Empowered lives.
Resilient nations.

United Nations Development Programme

POVERTY REDUCTION

HUMAN DEVELOPMENT IMPACT ASSESSMENT OF TRADE POLICY: A Toolkit

Inclusive Growth and Poverty Reduction
UNDP Asia-Pacific Regional Centre

September 2012

HUMAN DEVELOPMENT IMPACT ASSESSMENT OF TRADE POLICY: A Toolkit

UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in 177 countries and territories, we offer global perspective and local insight to help empower lives and build resilient nations.

Published by the Asia-Pacific Regional Centre
United Nations Development Programme
Bangkok
Thailand

ISBN no. 978-974-680-341-0

Front cover photo : Reuters, Yumiko Yamamoto
Design: Inís Communication

Empowered lives.
Resilient nations.

United Nations Development Programme

POVERTY REDUCTION

HUMAN DEVELOPMENT IMPACT ASSESSMENT OF TRADE POLICY: A Toolkit

Inclusive Growth and Poverty Reduction
UNDP Asia-Pacific Regional Centre

September 2012

Table of Contents

List of Tables

List of Boxes

Acknowledgements

This toolkit was authored by Yumiko Yamamoto and Cecilia Oh. The toolkit was prepared based on an unpublished "Resource Book for Human Development Impact Assessment (HDIA) of Trade Policy," written by Cecilia Oh, Yumiko Yamamoto, and Chatrini Weerantunge under the Asia Pacific Trade and Investment initiative (APTII) at the United Nations Development Programme (UNDP) Regional Centre in Colombo in September 2008. The Resource Book drew broadly from an unpublished background study, prepared by Gerald Epstein and Rodney Schmidt for APTII, "*Human Development Impact Assessment: Resource Book",* dated February 2007, and from "Human Development Impact Assessment of Trade Policies," a concept note for programme development on trade and human development issues, prepared by Mumtaz Keklik and Emel Memis for APTII in 2005. The Resource Book also has adapted ideas and elements from existing literature on impact assessment, such as the World Bank's Poverty and Social Impact Analyses, the European Commission's Trade Sustainability Impact Assessment, the United Nations Environment Programme (UNEP)'s tools for the Integrated Assessment of Trade-Related Policies (UNEP 2002), Women's Edge Coalition's *Trade Impact Review* (Gammage et al. 2002), and the Organization for Economic Cooperation and Development (OECD)'s *Promoting Pro-Poor Growth: Practical Guide to Ex-Ante Poverty Impact Assessment* (2007).

Many individuals provided extremely useful comments, suggestions, and inputs during the preparation of the toolkit. We are grateful to Danupon Ariyasajjakorn for providing technical inputs on qualitative analysis. We would like to thank Marzia Fontana for providing invaluable comments on a draft of this publication as a peer reviewer. Comments were also received from Luis Abugattas, Ratnakar Adhikari, Emefa Attigah, Luisa Bernal, Biplove Choudhary, Lisa Borgatti, Maria Laura Di Tommaso, David Galipeau, Murray Gibb, Mumtaz Keklik, Julia Kercher, Colin Kirkpatrick, David Luke, Luciana Mermet, Luca Monge-Rofarello, Manuel F. Montes, Selim Raihan, Massimiliano Riva, Phetsamone Sone, and the participants of the UNDP Technical Consultation on HDIA of Trade Policy (25–26 September 2008) and the HDIA of Trade Policy session in UNDP's Community of Practice Meeting (30 September – 2 October 2009). Inputs on human rights indicators were provided by Diana Alarcon (UNDP), Tuya Altangerel (UNDP), Nicola Brandt (United Nations Children's Fund (UNICEF)), Nicolas Fasel (Office of the High Commissioner for Human Rights), Ellen Funch (UNDP), Raquel Gonzalez (International Trade Union Confederation (ITUC)), Susan Hayter (International Labour Organization (International Labour Organization (ILO)), James Howard (ITUC), Rajat Khosla (Amnesty International), Luz Melo (United Nations Population Fund), Barbara Murray (ILO), Helena Nygren Krug (World Health Organization), Dan Seymour (UNICEF), Olivier De Schutter (UN Special Rapporteur on the right to food), and Bret Thiele (Centre on Housing Rights and Evictions), with coordination support from Julia Kercher and Luciana Mermet. We are thankful for their inputs and comments, which have contributed immensely to enrich the quality of this publication.

An earlier draft of this toolkit became the basis for the UNDP/ United Nations Institute for Training and Research (UNITAR) e-learning course on the HDIA of Trade Policy. Positive feedback on the course contents received by nearly 100 participants of the first course (20 September - 22 October 2010) led to the publication and wider dissemination of the toolkit.

This publication benefited from the editor, John Tessitore.

Abbreviations and acronyms

AAN	ActionAid Nepal
APTII	Asia Pacific Trade and Investment Initiative
ARV	Antiretroviral
ATC	Agreement on Textiles and Clothing
BTA	Bilateral Trade Agreement
CGE	Computable General Equilibrium
CPI	Committee for Planning and Investment
CSO	Civil Society Organization
DFQF	Duty-Free and Quota-Free
DTIS	Diagnostic Trade Integrated Study
EIC	Economic Institute of Cambodia
EPA	Economic Partnership Agreement
EU	European Union
GAMS	General Algebraic Modelling System
GATS	General Agreement on Trade in Services
GDI	Gender Development Index
GDP	Gross Domestic Product
GEM	Gender Empowerment Measure
GTAP	Global Trade Analysis Project
HDI	Human Development Index
HDIA	Human Development Impact Assessment
HDR	Human Development Report
HIV	Human Immunodeficiency Virus
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
IMF	International Monetary Fund
IPR	Intellectual Property Right
ITUC	International Trade Union Confederation
Lao PDR	Lao People's Democratic Republic
LDC	Least Developed Country
MDG	Millennium Development Goal
MFA	Multifibre Arrangement
MIMIC	Multiple Indicators and Multiple Causes
NAB	National Advisory Board
NGO	Non-governmental Organization
NRG	National Reference Group
NSC	National Statistics Centre
OECD	Organization for Economic Cooperation and Development
OHCHR	Office of the High Commissioner for Human Rights
OPHI	Oxford Poverty and Human Development Initiative
PRSP	Poverty Reduction Strategy Papers
RMG	Ready-Made Garment
RTA	Regional Trade Agreement
SAM	Social Accounting Matrix
SAWTEE	South Asia Watch on Trade, Economics, and the Environment
SEM	Structural Equation Model
SPS	Sanitary and Phytosanitary
TOR	Terms of Reference
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNSD	United Nations Statistics Division
US	United States
VAT	Value Added Tax
WTO	World Trade Organization

1. Introduction

This Toolkit for a Human Development Impact Assessment (HDIA) of Trade Policy aims to mainstream human development concerns into domestic policy-making through a participatory approach. Through demonstrating the likely or existing effects of a particular trade policy on people's lives, the HDIA may facilitate a greater understanding among policy-makers of the implications of their decisions while creating awareness of the same among, and support of, Civil Society Organizations (CSOs); and thereby foster greater and more informed debate on those decisions of trade policy.

The concept of HDIA was put forward originally by the 2003 United Nations Development Programme (UNDP) report, *Making Global Trade Work for People*. The report – asserting that trade liberalization can have differential impacts for different countries and for different groups within countries – called for an analysis of current and future implications for human development of the World Trade Organization (WTO) Agreements in various countries. A key message was that an evaluation of the multilateral trade regime should be based on whether it maximizes the possibilities for human development with a particular emphasis on developing countries. It further suggested that a HDIA would permit WTO members to estimate the 'real' implementation costs of current and proposed agreements, which otherwise would remain hidden and invisible in more conventional trade analyses. These HDIA outcomes could also inform future trade negotiations and ensure that trade agreements meet human development standards. The UNDP report, however, did not propose a methodology for the HDIA, save to suggest that the assessment should be conducted in an independent and impartial manner.

1.1 The need for an assessment of the human development impact of trade policy

Although the proposal of the UNDP report has not been taken up in the WTO, it does not preclude individual countries from independently conducting a HDIA of their trade policies. Indeed, for several reasons there is an increasing need for a HDIA of trade policy to be undertaken. In the Asia-Pacific context, the need to understand the impact of trade on human development is illustrated by the remarkable, but unequal, growth in the region. Over the past two decades the region has witnessed the fastest economic growth in the world, with an average annual growth of gross domestic product (GDP) of over 7 percent during the period 1990–2003 (UNDP 2006). The latest figures prior to the financial crisis indicate that in 2007 South Asia posted a GDP growth of 8.6 percent, while South-East Asia grew by 6.4 percent (Asia Development Bank 2009). There is little doubt that trade and financial flows are key underpinnings of much of the economic growth seen in the region. In 1990–2003, trade as a percentage of GDP increased from 45 to 81 percent for East Asia and the Pacific, and from 20 to 34 percent in South Asia (UNDP 2006). Yet the trade-led growth has not led to rapid poverty reduction and human development improvements across the region. Progress in reducing poverty varies widely among the sub-regions. For example, South Asia still accounts for 43 percent of the world's poor; and UNDP (2006) further notes that one of the most disturbing outcomes of the rapid increase in trade in the region is the rise of income inequality. Moreover, more than 20 percent of the South Asian population and 12 percent of the total population in East Asia and the Pacific are undernourished. Nearly 25 percent of East Asia and the Pacific still lack access to improved water access (ibid.).

The Asian experience shows the potential of international trade to facilitate "a two-way virtuous relationship between human development and economic growth," but highlights that a selective and strategic economic integration into the global economy is required to ensure this realization (Malhotra 2008). Given the prominence and prevalence of trade liberalization in the development strategies of virtually all developing countries, there is a demand for a clear assessment of the effects of new trade policies, as well as the strategies needed to ensure the so-called "virtuous relationship" between human development and economic growth.

1.2 An analytical framework

This toolkit, therefore, seeks to operationalize the concept of the HDIA in the context of an analytical framework by which policy-makers, trade officials, researchers, and CSOs in a country may identify the potential impact of a change in trade policy by focusing more directly on the promotion of widely shared human development principles. A methodology is suggested by which such linkages between trade and the relevant aspects of human development can be made, and through which a number of indicators that reflect the trade-related impacts on human development can be identified.

It is acknowledged that this is neither an easy nor exact task, since it is difficult enough to assess the actual impact of trade policy on income and growth. So far, a number of impact assessment tools have been developed to evaluate policy changes, including trade policy changes; however, such tools narrowly focus on economic growth, trade access, or the environment. This toolkit considers the broad range of impacts that these policy changes can have on the array of factors that affect human development or the effects they have on particular groups, such as women, farmers, or rural/ urban populations. The toolkit draws from the various impact analysis methodologies and approaches available, including the World Bank's Poverty and Social Impact Analyses, the European Commission's Trade Sustainability Impact Assessment, the United Nations Environment Programme (UNEP)'s tools for the Integrated Assessment of Trade-Related Policies (UNEP 2002a), Women's Edge Coalition's *Trade Impact Review* (Gammage et al. 2002), and the Organization for Economic Cooperation and Development (OECD)'s *Promoting Pro-Poor Growth: Practical Guide to Ex-Ante Poverty Impact Assessment*.

There is as yet no single methodology for the analysis and assessment of the impact of trade on human development. The interaction between trade and human development is not straightforward. Rather, the relationship is a complex one, and demands an understanding of the intricacies of trade policy and the concept of human development within the specific context of a country, its economy, and its development policy.

The HDIA is intended to assess and determine the human development outcomes of a trade policy change. A HDIA can go further, in that it does not take the trade policy change as an end in itself and, as such, explicitly questions the feasibility of a trade policy from a human development perspective. Hence, the HDIA is not merely an assessment of how trade policy affects key human development variables but also a means to identify measures that can facilitate the positive impacts or ameliorate the negative effects of the change.

1.3 HDIA procedure

The HDIA of trade policy is not merely an analytical tool. The process of conducting HDIA is itself a form of capacity development in that it creates awareness of the linkage between trade and human development. It also encourages national ownership, which is crucial to effectively incorporate the policy recommendations that result from the HDIA into the process of national policy-making.

HDIA promotes a participatory decision-making process in the sense that all of the relevant stakeholders and representatives of the groups most likely to be affected by changes in trade policy are require to be engaged in the discussion of trade policy and its impacts. In many developing countries no reliable statistics at the household and sectoral level are available; hence, the socio-economic status of the affected group is not easily obtained. Their needs for better work and living environments can be gathered in the form of surveys and focus group meetings, if not already available from existing statistics or studies, and incorporated into the HDIA for fostering policy-making discussion. The interactive national forums, such as stakeholder meeting, are also important to validate the HDIA results and discuss the steps towards policy changes.

The role of non-state actors such as Non-governmental Organizations (NGOs), industrial and producer's group, consumers' group, grassroots organizations, women's group, and academia is a key for success in this context. Choudhary et al. (2009), which reviewed the role of the non-state actors in trade negotiations in Asian countries[1], found that the involvement of the non-state actors helped raise the awareness and capacity of various stakeholders through analysis and the simplification of the technical content and language of the trade agreements. It also helped to address possible impacts on the domestic economy.

1 There are three cases reviewed. The Philippine case study presents how the non-state actors such as rice farmers groups, their support NGOs, and people's organizations worked in coordinated matter against liberalization of rice industry with the proposal of lifting the quantitative restrictions and applying tariffs on rice imports. The Nepal case study highlights of an instance of the benefits of the government working together with the NGOs during the process of the WTO accession. The Thai case study documents the activities of the FTA WATCH – an organization comprising academic institutions, grassroots organizations and NGOs with the objective of advocating the civil society concerns from the Thai FTA negotiations.

To some extent the involvement of non-state actors in influencing the trade policy formulation process has been successful. One famous example is the collapse of the 1999 WTO Ministerial Conference in the face of massive public disapproval, which was followed by the introduction of the WTO Doha Development Agenda. However, the involvement of non-state actors in decision-making process is yet to be firmly institutionalized.

Even at the state level, consultation on trade policy and coordination of trade and development goals among different ministries and between ministries and the parliament has not been institutionalized. For example, in the case of the Japan-Philippines Economic Partnership Agreement (EPA), the entry into force had been delayed for two years because some concerns over the environmental and social impact of the trade agreement were raised by the Philippines Senate during the process of ratification. Bernabe (2009) argues that multi-stakeholder consultations with the private sector, academia, and NGOs in the process of policy formulation could have produced a more development-oriented outcome of the EPA, as well as a speedy implementation of the agreement. Therefore, a central coordinating mechanism that can evaluate the competing sectoral interests and priorities and develop a coherent and balanced negotiating agenda and position is considered necessary in developing countries (Choudhary et al. 2009). The HDIA can be the first step towards the establishment of such a mechanism that can embed stakeholder consultation on trade and development within a national development strategy. One challenge that developing countries face is the lack of both financial and human resources in order to institutionalize the HDIA exercises and its monitoring mechanism.

The HDIA of trade policy can be conducted at any stage of the process of policy change or trade negotiation (both *ex-ante* and *ex-post* analysis will be discussed below), and can be conducted as a stand-alone exercise as much as necessary. Examples of this are the UNDP Projects on the HDIA of the expiry of WTO Agreement on Textiles and Clothing (ATC) in Cambodia, Lao People's Democratic Republic (PDR), and Nepal, and the HDIA of the WTO Accession in Mongolia. It can be also conducted as part of the country's Diagnostic Trade Integrated Study (DTIS) under the Enhanced Integrated Framework or of Poverty Reduction Strategy Papers (PRSP) so as to mainstream the human development approach in such integrated studies. For example, Cambodia's 2007 DTIS analyzed the key challenges and opportunities for export development and sustainable human development of 19 products with export potential. The DTIS, with legal and institutional action plan, served as the basis for formulating and implementing the trade policy and trade sector development strategy within the Royal Government of Cambodia.

1.4 Organization of toolkit

This toolkit is the first attempt to outline the key concept of the HDIA of trade policy. The contents of the toolkit will be verified by those users who will implement the HDIA in respective countries, and it is expected that it will be revised in the future as more HDIA case studies and experiences enrich the quality of the guide. Specific examples of the HDIA exercise mentioned in this guide are limited to the cases from Asia, where the HDIA projects were first initiated by UNDP. However, the needs and concept of the HDIA are applicable for countries in other regions as well.

The toolkit is organized as follows: Chapter 2 discusses the inter-linkages between trade and human development, and examines the methodology by which their relationship can be mapped out to enable an analysis of the impact of trade on human development. Chapter 3 discusses the suggested steps and checklist in conducting the HDIA. Chapter 4 summarizes key lessons learned from the experiences of the HDIA in the Asia-Pacific.

The toolkit is intended for people who involve in trade negotiations. They are government officials from Ministry of Commerce and Industry, Ministry of Foreign Affairs, and other relevant Ministries, and development practitioners and researchers who would assist the trade negotiation process in the country by providing technical support. However, it is used to turn information about trade and human development into practical action. Therefore, the toolkit is also intended to enable people and CSOs who wish to bring a human development perspective in trade agreements and policies to apply what is learned to their advocacy and capacity development activities.

2. Developing a conceptual framework for assessing the human development impact of trade policy

In the Preamble to the Marrakesh Agreement,[2] which established the WTO, WTO Members recognized that:

> *their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development ….*

From this Preamble it may be inferred that the role of trade liberalization – for which the WTO has become the principal driver – is to provide a means for the achievement of higher standards of living, full employment, and sustainable development. Therefore, the ultimate aim of trade should be a sustainable and equitable development that brings about overall improvements in human welfare.

2.1 The relationship between trade and human development

Conventional wisdom links trade to human development through economic growth (UNDP 2003). However, while trade can be a powerful source of economic growth, there is no automatic relationship between growth and human development. And while economic growth is a necessary condition for human development by expanding the material base for fulfilling human needs, economic growth alone is insufficient condition for human development. Economic growth that is employment-led and broad-based will raise the average household income and consumption. However, to the extent that human needs are met depends on resource allocations and the creation of opportunities for all segments of the population. Additional income can raise the level of human capabilities if it is spent on such areas as education, improved nutrition, and health care. Furthermore, there will be positive human development outcomes when economic growth and rising incomes contribute to an increase in government spending, and if such spending is directed towards reducing income inequalities, enhancing education and health care systems, and addressing gender inequality. Where rapid economic growth is not properly managed, however, it can result in or further exacerbate income and wealth inequalities across different social categories.

There is growing recognition that greater economic growth alone may not necessarily lead to greater and more broadly shared human development, and that it should rather be regarded as a *means* to achieve developmental and human ends. Indeed, the failure to see that trade and other economic policies are means rather than ends can "crowd-out" policies more likely to achieve significant advances in human development. This is especially true if countries adopt institutions and policies from abroad without first making sure they are conducive to advances in human development at home (Rodrik, 2001). Therefore, well-balanced strategies, incorporating elements of both pro-growth and human development-oriented policies, are required to ensure a mutually-supportive relationship between growth and human development (Ranis and Stewart 2005).

There are empirical evidences that trade liberalization, by itself, might not contribute significantly to human development, especially if these policies are not accompanied by other measures. Harrison (2007), for example, reports on a number of empirical studies that suggest that trade reforms alone cannot reduce poverty and inequality unless it is accompanied by complementary policies, such as improvements in social safety nets and poor farmer's access to credit, technical know-how, and other inputs. Much other work, such as Stiglitz and Charleton (2005), finds similar impacts. Given the prominence and prevalence of trade liberalization in the development strategies of virtually all developing countries, there is a demand for a clear assessment of the effects of trade policies, as well as the strategies needed to ensure the so-called "virtuous relationship" between human development and economic growth.

2 *Marrakesh Agreement Establishing the World Trade Organization* (1994), available at: www.wto.org.

2.2 The scope of trade policies in HDIA

The multilateral trade disciplines of the WTO have made deep inroads into areas previously seen as unconnected to trade. The WTO's jurisdiction now covers the so-called behind the border areas, such as services and Intellectual Property Rights (IPRs), in addition to trade in goods. International trade regulation has extended its reach to production processes and, with this, the attendant consequence of having a more direct impact on the livelihoods and lives of individuals. For example, the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) requires the Member countries to enact a system of protecting plant varieties such as seeds and genetic resources either by patents or by an effective sui generis (meaning of its own kind) system or by any combination thereof (Article 27.3 (b)). Patent is a legal device that award exclusive monopoly rights for creators or innovators. Protection of plant varieties by patent, for example, could prohibit or limit farmer's ability to exchange or re-use seeds. This threatens traditional farming practices, food security, and agro-biodiversity. The similar broadening and deepening of the ambit of regional and bilateral trade arrangements also calls for a systematic assessment of the human development impacts of trade policy carried out by governments to meet their various trade obligations.

Therefore, it should be noted that 'trade policy' in this book does not refer to trade liberalization per se nor traditional trade measure such as tariff rates. The HDIA suggests examining the ensemble of trade policies, including various trade agreements and measures on goods, agriculture, services, investment, IPRs, sanitary and phytosanitary (SPS) measures, rules of origin, safeguard measures, subsidies, and so on, as necessary.

Trade policies at the unilateral, bilateral, and multilateral level can be assessed. If the country is in the process of WTO accession, the HDIA of the WTO agreement would be useful to assist the country's negotiation strategy in line with development goals. A country can also conduct an *ex-post* HDIA of its WTO accession in order to monitor development impacts and to suggest trade, economic, and social policies to meet human development challenges, as required (e.g., Ministry of Foreign Affairs and Trade in Mongolia and UNDP Mongolia 2009). The human development impacts of Bilateral Trade Agreement (BTA) and Regional Trade Agreement (RTA) can likewise be assessed, and assessments by sector (e.g., manufacturing sector such as textiles and clothing or basic service sector such as health) or by negotiation category (e.g., negative or sensitive list[3] in agriculture and investment) can be examined. Unilateral (domestic) trade policies as well as trade-related industrial policy – such as the set-up of an export process zone – can be also examined as part of decision-making process. In this way, the HDIA could lead to a debate over how to maximize the development benefits of new trade policies, minimize the costs of trade liberalization, or estimate the adjustment costs, and thus, make trade policy making more transparent and consultative.

2.3 The concept and indicators of Human Development

Since the first *Human Development Report* was published in 1990, human development has become an important concept in economic policy discussions globally. Based on the "capabilities approach" developed by Nobel Prize-winning economist Amartya Sen, "human development" has come to mean "a widening of choices, an enhancement of freedom and a fulfilment of human rights. Rising incomes and expanding outputs in the Human Development framework are seen as the *means* not the *ends* of development" (Fukuda-Parr and Kumar, 2003, p. xxi). In human development strategies, people are the ultimate end of development (Haq 2003). Hence, people are the centre of the human development analysis.

Human development has two perspectives. One is the formation of human capabilities, which reflects the combinations of functioning – being and doing – in which one sees the value and has reasons to value, for example, improved health, knowledge, and skills (ibid.). The other is the real opportunity to accomplish what one values, whether it is economic, political, social, or cultural, by using these acquired capabilities. The HDIA, therefore, needs not only to assess whether people are the beneficiaries of (trade-led) economic growth but also whether trade reform ensures that people have equitable access to human opportunities so that they become the agents of development:

3 Negative list refers to "a list of items, entities, products and the like to which the agreement will not apply, on the understanding that the agreement applies to everything else" in an international agreement (UNDP 2006, p. xxvii).

Do they participate in economic growth as well as benefit from it?
Do they have full access to the opportunities of expanded trade?
Are their choices enlarged or narrowed by new technologies?
Is economic expansion leading to job-led growth or jobless growth?
Are budgets being balanced without unbalancing the lives of future generations?
Are "free" markets open to all people?
Are we increasing the options only of the present generation or also of the future generations?

-Haq (2003), pp. 20–21.

Unlike gross national product, which focuses primarily on the *quantity* of economic growth, the human development concept is broad and open-ended in order to capture the *quality* and *distribution* of growth and its impact on overall human welfare. Many of the key components of human development – such as health, knowledge, and standard of living – need to be measured against a different yardstick.

