge could enhance indigenous knowledge by



producing new techniques for solving problems. Modern scientific research and technology provides useful learning methods that allow local communities to gain comparative advantages and foster growth.

Agriculture is among the important industries in developing countries where the majority of people derive their livelihood. Ensuring higher yields and promoting sustainable growth underscores the need for local inputs including technology and traditional knowledge to be taken into consideration for allowing creativity and innovation. For instance, agricultural activities, which are practiced over the centuries in a given region, provide a learning experience for those are still carrying out the tradition. External knowledge becomes useful as a supplement but not as a replacement for traditional practices. In this regard, governments should invest in research and development for making better use of external knowledge in local economy. Learning about the weather, water management, disease control, soil erosion, drought and environmental protection increases productivity and minimises the risk of natural disasters and technological implications. For countries in the south including Thailand, such efforts will contribute to balancing development by reducing migratory workers and improve the standard of living, especially in rural areas.

## 6 Building Capacity for Indigenous Knowledge

Building capacity for development requires active participation of both public and private institutions and enterprises at local and global levels. In developing countries, the productive sector is greatly influenced by the public sector, that is, the private sector plays a secondary role in decision making regarding allocation of resources and management of the economic system. However, because of market competitiveness in the new economy, knowledge creation requires the involvement of all sectors where various industries, enterprises and individuals contribute to the economy through innovation, research and development and creativity, that is, part of their activities requires development of new techniques and new products through investing in research and development, building database systems, producing new skills and inventing new techniques.

Exploiting tacit knowledge by increasing participation of individuals and private enterprises in the economy could have a substantial impact on the process of development. It creates a 'learning economy' in which knowledge absorption; information dissemination and skill acquisition becomes an important tool for sharing and creating knowledge. Through learning, the developing countries could increase communication and share innovation to facilitate local access to external knowledge. Private enterprises rely on their intellectual capital to increase competitiveness. In developing countries where competition in local markets is limited, opening up of new markets provide greater opportunities for local firms not only to compete, but also to acquire external knowledge. Local firms could develop comparative advantage in production of certain products that allow them to gain from global trade.

Building capacity for developing the traditional knowledge system in non-industrialised countries can become an effective means for meeting some of the challenges facing these countries. Investment in traditional knowledge increases output, reduces unemployment, alleviates poverty, strengthens environmental management and sustains development. Modern knowledge can be used to build capacity capable of solving some of the complex problems facing developing countries. Western technology has had a substantial impact on the process of development by forcing developing countries to specialise in production of goods and services for exports. In many countries, technology transfer and excessive use of modern knowledge has marginalised traditional knowledge by keeping rural areas and indigenous people in isolation from development in urban centers. Access to global knowledge could be very useful for promoting development. However, local knowledge produced by local institutions will eventually be the most important knowledge for development.

Modern technologies, especially ICTs, could be used to enrich local knowledge through access to information and experiences of similar knowledge practiced elsewhere. Greater access to external markets

allows indigenous people to gain from external knowledge, especially in areas of environmental management involving issues of: soil erosion, water sharing, disease control, flood and other natural forces. As powerful tools, these technologies encourage sharing information and exchange knowledge to enhance productivity and sustain development. However, these technologies may not solve the fundamental problems facing people in different geographical areas, but they can be integrated into the local knowledge system to find solutions to the existing problems. For indigenous people living apart in several geographical areas worldwide, the use of ICTs increases the potential to acquire and use knowledge for their own benefits. To this end, ICTs reduce the cost of producing knowledge and this consequential cost reduction helps developing countries to accelerate the process of development.

Building domestic capacity for productive independence is vital for fostering economic growth and sustaining development. Domestic production depends largely on local markets for supplying inputs including labour, capital, skills, information and knowledge. These inputs become necessary for strengthening the country capabilities to build productive independence by using both local and global knowledge. Indigenous knowledge could enrich productivity by facilitating the absorption of external knowledge to the local environment. It is most likely that the future prospect for sustaining development requires the integration of both local and external knowledge. In the new economy, rapid economic transformation depends on greater flexibility driven by capacity building to increase investment in human capital, infrastructure, innovation and research and development. Effective capacity will rest largely on the economy's capability to create knowledge and disseminate information. It is no longer traditional knowledge alone sufficient for promoting economic development and cultivating the benefit of globalisation.

