

EQUILIBRATING KNOWLEDGE SYSTEMS IN DEVELOPMENT PROCESS FOR SUSTAINABLE DEVELOPMENT: A CALL TO HARNESS AND DEPLOY THE INEVITABLE.

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Abstract

Indigenous knowledge developed as a response to the discontent, dissatisfaction, and shortcomings of the modernization approach as a theory and in development practice as a way of improving the living standards of the poor especially in the global south. Prior to this, indigenous knowledge was rarely used in development programs and documents in development practice until in 1998 when the World Bank, in response to the quest for collaborative partnership and inclusion of localized knowledge launched the indigenous knowledge for development program in partnership with several donor agencies. Even with this effort, Indigenous knowledge has not been positioned as a fundamental challenge to scientific development rather it is regarded as little more than a list of easily identifiable, mostly technical, and discrete knowledges. This creates a tension in development practice between the use of scientific knowledge and indigenous knowledge. A tension between the supposed rational, controlled, rigorous and universal system and the irrational, imbued with folklore and too place-specific to offer any meaningful solution to underdevelopment. The loophole with this position is that modern western science is located at one end of the development spectrum, indigenous knowledge is located at the other as if they are in parallel lines, never to meet. The central challenge of development practice today is how to achieve a symmetry of both scientific and localized knowledge for sustainable development. This paper relying more on analysis of secondary data to explore the discussion and employing Tania Li's concept of the 'rendering technical' and Participatory development theory pointed out that for effective and efficient equilibration of knowledge systems in development process, the best option is the mutual synthesis of the two systems through mutual dialogue than mere integration, incorporation, or inclusion of indigenous knowledge in development process.

Key words: *Indigenous knowledge, western scientific knowledge, rendering technical, participatory development theory.*

Introduction

Any group of people that are culturally and socially distinct with collective traits that bind them together like sharing ancestral ties to the land, ties to their means of livelihood and natural resources where they live or from where they were displaced can be called indigenous people. Their culture, livelihoods, land, and natural resources are linked to their identities which is specific and special to them which forms their worldview and affects physical and spiritual well-being.

They often subscribe to their customary leaders and organizations for representation that are distinct or separate from those of the mainstream society or culture. Many indigenous peoples still maintain a language distinct from the official language or languages of the country or region in which they reside (World Bank, 2021). There are between 370 and 500 million indigenous peoples worldwide, in over 90 countries. Although they make up 5% of the global population, they account for about 15% of the extreme poor (World Bank, 2021).

On the other hand, indigenous knowledge is defined as knowledge which is spatially and/or culturally context specific, collective, holistic, and adaptive (International Encyclopedia of Human Geography, 2009). It refers to understandings, skills, and philosophies developed by local communities with long histories and experiences of interaction with their natural surroundings. This knowledge is integral to a cultural complex that also encompasses language, systems of classification, resource use practices, social interactions, ritual, and spirituality (UNESCO, 2021).

The question is, why the interest in indigenous knowledge with regard to development process? Interest in indigenous knowledge systems developed during the 1980s, primarily in response to discontent with modernisation as both a development theory and in practice as a means of improving living standards for the majority of the population of the global South. This is so because, modernisation prior to the 1980s through the diffusion of formal scientific and technical knowledges from the North to the global South, has been seen to be an effective way of eradicating poverty.

Consequently, development has frequently been conceptualized as a fundamentally technical issue, driven by the dominant science discourses from Europe and North America. By the 1980s, however, it had become clear that this transfer had not been wholly successful in transforming the lives of many, and especially in Africa (Briggs, 2014, p.199) as a result, alternatives approaches and systems in promoting local-level, even anti-development perspectives were sought.

As a result of the failure of formal top-down development, there has recently been increased interest in the possibilities of drawing upon the indigenous knowledges of those in the communities involved, in an attempt to produce more effective development strategies. The concept of indigenous knowledge calls for the inclusion of local voices and priorities and promises empowerment through ownership of the process. (Briggs & Sharp, 2004, p.1). So, in this sense, indigenous knowledge is no longer seen as an obstacle to development process, but a way of facilitating solution to the problem.

