



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

SOCIAL ECONOMICS, POLICY AND DEVELOPMENT

Working Paper No. 42

**Education's Role in Economic Development
and in Assisting the Poor**

by

Clem Tisdell

May 2005



THE UNIVERSITY OF QUEENSLAND

ISSN 1442-8563
SOCIAL ECONOMICS, POLICY AND DEVELOPMENT
(Working Paper)

Working Paper No. 42

**Education's Role in Economic Development
and in Assisting the Poor^{*}**

by

Clem Tisdell[†]

May 2005

© All rights reserved

^{*} A contribution to a Felicitation Volume in honour of Professor Raj Kumar Sen being edited by Professor S.C. Srivastava

[†] School of Economics, University of Queensland, Brisbane, QLD 4072, Australia.
Email: c.tisdell@economics.uq.edu.au

WORKING PAPERS IN THE SERIES, *Social Economics, Policy and Development* are published by School of Economics, University of Queensland, 4072, Australia. They are designed to provide an initial outlet for papers resulting from research funded by the Australian Research Council in relation to the project 'Asset Poor Women in Development',

Chief Investigator: C.A. Tisdell and Partner Investigators: Associate Professor K.C. Roy and Associate Professor S. Harrison. However this series will also provide an outlet for papers on related topics. Views expressed in these working papers are those of their authors and not necessarily of any of the organisations associated with the Project. They should not be reproduced in whole or in part without the written permission of the Project Leader. It is planned to publish contributions to this series over the next few years.

For more information: write to Professor Clem Tisdell, School of Economics, University of Queensland, Brisbane 4072, Australia.
Email: c.tisdell@economics.uq.edu.au)

EDUCATION'S ROLE IN ECONOMIC DEVELOPMENT AND IN ASSISTING THE POOR

Abstract

Much faith has been put in the increased supply of education as a means to promote national economic development and as a way to assist the poor and the disadvantaged. However, the benefits that nations can obtain by increasing the level of education of their workforce depends on the availability of other forms of capital to complement the use of its educated workforce in production. Generally, less developed nations are lacking in complementary capital compared to more developed ones and it is appropriate for less developed countries to spend relatively less on education. The contribution of education to economic growth depends on a nation's stage of economic development. It is only when a nation becomes relatively developed that education becomes a major contributor to economic growth. It is possible for less developed nations to retard their economic growth by favouring investment in educational capital rather than other forms of capital.

Easy access to education is often portrayed as a powerful force for assisting the poor and the disadvantaged. Several reasons are given here as to why it may not be so effective in assisting the poor and in promoting greater income equality even though the aim is a worthy one. Also, an economic argument is presented in favour of special education for the physically and mentally handicapped.

This paper is not intended to belittle the contribution of education to economic development nor to devalue the ideal of making basic education available to all. Instead, it is intended as an antidote to inflated claims about the ability of greater investment in education to promote economic growth and about the ability of more widespread access to education to reduce poverty and decrease income inequality.

EDUCATION'S ROLE IN ECONOMIC DEVELOPMENT AND IN ASSISTING THE POOR

1. Introduction

Considerable faith has been put in the provision of education as a means for promoting national economic development and for assisting the poor and the disadvantaged. Very often, however, the enthusiastic support for education as a means to achieve these ends has not been matched with adequate consideration of the limitations involved in using education as a policy instrument for these purposes. The aim of this article is to consider some of these limitations in order to provide a more realistic perspective on educational policies. It is not intended to belittle the significance of education as a contributor to economic development nor to detract from the social desirability of widespread access to education. Rather, the purpose of this article is to demonstrate that this subject needs to be viewed in a more realistic and critical manner.

The article is developed by first considering relationships between levels of investment in national education and the economic development of a country. It is suggested that not all countries are in a position to achieve a high return on investment in education, that the economic value of investing in education depends on the stage of a country's economic development and on the availability of factors of production able to complement a well-educated workforce, as well as market access. The second matter considered is to what extent increased education of the poor and the disadvantaged is likely to improve their economic lot, reduce income inequality, and be economically beneficial in aggregate. This article ends with some general observations derived from the analysis.

2. Human Educational Capital and Economic Development

Investment in education is often regarded primarily as a contributor to human capital (Weisbrod, 1962). As a form of capital, education is treated as a produced means of further production capable of providing both social and economic returns. However, some authors stress other features of educational systems such as their role in sorting the economically more able from the less able for the performance of different types of economic activities (Tisdell, 1982, Ch.14). Looked at from this point of view, educational systems perform both a sorting role and a signalling role, and may exhibit different degrees of efficiency in discharging these roles (Spence, 1974; Riley, 1979; Weiss, 1988; Varian, 1996, Ch.35).

