

BRIDGING RESEARCH AND POLICY ON EDUCATION, TRAINING AND THEIR ENABLING ENVIRONMENTS

Kenneth King, Rob Palmer and Rachel Hayman, University of Edinburgh

Background on influential research and its translation to policy

For nearly 25 years within the World Bank, and increasingly within other multilateral and bilateral agencies, and international NGOs, education - and particularly primary education - has been held to have a powerful relationship with many other development outcomes, and, through these, with the reduction of poverty more generally. This workshop focuses on the question of whether education needs to be embedded in a wider environment of a particular kind - for its social and economic impact to be fully realised. As a first illustration of this 'environmental impact', it will explore the research origins of one of the most well-known policy claims in the whole sphere of international education and training - that four years of education increases agricultural productivity. We will use this as just one example of how a research finding has been translated into and used in policy documents over the past 25 years. In doing so, we hope to be able to demonstrate some aspects of the modalities of translating research into policy, as well as advancing the discussion of how primary education interacts with its wider environments. In respect of this inter-relationship, we will examine two dimensions: how primary education is intimately affected by its own post-primary education and training environment; and how the education system as a whole, including particularly primary education, is affected by the wider economic and social environment. We preface these two perspectives by a commentary on one of the most famous illustrations in the policy research literature of how education has a dynamic relationship with the surrounding context and environment.

The transfer of the original research, by Lockheed, Jamison and Lau in 1980 on farmer education and productivity, into a whole series of policy documents provides a dramatic case of how research evidence can be used. It shows how research can sometimes, however carefully it is executed, be stripped of caveats and context as it transfers into policy. This has resulted in the misrepresentation of the research findings in many of the subsequent policy documents. The Lockheed et al (1980) research finding, that four years of education have a beneficial impact on agricultural productivity, found its way very rapidly into both education and development policy and has continued there, in a very wide range of policy documentation right up to the present day.¹ Versions of this finding - that four years of education increases agricultural productivity - are quoted, for example, in the World Bank's educational policy papers including those from 1980, 1988, 1990, 1995 and 2001; in the *World Development Report* (WDR) of 1980; very recently in the UNESCO *EFA Global Monitoring Report* of 2002 and 2003; in the 2002 ILO volume from the 91st session of the International Labour Conference; and in bilateral development agencies, such as DFID/ODA and IDRC.

¹ The speed of transfer of research to policy can of course be facilitated by the research being carried out in-house, in policy-making bodies, and also by its addressing themes that are already becoming salient on the policy agenda.

Three recent examples include:

According to the World Bank, primary education is the single largest contributor to growth in developing countries. A farmer with four years' schooling is much more productive than one who has no education. (ILO 2002: 4)

Many studies have shown that schooling improves productivity in rural and urban self-employment. Early evidence suggested that four years schooling was a critical period. (UNESCO: 2002: 34)²

The suggested direction for policy development in primary education is premised on the critical role that this level of schooling plays in a country's economic and social transformation. Even in **traditional** agriculture, studies have shown that in most developing country contexts this modicum of schooling substantially boosts farmer's productivity [see, for example, Lockheed, Jamison, and Lau 1980; Foster and Rosenzweig 1996] (World Bank (2003: 175. emphasis added)

But these are really misquotations; the original research by Lockheed, Jamison and Lau (1980) said education makes a difference to farm productivity of about 10% in **a modernising environment**.³ Education makes virtually no difference to farm productivity, the researchers argued, **if the environment is non-modern** [where agriculture is traditional and where there are no new methods and new crops being tried out] (Lockheed et al 1980a;1980b). If the above research is used for policy without a reference to the crucial importance of context or environment, there is a danger of misleading the reader. In other words, if the education is to make a difference to agricultural productivity, this particular research asserted, certain other things needed to be in place in the surrounding environment.

Although, as we show in detail elsewhere (King and Palmer 2004) this core message of Lockheed and others' research has often been misrepresented or oversimplified, as it was taken up and translated into policy by the World Bank, other development agencies, and NGOs, and as it became accepted in the academic literature, it nevertheless made an important contribution to understanding the role and impact of education in relation to its surrounding contexts.

