



Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Morocco

Final Interim Technical Report



Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Morocco

Final Interim Technical Report

Client: European Commission - DG TRADE

Rotterdam, 22 July 2013

About Ecorys

At Ecorys we aim to deliver real benefit to society through the work we do. We offer research, consultancy and project management, specialising in economic, social and spatial development. Focusing on complex market, policy and management issues we provide our clients in the public, private and not-for-profit sectors worldwide with a unique perspective and high-value solutions. Ecorys' remarkable history spans more than 80 years. Our expertise covers economy and competitiveness; regions, cities and real estate; energy and water; transport and mobility; social policy, education, health and governance. We value our independence, integrity and partnerships. Our staff are dedicated experts from academia and consultancy, who share best practices both within our company and with our partners internationally.

Ecorys Netherlands has an active CSR policy and is ISO14001 certified (the international standard for environmental management systems). Our sustainability goals translate into our company policy and practical measures for people, planet and profit, such as using a 100% green electricity tariff, purchasing carbon offsets for all our flights, incentivising staff to use public transport and printing on FSC or PEFC certified paper. Our actions have reduced our carbon footprint by an estimated 80% since 2007.

ECORYS Nederland BV
Watermanweg 44
3067 GG Rotterdam

P.O. Box 4175
3006 AD Rotterdam
The Netherlands

T +31 (0)10 453 88 00
F +31 (0)10 453 07 68
E netherlands@ecorys.com
Registration no. 24316726

W www.ecorys.nl

Table of contents

Preface	5
List of abbreviations	7
Executive Summary	9
1 Overview Methodology of Phase 1	15
1.1 General approach: Three phases	15
1.2 Six main methodological pillars	16
2 Quantitative Econometric Modelling Results	21
2.1 Overview macroeconomic effects	21
2.1.1 Bilateral Trade Effects	24
2.2 Sector specific effects	24
2.2.1 Moroccan production and employment	25
2.2.2 Trade	30
2.3 Environmental Indicators in the CGE model	35
2.4 Social Indicators in the CGE Model	36
2.5 Synthesis and implications of the CGE results	37
3 Additional Social Analysis	39
3.1 Social analysis: status quo	39
3.1.1 Income, inequality and poverty levels in Morocco	39
3.1.2 Decent Work in Morocco	40
3.1.3 Gender equality	46
3.2 The scope for the role of the DCFTA and the potential impact on decent work and equality	46
3.2.1 Quantitative employment and wage effects	46
3.2.2 Other potential impacts	49
3.3 Human rights analysis	51
3.3.1 Introduction	51
3.3.2 Step 1: Overview of the Human Rights landscape in Morocco	52
3.3.3 Step 2: Pre-selection of HR elements that are most likely affected by the DCFTA	60
3.3.4 Step 3: Screening for main HR impacts from the EU-Morocco DCFTA	63
4 Additional Environmental Analysis	71
4.1 Current environmental profile of Morocco	71
4.1.1 Environmental profile Morocco	71
4.1.2 Air pollution	72
4.1.3 Waste	75
4.1.4 Water	76
4.1.5 Ecosystems & biodiversity	78
4.1.6 Climate change	79
4.1.7 'Greening' the economy	80
4.2 Issues relevant to the assessment of the impacts of the DCFTA	81
4.3 Expected impacts of the DCFTA for Morocco	82
4.3.1 Air pollution	83

4.3.2 Waste	86
4.3.3 Water	86
4.3.4 Ecosystems & Biodiversity	87
4.3.5 Climate change	87
4.3.6 'Greening' the economy	88
5 Consultations and Communication	89
5.1 Stakeholder consultation plan and implementation	89
5.2 Overview of consultation inputs received	90
6 Screening and Scoping	93
6.1 Screening criteria and indicators	93
6.2 Screening results	94
6.2.1 Cr. 1: Initial importance of the sectors for the economy	94
6.2.2 Cr. 2: Economic impact from DCFTA	97
6.2.3 Cr 3: Social/environmental importance/impact	98
6.2.4 Cr. 4: Stakeholder issues of special importance	100
6.2.5 Cr. 5: Strategic importance of sector / issue in the negotiations	101
6.3 Selection of sectors and horizontal issues	101
6.3.1 Sector selection	102
6.3.2 Horizontal issue selection	103
7 Preliminary Conclusions and the Way Forward	105
7.1 Preliminary conclusions	105
7.1.1 Main economic results of a DCFTA between the EU and Morocco	105
7.1.2 Social impact	106
7.1.3 Environmental impact	107
7.2 Screening of sectors and horizontal important issues	107
7.3 Roadmap and way forward	107
References	109

Preface

The European Commission (DG Trade) awarded a contract to Ecorys, signed in December 2012, to conduct a trade sustainability impact assessment (Trade SIA) relating to the negotiations of a Deep and Comprehensive Free Trade Area (DCFTA) between the EU and the Republic of Tunisia and to the negotiations of a DCFTA between the EU and Morocco. This is the final Interim Technical report for the Trade SIA of the EU-Morocco DCFTA. A separate report is available for Trade SIA of the EU-Tunisia DCFTA.

Ecorys is aware of the important role of this study in providing input for the negotiation process. The planning and scope of the study have been discussed with the European Commission to ensure optimal input in the negotiations on the basis of this study.

This Interim Technical Report (ITR) is based on the Terms of Reference, the Ecorys proposal that was submitted to DG Trade, the Inception Report and the subsequent discussions with the Steering Committee, the EC Delegation in Morocco and Civil Society as well as progressing insights as the study results emerged.

This report presents the results of the first phase of the study- the overall analysis of the expected economic, social and environmental impact of a DCFTA between the EU and Morocco. The results are based on a mix of quantitative and qualitative analyses, as well as stakeholder consultations. The report also provides suggestions for a number of sectors and horizontal issues to be studied in more detail in the next phase of the study.

We invite you to read our report, share it with other interested stakeholders, and provide us with your comments, questions and suggestions that will help to further improve the quality of the study.

The Ecorys Team
22 July 2013

This report was commissioned and financed by the European Commission. The views expressed herein are those of the Contractor, and do not represent an official view of the Commission.

List of abbreviations

Abbreviation	Meaning
AA	Association Agreement
ATP	Air transport
AMO	Assurance Maladie Obligatoire
AMDH	The Moroccan Association of Human Rights
CDIAC	Carbon Dioxide Information Analysis Center
CDM	Clean Development Mechanism
CGEM	National Chamber of Commerce
CGE	Computable general equilibrium
CGEM	The General Confederation of Businesses in Morocco
CIS	Community Innovation Survey
CMPP	Moroccan Centre for Clean Manufacturing
CSD	Civil Society Dialogue
CSOs	Civil Society Organisations
CSR	Corporate Social Responsibility
CU	Customs Union
DCFTA	Deep and Comprehensive Free Trade Area
DG	Directorate General
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECOSOC	Economic and Social Council
EESC	European Economic and Social Committee
ENP	European Neighbourhood Policy
EPZ	Export Production Zones
EU	European Union
FAO	Food and Agriculture Organisation
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GHG	Greenhouse gases
GTAP	Global Trade Analysis Project
HICP	Harmonised Index of Consumer Prices
HR	Human Rights
HRIA	Human Rights Impact Assessment
ICHD	International Centre of Human Development
ICT	Information and Communications Technology
ILO	International Labour Organisation
IPR	Intellectual Property Rights
IPCC	Intergovernmental Panel on Climate Change
ITR	Interim Technical Report
ITUC	International Trade Union Confederation
KoM	Kick-off-Meeting
LGBT	The lesbian, gay, bisexual, and transgender community
MEA	Multilateral Environmental Agreement

Abbreviation	Meaning
MSC	Marginal social cost
NGO	Non-Governmental Organisation
NTM	Non-tariff measures
NOx	Nitrogen oxide
NPV	Net present value
OP-CEDAW	Optional Protocol to the Convention on Elimination of All Forms of Discrimination against Women
OECD	Organisation for Economic Cooperation and Development
ONEM	National Environment Observatory in Morocco
OP-ICCPR	Optional Protocol to the International Covenant on Civil and Political Rights
OPCAT	Optional Protocol to the Convention against Torture
PM	Public Meeting
PNA	Purification of Wastewater National Programme
PNDM	Domestic Waste National Programme
PWD	Persons with disabilities
RAMED	Medical Assistance scheme for the Economically Destituted
RoE	Rest of Emissions
ROW	Rest of the World
SC	Steering Committee
SIA	Sustainability Impact Assessment
SPS	Sanitary and Phyto sanitary
SME	Small and medium enterprise
SO ₂	Sulphur dioxide
TBT	Technical Barriers to Trade
TCE	Tariff Costs Equivalents
TRQ	Tariff Rate Quota
ToR	Terms of Reference
TSIA	Trade Sustainability Impact Assessment
TSP	Total suspended solid
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNHCR	UN High Commissioner for Refugees
US	United States
WTO	World Trade Organisation

Executive Summary

The present report is the final Interim Technical Report for the Trade SIA in support of negotiations of a Deep and Comprehensive Free Trade Area (DCFTA) between the EU and the Morocco. It is part of a large study that also includes a Trade SIA of the DCFTA between the EU and Morocco. The objective of the study is to “*assess how the trade and trade-related provisions under negotiation could affect economic, social, and environmental issues in the EU and.... in Morocco.... (by also taking into account the regional integration process and its potential impact), as well as in other relevant countries. Furthermore, it should propose measures (trade or non-trade – the so-called ‘beyond the border’ dimension/issues) to maximise the benefits of the DCFTAs and prevent or minimise potential negative impacts. It should also include a reference to the existing regional agreement such as the Agadir agreement of which [Morocco is a] Member and other relevant regional integration agreements or arrangements.*” This report presents the results of phase I of the study: the overall analysis of the expected economic, social, environmental impact of a DCFTA between the EU and Morocco.

Approach and conceptual framework

Our approach is based on the two methodological elements of a Trade SIA described in the Terms of Reference and the Trade SIA handbook¹: 1) economic, environmental and social assessments as such, applying both quantitative and qualitative analysis; and 2) stakeholder consultations. The methodology consists of the following elements: screening and scoping analyses, scenario analysis and quantitative modelling, additional quantitative social and environmental impact analysis, and parallel stakeholder consultations. For more information about the methodologies applied in the Trade SIA, the reader is referred to the final inception report of this study.

Definition of the DCFTA Scenario

We use a Computable General Equilibrium (CGE) model to assess the impact of a DCFTA. This model calculates the effects of the DCFTA provisions on the EU, Morocco and a selection of third countries. The scenario that is used to simulate the likely outcome of the negotiations (i.e. the inputs for the model) about the DCFTA assumes the following with respect to existing trade barriers:

- The agreement between the EU and Morocco on further liberalisation of trade in agricultural, processed agricultural and fisheries products, which entered into force in October 2012² (hereinafter "the October 2012 agreement"), is included in the status quo situation of the economic model. As a result, the effects of the DCFTA presented in this report are the ‘pure’ DCFTA effects. ;
- As such, the scenario developed for the DCFTA does not include any tariff reductions as all remaining tariffs between the EU and Morocco were (with the exception of a few tariff lines) removed by the October 2012 agreement.

¹ Available at: http://trade.ec.europa.eu/doclib/docs/2006/march/tradoc_127974.pdf.

² European Union, *Official Journal of the European Union L241*, Volume 55, 7 September 2012, available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:241:FULL:EN:PDF>.

- Non-Tariff Measures (NTMs) in services as expressed in Trade Costs Equivalents (TCEs) are assumed to be reduced by three per cent for Moroccan services entering the EU market, and 13 per cent for EU services entering the Moroccan market;
- Non-Tariff Measures in goods are modelled either with a limited or ambitious level of regulatory approximation or no approximation at all, depending on the sector. In addition, all agricultural and manufacturing sectors are assumed to benefit from trade facilitation;
- Spill-over effects are also taken into account, because if Morocco complies with EU rules and regulations due to approximation (of its standards for example), it will also gain better access to third countries. This effect is expected to be 25 per cent of the level of approximation of the EU level (see previous bullet).