Thirdly, some writers consider that the main role performed by educational systems is to reinforce existing class divisions. Other writers see educational systems as prime providers of social or cultural capital. It is probably true that educational systems do in fact perform these multiple roles. However, it is their contribution to human capital that is the focus of attention here.

2.1 Balance between educational capital and other capital

In considering the contribution that investment in education is likely to make to economic growth, it is important to remember that an educated workforce is not the only factor involved in economic growth. The basic theory of economic production indicates that the productivity of human capital will depend on how much other capital (man-made and natural) is available to complement it.

The productivity of educational capital is likely to be quite low if the amount of other capital available to complement it in production is relatively small and/or it has an unfavourable composition, for example, if there is little physical capital available but much natural capital. This suggests that nations with a low level of physical capital may find it unproductive to undertake considerable investment in education. The level of educational capital needs to be appropriately adjusted to the level of other available capital stock to ensure maximum production from resource use.

This can be illustrated by Figure 1. There, the curve *ABCE* is assumed to represent the long-term possibilities available to a nation for trading off human educational capital and other capital. The curves marked Q_0Q_0 and Q_1Q_1 represent isoquants for the nation's production. Therefore, this nation maximises its production potential by aiming for the combination of types of capital corresponding to point *C*. If it aims for a higher intensity of educational capital than that corresponding to point *C*, say the combination corresponding to point *B*, this is uneconomic. There is an over-emphasis on education as a means to raise production. Similarly, if the capital combination corresponding to *D* should be selected, there is an under-emphasis on using education to promote economic production.

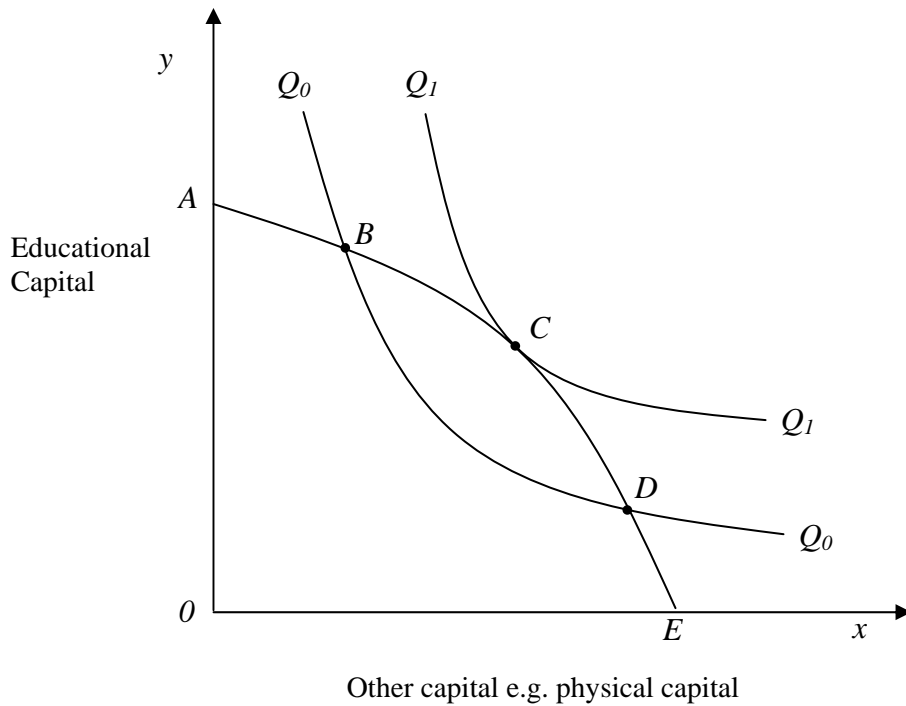


Figure 1: A nation needs to strike an appropriate balance between its creation of education capital and its other capital, e.g. physical capital

2.2 *Relative economic benefit from investing in education varies with the stage of a nation's development.*

As a nation develops and its capital-possibility frontier of the type illustrated in Figure 1 moves upward, the most productive ratio of its educational capital to its other capital can be expected to rise. Assuming that the relevant type of other capital consists of physical capital, a typical expansion path of this type might increase at an increasing rate as indicated by curve *FGH* in Figure 2. Least developed nations may be located in the neighbourhood of point *F* whereas highly developed nations may be located in the neighbourhood of *H*. The optimal ratio of educational to physical capital is, therefore, much lower for the least developed nations than for the most developed ones.