This is something that is perhaps very obvious but which had been missing in much of the long-running debate about the rates of return to education at different levels (see for example Psacharopoulos, 1973; 1980; 1994; Psacharopoulos and Patrinos, 2002) - that education needs to be embedded in a series of particular contexts or environments if it is to have the powerful effects that are so often claimed for it. There is, arguably, no automatic effect of schooling or training on improved agriculture, on reduced fertility, on later age of marriage, on reduced child mortality, on better health or on entrepreneurship;⁴ certain crucial things need to be present for there to be a virtuous circle of influence from educational investments.

² The UNESCO publication cites the Lockheed et al. (1980) study directly (see UNESCO, 2002: 34, fn 18).

³ Referring to a context where there were 'new crop varieties, innovative planting methods, erosion control, and the availability of capital inputs such as insecticides, fertilizers, and tractors or machines. Some other indicators of [a modern] environment were market-orientated production and exposure to extension services' (Lockheed et al, 1980a: 129; cf. 1980b: 55-56).

⁴ For a discussion about the semi-automatic consequences of investing in primary education, see King (1987).

In our example above, we have illustrated this crucial context from two very different agricultural environments (modern and non-modern), but it might be as possible to argue that the almost equally well-known research-and-policy claim – that each additional year of girls' education has a measurable impact on reduced fertility (Cochrane 1979) – is also dependent on an enabling environment. By contrast with this prevailing wisdom which is now an accepted and long-standing policy research finding, the Millennium Project's Interim Report on Primary Education discusses the importance of egalitarian and inegalitarian environments for women's work and status as key variables which may well have a bearing on whether there really is a translation of years of female education into reduced fertility (Birdsall et al 2004: 60).

Our first research-and-policy questions for this Education Workshop are therefore the following: Has the huge body of policy literature on the benefits of education, especially at the primary level, paid insufficient attention to the enabling environments and contexts which may be essential to the achievement of schooling's full potential?⁵ Also what can we say about the 'translation' process for research that does have a major impact on policy – both from the examples given above but also from other examples that are known to this audience?

We are suggesting, as we said at the outset, that there are two main types of surrounding environment, or 'critical system', that do potentially catalyse the linkage between primary education and the many positive developmental outcomes that are so frequently claimed for the primary cycle of education. One of these is the relationship of primary education to its own wider **education environment**, and the other is an extension of the relationship between education and the wider environment which we have just been examining in the case of agriculture and gender equality. We shall look at these two environments in turn, and note the differing research base for the different policies, as we do so.

1. A 'post-basic education and training environment'

This first environment is **internal** to the education and training system. It would include secondary and tertiary education, and skills development – all of which may well be required to make primary or basic education fully effective. **In other words, post-basic education and training may themselves be a part of the essential enabling environment for basic education.** As compared with the international agency priorities of the last, almost 25 years and more which have focused, especially in Africa, on primary education, particularly because of the salience of the Jomtien and Dakar World Conferences and the Millennium Development Goals, Ministries of Education and Skills Development in Africa **need to plan for holistic systems of education** which integrate secondary education, technical and vocational education, and tertiary education into a coherent entity. Research evidence and experience would suggest that the achievement of the Millennium Goals for primary education will not be possible unless very

⁵ For an excellent summary of 'education and other development goals' see EFA Global Monitoring Report 2002 (UNESCO, 2002: 33-35). For an illustration from ODA/DFID, see for example the report taken by ODA to Jomtien: 'There is ample literature to show that the acquisition of education has an important bearing on such widely diverse areas of human activity as agricultural production, job mobility, the ability of people to innovate, family size, child health....(ODA 1990: 7).

large numbers of poor parents perceive for their children pathways and opportunities for continuation beyond basic education on the basis of merit.

This importance of planning for education and training **as an integrated sector** has sometimes been lost as the agency pressure to emphasise a particular sub-sector such as non-formal education, diversified secondary schools, technical and vocational provision, or 'high level manpower' has held sway for a time.⁶ Indeed, the research which we have just examined in the first section on farm income and on reduced fertility was not initially presented by its authors as making the case for **primary** education, but within a very short time this research was enrolled as part of the evidence for investing in primary as opposed to secondary and higher education. But even though development agencies have often been responsible for these swings in fashion, they have also been very aware of the powerful and necessary interactions of the different components within the education system. Here – from the World Bank and spanning more than 20 years – are a series of comments on the need to see education as a whole:⁷