Expected economic impact of the DCFTA

Overall macroeconomic effects

In both the EU and Morocco, national income is expected to increase as a result of the DCFTA. In the long-run, the expected gains in national income are an estimated € 1.4 billion for the EU and € 1.3 billion for Morocco. Given the size of the economies, the GDP gains in relative terms are close to zero for the EU, but translate into a 1.6 per cent GDP increase for Morocco. Analysing the effects of the three different channels of liberalisation (services NTMs, goods NTMs and spill-over effects) shows that reducing NTMs in goods is by far the most important contributor to the expected gains of the DCFTA, while spill-over effects are second most important to the Moroccan total gains in national income. Both the EU and Morocco benefit from a reduction in services NTMs.

The DCFTA impact on total trade flows is also significant for Morocco, with an expected increase in exports of 15 per cent and an eight per cent increase in imports in the long-run, thus leading to an improvement in Morocco's trade balance in relative terms.

Significant positive effects for Morocco are expected in terms of wages, with an expected increase in the long run of approximately 1.6-1.9 per cent. Although consumer prices are expected to rise somewhat, by 0.4 per cent, due to the increased income and ensuing demand, the increase in wages is expected to improve the purchasing power of the average Moroccan citizen. In the EU, the expected changes on trade, wages and consumer prices will be negligible.

Estimated third country effects

The EU-Morocco DCFTA will also have an impact on third countries, mainly due to trade diversion. Although this effect is estimated to be negative for some third countries such as Tunisia and Turkey, the effects are very small, even zero when expressed as a percentage of GDP. The estimated effect on Tunisia assumes that this country will also complete negotiations on a DCFTA with the EU.

Sector-specific changes in value added

Although the overall effects of the DCFTA on GDP are positive, the results per sector differ: while some sectors expand, others contract. In Morocco, the most significant effect is expected in the *other machinery* sector, with an increase of 8.5 per cent in value added in the long run, mainly resulting from a reduction in Non-Tariff Measures. *Vegetables and Fruits*, a relatively large non-services sector in terms of value added and employment, is estimated to expand by four per cent in the long run. In the services sector, the already large *Public and other services sector* is expected to expand most (+1 per cent in the long run).

In the agricultural segment of the economy, the *grains and crops* sector is expected to lose most due to the DCFTA (2.7 per cent reduction in output in the long run), which is largely triggered by the alignment of NTMs between the EU and Morocco. *Leather goods* is the industrial sector in Morocco that is expected to be particularly negatively affected by the DCFTA as output is estimated to contract by 3.6 per cent in the long run. In the services sector, *ICT and other business services* are likely to face increased competition from EU counterparts and to lose some 1.7 per cent in terms of output in the long run.

Sector-specific changes in trade

The largest relative increase in Moroccan exports is expected in the *other transport equipment* segment, which is estimated to export 89 per cent more in the long run after concluding the DCFTA. The exports of all industrial sectors are expected to increase significantly (e.g. the *other machinery* and *motor vehicles* sectors are estimated to see increases of 71 and 50 per cent respectively). Especially the increase in the *other machinery* sector is significant since this sector will also experience the largest absolute increase exports (+ €3.3 billion in the long run). Most services sectors, on the other hand, are estimated to witness a decrease in exports. Imports are shown to increase across all sectors (with the exception of *primary energy*), and for many sectors this increase is between 5 to 15 per cent. The largest increase in percentage terms (+34 per cent) is expected in *processed meats*, but this is a relatively small sector in Moroccan imports.

Expected social and human rights impact of the DCFTA

Due to the unavailability of a recent and complete household dataset, no quantitative analysis on the social effects of the DCFTA could be performed. As such, the expected effects on poverty and welfare changes are assessed in a more qualitative manner for Morocco.

Price and wage changes predicted by the CGE model affect households differently because of differences in consumption baskets and sources of income across households. Morocco's more skilled workers are estimated to see wages increase by, on average, 1.9 per cent in the long run, whereas Morocco's less skilled labour worker will experience an increase of average wages by an estimated 1.6 per cent.

Although the CGE model cannot predict changes in employment, the significant income increase expected as a result of the DCFTA according to the model may in part be due to job creation rather than wage increases. A higher labour demand (due to the increase in demand for goods and services) in a situation of unemployment of both skilled and unskilled labour will lead at least in part to more hiring on the labour market as a whole (even though mismatches might exist). However, the associated employment reallocations between sectors may be difficult for some (especially more vulnerable) groups. With respect to labour standards, there are various forces that influence the current situation, but overall the situation is likely to improve. We have not identified any significant impact of the DCFTA with respect to social security and social dialogue.

With respect to human rights, the DCFTA is expected to mainly affect economic and social rights (such as the improvements in the right to an adequate standard of living and the right to adequate food) and not cultural, civil or political rights. There are various channels through which human rights are affected. The overall effect of the DCFTA on the human rights situation in Morocco is likely to be positive and largely indirect.

Expected environmental impact of the DCFTA

Regarding environmental indicators, the DCFTA is expected to bring a combination of positive and negative environmental effects, and the overall impact is difficult to predict with any certainty.

In terms of air pollution, quantitative analysis shows that emissions of all air pollutants (NO_x, SO_x and Particulate Matters) decline following the implementation of the DCFTA, both in the short and in the long run. This overall positive effect is mainly due to a shift in economic activity (composition effect) from industries like primary energy, textiles, leather goods, chemicals and transport into sectors with lower air pollution intensities such as vegetables and fruit and public and other services. This composition effect dominates the scale effect of increased emissions due to an overall increase in economic activity. In monetary terms, the long-run positive effects on air pollution would lead to a decrease in external costs of €24 million.

With respect to other types of environmental indicators, such as waste, biodiversity and the green economy, the DCFTA is likely to have mixed or only small effects. With respect to water, the environmental pressure that would result from a DCFTA is ambiguous. On the one hand, the overall increase in agricultural production demands more of the already scarce water for irrigation, while the decline in polluting industrial sectors such as the textile and leather industries are likely to result in less overall pollution. CO₂ emissions are predicted to decline by 600 metric tonnes in the long run and as such, the DCFTA could have a very minor but positive effect on climate change.

Consultations with stakeholders

Consultation is a key element of the study. We have five main tools or instruments with which to involve stakeholders in the study: 1) electronic consultation and documentation. This includes a website (<http://www.trade-sia.com/Morocco>) and a Facebook page “tsiamorocco”, which together provide a feedback mechanism and discussion forum. In addition, we have a dedicated e-mail address and regularly send out an electronic newsletter, 2) two public meetings in the EU for EU civil society, 3) a Trade SIA workshop in Morocco (flanked by face-to-face meetings and interviews with relevant stakeholders), 4) attendance of other relevant conferences, workshops, meetings, etc. in the EU and Morocco relevant to this study and 5) face-to-face or telephone interviews with key stakeholders and experts.

The main inputs received so far include the following:

- Suggestions for additional stakeholders and literature (incl. human rights (HR) literature) to include in the analysis;
- The need to analyse the importance of mode 4 in services trade;
- The question to what extent investment policy will be included;
- The importance of studying illegal wildlife trade via Morocco as main trading hub to the EU;
- The call for including a human rights impact assessment on the Saharawi people in Western Sahara;
- The need to first conduct an ex-post assessment of previous trade agreements;
- The possibility of excluding the October 2012 agreement from the analysis;
- The question whether the issues of land concentration and ownership will be taken into account;
- The need to conduct consultations in French;

- Questions on methods and inclusiveness of stakeholder consultations.

This study has taken the input from these comments into account while drafting this report (to the extent possible). For more detailed answers to each of the comments, or for comments that were not directly aimed at the Interim Technical report, the reader is referred to Annex E.

Proposed selection for sectors and cross-cutting issues for in-depth analysis

The sectors or horizontal (cross cutting) issues that are of particular importance in the context of the DCFTA will be studied in detail in the next phase.. The selection of specific sectors and horizontal issues is done through a screening and scoping exercise, based on the following five criteria:

1. Initial importance for the economy;
2. Expected economic impact of the DCFTA;
3. Expected social, environmental and human rights impact;
4. Stakeholder issues of special importance;
5. Strategic importance of sector / issue in the negotiations.

Based on these criteria, the following sectors and horizontal issues will be studied in detail in the next phase of the analysis:

- Vegetables and fruits;
- Textiles, clothing and leather
- Energy, with a focus on renewable energies
- Offshoring in business support services

1 Overview Methodology of Phase 1

This report is part of the overall study to conduct a Trade Sustainability Impact Assessment of the Deep and Comprehensive Free Trade Area between the EU and Morocco. This Interim Technical Report (ITR) provides the first insights and results of this endeavour. Specifically, it assesses the economic, environmental and social impacts of the DCFTA on both the EU and Morocco. Secondly, this report presents the progress of the stakeholder consultation plan. The report contains the following chapters:

- Chapter 1. Short overview of the methodology used;
- Chapter 2. A presentation of the economic effects of the DCFTA;
- Chapter 3. An overview of the social (including human rights) effects of the DCFTA;
- Chapter 4. A presentation of the environmental effects of the DCFTA;
- Chapter 5. An update and overview of the stakeholder consultation process;
- Chapter 6. A synopsis of the results presented in the report and the following recommendations for sectors or horizontal issues that are selected for further in-depth analysis;
- Chapter 7. Summary and conclusions.

Chapter one provides a summary of the methodology and conceptual framework that is applied in this study. A more detailed explanation is available in the Inception Report for this study³. In this chapter, we start with an overview of our general approach to the study, followed by a more detailed description of the quantitative and qualitative methods applied.

1.1 General approach: Three phases

The main objective of this Trade Sustainability Impact Assessment (Trade SIA) is to assess the potential economic, social (including fundamental rights) and environmental impact of a Deep and Comprehensive Free Trade Area (DCFTA) to be negotiated between the EU and the Kingdom of Morocco.

The overall approach to the entire Trade SIA can be divided in three linked phases:

1. Overall analysis of the sustainability impacts arising from the implementation of a future DCFTA between the EU and Morocco;
2. Sectoral Trade SIA for the DCFTA with Morocco;
3. Proposals for policy recommendations and accompanying measures.

The current phase (interim, phase 1) assesses the overall economic, social and environmental impact of the DCFTA between the EU and Morocco.

Our approach is based on the two methodological elements of a Trade SIA described in the Terms of Reference and the Trade SIA handbook⁴:

1. Economic, environmental and social assessments as such; and
2. Stakeholder consultations.

³ The Inception Report includes, in particular, a more elaborated explanation on the quantitative approach in the overall analysis of Phase 1.

⁴ Available at: http://trade.ec.europa.eu/doclib/docs/2006/march/tradoc_127974.pdf.

The three phases are characterised by both quantitative and qualitative analyses and *throughout* the three phases, we engage in continuous feedback and consultation with key stakeholders to collect their input, verify results and complement the analysis with their feedback.

1.2 Six main methodological pillars

We apply a methodology based on six main pillars developed on the basis of the Terms of Reference and the Trade SIA handbook as well as our own experience from previous Trade SIAs on what works well. These six pillars are:

1. Screening and scoping analysis;
2. Scenario analysis and CGE modelling;
3. Additional quantitative and qualitative analysis;
4. Sectoral Analysis;
5. Causal Chain Analysis (CCA);
6. Dissemination and consultations with key stakeholders, including civil society.

Below we briefly summarises the main elements of these six methodological pillars and how they are applied in the study. Table 1.1 specifies in which study phases the different methodologies are applied.

Table 1.1 Use of pillars in different phases of the study

Phase	Pillar 1 Screening/ scoping	Pillar 2 Scenario/ CGE	Pillar 3 Additional analysis	Pillar 4 Sectoral analysis	Pillar 5 CCA	Pillar 6 Consultation & Dissemination
Phase 0: Inception	X				X	X
Phase 1: Overall analysis	X	X	X		X	X
Phase 2: Sectoral analysis			X	X	X	X
Phase 3: Policy recommendations and flanking measures					X	X

Pillar 1: Screening and scoping analysis

The screening and scoping analysis is mostly used for the identification of sectors and issues that are crucial for the impacts of a DCFTA. A preliminary screening took place in the inception phase in order to focus the methodology; this exercise is repeated in more detail in the current Phase 1 (see chapter 5).