## **7 The Knowledge Systems**

Currently, there are two knowledge systems exist in developing countries: a knowledge system linked to modern science and technology and another driven by indigenous knowledge (United Nations, 2006). The former is largely linked to the industrial revolution and scientific discoveries in Western countries, whereas the latter is a product of specific geographical locations attached to a specific culture and unique environment. This knowledge has been in existence throughout history and practiced by indigenous people for supporting their livelihoods as well as in exchange for acquiring goods from other communities. Historically, Western technologies were introduced in Asia, Africa and Latin America during the Colonial Era, in which Western powers extracted resources from non-Western subject-nations with a view to generating wealth in the 'mother' country in a process characterised as imperialism. Currently, the productive structure in most developing countries is largely oriented towards international trade reflecting the dependency of the economies of these countries on the production of primary products, with poor terms of trade, destined for developed markets. This trade has diminished the role of traditional knowledge in economic activities in developing countries.

It is important to note that the indigenous knowledge system alone is not sufficient to meet the challenges of modern development driven by new technologies. At the national level, governments should provide incentives to integrate indigenous knowledge into the global knowledge system. Global knowledge could provide short-term benefits to the local economy, but in the longer term introducing such knowledge will have undesirable consequences including environmental degradation and health hazards. Thus, without traditional knowledge, economic development will remain constrained by the lack of local contribution to the process of transformation. Unfortunately, in most developing countries, the modern knowledge system operates in isolation from the traditional one. The dual nature of the economic structure in these countries has isolated the indigenous sector, based on traditional knowledge, from the modern system. Production in the modern sector is mostly oriented towards export trade that requires certain specifications driven by modern technology. For this reason, the contribution of the modern knowledge system and technology



transfer to development cannot, in and of itself, strengthen local inputs. However, the indigenous knowledge system, standing aloof, lacks the wherewithal needed to enhance linkages and foster growth.

External knowledge is essential but not sufficient for development. Knowledge must be appropriate or suitable for creating a balanced process that ensures equity, fairness and justice. To be useful, external knowledge must be modified to become appropriate for use under the existing conditions of the natural environment and local cultural practices. Under such circumstances, transfer of knowledge, while warranted, ought to be employed in a way which comports with differential environmental and human conditions manifesting in a particular developing country rather than being indiscriminately 'parachuted' in. Mathematical models underlying development programs designed to induce development in a particular country or region cannot be appropriated for wholesale adoption in other countries. Making these models applicable, if at all feasible, requires substantive modification to facilitate integration into particular local contexts.

## 8 Conclusion

In the new economy, driven by globalisation, knowledge is given a special role to play in promoting economic growth and sustaining development. In addition to being a factor input, knowledge is also linked to wealth creation and global competitiveness. Knowledge provides society with the means to create new products as well as to enhance decision-making capabilities.

Meeting the challenges facing rapid socio-economic development, especially in developing countries, requires building indigenous capacity for knowledge creation and information dissemination. Building indigenous capacity for knowledge creation, revolving around investment in human capital, physical infrastructure, ICTs and R&D, adds value to local economy by inducing creativity and innovation. However, building indigenous capacity requires efficient institutions.

To this end, the institutional structure of the society has a significant role to play in facilitating the integration of global knowledge into the local environment. Both public and private sectors should be involved to increase awareness, conduct research and development, disseminate information, provide financial support and build capacity for knowledge creation and dissemination. Indigenous capacity will enable developing countries not only to absorb knowledge into developing countries but also to transfer knowledge among developing countries and increase integration in the global economy. In particular, ICTs strengthen capacities to increase access to global knowledge.

Indigenous knowledge is knowledge produced locally containing some cultural, social, religious, spirituals and environmental elements. Throughout history, this knowledge has been practiced and adapted by the coming generations to form the main features of the community knowledge system. Absent local knowledge, economic development in developing countries would be hamstrung by inappropriate technological methods imported from Western countries, whose antecedent local cultural and environmental factors differ starkly with those of developing countries. Wholesale importation of inappropriate Western technologies has caused serious damage to indigenous culture and natural environment by suppressing traditional knowledge, increasing the risk of pollution, disrupting natural habitats and forcing migration. Remediating these dislocations and restoring equilibria into development have been constrained by lack of financial resources, inadequate skills, inefficient institutions, weak incentives and unsound macroeconomic policies and programs. Orientation of development towards production for export of primary products with inferior terms of trade has created a dual economic structure generating weak linkages to stimulate production in local markets for local markets with a view to balancing development. The scope of the traditional knowledge system has been marginalised by the hijacking of the productive system in developing countries on the part of avaricious multinational corporations in the guise of technology transfer in a process best labeled as the new imperialism. Denied any other recourse, indigenous people increasingly abandoned traditional economic activities diminishing the role that indigenous knowledge plays in development.

External knowledge can best be regarded as a modern economic Sword of Damocles. As a supplement buoying local knowledge, external knowledge plays a positive role in balanced development by enhancing the productive capability of a developing economy. If recklessly adopted, external knowledge can prove highly destabilising. Introducing inappropriate scientific and technological methods at best serves to complicate, at worst serves to stymie, the process of development by creating serious distortions in the economy and by damaging the environment.

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