Renewed emphasis on the importance of primary education, its high returns relative to secondary and higher education, should not start the pendulum swinging too far in the other direction. High levels of knowledge are necessary for many people who serve the poor, both directly as teachers, health workers and agricultural extension workers, and indirectly as researchers, technicians, managers and administrators.....(World Bank, 1980b: 49)

Primary education cannot expand and economies cannot grow without an education system that trains a large number of students beyond the basic cycle, including graduate students at universities. To be sustainable, education development must be balanced. It must ensure that systems produce students at different levels with qualifications that respond to the demand of the labour market, producing a continuous supply of skilled workers, technicians, professionals, managers, and leaders. (World Bank, 2001: 7)

Even countries far from achieving universal primary education and adult literacy must think about the balanced development of *all* levels of their education system... (World Bank, 2002b: 5, italics in original)

Increasing the provision and coverage of secondary education may have the effect of boosting up completion rates in primary education... [I]nvesting in secondary education may have a direct impact in terms of reaching MDG #2 (Achieving universal primary education). (World Bank, 2004c)

This integrated perspective on education is by no means a perception restricted to the World Bank. At its best, the Sector-wide Approach (SWAP), now increasingly widely accepted by both bilateral and multilateral agencies, is emphasising, at least in name, a similarly comprehensive view on the entire education (or health) sector.⁸

⁶ For the preoccupation of the World Bank and other agencies with particular sub-sectors, see King 1991.

⁷ This of course makes the point that the Bank is not a monolithic organization but often has a range of divergent opinions on the same topic, even within the same division.

⁸ The holistic perspective of sector programme support also facilitates more rational and long-term planning and use of resources (Sida, 2000: 18).

Major international NGOs such as OXFAM are also very aware that, however high a priority the campaigning for universal primary may demand, it has to be tempered by an important acknowledgement: 'It is, of course, true that basic education alone is insufficient to equip countries and people with the flexible learning skills essential for success in the new economy.' (Watkins, 2000: 51).

Equally, there is a strong view, even from the Millennium Project of the United Nations itself, that a world campaign that is restricted to the achievement of primary education may, on its own, fall short of what is needed for a successful outcome:

While the Millennium Development Goal to which world leaders have subscribed focuses on primary education, it is likely that this is insufficiently ambitious to generate the hoped-for benefits. ...The evidence presented here focuses attention on the crucial role of continuing education past the primary level to gain and secure returns in many different areas. (Birdsall et al., 2004: 17)

There is a similar danger of narrowness in the planning of skills development, particularly in Africa. Because the growth sector of the economy has, in the last 10-15 years, been the informal sector, planning has begun to focus too much on skills for self-employment and micro-enterprise development, and not sufficiently on the many different skill levels needed for the growth of the wider economy (World Bank. 2004a). We need to look carefully at the evidence that skills development provision, at several different levels, does translate into growth and poverty reduction (ILO 2004).⁹

Of course, the suggestion that education at the primary level (or skills for self-employment) cannot be successfully planned for in isolation from further education and training opportunities may seem so obvious as not to need restating. But the sheer number of books, policy papers, and campaigning documents dedicated to the pursuit and achievement of primary education as a goal or an achievement **on its own** is such that some serious attention does need to be paid to **seeing the education and training system as a whole**, and particularly the dynamic character of the interactions amongst the different sub-sectors.

Nothing in this critique of the recent agency preoccupation with primary education as a goal in its own right should be read without a sense of history. Just 15 years ago, only some 4% to 7% of total aid to education in Africa was going to primary education from bilaterals¹⁰ and multilaterals respectively; so there was an urgent need for redistribution of aid priorities to education (World Bank 1988: 103). Nevertheless, by the time of the World Conference in Jomtien, and reinforced by subsequent world fora, conferences and publications, **'Education for All' had come to mean just primary education.** *Educating all the Children* (Colclough & Lewin, 1993, and *Education Now* (Oxfam, 1998) or *Education for All: Is the World on Track?* (UNESCO, 2002) referred to just one segment of education. A necessary campaigning strategy, maybe; but these titles did mark a sea-change from 2 years earlier – when, for example, *Education in Sub-Saharan Africa* (World Bank, 1988) and *Into the nineties: an education policy*

⁹ ILO have carried out some initial survey work on Skills & Poverty Reduction, and are actively planning more detailed collaborative work on this area.