At the end of the current phase (Phase 1), we will select up to four sectors or horizontal issues that are most relevant for further analysis in Phase 2. This selection will be done in close consultation with the Steering Committee, and based on the following criteria:

- Criterion 1: Initial importance of a sector / issues for the economy;
- Criterion 2: Impact as a result of the DCFTA;
- Criterion 3: Social / Environmental importance or impact;
- Criterion 4: Stakeholder issues of special importance;
- Criterion 5: Strategic importance of sector in the negotiations.

Pillar 2: Scenario analysis and CGE modelling

Pillar 2 of the analysis covers the development of scenarios that most accurately and realistically reflects the reality of the negotiations. The developed scenarios, in turn, serve as inputs for the

model that aims to simulate the most relevant representation of the reality of the negotiations so as to ensure that the outcomes accurately reflect the real measures that will be taken as part of the DCFTA. The developed DCFTA scenario will be compared to the baseline scenario of a continuation of recent trends in Morocco (i.e. a business-as-usual scenario). The model thus compares the situation with and without the DCFTA.

The liberalisation scenario will model as realistically as possible the effects of a DCFTA between the EU and Morocco. Since there has been another trade agreement concluded recently (the October 2012 agreement on agriculture) between the EU and Morocco, the economic model *de facto* considers two liberalisation scenarios:

- The liberalisation scenario towards the October 2012 agreement (with respect to the 2011 baseline); and
- The DCFTA liberalisation scenario;

Even though it is not the objective of this study to study the effects of the October 2012 agreement, a separate scenario has been developed for it in order to create a ‘pure’ DCFTA scenario that is not influenced by the trade liberalisation measures agreed in the October 2012 agreement. The details of both scenarios are shortly described below. For more details on the scenarios, the reader is referred to the inception report of this study.

1. Morocco – October 2012 liberalisation scenario

The liberalisation modelled for the October 2012 scenario **only** models the tariff liberalisations that have been agreed upon in the agreement. This allows us to define a new – October 2012 inclusive – baseline which forms the starting point for the DCFTA modelling. The details of this scenario are presented in Table 1.2 below.

Table 1.2 Scenario October 2012 agreement modelling

Element	Liberalisation
Tariff liberalisation	100% tariff reductions for all agricultural products and processed agricultural products, fish and fishery products, except for the items defined in articles 2 and 5 of the October 2012 Agreement.

2. Morocco – DCFTA liberalisation scenario

The liberalisation modelled for the DCFTA scenario consists of services NTM and other NTM liberalisations, compared to a baseline that includes the October 2012 liberalisation scenario and thus measures the effects of implementing the DCFTA. No tariff liberalisations are modelled since the October 2012 agreement liberalised most of the remaining tariffs between the EU and Morocco. This liberalisation scenario is presented in Table 1.3 below.

Table 1.3 Scenario DCFTA modelling

Element	Liberalisation
Services liberalisation	<ul style="list-style-type: none"> • EU-side: 3% reduction in TCEs; • Morocco-side: 13% reduction in TCEs.
Other NTMs	<p>EU exports to Morocco:</p> <ul style="list-style-type: none"> • 4% point reduction in TCE for the ambitious liberalisation scenario; • 2% point reduction in TCE for the limited liberalisation scenario; • 0% point reduction in TCE when there is no liberalisation foreseen; • 2% point reduction in TCE for all agriculture & manufacturing sectors due to trade facilitation. <p>Morocco exports to the EU:</p> <ul style="list-style-type: none"> • 8% point reduction in TCE for the ambitious liberalisation scenario; • 4% point reduction in TCE for the limited liberalisation scenario;

Element	Liberalisation
	<ul style="list-style-type: none"> • 0% reduction in TCE when there is no liberalisation foreseen; • 2% point reduction in TCE for all agriculture & manufacturing sectors due to trade facilitation.

The model used to quantitatively assess the potential effects of the DCFTA is a Computable General Equilibrium (CGE) model. This is a dynamic, non-linear CGE model. Data used in the model are based on the most recent version 8.0 of the GTAP dataset, which contains data benchmarked to 2007, but which have been projected to 2011 using actual macro-economic data. The agreed assumptions and result indicators of the CGE model are presented in Annex A.

Pillar 3: Additional social and environmental quantitative and qualitative analysis

In order to complement the results of the CGE model with relevant information that is not fully included in the CGE model proper, additional quantitative and qualitative social (incl. human rights) and environmental analyses will complement the outcomes of the CGE model. Below a short overview of the methodologies for these additional analyses is presented. For a full overview, the reader is referred to Annex B, Annex C and the inception report.

Social quantitative analysis

The social impact of the DCFTA depends on the structural characteristics of the economies involved, of its population and the specific trade reforms put into place. The most important transmission channels between trade and welfare are the consumption effect (related to prices of consumer goods) and the labour income effect. For a quantitative simulation of these social impacts of the DCFTA, we would need to combine the results of the CGE model and the analysis of household level data. As we do not have access to recent household level expenditure and income data for Morocco, quantitative analysis of social impacts is not possible at the level of detail required to offer added value to our impact assessment. Hence, we analyse social impacts in mostly qualitative terms.

Environmental quantitative analysis

In assessing the environmental effect of the DCFTA, we focus on airborne pollutants and greenhouse gases. The inputs for the environmental analysis will be the CGE results, which include predictions of CO2 emissions and sector output, and data on air pollution from EMEP and EDGAR data sources. We then calculate the external costs associated with airborne pollutants and climate change impact, based on default damage factors as included in the ExternE method and the impact pathway approach in particular. The decomposition analysis of the emissions and, where possible, related external costs, includes specifically the scale and composition factors. Technological change is not included since the CGE model does not incorporate this.

Qualitative analyses

Lastly, the CGE model results will be complemented by qualitative analyses on environmental, social and human rights issues. In the social component of the study we pay particular attention to the interaction between the DCFTA and social equality issues, the effective implementation of the ILO core labour standards, and the promotion of the ILO Decent Work Agenda. In addition, it addresses fundamental rights issues in Morocco. The environmental analysis addresses the situation of the natural environment beyond air pollution – e.g. water pollution, waste generation and treatment, use of land and land degradation, biodiversity, etc. as well as the implementation of multilateral environmental agreements.

The main elements of the approach to this qualitative analysis are:

1. Literature review;

2. Analysis of official reporting schemes inscribed on respective international conventions;
3. Interviews with key informants and stakeholders;
4. Interpretation of quantitative results especially at the sectoral level.

The *human rights analysis* is part of the social analysis. In carrying out the Human Rights (HR) impact assessment of the DCFTA with Morocco, we base ourselves on our experience in conducting other sustainability pillars of FTAs in previous studies (notably the HR impact assessment in the Trade SIA on the DCFTA between the EU and Armenia) and the HRIA approach developed methodologically by Walker (2009). Our HRIA approach consists of four steps that are closely aligned with the Trade SIA approach of the DG Trade Handbook (2006). First, we provide an overview of the HR picture in Morocco. Secondly, we analyse which HR aspects are relevant to the DCFTA. Then we turn to the impact of the DCFTA, where we first look how the DCFTA could in general affect the HR landscape, and then make an assessment of the effects of the DCFTA on HR aspects, based on the economic modelling results and additional analyses.

Pillar 4: In-depth analysis of sectors and horizontal issues

The aim of the sectoral and/or horizontal issues analyses is to provide deeper insights into the effects of a potential DCFTA for sectors or issues that are important for a successful conclusion of the DCFTA. Up to four sectors or horizontal issues will be selected for further study, based on the screening and scoping exercise (pillar 1) and in consultation with the Steering Committee.

For selected sectors, a more in-depth analysis will be conducted taking as a starting point the quantitative effects resulting from the CGE analysis and the additional environmental and social analyses (pillars 2 and 3). The sectoral analyses aim to complement these findings through causal chain analysis, literature review, interviews, inputs from sector experts and possibly partial equilibrium (PE) modelling. Ultimately, the in-depth analyses aim to present more detailed insights into economic (including impact on Small and Medium Enterprises (SMEs)), social (such as employment and wage effects in the sector), and environmental (including the effect of an increase in transportation services) impacts resulting from the DCFTA at sector level and in relation to specific horizontal issues.

In case a horizontal issue is selected, we could look at important elements that affect a potential DCFTA across multiple sectors. This analysis also starts with the CGE outcomes and compares them across sectors. Examples of important horizontal issues could be SPS or TBT measures.

Pillar 5: Causal chain analysis

Causal chain analysis (CCA) is a conceptual tool used to identify the relevant cause-effect links between the trade measures proposed and the economic, social and environmental impact this trade measure may have. It is imperative for a realistic impact assessment that the CCA is applied only to *significant* links between trade negotiations and their impacts. We use CCA to establish the effects of the DCFTA on sustainable development and the effect of policy measures on these effects. CCA is one of the tools that are used to formulate recommendations, and specifically flanking measures, in order to increase the positive and mitigate the negative impacts of the DCFTA between the EU and Morocco. For more details on how we apply CCA, the reader is referred to the inception report.

Pillar 6: Dissemination and consultation

Consultation is a key element of the study since the inputs of all stakeholders to the negotiation process (businesses, administration, civil society, industry etc.) are needed to identify the main issues in relation to the sustainable development effects of the DCFTA. Hence, we aim to involve these stakeholders as actively as possible throughout the study. Based on extensive analysis of the

stakeholder landscape, we have developed a consultation plan, which is more elaborately presented in Chapter 5.

2 Quantitative Econometric Modelling Results

In this chapter, we present and discuss the estimated effects of the potential EU-Morocco DCFTA using a Computable General Equilibrium (CGE) model.

First, we present the general macro-economic effects at national level. We then take a closer look at the economic results by examining the estimates at a more disaggregate level, focusing on sector specific changes. Finally we present the effects on environmental and social indicators, which will be used as inputs for the additional social and environmental analyses in Chapter 3.

2.1 Overview macroeconomic effects

We begin with the overall macro-economic effects for the EU, Morocco and the rest of the world (RoW). The estimated changes in national income, GDP, consumer prices, wages and trade indicators for the short,- as well as the long-run settings are presented in Table 2.1 below. The short-run setting captures the direct, static effects of removing the NTMs and regulatory divergence. In the long-run, capital is allowed to adjust (i.e. reallocation). This adds a dynamic investment effect, which reinforces the comparative advantages of the EU and Moroccan economies.

The relative changes presented in the table reflect the effects with respect to the baseline. The presented effects in this chapter are additional gains or losses compared to this baseline. As explained in chapter 1, the baseline for Morocco includes the October 2012 agreement and the results presented below (and discussed further in this chapter) show the expected economic changes due to the establishment of a DCFTA between the EU and Morocco. The overall economic changes expected from both the October 2012 agreement and the DCFTA are presented in Annex E.

Table 2.1 Overview Macroeconomic Variables

Variable/Country	European Union	Morocco	Tunisia	Egypt	Turkey	Other Middle East	Other North Africa	Other Africa	RoW
Short run									
National Income, million €	834.2	1,145.1	-2.4	2.1	-5.4	0.6	2.6	4.3	48.2
GDP, % change	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consumer prices, % change	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wages, less skilled % change	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wages, more skilled % change	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Terms of trade, % change	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Imports, % change	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Exports, % change	0.0	15.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long Run									
National Income, million €	1,403.2	1,300.3	-2.7	-0.1	-0.6	3.1	4.9	11.8	74.6
GDP, % change	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consumer prices, % change	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wages, less skilled % change	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wages, more skilled % change	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Terms of trade, % change	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Imports, % change	0.0	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Exports, % change	0.0	15.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: IIDE CGE modelling calculations.

As can be seen from the first row of the table, the DCFTA is expected to yield positive economic effects for both the EU and Morocco. For the EU, national income is estimated to increase by € 834 million in the short-run, and € 1,403 Million in the longer run setting. In the short-run, the absolute national income gain for Morocco (€ 1,145 million) is shown to be bigger than for the EU (€ 834 million). In the long-run, the expected gain in national income for Morocco is € 1,300 million, while for the EU it is expected to be in the area of € 1,403 million. The difference in the magnitude of the gains in the short- and long-run settings implies that capital reallocation is more important for the EU than for Morocco.