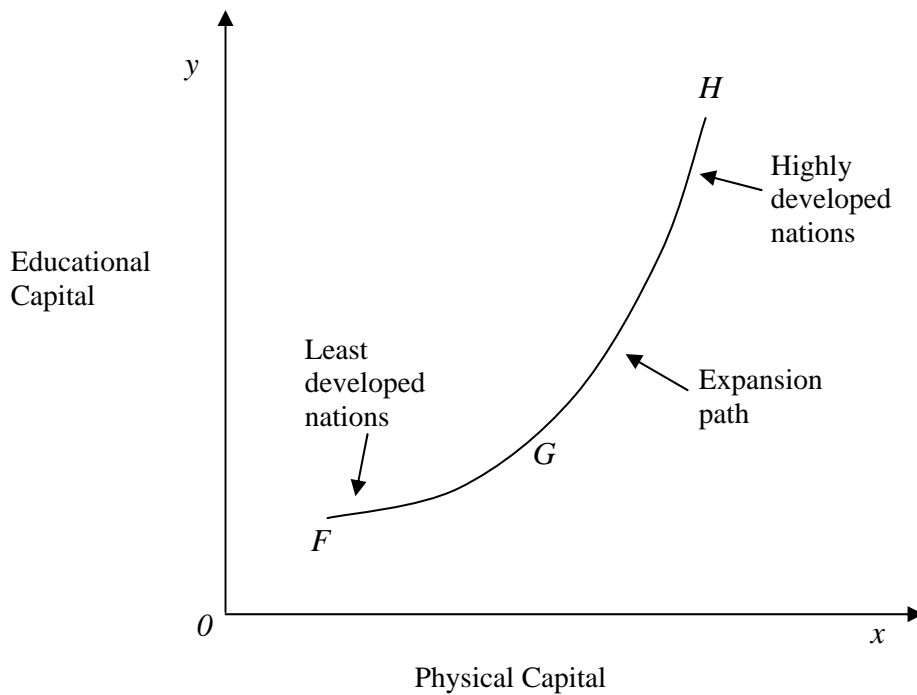


Figure 2: More developed nations are likely to find that it is optimal for them to have a much higher ratio of education capital to physical capital than least developed nations

2.3 Nations face different return functions from investment in education

The above indicates that returns to national investment in education are liable to differ between countries, depending on their stage of economic development. It is also true that some nations will always have low returns on investment in education because they lack the ability to provide sufficient complementary capital to enable highly educated individuals to utilise their higher education adequately. Examples include resource-poor Pacific Island nations, such as Kiribati and Tuvalu. Within a country, examples would include regions that are lacking in adequate resources that are able to complement education. Individuals from such nations and regions can only capitalise on their superior education as a rule by migrating to other nations or regions where resources that complement their education are more abundant. In the international sphere, they are, however, often prevented from migrating by laws that deter immigration. As a result, Kiribati and Tuvalu have concentrated on training seamen to access this international labour market.

2.4 Discussion of the above

Some less developed countries, such as Botswana in Africa, have emphasised investment in education as a means for economic development. This emphasis could, however, be

misplaced. Empirical evidence indicates that in the early stages of growth, increases in physical capital and labour contribute significantly to growth in GDP but in the later stages education and technical progress (the latter may be related to education) become more important (cf. Denison, 1962, p.266).

This suggests that with the economic growth of China and India, increases in their physical capital will become a less important contributor to their economic growth and education a more important component, even though it may take some time before they become as important a contributor to growth as in the USA and Europe. However, the extension of markets via increased globalisation should be economically advantageous to the skilled and highly educated in developing countries. In the case of India, for example, this is increasingly reflected in the global outsourcing of the services associated with information technology to India.