It is important to point out that, central to this rhetoric is the inclusion of the local knowledges of groups at whom development projects are aimed, rather than assuming and relying on the universal applicability and superiority of scientific knowledge and “developmentalism” (Escobar 1995). Such approaches appear to offer a positive way forward in that they take greater account of the specificities of local conditions, draw on the knowledge of a population who have lived experience of the environments in question, and provide peoples with ownership of the development process. (Briggs & Sharp, 2004, p.1)

Post- and anti- development theorists have argued that, rather than breaking away from the colonizing attitudes of the past, there is greater evidence of continuity in the preservation of western-centered attitudes, as well as an arrogant confidence in the almost unquestioned validity of science and western knowledge (Escobar 1995; Pretty 1994; Nustad 2001).

Typically, “development experts” from the West are brought in to analyze a development problem and to offer solutions based on scientific method. Just as in the colonial period, an assumption dominates that either western science and rationality are more advanced or refined than other positions, or, more simply, that they are the norm – “knowledge” in the singular form – from which others deviate in their fallibility (Briggs & Sharp, 2004, p.2)

Development can therefore only be achieved by bringing them into line with the universal knowledge of scientific truths, whether this referred to the management of soil or the management of people. This certainty in the scientific path out of underdevelopment has been shaken, of course, by the witnessing of continuing high rates of poverty, and growing economic differences between countries (Briggs & Sharp, 2004, p.2).

Sequel to this, there has been skepticism and continuous questioning of the scientific approaches as being the best or the only solution to development problems. The point is that other knowledge systems like indigenous knowledge of the people resident in particular places can be of equal, or more, value in tackling development problems. Within this argument, western (formal) science loses its universal position, and becomes one of a range of competing and contested knowledge systems (Homann and Rischkowsky, 2001; Mohan and Stokke, 2000). Moreso, the western scientific system is indigenous to the west, it is their local approach to solving problems but as a result of historical and geographical antecedents, it gained its apparent universality by being projected throughout the world through the formation of colonial and neocolonial power relations. Thus, the domination of western knowledge is explained not though a privileged proximity to the truth, but as a set of historico-geographical conditions tied up with the geopolitics of power (Escobar 1995). (Briggs & Sharp, 2004, p.2)

The central challenge of development practice today is how to achieve a symmetry of both scientific and localized knowledge for sustainable development. The World Bank (1998) acknowledged the need not only to advance global knowledge on a transnational scale, but also to incorporate indigenous knowledge from their countries of intervention, with specific attention paid to the knowledge of the indigenous poor. The foundation for the equilibration of knowledge systems was pushed to the front burner at the Global Knowledge Conference in June 1997, Toronto Canada, where leaders in governments and civil society institutions advised the World Bank and other organizations to actively collaborate and learn from local communities. The vision of a global knowledge partnership was created, and this would effectively be realized when the indigenous poor participate in development both as users and contributors to development process.

One of the major challenges hindering the equilibration of both knowledge systems relates to the conceptualization of indigenous knowledge by the mainstream organizations such as the World Bank, the United Nations, and other organizations. They have not positioned indigenous knowledge as a fundamental challenge to scientific development. Rather, as Briggs (2014) noted, indigenous knowledge was seen as an opportunity to accommodate technical and context specific solutions, where indigenous knowledge can hopefully be integrated into their supported schemes.

Consequently, indigenous knowledge was regarded as little more than a list of easily identifiable, mostly technical, and discrete knowledges. There is little sense of dealing with embedded knowledges as part of a wider economy and society. This conceptualization does not allow indigenous knowledge opportunity to offer fundamental challenges to development,

but simply to offer the opportunity for some technical, place-specific solutions where indigenous knowledge can hopefully be integrated into donor-supported programmes. This can only come about once the validity of indigenous knowledge has been confirmed through the lens of formal science. Only then can indigenous knowledge be judged to be worthy of serious investigation and dissemination (Briggs and Sharp, 2004).

This is where the fundamental problem lies. The problem of the divide between indigenous knowledge and western scientific knowledge. A tension between the supposed rational, controlled, rigorous and universal system and the irrational, imbued with folklore and too place-specific to offer any meaningful solution to underdevelopment. The loophole with this position is that modern western science is located at one end of the development spectrum, indigenous knowledge is located at the other as if they are in parallel lines, never to meet. It is, however, increasingly apparent that such polar extremes are in reality untenable, and there is greater sympathy for the view that indigenous knowledge represents a complementary, not competing, knowledge, and that it represents a sense of additionality (Reij et al., 1996).