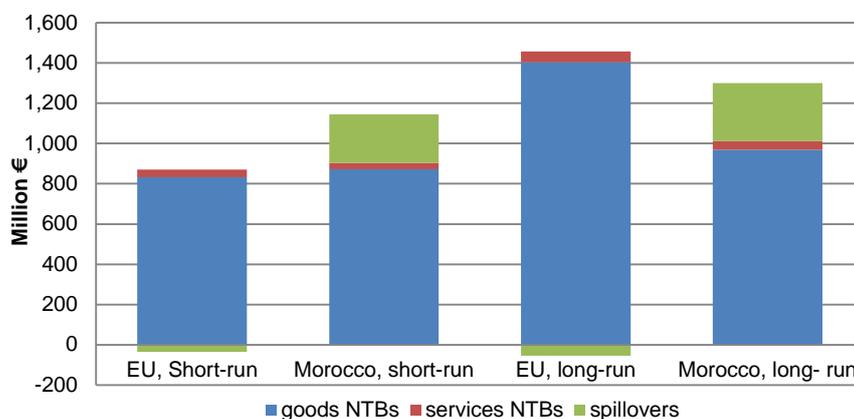
In relative terms however, the gains are more pronounced for Morocco than for the EU. For Morocco, the GDP increase translates into a 1.3 and 1.6 per cent increase in the short-, and long-run settings respectively, while the change in EU's GDP is 0.0 per cent. This difference in relative gains reflects the difference in relative importance of the economies for each other. While the EU is one of the most important trading partners for Morocco, this is not the case for the EU. Thus as barriers to trade are removed between the two economies, the impact on Morocco's trade and economy is significant, while for the EU the resulting changes are marginal.

Liberalising trade between the EU and Morocco is shown to have no visible economic effect on any of the other countries. Furthermore, the estimated effect on all other variables in the table for the EU is shown to be zero. On the other hand, Moroccan consumer prices are shown to increase by 0.4 per cent, while wages increase between 1.4 and 1.2 per cent. As a result, purchasing power of Moroccan consumers is expected to increase.

A country's terms of trade reflect how much the exports are worth in terms of imports. As such, an expected improvement (i.e. positive change) in a country's terms of trade implies that for each unit of exports sold, the country can afford to buy more imports. Liberalising trade with the EU is shown to cause Moroccan terms of trade to increase by 0.7 per cent. Meanwhile, Moroccan overall imports are expected to increase by eight per cent and exports by 15 per cent.

As discussed in Chapter 1, the modelling scenario for the proposed EU-Morocco DCFTA contains a combination of lowering of Non Tariff Measures (NTMs) in goods and services. These policy changes also trigger spill-over effects. The spill-over effects stem from measures taken to align Moroccan industry standards to EU regulations, which will result in better market access to third country markets as well. No tariff liberalisations were modelled since the DCFTA is not expected to reduce tariffs further (tariffs already being close to zero). Figure 2.1 below presents the estimated changes in national income but now decomposed to reveal the share of these different trade liberalisation channels in the overall effects.

Figure 2.1 Changes in National Income million €, Divided by Trade Liberalisation Measure



Source: IIDE CGE modelling calculations.

As can be seen from the figure, the lowering of NTMs in goods is accountable for all of the EU national income gains. The small positive income effect, stemming from the lowering of services NTMs is counteracted by the negative, trade diverting effect caused by spill-overs. The spill-over trade diversion is due to the fact that the harmonisation of regulations is not only beneficial to the EU and Morocco, but to third countries as well. The harmonisation lowers effective trade costs, increasing competition from third countries, and in some cases, causing trade to be diverted from the EU.

More than three quarters of the Moroccan national income gains is shown to be attributable to the lowering of NTMs in goods, while the rest stems from spill-overs. Lowering of NTMs in services is shown to only contribute marginally. For the EU, the entire gain in national income is attributable to lowering NTMs in goods trade as the contribution of spill overs and lowering barriers in services trade offset each other out in their contribution to national income gains. Hence, overall we conclude that a large share of the overall gains due to the DCFTA is driven by approximation of NTMs in goods trade between the two regions. This outcome is a direct result of the definition of the simulation of the DCFTA as this agreement will not include any tariff liberalisations and hence focuses on removal of other non-tariff trade barriers in services and goods trade. Since services trade represent a much smaller share compared to goods trade⁵ in the data used, the overall gains from services liberalisation is smaller.

2.1.1 Bilateral Trade Effects

In Table 2.1 above, we reported changes in overall trade for EU and Morocco. In this subsection, we take a closer look at what happens to EU-Moroccan bilateral trade flows specifically. These are summarised in the table below.

Table 2.2 Changes in EU-Moroccan bilateral trade, changes in per cent

	short- run	long run
Morocco exports to EU, % change	23.6	23.6
EU exports to Morocco, % change	17.6	18.1

Source: IIDE CGE modelling calculations.

As can be seen from the table the bilateral trade effects are more substantial than the estimated changes in total trade. Moroccan exports to the EU are shown to increase by 24 per cent while imports from the EU are shown to increase by 18 per cent in both the long-, and short-run settings.

2.2 Sector specific effects

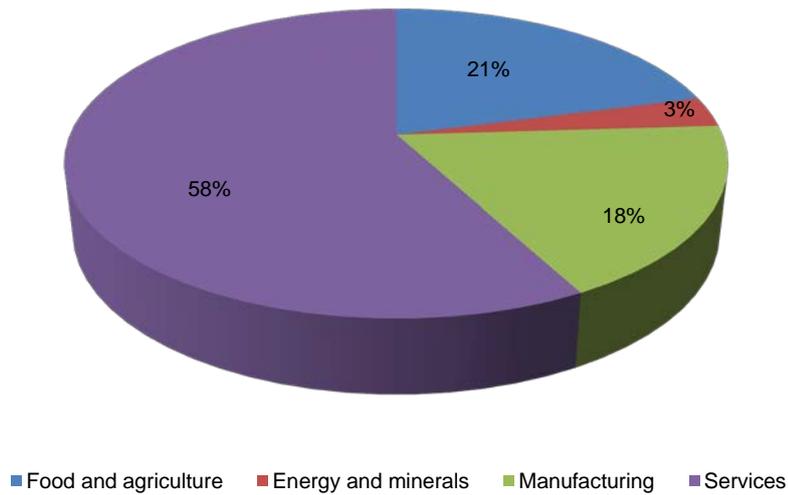
In order to learn more about the underlying changes across the economies, we now turn the focus of our analysis to the disaggregate sector specific changes in value added, employment and trade, as well as the resulting effects on the EU-Moroccan bilateral trading patterns. As previously noted, the estimated changes to the EU economy are very small both at macro and sector specific levels. In the long-run setting, none of the expected changes are bigger than 0.5 per cent and for most sectors the expected changes are insignificant. Since all sector specific changes in the EU's value added and employment are close to zero, these are presented in the Annex E and not further elaborated on here. Instead we focus on analysing the sector specific effects for Morocco. Before analysing the changes, we start by presenting an overview of the structure of Moroccan production and trade in the baseline, so that the presented changes can be viewed in their proper context.

⁵ And the GTAP 8.0 database does not include all Modes of international services supply

2.2.1 Moroccan production and employment

As can be seen from the figure below, the agriculture and food sectors are still quite important in the Moroccan economy. Food and agriculture's share of total value added in Morocco (21 per cent) is slightly higher than the manufacturing sectors' share (18 per cent). Meanwhile, the share of the services sectors is accountable for approximately 58 per cent of total value added.

Figure 2.2 Overview of Morocco's production value added by sector (shares in % of total value added)



Source: GTAP.

The patterns of employment and value added for the Moroccan economy are presented in Table 2.3 below. As can be seen from the third column, 85 per cent of Moroccan skilled labour is employed in the services sectors where the public and other services sector alone accounts for the employment of 57 per cent of the Moroccan skilled labour force. Meanwhile, the services sectors employ 50 per cent of the less skilled labour force. For comparison, about 58 per cent of total value added is attributable to the services sectors in the Moroccan economy, of which 23 per cent is attributable to public and other services.

Table 2.3 Sectors specific changes in Moroccan output and employment, long run setting

Sector	Baseline share of total VA (%)	% change in VA	Baseline share of total skilled empl. (%)	% change in skilled empl.	Baseline share of total less skilled empl. (%)	% change in less skilled empl.
grains and crops	5.4	-2.7	0.2	-2.8	7.3	-2.63
vegetables and fruit	4.2	4.0	0.2	4.0	5.8	4.04
other crops	1.0	-1.8	0.0	-1.9	1.3	-1.79
animal products	3.6	0.3	0.1	0.2	4.9	0.33
forestry products	0.6	-0.7	0.0	-1.0	0.8	-0.65
fisheries	0.3	0.2	0.0	0.2	0.3	0.22
primary energy	0.0	-0.3	0.0	-0.9	0.0	-0.32
other minerals	3.1	-0.5	1.2	-0.7	2.9	-0.44
processed meats	2.4	0.4	1.2	-0.2	2.4	0.43
vegetable oils	0.1	3.3	0.0	2.5	0.1	3.30
other processed foods	3.1	1.9	1.7	1.3	3.3	1.92
beverages and tobacco	0.4	-0.2	0.2	-0.8	0.4	-0.20
textiles	0.7	-2.7	0.4	-3.1	0.9	-2.71
wearing apparel	2.1	1.3	1.1	0.8	2.8	1.37
leather goods	1.9	-3.6	1.2	-4.0	2.6	-3.59
lumber, paper	1.8	-3.1	1.0	-3.5	2.3	-3.05
petrochemicals	0.5	-1.9	0.2	-2.5	0.3	-1.86
chemicals, rubber, plastics	2.6	-0.2	1.5	-0.9	2.4	-0.18
non metallic mineral products	1.8	-0.8	0.9	-1.4	1.9	-0.77
metals	0.6	0.7	0.3	0.0	0.6	0.73
fabricated metals	1.2	-2.1	0.8	-2.5	1.5	-2.07
motor vehicles	0.4	2.7	0.3	2.0	0.5	2.73
other transport equipment	0.4	-0.3	0.3	-0.7	0.6	-0.28
electrical machinery	1.0	-2.1	0.7	-2.6	1.1	-2.12
other machinery	2.4	8.5	1.6	7.4	2.5	8.53
other manufactures	0.7	-0.9	0.3	-1.4	0.9	-0.88

Sector	Baseline share of total VA (%)	% change in VA	Baseline share of total skilled empl. (%)	% change in skilled empl.	Baseline share of total less skilled empl. (%)	% change in less skilled empl.
utilities	2.4	-0.9	1.3	-1.6	0.9	-0.85
construction	8.4	0.6	5.1	-0.1	9.9	0.73
trade	9.1	0.7	6.7	0.0	10.8	0.89
inland transport	5.8	-0.1	4.2	-0.8	6.8	0.01
water transport	0.8	-0.5	0.5	-1.2	0.8	-0.48
air transport	1.3	-1.7	0.9	-2.3	1.4	-1.68
communications	0.9	-1.4	1.2	-1.9	0.6	-1.35
finance and insurance	1.2	-0.5	2.2	-0.9	1.1	-0.47
ICT other business services	3.4	-1.8	3.5	-2.3	1.7	-1.70
consumer services	1.1	0.4	1.6	-0.2	0.8	0.43
public and other services	23.4	0.9	57.4	0.4	14.8	1.70

Source: IIDE CGE modelling calculations.

Next, we move to estimated sector specific changes in Moroccan value added and employment, resulting from an EU-Moroccan DCFTA in the long-run setting, which are also presented in Table 2.3 and Figures 2.3, 2.4 and 2.5. Both the table and the graphs include baseline figures, so that the relative changes can be placed into perspective. In the graphs, the size of the bubble refers to the share of value added and employment the sector represents for Morocco. The vertical axis represents amount of exports in 2011 (without DCFTA) and the horizontal axis shows the expected impact from the DCFTA in the long run. Only the sectors in which the most significant changes are expected are included. Table 2.3 and the Annex E show the effects of all sectors due to the DCFTA.