3. Education as a Means of Assisting the Poor and the Disadvantaged

The desire to assist the poor and the disadvantaged by increasing their access to education is a noble endeavour, but it does not always result in success nor in as much success as is hoped for in achieving its goals. There are many economic and social reasons for this, some of which are listed below:

- (1) Even though the children of the poor have access to education, their home conditions may not be conducive to study and learning. This already places them at a disadvantage compared with the children of those who are well off.
- (2) Particularly if children come from rural areas, they are likely to have to migrate to urban areas for higher education or to find employment that provides adequate returns on their education. Migration for higher education or to search for employment involves a cost. Well-off parents are more able to cover this initial cost than parents who are poor (Lipton, 1980; Regmi and Tisdell, 2002).
- (3) In many cases, if individuals are to obtain economic advantage from their higher education qualifications, they need complementary capital. Poor parents cannot usually provide such capital for their children. If educated children stay in their home area, they may have little opportunity to capitalise on superior levels of education because of lack of complementary capital.

- (4) For the poor, investment in education tends to be more risky than for the well-off. Even 'free' education for children usually involves considerable complementary investment by their parents. Thus, risk-aversion may result in the poor children taking less advantage of 'free' education than those from well-off homes.
- (5) If there is social discrimination against the children of the poor in terms of employment, this makes it less attractive to poor families to invest in the education of their children. It results in the expected returns from investment in education being lower for poor families than for richer ones.
- (6) The children of the poor and their families may be relatively ignorant about job opportunities that can become available as a result of more education. This may limit the type of jobs that the children of the poor aspire to compared with children from the homes of the well-off. This will tend to lower the anticipated returns that the poor expect from investment in education. Poor families are, therefore, inclined to invest less in education than well-off families.

The above imply that even with equal 'free' access for all to education, the perceived returns (and in most cases actual returns) from education for the children of the poor are less than for the children of the better-off members of society. Therefore, equal access to free education is not likely to be as powerful a force as is often imagined for alleviating poverty and reducing income inequality.

Considerable inequality in income can be expected to persist because the children of the poor are likely to obtain less education than those of the better-off members of society even when access to education is described as being free. The chances of the children of the poor becoming skilled or highly educated are less than for the children of the better-off members of society for the reasons given above. In recent times, with growing economic globalisation and economic liberalism, income inequality has become more closely associated with inequality in skills as indicated by differences in educational qualification (Wood, 1998; Svizzero and Tisdell, 2003). It is unlikely that relatively free access to education will significantly lower income inequality associated with skill differentials.

This is not to deny that some children of the poor succeed against the odds in gaining education and that this is made easier by systems of 'free' education and educational

scholarships that favour talent. Such educational systems also make social systems less closed than they otherwise would be because they encourage circulation of individuals from different social strata and provide some competition for those belonging to higher strata of society. 'Free' education also upholds, to some extent, the ideal of equal opportunity for those of equal talent.

From society's point of view, there is a strong case for ensuring that all obtain a basic education, including the children of the poor (Tisdell, 1997). Furthermore, education appears to be a strong contributor to self-esteem. It may also facilitate national cohesion and the more efficient use of social and cultural capital. The external economic benefits from ensuring that all have at least a basic education are high.

This raises the point that others, apart from the individuals directly receiving education, often benefit from it. Take, for example, the situation of a physically or mentally handicapped person requiring special education. Such education may not raise their potential to contribute to economic production by much. However, it may make handicapped persons more able to care for themselves. This reduces the burden on carers, lowers the cost of the care for the handicapped, and may increase the opportunity of carers to engage in paid work so that the opportunity costs of caring is reduced. This is not to deny that the life of the handicapped may also be enriched by special education. On the other hand, in most societies, the physically and mentally handicapped belong to the group of the chronically poor and their extra education can rarely eliminate their economic disadvantage.

4. Concluding Comments

Education appears to become an increasingly important contributor to economic growth as a country develops. There is little evidence that in the earliest stages of development that educational capital is a prime mover of economic growth. In fact, least developed nations that place considerable emphasis on education as a potential contributor to economic growth could be foregoing opportunities for economic growth as a result. However, as economic development proceeds, education capital becomes increasingly important as a contributor to economic growth. Therefore, one would expect that if the pace of the economic development of China and India is sustained, that their continuing economic growth will become more heavily dependent on their quantity (and quality) of educational capital.

Furthermore, increasing investment in education seems to be more a consequence of economic growth than an initial prime mover of economic growth. The observation that investment in education tends to rise (in relative terms) with the degree of economic development of nations may have led some less developed nations, such as Botswana, to conclude that education is the cause of economic development. This, however, confuses association with causality.