It is logical then to point out that, if an overdependence on modernisation approaches has failed to deliver significantly improved living standards for the bulk of the world's population over the last fifty years or so, then an overdependence on indigenous knowledge as an alternative, at the other extreme, may also fail to deliver meaningful development results. The tensions between the two knowledge systems have been exacerbated by the resistance of modernisation theorists and practitioners to using indigenous knowledge systems in development. For them, the problem of poverty is (Briggs, 2014, p.200) to be treated by technology transfer, by capital investment, and by the release of productive forces. The development agenda is defined in the corridors of power in the 'North', and, in this, the voices of the 'South' is largely unheard (Briggs, 2014, p.201)

Pretty (1994, p.38) has observed that 'the trouble with normal science is that it gives credibility to opinion only when it is defined in scientific language, which may be inadequate for describing the complex and changing experiences of farmers and other actors in rural development'. Consequently, knowledge that is not rooted in Western science is still seen by many in the development community as flawed, other than in instances where straightforward and uncontroversial indigenous technical solutions can be incorporated into development practice. (Briggs, 2014, p.201).

This paper will attempt to analyze the two knowledge systems in the context of current thinking where development is regularly couched as a technical challenge without reference to the importance of localized knowledge as a valid body of knowledge in addressing community level development. Most importantly, it will challenge the attempts by Organizations, researchers and policy makers at the strategies used in framing, understanding, and solving development problems – incorporating/integrating/inclusion on one hand or, a mutual dialogue/synthesis of the two knowledge systems and how this can contribute to sustainable development.

The research questions are; can indigenous knowledge systems and western scientific systems be integrated more systematically in development process and in equilibrating knowledge systems in development process, what is the best option, synthesis/dialogue on one hand or integration, incorporation (inclusion) on another? The paper will rely more on analysis of secondary data to explore the discussion and arrive at conclusions.

Review of relevant literature

Indigenous Knowledge

In this section, we shall look at what Indigenous Knowledge is, how it came about, its characteristics, how it is shaped and sustained over generations, how it shapes the peoples' way of life, its relevance, impact, and implications to the daily lives of the people.

Indigenous knowledge (IK) is the knowledge used by the local people that share the same cultural identities and livelihood to make a living in a particular environment. It can be conceptualized as the knowledge that an indigenous (local) community generated and accumulated over generations of living in a particular environment. This definition encompasses all forms of knowledge, technologies, know-how skills, practices and beliefs that enable the community to achieve stable livelihoods in their environment.

Indigenous knowledge can be defined as "a body of knowledge built up by a group of people through generations of living in close contact with nature" (Johnson, 1992). Generally speaking, such knowledge evolves in the local environment, so that it is specifically adapted to the requirements of local people and conditions. It is an offshoot of their lived experience and adaptation to their environment. It is also creative and experimental, constantly incorporating outside influences and inside innovations to meet new conditions.

So, it is the unique knowledge confined to a particular culture or society. It is also known as local knowledge, folk knowledge, people's knowledge, traditional wisdom, or traditional science. This knowledge is generated and transmitted by communities, over time, in an effort to cope with their own agroecological and socio-economic environments (Fernandez, 1994). It is the lived-experiences, explanations, corrected mistakes, adapted traditions of the local people which has survived with them over the years. It is part and parcel of the people's way of life, worldview and understanding of survival strategies which has been imbedded in the living systems of the people.

It is generated through a systematic process of observing local conditions, experimenting with solutions, and readapting previously identified solutions to modified environmental, socio-economic, and technological situations (Brouwers, 1993).

Indigenous knowledge is passed from generation to generation, usually by word of mouth, different forms of trainings, and cultural rituals, and has been the basis for agriculture, food preparation and conservation, health care, education, and the wide range of other activities that sustain a society and its environment in many parts of the world for many centuries. (Senanayake 2006 p.87). It is considered as the social capital of the poor. It is their main asset to invest in the struggle for survival, to produce food, to provide for shelter and to achieve control of their own lives. (Senanayake 2006 p.87)

Ellen and Harris (1996) elucidated comprehensively the ten characteristics of indigenous knowledge.

1. Indigenous knowledge is local. It is rooted to a particular place and set of experiences and generated by people living in those places. The result of this is that transferring the indigenous knowledge to other places runs the risk of dis-locating it.

2. Indigenous knowledge is orally transmitted or transmitted through imitation and demonstration. The consequence is that writing it down changes some of its fundamental

properties. Writing, of course, also makes it more portable and permanent, reinforcing the dislocation referred to in 1.