Human rights share "a common motivation" (UNDP 2000) with human development and can help refine the yardstick. Human rights standards (e.g. the right to education, the right to work, the right to health) can help us define desired outcomes or impacts – for example by assessing whether three key dimensions of social, cultural and economic rights are being fulfilled: Is work *available* but also *accessible* and of a decent *quality*? In addition, human rights principles (e.g. accountability, participation and non-discrimination) can help ensure a focus on the development process – for example by addressing questions such as: Who is responsible for and involved in decision-making? Who is left out and are there means of remedy for those? Since the "combination of the perspectives of human development and human rights gives us something that neither can provide alone" (UNDP 2000), an effort has been made to integrate the two throughout this tool.

2.3.1 Indicators of human development

The issues of what are the appropriate indicators of human development and how to measure human poverty or development remain an on-going discussion. UNDP's *Human Development Reports* (HDRs) have been using a composite index based on multi-dimensional welfare indicators. This widely-used measurement, the Human Development Index (HDI), captures the average performance of a country along three basic dimensions of human development: a long and healthy life, knowledge, and a decent standard of living. The indicators used to measure these dimensions are life expectancy at birth; education index based on adult literacy rate and the combined primary, secondary, and tertiary education gross enrolment ratio; and adjusted GDP per capita respectively.

It is acknowledged that these three components alone cannot capture the full scope and complexity of human development. Over the years, additional indicators have been created. In1995 gender indices – namely, the Gender Development Index (GDI) and Gender Empowerment Measure (GEM) – have been added to the HDRs. In 1997 the Human Poverty Index, which measures deprivations in the basic dimensions of human development, was added. UNDP (2010) introduced a Gender Inequality Index, which replaced GDI and GEM. Other indicators such as inequality-adjusted HDI and multidimensional poverty index were also introduced. Although it is argued that there are many missing linkages in these indices,[4] "having too many indicators in the index would blur its focus and make it difficult to interpret and use (UNDP 1990, p. 13)."

A set of HDIA indicators will be different for various purposes, given a country's context at the time of the assessment. The HDIA of trade policy does not suggest one predetermined set of indicators to measure human development impacts. Unlike the HDI, the HDIA of trade policy is not intended for cross-country comparison, although this would be possible; nor is the objective of HDIA to develop a composite index.

4 For example, see Ranis et al. (2006) and Oxford Poverty and Human Development Initiative (OPHI) (2008).

Trade policy change is expected to have an impact on various stakeholders through a number of transmission channels: e.g., prices, production/trade volume, budgetary distribution, and legal and regulatory framework. Each trade change is likely to have impacts through more than one such channel. For example, tariff reduction could have direct impacts on price of commodities as well as trade revenues.

While determining causal relationships and channels of influence from trade policy to human development outcomes can present difficult conceptual challenges, it seems plausible to suggest that trade policy impacts can be analysed through their effects on the four essential pillars of human development – namely, productivity, equality, sustainability, and empowerment (Haq 2003). All these four dimensions are interrelated, as you will see below. Ideally, an examination of a set of the indicators would include each of the four components.[5]

2.3.2 Four pillars of human development

A non-exhaustive category of indicators is summarized in Table 2.1. Trade indicators and other relevant data and questionnaires used in literature on the measurement of human development are summarized in Annex 1 for reference.

Table 2.1: Linking trade reform with human development

	Productivity	**Equity**	**Sustainability**	**Empowerment**
Capability	Enabling people to participate in the growth process.	Progressive equalisation of access to opportunity.	Governing of physical, human, financial, and environmental resources in a manner that does not compromise the ability of future generations from improving their welfare.	To shape the processes and events that affect one's life for those who have been denied it
Achievement	Ability to benefit from trade opportunities.	Reduction of inequalities and disparities.	Preservation of developmental achievements.	Power to control or change one's life.
Examples of indicator category	Those related to physical and mental well-being of the people (e.g., health, nutrition, education, and access to relevant and appropriate technologies, training, and skills building).	Employment, income, and access disparities between and among social groups (e.g., women and men), and disparities between and among geographical areas or regions.	- Community well-being (e.g., protection of traditional knowledge and cultural resources, environmental sustainability). - Distribution of increased trade-related revenue to expenditures on social welfare programs. - Time-use.	- Participation in decision-making processes at various levels. - Right to seek employment on equal basis with others. - Ability to hold property and to have property rights on an equal basis with others.

The ***productivity*** component can be defined as that related to improvement of human capabilities, as an end in itself and as a means for people to participate in economic growth as well as to benefit from it. In this respect, productivity includes advances in health, education, and labour force capabilities among the groups most likely to be affected by trace policy change such as consumers, service users, workers, farmers and so on. In terms of how trade and trade-led growth can affect

5 See Asia Trade Initiative (2003).

productivity, the linkage can be expressed as investment in health, education, and skills of the people afforded by trade policy change. In this case, the indicators linking productivity include: enhanced access to health care, education, relevant and appropriate technologies, training and skills building.

For example, questions to be asked are:

A. How is the TRIPS Agreement's provision of pharmaceutical patent protection likely to affect people's access to pharmaceutical drugs as a result of increased prices of pharmaceutical drugs or limited supply of generic drugs (see 3.2.2)?; and
B. Does the establishment of export-oriented industries not only create new jobs but also provide safe work environment and opportunities for workers to obtain better skills?

As mentioned earlier, trade policy change can have different impacts on different groups of people or regions; hence, the ***equality*** component must be assessed. Equality as a component of human development involves the "progressive equalization of access to opportunity for all members of society" (Montes and Memis, 2005). If initial conditions of income, assets, and job distribution, as well as access to credit, education/trainings, and health care services, are inequitable, a trade policy change may not bring better outcomes to the disadvantaged groups. A HDIA can also assess whether or not there has been a reduction of inequalities and disparities as a result of change in the trade policy by looking at disparities between and among social groups such as by gender, ethnicity, and social class or disparities between and among geographical areas or regions.

Given the examples above, we can ask, for example:

A. How does the impact of adoption of the TRIPS Agreement differ on people's access to pharmaceutical drugs by their social class? In a country where the universal health care does not exist, increased price of the pharmaceutical drugs is expected to lower the poor people's access to the drugs. See 3.2.2; and
B. Does the establishment of export-oriented oriented industries create employment and opportunity for skill development in rural area, which is usually lagged behind urban area economically?

Sustainability is a key component of human development, based on the governing of physical, human, financial, and environmental resources in a manner that does not compromise the ability of future generations from improving their welfare. The relationship between sustainability and trade can be expressed as the ability to maintain or preserve developmental achievements. Higher income *is* important, as it is crucial for helping individuals, households, and communities achieve their goals and improve the quality of their lives. But if higher economic growth is accompanied by negative effects such as a degraded environment, less security, food insecurity, depletion of human resources because of exploitative terms of paid work and/or inadequate provision of care, and/or at the expense of future generations, then rapid trade-led economic growth will not necessarily contribute to human development. Within the trade context, indicators that may offer a measurement of this component might include: community well-being, including protection of traditional knowledge and cultural resources; environmental sustainability; distribution of trade-related revenue to social expenditures on education, health, and social welfare programs; a well-balanced lifestyle between paid and non-paid work; and leisure activities.

In terms of ***empowerment***, this component addresses people's capability to shape processes and events that affect their lives in terms of both the economic and socio-political/cultural aspects. In relation to trade policy change, the notion of empowerment can be expressed in terms of economic security and the ability to engage effectively and participate actively in decision-making processes that have an impact on one's livelihood. In this context, relevant indicators that may reflect the impact of trade would include participation of men and women who are likely to be affected by trade policy change in decision-making processes at various levels; the ability to hold property and to have property rights on an equal basis with others; and the right to seek employment on an equal basis with others.

3. Human development impact assessment of trade policy

As we have made clear, the HDIA is intended to assess and determine the human development outcomes of a trade policy change. However, as we have also seen, a HDIA can go further in that it does not take trade policy change as an end in itself but, rather, explicitly questions the feasibility of a trade policy from a human development perspective. Hence, the aim is not merely an assessment of how trade policy affects key human development variables but also to identify measures that can facilitate the positive effects and/or ameliorate the negative effects of the change.

The HDIA process will thus need to identify the specific trade policy to be assessed and the stakeholders upon whom it will have, or most likely have, an impact. The common characteristics of a HDIA process are[6]:

- Assessing the feasibility of a particular trade policy change from a human development perspective. This means that the assessment does not take any policy option as a given, but instead analyses its human development implications.
- Identifying both the positive and negative human development implications of a trade policy change, and recommending measures or policy changes that can realize the former and mitigate the latter.
- A participatory exercise such as town hall meetings, surveys, interviews, and focus group discussions aimed at bringing together all relevant stakeholders and representatives of groups most likely affected by the policy or reform. The broad participation of all stakeholders will enrich the assessment and provide it with a comprehensive view of policy impacts. It may for example influence the choice of indicators used in the assessment, giving visibility to aspects that would otherwise be neglected by 'policy-makers.'

Through demonstrating likely or existing effects of a trade policy or reform, the HDIA can facilitate a greater understanding among policy-makers of the implications of their decisions, give voice and representation to the stakeholders, and foster debate on those decisions. In this manner, the outcomes of a HDIA can mainstream human development concerns into domestic policy-making. In addition, by demonstrating likely or existing effects of a particular policy decision, the outcomes and analyses of such an HDIA can provide leverage for developing country trade negotiators[7]. This may go some ways in helping to build and preserve the human development "policy space" for governments – that is, the ability of governments to make policies without being constrained by political or international legal forces – at trade negotiations.

3.1 Basic questions about the HDIA of trade policy

This section addresses such basic questions about the HDIA of trade as what should be assessed, when and how a HDIA should be undertaken, and who should do so.

3.1.1 WHAT should be assessed?

In terms of what policies to assess, this would encompass the range of trade policies that have been necessitated by the obligations and commitments under the WTO, those that are implemented by the government unilaterally, and those undertaken in response to commitments under BTAs and/or RTAs. This process can be comprehensive or specific, depending on the dimension and impact of the prospected policy change.

Where a fundamental trade policy change has taken place, a comprehensive assessment is appropriate. A HDIA of a country's accession to the WTO is one example of a comprehensive assessment, since WTO accession will require a substantial policy and institutional shift. Such trade policy changes affect the range of human development components in various ways. As for the impacts on workers, producers, and traders, changes in market access for the import and export of goods and services might be a key issue. For example, imports of staple food that are produced domestically is often out of the list for liberalization because of concerns over food security and livelihood of farmers, particularly small farmers

6 These characteristics draw from a list suggested in Keklik and Memis (2005).

7 What we are aiming at is similar to civil society organization's effort to create awareness among media, consumer's groups and policy makers of the likely effect of patents on the accessibility and affordability of essential drugs so as to influence the country's negotiation position for free trade agreements.

and women farmers who lack access to credit and agricultural inputs. Commitments made under the WTO accession or regional free-trade arrangements may lead to a change in the legal, institutional, and regulatory systems of the member country. They are also likely to affect the policy space available to the government in terms of both trade and domestic economic and social policies. For instance, the WTO requires all member countries to enact the investment law that does not discriminate between private domestic and foreign investors. Thus, a country acceding to the WTO should examine the impacts of the WTO accession on sectors such as those provide essential services – e.g., health, education, and water – and take recourse to the flexibilities embedded in the WTO General Agreement on Trade in Services (GATS) to schedule limitations (Narsalay et al. 2009).

Alternatively, impact assessments can be specific to a certain agreement or a specific change in the rules of international trade. For example, the human development impact of the TRIPS Agreement or of other new intellectual property rules – such as those under a free trade agreement – may be evaluated. Within this example, there can be a further narrowing of the focus; for example, the public health impact of patents on pharmaceutical products in terms of their effect on the prices and availability of medicines in the country, the impact of copyrights and patents on educational materials, and impact of patents and copyrights on traditional knowledge in agriculture and in cultural materials such as traditional weaving patterns or music. Thus, trade policy changes are likely to affect, to varying degrees, a wide range of stakeholders within the country; in this case, the stakeholders who are mostly affected are poor patients who require medicines, students, faculties and researchers in formal education system, and traditional knowledge holders such as farmers and indigenous people, respectively.

3.1.2 WHEN should a HDIA be undertaken?

It is possible to undertake a HDIA before, during, and/or after the completion of a trade policy. An *ex-ante* assessment is intended to identify in advance the effect of trade policy changes or the introduction of new policies. Nearly all trade policy changes create both winners and losers among households, individuals within households, communities, and regions, and an *ex-ante* assessment can inform the choice, design, and sequencing of alternative policy options. During implementation, the monitoring of a policy change and its impacts can lead to refinement of the policy, to a reconsideration of the pace/sequencing or institutional arrangements of the policy (flanking measures), or to the introduction or strengthening of mitigation measures.

An *ex-post* HDIA assesses the actual impacts of a trade policy, which helps to understand the likely impacts of future change. *Ex-post* impact assessments are important to check on the accuracy of the *ex-ante* analyses, to modify the policy or complementary anti-poverty policies, and to understand better how macroeconomic policies affect the economy and household welfare, both in the short and long-terms. Sometimes it may not be possible to make a clear distinction between *ex-ante* and *ex-post* assessments, since trade policy changes arising there from are part of a longer-term or on-going process.

3.1.3 WHO should undertake the HDIA?

National ownership of the HDIA is crucial not only to verify the outcomes of the assessment but also to follow up the exercise with necessary policy measures that facilitate the positive impacts and/or ameliorate the negative impacts of trade policy reform. For these reasons, ideally government would lead the HDIA, with technical assistance from UNDP, so as to institutionalize the HDIA in policy-making. As discussed below, policy-makers from relevant ministries and the parliament together with representatives of the private sector, academia, CSOs, the media, and the vulnerable groups likely to be affected by trade policy change need to be part of the HDIA exercise in order to democratize the debate. While experts from academia and CSOs should be part of the HDIA study as key researchers, policy-makers can contribute as steering committee members to verify the findings and endorse the suggestions provided by the research team. Representatives of vulnerable groups need to be consulted through the HDIA exercise as their perspectives are important for the impact assessment. Involving them in the HDIA exercise is also the process of empowering them to derive benefits from trade. If the voices

of the stakeholders such as small farmers, factory workers, or indigenous people cannot be well-represented in a setting of consultation at national level, other means to reflect their concerns and opinions in a collective manner–e.g., town-hall meetings, focus group meetings, surveys or interviews, are desired.

3.1.4 HOW should the HDIA be undertaken?

Although specific conditions and relevance of issues can differ across countries, aspects of human development that are likely to be affected by the policy change can be identified, and the indicators can be selected in a systematic manner by examining the linkages and transmission channels.

It is proposed that a series of questions – a HDIA checklist – can be used to help identify the main effects of a trade policy change, the likely transmission channels of the policy change, and the potential impacts on stakeholders, institutions, and the human development outcomes. It is by no means an exhaustive listing of pertinent questions, but the questions summarized in Table 3.1 can provide a common framework in which the linkages are identified. For each HDIA it would, of course, be necessary to tailor the expression of the indicators to the specific trade policy or reform that is being assessed and the stakeholders it will affect.

3.2 Stages and steps of the HDIA of trade policy

It can be envisaged that conducting a HDIA of trade policy changes will comprise a number of distinct stages and steps. There are three broad stages in this exercise: pre-assessment, impact assessment, and post-assessment. Several steps will follow in each stage. For reference, a number of questions are provided in the form of a checklist for each step, with the hope that this would assist users to grasp the details (see Table 2).

In a general sense, while the steps provide guidance in terms of actions or measures that are required to be undertaken, through a series of questions the checklist sets out the broad range of issues to be considered. Although the HDIA Steps and HDIA checklist follow a logical sequencing, it does not necessarily mean that they must be followed stringently, or that every step or question is applicable in the same order in every HDIA.

Table 3.1: HDIA steps and checklist

STAGE 1: Pre-assessment – scoping and mapping

HDIA Steps	HDIA checklist	
1.1 Identify the trade policy change and the expected trade-related effects.	Which trade policy is being assessed?	□ WTO Accession/ WTO Agreement (specify:) □ RTA (specify:) □ BTA (specify:) □ Unilateral trade policy **Trade topics** □ Goods □ Agriculture (sector:) □ Industry (sector:) □ Services (sector:) □ IPRs (area:) □ Trade-related investment (sector:) □ Others (specify:) **Policies** □ Tariffs □ Subsides □ Standards □ Anti-dumping □ Safeguards □ Rules of origin □ Market access □ Others (specify:)

Continues..

Continued

HDIA Steps	HDIA checklist		
	Has the policy been implemented?	□ Yes (year:)	□ No
	What are the expected effects of the policy change?	**Changes in:** □ Prices □ Transaction volume	□ Government Budget □ Others (specify:)
1.2 Identify key stakeholders likely to be affected by the policy change based on literature review.	Who are the people, groups, and institutions most likely to be affected? How are they affected by the trade policy change?	**Stakeholder groups** □ Ministries (specify:) □ Private sectors (specify:) □ NGOs/ others (specify:) □ Workers/ farmers □ Services recipients □ Consumers □ Others (specify:) **Cross-cutting issues** □ Gender □ Class □ Race/ Ethnicity □ Regional disparities □ Others (specify:)	How are they affected by the trade policy change? List concerned human development impacts.
1.3 Mapping the linkages between the trade policy change and human development.	Have the trade and human development linkages become clearer?	□ Yes	

STAGE 2: Impact assessment

HDIA Steps	HDIA checklist		
2.1 Assemble the HDIA team.	Has the Terms of Reference (TOR) been developed?	□ Yes	List the consultancy posts required and brief description of their work.
	Have consultants for the HDIA been identified?	□ Yes	List the post and name of the consultants.
	Has the TOR been verified by the consultants?	□ Yes	
2.2 Identify consultation process and participatory approaches.	Have the key stakeholders and representatives of the group affected by the policy change been identified?	□ Yes	List the name and affiliations of the key stakeholders.
	Has the TOR of the national steering committee of the HDIA been prepared?	□ Yes	List the key objectives and structure of the committee, and describe how the participatory approach will be pursued.

Continues..

Continued

HDIA Steps	HDIA checklist	
	Has the national steering committee been established in a way that ensures a fair representation of all interested/ affected parties?	□ Yes List the name and affiliations of the committee members.
2.3 Develop the appropriate indicators required for the HDIA.	What data are needed? Which data is available?	Draw a list of the required information and data. Identify the data and information available.
	What are the data and knowledge constraints?	List the data and information constraints.
	If a data gap exists, how can the gap be filled?	□ Conduct surveys to the concerned group □ Interviews with stakeholders □ Focus group discussions □ Others (specify:)
2.4 Identify appropriate impact assessment tools and techniques.	What impact assessment tools and techniques will be used?	□ Quantitative (method:) □ Qualitative (method:) □ Both
2.5 Detailed analysis and evaluation of impact assessment results.	Has the draft study been finalized?	□ Yes

STAGE 3: Post-assessment – feedback and policy dialogue

HDIA Steps	HDIA checklist	
3.1 Hold consultations with stakeholders to disseminate analysis and develop post-assessment measures.	What is the impact on policy space? How will it affect human development outcomes?	**Policy space** **Likely impacts: Specify** □ WTO framework □ RTA □ BTA □ Unilateral trade policy
	What are the mitigation measures?	**Policy space** **Measures: Specify** □ Trade policy □ Fiscal policy □ Monetary policy □ Social policy □ Others (e.g. redress mechanisms)
	What is the monitoring mechanism?	Specify the national monitoring mechanism identified and how it ensures input from affected stakeholders.
3.2 Policy dialogue and re-designing the policy.	What are the follow-up activities to implement the monitoring mechanism and policy suggestions?	Specify:

3.2.1 STAGE 1: Pre-assessment – scoping and mapping

The first stage involves identifying the policy change to be analysed and determining the scope of the assessment by ascertaining the inter-linkages between the trade policy change and the relevant aspects of human development to be assessed.

It is essential to acquire an intimate knowledge of the policy package at the outset, and to identify all the significant components. In addition to the strictly "trade" components of the policy change (e.g., tariff liberalisation measures), it is important to identify such additional trade-related issues as rules regarding foreign direct investment, industrial policies, health and safety regulations, performance requirements, and privatization. It is also necessary to identify the stage of implementation of the policy. In practice, the distinction between *ex-ante* and *ex-post* is not always clear-cut, and therefore there are many points at which a HDIA can be undertaken.

In sum, this Stage 1 involves the development of the terms of reference and the rationale for the HDIA. The key actions or issues to be considered are as follows:

STEP 1.1 Identify the trade policy change and the expected trade-related effects

The first step is to identify the relevant trade policy that requires assessment and determine its scope. Today, many countries implement trade policies or engage in the negotiation for trade liberalization simultaneously at the multilateral, regional, and bilateral level. Changes in unilateral trade policies are also undertaken. With the establishment of the WTO in 1995, trade negotiations at multilateral level cover diverse topics beyond merchandize goods, including services, and IPRs. Therefore, it is necessary to narrow down exactly which trade policy is to be assessed. Is it the WTO agreement, BTA or RTA that is being assessed? Or is it a unilateral trade policy? If the WTO Member country were negotiating for BTAs, it may also be useful to ascertain whether those BTAs are compatible or consistent with each other.

Within the selected trade agreements, are there any specific trade liberalization/ protection tools or sectors that would be more significant than others for the country? In the case of a HDIA of WTO accession or RTAs/BTAs, it is suggested to provide an overview assessment of the selected agreement and then select key sectors (e.g., agriculture, services) or trade policy tools (e.g., tariffs, standards) for detailed analysis since it would be costly in terms of both money and time to cover all the trade topics of WTO agreements. For example, in the case of Mongolia's review of its 1997 WTO accession, six sectors that are significant to the economy from a point of view of rural development, employment generation, and environment sustainability, and trade facilitation were assessed.[8] Once a trade policy is selected for assessment, the next step is to consider the expected direct effects of the policy change. By identifying the transmission channels, one can determine the measure of human development to be assessed. The question will also help to determine the appropriate type of impact assessment tools or techniques that can be used. Trade policy changes can affect human development through one or more of the following channels:

Prices:

Trade policy changes, such as cuts in tariffs, can affect the prices of imports, exports, and other goods connected through the input-output structure of the economy[9]. Changes in prices can, in turn, affect individuals and households by altering the prices at which they can sell and buy commodities, leading to a change of their production and consumption levels. In turn, change in production levels and in the structure of domestic output would have a differential impact on employment, depending on the skills and gender of the workers involved in the production of output that contract or expand. Where the latter effects are likely to be significant, they should be assessed where possible. In the case of liberalization in services, privatization with foreign investment often brings about fees for services. This might undermine development goals – for

8 The six sectors are wheat, milk, meat, cashmere, minerals, and textiles and clothing (Ministry of Foreign Affairs and Trade in Mongolia and UNDP Mongolia 2009).

9 However, it is noted that these price changes can be some time captured by powerful intermediaries in the value chain and hence do not get transmitted to small producers or small consumers.

example, universal access to such essential services as education and health– where poor households depend on provision of public goods (Narsalay et al. 2009). Likewise, stricter IPRs are expected to increase the price of pharmaceutical products and treatments as the result of a lack of generic alternatives, reduced competition, and a longer period of market exclusivity.

Transaction volume and output structure:

The imposition or elimination of quotas or the implementation of trade remedies such as anti-dumping measures – i.e., mostly changes in relative prices described – affect production volume and composition. A change in production volume and composition as well as a change in volume of services transactions, in turn, can affect the welfare of workers through the quantity, quality, and distribution of employment, which is one of the most important factors to assess regarding wage labourers.[10] In case of farmers and fishers who are mostly own account producers, a change in the export volume – for example, due to stricter SPS measures – could possibly affect their income levels directly.

Budgetary distribution:

Policy changes, such as tariff reductions and subsidies, have implications for government tax revenue and expenditure, and therefore can constrain government capacities and programs. Many developing countries do not have a well-developed tax system: Tax revenue from business or household properties is minimal. Therefore, significant share of the nation's tax revenue derives from trade-related revenue. Trade liberalization can lead to loss of precious government revenue, if it's not recovered by imposing other types of taxes. This can importantly undermine public provision of key social services.

In the case of an increase in a government's budget – e.g., as a result of a rise in tax revenue by through tariffication or a decrease in trade-related expenditures – the question is whether the surplus has been used for the betterment of the people in terms of promoting human development. Seen another way, the implementation of IPRs standards and their enforcement can be viewed as an incentive for promoting innovation, while it is also argued that there are added costs to the public budget in terms of restrictions on access to patented goods if the universal health care system is in place (e.g., Thailand) and increased expenditure for the administration and enforcement of IPRs.