As it can be seen from the table, no clear pattern on the food and agricultural sectors, manufacturing and services sectors emerges, and the estimated changes are quite small. Furthermore, although the allocation of labour across sectors differs from the sector specific allocation of value added, the estimated changes in employment and value added are shown to be reasonably similar.

Within the Agricultural sector, the biggest changes include the expansion of the vegetables and fruits sector (by 4.0 per cent), which accounts for four per cent of Moroccan value added and the decrease (by 2.7 per cent) of the grains and crops sector. The vegetable oils sector, which in the baseline only accounts for 0.1 per cent of total value added, is estimated to increase by 3.3 per cent.

The vegetables and fruits sector is currently somewhat protected from trade both in Morocco and the EU. Signing the DCFTA assumes substantial reductions of non-tariff measures. These changes will give a significant boost to bilateral trade in vegetables and fruit. Trade liberalisation will cause Moroccan exports to the EU to increase by 15 per cent, while the EU exports to Morocco are estimated to expand by 24 per cent. However, the Moroccan vegetables and fruits market will continue to be supplied mostly by domestic producers. Imports only account for about six per cent of total sector sales in Morocco in the baseline and this share will increase only slightly (about one percentage point) as a result of liberalising trade. Thus, the overall effect of trade liberalisation will be beneficial for Moroccan vegetables and fruit producers.

Figure 2.3 Changes in value added after the DCFTA (Long run), selected sectors in Morocco

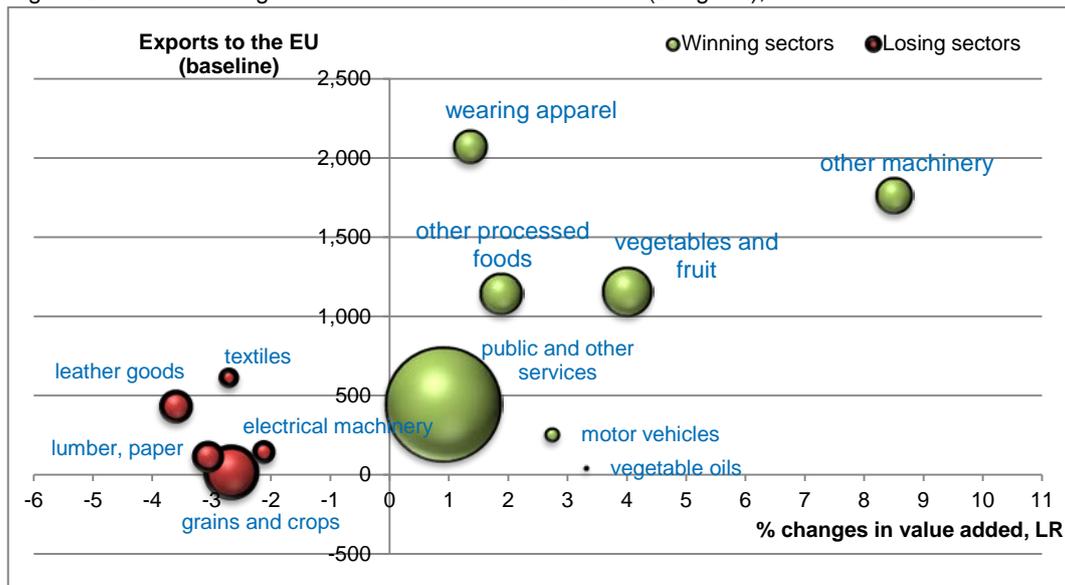
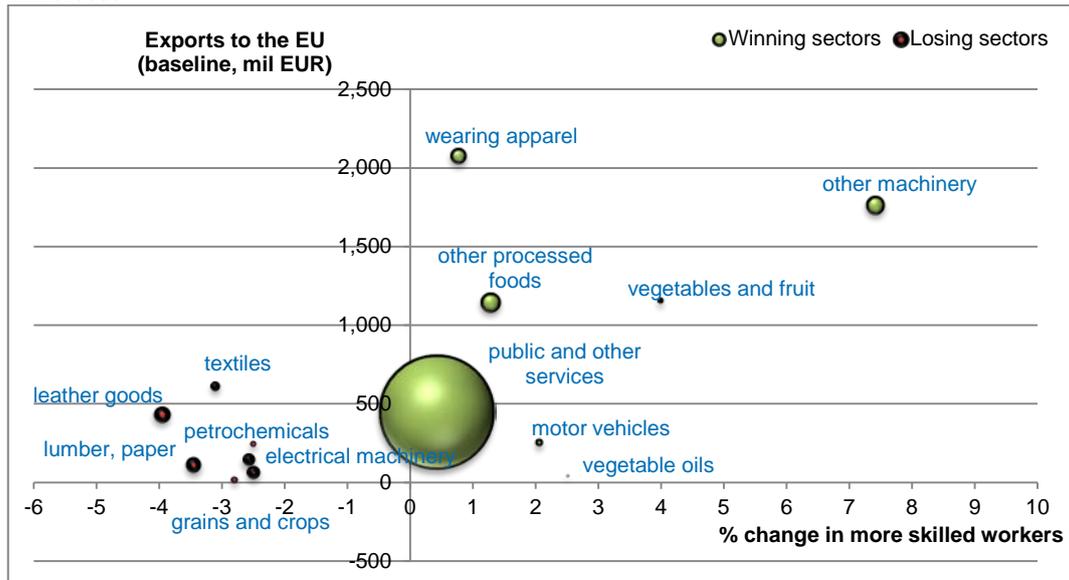


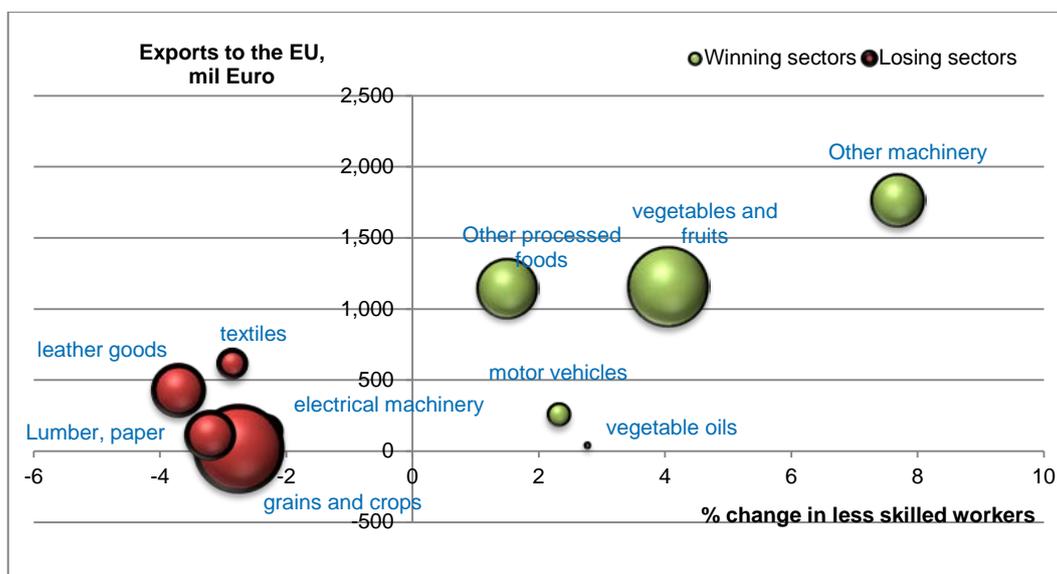
Figure 2.4 Changes in employment (more skilled) after the DCFTA (Long run), selected sectors in Morocco



Within the manufacturing sectors, the most notable change is the 8.5 per cent increase in the other machinery sector. This sector, which accounts for 2.4 per cent of total Moroccan value added in the baseline, is an important trading sector (we will return to this issue later on in this chapter). Looking at the decomposed effects of the different liberalisation measures reveals that the lowering of NTMs in goods is, by far, the most important measure driving these changes. Imports of other machinery into Morocco (of which the share coming from the EU accounts for 56 per cent) provide a significant part of production inputs to the domestic Moroccan industry. Most of the sector's output, in turn, is sold as capital goods on the domestic market, with only 25 per cent of the output exported (and the exports are predominantly destined for the EU). Reduced NTMs in the sector will lead to lower prices of imported components of other machinery and will consequently give a boost to imports. As a result, the sector's total imports will increase by 13 per cent. Imports from the EU will grow even more (i.e. increase by 24 per cent), after which the share of the EU in other machinery imports of Morocco will increase to 62 per cent. Growth of Moroccan exports in other machinery will be even more substantial compared to growth in imports of the sector, with an increase of 71 per cent overall and 76 per cent in the exports to the EU.

Leather goods is the Moroccan sector which will experience the biggest drop (- 3.6 per cent) in value added. The underlying reason for this decrease is the reduction in NTMs in bilateral trade with the EU. Since imported leather goods constitute 31 per cent of the country's private consumption of the product, this creates a noticeable competition to the local producers. The EU is the main exporter of leather goods to Morocco (i.e. the EU accounts for 92 per cent of total imports in the baseline) and as such the imports of leather goods from the EU are expected to increase by 20 per cent as a result of the DCFTA and will increase the competition in the market. Consequently, Moroccan value is expected to contract by 3.6 per cent in the long run.

Figure 2.5 Changes in employment (less skilled) after the DCFTA (Long run), selected sectors in Morocco



2.2.2 Trade

Current situation

The current trading patterns between the EU and Morocco display a highly unbalanced relationship. While the EU is clearly the most important trading partner for Morocco (i.e. 63 per cent of total Moroccan exports are destined for the EU market), less than 1 per cent of total extra-EU exports are going to Morocco.

The agriculture and foods sector is not only important for domestic value added, but also constitutes a significant part of Moroccan exports to the EU. About one-fifth of Moroccan exports to the EU are agricultural and food products. An even more important sector for EU exports to Morocco is textiles and clothing, with one-fourth of total exports originating from this sector. Trade within the other machinery and equipment sector is also substantial, constituting 14 per cent of total Moroccan exports to the EU. Meanwhile, the three most important sectors in EU exports to Morocco are other machinery and equipment (19 per cent of total EU exports to Morocco originate from this sector), chemicals (chemicals, rubber, plastics represent 13 per cent and petrochemicals 8 per cent of total EU exports), and textiles (7 per cent).

Table 2.4 Overview, EU's trade with Morocco (2011)

Sector	EU's exports to Morocco			Morocco's exports to the EU		
	in € million	as a share of total extra-EU exports	as a share of total exports to Morocco	in € million	as a share of total exports	as a share of total exports to the EU
Grains and crops	477.64	8.0%	3.1%	23.61	44.2%	0.2%
Veg, fruit, nuts, oil seeds	48.86	1.0%	0.3%	1,161.85	75.2%	9.3%
Other crops	112.25	1.8%	0.7%	38.70	62.4%	0.3%
Animal products	117.32	2.7%	0.8%	96.49	84.7%	0.8%
Forestry products	34.82	3.1%	0.2%	4.02	66.1%	0.0%
Fish products	113.78	13.2%	0.7%	79.28	54.2%	0.6%
Energy	0.80	0.0%	0.0%	0.00	6.3%	0.0%
Other minerals	100.06	0.5%	0.6%	623.52	46.2%	5.0%