3. Indigenous knowledge is the consequence of practical engagement in everyday life and is constantly reinforced by experience and trial and error. This experience is characteristically the product of many generations of intelligent reasoning, and since its failure has immediate consequences for the lives of its practitioners its success is very often a good measure of the survival instincts of the people.

4. It is empirical rather than theoretical knowledge. To some extent, its oral character hinders the kind of organization necessary for the development of true theoretical knowledge.

5. Repetition is an essential characteristic of tradition, even when new knowledge is added. Repetition aids retention and reinforces ideas; it is also partly a consequence of 1 and 2.

6. Tradition could be considered as 'a fluid and transforming agent with no real end' when applied to knowledge and its central concept is negotiation. Indigenous knowledge is, therefore, constantly changing, being produced as well as reproduced, discovered as well as lost; though it is often represented as being somehow static.

7. Indigenous knowledge is characteristically shared to a much greater degree than other forms of knowledge. Therefore, it is sometimes called 'people's science'. However, its distribution is still segmentary and socially clustered. It is usually asymmetrically distributed within a population, by gender and age and preserved through distribution in the memories of different individuals. Specialists may exist by virtue of experience.

8. Although indigenous knowledge may be focused on particular individuals and may achieve a degree of coherence in rituals and other symbolic constructs, its distribution is always fragmentary. Generally, it does not exist in its totality in any one place or individual. It is devolved in the practices and interactions in which people themselves engage.

9. Despite claims for the existence of culture-wide (indeed universal) abstract classifications of knowledge based on non-functional criteria; where indigenous knowledge is at its densest and directly applicable its organization is essentially functional.

10. Indigenous knowledge is characteristically situated within broader cultural traditions; separating the technical from the nontechnical, the rational from the non-rational is problematic.

From the foregoing, it is clear that, indigenous knowledge is assumed to be the truth, sacred and secular together to the people. It is taught through storytelling, learnt by doing and experiencing, oral or visual, integrated, and based on a whole system, intuitive, holistic, subjective, experiential. But in its usage, indigenous knowledge is lengthy in acquisition, long-term wisdom, powerful prediction in local areas, weak in predictive principles in distant areas. Its models are based on cycles, explanations based on examples, anecdotes, parables. In classification, it is a mix of ecological and uses non-hierarchical differentiation which includes everything natural and supernatural.

It is used at the local level by communities as the basis for decisions pertaining to food security, human and animal health, education, natural resources management, and other vital activities.

Indigenous knowledge is a key element of the social capital of the poor and constitutes their main asset in their efforts to gain control of their own lives. For these reasons, the potential contribution of indigenous knowledge to locally managed, sustainable, and cost-effective survival strategies should be promoted in the development process. (Gorjestani, 2000 p.1)

Western Scientific Knowledge

Science consists of two things; a body of knowledge and the process by which that knowledge is produced and communicated for use. This second component of science provides us with a way of thinking and knowing about the world.

Western scientific knowledge is that system of knowledge that relies on the established laws through the application of the scientific method to the phenomena. Its method begins with an observation and is followed by a prediction or hypothesis that has to be tested (IGI Global, 2022).

A scientific way of thinking is something that anyone can use, at any time, whether or not they are in the process of developing new knowledge and explanations. Thinking scientifically involves asking questions that can be answered analytically by collecting data or creating a model and then testing one's ideas. A scientific way of thinking inherently includes creativity in approaching explanations while staying within the confines of the data (IGI Global, 2022).

Scientific knowledge is assumed to be a best approximation. It is considered to be secular, didactic, learning by formal education, written, analytical, based on subsets of the whole. It is model- or hypothesis-based, reductionist, objective, positivist. In its use, scientific knowledge is rapid in acquisition, short-term in prediction, powerful predictability in natural principles, weak in local areas of knowledge, linear modeling as first approximation, explanations bases on hypothesis, theories, laws. In classification, it is based on phylogenic relationships, hierarchical differentiation, excludes the supernatural.

It is important to highlight at this point that, Brigg's (2014, p.128) would differentiate the western scientific and indigenous knowledge systems by positing that, western science is rational, controlled, rigorous and universal, indigenous knowledge is irrational, imbued with folklore and too place-specific to offer any meaningful solution to underdevelopment. This hypothesis illustrates the lens through which proponents of science-based development view their counterparts in the indigenous-based knowledge development arena.