Notably, there are cases that affect human development without going through one of the three channels mentioned above that are mostly refer to trade in goods. For example, a rise in temporary migration under the GATS Mode 4 can have positive economic impacts on the migrant's family through remittance while it can simultaneously bring about negative social impacts on the migrants and their family members (Varma 2008).

In sum, the questions for the HDIA checklist are:

- Which trade policy is being assessed?
- Has the policy been implemented?
- What are the expected effects of the policy change?

STEP 1.2 Identify key stakeholders likely to be affected by the policy change

Stakeholders of the policy change are all those people and institutions who will be affected by the changes, and therefore including institutions – government and private – that are likely to be responsible for managing the policy change and/or are able to provide information and opinions about the policy impacts. In the Scoping and Mapping step, efforts should begin with trying to identify those who will be most directly affected by the changes, followed by an identification of those who will be subject to important secondary effects as well.

10 An indirect effect on the welfare of the communities where the production site is located has also been observed. For example, EIC (2007) argues that with every five garment jobs created in Cambodia due to an increase in production in the post-quota period one job is created around the factory as the workers' demand for basic needs, such as food and accommodation, increases.

In order to identify those who are most likely to be affected by a policy change, there are three possible sources from which information or guidance may be obtained. These are:

1) Studies of impacts associated with such policy changes in other countries;
2) Theoretical knowledge/predictions of likely impacts; and
3) Participatory discussions/surveys/interviews with possible stakeholders.

The appropriate level of disaggregation will need to be determined. The possibilities may include: household level, sectoral level (e.g. agriculture, non-agriculture, and services), and the sub-sectors within the sectoral breakdown. There may also be regional, class, ethnic, and gender breakdowns. For example, trade liberalization affect men and women within the same household differently given their division of labour. Men farmers tend to engage in commercial agriculture (e.g., production of cash crops) due to their advantage of accessing to financial loans and agricultural inputs while women not only work with men in the field but sustain subsistence agriculture (e.g., home garden) and activities such as weaving cloths and baskets to support the family's livelihood. Trade liberalization in agriculture brings impacts on commercial agriculture via change in price, standard, or export volume; thus, impact assessment on farmers and traders who engage in commercial agriculture is certainly important. However, impact assessment on subsistence agriculture and other cash-generating activities at home, which are mostly done by women, is equally important since changes in such activities and in division of labour by sex are often not documented in official statistics but are determinants of the family's well-being.

In this process, one also needs to think what the concerned human development impacts are per stakeholder identified. Is it people's access to goods and services providing basic needs (e.g., health care and education)? Or is it food security or impact on environment sustainability? How one proceeds depends on what relationships and issues are most important to stakeholders, and which relationships and issues are most likely to be affected by the policy changes. The choice of components can be determined through a participatory process with all stakeholders, as well as consultation with experts in the field.

It will be crucial to identify the governmental, private, and non-profit institutions that will play a role and have a significant effect on the implementation of the policy change. Identifying these institutions will allow the HDIA process to involve these groups and institutions in generating knowledge, data, and opinions about the policy impacts.

Certain trade policy changes and agreements can significantly alter the institutional, legal, and regulatory environment of a country. This is certainly true of broad-based agreements, such as joining the WTO, but it is also likely to be true of bilateral agreements as well. When major changes in the overall institutional, legal, and regulatory environment occur, the impact could be wide-spread and must be carefully considered. There may be significant changes to the legal and regulatory environment, and these can have far-reaching effects on human development – for example, in the areas of health, safety, food security, labour standards, and environmental regulation. They can also generate significant costs of compliance. Case studies and reviews of similar changes in other countries should be taken into account, and attempts should be made to assess the likely costs and distributional impacts.[11] One of the central issues here concerns the costs incurred by the government to implement these changes.[12] In sum, the questions for the HDIA checklist are:

- Who are the people, groups, and institutions most likely to be affected?
- Exactly how will they be affected by the trade policy change?

11 For example, Wyss and White (2004) on gender impacts; Gray (2003) on food security.

12 See Rodrik (2001) for average estimates of these costs.

STEP 1.3 Mapping the linkages between the trade policy change and relevant aspects of human development

Using the HDIA questions reviewed thus far and their outcomes will provide the basis for the mapping of the linkages between the trade policy change and the relevant aspects of human development, as well as their transmission channels. The completed linkage map will then help in determining the eventual scope of the HDIA and guide the development of the terms of reference.

The question for the HDIA checklist is:

- Have the trade policy change and human development linkages become clearer?

If the answer is no, one should go back to literature review in step 1.2 on theoretical linkage and case studies, to come up with plausible linkages between trade and human development.

Two examples of the mapping are presented below.

3.2.2 Examples of mapping: Case of assessing the impact of TRIPS Agreement on access to medicines

STAGE 1: Pre-assessment – scoping and mapping

1.1 Identify the trade policy change and the expected trade-related effects

Which trade policy is being analyzed? Has the policy been implemented? What are the expected effects of the policy change?

In relation to the TRIPS Agreement of the WTO and access to medicines, the relevant provisions of the TRIPS are those that require intellectual property protection with the effect of extending the period of market exclusivity of pharmaceutical products. These include:

– provisions on patent protection of pharmaceutical products
– protection of test data, where applicable
– copyrights or trademarks related to pharmaceutical products

There should also be consideration of whether the provisions have been implemented through enactment of domestic legislation, since the TRIPS Agreement is not self-executing. In this regard, there exist three important transition periods under TRIPS:

– 1995–2000, at the end of which developing countries were obliged to implement the TRIPS Agreement;
– 2000–2005, which allowed an additional five years to put in place product patent protection for pharmaceuticals or agricultural chemicals for those countries without such protection at the date of application of the Agreement;
– 1995–2006 (extended to 2016 with respect to patents on pharmaceutical products and exclusive marketing rights), after which Least Developed Countries (LDCs) would be required to implement their TRIPS obligations.

It can be expected that the Agreement's provision of pharmaceutical patent protection for a minimum term of 20 years will provide a (longer) period of market exclusivity for pharmaceutical products, and that with reduced or no competition there will be price increases for the patent-protected pharmaceutical products, which in turn will affect the availability and affordability of medicines. Pricing of pharmaceutical products in a country may be influenced by several factors, notably price controls, patent protection, and the availability of generic versions and/or other therapeutically similarly alternatives.

The price data for pharmaceutical products is not systematically collected in all countries, and thus it will be necessary to undertake an assessment of the changes in prices of pharmaceutical products. Price comparisons can be made between "international reference" prices and/or international market prices of patented and generic versions, and between domestic prices of both generic and patented. Information about price changes would also have to co-relate to people's access to medicines, information for which may not be readily available.

The implementation of the minimum standards for IPRs protection as required by the TRIPS Agreement means that the policy space to develop a home-grown intellectual property system has been restricted. In the case of pharmaceutical products, under TRIPS it is no longer possible to exclude pharmaceutical products from patent protection (unlike the situation pre-TRIPS). It is, however, possible for countries to make use of flexibilities inherent in TRIPS. Notably, in terms of time-based flexibilities, LDCs may still delay providing patent protection to pharmaceutical products until 2016. In terms of substantive flexibilities such as compulsory licensing and parallel imports, the Doha Declaration on the TRIPS Agreement clarified that these may be used where the interests of public health require it.

1.2 Identify key stakeholders likely to be affected by the policy change

What people, groups, and institutions are most likely to be affected by the trade policy change, and how?

In the case of access to medicines, patients or people needing treatment are the obvious group likely to be most affected by changes in the price of pharmaceutical products. It will be necessary to ask how they are affected by changes in prices and identify relevant factors; for example, whether there is a national health insurance scheme, or universal access policy, which can help absorb the price changes and ensure access to medicines, or whether most patients pay out-of-pocket for their medicines.

Patients and their access to health care are the key concerns here. To measure the impact of patent protection, one could assess the changes in price of pharmaceutical products and their effects on:

- Numbers of patients paying out-of-pocket for treatment
- Continued availability of medicines (for which price increase has been recorded) through health insurance or universal access schemes
- Rise in infection rates of disease for which treatment has increased in price, where applicable
- Rise in mortality rates from disease, where applicable
- Annual cost of treatment vs. GDP per capita

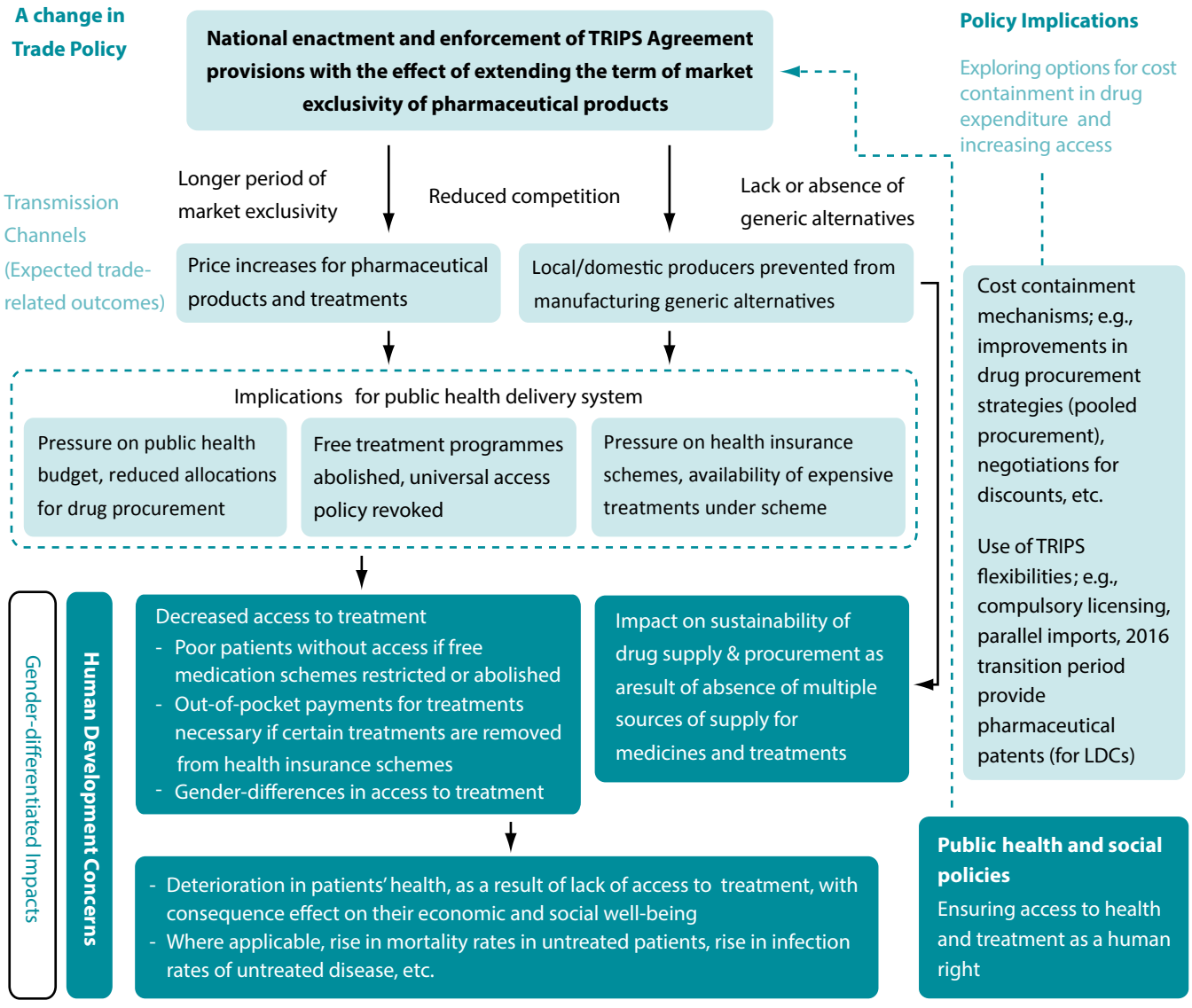
The TRIPS Agreement obliges WTO Members to give effect to the provisions of the Agreement within their legal system and practice. This means enacting the appropriate domestic legislation to provide for the protection of the seven categories of IPRs as specified as in the Agreement, and ensuring that the procedures for enforcement of these rights are available under the law. The administration of IPRs typically involves the establishment of an Intellectual Property Office (or, more narrowly, a Patent and Copyrights Office), which would be responsible for the application, grant, and registration of the IPRs provided in the country.

Several ministries are also key players in such a scenario. First, in terms of patent protection for pharmaceutical products and national policy on access to health, the Ministry of Health is an important actor. Second, given that a price increase in pharmaceutical products will affect public expenditure for public health, the Ministry of Finance should be aware of the policy change. Finally, the Ministry of Commerce and Trade is obviously a key institution for negotiation of any trade agreement.

The pharmaceutical companies are also key players, both in terms of being patent holders and as generic manufacturers. In the case of the patent-holding manufacturer, patent protection may mean a longer period of market exclusivity, hence reduced competition. For the generic manufacturer, patent protection may prevent the production of a generic version of the product.

1.3 Mapping the linkages between the trade policy change and human development

Case of assessing the impact of TRIPS Agreement on access to medicines



3.2.3 Examples of mapping: Case of assessing the impact of tariff liberalization on public finance

STAGE 1: Pre-assessment – scoping and mapping

1.1 Identify the trade policy change and the expected trade-related effects

Which trade policy is being analyzed? Has the policy been implemented? What are the expected effects of the policy change?

Trade liberalisation policies could be undertaken in order to implement bilateral, regional, or multilateral obligations or in response to standard trade policy reform packages mandated by the World Bank, International Monetary Fund, or unilateral trade liberalization policies. Trade liberalization policies are implemented in the form of elimination or reduction of effective tariff lines or the "tariffication" of non-tariff barriers. Binding commitments such as those undertaken at the WTO will result in a loss of policy space and may negatively affect a country's ability to achieve human development goals. On the other hand, unilateral trade liberalization policies are not likely to restrict the policy space in the long run, as these policy changes can in theory be reversed, if necessary. Most countries also introduce revenue compensatory measures; these are often broad-based domestic taxes, such as Value Added Tax (VAT).

Tariffication of non-tariff barriers as well as elimination of tariff exemptions and export subsidies will result in a revenue increase due to the additional tariff lines and the removal of subsidies. Unless revenue compensatory measures are in place, tariff cuts will result in a decline in revenue in the short run. However, in the medium term, the overall impact on revenues would depend on the effects of tariff cuts on the level of economic activity and on the aggregate revenue base. An increase in import volumes could offset revenue losses incurred by tariff cuts. Similarly, lowering export taxes could lead to a decline in revenue unless there is an increase in the volume of exports. Lowering tariffs could also result in an increase in the tax base by reducing the marginal benefit to evade taxes, leading to an increase in revenue.

Table 3.2 summarizes the expected fiscal impacts of trade reforms.

Table 3.2: Trade reforms and their expected fiscal impact

Trade Reform	Expected Fiscal Impact	Mechanisms
Tariffication	Positive	Transforming non-tariff barriers into their equivalent tariff rates automatically increases the tax base.
Elimination of tariff exemptions	Positive	Eliminating exemptions automatically increases the tax base.
Eliminate trade-related subsidies	Positive	Elimination of subsidies automatically eases pressure on government's fiscal position.
Reduce tariff dispersion	Ambiguous	Means lowering some tariff rates while increasing others; the net effect will depend on the elasticities of substitution between the imports and the domestic goods for each tariff line adjusted.
Eliminate state trading monopolies	Ambiguous	Lowers the price of the imported good in the domestic market, which may dampen trade tax revenue; however, lower price may induce higher demand, thus possibly offsetting the dampening effect on trade tax revenue; depends on price elasticity of demand for the particular good.

Continues..

Continued

Trade Reform	Expected Fiscal Impact	Mechanisms
Reduce high average tariffs	Ambiguous	Directly dampens revenue possibilities, but may induce higher demand; depends on price elasticity of demand for the particular good, i.e., on whether the initial effective rate is above or below the revenue-maximizing level of tariff (assuming a Laffer curve exists); may also reduce the incentive for tariff avoidance and thus increase the tax base.
Lower maximum tariff	Ambiguous	Directly dampens revenue possibilities, but may induce higher demand; depends on price elasticity of demand for the particular good.
Reduce moderate or low average tariffs	Negative	Will have little effect in stimulating demand, and thus will have no offsetting mechanism for recouping lost revenue.
Eliminate export taxes	Ambiguous / Negative	May lead to increased demand for exports if elimination of such has a profound impact on price; however, under the assumption of a small, open economy, such will have an unambiguously negative result.

Source: Morales-Alikpala (n.d.).

1.2 Identify key stakeholders likely to be affected by the policy change

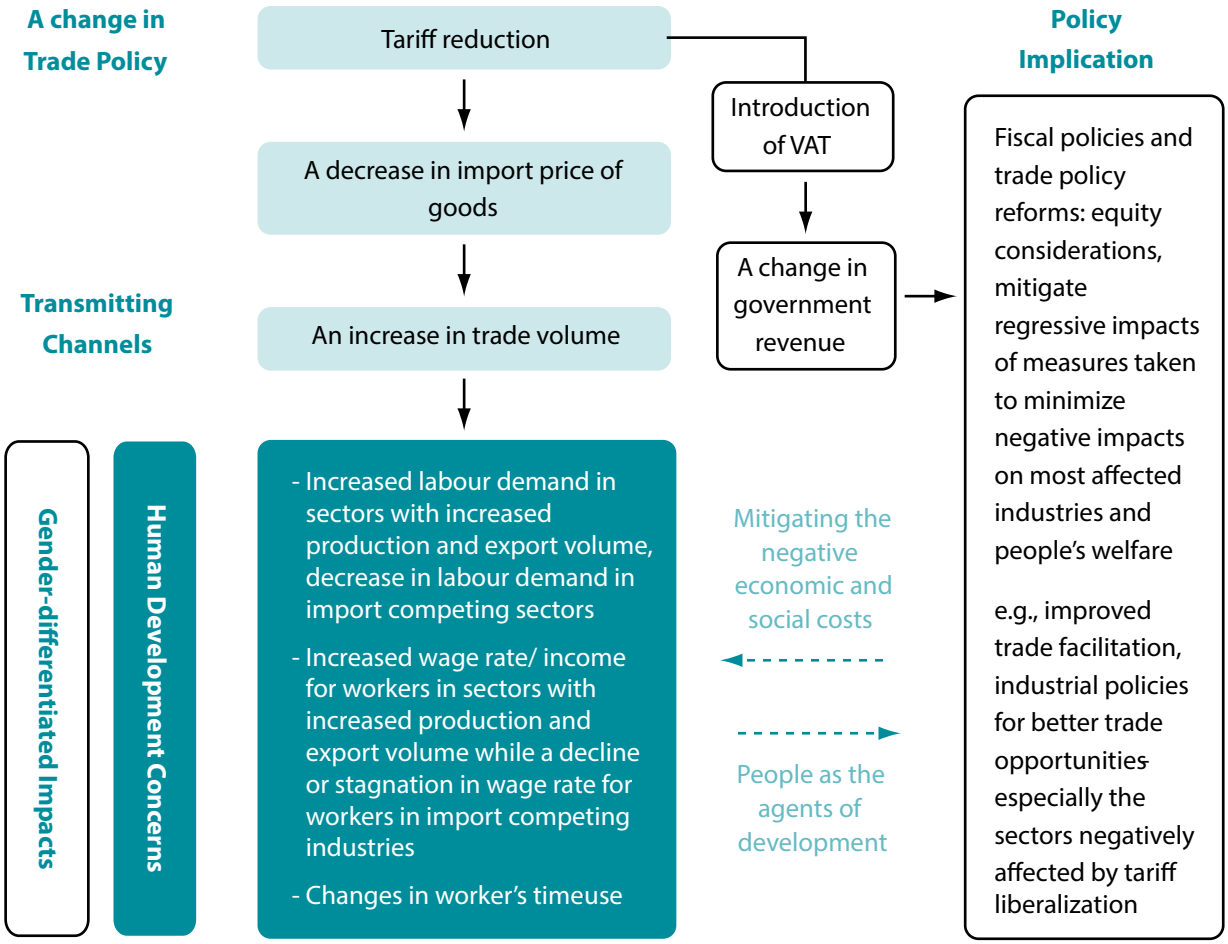
What people, groups, and institutions are most likely to be affected, and how?

Two transmission channels that have been identified are (1) prices of goods and services and (2) taxes and transfers mechanism. Whether an overall decrease or increase in revenue would result in a change in public spending on social services, infrastructure, and provision of utilities depends on a government's social policy. Automatic linkage between a change in revenue and a change in social spending cannot be assumed. The implementation of revenue compensatory measures such as VAT on essential goods and services could have adverse effects on people's well-being, especially among the low-income segments of the population. If an increase in revenues or replacement of forgone trade revenues from domestic tax sources could increase public spending on social services and provision of welfare payments, the negative impacts via VAT might be mitigated.

Ministries of finance and planning are the key institutions that would affect the outcomes. The trade liberalization policies are most likely to change tax and customs administration systems and also result in increased expenditure for the administration and enforcement of newly introduced taxes/revised tax systems and customs procedures. Changes in public revenues may result in changes in social policies, and thus affect the provision of such public services as health and education.

1.3 Mapping the linkages between the trade policy change and human development

Case of assessing the impact of tariff liberalization on public finance



3.2.4 STAGE 2: Impact assessment

Stage 2 is an integral element of the HDIA process, and relates to the actions taken to determine the appropriate tools or techniques to be used to assess the policy change in question, and to implement the tools/techniques. This stage involves the process of information and data collection, and the application of the data to produce the preliminary results of the assessment. In this step, the participatory nature of the HDIA comes to the fore, as mechanisms to facilitate effective consultations with stakeholders are identified and put in place. The key actions to be taken within Stage 2 are as follows:

STEP 2.1 Assemble the HDIA team

The first step is to identify and assemble the team of researchers and analysts who will carry out the HDIA. This team should consist of experts from universities, government, research institutes, and CSOs. It will be important to ensure that the skill sets of the team members correspond with the type of expertise as required under the TOR. In all cases, it would be desirable to ensure that the HDIA team has the benefit of local researchers and experts who, among other things, are able to provide the accurate socio-economic, political, and other contexts for the HDIA process.

The number of team members and the length of their work depend on the needs of the country and the availability of financial and human resources dedicated to the HDIA of trade reform. Once assembled, the team should collectively analyse and validate the TOR and linkage map, confirming that the appropriate channels of transmission and human development outcomes have been identified, and making changes as necessary.

In sum, the questions for the HDIA checklist are:

- Has the TOR been developed?
- Have consultants for the HDIA been identified?
- Has the TOR been verified by the consultants?

STEP 2.2 Identify consultation process and participatory approaches

A key part of the HDIA is the consultation and participation of the stakeholders. As noted above, the HDIA is a participatory exercise, which aims at bringing together all relevant stakeholders and representatives of the groups that are likely to be affected by the trade policy change to enrich the HDIA with a comprehensive view of policy impacts. The participatory approach is crucial to understanding human development impacts as complex as those that can arise from policy changes, and can be invaluable for gathering data on, *inter alia*, what constitutes human development. The participatory approach is also vital to ensure the ownership and policy buy-in of the stakeholders in the HDIA process. The HDIA team should, therefore, establish an effective process by which stakeholders may participate in the various stages of the HDIA process. For example, when farmers, indigenous groups, unorganized factory workers or informal workers are the concerned stakeholders, the agents initiating the HDIA exercise –e.g., government, UNDP – should facilitate various ways to involve them in the process. If mobility is a factor that prevents them from attending the consultation meetings in the capital city, town hall meetings or focus group discussions in respective community can be arranged before and after each national meeting. Surveys or interviews can also be conducted to gather information and data in details.

It is advisable to set up a national steering committee of the HDIA drawn from the parliament, relevant ministries, the stakeholder groups (e.g., trade unions, consumer associations, farmer associations, and the private sector), academia, media, and relevant UN agencies within the country. It is particularly important to include government representatives among key members of the committee, as their ability to provide peer pressure would increase the likelihood that the government would act on the team's recommendations. Finally, all research reports should be examined by the steering committee before being finalized.