The scope for using educational policy to reduce the incidence of poverty and compensate for physical and mental handicaps of individuals is limited. This is so even though assisting the children of the poor and disadvantaged with access to education and providing special education to the physically and mentally handicapped are worthy moral objectives. However, care is needed not to harbour false expectations about the extent to which such policies can reduce their incidence of poverty and reduce income inequality in society. One needs, therefore, to be critical of inflated claims, often made by politicians, about the ability of educational systems to overcome poverty and reduce income inequality.

References

- Denison, E.F. (1962) *Sources of Economic Growth and the Alternatives before Us*. Committee for Economic Development, New York.
- Lipton, M. (1980) Migration from rural areas of poor countries: the impact on rural productivity and income distribution. *World Development*, **8**: 1-24.
- Regmi, G. and Tisdell, C. (2002) Remitting behaviour of Nepalese rural-to-urban migrants: implications for theory and policy. *The Journal of Development Studies*, **38**: 76-94.
- Riley, J.G. (1979) Testing the educational screening hypothesis. *Journal of Political Economy*, **87**(Part 2): S227-251.
- Spence, M. (1974) *Market Signaling*. Harvard University Press, Cambridge, Mass.
- Svizzero, S. and Tisdell, C. (2003) Income inequality between skilled individuals. *International Journal of Social Economics*, **30**: 1118-1130.
- Tisdell, C.A. (1982) *Microeconomics of Markets*. John Wiley, New York.
- Tisdell, C.A. (1997) The economics of universal primary education: the balance of investment and yield. Pp.34-43 in J. Lynch, C. Modgil and S. Modgil (eds) *Education and Development: Tradition and Innovation*, Volume I. Cassell, London.
- Varian, H.R. (1996) *Intermediate Economics: A Modern Approach*, 4th edition. W.W. Norton and Company, New York.

- Weisbrod, B.A. (1962) Education and investment in human capital. *Journal of Political Economy*, **70**(5, Part 2): 128-141.
- Weiss, A. (1988) High school graduation, performances and wages. *Journal of Political Economy*, **96**: 785-820.
- Wood, A. (1998) Globalisation and the rise in labour market inequalities. *Economic Journal*, **108**: 1463-1482.

PREVIOUS WORKING PAPERS IN THE SERIES

SOCIAL ECONOMICS, POLICY AND DEVELOPMENT

1. Poverty and Economically Deprived Women and Children: Theories, Emerging Policy Issues and Development”, Clem Tisdell, September 1999.
2. Sen’s Theory of Entitlement and the Deprivation of Females: An assessment with Indian Illustrations by Clem Tisdell, Kartik Roy and Ananda Ghose, September 1999.
3. Gender Inequality, Development and UNDP’s Social Valuation Indices: HDI, GDI and GEM with Particular Reference to India by Clem Tisdell, Kartik Roy and Anand Ghose, September 1999.
4. Asset-Poor Women in India and the Relevance of Amartya Sen’s Analysis by Clem Tisdell, February 2000.
5. Institutional Impediments, Entitlement Exchange and Women’s Empowerment in Rural India: The Case of Access to Education by K. C. Roy, Clem Tisdell and A. Ghose, February 2000.
6. The Socio-Economics of Gender Issues in Rural India: Results of Interviews in Three Villages and a Forest Meeting in Eastern India by Clem Tisdell and Kartik C. Roy, May 2000.
7. The Development of Kiribati: An Analysis of Trends, Issues and Policies by Clem Tisdell, May 2000.
8. The Development of Samoa: An Analysis of Trends, Issues and Policies by Clem Tisdell, May 2000.
9. The Development of the Solomon Islands: An Analysis of Trends, Issues and Policies by Clem Tisdell, May 2000.
10. The Development of Tuvalu: An Analysis of Trends, Issues and Policies by Clem Tisdell, May 2000.
11. The Development of Vanuatu: An Analysis of Trends, Issues and Policies by Clem Tisdell, May 2000.
12. Sustainable Development and Human Resource Capital by Clem Tisdell, May 2000.
13. Gender Inequality in India: Evidence from a Rural Survey in West Bengal by Clem Tisdell, July 2000.
14. Property Rights in Women’s Empowerment in Rural India: A Review by K. C. Roy and C. A. Tisdell, July 2000.
15. Push-and-Pull Migration and Satisficing versus Optimising Migratory Behaviour: A Review and Nepalese Evidence by Clem Tisdell and Gopal Regmi, October 2000.
16. Socioeconomic Determinants of the Intra-family Status of Wives in Rural India: Analysis and Empirical Evidence by Clem Tisdell, Kartik Roy and Gopal Regmi, December 2000.
17. Villagers and the Use and Conservation of Indian Forests: The Role of Joint Forest Management by Clem Tisdell, Kartik Roy and Ananda Ghose, May 2001.
18. Globalisation, Development and Poverty in the Pacific Islands: The Situation of the Least Developed Pacific Island Nations by Clem Tisdell, June 2001.
19. Globalisation, Institutions and Empowerment of Women in Africa: Kenya’s Experience by Tabitha Kiriti, Clem Tisdell and Kartik Roy, June 2001.
20. Female Participation in Decision-Making in Agricultural Households in Kenya: Empirical Findings by Tabitha Kiriti, Clem Tisdell and Kartik Roy, September 2001.
21. Migration of Husbands, Remittances and Agricultural Production: Impacts when Wives Head Households in Rural Kenya by Tabitha Kiriti and Clem Tisdell, November 2001.
22. Summaries of Survey Responses of Household Heads in Three Forest Villages in the Midnapore District of West Bengal, India: Use of Forest Resources by Villagers, Forest Sustainability and Management by Clem Tisdell, Kartik Roy and Ananda Ghose, November 2001.
23. A Report on Socioeconomic Attributes and Gender Inequality in Kondh-Dominated Villages: A Comparative Analysis of Tribals and Non-Tribals in the Phulbani District, Orissa, India, by