Theoretical Framework

Rendering Technical

To further investigate and comprehend how development process is analysed, formulated, and implemented, who has control over the agenda and what consequences it has for development interventions, the paper will use Tania Li's (2007) concept of the 'rendering technical' of development which draws on Gramsci's work and Marxist theories. This is a concept in which she combines the insights of Foucault and Gramsci in order to study development projects as outcomes of both diffuse forms of power relations and wider political-ideological struggles (Doucette, & Müller, 2016, p. 32).

Drawing heavily on Foucault's concept of governmentality, Li argues that experts encapsulated in trustees (experts, planners, authorities) more often than not seek to render the process of

development into a technical or apolitical process by simplifying complex political-economic relations into intelligible fields for intervention (Li, 2007, p.7).

Li (2007) in her seminal contribution, 'the will to improve' noted the tensions and contradictions inherent in the process of development intervention. She found it strange that one group of people, with technical expertise, encapsulated in trustees (experts, planners, authorities) diagnose deficiencies in landscapes and populations, and devise technical schemes in the form of technical matrixes that identifies the problem, translates the problem in the form of program designs and models that is curated for the purpose of development intervention. This becomes a development tool that is regimented, transferable and enjoys the features of portability to other climes in need of development assistance without reference to local level histories, geography, knowledge systems, experiences, and socio-cultural differences. This has led to the romanticization of indigenous knowledge as a static, unchanging, pristine, and untainted knowledge system (Briggs, 2014, p.129).

Rendering technical then is the "extracting from the messiness of the social world" (Li, 2007b, p.3) in a framework with interventions that would supposedly yield results and bring about positive impacts in people's lives. It means reducing complex social and political situations to a matter of bureaucratic, technological, and organizational interventions (Ferguson, 1994, p. 256). They are those practices through which experts define a problem and circumscribe its boundaries in such a way that social forces can be managed, and technical solutions applied. Through this, experts exclude from their diagrams the processes that impoverish people and focus on the conduct of the poor. They highlight symptoms and correlations, rather than exploring the social relations that cause these conditions, this is so because, it is more of a one-dimensional framework excluding the knowledge system, histories, and explanations from the locals. At the long run, the result is to confirm that poor people are responsible for their own fate and should pull themselves up by their own bootstraps and/or take the initiative to move to areas of high growth and new opportunities.

Li's concept describes the process of how problems are "rendered technical" as experts framing development issues and solutions in a way that lends itself to technical fixes without addressing root causes. Li emphasizes how issues that are rendered technical are simultaneously rendered non-political as experts exclude political-economic relations or the historical context from their diagnoses and solutions, which constraints how problems are framed and what types of improvements is made. This process also confirms expertise as it implies boundaries between development experts and recipients of help.

Through rendering technical, development experts focus less on the political structures and alienate the local populace in the process of making decisions that affect the development of the people. They fail to bring the people into focus as they tend to foster their selfish interests instead of helping the locals towards economic independence. Thus, excluding possible contributions from those affected and to be affected by the development intervention from the development process as if to say that political structures do not affect development process of a given geographical area.

Sequel to the foregoing, development issues like poverty, inequality, discrimination, and gender are framed as technical problems of growth and participation (Doucette, & Müller, 2016, p. 32), these are then the problems that can be resolved by those same experts who

possess the desired technical know-how and solutions and who can diagnose and select the 'correct' institutional or material inputs to bring about the desired change.

In the same vein, though development is rendered technical or anti-political, its practice remains inherently prescriptive in the sense that it is considered to create socio-economic 'improvements' to a social and physical landscape that has been found lacking by experts, planners, authorities encapsulated in trustees who are in charge of identifying the "problem" and devising the desired "solutions". Thus, they diagnose deficiencies in landscapes and populations, and devise technical schemes in the form of technical matrixes that identifies the problem, translates the problem in the form of program designs and models that is curated for the purpose of development intervention. So, in the long run, development projects thus remain political because their interventions encourage the power of elite and expert actors over the development process by strategically employing particular kinds of expert knowledge and policy narratives to exclude other social forces and secure hegemony.

It is important to point out that, Li argues that two key practices are involved in devising improvement or development projects. The first is the practice of problematization, or identification and bounding of the deficiencies to be rectified by the expert. This identification of a problem is intimately linked to the availability of a solution (Li, 2007, p. 7). The second aspect is devising development interventions which is the practice of "rendering technical."