Sector	EU's exports to Morocco			Morocco's exports to the EU		
	in € million	as a share of total extra-EU exports	as a share of total exports to Morocco	in € million	as a share of total exports	as a share of total exports to the EU
Livestock and Meat Products	8.60	0.1%	0.1%	36.30	53.4%	0.3%
Vegetable oils and fats	21.13	0.7%	0.1%	45.96	67.0%	0.4%
Other processed food	326.78	0.9%	2.1%	1,150.78	66.1%	9.2%
Beverages and tobacco	56.13	0.2%	0.4%	8.73	44.4%	0.1%
Textiles	1,063.20	4.9%	6.8%	617.29	95.3%	4.9%
wearing apparel	209.59	1.2%	1.3%	2,078.61	93.7%	16.6%
leather products	172.59	1.3%	1.1%	435.76	92.0%	3.5%
Wood, paper, publishing	754.55	1.2%	4.8%	118.00	50.7%	0.9%
Petrochemicals	1,226.13	3.6%	7.9%	250.71	0.0%	2.0%
Chemicals, rubber, plastics	2,012.82	0.9%	12.9%	905.24	51.2%	7.2%
Ceramics, cement, etc.	271.87	1.3%	1.7%	52.80	71.6%	0.4%
Primary metals	887.07	1.5%	5.7%	268.22	53.6%	2.1%
Fabricated metals	449.74	1.1%	2.9%	68.23	69.2%	0.5%
Motor vehicles	1,299.69	0.9%	8.3%	259.84	90.2%	2.1%
Other transport	651.09	0.9%	4.2%	113.27	94.0%	0.9%
Electronics, computers	559.82	0.9%	3.6%	146.54	27.6%	1.2%
Other machinery and equipment	3,041.52	0.8%	19.5%	1,769.28	91.7%	14.1%
Other manufacturing	129.41	0.4%	0.8%	36.05	43.8%	0.3%
Utilities	203.58	3.0%	1.3%	4.78	47.0%	0.0%
Construction	4.91	0.0%	0.0%	6.91	33.5%	0.1%
Trade	64.53	0.1%	0.4%	72.74	38.6%	0.6%
Other transport	89.93	0.2%	0.6%	514.97	43.2%	4.1%
Water transport	18.54	0.1%	0.1%	35.06	44.6%	0.3%
Air transport	200.80	0.4%	1.3%	271.38	36.3%	2.2%
Communications	36.83	0.2%	0.2%	201.08	58.5%	1.6%
Finance and insurance	57.75	0.1%	0.4%	29.31	21.6%	0.2%
Business and ICT	514.20	0.3%	3.3%	501.75	46.6%	4.0%
Personal and recreational services	48.61	0.2%	0.3%	30.73	40.1%	0.2%
Public and other services	187.28	0.5%	1.2%	452.41	29.5%	3.6%
Total	15,574.21	0.8%	100.0%	12,510.20	62.7%	100.0%

Source: GTAP.

Looking at the patterns of Moroccan trade with the EU vs. trade with the rest of the world, four sectors stand out in terms of importance for Morocco. These are textiles and clothing (textiles, wearing apparel, and leather products), motor vehicles, other transport, and other machinery equipment. In these sectors, the share of exports to the EU in total Moroccan exports is higher than

90 per cent, thus making the EU the single most important export destination for these sectors. On the other end of the spectrum, there are only two sectors where this share is lower than 20 per cent: energy (representing only six per cent) and petrochemicals (zero per cent).

Although the share of exports to Morocco in total extra-EU exports is quite small, there are a few exceptions. These include grains and crops (with eight per cent of total extra-EU exports going to Morocco), fish products (13 per cent), and textiles (five per cent). Given the size of the Moroccan economy, these shares are rather significant. Thus in short, even though Morocco's importance for the EU as an export destination is marginal at the aggregate level, there are a few sectors where Morocco is a relatively important destination for exporters.

We now turn our attention to the expected changes to trade as a result of the DCFTA, by first analysing the estimated changes in Moroccan trade with the rest of the world and then to changes in the EU-Moroccan bilateral trade. Table 2.5 below summarises current Moroccan trade patterns and estimated percentage changes in exports and imports in the DCFTA scenario (including the figures on the initial importance of the various sectors in the baseline).

Table 2.5 Sectors specific changes in Moroccan trade, long run setting

Sector	Baseline share of total exports (%)	% change in total exports	Baseline share of total imports (%)	% change in total imports
grains and crops	0.3	7.6	4.8	9.2
vegetables and fruit	7.7	13.7	0.4	15.0
other crops	0.3	12.6	0.8	12.3
animal products	0.6	16.9	0.4	19.8
forestry products	0.0	12.8	0.4	7.0
fisheries	0.7	6.4	0.3	6.4
primary energy	0.0	14.5	10.4	-2.0
other minerals	6.8	0.4	0.9	1.7
processed meats	0.3	25.1	0.2	33.5
vegetable oils	0.3	41.8	1.4	4.3
other processed foods	8.7	15.2	2.8	12.5
beverages and tobacco	0.1	3.7	0.3	5.7
textiles	3.2	8.9	6.2	5.0
wearing apparel	11.1	6.0	1.8	10.2
leather goods	2.4	3.8	1.4	12.4
lumber, paper	1.2	2.4	3.8	8.1
petrochemicals	2.0	4.7	6.5	3.0
chemicals, rubber, plastics	8.9	30.3	9.9	14.7
non metallic mineral products	0.4	24.5	1.4	13.2
metals	2.5	24.3	6.4	8.0
fabricated metals	0.5	28.7	2.2	15.8
motor vehicles	1.4	50.3	7.3	3.4
other transport equipment	0.6	89.0	2.6	9.3
electrical machinery	2.7	19.4	4.9	9.5
other machinery	9.7	70.9	13.8	12.9
other manufactures	0.4	16.5	0.7	18.3
utilities	0.1	-0.5	0.6	19.3
construction	0.1	-0.9	0.0	9.5

Sector	Baseline share of total exports (%)	% change in total exports	Baseline share of total imports (%)	% change in total imports
trade	0.9	-2.5	0.4	13.0
inland transport	6.0	-1.4	0.6	10.8
water transport	0.4	0.0	0.1	7.2
air transport	3.7	-0.5	1.3	5.3
communications	1.7	-1.9	0.2	11.2
finance and insurance	0.7	-2.7	0.4	11.7
ICT other business services	5.4	-1.4	2.5	9.6
consumer services	0.4	-1.8	0.3	11.4
public and other services	7.7	-1.8	1.7	10.6

Source: IIDE CGE modelling calculations.

As was the case for the EU-Moroccan bilateral trade, baseline Moroccan trade is concentrated in the manufacturing sectors (the second and fourth columns of the table above). 47 per cent of Moroccan total exports and 69 per cent of total imports consist of manufacturing goods.

In terms of total Moroccan exports, wearing apparel (11.4 per cent), other machinery (9.7 per cent) and chemicals, rubber and plastics (8.9 per cent) are the three most important sectors. The manufacturing sectors are also expected to experience the biggest relative increases in exports, with the 89 per cent increase in exports of other transport equipment and 71 per cent in other machinery. Given that other machinery is accountable for close to 10 per cent of Moroccan exports prior to the trade agreement, this will imply a significant increase in exports – and as previously pointed out - in output. The 30 per cent increase in Moroccan exports of the chemicals, rubber and plastics - which is a significant sector both in terms of imports and exports - is not accompanied by a significant increase in output, but rather by an increase in imported components (i.e. this sector's imports will increase by 15 per cent), which substitute the domestically supplied components. Around 70 per cent of imported chemicals are used as intermediate inputs in Moroccan industry, and the EU accounts for 51 per cent of the sector's imports. Exports constitute half of the sector's output and the EU, which is the destination for 55 per cent of these exports, is the major trading partner. This implies that the bulk of the trade increases will take place between Morocco and the EU, and trade with third countries will increase less.

Other transport equipment, while having only a small share of base line exports, experiences the fastest growth in exports among all industries (89 per cent). This sector relies heavily on imports of inputs from the EU, and most of the sector's output is sold as capital goods on the domestic market. Meanwhile, exports (mostly to the EU) account only for about 12 per cent of output. Reduced NTMs to trade are estimated to cause both exports and imports to increase as more inputs of production will be imported and output will be re-exported back to the EU. As was the case for chemicals, rubber and plastic above, the increase in trade does not affect the sector's output. Instead, growth in imports of components in this sector is offset by a decrease in use of domestic ones, thus the increase in exports comes at the cost of lower sales in the domestic market.

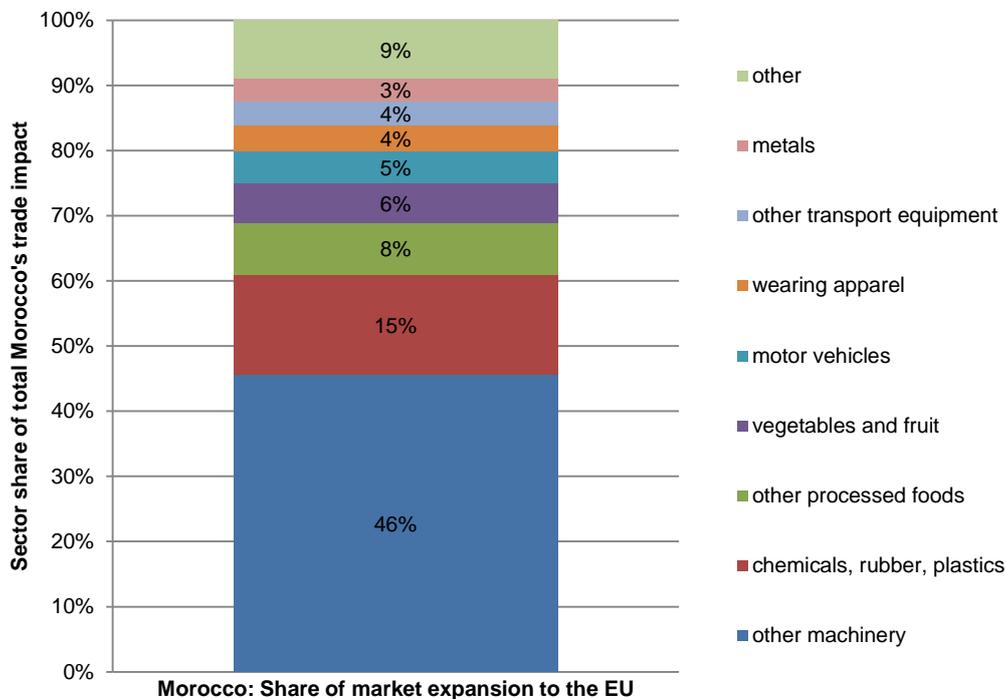
Exports in all agricultural sectors are estimated to increase, with the biggest percentage increases in vegetable oils (41.8 per cent) and processed meats (25.2 per cent). However these sectors do not constitute a significant share of the exports prior to the trade agreement, and thus the absolute effects of these increases will be limited. Other processed foods and vegetables and fruit, which account for 8.7 and 7.7 per cent of baseline exports respectively, are shown to increase exports by around 15 per cent. Meanwhile, the resulting changes in comparative advantage cause exports in all services sectors to decrease as a result of the signing of a DCFTA.

Moroccan imports will, with the exception of the two per cent decrease in primary energy, increase across all sectors. As previously pointed out, close to 70 per cent of baseline imports are manufactured goods and as it was the case with exports, chemicals, rubber and plastic (9.9 per cent) and other Machinery (13.8 per cent) are the most important import sectors. Both these sectors, as well as many other manufacturing sectors, will increase imports by between 10 and 15 per cent. The biggest relative increase is the expected 33 per cent increase in the processed meat sector, even though this sector represents only a small share of imports.

Processed meat is the sector with the highest estimated import growth in Morocco. Total imports are expected to increase by 33.2 per cent as a result of the DCFTA with the EU, with bilateral imports growing even more substantially – by 132 per cent. Currently, the processed meat market in Morocco is somewhat protected from competition from imports, and the share of imported meat at the market is around six per cent. The EU's share of the processed meat imports is quite low (11 per cent), but it is estimated to almost double as a result of trade liberalisation. Nevertheless, the total share of foreign processed meat in the Moroccan market will remain rather low, thus the effect of trade liberalisation on the sector's value added and labour will be limited.

In order to measure the sector specific bilateral trade impact of a Morocco-EU DCFTA, a calculation from the Copenhagen Economics (2007) study on the economic impact of an FTA between the EU and South Korea is employed. It reveals which sectors are estimated to contribute most to the increase in bilateral trade flows and as such experience the biggest trade impacts. It shows the relative importance of specific sectors, as share of a sector in the total increase in exports from Morocco to the EU⁶. The sector specific allocation of these increases is depicted in Figures 2.3 and 2.4 below.