¹⁰ Swedish SIDA was a notable exception at the time with some 30% going to primary education in Africa.

for British aid (ODA, February 1990) had covered the whole spectrum of education. The contrast in the late 90s and early 2000s is that for several agencies, the only easily accessible policy text on education is on primary education (e.g. Sida, 2001; DFID, 2001).

In connection with this focus on the education MDGs and primary education, there has been much justifiable criticism of the pursuit of narrow educational targeting (Jansen, 2003). Targets focus attention too sharply on quantitative dimensions of education; and they run the risk of making integrated and coherent national planning of education very difficult, and especially in economically weak states with substantial aid dependency; and they may skew both national and international thinking and comparisons about educational achievements (King, 2004).

In approaching the appropriate policies for the relationships between basic and the wider environment of post-basic education, we find that there is not the same quantity of research that we were examining in the first part of this briefing paper. There is, in fact, a distinct lack of the kind of research, for secondary and tertiary levels, that we had found for investing in primary education. Instead, there is commonsensical, experiential and historical analysis of the impact of post-basic levels of education upon the first cycle. These concern a whole series of critical dimensions of primary – and not least the retention of children, aspirations for continuation, the maintenance of quality, and much else – which are dependent on there being strong secondary, vocational and tertiary levels of education and training.

We could argue, following the contrast made by Lockheed et al. in their research, that it might be compelling to apply this same distinction they used between dynamic and non-dynamic environments to the school system itself. We have just been arguing for the critical importance to basic education of the other elements of the education and training system. But the same reasoning could be applied to education as in that much earlier research was applied to agriculture. In other words, if the other parts of the educational environment are 'modernising' and dynamic, there will be a positive impact on what is learnt in primary schools, but if the surrounding further education environment is not dynamic, but is characterised by low quality and little attention to avenues for merit, then it could well be that what is done in primary school does not have the many benefits so often claimed for it.

A next set of Research-and-Policy Questions for our Education Workshop are: In what ways may further, post-basic levels of education and skills development influence and impact upon the primary education cycle? In what sense may the synergy with post-basic education and training be critical for the achievement of the Millennium Goals in education? And on the specific relationship between research and policy, is the research base for the policy investment in primary education rather different from that which argues for education as a holistic, integrated, and interactive system?

2. Education and the wider non-educational environment that is outside the education system itself

We shall not need to elaborate very much further on this, since it was precisely this relationship with which we were concerned in the initial part of this brief paper. We had showed then how

the careful research of Lockheed and others got transferred into generalisations and claims about education that frequently lacked the necessary qualifications about the key role of the enabling environment. There was also a suggestion, from the Millennium Project Task Force on Education, that for the many claimed benefits of girls' education to be effective, a positive and egalitarian environment in respect of women's work and status is necessary.

More generally, however, the research about the relationship between education and social and economic change is multi-faceted and may often appear to produce complex findings. We shall attempt briefly to tease these out, but we shall start by presenting the very strong policy position that education investment is very powerfully supported when there are changes in the other key sectors of the wider economy.

A crucial element of the original research by Lockheed et al in 1980 was, of course, their evidence about the vitally important role played by the modernising or the traditional (non-dynamic) environment in determining whether four years of education did make any difference to farm incomes. Although this study, following Schultz, was one of several attempts seriously to examine the connections between education and farmer productivity, a view that there needed to be certain conditions in place in the surrounding environment for education to have an impact has been central to much Bank thinking for a long time.

For the Bank, two of the most essential, and commonly mentioned, critical systems, which are not themselves part of the education system, are a strong macroeconomic environment and a strong political commitment. The need to have a strong macroeconomic environment in place that promotes a rapidly growing economy – and growth that creates employment is crucial. Stagnant growth, or growth without job creation would be disabling to educational outcomes. Strong political commitment and good governance are also crucial. But there are many other critical, enabling systems mentioned in Bank documents. They would include: a strategic policy framework; a need to balance quality/quantity; a focus on equity; adequate financing; data to guide policy; partnerships with community, donors, countries etc; cultural and contextual factors; enforceable contracts in relation to property rights; access to capital and to microfinance; infrastructure and ports; and access to technology.

With most of these environmental factors, there has not been an attempt, as there was with education and farmer productivity, to demonstrate, by research, the differential impact of different kinds of enabling or disabling systems; indeed it would be very difficult to do so.