So, the effect of this encounter between technical development interventions and local conditions is that development projects rarely proceed as intended, and most never reach their stated objective(s). Instead, such projects generate side effects such as the development of new social conflicts, the expansion of bureaucratic state power (Ferguson, 1994, pp. 254–255), and the proliferation of the (trans)national development apparatus (Li, 2007, p.15). This apparatus is sometimes planned and executed to as an offshoot of the intervention by the experts.

Though rendering technical seeks to resolve development gaps in communities by making invisible problems visible and framed within a matrix with solutions, in the long run it leads to social conflict and internal agitation within the local populace because the formulations of the problems and solutions fail to recognize the political awareness and participation of the local population. So, satisfying the will to improve and a common sense of justice means combining technocratic expertise with an understanding of the legitimate claims of local parties.

Participatory Development Theory

Participation has a wide range of meaning and interpretations among development practitioners, though I shall highlight most of the meanings and interpretations, but I shall settle for the relevant meaning to the study.

Participatory development theory is the model of development intervention that allows active involvement of the locals in the development process. It is development from the grassroots. It gives development process to the people thereby fostering ownership and integration of the indigenous people in development process. It seeks to engage the locals in the identification of development problem, formulation, and implementation of development intervention in the hopes that development projects will be more sustainable and successful if local populations are engaged in the development process (Cornwall, 2002, p.11). Through this, it uses indigenous knowledge in addressing development problems. In this way, participatory development is the application of Indigenous Knowledge in development. It is the application of the experiences and explanations of the local people in development process.

Participatory development has taken a variety of forms since it emerged in the 1970s, when it was introduced as an important part of the "basic needs approach" to development (Cornwall, 2002, p.11). Participatory Development theory emerged because of the dominance and equation of modernity approaches to development (Mohan, 2014, p.205). Connell (2007, p.107) noted that development was characterized by Eurocentrism, positivism and top-downism which constituted 'epistemological disenfranchisement.

It can be traced to Paulo Freire (1970), who advocated for new research methods for evaluating localized knowledge. This advocacy resulted in the emergence of participatory action research which developed a new learning platform for people to communicate their needs and desires to achieve development.

Participatory Development theory reverses the over-reliance on expert systems and scientific approaches to beneficiaries of development. It operates from the lens of the people directly affected by development intervention. Mohan (2014, p.133) noted that the most widely used methodology is Participatory Rural Appraisal (PRA).

Two main perspectives to participatory development are the institutional perspective and the social movement perspective. While the former seeks the inputs of communities only to help achieve a pre-defined project goal that was decided by someone (usually an expert from the development world) external from the community itself and follows from the "pecking order" inherent to the global development industry wherein development goals are determined by external actors and in which the success of the project is the main, focal point. Community participation is welcomed and actively sought only but only within the sometimes narrowly defined range of the project itself, for the latter, participation is the main priority and a goal in itself. Allowing for autonomous forms of community organization to direct and guide the definition of project goals and the actual implementation of the project, or aiding communities in the process of developing norms and organizations for self-governance, is the overarching purpose that overrides any specific project objectives.

Consequently, the institutional perspective takes participation as the reach and inclusion of inputs by relevant groups in the design and implementation of a development project, using the inputs and opinions of relevant groups, or stakeholders in a community, as a tool to achieve a pre-established goal defined by someone external to the community involved (Tuftte et al, 2009). Thus, the institutional perspective can also be referred to as a "Project-Based Perspective" (Osmani, 2008, p.3)

The social movement perspective elucidates participation as the mobilization of people to eliminate unjust hierarchies of knowledge, power, and economic distribution. This perspective identifies the goal of participation as an empowering process for people to handle challenges and influence the direction of their own lives (Tuftte et al, 2009). Empowerment participation is when primary stakeholders are capable and willing to initiate the process and take part in the analysis. This leads to joint decision making about what should be achieved and how. In this case, dialogue identifies and analyzes critical issues, and an exchange of knowledge and experiences leads to solutions. Ownership and control of the process rest in the hands of the primary stakeholders (Mohan, 2007, p. 781).

It is worth stating, however, that development projects that don't make a central effort to include thorough and sincere community participation almost always end up being paternalistic, assistance-based, and can often lead to the degradation of community coherence and autonomy (Roberts, 2017).