Figure 2.6 Sectoral decomposition of the estimated DCFTA related expansion of Morocco's exports to the EU in the long-run



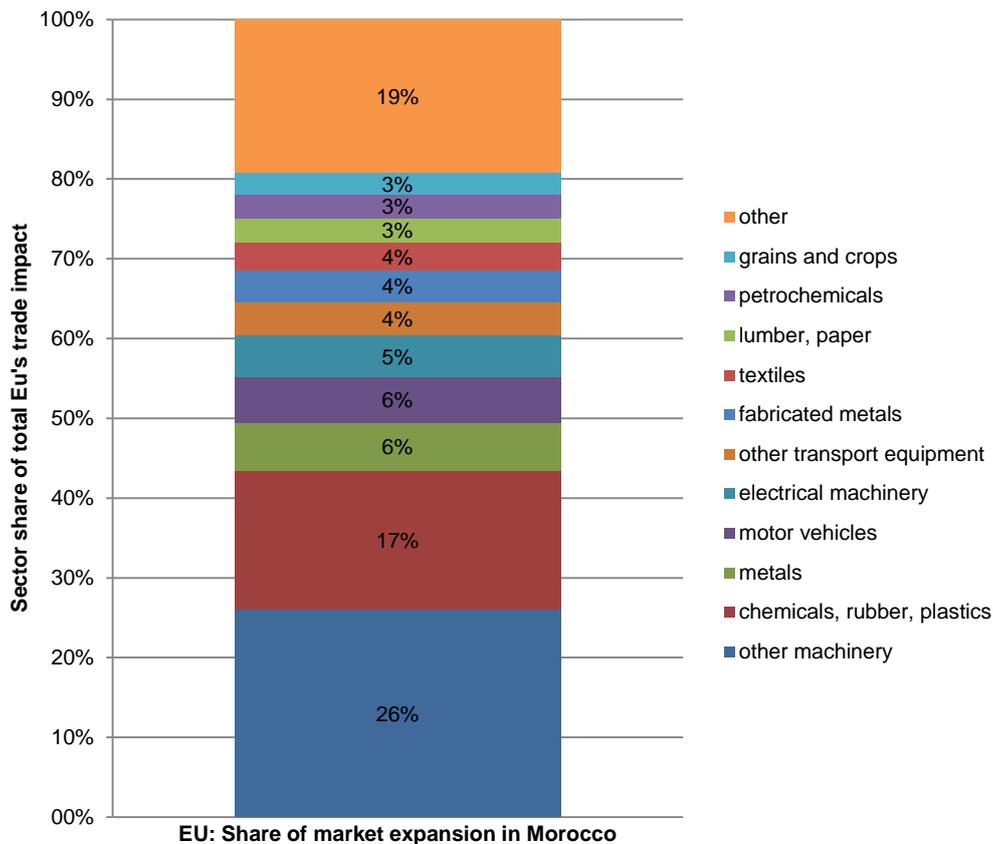
Source: IIDE CGE modelling calculations.

⁶ By dividing the product of the percentage change and the bilateral export value in the sector with the sum of the product of the percentage change and the bilateral export value in the sector

As previously pointed out, Moroccan exports are expected to increase by around 24 per cent in the long run. As can be seen from figure 2.3, 46 per cent of the increase is attributable to other machinery, 15 per cent to chemicals, rubber and plastics and eight per cent to other processed foods.

EU's exports to Morocco were shown to increase by 18 per cent in the long-run setting. As can be seen from Figure 2.4 below, the same sectors are important here, which shows that exports and imports of intermediate products play an important role in bilateral trade flows. An estimated 26.1 per cent of the gains are attributable to other machinery, while the chemicals, rubber and plastics sector contributes 17 per cent of the gain.

Figure 2.7 Sectoral decomposition of the estimated DCFTA related expansion of EU's exports to Morocco in the long-run



Source: IIDE CGE modelling calculations.

2.3 Environmental Indicators in the CGE model

Next, we examine the estimated effects of a DCFTA on the environment by analysing the resulting changes in land use and CO₂ emissions. The expected effects on land use in Morocco and the EU, as well as the changes in CO₂-emissions for Morocco, the EU and the world in the long-run setting, are presented in Table 2.6 below.

Table 2.6 Environmental variables, long run setting, emissions measured in million metric tons (MT) CO₂

Country / region	Change in emissions	Change in land use intensity, %
European Union million MTCO ₂	0.6	
Morocco million MT CO ₂	0.0	
European Union %	0.0	-0.1
Morocco %	0.0	0.3
World %	0.0	

Source: IIDE CGE modelling calculations.

The expected change in production patterns, driven by increased EU-Moroccan trade is shown to imply a slight increase of 0.6 million Metric Tonnes (MT) of CO₂ emissions in the EU and a corresponding global increase of 0.9 million MT in CO₂ emissions, while leaving the Moroccan emissions unchanged. In relative terms, the EU and global increases are tiny and amount to insignificant overall change.

As it can be seen from the second column of the table, the DCFTA will imply small changes in the degree of land use. For the EU, land use is expected to decrease by 0.1 per cent, while the resulting changes in Moroccan production will cause land use to increase by 0.3 per cent. A likely explanation for this increase is the increase in output in the fruit and vegetables sector, which uses a relatively large amount of land for production.

2.4 Social Indicators in the CGE Model

Some of the estimated variables from the CGE analysis, which are of special interest for the social impact assessment, are presented in the Table 2.7 below.

Table 2.7 Social Indicators, long run setting, changes in per cent

	Wage Change (%)		Labour displacement (%)	
	less skilled workers	more skilled workers	less skilled workers	more skilled workers
European Union	0.0	0.0	0.0	0.0
Morocco	1.6	1.9	1.1	1.1

Source: IIDE CGE modelling calculations.

The first column shows the estimated changes in wages for the less skilled labour force. As previously pointed out, EU wages remain unchanged, while the Moroccan less and more skilled workers will experience wage increases of up to 1.6 and 1.9 per cent respectively.

The last two columns, containing labour displacement indicators, illustrate how many workers are expected to move between sectors within the EU and Morocco. Labour displacement is measured as the share of the labour force that will relocate due to changes in production patterns as a result of the agreement. As it could be expected, since the relative changes are too small to trigger any major shifts in European employment, the corresponding levels of labour displacement are also insignificant. In the longer run, no significant displacement is expected to take place in the EU labour force, while on the other hand 11 per cent of the Moroccan less and more skilled workers respectively are estimated to relocate between sectors.

2.5 Synthesis and implications of the CGE results

The purpose of this chapter was to present and discuss the estimated effects of liberalising trade between the EU and Morocco based on the outcome of our CGE model. The utilised model incorporated trade liberalisation assumptions with regards to NTMs to goods and services as well as resulting spill-overs to third countries and analysed the estimated effects in a short-, and long-run setting. No tariff liberalisations were modelled since the DCFTA is not expected to significantly reduce tariffs further (tariffs in bilateral trade already being nearly zero).

The analysis showed that liberalising trade would imply welfare gains for both the EU and Morocco, although these gains for the EU would be somewhat limited, due to the relatively small share of Morocco in the EU's total trade. Among the measures taken to lower trade costs, the lowering of NTMs in goods is shown to be the most important factor in generating positive overall income effects. This measure is accountable for all of the EU gains and the majority of the Moroccan gains. The estimated effects in the long- and short-run setting in Morocco are very similar, which suggests that the capital reallocation effects are not very significant.

Given the asymmetric nature of the trade relations, some significant changes were shown to take place at sectoral level in the Moroccan economy, while only very marginal changes would occur at sectoral level in the EU.

For Morocco, the biggest relative changes in sector specific output is shown to occur within the manufacturing sectors, most notably so for other machinery (+8.5 per cent) and leather goods (-3.6 per cent), while the biggest increase in the output of the agricultural sectors is expected for vegetables and fruit (+4 per cent). Corresponding impacts in trade are much bigger. The biggest increases in total Moroccan exports are 89, 71 and 30 per cent increases in other transport equipment, other machinery and chemicals, rubber and plastics respectively. Processed meat is the sector with the biggest estimated relative increase in Moroccan imports (33 per cent).

EU-Moroccan trade is characterised by a high degree of outsourcing, and as such there is a lot of two-way trade going on within sectors. This is especially the case for other machinery and chemicals, rubber and plastics and wearing apparel.

The DCFTA also implies gains for Moroccan workers. Consumer prices are shown to increase by 0.4 per cent, while wages increase between 1.5 and 1.7 (average of skilled and unskilled) per cent, which will result in an overall increase in purchasing power. Some labour displacement (around 1.1 per cent) of the Moroccan labour force is expected to take place as a result of changes in production. The DCFTA is not estimated to have any significant effect on environment (CO₂ and land use) for either country.

3 Additional Social Analysis

This chapter contains the additional social and environmental analysis, using a mix of quantitative and qualitative techniques. Sections 3.1 to 3.3 contain the results of the social analysis, where section 3.4 pays specific attention to the Human Rights impact. The social and human rights analyses are structured as follows: we first present the current situation and then analyse what the impact of the DCFTA could be on this baseline scenario.

3.1 Social analysis: status quo

With respect to the current social situation in Morocco, we start by looking at some quantitative indicators (income, inequality and poverty), followed by an assessment of the current situation with respect to the ILO's Decent Work Agenda, more specifically its four pillars: 1) Creating jobs; 2) Guaranteeing rights at work; 3) Extending social protection; and 4) Promoting social dialogue. Finally, we address gender equality as a cross-cutting objective.

3.1.1 *Income, inequality and poverty levels in Morocco*

According to the World Bank, Morocco classifies as a lower middle income country. Average income per capita, measured in GNI per capita, is reported at USD 2970 in 2011 current prices. Income development over time was better than the overall trend for lower middle income countries. However, the difference between the MENA's and Morocco's average income has more than four folded since 2005. Whereas in 2005 the MENA region's income was just USD 237 higher than Morocco's, this difference was USD 1016 in 2010.

Income inequality in Morocco as measured by the Gini coefficient is fairly average, ranking at position 55 in the world according to the CIA Factbook. The Gini coefficient calculated for 2007 was 40.9. This index is scored on a 0-100 scale. A value closer to 0 (zero) indicates lower income inequality, while values closer to 100 indicate higher income inequality. The value is comparable to countries such as Jordan (35), Egypt (31), Tunisia (41), and Algeria (35).

Explicit indicators of the extent and depth of poverty in Morocco for 2007 give the following picture:

- The percentage of population below the national poverty line is 9% as reported by the World Bank;
- Extreme poverty in Morocco stands at 14% of population that have to live on less than USD 2 a day (calculated for 2007). Moreover, 2,5% of the total population can spend less than USD 1,25 a day.

From a broader socio-economic perspective, enrolment in primary education as well as life expectancy at birth is comparable to the average of the MENA region.

Morocco has a minimum wage in place, but this is thought to be ineffective because of the low level, weak coverage and lack of enforcement. The level of the minimum wage (2007 or later) is USD 383 at PPP.

Wages tend to be more egalitarian in the public sector than in the private sector, leading to a narrower range of wages. Public sector wage-setting rules also emphasise more formal education and seniority. Estimates of returns to education are generally higher in the public sector than in the

private sector. Rates of return have particularly declined in Morocco, matching estimates of more rapid increases in unemployment among educated workers, where the public sector has contracted.

Employment is an important factor reducing the risk and depth of poverty. The sectors trade, construction, public and other services and grains and crops provide the highest shares of total employment for less skilled workers. Except for the grains and crops sector, these sectors are all expected to benefit from the DCFTA in terms of employment.

The estimated rate of labour reallocation for less skilled workers induced by the DCFTA is relatively moderate. About 2.7% of less skilled labour will shift among sectors. The reallocation pattern implies displacement of labour and generation of new vacancies. The increase in dynamics of labour market flows creates both opportunities for the currently unemployed and a threat to those potentially vulnerable to lose their jobs.

The overall impact of the DCFTA in terms of unemployment among less skilled workers is not explicitly estimated by the CGE, but is likely to be beneficial. The shifts in sector structure may help to get the labour market out of the currently low level of dynamics. Further positive impacts are likely due to the expected economic growth and the employment generated by sectors that employ relatively many less skilled workers.

3.1.2 *Decent Work in Morocco*

Employment and job creation

Labour market indicators generally show an unfavourable negative picture of the Moroccan labour market as participation and employment rates are low, especially among women, while unemployment and underemployment is widespread and the informal sector is extensive.