- Clem Tisdell, Kartik Roy and Ananda Ghose, March 2002.
24. Economic Theories of the Family and Discrimination in a Social Context: Entitlements of Kondh Tribal Females in India by Clem Tisdell, Kartik Roy and Ananda Ghose, March 2002.
 25. Children and Economic Development: Family Size, Gender Preferences and Human Capital Formation – Theory and Indian Cases by Clem Tisdell, May 2002.
 26. Gender, Marital Status, Farm Size and other Factors Influencing the Extent of Cash Cropping in Kenya: A Case Study by Tabitha Kiriti and Clem Tisdell, May 2002.
 27. Commercialisation of Agriculture in Kenya: Case Study of Urban Bias on Food Availability in Farm Households by Tabitha Kiriti and Clem Tisdell, June 2002.
 28. Prejudice against Female Children: Economics and Cultural Explanations, and India Evidence by Clem Tisdell and Gopal Regmi, September 2002.
 29. Economic Globalisation, Liberalisation and Bangladesh: Poverty, Labour Norms and the Environment by Clem Tisdell, November 2002.
 30. Rural Poverty and China's Entry to the WTO: Present Knowledge, Unresolved Issues and China's Policy Options by Clem Tisdell, November 2002.
 31. Family Size, Economics and Child Gender Preference: A Case Study in the Nyeri District of Kenya by Tabitha Kiriti and Clem Tisdell, June 2003.
 32. Commercialisation of Agriculture in Kenya: Case Study of Policy Bias and Food Purchases by Farm Households by Tabitha Kiriti and Clem Tisdell, June 2003.
 33. The Relationship Between Commercial Agriculture and Food Availability to Kenyan Farm Families: A Case Study by Tabitha Kiriti and Clem Tisdell, June 2003.
 34. Marital Status, Farm Size and other Influences on the Extent of Cash Cropping in Kenya: A Household Case Study by Tabitha Kiriti and Clem Tisdell, June 2003.
 35. Gender Inequality, Poverty and Human Development in Kenya: Main Indicators, Trends and Limitations by Tabitha Kiriti and Clem Tisdell, June 2003.
 36. Fertility and Female Work Force Participation in Bangladesh: Causality and Cointegration by Mohammad Hossain and Clem Tisdell, September 2003.
 37. Closing the Gender Gap in Bangladesh: Inequality in Education, Employment and Earnings, by Mohammad Hossain and Clem Tisdell, October 2003.
 38. Poverty – Dynamic and Sustainability Perspectives: Implications for Welfare and Policy with Reference to India, by Clem Tisdell, October 2003.
 39. Major Demographic Changes in Bangladesh and Their Socio-Economic Correlates: Analysis of Trends, by Mohammad Hossain and Clem Tisdell, December 2003.
 40. Economic, Social and Cultural Influences on the Status and Wellbeing of Indian Rural Wives, Clem Tisdell and Gopal Regmi, January 2004.
 41. Does Workforce Participation Empower Women? Micro-Level Evidence from Urban Bangladesh, Mohammad Hossain and Clem Tisdell, February 2005.