In sum, the questions for the HDIA checklist are:

- Have the key stakeholders and representatives of the groups affected by the policy change been identified?
- Has the TOR of the HDIA national steering committee been prepared?
- Has the national steering committee been established in a way that ensures a fair representation of all interested/ affected parties?

STEP 2.3 Develop the appropriate indicators required for the HDIA

A major task of the HDIA team is to draw an exhaustive list of what the required information would be based on the outcome of the mapping undertaking in Step 1.3 and to assess the availability of relevant data. It will be necessary for the team to undertake an inventory of available data so that a baseline set of data on the key indicators of the assessment can be developed. This could include:

1) public data at the national and international level;
2) data from governmental, non-governmental, and private institutions; and
3) information from interviews, surveys, and participatory meetings.

From this, missing data or gaps in data can be identified and a determination made as to whether the data can be collected prior to or as part of the assessment phase.

The data inventory will help the team create an empirical baseline, from which changes stemming from the policy change can be tracked. A baseline established prior to the policy change is preferable. Where this is not possible, a baseline set of information should be established as early as possible to facilitate analysis of further impacts from the current policies and facilitate impact analysis of future changes.

The baseline must include data on the key policy variables such as tariff rates and regulations, human development variables to be examined, and other variables including intermediate variables such as prices and transaction volume. It is important to survey the existing structure of the economy in the areas relevant to the policy change, establishing a baseline for socio-economic or regional groupings and disparities required for analysis in addition to key macroeconomic and sectoral data. It can also refer to broad structural information in the economy, such as market structures, norms of household behaviour, and cultural norms that could affect evaluations of human development or responses to policy.

In some countries some key human development indicators might not be gathered as a matter of course. Information on access to health care, gender equality, informal sector incomes, and so on might not be collected on a regular basis, or information on implementation of trade policy change might not be gathered. If some indicators are missing, it is important to identify ways to generate the necessary data as part of the tracking mechanism so that there will be a "baseline" in the future. With data constraints, it will be necessary to identify the crucial gaps and to assess whether these can be – at least partly – overcome and how. Collecting primary data based on surveys with concerned group is often done. Findings from interviews with stakeholders as well as from focus group discussions are also useful to supplement the quantitative data.

In sum, the questions for the HDIA checklist are:

- What data are needed? Which data is available?
- What are the data and knowledge constraints?
- If a data gap exists, how can the gap be filled?

STEP 2.4 Identify and implement the appropriate impact assessment tools and techniques

There are different methods or tools for assessing the impact of trade reform. The tools differ in:

- Complexity - theoretical sophistication and technical and data requirements;
- Scope - coverage of agents and markets in the economy; and
- Comprehensiveness - incorporation of indirect and feedback effects.

The choice of which to use will depend on a number of factors, including the scope of the policy change being assessed, the data available, and the technical skills and time available for analysis.

A complete impact assessment would normally involve the use of several tools before and after policy implementation, covering both short and long-term effects, and addressing complementary dimensions of human development and welfare. Once primary effects of the trade policy change are identified, the nature and magnitude of those effects can be examined by descriptive and statistical analysis, as well as by studying the impacts of these policy changes in other contexts. In short, a comparative analysis based on the literature and on descriptive statistics for the country in question.

Annex 2 describes the type of analysis that can be done in the context of the HDIA, and the impact assessment tools for so doing, namely, qualitative and quantitative analysis.

The key question for the HDIA checklist is:

- What impact assessment tools and techniques will be used?

STEP 2.5 Detailed analysis and evaluation of impact assessment results

The key action in this process is the analysis and evaluation of the results of the assessment. Given that one aim of a HDIA is to assess the feasibility of a particular trade policy change, identification of the positive and negative implications of the policy change are crucial to identifying appropriate monitoring and mitigation measures.

In the case of an *ex-ante* assessment, the analysis of the results would be used to suggest modifying aspects of the trade agreement under negotiation or determine the type of monitoring mechanism to be established to monitor the impacts of the policy change as it is being implemented. For an *ex-post* assessment, the process will involve the detailed analysis of the results of the impact assessment, in terms of the impact of the trade policy change on the identified indicators of human development.

The question for the HDIA checklist is:

- Has the draft study been finalized?

3.2.5 STAGE 3: Post-assessment – feedback and policy dialogue

The main action of this stage is to provide feedback to policy-makers as to the findings of the HDIA and, where necessary, devise and propose measures to improve the human development impacts of the policy change. As stated above, mitigation measures can be proposed. These proposals will then have to be tabled for consideration by the relevant stakeholders and government officials, and for implementation, if they are accepted.

STEP 3.1 Hold consultations with stakeholders to disseminate analysis and develop post-assessment measures

Based on the analysis of the impact assessment results, the next step is to identify the impact on policy space, monitoring mechanism, and mitigation measures to achieve human development. As noted above, the participatory approach is an important element of the HDIA. Similarly, the development of post-assessment measures should be developed in conjunction with all stakeholders. Consultations with stakeholders should provide the contextual information and facilitate the identification of the most appropriate types of post-assessment measures that best fit specific country circumstance and implementation capacity.

As noted above, policy space is the ability of governments to make policies without being constrained by political or international legal forces. Trade obligations, such as those entered into when governments join the WTO, will place certain constraints on the ability of governments to formulate and implement trade/economic policies and management. For example, reduction in tariff levels, restrictions on subsidies, prohibition on performance requirements, and so on place limits on the ability of a country to make trade policy space. Thus, it would be important to examine how such limits on policy space would affect the ability of governments to achieve developmental goals. There should also be a distinction made between binding multilateral and bilateral trade obligations, as opposed to unilateral trade policy changes. While the former two represent binding commitments that can involve the loss of policy space, the latter is different in that a government may, at least in theory, "undo" or reverse its own policy change.

The important issue is to determine whether or not the loss of policy space as a result of a trade commitment will also affect a government's ability to take measures to promote human development outcomes. Where this is found to be the case, a HDIA may highlight this fact and suggest, where possible, mitigating measures.

In the case of *ex-ante* assessments, it will be necessary to develop a monitoring mechanism aimed at collecting data to track the effects of the trade policy as it is put into place. There is a two-prong objective in the monitoring mechanism: that is, to validate an *ex-ante* assessment and to influence the reformulation of a policy. In this instance, consideration should be given to developing a coherent national monitoring system that links existing information sources with indicators. Frameworks for monitoring should be established so that they are implemented as soon as possible – both before and

during the implementation of the policy. Also in establishing the monitoring system, it will be critical to ensure participation, for example by ensuring that information, particularly from civil society, on the effects of the policy change feeds directly into the monitoring system. This information can be used to alter the policy implementation, to mitigate its impacts, and to reform the policy if it needs changing.

While monitoring mechanisms can be suggested as a result of *ex-ante* HDIAs to track the likely impact of policy changes, mitigation measures may be recommended as an outcome of *ex-post* HDIAs so as to ameliorate the impact of a policy change. In these cases mitigation measures may range from reversing the policy (in the case of unilateral trade reform, this is possible to do without incurring sanctions) to re-negotiating commitments in certain agreements, to devising flanking policies to minimize the impact of binding commitments, etc. The other category of mitigating measures is to delay or suspend the implementation of the policy. Industrial policy that helps channel resources to growth and employment enhancing activities can also be designed and implemented.

A range of non-trade measures can also be implemented to compensate for a loss in human development resulting from a trade policy change. Examples include tax reform, social insurance programs, education and re-training of workers. In addition to these mitigation measures at the policy level, an important and effective means for mitigation at the individual or group level is the establishment or, more often, effective use of redress mechanisms for individuals or groups that have been affected by changes in trade policies (e.g. access to justice or to effective trade union systems for groups of workers for whom the trade policy change has resulted in high unemployment). Apart from direct mitigating effects, effective redress mechanisms have a strong potential to bring negative impacts to the attention of policy-makers. This would allow for the initiation of a process to decide on the re-designing of the policy package, including re-sequencing of the policy changes, or, where possible, to abandon the policy altogether.

In the case of an *ex-ante* assessment, mitigation measures can also be triggered when the likely risks and/or costs materialize. The identification of suitable mitigation measures should be undertaken in consultation with the relevant stakeholders in order to ensure the appropriateness, feasibility, and ownership of the measures proposed.

In sum, the questions for the HDIA checklist are:

- What is the impact on policy space? How will it affect the human development outcome?
- What are the mitigation measures?
- What is the monitoring mechanism?

STEP 3.2 Policy dialogue and re-designing the policy

When the HDIA is completed, its findings and proposals should be disseminated and a policy dialogue should be facilitated to discuss them. While the HDIA may provide a means for evidence-based policymaking, it is acknowledged that policy formulation is also very much a political process. For this reason, establishing the mechanisms and forums for policy debate should be a key aim of the HDIA process. The policy dialogue needs to involve the people, groups, and institutions affected by the policy change, including the technocrats, researchers, and parliamentarians. As has been stressed, consultations with stakeholders at the various stages of the HDIA process are useful to understand their concerns, to identify the transmission channels, and to validate the technical analysis. Similarly, the policy dialogue can facilitate public acceptance or endorsement of the HDIA findings and proposals (or bring about revisions to the HDIA findings to improve it), and the support and ownership of the stakeholders will help to ensure effective implementation of its proposals. Where the HDIA proposals for mitigating measures or other changes are accepted, the HDIA team may be asked to develop a plan for the re-design of the policy.

The last question for the HDIA checklist is:

- What are the follow-up activities to implement the monitoring mechanism and policy suggestions?

3.2.6 Example of HDIA exercise: Case of the expiry of the WTO Agreement on Textiles and Clothing

STAGE 1: Pre-assessment – scoping and mapping[13]

1.1 Identify the trade policy change and the expected trade-related effects

Which trade policy is being analyzed? Has the policy been implemented? What are the expected effects of the policy change?

Full implementation of the WTO ATC on 1 January 2005 ended 40 years of quota-based trade in the sector, which had been "managed" through non-transparent bilateral deals known as Multifibre Arrangement (MFA). The quota system was supposed to be gradually phased-out over the 10-year period of 1995–2004; however, nearly 50 percent of all textiles and clothing products remained under the quota system until the end of 2004.

Quota limits, when they existed, directly restrained the exports of large developing countries such as China. The elimination of the ATC, therefore, has been expected to benefit the large textiles and clothing producing developing countries by releasing quota limits. On the other hand, many LDCs such as Lao PDR and Nepal that had been able to expand production and obtain access to major markets under the MFA were expected to face the prospect of major structural and socio-economic dislocation.

The two transmission channels examined were production volume and prices.[14] The elimination of quotas was expected to lead to major shifts in trade and investment flows to the most competitive players. Lower volume of garment exports was expected in the least competitive countries, including the LDCs, which would likely lead to lower production and factory closures. Thus, a significant employment loss and, consequently, income loss was also expected; and given the high concentration of women in this industry, the gender impact of the ATC's expiration was of particular concern. It was also feared that increased competition could put workers' rights and protections at risk as lower wages and longer working hours would be required to meet lower prices and shorter lead times.

1.2 Identify key stakeholders likely to be affected by the policy change

What people, groups, and institutions are most likely to be affected by the trade policy change, and how?

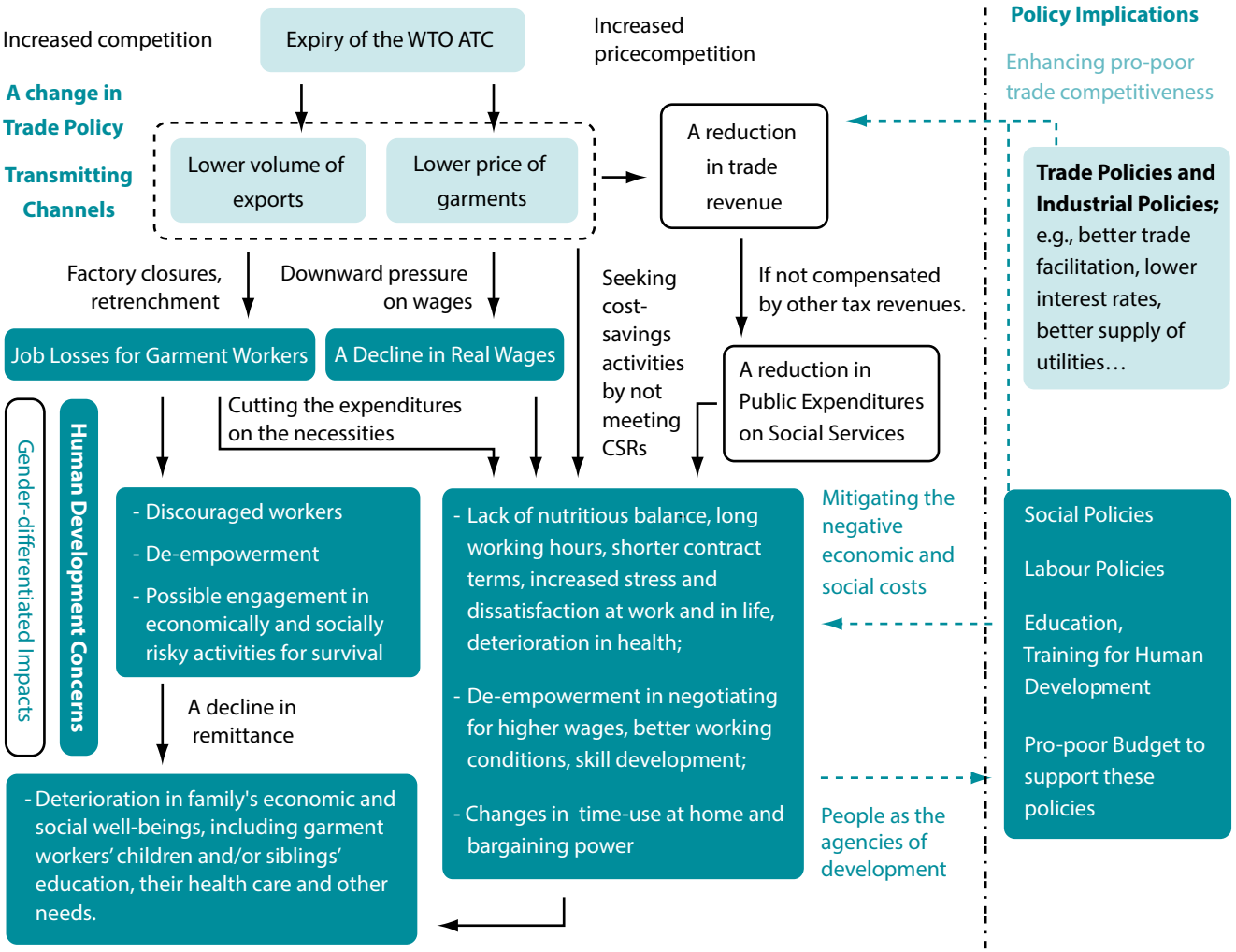
Garment workers are the most vulnerable group to this policy change. Unemployment, income loss, and deterioration in health and work conditions are of immediate concern. The risk of losing jobs was higher among workers in small scale domestic garment firms that are usually subcontractors relative to larger firms or foreign-owned firms, which had direct business relations with the buyers. As most garment workers send part of their salary to their family in rural areas, indirect negative impacts on their family's well-being via declined remittance was also feared.

13 This section benefited from Adhikari and Yamamoto (2006), SAWTEE and AAN (2007), EIC (2007), CPI and NSC (2007).

14 A reduction in government trade revenue was another channel to examine the impacts on public spending on social services, including social welfare programs for the unemployed, which could mitigate the negative impacts on garment workers. However, this aspect was not examined in country studies due to time-lag in releasing disaggregated budget information.

1.3 Mapping the linkages between the trade policy change and human development

Case of assessing the impacts of the expiry of the WTO Agreement on Textiles and Clothing (ATC)



STAGE 2: Impact assessment

2.1 Assemble the HDIA team

Has the TOR been developed? Have consultants for the HDIA been identified? Has the TOR been verified by the consultants?

In 2005, the UNDP Asia-Pacific Regional Centre initiated the HDIA of the ATC expiry as part of a larger project "Addressing the Impact of the MFA in Asian LDCs." The HDIA was conducted in three Asian LDCs: Cambodia, Lao PDR, and Nepal.[15] In each country the project partner was selected following the UNDP procurement guideline. They were: the Economic Institute of Cambodia (EIC) in Cambodia; the National Statistics Centre (NSC) in Lao PDR; and the South Asia Watch on Trade, Economics,

15 The project also covered Bangladesh; the *ex-ante* HDIA of the ATC expiry was commissioned by the Ministry of Commerce and UNDP Bangladesh and completed in 2005. Since this section focuses on the cases of the *ex-post* HDIA, the Bangladesh study will not be discussed here. For research findings, please see Razzaque (2005).

and the Environment (SAWTEE) and ActionAid Nepal (AAN) in Nepal. Each partner recruited researchers and project officers based on the project's needs in their respective country.

2.2 Identify consultation process and participatory approaches

Have the key stakeholders and representatives of the affected groups been identified? Has the TOR of the national steering committee of the HDIA been prepared? Has the national steering committee been established in a way that ensures a fair representation of all interested/ affected parties?

Garment workers are the key group affected by the expiry of the ATC. Their family members, including those who receive their remittances, will also be affected. In each country representatives of the garment association and trade unions (when applicable) as well as key government officials from relevant ministries (such as Ministry of Industry and Commerce, Ministry of Foreign Affairs, and Ministry of Labour and Social Welfare) were identified.

In each project country a multi-stakeholders group called the National Reference Group (NRG) or National Advisory Board (NAB) was constituted, with the responsibility of steering the project as well as providing critical feedback on every step of project implementation. Another objective of formulating an NRG is to ensure the policy buy-in. Key members of such committees were representatives from relevant ministries and parliament, the private sector, civil society organizations, academia, trade unions, and donor agencies.

2.3 Develop the appropriate indicators

What data are needed? Which data is available? What are the data and knowledge constraints? If a data gap exists, how can the gap be filled?

Trade data was available from customs and national statistics. In general, however, basic information such as the living standards of garment workers – including wages and their basic needs – were not available. Moreover, due to the lack of proper time-series data both at the labor-market and household level, it was difficult to assess the impacts of the quota expiry with official statistics. Primary data were collected in the form of both questionnaires and interviews with employers at the garment factories, garment workers (and former garment workers in case of Nepal) and other stakeholders. Questionnaires are listed in EIC (2007) and Committee for Planning and Investment (CPI) and NSC (2007).

2.4 Identify and implement the appropriate impact assessment tools and techniques

What impact assessment tools and techniques will be used?

Both qualitative and quantitative methods were used in this project. Descriptive analysis summarized the findings from the stakeholder surveys and interviews as part of the *ex-post* analysis. Local partner agencies conducted the field surveys among garment workers in 2006, asking questions about their work conditions, health status, monthly income, consumption and saving behaviours, and use of remittances, among others. Since pre-expiry data did not exist, in some questions workers were asked to assess their current work and living conditions as compared to 2004. The surveys consisted of 365 workers (about 0.13 percent of total estimated garment workers) in Cambodia, 286 workers (1.1 percent) in Lao PDR, and 274 workers (6.2 percent) in Nepal. In the case of Nepal, 133 former-garment workers were also surveyed. In all three countries, 22–44 garment factories were surveyed regarding their production and export performances as well as future prospects. Interviews with other stakeholders, such as government officials from relevant ministries, trade union leaders, garment association representatives, and researchers, were also undertaken.

In order to suggest possible trade negotiation strategies to mitigate the negative impacts of the expiry of the ATC, two scenarios of (1) duty-free market access to the United States (US) market and (2) flexible rules of origin in the European Union (EU) market were examined. Selection of the econometric tools in this *ex-ante* analysis depended on the key question that the HDIA team asked as well as the availability of the data and the econometricians or economists who would be able to

handle econometrics models. In case of Cambodia, a Computable General Equilibrium (CGE) model was used to assess the impacts of both scenarios.

As for Lao PDR, a Partial Equilibrium Model was adopted for assessing the impact of scenario of better market access to the US market because it corresponded with the data available about the Lao garment exports to the United States. One the other hand, potential effects of flexible rules of origin were discussed simply based on the percentage share of Lao garments qualified for the EU rules of origin and are subject to tariff of Most Favoured Nation rate due to lack of disaggregated data.

Nepal research team first asked the garment manufactures to quantify the benefits in export volume under the two scenarios. Based on this survey based opinion, a single-equation regression model was used to forecast the change in exports with zero tariff access to the US market, the largest market for Nepal garments. For results of the *ex-ante* analysis, please see EIC (2007), CPI and NSC (2007), SAWTEE and AAN (2007).

2.5 Detailed analysis and evaluation of impact assessment results

Has the draft study been finalized?

The draft study was written by the HDIA researchers and had been discussed at the national consultation meetings, which members of the NRG or NAB as well as the other stakeholders attended. Based on the comments and suggestions provided, the HDIA study was finalized. The key findings are summarized in Box 3.1.

Box 3.1: Case study – HDIA of the ATC expiry in 2005

A drastic reduction in employment was confirmed in Nepal as the removal of quota systems affected its Ready-Made Garment (RMG) exports negatively. About 60 percent of the former workers surveyed left the industry during the previous two years; others left earlier (note: Nepali garment export has declined since 2001). Eighty percent of those who left during the previous two years responded that they did so due to factory closure.

The majority did not find an alternative job immediately. Overall, nearly 30 percent of those surveyed remained unemployed for 1-2 years. As Nepal's RMG industry is dominated by male workers, more men than women lost their jobs. However, former female RMG workers remained unemployed for longer periods than their male counterparts; at the time of the survey 29 percent of men and 47 percent of women were still unemployed. Lower education, lack of skills (in both RMG and other sectors), and economic and social discrimination against women may explain the gender gap. Among those who were working at the time of the survey, the majority did not have a contract, which makes workers more vulnerable to a downturn of the production cycle and creates job insecurity. Sixty-four percent of the former RMG workers surveyed in Nepal claimed a decline in income after leaving the RMG industry.

For most of those who were working, their level of income was not sufficient to meet their basic needs – even in countries with a rapid growth of RMG exports. With overtime pay and other benefits, the average monthly salary was $73 for Cambodian workers and $41 for Lao workers. At the time of the survey, the basic salary was fixed at $45 per month in Cambodia and about $26 per month in Lao PDR. About 90 percent of Cambodian and 56 percent of Nepali workers surveyed responded that their basic salary was not sufficient for their daily needs. Moreover, high inflation triggered by price hikes of petroleum and staple foods contributed to deterioration in their real wages. The majority of workers surveyed were satisfied with their current jobs, but a significant number complained about their low wage.

The survey found RMG workers spend average 50-60 percent of their income on basic necessities, that is, food, housing, and clothing. Remittances account for 10-20 percent of their income. In order to cope with real wage loss, the former RMG workers in Nepal cut their savings, entertainment expenditures, and remittances. Some even limited their spending

on food. Without an appropriate compensation mechanism, lower food consumption worsens workers' health, whereas lower remittances are likely to bring deterioration in human development, especially among rural populations. Further reduction in real wages puts the well-being of both workers and their family members at risk.

The poor health conditions of garment workers are well documented. Many experience health problems after being in the industry for several years. The causes for this vary, but one reason is the long working hours endured in order to meet 'just-in-time' delivery. Despite potential health risks, RMG workers are willing to work overtime out of the need for additional income, or often they are compelled to work additional hours in order to meet the demand of orders as they are received. In addition to the eight regular working hours, 2–4 hours overtime is common among RMG workers, who usually work six days a week. Under these conditions, it is not surprising that many workers reported problems of back pain and eye strain.

Sources: EIC (2007), CPI and NSC (2007), SAWTEE and AAN (2007).

STAGE 3: Post-assessment

3.1 Hold consultations with stakeholders to disseminate analysis and develop post-assessment measures

What is the impact on policy space? How will it affect human development outcomes? What are the mitigation measures? What is the monitoring mechanism?

The key findings of the final study on human development outcomes were discussed at the national workshop. For wider dissemination of the findings, the media was invited to the workshop and the press release of the report was distributed to them.

In terms of policy space, the LDCs were keen to negotiate for duty-free and quota-free (DFQF) market access to major trading partners at the WTO Hong Kong Ministerial conference in December 2005 in order to ensure preferential market access, as a way to mitigate competition pressures from the expiry of quotas on textiles and closing. After the outcome of the negotiations failed to reach 100 percent DFQF market access, the Asian LDCs' hope was to negotiate DFQF market access with the United States at the bilateral level and to demand relaxation of the EU Rules of Origin requirements.