So, the end goal of any development effort should never be the success or supposed sustainability of the project itself, but rather an increase in the sovereignty and wellbeing of the community. In some cases, the community may determine that the predefined, written goals of a project are no longer useful or valuable to the community, and if we are loyal and committed to truly participatory development, we need to allow for that possibility.

Moreso, instead of simply giving the poor “a part” in development initiatives, genuine participatory development seeks to allow the poor to determine their own visions and establish their own development priorities and agendas. Through participatory development then the community to own the project, they use their indigenous knowledge to solve their problems in collaboration with the expertise of the development workers. When the locals do so, they feel that they own the project, they feel responsible to implement the project. Since the project is for the community, then they must be the one to determine the areas of concern of the community. By doing that, they feel empowered.

This is in contrast to when external donors and "experts" walk into a community with the mentality that they already know what is best for the poor and their community, they undermine the local human resources in those communities they set out to bring development. Very often, and ironically, instead of achieving what they set out to achieve, their approach goes against their effort and sadly causes communities to be further impoverished. Such approach undermines sustainability and empowerment.

Equilibration of knowledge systems in development process: A best option

From the foregoing, the fundamental questions are; what is the best option for equilibrating the two knowledge systems into development process? Is it integration, incorporation, inclusion of indigenous knowledge or mutual dialogue, synthesis of the two knowledge systems in development process?

The conception and practice of development intervention is essential to the understanding and implementation of development process. The underlying puzzle here is whether to take development a transfer of knowledge and practices to a locality to bring the community up to a standard set by development experts or is development understanding and uplifting of the standard of living of a people in collaboration with what the people have both physical, social, economic, political, and spiritual?

This raises further questions; is development a top-down approach as opposed to a bottom-top approach to the process or is it a synthesis of both approaches? Is development process a linear stipulated process or a complex intersected strategies that would take cognizance of universal and contextual truths in its operations?

In addition, this raises the question of who and how development agenda is defined and formulated. Is it done in the corridors of power in the global North devoid of the global South or is it done in conjunction and dialogue among the different geopolitical spectrum? In this case, what knowledge system should influence and has been influencing development processes and what should be the best way forward for the future.

The failure of many development interventions have been attributed to the quest for scientific validity checks and the fragmented nature of the indigenous knowledge systems. Briggs & Sharp (2004) argued that this equilibration can only materialize once the validity of indigenous knowledge has been confirmed through the lens of formal science, only then can indigenous

knowledge be judged to be worthy of serious investigation and dissemination. This binary divide creates a fundamental problem in deploying indigenous knowledge in development. The palpable tension between formal science and indigenous knowledge creates a distortion of how development should be designed to benefit people living in poverty. Briggs (2014) succinctly noted that the danger with this position is that if modern science is located at the end of the development spectrum, indigenous knowledge is located at the other. The implication is that development seen from the perspective of both polar extremes is unsustainable and leads to large scale distortions of real development.

Another major challenge in achieving equilibrated knowledge systems lies in the framing of the development question. Most development experts and organisations overtime has rendered technical, issues of development intervention. They frame development process as purely technical issues fitted into matrixes to be addressed with technical guidelines. More often, the development agenda has been framed through the lens of the global north as against the unheard voices of the global south. This sets the tone for an analysis of power relations in determining development priorities. This creates boundaries between development experts and the recipient communities. It fails to bring people into focus, it lacks participation of the people and more often it fosters the vested interests of the development experts and their sponsors.

Briggs (2014) observed that by using knowledges rooted firmly in western science and technology, no worthwhile contributions can be made by the inhabitants of local areas, as they have little meaningful to offer, they are left to their own ways, which can only result in further degradation; the voice of the south is to be ignored as it has no worthwhile contributions to make. Advocates of indigenous knowledge believe that indigenous knowledge of the local people resident in specific places can equal or supersede formal western scientific knowledge. Pretty (1994, p.38) observed that the challenge with formal science is the credibility it gives to opinions only when it is defined in scientific language, which may be inadequate for reporting the multiplex and transformational experiences of farmers and other actors in rural development.

Proponents of scientific knowledge argue that indigenous knowledge is place-specific due to its empirical nature. This non transferability over geographic space ensures development is not effectively replicated. They argue that indigenous knowledge is fragmented within communities which makes it difficult to implement. For Briggs (2014, p.129), this fragmented knowledge cuts across factors such as wealth, production priorities, household circumstances etc., which becomes a challenge for indigenous knowledge to be successfully and effectively deployed across a range of rural settings.