However, **seeing investment in education as part of a wider multi-dimensional approach to development** has been a consistent thread in Bank documentation about the role of education. Thus, the 1980 *Education Sector Policy Paper* of the World Bank places a limitation on the effects that education alone can have, and emphasizes this multi-dimensional approach.

What education can do, however, is constrained by, among other things, the prevailing economic order, political power, and social structure. Education is certainly most effective in settings in which several interrelated policies and programs fostering social and economic improvement are simultaneously at work... One must think of education, therefore, not only as a "sector" of development – parallel, for example, to agriculture or industry – but as a pervasive element that

must be integrated – horizontally and vertically – into all development efforts. (World Bank, 1980a: 14)

Later World Bank policy papers in education and training, in 1988, 1995, 1999, 2004a and 2004b all tell a similar story.

Education cannot, in itself, bring about economic growth... Education accelerates the growth process; [but]... is an essential complement to other factors. (World Bank, 1988: 21)

Education contributes to economic growth, but by itself it will not generate growth. The strongest growth comes about when investment in both human and physical capital takes place in economies with competitive markets for goods and factors of production. Such markets are the product of macroeconomic stability, well-functioning labour markets, and an openness to international trade and flows of technology. (World Bank, 1995: 19-20)

A good education system is a necessary but insufficient condition for development, and its benefits are strongest when crucial other areas of public policy are equally well managed. In particular, macroeconomic policies, political processes, regulatory practices, the enabling environment for business development, public participatory processes, and labour market processes need to be sound. To be effective, education planning and implementation in turn need to take into account the social, cultural, religious, economic and political context in which they take place. (World Bank, 1999: 5)

Attention has been focused in this review on issues in skills development, but it should not be forgotten that the demand for labour and skills is derived from sound macroeconomic policies that promote investment and job creation. Training alone does not create jobs. The stagnation of wage employment in Sub-Saharan Africa...along with the region's dependence on the informal economy for job creation, emphasises the priority for getting the macroeconomic conditions right. (World Bank 2004a: 177-8)

Indeed the Concept Note for what will be the next World Bank *Education Sector Strategy Update* (ESSU) again emphasizes these inter-sectoral linkages. In Latin America, it describes the absolutely crucial links between education policy, technology policy and economic development. It also argues for the importance of

Links between education goals and supporting conditions in other sectors including the interdependence between education objectives and progress for HIV/AIDS treatment, immunisation, water supply, and rural transport. (World Bank, 2004c: 5)

Finally, it argues for exactly the inter-relationships which we have been discussing, in the following very strong terms:

Integration with other sectors is also crucial, in particular to advance achievement of the education MDGs as well as other MDGs. Key cross-sector synergies would need to be developed with health, water and sanitation, infrastructure, and agriculture sectors, for example, ... (World Bank, 2004c: 6)

Apart from these education policy papers where the larger, enabling environments are underlined, the World Bank has also produced a guide for developing the education policy

component of a Poverty Reduction Strategy Paper (World Bank, 2002b). In it, the Bank notes that the impacts of education

are strongest where education is integrated into a broader competitiveness strategy that includes macroeconomic stability, trade openness, incentives for foreign investment, competitive telecommunications pricing, and adequate infrastructure investments. (World Bank, 2002b: 4)

Another recent World Bank publication, *Achieving the Millennium Development Goals The Role of Infrastructure* (Leipziger et al, 2003), notes:

that achieving the health and education MDGs will require more than health and education interventions. In particular, infrastructure services have an important role to play, and a failure to recognize this in planning MDG strategies will risk undermining success. (Leipziger et al, 2003: 13)

In recent ILO research, *Learning and training for work in the knowledge society* (ILO, 2002), there are some very suggestive ideas that resonate with those of the World Bank. Thus, there are sections on 'Investment in human resources development and training: the necessary economic, social and institutional environment'. The ILO is clear that supply-side measures such as the provision of education and training are fundamental, but, on their own, are insufficient to meet the new challenges of a move towards a knowledge- and skills-based society. They need rather to be an integral part of active economic, labour market and social policies (ILO, 2002: 16).