The *ex-ante* analysis of the potential effects of such bilateral trade strategies showed, in general, significant increase in export revenue and employment although each country applied different assumptions and baseline scenarios. For example, the duty-free market access to the United States was estimated to increase employment in garment industry by 26 percent in Cambodia and by 29 percent in Lao PDR from the baseline scenario. In case of flexible EU rules of origin, the positive effects were not as significant as that of the US duty-free condition, partly due to low proportion of their exports to the EU with duty.

As for domestic policies, meeting the compliance at the garment factories remains the key issue regarding the welfare of workers. In countries experiencing export growth in 2006 – e.g., Cambodia and Lao PDR – trade unions together with government agencies and the International Labour Organization (ILO) need to ensure that the welfare of workers will not deteriorate as they work longer hours. For Nepal, it was suggested that government agencies together with financial institutions and NGOs should provide support for retrenched workers. As many of them did not find alternative jobs immediately after leaving the industry, the provision of training programmes and credit for self-employment is required.

Because these social welfare programs are often seen by governments as overly costly, ideally the sustainable growth of the industry would be key to ensuring the sustainable livelihood of workers. A number of policies were suggested to improve productivity and efficiency of the industry, including improvement of trade facilitation, utility services, and other macroeconomic policies. Export diversification in terms of both markets and products is another way to mitigate the negative impacts of the quota expiry.

Multi-stakeholders groups such as the NRG or NAB are also responsible for ensuring the policy buy-in. Monitoring mechanism is necessary to ensure that policy suggestions and action matrices are adopted in the national planning or export diversification strategies.

3.2 Policy dialogue and re-designing the policy

What are the follow-up activities to implement the monitoring mechanism and policy suggestions?

Three other studies followed the HDIA to explore the export diversification and value addition strategy, trade and industry policies, and trade negotiation strategies related to the export diversification under this project. A number of advocacy activities, including national workshops and a series of television and radio policy dialogue programs and newspaper op-ed articles, followed in an effort to raise public awareness of the issues. In Cambodia the policies suggested by the project were aligned with the country's DTIS and the human development-oriented activities of the Trade Related Technical Assistance for Development Equity project of UNDP Cambodia. Export diversification strategies have been implemented since 2006.[16] It was hoped that the project findings would likewise be integrated into an updated DTIS of Nepal in the near future so that implementation of the policies would follow.

16 See, for example, Ministry of Commerce and UNDP Cambodia (2011).

4. Some assessment experiences and the lessons learned

This section summarizes some of the experiences drawn from impact assessment exercises that have been undertaken by the UNDP so far. Although that there does not exist a long track record of such human development impact assessments, some lessons learned specifically draws on those that have explicitly attempted to use a human development framework.[17]

Some lessons

1. Clarify financial and time constraints and long-term goals

Try as much as possible to clarify early on: (1) What are the long-term goals and stages of the project; (2) What steps are going to be taken over the life of the project; (3) What budget is available for the different phases of the project; and (4) What are the key time constraints/deadlines for the various stages. HDIAs can be complex and time consuming. Having a long-term view of the project is extremely valuable for identifying realistic goals along the way, while making sure they are likely to add up to the overall goals of the assessment. Also ensure that the scope of the analysis is sufficiently narrow to fit within the constraints of time, finance, and expertise.

2. Benefit from local knowledge

In many countries there has already been a wealth of research in areas closely connected to the assessment issues at hand, and thus there are likely to be a number of locally-based experts with great knowledge about these issues. People in the country, whether they represent themselves as producers, traders, or consumers, know the problems in their daily business and life, and thus be able to describe potential impacts of trade policy on their activities well and address policy suggestions from their own perspective. Efforts should be made to enlist the support of such local experts, particularly those among vulnerable groups, at various stages of the exercise as much as possible.

3. Participatory approaches

The HDIA takes the participatory approach seriously, but it is very difficult to implement and coordinate in practice. Participatory approaches can be expensive and involve lead time; moreover, those involved in the HDIA might not have a lot of experience with participatory approaches. Hence, those commissioning the assessments need to make a special effort to ensure participatory approach is part of the process and is undertaken by those with expertise in this area.

4. Build local capacity

The participatory approach itself is the process of strengthening capacity of those who affect or being affected by trade policy to understand the impacts of trade policy on people's well-being – particularly the poor and other vulnerable group – and discuss policy actions. In many developing countries, national capacity in research, advocacy, and the process such as participatory approach is limited. Then, international consultant(s) might be requested to assist the HDIA team, at least at the initial stage of the exercise. One way to facilitate both points 2 and 4 is to consider pairing-up international consultants with local researchers or development practitioners, both to add local expertise and to enhance capacity building on both sides.

5. Avoid technical "fetishism"

Avoid using the most sophisticated techniques for their own sake, especially if they are inappropriate to the problem at hand, or if sufficient data are not available. At the same time, do not be afraid to use the necessary amount of technical analysis in the assessment.

6. Getting buy-in

In most cases to get buy-in from the government and other stakeholders there will need to be emphasis on developing policy improvements and reforms. That is, do not let the impact analysis as an end of the exercise. In addition, ensuring the presence of all interested and affected groups in the monitoring process is crucial for capacity development of the stakeholders as well as the outcome in sustainable human development.

17 UNDP Asia-Pacific Regional Centre projects in Cambodia with EIC, in Lao PDR with NSC, in Nepal with SAWTEE and AAN, as well as its assist to Ministry of Foreign Affairs and Trade in Mongolia and UNDP Mongolia (2009).

Bibliography

Adhikari, Ratnakar, and Yumiko Yamamoto. 2006. *Sewing Thoughts: How to Realise Human Development Gains in the Post-Quota World*. Tracking Report, UNDP Regional Centre in Colombo.

Ahmed, Vaqar and Cathal O' Donoghue. 2007. "CGE-Microsimulation Modelling: A Survey," MPRA paper No. 9307 (posted on 24 June 2008); available at: mpra.ub.uni-muenchen.de/9307

Anand, Paul. 2007. "Health, the Production of Capabilities and Quality of Life," iHEA 2007 6th World Congress: Explorations in Health Economics Paper.

Anand, Paul, Graham Hunter, Ian Carter, Keith Dowding, Francesco Guala, and Martin Van Hees. 2006. *The Measurement of Human Capabilities: Designing Indicators and Exploring their Relations to Life Satisfaction*.

Ariyasajjakorn, Danupon. 2008. *Globalization, Technological Change, and Employment: A Computable General Equilibrium Analysis*. Saarbrucken: VDM Publishing.

Asia Trade Initiative. 2003. "Trade, Economic Growth and Human Development: A Primer", Technical Papers on Trade and Human Development, UNDP Regional Centre in Colombo.

Bernabe, Johannes. 2009. "International Experiences in Liberalising Trade in Services & Possible Best Practices," a presentation made at the conference on Broadening Economic Integration in South Asia: Incorporating Services Liberalization into SAFTA, 30-31 March 2009 in Colombo, Sri Lanka.

Choudhary, Biplove, Riza Bernabe, Matthew Coghlan, and Krishna Prasad Pant. 2009. *Good practices on the Role of Non-Sovereign Actors in Trade Negotiations. Unpublished paper*. Colombo: UNDP Regional Centre Colombo.

CPI and NSC. 2007. *Addressing the Impact of the Phasing Out of Textiles and Clothing Quotas in Lao PDR: Human Development Impact Assessment in Post-Agreement on Textiles and Clothing*. Vientiane Capital: CPI and NSC.

Di Tommaso, Maria Laura. 2007a. "Measurement Issues," presentation made at the Human Development and Capability Association Summer School program, New York City, United States, 12-17 September 2007.

Di Tommaso, Maria Laura. 2007b. "Children Capabilities: A Structural Equation Model for India," *Journal of Socio-Economics* 36 (2007), 43-450.

EIC. 2007. *Export Diversification and Value Addition for Human Development: Addressing the Impact of the Agreement on Textile and Clothing Expiration on Cambodia.*Phnom Penh: Economic Institute of Cambodia.

Epstein, Gerald and Rodney Schmidt. 2007. "Human Development Impact Assessment: Resource Book," unpublished paper prepared for UNDP Regional Centre in Colombo, APTII, February 2007.

Ferreira, Francisco H. G., Philippe G. Leite, Luiz A. Pereira da Silva and Paulo Picchetti. 2003. "Aggregate Shocks and Income Distribution: Can Macro-Micro Models Help Identify Winners and Losers from a Devaluation?" available at: http://siteresources.worldbank.org/INTPSIA/Resources/490023-1120845825946/ferreira2003.pdf

Fontana, Marzia. 2001. "Modelling the Effects of Trade on Women: A Closer Look at Bangladesh," IDS Working Paper 139. Brighton: Institute of Development Studies at the University of Sussex.

Fontana, Marzia. 2003. "Modelling the Effects of Trade on Women, at Work and at Home: A Comparative Perspective," TMD Discussion Paper No. 110. Washington D.C.: IFPRI.

Fontana, Marzia. 2006a. "Gender Analysis with Social Accounting Matrices (SAMs) and Computable General Equilibrium Models (CGE), presentation made at the the International Intensive course on Engendering Macroeconomics and International Economics, Salt Lake City, US, 18-20 June 2006.

Fontana, Marzia. 2006b. "The Gender Effects of Trade in Bangladesh: A General Equilibrium Analysis," paper prepared for the United States Agency for International Development.

Fontana, Marzia and Adrian Wood. 2000."Modeling the Effects of Trade on Women, at Work and at Home," *World Development* 28 (7).

Fontana, Marzia and Yana van der Meulen Rodgers. 2005. "Gender Dimensions in the Analysis of Macro-Poverty Linkages," *Development Policy Review*, 23 (3).

Francois, Joseph F. 1998. "Scale Economies and Imperfect Competition in the GTAP Model," GTAP Technical Paper No. 14.

Fukuda-Parr, Sakiko and A.K. Shiva Kumar. 2003. *Readings in Human Development*. London: OxfordUniversity Press.

Gammage, Sarah, Helene Jorgensen, Eugenia McGill with Marceline White. 2002. *Trade Impact Review*, report prepared for Women's Edge Coalition.

Gibson, Bill. 2005. "The Transition to a Globalized Economy: Poverty, Human Capital and the Informal Sector in a Structuralist CGE Model," *Journal of Development Economics*, 78 (1).

Gray, Kevin R. 2003. "Right to Food Principles *vis-a-vis* Rules Governing International Trade," British Institute of International and Comparative Law.

Green, Maria and Susan Randolph. 2009. "Bringing Theory into Practice: Operational Criteria for Assessing Implementation of the International Right to Development," "Paper Prepared for the High-Level Task Force on the Implementation of the Right to Development; available at: www2.ohchr.org/english/issues/development/right/docs/A-HRC-15-WG-2-TF-CRP-5_en.pdf

Haq, Mahbub ul. 2003. "The Human Development Paradigm," in Fukuda-Parr, Sakiko and A.K. Shiva Kumar, eds. *Readings in Human Development*. London: OxfordUniversity Press.

Harrison, Ann. 2007. *Globalization and Poverty*. Chicago: University of Chicago Press.

ILO. 2009. *Guide to the New Millennium Development Goals Employment Indicators: Including the full decent work indicator set*; available at: www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_110511.pdf

Keklik, Mumtaz and Emel Memis. 2005. "Human Development Impact Assessment of Trade Policies," concept note for Programme Development on Trade and Human Development Issues. Colombo: UNDP Regional Centre in Colombo, Trade and Investment Cluster.

Krishnakumar, Jaya. 2007. "Going beyond Functionings to Capabilities: An Econometric Model to Explain and Estimate Capabilities," *Journal of Human Development* 8 (1).

Malhotra, Kamal. 2008 *National Trade and Development Strategies: Suggested Policy Directions:* Trade on Human Terms - Background Papers. UNDP Regional Centre in Colombo

Ministry of Commerce and UNDP Cambodia. 2011. The Trade Related Assistance for Development and Equity Project (T.R.A.D.E): 2006-2010 Achievements, Challenges and Lessons. Phnom Penh: Ministry of Commerce and UNDP Cambodia.

Ministry of Foreign Affairs and Trade in Mongolia and UNDP Mongolia. 2009. *Trade Policy and Human Development in Mongolia*. Ulaanbaatar: Ministry of Foreign Affairs and Trade in Mongolia and UNDP Mongolia; available at: www.un-mongolia.mn/publication/TP_and_HD_inMongolia.pdf

Montes, Manuel F. and Emel Memis. 2005. *People, Trade and Development; Learning from Asia-Pacific*. Colombo: UNDP Regional Centre in Colombo.

Morales-Alikpala, Cristina, n.d. "Fiscal Implications of Trade Reform: A Review of Recent Literature," Unpublished Draft submitted to Asia Pacific Trade and Investment Initiative (APTII), UNDP Regional Centre in Colombo.

Narsalay, Raghav, Pedro Ortega, Biplove Choudhary, and Sumiti Yadava. 2009. Policy Space and Investment Rules under GATS: Select Asian Experiences. Colombo: UNDP Regional Centre in Colombo.

Nussbaum, Martha. 2000. *Women and Human Development: The Capability Approach*. CambridgeU.K. and New York: CambridgeUniversity Press.

Nussbaum, Martha. 2003. "Capabilities as Fundamental Entitlements: Sen and Social Justice," *Feminist Economics*, 9(2-3).

OHCHR. 2008. "Report on Indicators for Promoting and Monitoring the Implementation of Human Rights," United Nations Document (HRI/MC/2008/3), 6 June 2008; available at: www2.ohchr.org/english/issues/indicators/docs/HRI.MC.2008.3_en.pdf.

OECD. 2007. *Promoting Pro-Poor Growth: Practical Guide to Ex Ante Poverty Impact Assessment (PIA).*Paris: OECD.

Oh, Cecilia, Yumiko Yamamoto and Chatrini Weerantunge. 2008. *Resource book forHuman Development Impact Assessment of Trade Policy*. *Unpublished paper*. Colombo: UNDP Regional Centre Colombo.

OPHI. 2008. "Missing Dimensions of Poverty Data: Information on the Indicators and Survey Modules," September 2008. http://www.ophi.org.uk/research/missing-dimensions/

Pradhan, Basanta K. and Ramamani Sundar. 2007. *Gender Impact of HIV and AIDS in India*. Delhi: UNDP.

Raihan, Selim. 2009. Domestic Trade Liberalisation and Introduction of VAT in Bangladesh during the 1990s: Examination of Welfare Effects Using a Sequential Dynamic Gendered CGE Model. Unpublished paper. Colombo: UNDP Regional Centre Colombo.

Raihan, Selim, Rabeya Khatoon, M. Jami Husain, and Suriya Rahman. 2010. "Modelling Gender Impacts of Policy Reforms in Bangladesh: A Study in a Sequential Dynamic CGE Framework," MPIA Working Paper 2010-19.

Ranis, Gustav and Frances Stewart. 2005. "Dynamic Links between the Economy and Human Development," DESA Working Paper No. 8 ST/ESA/2005/DWP/8. New York: United Nations, Department for Economic and Social Affairs.

Ranis, Gustav, Frances Stewart and Emma Samman. 2006. "Human Development: Beyond the Human Development Index," *Journal of Human Development* 7(3). November 2006.

Razzaque, Abdur. 2005. "Sustaining RMG Export Growth after MFA Phase-out: An Analysis of Relevant Issues with Reference to Trade and Human Development," a paper prepared for a preparatory assistance project of Ministry of Commerce and UNDP Dhaka, Bangladesh.

Robeyns, Ingrid. 2003. "Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities." *Feminist Economics*, Vol. 9, Numbers 2 and 3, July/November.

Rodrik, Dani. 2001. "The Global Governance of Trade as if Development Really Mattered," available at: www.ksg.harvard.edu/rodrik/.

Savard, Luc. 2005. "Poverty and Inequality Analysis within a CGE Framework: A Comparative Analysis of the Representative Agent and Microsimulation Approaches," *Development Policy Reviews*, 23 (3).

SAWTEE and AAN. 2007. *Impact of Textiles and Clothing Quota Phase Out on Nepal: A Study from Human Development Perspective*. Kathmandu: SAWTEE and AAN.

Stiglitz, Joseph E. and Andrew Charlton, 2005. *Fair Trade For All: How Trade Can Promote Development*.Oxford: OxfordUniversity Press.

UNDP. 1990. *Human Development Report 1990: Concept and Measurement of Human Development*. New York: Oxford University Press.

UNDP. 2000. *Human Development Report 2000: Human Rights and Human Development*. New York: Oxford University Press.

UNDP. 2003. *Making Global Trade Work for People*. London: Earthscan.

UNDP. 2006. "Trade on Human Terms; Transforming Trade for Human Development in Asia and the Pacific," *Asia-Pacific Human Development Report, 2006*.Delhi: MacMillan India, Ltd.

UNDP. 2010. *The Real Wealth of Nations: Pathways to Human Development.* New York: UNDP.

UNEP. 2002a. *Integrated Assessment of Trade and Trade-Related Policies. UNEP Country Projects-Round II. A Synthesis Report*. Geneva: UNEP.

UNICEF. 2007. A Human Rights Based Approach for Education for All; available at: www.unicef.org/publications/files/A_Human_Rights_Based_Approach_to_Education_for_All.pdf

Varma, Sabrina. 2008 "Scoping Study on Maximising the Human Development Benefits of Temporary Labour Mobility in the Pacific Region," a draft paper prepared for the UNDP, December 2008.

Wyss, Brenda and Marceline White. 2004. *The Effects of Trade Liberalization on Jamaica's Poor*; available at: www.womensedge.org/pages/newsandevents/news.jsp?id=223.

Annexes

Annex 1. List of indicators and data source

Trade and trade-related macroeconomic data, human development indicators adopted from Ranis et al. (2006), questions that might help in constructing human development indicators adopted from Anand et al. (2006), Anand (2007), and Oxford Poverty and Human Development Initiative (OPHI, 2008) are summarized in Tables A1.1-A1.5. *However, none of these represents a fixed list of indicators for the HDIA of trade policy*. Indicators appropriate for the objectives of the assessment will need to be selected as per the trade policy or agreement. A set of such appropriate indicators can only be constructed by considering the data that is available at the time of assessment and/or by collecting primary data.

It should also be pointed out that some of the indicators listed here may be useful for a general broad-brush picture but they are often too broad and aggregated to be useful for any distributional analysis highlighting differences between various groups within a country. Therefore, please also look at national surveys such as Labour Force Survey, Demographic and health surveys, Living Standards Measurement Study, when available, since they are richer and more useful than international data sets in some cases.

A.1.1 Trade and trade-related macroeconomic data

Table A1.1 summarizes the trade and trade-related macroeconomic data that might be useful for a HDIA.

Table A1.1: List of trade and trade-related data

Indicator	Years available	Source
Trade		
Value and volume of exports and imports at commodity level	1962–	The United Nations Statistical Division (UNSD), United Nations Commodity Trade Statistics (UN COMTRADE) database, comtrade.un.org/
Trade and International Integration	Various	World Bank, go.worldbank.org/8FJ2GN0DG1
Trade in services	2000–	UNSD, UN Services Trade, unstats.un.org/unsd/servicetrade/default.aspx
Trade in commercial services (transport, travel, etc.)	1980–	WTO, Time-series on international trade, statistics database, www.wto.org/english/res_e/statis_e/statis_e.htm
Trade-related data		
Input-output tables, output, value added, industrial production index, number of establishments or enterprises, number of employee by sex, wages, and salaries, gross fixed capital formation	1976–2004	World Bank, Trade, Production, and Protection database, go.worldbank.org/EQW3W5UTP0
Flows/stock of foreign direct investment at the sectoral level	2004–	UNCTAD/ITC, Investment Map, www.investmentmap.org
Monthly free-market prices of commodities (e.g., food, tropical beverages, agricultural raw materials, minerals) and price indices	1960–	UNCTAD, Commodity Price Statistics by subscription, www.unctad.org
Bilateral trade patterns, production, consumption, and intermediate use of commodities and services	Various	GTAP at Purdue University, GTAP Database, www.gtap.org

Continues..

Continued

Indicator	Years available	Source
Tariff, para-tariff, non-tariff measures at the Harmonized Commodity Description and Coding System (HS) 6-digit level	Most recent available	UNCTAD, TRAINS (Trade Analysis and Information System), www.unctad.org/trains
Bound and applied tariff at the standardized HS 6-digit level	2006–	WTO, World Tariff Profiles www.wto.org/english/res_e/reser_e/tariff_profiles_e.htm
Various data on trade, balance of payment, national accounts, government finance, external debt, and social indicators, among others	1960–	World Bank, World Development Indicators (WDI), go.worldbank.org/B53SONGPA0
Analysis and statistics on world trade, including merchandise trade by product and trade in commercial services by category	1998–	WTO, International Trade Statistics, www.wto.org/english/res_e/statis_e/statis_e.htm
Global economic data, financial data, exchange rates	Various	IMF, www.imf.org/external/data.htm

A.1.2 Selected indicators of human development

Table A1.2 displays selected indicators of human development borrowed from Ranis et al. (2006) with slight modification. Ranis et al. (2006) enlarged the measurement of human development beyond HDI based on the extensive literature on well-being, including Nussbaum (2000). In addition to core HDI indicators such as per capita GDP, literacy rate, and physical well-being, 11 categories are introduced. These are:

1) Mental well-being (i.e., an individual's psychological state)
2) Empowerment (particularly of the deprived)
3) Political freedom
4) Social relations
5) Community well-being
6) Inequalities
7) Work conditions
8) Leisure conditions
9) Dimensions of security – political (i.e., freedom from political violence or instability)
10) Dimensions of security – economic (i.e., freedom from economic fluctuations)
11) Environmental conditions

Within each category, Ranis et al. (2006) identified a potential set of measurable indicators, which are listed in Table A1.2. Many of these are available over a period of time or from various years. Therefore, they can be used as a baseline for *ex-ante* analysis or to assess before-and-after effects in the *ex-post* analysis. One should note that many of the indicators shown in Table A1.2 are based on a nation's total or average figures, and are not disaggregated by regions or industrial sectors. Aggregated data would be useful to analyze whether or not a country's socio-economic situation has improved after a change in trade policy.[18] On the other hand, sectoral analysis may require collecting data similar to the framework introduced here (e.g., whether the percentage of informal workers in the industry increased after trade liberalization policy was implemented).

18 See "Overview" in MFAT in Mongolia and UNDP Mongolia (2009).

Table A1.2: Indicators of human development

Indicator	Years available	Source
Core HD indicators		
HDI	1980–	UNDP, *HDRs,* http://hdr.undp.org/
GDP per capita (PPP US$)	1980–	World Bank, WDI, go.worldbank.org/B53SONGPA0
Life expectancy at birth by sex	1990, 2000, 2008	WHO *Statistical information system (WHOSIS)*, Life expectancy, apps.who.int/whosis/database/life_tables/life_tables.cfm
Maternal mortality ratio	Various	UNDP, *HDRs,* http://hdr.undp.org/
Infant mortality rate	Various	UNDP, *HDRs,* http://hdr.undp.org/
Under-five mortality rate	Various	UNDP, *HDRs,* http://hdr.undp.org/
Adult literacy rate by sex	1975–	UNESCO Institute of Statistics, Literacy, stats.uis.unesco.org/unesco/
Individual mental well-being		
Suicide rate by sex[19]	Various	WHO, Suicide prevention and special programmes, country reports, and charts, www.who.int/mental_health/prevention/suicide/country_reports/en/index.html
Prison population rate, %	Various	International Centre for Prison Studies, King's College London, *World Prison Brief*, www.kcl.ac.uk/depsta/law/research/icps/worldbrief/
Empowerment		
Gender Empowerment Measure	1995–2009	UNDP, HDRs 1995–2009, http://hdr.undp.org/
Ratio of female-to-male secondary school enrolment	1970–	UNESCO Institute of Statistics, Education, time-series, stats.uis.unesco.org/unesco/
Union density, % of labour force affiliated with unions	1980–	ILO, 2009, *Statistics of Trade Union Membership,* http://www.ilo.org/public/english/dialogue/ifpdial/info/dialdata.htm
Political and cultural freedom		
Combined political rights and civil liberties scales	1972–	Freedom House, *Freedom in the World* Country Ratings, www.freedomhouse.org
Political terror scale	1976–	*Political terror scale,* www.politicalterrorscale.org/
Judicial independence	Various	World Economic Forum, Global Competitiveness Report http://www.weforum.org/issues/global-competitiveness
Social values		
Important in life: Friends Important in life: Family Neighbour tolerance[20]	1981–	World Values Survey, www.worldvaluessurvey.org/

Continues..