Rather than seeing localized knowledges as offering potential challenges to formal approaches, there is an expectation that there exists a simple process of addition of a variety of knowledges to produce a better way of knowing. This may be a valuable end in itself, particularly when marginalized peoples can adopt and adapt those knowledge sets which fit their situation, but this approach can be naive of political power relations which ensure that never can all knowledges sit equally together. The exigencies of each situation mean that certain views and voices will be heard much more clearly. (Briggs & Sharp, 2004, p.8)

In development theory, the replication of scientific and indigenous knowledge as binaries was captured by Watson (2012, p.193) when she observed that “the home/field” ontology can reproduce the subject/object divide which pivots on the presence or absence of emotions and emotional expression. It is an ontology that also historically (necessarily) posits indigenous

peoples' knowledges as "emotional" and thus "biased" in their representations of their homelands, and it is therefore an ontology that permits the continued subjugation of indigenous knowledges as "subjective", while social and natural scientific knowledge about these same landscapes remains understood as "objective".

I argue for an equilibrated knowledge system that appropriates the methodologies inherent in both approaches. The scientific approach used by most Organizations had been rendered technical universally in its application prior to 1998, before the recognition and adoption of indigenous knowledge processes in the intervention programs by organizations like the World Bank. The indigenous knowledge system is relative and space-bound such that it is unverifiable scientifically. It raises validity questions. The equilibration of knowledge systems would achieve the real aim of development to the people living in poverty without the undue focus on the "science" behind development. The development interventions would achieve much more if indigenous knowledge is adopted as a frame of reference, a source and fundamental knowledge system in the assistance rendered to the poor. The case for replicability in development practice using defined development tools assumes that all indigenous cultures are the same and will produce same development outcomes across geographies, local-level processes, and cultures.

Almost all the development actors have now recognized the value of participatory approaches in decision making for sustainable development. Indigenous knowledge provides the basis for grassroots decision-making. It is recently found that the indigenous knowledge of ecological zones, natural resources, agriculture, aquaculture, forest, and game management is far more sophisticated than previously assumed (Posey, 1995). Furthermore, this knowledge offers new models for development that are both ecologically and socially sound. Therefore, it is a well-known fact that development activities that work with and through indigenous knowledge have several important advantages over projects that operate outside them (Senanayake, 2006, p.90).

Though the work on indigenous knowledges can lead to an impression that every situation is unique, and that each development struggle is entirely localized and specific, if indigenous knowledges are to be genuinely brought into conversation with Western notions of development, this does have to be a true exchange and cannot be a simple case of incorporation. Western science as a knowledge must be open to change, however difficult this might be (Briggs & Sharp, 2004, p.10)

I observe that indigenous knowledge is as good as western scientific knowledge. It is a competing knowledge system and not a complementary knowledge system, it is not an addition, but a fundamental source and knowledge itself that would make a serious difference in the development process.

Conclusion

Certain factors constitute challenges to the realization of equilibrated knowledge systems for sustainable development. The first has been identified as the lack of positioning of indigenous knowledge as a global knowledge system for development by the World Bank. This goes beyond recognition of indigenous knowledge development but depends solely on its adaptation side by side, formal science. The people must claim ownership to development interventions. It is beyond the 'invitation', but 'claims' spaces of participation. Secondly, the World Bank and other development institutions and actors must take into cognizance the framing of the development question. The development agenda should be framed collaboratively to

accommodate the development priorities of the global south. This way, development schemes would not look strange to the people it is intended to help. More importantly, it would be embraced as a shared vision, which is a pre-requisite for ensuring its sustainability.

Some examples of well-designed equilibrated programs have been captured as they demonstrate that both knowledge systems can lead to sustainable development if properly harnessed and deployed. It is also a testament that the rural poor are ready to embrace new thinking provided it improves their livelihoods. In this sense, Briggs (2005) would christen this equilibration as ‘‘local mediated knowledges’’. Indigenous knowledge then is a significant resource which could contribute to the increased efficiency, effectiveness, and sustainability of the development process. (Gorjestani, 2000 p.1) The adoption of a synthesis of indigenous and scientific knowledge is a very important issue to consider, as one knowledge system may be used to fill in the gaps of the other, creating in this way what Thompson (2011) defines as ‘‘new pluralist paradigms’’ leading to a more sustainable way of living (Agrawal, 1995).

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