In research terms, what is intriguing about the case for integrating education with change in other sectors is that, like the case for the necessary interaction of primary with post-primary education, **the policy is not research-based**. Unlike the powerful investment case for primary education, much of which was dependent on research by economists in the early 1980s, **the argument for the essential integration of education with parallel changes in the surrounding sectors seems more to be based on commonsense and on experience**. This is not to deny the vast literature on how class, the socio-economic status of families and political power affect the outcomes of schooling. Nor is it to deny that one of the best known pieces of academic research on this inter-relationship between school and the wider economy, by Philip Foster (1965), argues that it is the wider economy and labour market that determine the aspirations of pupils towards work, not the school curriculum. The reality is, we have suggested, probably more complex.

It is probably not just a question of there being more or less influence of education depending on modernising/stagnant or egalitarian/non-egalitarian environments or of education aspirations being determined by external factors – all of which are one-way relationships. More likely, education may itself play a part in whether an environment is ready to absorb change or is open to new technology. Intriguingly, Marlaine Lockheed, the lead author of the 1980 study on education and farmer productivity, is also the main author of a book on *Primary education in India* (World Bank 1997). Here she goes much further than her earlier research on schooling in two different environments. Rather, she makes the case that the very diffusion of schooling to the mass of the population will itself be part of the reason that changes in farmer productivity will be adopted:

where the schooling of the farm population has not reached a certain threshold, the potential benefits of technical change in agriculture will not be fully realised (World Bank 1997, 35)

In other words, the relationship between schooling and the wider environment is not a one-way street, where schooling will have an impact provided the wider environment has certain characteristics. More accurately, there is probably a two-way influence where the very provision of mass schooling will itself play a role in determining whether the environment is enabling or not.¹¹

We would argue that there is very little research which looks at both sides of this relationship. Little research in the donor community, and much less in national governments that are the recipients of aid. But for agencies committed to pro-poor growth, and to the delivery of the Millennium Development Goals, it is clearly important for them to have a view on what conditions are necessary for successful support, for example, to the Education MDGs to be undertaken. Our paper has argued that the process of assisting a country to reach the Education MDGs [universal primary education and gender equity] may well require an understanding of two other enabling environments – that of the education and training system itself, and especially the dynamic interaction of primary with post-primary provision, - and also the interaction of education as a whole with change in the larger economy. The policy of single-mindedly targeting one sub-sector, such as primary education, in order to reach these education goals may well be inadvisable.

In our preliminary examination of these complex relationships, we have noted, also, some of the ways in which research has played a role in policy formation. Through our studies of particular research, we have seen the way that research results have been oversimplified and over-generalised. We could have taken further the case that Lockheed and others' research, which was originally dedicated to better understanding education and economic growth, became rapidly part of a larger argument about the priority for investing in primary education – and, by extension, not focusing on secondary and tertiary education. But we have also suggested that other policy positions, for example, for pursuing holistic approaches to the education sector, are much less research-based, but are driven also by commonsense and by experience.

This brings us to a last set of policy-and-research questions for this Workshop. When we are examining a particular policy position, as it emerges, such as the role of post-basic education in poverty reduction, or the position that “‘Education for All’ is development” (UNESCO 2002: 29), or that education needs to be understood within its enabling environments, we shall need to be aware that research is only one of several strands that may support policy. We have certainly noted the power and long-standing influence of particular quantitative research results – and we could have examined others such as the rate of return research. But we need to note, in concluding, that a substantial part of a key policy position on education may be driven by the

¹¹ Tilak (1993: 191) argues that ‘The relationship between education and agricultural development is also not one way. Agricultural development increases farm incomes, and this might increase the educational levels of the population.

perception of education as a human right, or by the argument that education is a crucial human capability.¹²

What are the synergies and interactive influences between change in the education sector as a whole and change in the wider economy? Can an Education MDG be successfully targeted on its own? What is the character of the one-way or two-way influences between education and its surrounding environment? And in respect of the research-policy interface, to what extent should we expect policies to be research-based? Should we not anticipate that education policies of the kind we have been discussing here will be as much driven by human rights agendas and political expediency, as by research evidence?

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¹² In the important first chapter of the Global Monitoring Report of 2002 (29-35), it is intriguing to note that of the three types of argument used to support Education for All, education as a human right, and education as an essential human capability have little research referred to in their support; by contrast, education and other development goals has a considerable apparatus of research findings.

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