19 Ranis et al. (2006) notes that male and female suicide rates are highly correlated, and neither is correlated with other variables in the same category. Therefore, it is not important which one to select. They chose the male suicide rate as an indicator of mental well-being because it is larger than the female rate in most countries.

20 Ranis et al. (2006) uses average response to whether one would want to live next to various types of people. Lower numbers indicate more tolerance.

Continued

Indicator	Years available	Source
Divorces and crude divorce rates	1930–2008	UN *Demographic Yearbook* 1958–2008, unstats.un.org/unsd/Demographic/products/dyb/dyb2.htm
Community well-being		
Alcohol consumption: Recorded adult (15+) alcohol per capita consumption in litres, total	1961–	WHO Global Information System on Alcohol and Health, apps.who.int/globalatlas/DataQuery/default.asp
Share of population affected by natural disaster	1930–	Université Catholique de Louvain (Belgium) EM-DAT: The OFDA/CRED International Disaster Database, http://www.emdat.be/
Neighbour tolerance[21]	1981–	World Values Survey, www.worldvaluessurvey.org/
Inequalities		
Gini Index	1960–	World Bank, WDI, go.worldbank.org/B53SONGPA0
Horizontal inequalities: Political Differentials Index and Economic Differentials Index	1950–	Minorities at risk, discrimination dataset, www.cidcm.umd.edu/mar/data.asp
Rural/ urban inequalities	1985–	Poverty headcount rate at rural/ urban ratio of rural/urban population, calculated from WDI
GDI	1995–2009	UNDP, HDRs 1995–2009, http://hdr.undp.org/
Inequality in health care: Perceived inequality in access to health care, rich and poor, business leaders survey	2004	World Economic Forum, *Global Competitiveness Report* 2004/05
Work conditions		
Unemployment rate	1969–	ILO LABORSTA, laborsta.ilo.org/
Extent to which employment conditions are regulated	2004–	"Employing workers," *Doing Business*, World Bank and IFC, www.doingbusiness.org
Informal economy employment as a % of employment	Various	ILO KLIM (Key Indicators of the Labour Market), http://kilm.ilo.org/
Minimum wage policy, wage rates and changes	2001–2007	ILO *Global Wage Report 2008/09*
Leisure condition		
Cinema: Number of admissions	1995–	UNESCO Institute of Statistics, Culture (Exhibition of feature films), stats.uis.unesco.org/unesco/
Economic stability		
GDP cycle Consumer Price Index cycle Portfolio cycle Terms of trade cycle	1960–	World Bank, WDI, go.worldbank.org/B53SONGPA0

Continues..

21 Ranis et al. (2006) includes the tolerance for different kinds of neighbours in both categories of social relations and of community well-being.

Continued

Indicator	Years available	Source
Political stability		
Countries with major episode of political violence	1946–2010	Major episodes of political violence, 1946–2010, compiled by Monty G. Marshall, www.systemicpeace.org/warlist.htm
Net refugee outflow	1961–	UNHCR, Statistical Online Population Database, www.unhcr.org/pages/4a013eb06.html
Environmental well-being		
Environmental sustainability index	2001, 2002, 2005	The Environmental Performance Measurement Project, www.yale.edu/esi/

Source: Ranis et al. (2006).

It should be noted that there are other data that can be useful for the HDIA, even if they are not listed here. For example, ***Demographic and Health Surveys*** website (www.measuredhs.com/) has data on women's status and empowerment (e.g., women's autonomy, such as household decision making, free movement, and access money), domestic violence, and Human Immunodeficiency Virus (HIV) prevalence, knowledge, attitudes, and behaviours. As listed in the tables below, ***Labour Force Survey*** available from the national statistics office provides rich work-related data.

Time-use data, when applied in gendered CGE models, assess the possible impacts of a trade policy change on the use of men's and women's time in paid work (market or productive activities), unpaid work (e.g., household or reproductive work), and leisure activities. The United Nations Statistics Division (UNSD) (unstats.un.org) has various economic statistics, demographic and social statistics, environment and energy statistics, and Millennium Development Goal (MDG) indicators as well as references to time-use data.

Based on the three dimensions of economic, social and cultural rights (availability, accessibility and quality) the following indicators in Table A1.3 may be also useful:

Table A1.3: Indicators to assess impact on three dimensions of selected human rights

Indicator[22]	Years available	Source[23]	
		Quantitative	Qualitative
Right to Education			
Availability			
Public expenditure on education as % of GDP [*higher is better, subject to setting of national benchmark*]	1999–	UNESCO, Data Center stats. uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng	*Concluding Observations by UN treaty bodies, e.g. on the Convention on the Right of the Child, CEDAW, CESCR (incl. right to education):* www.ohchr.

Continues..

22 Indicators were selected based on the following questions: 1) Which human rights are most likely affected by changes in trade policies?, *2*) Which indicators serve best to measure this impact?, and 3) For which indicators is data available? Indicators were identified and adapted, *inter alia,* from the following resources: OHCHR (2008); ILO (2009); Green and Randolph (2009) and UNICEF (2007).

23 As much as possible, global or regional data sources are provided. Evidently, national sources can provide more detailed and/or complementary information; they are explicitly mentioned where they may be the main available data source.

Continued

Indicator[22]	Years available	Source[23]	
		Quantitative	Qualitative
Accessibility			org/EN/Countries/Pages/HumanRightsintheWorld.aspx *(by country)* *Country reports by Human Rights Council Special Procedures, e.g. the UN Special Rapporteur on Right to education:* www2.ohchr.org/english/issues/education/rapporteur/visits.htm Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous people: www2.ohchr.org/english/issues/indigenous/rapporteur/countryreports.htm Independent Expert on minority issues: www2.ohchr.org/english/issues/minorities/expert/visits.htm Special Rapporteur on the human rights of migrants: www2.ohchr.org/english/issues/migration/rapporteur/visits.htm
Net primary enrollment rate by target groups, e.g. male, female [*higher is better*]	1999–2005	UNESCO, Data Center stats. uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng *UNESCO,* Institute for Statistics, *"Children Out of School: Measuring Exclusion from Primary Education"*, www.childinfo.org/files/education_publication_UIS_UNICEF_2005_COOS.pdf	
Percentage of pupils starting grade 1 who reach last grade of primary education (primary completion rate) by sex – MDG indicator 2.2 [*higher is better*]	1999–	UN, MDG Indicators, mdgs.un.org/unsd/mdg/Data.aspx	
Gender parity index (ratios of girls to boys) in primary education *[higher/closer to 1 is better*]			
Proportion of children completing secondary education (secondary completion rate) [*higher is better*]	1996–	*UNICEF, The State of the World's Children,* www.unicef.org/statistics/index_countrystats.html	
Tertiary education enrollment rates [*higher is better*]	1999–	UNESCO, Data Center stats. uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng	
Density of primary, secondary and higher education facilities [*higher is better]*	Various years	The Global Positioning System (GPS) based or household surveys (national education authorities)	
Quality			
Ratio of students to teaching staff in primary and secondary education *[higher is better]*	1999–	UNESCO, Data Center, stats. uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng, and national education authorities for disaggregation of public/private institutions	

Continues..

Continued

Indicator	Years available	Source	
		Quantitative	Qualitative
Right to Food			
Availability			
Share of public expenditure on agriculture [*depending on national context , higher is better*]	1983–	For African countries, Regional Strategic Analysis and Knowledge Support System: www.resakss.org/, For other regions: Budget statistics of national finance and agricultural authorities	*Concluding Observations by UN treaty bodies, e.g. on the Convention on the Right of the Child, CEDAW, CESCR (incl. right to food):* www.ohchr.org/EN/Countries/Pages/HumanRightsintheWorld.aspx *(by country)* *Country reports by Human Rights Council Special Procedures, e.g. the* Special Rapporteur on the right to food, www2.ohchr.org/english/issues/food/visits.htm Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous people: www2.ohchr.org/english/issues/indigenous/rapporteur/countryreports.htm Independent Expert on minority issues: www2.ohchr.org/english/issues/minorities/expert/visits.htm Special Rapporteur on the human rights of migrants: www2.ohchr.org/english/issues/migration/rapporteur/visits.htm
Proportion of per capita availability of major food items sourced through domestic production, import & food aid [*diversification of source and origin is better]*	Various years	Household surveys (national food security agencies)	
Share of food aid in total dietary energy supply *[lower is better]*	1990–	FAO, Food Security Statistics, http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/	
Share of food aid in total consumption [*lower is better*]			
Quality			
Children under-five years of age stunted for age or underweight for age [*lower is better]*	1970–	*WHO, Global Health Observatory,* http://www.who.int/gho/en/	
Number of recorded incidences of food poisoning related to adulterated food [*lower is better*]	Various years	Registries of national regulatory bodies overseeing food standards and of national consumer protection agencies	
Right to Health			
Availability			
Time frame and coverage of national policy on medicines, including list of essential medicines, measures for generic substitution [*more extensive is better*]	Various years	Policy repositories of national health authorities	*Concluding Observations by UN treaty bodies, e.g. on the Convention on the Right of the Child, CEDAW, CESCR (incl. right to health):* www.ohchr.org/EN/Countries/Pages/HumanRightsintheWorld.aspx *(by country)* *Country reports by Human Rights Council Special Procedures, e.g. the* Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health,
Total expenditure on health as percentage of GDP [*higher is better, subject to setting of national benchmark*]	1995–	*WHO, Global Health Observatory,* http://www.who.int/gho/en/	
External resources for health as percentage of total expenditure on health [*lower is better*]	1995–	*WHO, Global Health Observatory,* http://www.who.int/gho/en/	

Continues..

Continued

Indicator	Years available	Source	
		Quantitative	Qualitative
Accessibility			www2.ohchr.org/english/issues/health/right/visits.htm Independent Expert on the issue of human rights obligations related to access to safe drinking water and sanitation, www2.ohchr.org/english/issues/water/iexpert/visits.htm Special Rapporteur on the right to food, www2.ohchr.org/english/issues/food/visits.htm Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous people: www2.ohchr.org/english/issues/indigenous/rapporteur/countryreports.htm Independent Expert on minority issues: www2.ohchr.org/english/issues/minorities/expert/visits.htm Special Rapporteur on the human rights of migrants: www2.ohchr.org/english/issues/migration/rapporteur/visits.htm
Median availability and consumer price of selected generic drugs *[higher availability and lower price is better]*	2001–	WHO, World Health Statistics 2009 www.who.int/whosis/whostat/EN_WHS09_Table6.pdf	
Death rate due to communicable and non-communicable diseases (e.g. HIV/AIDS, tuberculosis) [*lower is better*]	1990–	*WHO, Global Health Observatory,* http://www.who.int/gho/en/	
Proportion of population with access to improved drinking water – MDG indicator 7.8 sanitation [*higher is better*]	Various years 2001	UN, MDG Indicators, http://mdgs.un.org/unsd/mdg/Data.aspx and UN Habitat, http://www.unhabitat.org/stats/default.aspx	
Proportion of population with access to improved sanitation – MDG indicator 7.9 [*higher is better*]			
Quality			
Prevalence of deaths, injuries, diseases and disabilities caused by unsafe occupational environment [*lower is better*]	Various years	Labour force surveys (national labour authorities)	*Country reports by Human Rights Council Special Procedures, e.g. the* Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, www2.ohchr.org/english/issues/environment/waste/visits.htm
Rates of occupational injuries by economic activity *[lower is better]*	2002–	ILO, laborsta.ilo.org/	
Proportion of births attended by skilled health personnel – MDG indicator 5.2 [*higher is better*]	Various years	UN, MDG Indicators, http://mdgs.un.org/unsd/mdg/Data.aspx and *WHO, Global Health Observatory,* http://www.who.int/gho/en/	
Right to adequate Housing			
Accessibility			
Proportion of urban population living in slums - MDG indicator 7.10 [*lower is better*]	Various years	UN, MDG Indicators, http://mdgs.un.org/unsd/mdg/Data.aspx and UN Habitat, http://www.unhabitat.org/stats/default.aspx	*Concluding Observations by UN treaty bodies, e.g. on the Convention on the Right of the Child, CEDAW, CESCR (incl. right to adequate housing):* http://www.

Continues..

Continued

Indicator	Years available	Source	
		Quantitative	Qualitative
Reported cases of "forced evictions" (security of tenure) [*lower is better*]		Registries and reports of national human rights institutions (http://www.nhri.net/nationaldatalist.asp), relevant NGOs/CSOs or administrative agencies responsible for monitoring rehabilitation	ohchr.org/EN/Countries/Pages/HumanRightsintheWorld.aspx *(by country) and Country reports by Human Rights Council Special Procedures, e.g. the* Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context, http://www.ohchr.org/EN/Issues/Housing/Pages/CountryVisits.aspx Special Rapporteur on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights, http://www2.ohchr.org/english/issues/environment/waste/visits.htm
Quality			
Proportion of households living in or near hazardous conditions [*lower is better*]		Registries and reports by national human rights institutions (http://www.nhri.net/nationaldatalist.asp), NGOs/CSOs	
Right to Work and to Social Security			
Availability			
Annual employment growth (job creation rates), by education level [*higher is better]*	Various years	Labour force surveys (national labour authorities)	*Concluding Observations by UN treaty bodies, e.g. on the Convention on the Right of the Child, CEDAW CESCR (incl. right to work):* http://www.ohchr.org/EN/Countries/Pages/HumanRightsintheWorld.aspx *(by country)*
Accessibility			
Share of women in wage employment in the non-agricultural sector *[depending on national context, higher is better]*	1980–	ILO KLIM, http://kilm.ilo.org/	
Ratio of women to men wages, by sector and occupations [*higher is better]*	1980–	ILO KLIM, http://kilm.ilo.org/	
Distribution of labour force by level of education [*the more commensurate the type of job with level of education the better*]	1980–	Labour force surveys (national labour authorities); ILO, Key Indicators of the Labour Market (labour force by education), ILO KLIM, http://kilm.ilo.org/	
Proportion of administrative regions with specialised public agencies to assist individuals in finding employment *[higher is better]*	Various years	Reports and statistics of national social protection agencies	

Continues..

Continued

Indicator	Years available	Source	
		Quantitative	Qualitative
Quality			
Proportion of economically active children [*lower is better]*	Various years	ILO, Child Labour Statistics, country briefs at http://www.ilo.org/ipec/ChildlabourstatisticsSIMPOC/lang--en/index.htm, labour force and household surveys (national labour and education authorities)	*Concluding Observations by UN treaty bodies, e.g. on the Convention on the Right of the Child, CEDAW CESCR (incl. right to social security):* http://www.ohchr.org/EN/Countries/Pages/HumanRightsintheWorld.aspx *(by country) and Country reports by Human Rights Council Special Procedures, e.g. the* Independent Expert on the question of human rights and extreme poverty, http://www2.ohchr.org/english/issues/poverty/expert/visits.htm
Trade union density, i.e. union membership as proportion of total (paid) employees *[higher is better]*	Various years	ILO UNIONS 2009, http://www.ilo.org/public/english/dialogue/ifpdial/downloads/dialdata/unions2009.xls	
Proportion of labour force in vulnerable employment, i.e. proportion of own-account and contributing family workers in total employment – MDG indicator 1.7 [*lower is better]*	Various years	UN, MDG Indicators, http://mdgs.un.org/unsd/mdg/Data.aspx	
Proportion of working poor, i.e. proportion of employed people living below $1 (PPP) per day – MDG indicator 1.6 *[lower is better]*	Various years	UN, MDG Indicators, http://mdgs.un.org/unsd/mdg/Data.aspx	
Proportion of labour force participating in public or private social security schemes [*higher is better]*	Various years	Labour force surveys (national labour authorities, national social protection agencies)	
Public expenditures on social security as proportion of gross national income [*higher is better]*	1990–1996	ILO, Cost of Social Security Database, http://www.ilo.org/public/english/protection/secsoc/areas/stat/css/index.htm	
Proportion of requests for social assistance (e.g. income transfer, subsidized housing, calamity relief) reviewed and met [*lower is better]*	Various years	Household and labour force surveys (national labour and social protection agencies)	

A.1.3 Questionnaires for central human capabilities

When human development-related indicators that might be suitable for the HDIA of a particular trade policy are not available, one can survey those groups that might be affected by a trade policy change. The questionnaires provided in Tables A1.4 and A1.5 might be useful for gathering primary data or to supplement existing individual and household surveys. For each indicator and survey question selected, where applicable one should collect/use disaggregated data by sex, race, ethnicity, age, and residential region in order to examine the differentiated impacts of trade on concerned stakeholders.

Anand et al. (2006) identified a set of questions and variables from the *British Household Panel Survey*, related to Nussbaum's list of central human capabilities (Nussbaum 2000).[24] Accordingly, ten capabilities as central requirements of a life with dignity are:

A. Life: Being able to live to the end of a human life of normal length.

B. Bodily health: Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.

C. Bodily integrity: Being able to move freely from place to place; to be secure against violent assault; having opportunities for sexual satisfaction and for choice in matters of reproduction.

D. Senses, imagination, and thought: Being able to use the senses, to imagine, think, and reason – and to do these in a way informed and cultivated by an adequate education. Being able to use these in connection with experiencing and producing works and events of one's own choice. Being able to use one's mind in ways protected by guarantees of freedom of expression.

E. Emotions: Being able to have attachments to things and people outside ourselves; not having one's emotional development blighted by fear and anxiety.

F. Practical reason: Being able to form a conception of the good and to engage in critical reflection about the planning of one's life.

G. Affiliation: (a) Being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social interaction; and (b) having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others.

H. Other species: Being able to live with concern for and in relation to animals, plants, and the world of nature.

I. Play: Being able to laugh, to play, to enjoy recreational activities.

J. Control over one's environment: (a) Political – being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association; (b) Material – being able to hold property and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others.

Table A1.4 displays the modified versions of the list in Anand et al. (2006) and Anand (2007), with selected questions that are most relevant to the HDIA of trade. This is not to argue that the stakeholder survey for the HDIA of trade should consist of all the questions listed below. Rather, we acknowledge that some of the categories/ indicators may not be applicable to the HDIA of a particular trade policy, and thus can be omitted. In addition, some of categories and questions need to be modified based on a country's particular context and the objective of the assessment. For example, Q3 in Table A1.4 asks whether one eats fresh meat, chicken, or fish at least twice a week – a question designed to identify the nourishing status of the interviewees and to measure bodily health. However, this question can be modified to conform to the cultural and religious sensitivities within an assessment country after consulting nutritionists as to the appropriate benchmarks for health measurement (e.g., protein).

24 Similar to Nussbaum (2000), Ingrid Robeyns identified a list of capabilities for gender inequality assessment in the context of post-industrialized Western societies. As our discussion is mainly focused on the HDIA of trade in developing countries, we will not discuss her list here. However, she clearly states the importance of taking "domestic work and nonmarket care" and "time-autonomy" into consideration. For more details, please see Robeyns (2003).

Table A1.4: Questions for identifying central human capabilities

Main Corresponding Question(s)	Response Code
A. Life	
1. Given your family history, dietary habits, lifestyle, and health status, until what age do you expect to live?	Years
B. Bodily health	
2. Does your health in any way limit your daily activities compared to most people of your age?	1 if No, (otherwise) 0
3. Do you eat fresh meat, chicken, or fish at least twice a week?	1 if Yes or No*, 0
4. Is your current accommodation adequate or inadequate for your current needs?	1 if Adequate, 0
5. Are you prevented from moving home for any reason?	1 if No, 0
C. Bodily integrity	
6. Please indicate how safe you feel walking alone in the area near your home during the daytime?	1–7(Cs)
7. Please indicate how safe you feel walking alone in the area near your home (or work) after dark.	1–7(Cs)
8. Have you ever been the victim of some other form of violent assault or attack?	1 if Yes, 0
9. How likely do you think it is that you will be a victim of violent assault or attack in the future?	1–7(El)
10. Have you ever been a victim of sexual assault?	1if Yes, 0
11. Please indicate how vulnerable you feel to sexual assault or attack.	1–7(El)
12. Even if you don't need or have never needed any of the following [contraception, abortion or infertility treatment], are you prohibited from using any of the following for any reason (e.g., religious beliefs, family pressure)?	1if Yes, 0
D. Senses, imagination, and thought	
13. What is your highest educational or work-related qualification?	Educational category
14. How often do you use your imagination and or reasoning in your day to day life?	1–7(At)
15. Are you free to express your views?	1–7(As)
16. Have you recently been able to enjoy your normal day-to-day activities?	1–4(Mu)
E. Emotions	
17. How difficult do you find it to make lasting friendships with people outside work?	1–7(Ee)
18. At present, how easy or difficult do you find it to enjoy the loving care and support of your immediate family?	1–7(Ee)
19. Do you find it easy or difficult to express feelings of love, grief, longing, gratitude, and anger compared to most people of your age?	1–7(Ee)
20. Have you recently lost much sleep over worry?	1–4(Mu)
21. Have you recently felt constantly under strain?	1–4(Mu)
F. Practical reason	
22. Is your idea of a good life based on your own judgement?	1–7(As)
23. Do you have a clear plan of how you would like your life to be?	1–7(As)
24. How often, if at all, do you evaluate how you lead your life and where you are going in life?	1–7(At)
25. Outside of work, have you recently felt that you were playing a useful part in things?	1–4(Mu)
G. Affiliation	
26. Do you respect, value, and appreciate other people?	1–7(As)
27. Do you normally have at least one week's (seven days) annual holiday away from home?	1 if Yes, 0
28. Do you normally meet up with friends or family for a drink or a meal at least once a month?	1 if Yes, 0

Continues..

Continued

Main Corresponding Question(s)	Response Code
29. Do you tend to find it easy or difficult to imagine the situation of other people (i.e., to put yourself in others' shoes)?	1–7(Ee)
30. Have you recently been thinking of yourself as a worthless person?	1–4 (Not at all)
31. Outside of any employment or work situation, have you ever experienced discrimination because of your race, sexual orientation, gender, religion, or age?	1 if Yes, 0 for each applicable category
32. Outside of any employment or work situation, do you think you will be discriminated against in the future because of your race, sexual orientation, gender, religion, or age?	1–7(El) for each applicable category
H. Other species	
33. Do you appreciate and value plants, animals, and the world of nature?	1–7(As)
I. Play	
34. Have you recently been enjoying your recreational activities?	1–4(Mu)
J. Control over one's environment	
35. Are you able to participate in the political activities that affect my life, if you want to?	1–7(As)
36. For which of the following reasons, if any, have you not bought your home? [U=unable to buy for reasons of affordability or difficulty obtaining mortgage, 1 = home owner or chose not to buy for other reasons.]	0 if U, 1
37. When seeking work in the past, have you ever experienced discrimination because of your race, sexual orientation, gender, religion, or age?	1 if Yes, 0 for each category
38. When seeking work in the future, how likely do think it is that you will experience discrimination because of you race, sexual orientation, gender, religion, or age?	1–7 (Eu) or 0**
39. To what extent does your work make use of your skills and talents?	1–7(At) or 0***
40. At work, have you recently felt that you were playing a useful part in things?	1–4(Mu) or 0***
41. Do you tend to find it easy or difficult to relate to your colleagues at work?	1–7(Ee) or 0***
42. Are you treated with respect at work?	1–7(At) or 0***

Note: The terms 1–4 and 1–7 indicate 4-point and 7-point scales, and attached to each maximum is an abbreviation denoting the semantic anchor used for that point.
No*=No for reasons of choice, Pa=Prevented for reasons of affordability, Cs=Completely satisfied,
El=Extremely likely, At=All the time, As=Agree Strongly, Mu=Much more usual than often, Ee=Extremely easy,
** indicates variable = 0 if there is no intention to work in future
*** indicates variable = 0 if the respondent is in work.

Source: Anand et al. (2006), Anand (2007).

A.1.4 Questionnaire for measuring multi-dimensions of poverty

Table A1.5 includes survey questions listed in OPHI (2008), which were aimed at inclusion in nationally representative individual or household surveys to assess poverty in depth. Indicators were selected that would be internationally comparable and that would be able to identify changes in the dimensions over time.

Needless to say, there are similarities between Tables A1.4 and A1.5. Thus, this is not to argue that the stakeholder survey for the HDIA of trade should consist of all the questions listed below. Rather, as discussed above, the omission and modification of questions should be considered based on a particular country's context and the objectives of the assessment.

OPHI's list includes five categories:

A. Employment: including both formal and informal employment, with particular attention as to the quality of employment;
B. Empowerment, or agency: the ability to advance goals one values and has reason to value;
C. Physical safety: focusing on security from violence to property and person, as well as perceived violence;

D. Ability to go about without shame: to emphasize the importance of the dignity, respect, and freedom from humiliation;
E. Meaning and value: to emphasize meaning, satisfaction, and their determinants.

Each category includes a set of indicators that are *addition* to a set of standard questions asked in labour, household, and other kinds of national surveys. For example, on employment, standard labour surveys ask:

- ✓ Question determining employment status (employed/unemployed/inactive);
- ✓ Respondents' branch of economic activity (sector & occupation);
- ✓ Questions to determine formal vs. informal employment;
- ✓ Hours worked;
- ✓ Question about job search, such as "Have you made any effort within the past months to find work or to established a business or an enterprise?"

In Table A1.5 we duplicate the indicators in OPHI (2008) that we feel might be useful for the HDIA of trade policy, namely in the categories of employment, empowerment, and meaning and value. However, this does not mean that the indicators not listed here are of no value with regard to the HDIA; in some context they might also be useful. Please see OPHI (2008) for a full set of indicators as well as technical notes on survey implementation before conducting the HDIA of a trade policy.

Table A1.5: Questions for identifying missing dimensions of poverty

Questions	Response Code
Employment	
1. For this work, will you receive a retirement pension?	1. Yes; 2. No; 9. Don't know
2. Are you entitled to paid sick leaves?	1. Yes; 2. No; 9. Don't know
3. Are you entitled to paid holidays?	1. Yes; 2. No; 9. Don't know
4. (Female 15–49 only) Are you entitled to maternity leave?	1. Yes; 2. No; 9. Don't know
5. Are you covered or entitled to social security benefits?	1. Yes; 2. No; 9. Don't know
6. Are you covered or entitled to health insurance or free medical care?	1. Yes; 2. No; 9. Don't know
7. How likely do you think it is that you will lose your job/ income generating activity in the next three months?	1. Very likely 2. Somewhat likely 3. Not very unlikely 4. Not likely 5. Don't know
8. If you were to lose your job, would your savings be enough to cover three months without working while you look for a new job?	1. Yes; 2. No; 9. Don't know
9. In the past 12 months/ 5 years have you fallen sick or had an accident that prevented you from working for a whole month?	1. Yes; 2. No (Go to Q 13) 9. Don't know
10. (If yes in Q9) What did you do in response to this shock to maintain your welfare level? [LIST UP TO THREE BY ORDER OF IMPORTANCE] 1. Spend savings/ sell assets or land 2. Borrow money from family or friends 3. Borrow money from money lender or institution 4. Receive money from heath insurance or employer 5. Other member of household previously not working go to work 6. Reduce consumption 7. Do nothing 8. Other (specify)	

Continues..

Continued

Questions	Response Code
11. In the past 12 months/ 5 years have you been affected by a negative shock to your income-generating activity (such as a drastic fall in demand/price of your good, drought or flood affecting your crops, death or theft of your livestock, loss of your employment, or business failure)?	1. Yes 2. No (Go to Q 15) 9. Don't know
12. (If yes in Q11) What did you do in response to this shock to maintain your welfare level? [LIST UP TO THREE BY ORDER OF IMPORTANCE] 1. Spend savings/ sell assets or land 2. Start a new activity/ look for a new job 3. Borrow money from family or friends 4. Borrow money from money lender or institution 5. Receive money from heath insurance or employer 6. Other member of household previously not working go to work 7. Reduce consumption 8. Do nothing 9. Other (specify)	
13. How much money do you usually take home in a regular period?	Amount in day/ week/ month
14. Considering the total number of hours worked last week, would you like to work fewer hours at the expense of a reduction in income?	1. Yes; 2. No; 9. Don't know
15. How many other occupations did you undertake in the past 12 months?	Number
16. About the main occupation) Have you suffered any accidental injury, illness, disability, or other physical or mental health problem caused by work during the past 12 months?	1. Yes 2. No (Go to Q21) 9. Don't know
17. (If yes in Q16) How many of these incidents did you experience? (Record the number of different illnesses or injury)	Number
18. (If yes in Q17) How many of these incidents led to loss of work?	Day(s)
19. Thinking about your most serious accident, did the injury have:	1. No Permanent effect 2. Permanent effect, able to work in the same job 3. Permanent effect, able to work not in the same job 4. Permanent effect, not able to work at all
20. Thinking about the most serious of these health problems, how would you describe it? 1. Bone, joint, or muscle problem, which may affect (or is mainly connected with) arms, hands, neck, or shoulder 2. Bone, joint, or muscle problem, which may affect (or is mainly connected with) hips, legs, or feet 3. Bone, joint, or muscle problem, which may affect (or is mainly connected with) the back 4. Breathing or lung problems 5. Skin problems 6. Hearing problems 7. Stress, depression, or anxiety 8. Headache or eye strain 9. Heart disease/ attack, other circulatory system 10. Infectious disease	

Continues..

Continued

Questions	Response Code
11. Other (specify) 12. Don't know	
21. (About the main occupation) Thinking about the place you work, do you experience: 1. Inadequate clean water 2. Inadequate/dirty/ single-sex toilets 3. Machine parts unguarded and/or work with cutting/grinding hand tools without gloves 4. Noise too loud to talk normally without hearing protection equipment 5. Exposure to extreme temperatures (high or low) without appropriate protection 6. Exposure to harmful chemicals, dust, fumes, smoke, gases, vapours without adequate protection 7. Handling heavy loads/uncomfortable work posture/ long hours of standing 8. Tripping hazards 9. Other (specify)	1. Yes 2. No 9. Don't know
22. How concerned are you, if at all, that this job might cause you harm?	1. Very concerned 2. Somewhat concerned 3. Not very concerned 4. Not concerned 9. Don't Know
23. To what extent do you feel that: a) People treat you with respect at work? b) People treat you unfairly at work? c) You make good use of your knowledge at work? d) You have the opportunity to advance and improve at work?	1. Always 2. Frequently 3. Occasionally 4. Never 9. Don't Know
24. To what extent do you agree or disagree with the following statements: a) I have discovered a satisfying purpose at work b) I am motivated to give my best at my work c) At work I have a lot of autonomy and I can organize myself as I want	1. Completely true 2. Somewhat true 3. Not very true 4. Not true at all 5. Don't Know
25. Do you know of and do you have access to specialized services to support you to find work?	1. Yes; 2. No; 9. Don't know
26. Do you have access to information that helps you find work?	1. Yes; 2. No; 9. Don't know
27. Do you feel you are in any way discriminated against compared to others when looking for work?	1. Yes; 2. No; 9. Don't know
28. Are there trade unions or other groups that represent your interests at work that you can get in touch with or join if you want?	1. Yes; 2. No; 9. Don't know
29. Are you free to choose and accept work?	1. Yes; 2. No; 9. Don't know
Empowerment *(Individual and household decision-making) [To be addressed to the head of household and spouse but also to other adult members of the household when applicable]*	
30. How much control do you feel you have in making personal decisions that affect your everyday activities?	1. Control over all decisions 2. Control over most decisions 3. Control over some decisions 4. Control over very few decisions 5. No control at all

Continues..

Continued

Questions	Response Code
31. When decisions are made regarding minor household expenditures, who is it that normally takes the decision?	1. Respondent (Skip to Q32) 2. Spouse 3. Respondent and spouse jointly 4. Someone else (specify) 5. Jointly with someone else (specify) 6. Other (specify)
(Those who answered #2–6) To what extent do you feel you can make your own personal decisions regarding minor household expenditures if you want to?	1. To a great extent 2. To a medium extent 3. To a small extent 4. Not at all
32. When decisions are made regarding what to do if you have a serious health problem, who usually takes the decision?	1. Respondent (Skip to Q33) 2. Spouse 3. Respondent and spouse jointly 4. Someone else (specify) 5. Jointly with someone else (specify) 6. Others (specify)
(Those who answered #2–6) To what extent do you feel you can make your own personal decisions regarding what to do when you have a serious health problem, if you want to?	1. To a great extent 2. To a medium extent 3. To a small extent 4. Not at all
33. When decisions are made regarding what kind of job or tasks you will do, who usually takes the decision?	1. Respondent (Skip to Q34) 2. Spouse 3. Respondent and spouse jointly 4. Someone else (specify) 5. Jointly with someone else (specify) 6. Others (specify)
(Those who answered #2–6) To what extent do you feel you can make your own personal decisions regarding what kind of job or tasks you will do, if you want to?	1. To a great extent 2. To a medium extent 3. To a small extent 4. Not at all
Meaning and value	
Autonomy	**[for Q34-Q42]** 1. Completely true 2. Somewhat true 3. Not very t rue 4. Not at all true
34. I feel like I am free to decide for myself how to live my life.	
35. I generally feel free to express my ideas and opinions.	
36. I feel like I can pretty much be myself in daily situations.	
Competence	
37. People I know tell me I am competent at what I do.	

Continues..

Continued

Questions	Response Code
38. Most days I feel a sense of accomplishment from what I do.	
39. I often feel very capable.	
Relatedness	
40. I get along well with people I come in contact with.	
41. I consider the people I regularly interact with to be my friends.	
42. People in my life care about me.	
Life satisfaction	
43. Overall, how satisfied are you with: a) Life overall b) Food c) Housing d) Income e) Health f) Work g) Physical safety h) Friends i) Family j) Education/ training k) Neighbourhood l) Ability to help others m) Wellbeing from spiritual, religious, or philosophical beliefs n) Dignity o) Free choice and control over your life	1. Very satisfied 2. Fairly satisfied 3. Not very satisfied 4. Not at all satisfied
44. Taking all things together, would you say you are:	1. Very happy 2. Rather happy 3. Not very happy 4. Not at all happy

Source: OPHI (2008).

Annex 2. Impact of assessment tools

A2.1 Qualitative analysis

In many developing countries the lack of data is a bottleneck for impact assessment studies. Time-series data, gender-disaggregated data, and/or a number of well-being measurements are scarce. Primary data collection can be time-consuming and costly as it requires months to complete the process, which includes designing the field survey questionnaires, training enumerators, collecting information through interviews and observations, and cleaning and analysis of the data. Needless to say, the HDIA would benefit more if disaggregated data by sex, age, ethnicity, and so on were collected as part of national statistics, such as a household survey or an industrial survey with regard to capabilities and human development. If that is not an option, the HDIA team needs to collect information on changes in human development of the targeted groups by conducting surveys and interviews to make a plausible link with trade reforms. Even when secondary data are available,

surveys and/or focus groups with stakeholders are useful to fill information gaps and thus make even clearer the trade and human development linkages.

The HDIA, like any other qualitative analysis, will benefit from beginning with a description of the survey results. Descriptive analysis of human development-related indicators and variables is particularly useful in instances in which the impact of trade on human development has not been previously examined (see Box 3.1).

A2.2 Quantitative analysis

Differentiated impacts by economic and social characteristics such as sex, age, ethnicity, educational attainment, and so on can be further examined by using statistical analysis tools. There are various tools that one can use. Selection of the tool or model depends on the question one asks regarding the relationship between trade and human development, and data availability. Introduction of various models is beyond the scope of this toolkit. Therefore, this section summarizes some examples of the quantitative analysis from the literature on trade and human development. These are: Social Accounting Matrix (SAM)[25], CGE models, Partial Equilibrium Analysis, and Factor Analysis.

A2.2.1 Social Accounting Matrix (SAM)

A SAM describes all transactions taking place among various agents and institutions in an economy at one time. It embodies the idea of sectoral interdependencies (from input/output analysis) and the idea that income must always be equal to expenditure (circular flow). In a SAM the horizontal rows indicate incomes (or inflows); the vertical column entries are expenditures (or outflows). The row and column totals must balance.

A SAM gives a snapshot of the structure of the economy, for example, where output is produced, who is producing it, what sectors are buying the output, and what inputs are used in production during a single time period. Since income equals expenditures, it also traces the flows of income to different sectors, and it can trace the flows of income to specific social groups.

As a result of this analysis of interdependencies and circular flow, a SAM (properly disaggregated) can be used to look at backward and forward linkages in an economy. It can also be used to look at multiplier effects – that is, the ripple effects of a change in final demand throughout the economy, including its direct and indirect effects on employment, income and household well-being. In addition to providing a consistent framework of national accounts, a SAM also incorporates distributional and social dimensions by providing detailed information on various institutions disaggregated by socioeconomic characteristics, such as sex and household types, in addition to a number of sectors. An example of SAM is shown in Table A2.1.

Table A2.1: An example of SAM-sectoral structure of Bangladesh economy, 2000

	Net output (% of GDP)	Export intensity*	Import penetration*	Female intensity	Female labor (% of total)	Male labor (% of total)
All market sectors, of which:	*100.0*			*20.1*	*11.4*	*46.4*
Rice and grains	7.6	0.0	4.5	16.0	1.72	9.3
Jute	0.3	16.2	0.0	6.6	0.05	0.7
Sugarcane	0.4	0.0	0.0	4.5	0.02	0.3
Commercial crops	2.2	1.0	14.2	1.6	0.01	0.7
Vegetables	5.6	0.7	9.5	34.7	1.36	2.6

Continues..

25 The section on SAM greatly benefitted from Fontana (2006a).

Continued

	Net output (% of GDP)	Export intensity*	Import penetration*	Female intensity	Female labor (% of total)	Male labor (% of total)
Livestock	2.5	0.1	22.7	48.2	2.99	3.3
Poultry	0.5	0.0	0.3	76.4	0.29	0.1
Shrimp	0.5	36.2	0.0	32.1	0.06	0.1
Fish	5.6	0.0	0.0	29.8	0.44	1.1
Rice and grain processing	2.9	0.0	1.5	35.8	0.16	0.3
Edible oil	0.3	0.0	44.4	0.2	0.00	0.0
Sugar	0.3	0.0	6.9	2.8	0.01	0.2
Other food	0.6	11.1	12.5	10.6	0.02	0.2
Tobacco products	0.5	0.1	2.0	32.4	0.02	0.0
Leather	0.2	69.5	11.0	2.0	0.00	0.0
Jute textiles	0.2	66.1	29.1	0.5	0.00	0.2
Yarn	0.3	0.2	68.0	9.5	0.02	0.2
Mill cloth	0.2	0.0	82.2	1.9	0.00	0.2
Other cloth	1.0	0.0	0.0	11.5	0.13	1.0
RMG	2.8	77.7	19.3	80.2	1.22	0.3
Knitwear	0.6	88.5	21.6	0.0	0.00	0.0
Other textiles	0.1	0.2	22.6	43.4	0.05	0.1
Other industries	2.8	0.4	65.0	15.5	0.22	1.2
Infrastructure	12.6	0.0	0.0	1.8	0.02	1.3
Trade and hotels	16.7	0.0	0.0	3.7	0.39	10.3
Transport	11.1	0.0	0.0	0.8	0.05	6.7
Communications	0.8	0.0	0.0	4.0	0.01	0.2
Public sector	11.9	0.0	0.0	15.9	0.32	1.7
Domestic services	3.7	0.0	0.0	39.5	1.81	2.9
Financial services	5.2	0.0	0.0	1.5	0.02	1.1

Source: Fontana (2006b)

Note: *Export intensity is measured as the share of exports in gross output. Import penetration is measured as the share of imports in domestic use

In sum, a SAM is a good tool to answer questions about:

- ✓ Descriptive picture of the economy at a particular time, focusing in particular on how resources are distributed between different socio-economic groups and individuals;
- ✓ Linkage effects from policy interventions to changes in relative prices, output structure and use and remuneration of factors of production;
- ✓ Multiplier effects from specific policy interventions;
- ✓ Income distribution effects resulting from the structure of production and/or policy interventions; and
- ✓ A benchmark data set for CGE models.

The data sources are:

- National account;
- Input-output tables;
- Labour force surveys;
- Household expenditure surveys;
- Time-use surveys, and so on.

The down side of this process is that the construction of a survey based on a SAM is a formidable task, and can take several years even when undertaken by the statistical office. For this reason most researchers resort to non-survey techniques to update SAMs and input-output tables using various existing sources. Since constructing a SAM can be timely and costly, they tend to be updated relatively infrequently. Hence, SAMs in use often contain approximations that are only as accurate as the approximation itself.

A SAM can be very useful for descriptive analysis, and it can be used in relatively simple ways to get first pass information on the impacts of changes in trade policies. For example, what would be the impact of an increase in market access from a trade agreement that would allow for an increase in exports of some key sectors? Simple manipulations of the SAM can give basic multiplier impacts on income and employment as well as linkage effects. This information can be even more informative if the SAM includes a gender breakdown for factors of production, information on the compositions and activities of households, and time-use data.

SAM extension for better gender analysis

Fontana and Rodgers (2005) proposes to extend SAM by providing a greater level of detail for existing accounts, for example, by further disaggregating agricultural sectors into female-intensive and male-intensive crops, if the issue of concern is gender relations in rural settings. They also suggest to add new data and to broaden definitions of what constitutes production or assets. A valuation of reproductive activities at the household level, for example, would contribute to this. Their suggestions on how to extend SAM to permit a richer gender analysis at all macro, meso, and micro-levels are summarized below. Macro-level analysis involves examining the gender division of the labour force between the different productive market sectors and the reproductive sectors. Meso-level analysis looks at the institutions that help structure the distribution of resources and activities for leisure that uses empirical estimates of the income elasticity of labour supply separately for women and men. It involves examining gender inequalities in public provision as well as gender biases in the operating rules of labour, commodity, and other markets. Micro-level analysis examines the gender division of labour, resources, and decision-making, particularly within the household. Fontana and Rodgers (2005) argue that SAM and CGE models describe macro-aggregates, but also can, and often do, incorporate a considerable level of detail for both 'meso' and 'micro' dimensions. Thus, they provide the opportunity to capture gender distortions at many levels. Development of national statistics by incorporating more of gender disaggregated data at different levels is necessary for a gender-sensitive HDIA of trade policies.

Table A2.2: A macro-meso-micro approach to making a SAM gender-aware

Level	*Account extensions*
Macro	• Valuation of reproductive activities • Gender disaggregation of both productive and reproductive sectors
Meso	• Gender disaggregation of public expenditure and taxes • Gender disaggregation of transaction costs • Distinction between formal and informal markets
Micro	• Consumption by household member • Asset ownership by household member • Indicators of dependents' welfare

Source: Fontana and Rodgers (2005).

A2.2.1 Computable General Equilibrium (CGE) models

CGE models are one of the most common methodologies used to study the distributional effects of trade policy changes. CGE models allow analysts to try out individual macroeconomic policies, experimenting with effects on economic regions, sectors, markets, and individual households. Their chief attributes are: They do not require data series over long periods of time, which are usually not available in poor countries; they account for direct and indirect channels of policy transmission, including effects of sector and household policy-responses back to the macro economy; and they disentangle the contributions of multiple preconceived policy reforms and events to economic outcomes. Because they describe a whole economy with enough detail to contain individual types of households, in principle they are well-suited to analyzing the effects of trade policy changes on employment, income distribution, and time-use.

CGE models usually try to replicate individual economies. However, in the case of multilateral trade policy reform they are also used to study the distribution of global gains from trade across countries.[26] At the same time, as discussed in more detail below, CGE models have many shortcomings, and unless they are used and interpreted carefully, they can easily mislead. This can be particularly pernicious because their complexity and, at times, false precision make them appear more "scientific" and valid than they actually are. Moreover, similar to SAM, the CGE model requires enormous input to create a meaningful analysis. Since this is costly and time consuming to implement, a CGE model should be used carefully and only for issues and in ways for which they are best suited.

CGE models: An introduction

CGE models provide comprehensive representation among impact assessment methodologies of economy-wide channels of transmission of macroeconomic policy to households. CGE models encompass nearly all agents and markets, although analysis of productive activities is limited to structural sectors, with limited reference to individual or representative enterprises or to enterprise surveys. They also cover both direct and indirect policy effects, including spillovers across sectors and markets, although feedback from microeconomic (household) behaviour back to the macro economy is also limited.

CGE models are useful for analysis of income inequality and poverty because they specify in great detail how households earn and spend their incomes. Since most household income in poor countries comes from work, to obtain an accurate measure of policy-induced changes in income distribution, poverty, and welfare, CGE models usually differentiate labour by skill level, education, age, sex, region, or sector of employment. They may also differentiate capital assets by type, sector, or region, and land by type, region, or quality.

However, in the standard CGE model, the behaviour of only a number of representative households, those featuring certain interesting characteristics as suggested above, is specified. This structure forces all households in a particular representation into the same income or poverty level. Thus, the greater the disaggregation of households (i.e., the greater the number of representative groups), the more accurate the actual and predicted change in income distribution and poverty.

The CGE model is written as a set of simultaneous equations. Most of them are microeconomic, specifying how the quantities supplied and demanded in each market respond to price changes. For production and consumption decisions, household and sector behaviour is captured by nonlinear, first-order optimality conditions of profit and utility maximization. There are also macroeconomic constraints that have to be satisfied but are not necessarily considered by any individual actor. These

26 Many global analyses use the Global Trade Analysis Project (GTAP) model and its database of internally consistent global production, consumption, and trade. Furthermore, the massive and robust GTAP database is enriched by an abundance of detailed bilateral trade data, factor endowment usage for each sector of production, and government intervention on international trade for each country. However the downside of the GTAP database is that it does not usually provide sufficient detail for income distribution analysis within countries, in the sense of not providing highly disaggregation for socio-economic groups/household types/ factors of production, GTAP database package provides complete, user-friendly computer software. Like most of the fundamental CGE models, the GTAP was developed based on neoclassical theories. The model uses general equilibrium modeling package to calculate the solutions. The purpose of this package is to perform comparative static analyses for the world economies in response to change in bilateral/multilateral trade conditions. Welfare implementation can be performed in the model as well. GTAP is coordinated by the Center for Global Trade Analysis, Department of Agricultural Economics, Purdue University in the United States.

constraints impose equilibrium on markets for factors and goods as well as on macroeconomic accounts for saving and investment, the government, and payments to and from the rest of the world.

The main database for a CGE model is a SAM or an extended input-output table. But a SAM is merely an accounting system, which contains no behavioral features. It is the equations of the CGE model that define an agents' behaviour and explains all the payments recorded in the SAM. That is, the CGE model is calibrated to a base year. To do this, parameters and endogenous variables – those that are explained by the model itself – are given values so that the initial solution replicates the data in the SAM or input-output table for a given year. In addition, parameter values must be consistent within the model. For example, the efficiency parameter for the production function in each sector must make the quantity of output correspond to the quantities of factor inputs. When data for a CGE are weak or unavailable, such as for elasticities of substitution in production and consumption, parameter values may be imposed on the basis of independent econometric evidence or values used in other countries.

CGE models are usually constructed to treat a single policy change, such as trade liberalization. However, researchers can modify the model for extended analysis. New developments in CGE models are frequently revealed, which will make it easier to deal with multiple policy change at a time. The models can now handle many non-classical assumptions, such as imperfect competition (e.g., monopoly) and economies of scale. Furthermore, the development in dynamic CGE models seems to be useful in a long-run dynamic simulation in the future.[27] And as long as a SAM is used as the database for a CGE model, household disaggregation could reveal more fruitful outcome of the models.

It is not easy for the user of CGE models to check for complementarities obtainable by combining major macroeconomic policy reforms, such as trade liberalization and investment in education. They may sometimes not be able to capture the detailed effects of policy changes. CGE models can identify the winners and losers from a policy reform and help design programs to compensate the losers, especially those who are already poor. This contribution is important for policy-makers in managing their budgets.

Analogous to the CGE model, the microsimulation model also highlights household behaviour, consumption patterns, and micro-level income distribution. The database of this model also comes in the form of an input-output structure. The advantage of this model is that the database used can be divided into a sub-group of population, such as gender, occupation, ethnicity, income, and so on. Since this type of model needs an enormous amount of detailed data about households, it is limited by household survey data to support the model.

One crucial point to note is that most CGE models examine the "long-term equilibrium effects" of policy reform. Needless to say, this is a hypothetical construct since economies almost never converge to their "long-term equilibrium." In this sense, CGE models provide estimated hypothetical impacts that must then be carefully interpreted. In principle, they can also incorporate equilibrium growth rates. Thus, CGE models are best suited for identifying the long-term winners and losers from trade liberalization, in absolute or relative terms.

A CGE model is solved numerically using mathematical simultaneous (linear/nonlinear) equations solvers, including General Algebraic Modelling System (GAMS) and General Equilibrium Modeling Package software.[28] One can develop a model and insert a SAM or input-output table database of your choice. However, the major problem for the software usage is that complex computer source codes are needed for converting mathematical simultaneous equations to computer languages.

27 Francois (1998) classifies CGE models into three levels: (1) the first class model - the model emphasizes the static effects of policy related to general equilibrium resources allocation; (2) the second class model - the model involves scales of economies and imperfect competition; and (3) the third class model - the model involves dynamic accumulation effects. Currently, there is a vast amount of research and development on the second and third class CGE models, the majority of which could be helpful for human development analysis.

28 The GAMS was developed by GAMS Development Corporation, www.gams.com. The GAMPACK is developed by Center of Policy Studies in Faculty of Business and Economics at Monash University, www.monash.edu.au/policy/gempack.htm

Several organizations have developed their own CGE model and sometime release it for public to use, with or without cost. For example, the 'standard' model developed by the International Food Policy Research Institute (IFPRI) is available from its website (www.ifpri.org), which can be applied to any country with a SAM. The IFPRI also has collected and made available a large number of country SAMs on their website.

The main advantage of the package is its enormous database for world economies, especially information about bilateral trade. Using an input-output structure, the GTAP database (version 7) contains 57 sectors of production and 113 regions.[29] Although the original GTAP model does not involve such real world complexities as imperfect competition and scale economies, multiple studies have suggested several adjustments to the original GTAP model that make it useful for a wide variety of cases. CGE models have come in for a great deal of critical assessment in recent years.

Box A2.1: Impact of trade liberalization on welfare and employment, a cross-country analysis

Ariyasajjakorn (2008) has modified the GTAP model to study the effect of trade liberalization on welfare and employment. The standard GTAP has been adapted with scale economies and imperfect competition. According to the study, trade liberalization seems to benefit all regions. The welfare and real wage improvement can be found in each region. However, countries with the same characteristics as the developed countries, such as capital-labor ratio and human development index, tend to have the biggest advantage while the LDCs gain the least. Moreover, inequality can be found in the simulation results in all regions except within developed countries. Changes in real wage for skilled labour tend to grow faster than that of unskilled labour in those regions.

Quantitative limitations

To assess policy reforms for a particular economy, key variables and parameters (numeric constants) are chosen so that pre-reform results from the CGE model conform as closely as possible to actual economic outcomes in a given year (the "base" year). Often, these variables and constants are "guessed" since not all countries have the necessary data. Also, when data do exist, at the level of detail needed for a CGE, they are very expensive and time consuming to collect. Moreover, there are limitations in extending the CGE to include quality variables, such as non-tariff barriers, for instance. The standard for quantifying such variables has not been firmly set.

Complexity

As explained, the purpose of the CGE model is to simulate post-reform outcomes. However, a major problem is that the requirement to replicate "as closely as possible" base-year outcomes can be satisfied by virtually any model, making it hard to choose between alternative constructions or behaviour patterns. This inevitably leads to discussion about estimations of elasticities and parameters used within the model. Further, CGE models are so complex and full of technical assumptions and devices used to obtain base-year outcomes and macro-micro consistency that it is difficult to interpret the results. Finally, results are often sensitive to small changes in parameter values, many of which are somewhat arbitrary in practice because of data constraints.

Adjustment costs

Most CGE models cannot identify adjustment costs, that is, those who suffer disproportionately from the transitional adjustment costs of trade liberalization. Nor can they identify those who may become persistently poor because they cannot recover from transitional costs or adjust to the new situation without government assistance. To arrive at this information the analyst has to model the short-term dynamic process leading to economic equilibrium, which is very difficult, or use another methodology, such as participatory poverty assessments, which includes the poor to describe and analyze their living situation.

29 For details, please see www.gtap.agecon.purdue.edu.

Misspecification and alternative closures

One of the most important issues concerns the theoretical causal structure embedded in the CGE model. Different theoretical presumptions about causation are embedded in what are called "closures" of the model. It makes a large difference for the quantitative outcomes of the simulations as to whether the model assumes full employment, no change in the government budget balance, and balanced foreign trade (as in the neo-classical closure) or whether the model allows for changes in government budgets, unemployment, and the trade balance.

Aggregation and data integration

As discussed below, different levels and types of aggregation by gender or ethnic group are possible in developing SAMs for use in CGE models. It is crucial to have the level of aggregation and the variety of data appropriate to the question at hand. Having gender disaggregated data, for example, allows the assessment of gender impacts, and time-use data in the household allows for analysis of impacts on processing of household reproduction.

Empirical relevance

Pre-reform model predictions for distribution or poverty should be checked against post-reform outcomes as revealed by labour and household surveys. One study that did this concluded that predictions from CGE models are not accurate (Ferreira et al. 2003). Even when the predictions are borne out by events, household survey analysis cannot determine whether the outcomes were caused by the policy reform or by some other force(s).

Other considerations

Changes to domestic consumer prices due to trade reform directly affect household welfare, if consumption of the affected goods accounts for a significant share of household spending. The responsiveness of domestic prices to a change in the price at border depends on the structure of domestic supply (by enterprises or farms) and demand (by households or, for intermediate goods, by other enterprises). It may also be affected by structural changes due to trade reform, if goods shift from traded to non-traded sectors, or if domestic markets are destroyed or created. To estimate the change in prices from an anticipated reform, one may conduct a value chain analysis, which documents production and packaging of the good from the producers or importers to wholesalers and on to retailers. Or one may simply estimate, over time, the relationship between border and consumer prices for the goods, using periodic price surveys.

Trade reform may also change producer prices, which also affect household welfare as adjustments to output affect wages and employment in the labour market. If trade reform enhances profitability or reduces costs in domestic production of the affected goods, demand for labour is likely to rise with output. Whether this leads to an increase in employment or wages, or some combination of the two, depends on labour market regulations and the supply of labour. To forecast this, one would estimate the labour intensity of production, the sensitivity of demand for labour to changes in output, and the responsiveness of labour supply to increased demand.

Trade reform may have different effects on skilled and unskilled labour, depending on whether the affected sector uses skilled or unskilled labour intensively. Trade may also differentially affect men and women, younger and older people, experienced and inexperienced workers, or labour markets in different regions. A large share of government revenue in the typical developing country comes from tariffs and export taxes. Trade reform that lowers these tax rates without also removing exemptions may reduce revenue significantly, unless other taxes or sources of revenue are created to replace the lost funds. To maintain macroeconomic stability, the government may then be forced to reduce spending, including spending on social programs and rural infrastructure, both of which matter to poor households.

Gender-sensitive CGE modelling

CGE models are adaptable to a range of issues related to inequality, poverty, and other dimensions of human development. Fontana and some of her colleagues have made great progress in modifying the SAM and CGE framework to assess the

impacts of trade policy changes on women and men. Fontana and Wood (2000), Fontana (2001), and Fontana (2003) studied the impact of trade liberalization on women's and men's wages, jobs, and their time use between household work and leisure by using Bangladesh and Zambia SAMs. Raihan et al. (2010) assessed gender-differentiated impacts of domestic trade liberalization and the phasing out of Multi-Fibre Arrangements on wages, time allocation between paid and unpaid work, and leisure in Bangladesh. Raihan (2009) examined the gender-differentiated impacts of tariff reduction and implementation of VAT during the 1990s for Bangladesh on labour supply, wages, and time-allocation. See Box A2.3 for issues to be covered in gender-sensitive CGE modelling.

Table A2.3: Checklist for the gender-sensitive CGE

Sectors/markets	Modelling questions
Production activities	• Do female-intensive sectors differ significantly from others in the organisation of production? • Is the technology of female-intensive production different from that in other sectors? (e.g., informal vs. formal.) • Are there activities carried out simultaneously? (e.g., women undertaking agricultural work at the same time as looking after their children.) • Does the elasticity of substitution between male and female labour vary across (both market and non-market) sectors?
Labour markets	• What is the most plausible explanation for the gender wage gap? Are women less unionized? Less productive? • Is unemployment higher among women than among men? • Is there a large informal labour market? Is this female-intensive? What are its rules of operation/ links with other market and non-market sectors?
Household	• What is the gender-division of labour in household work? How likely is the reallocation of tasks between females and males in response to new incentives? • Do different household types behave differently with respect to female labour? (e.g., low female labour supply to market activities in families with high dependency ratios, higher elasticities in poor female-headed households, etc.) • What is the evidence on intra-household allocation of resources and decision-making power? Do women and men have different consumption preferences? Are transfers between them based on coercion or co-operation? • Are there market substitutes for child care and other household services? • What is the impact of changes in the care economy on the productivity of the labour force?
Other features	• How do marketing systems function? (e.g., are transaction costs higher for women than for men?) • Do preferences for risk-taking differ by gender?

Source: Fontana and Rodgers (2005), 333–349.

The linkage between CGE and micro-simulation models

The linkage between CGE and microsimulation models seems to be a very powerful tool for the future. In this technique the advantages of each model – macroeconomic features for the CGE model and microeconomic attributes for the microsimulation model – are combined.

Savard (2005) developed such a linked model to examine poverty and inequality using a 1997 Philippines SAM. A primary objective of this study was to determine the difference between the results from the CGE model alone and those from the linked model. The study demonstrated that the microsimulation model does not have any effect when linked with the CGE model if the focus is on macroeconomic impact. However, when the focus is on poverty and inequality, the difference between the two models is crucial.

Cororaton and Cockburn (2004) (cited in Ahmed and O'donoghue 2007) investigated poverty effects of tariff reductions, which led to a reduction in consumer prices in the Philippines. Overall poverty was reduced between 1994 and 2000.

However, the developed regions including the capital region where the incidence of poverty was already low appeared to experience greater poverty reduction than the least developed regions. Moreover, problems of inequality seem to have increased, especially in a rural area.

These studies have made a significant contribution to the model development since microsimulation models include important features regarding microeconomic details and behaviour that the CGE model lacks. At the same time, CGE models cover more ground on macroeconomic and international linkages. Although modelling the link is still very complicated and needs further development, successful linkage will introduce a powerful general equilibrium model to answer human development questions in detail.

Dynamic CGE model

A dynamic CGE model with informal sector and human capital accumulation has been developed in Gibson (2005) to verify the effects of globalization on growth and distribution. Among the study's many insights and conclusions, the primary finding suggests that a country's trade openness may lead a region to increasing poverty, unemployment, and stagnation. One important reason for this is the lack of human capital accumulation. Thus, a region may be uncompetitive in the export of skill-intensive goods if it has a low level of educational support or if its households have a low education budget, which leads to the problem mentioned above.

A2.2.3 Partial equilibrium analysis

Partial equilibrium analysis is an analysis focusing not on an entire economy but on a particular market or industry within the economy at a particular time. Hence, the Partial Equilibrium model, unlike the CGE models, allows for far fewer variables in the analysis. The Partial Equilibrium model normally treats every parts of the economy as exogenous except for the part of interest. Thus, it requires a much smaller database with fewer equations. A big advantage for this method is that it focuses on a particular household, firm, or industry, which can reveal some insightful details about that particular part of the economy. However, as mentioned above, this technique treats everything else as a constant, so it might not capture some indirect effects that may arise from the change in other parts of the economy.

Partial equilibrium can be considered microeconomic analysis, and its limitations make it difficult to explore economy-wide effects of policy changes. However, the advantage of this method is that when we combine it with a CGE model, which does provide economy-wide effects, we can then induce that change in the partial equilibrium model for further information. CPI and NSC (2007) applied the partial equilibrium model to estimate the potential human development impacts of duty-free access to the US and EU markets in the post-ATC period, as discussed above.

A2.2.4 Factor analysis: Multiple Indicators and Multiple Causes (MIMIC) and Structural Equation Models (SEMs)[30]

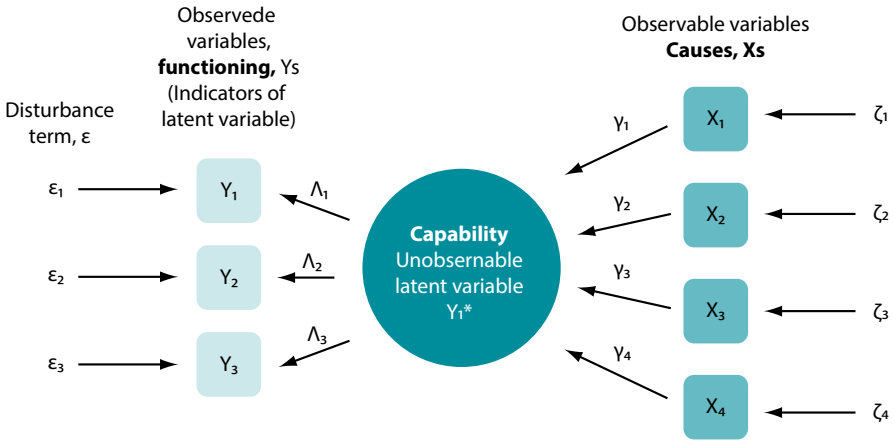
Factor analysis is an econometrics model that assumes capabilities are unobservable variables seen only through a set of indicators. In the model, the observed values are postulated to be functions of a certain number of latent variables, called "factors." Therefore, the model provides a theoretical framework for explaining the functions by means of capabilities represented by the latent factors. By examining the relationship between causes and functioning via latent capabilities, the model is useful to identify parameters that can help in designing policies.

Multiple Indicators and Multiple Causes (MIMIC)

Multiple Indicators and Multiple Causes (MIMIC) is the simpler form of a Structural Equation Model (SEM). Observed variables (achievements/ functionings) are manifestations of a latent variable of capabilities, and there are exogenous variables that cause the latent factor(s). However, MIMIC does not take into account: (1) the feedback mechanisms; and (2) conversion from capabilities to achievement (e.g., two people with same capabilities but different functionings due to socio-cultural characteristics cannot be explained). Box A2.2 illustrates the theoretical framework of MIMIC.

30 This section is based on the theoretical framework and empirical studies by Krishnakuma (2007), Di Tommaso (2007a), and Di Tommaso (2007b).

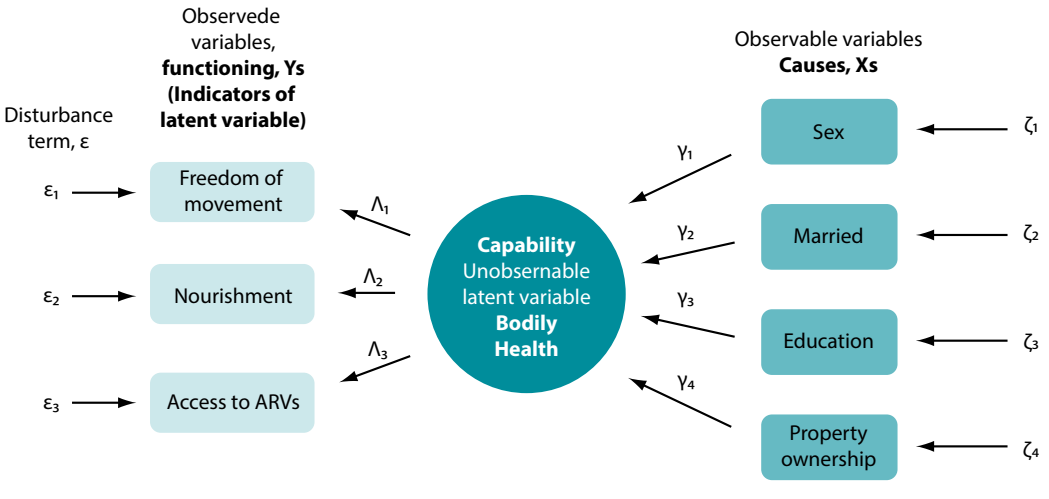
Box A2.2: MIMICtheoretical framework



Source: Di Tommaso (2007a).

Box A2.3, below, illustrates the proposed example of the well-being of HIV patients using bodily health, that is, "(B)eing able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter" (Nussbaum 2003), as a capability. Of key interest in the context of the impact of the implementation of stricter intellectual property protection under the TRIPS agreement on human development is the access of HIV patients to treatment, particularly access to antiretroviral (ARV) drugs. Studies have shown that women's and men's behaviours in terms of access to ARV drugs differ. For example, studies in Asia found that when a woman is HIV positive, even if she was infected by her husband, she suffers more discrimination, stigma, and abuse than a man within her household and community, which in turn affects her willingness to seek treatment. A survey in India also found that one fourth of women did not seek treatment due to financial constraints, while this factor affected only 11 percent of men (Pradhan and Sundar 2006). Women's behaviour is also influenced by their marital status, economics status, and whether another family member (e.g., husband) is also HIV positive or not. Various social and cultural characteristics can also influence their capabilities and, thus, their functionings.

Box A2.3: MIMIC example



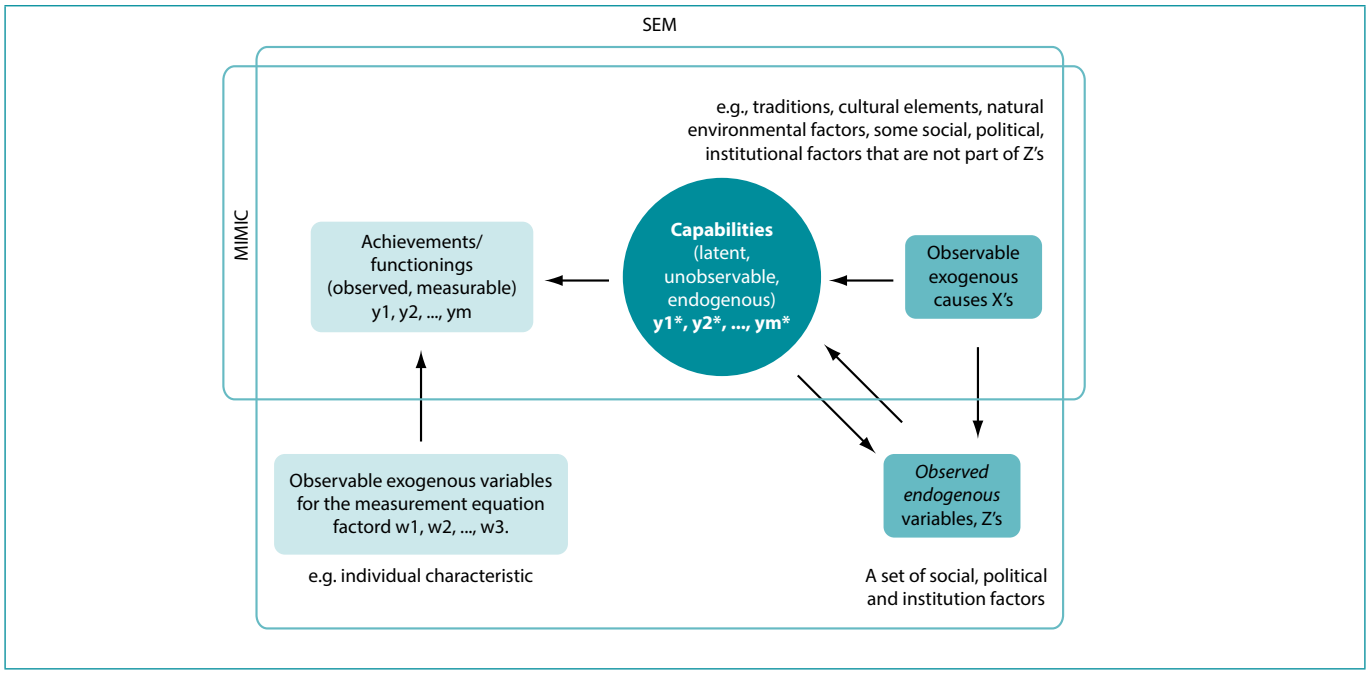
Structural Equation Models (SEMs)

Krishnakumar (2007) expands MIMIC to SEMs by incorporating other factors that might affect capabilities and functionings, as summarized below.

1) Capabilities (the Y*s in MIMIC) are latent, unobservable, and independent, and are endogenous in the structural model.
2) Capabilites are influenced by a set of social, political, and institutional factors, some of which may in turn be influenced by them. They are observed endogenous variables.
3) Capabilities are also influenced by a set of observale exogenous causes (the X's in MIMIC).
4) Achievements/ functionings are measurable and are linked to the capabilities (the Y's in MIMIC).
5) The relationships between the latent capabilities and the observed functionings are also affected by exogenous elements, such as individual characteristics. This helps to explain why individuals with the same capabilities have different functionings.

The path diagram in SEMs is summarized in Box A2.4.

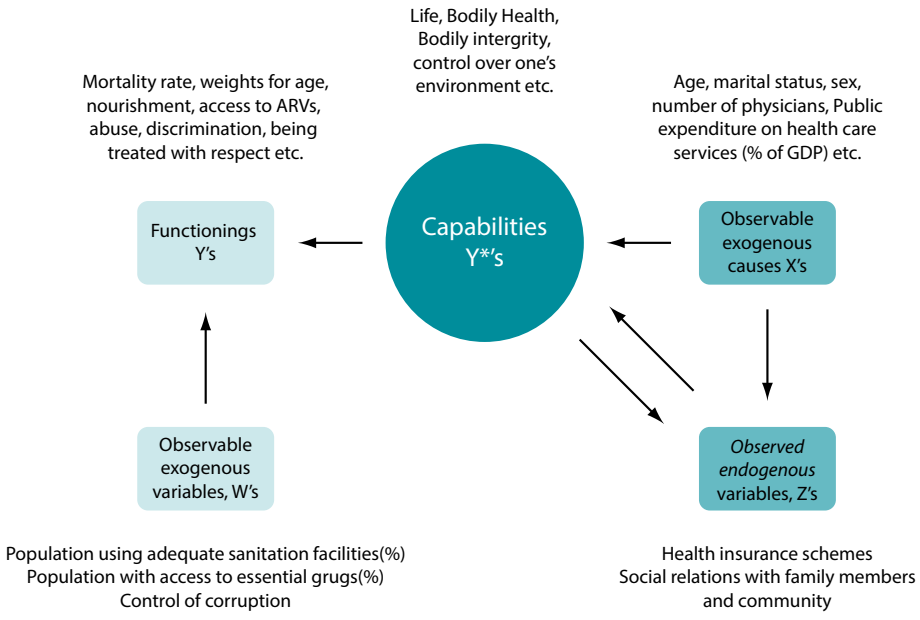
Box A2.4: SEM theoretical framework



Source: Krishnakumar (2007), Di Tommaso (2007a).

Again, we are using an example of the implementation of a stricter TRIPS Agreement to apply SEMs for capabilities and human development analysis (Box A2.5). Hypothetically, if we can collect sample data among HIV patients who stopped taking ARV drugs due to price increases caused by the implementation of stricter IPRs protection under the TRIPS Agreement, by using SEMs we may be able to assess the direct impact of TRIPS on patient's well-being distinguished by such social characteristics as sex and marital status. Even without such focused primary data, the SEM analysis is useful to identify the effects of the exogenous factors on people's well-being, and can be used as a basis for an *ex-ante* HDIA of the TRIPS Agreement by identify plausible impacts of the price hikes of ARV drugs caused by enforcement of the agreement.

Box A2.5: Example of HDIA of national enactment and enforcement of TRIPS Agreement provisions with the effect of extending the term of market exclusivity of ARV drugs in SEM



Empowered lives.
Resilient nations.

United Nations Development Programme
Asia-Pacific Regional Centre
3rd Floor UN Service Building
Rajdamnern Nok Avenue
Bangkok 10200
Thailand

Tel: +66 (0)2 304-9100
Fax: +66 (0)2 280-2700
aprc.th@undp.org
http://asia-pacific.undp.org

September 2012