Demographic developments

In order to understand the dynamics of the labour market in Morocco, it is important to focus first on demographic developments. High population growth in the 1960s and 70s caused severe pressures on the labour market in the 1980s and 90s, when this new generation entered the labour market. Only in the 1990s Moroccan population growth rates started to slow down, because of substantial improvements in female health and education, a lack of affordable housing and of high youth unemployment. This lower fertility rate currently starts to affect the labour market situation, as reflected in the change in working population: the increase of working-age population slowed down significantly from 3.7 per cent during the 1980s to 2 per cent over the period 2005-2008. It is expected that the growth of the working age population will slow down even further, thereby reducing pressures on the labour market and contributing to lower unemployment. For the time being however, the large young population continues to put pressure on the Moroccan labour market.

Key labour market data

Because the (potentially favourable) demographic developments impact the labour market only in the long term, the current situation is not expected to change in the coming years. In addition, the economic growth rates from the last decade also did not cause higher levels of (high quality) employment. This can be explained by the fact that productivity gains have only been achieved in a limited number of sectors such as telecommunications, transport, financial services, and real estate, whereas productivity in other sectors remains limited.⁷

⁷ Carnegie Endowment (2010).

The largest share of the working population is active in the agricultural sector (40.9%), followed by the service sector (37.2%) and industry (21.7%).⁸ With 59.2 % far more women work in the agricultural sector than men.⁹ The largest share of workers in Morocco, however, works in the informal economy, either as employees or as self-employed entrepreneurs.

According to the ILO, the term “informal economy” comprises the expanding and increasingly diverse group of workers and businesses in both rural and urban areas that operate informally. There are very few data on the size and composition of the informal sector. What is known however are the numbers on social protection coverage through systematic data collection in Labour Force Surveys. In accordance with data availability, informal employment can be defined as all jobs not declared to a social security system, or all working persons who do not benefit from any social protection that include both self-employed and wage-earners.¹⁰

Based on Moroccan social security statistics, the ILO states that informal employment decreased from 80 per cent in 1990 to 75.8 per cent in 2000. The process of formalisation has come to a halt since then, in particular because of the size of agricultural sector.¹¹

The Moroccan labour market is therefore mainly characterised through low participation and employment rates. As shown in Table 3.1 the participation rates declined from 53.4% to 51.2% over the period of 2000-2009. Table 3.1 also shows the declining availability of jobs resulting from demographic developments described above. Particularly striking are the structural low levels of female participation throughout the period.

Table 3.1 Participation, employment and unemployment in Morocco 2000-2009

	2000	2004	2009
Participation rate (%) ¹²	53.4	52.6	51.2
Male	85.2	84.3	78.4
Female	29.4	29.7	26
Employment rate (%) ¹³	46.4	46.9	40.8
Male	68.1	69.3	61.8
Female	25.3	25.1	20.9
Unemployment rate (%) ¹⁴	10.9	9.3	7.3
Male	10.7	8.9	6.9
Female	11.7	10.3	8.4

Source: ILO KILM 7th edition.

Economic growth clearly was not sufficient to create enough employment to absorb all the unemployed and new entrants on the labour market. Nevertheless, unemployment declined as the number of jobs created per annum exceeded the number of new entrants. In the period of 2000-2008, on average 123,000 people entered the labour market each year, while on average 162,000 jobs were created.¹⁵

⁸ Source: ILO KILM 7th Edition. Figures for 2008.

⁹ Source: ILO KILM 7th Edition. Figures for 2008.

¹⁰ Cf. ILO (2010) for an extensive elaboration.

¹¹ See on this issue: Carnegie Endowment (2010).

¹² Source: ILO KILM 7th edition, for persons aged 25+. Based on national statistics (LFS).

¹³ Source: ILO KILM 7th edition, for persons aged 15+. Based on national statistics (LFS): Employment to population ratio.

¹⁴ Source: ILO KILM 7th edition, adult unemployment rate. Based on household or labour force survey.

¹⁵ Carnegie Endowment (2010).

The declining unemployment rates should not be misinterpreted as a sign of an improved functioning of the labour market in Morocco.¹⁶ The labour market in Morocco remains especially confronted with a structural unemployment problem among young urban graduates. Table 3.2 depicts the particular low participation and employment rates among youth. It shows that youth unemployment rates are more than twice as high as the unemployment rates for adults.

Table 3.2 Youth participation rate in Morocco 2000- 2009

	2000	2004	2009
Participation rate (%)¹⁷	46.5	44	30.3
Male	64.7	62.3	44.5
Female	28.2	25.1	16.1
Unemployment rate (%)¹⁸	19.3	15.4	21.9
Male	20.9	15.8	22.8
Female	15.7	14.4	19.4

Source: ILO (2010).

Unemployed young people experience severe difficulties to enter the labour market.¹⁹ On the one hand, it is because of an inadequate educational system and the subsequent significant mismatches between skills supply and demand. On the other hand, young graduates are very much focused on jobs in the public sector where job opportunities are limited.

It is therefore not uncommon in Morocco that young persons have given up the search for a job or started to work in a low quality job and remain in poverty despite working.

Policies

The Moroccan government currently implements a strategy that focuses on two objectives.²⁰ First, the government strives to achieve an economic growth rate that exceeds six per cent per annum in order to create sufficient employment opportunities. On the other hand, however, the government aims to implement several policies to stimulate remunerated employment and self-employment. The latter policies include several active labour market policies that are implemented since the 1990s. These vary from subsidies for employment (CPE –IDMAJ) to training and retraining policies (TAEHIL) and encouraging entrepreneurship among young self-employed people (Moukawalati). All programmes focus on young people.

In February 2011, an *Employment Charter* was concluded in tripartite consultation. The Charter was (partially) intended to revitalise the three programmes listed above and was launched in the framework of the Vision 2020 project of the General Confederation of Businesses in Morocco (CGEM), however, the effectiveness of such programmes still need to be further improved. The Charter also includes measures to lower barriers for young jobseekers to access the (formal) labour market.

Employment issues also gained a high priority in other policies such as the emergency plan 2009-2019 to improve access to education, especially for women, and which foresees provisions to enhance guidance and counselling in the education curricula.²¹

¹⁶ Cf. Ibid. Also ILO (2010).

¹⁷ Source: ILO KILM 7th edition, for persons aged 15-24. Based on national statistics (LFS).

¹⁸ Source: ILO KILM 7th edition, youth unemployment rate. Based on household or labour force survey.

¹⁹ Cf. African economic outlook (2012).

²⁰ Cf. ILO 2010.

²¹ Cf. ILO (2010), p. 25.

In the future, jobs may also be created in new sectors by private companies, such as green energy (solar power). On 23 May 2012 Morocco signed several international agreements that cover areas like business integrity to international investment and green growth. Through the intensification of cooperation with the OECD, Morocco committed itself to ensuring greater multilateral cooperation, more transparency and greater business integrity. With their commitment to a Declaration on Green Growth, Morocco seeks to achieve environmentally and socially sustainable economic growth.²²

Rights at work

Given the considerable size of the informal sector, most Moroccan workers are not protected by labour legislation. When focusing on the formal sector however, the ILO (2010) identified two employment patterns in all Northern African countries, including Morocco. On the one hand, civil service jobs are more attractive than most jobs in the private sector because they are safer, better remunerated, and automatically generate pension entitlements. On the other hand, inflexible labour legislation that increases the costs for employers to hire and fire staff creates barriers for private sector employers to hire staff formally. Layoff indemnities in particular have been increased since a new Labour Code came into force in 2004 in Morocco.

In cooperation with the ILO, Morocco has introduced a Decent Work Pilot Programmes (DWPP) to show that the promotion of Decent Work is not only a social objective but also a productive factor for growth and upgrade in the prevailing global and competitive environment. One of these DWPPs has been implemented in the textile and garment sector in Morocco from 2004 onwards.²³ The textile and garment sector was chosen because it is the prime example of the exporting industry in Morocco. Between the early 1980s and early 1990s exports by this sector increased almost five times. In addition, the textile and garment sector is the key to industrial employment as it employs about 200,000 workers that represent 42% of Moroccan industrial workforce. More than 70% of these workers are women. Finally, this sector was selected because of possible social unrest that could evolve from planned employers' and government' measures to increase the global competitiveness of the sector, mainly in the areas of production costs, investment climate and political and economic stability.

This DWPP successfully facilitated the Moroccan Government and social partners to agree upon a new strategy for this industry that integrates both the economic and social dimensions of the sector's development. As result, issues such as links between productivity and working conditions; enterprise restructuring, adjustment and access to markets; employment policies and the role of the social partners in the design and implementation of skills development programmes, and the increasing attention paid to the respect of workers' rights and working conditions in the global market are now taken into account in tripartite discussions in the sector.

Concerning the ratification and enforcement of ILO Conventions with relevance to the Decent Work agenda, this has been elaborated upon in section 3.4 (human rights). Morocco ratified seven of the ILO's fundamental conventions.²⁴ Our analysis has shown that all ILO conventions ratified by Morocco are also in force.

During 2011-2012 the ILO's Committee of Experts on the Application of Conventions and Recommendations (CEACR) adopted various comments and direct requests to the Moroccan

²² cf. OECD (2012) "Tunisia and Morocco join multilateral business integrity and green growth instruments." Newsroom: <http://www.oecd.org/newsroom/tunisiaandmoroccojoinmultilateralbusinessintegrityandgreengrowthinstruments.htm>.

²³ Cf. ILO (2005). Decent Work Pilot Programme. *Moroccan Case Study – An example of a sectoral approach*. Internet: <http://www.ilo.org/public/english/bureau/dwpp/download/morocco/morcasestudy.pdf>.

²⁴ See also: <http://webfusion.ilo.org/public/db/standards/normes/appl/appl-ratif8conv.cfm?lang=EN>.

Government that concerned all fundamental conventions with the exception of convention No. 87 that has not been ratified by Morocco.²⁵

In 2012, the CEACR's observations on the application of conventions No. 29 and 105 (on elimination of forced labour) mainly concerned bringing existing national legislation more in line with the spirit of the conventions. The Committee requested to amend legislation on the requisitioning of persons and of goods in order to satisfy national needs. In addition, the Committee expressed its wish to see more effective penalties for conducting acts associated with forced labour when reforming the Penal Code.

In 2012, the Committee also raised an extensive range of issues on the conventions No. 138 and 182 on elimination of child labour. These concerned the collection of information on child labour by the government of Morocco. In addition, the Committee adopted observations concerning the legal provisions on the minimum age for employment as well as those arranging artistic performances of children in line with the conventions and the penalties for criminal acts associated with employing children for undertaking hazardous work. The Committee asked the Moroccan government to enhance its efforts to increase the number of pupils in compulsory schooling. Furthermore, the national government was asked to intensify its efforts to adopt and implement legal measures to prevent hazardous domestic work done by children and to counteract sexual exploitation of children.

The Committee adopted several direct requests to the Moroccan government in 2012. The Committee repeatedly asked the government to prohibit the use, procuring or offering of a child under 18 years of age for illicit activities, in particular for the production and trafficking of drugs, by national law. The Committee moreover requested the government directly to increase school attendance of children under 18, in particular of girls and children living in rural areas. In addition, the government was requested to put more effort in the identification, removal and reintegration of street children, since these are usually victim of the worst forms of child labour.

Finally, the Committee adopted several observations and direct requests on the conventions No. 100 and 111 on non-discrimination in 2011. Observations concerned requests for more information on compliance with the principles of equal treatment and equal remuneration for equal work between men and women, with specific attention to the textile and informal manufacturing sectors. The national government was also requested to apply these principles with respect to ethnic origin. The promotion of its application should furthermore be undertaken in cooperation with the social partners.

Lastly, the Committee also asked the government of Morocco to directly to take measures against acts of sexual harassment at the workplace, to agree upon the Bill on domestic work (as domestic workers are excluded from the scope of the Labour Code) and to provide more information on status of adopted legislation in this area.

Social protection

The Moroccan social security system is rated in the World Social Security Report (2010) rated as "semi-comprehensive".²⁶ This rating is somewhat below other Maghreb countries like Tunisia or Algeria which have comprehensive systems including protection against unemployment. The system in Morocco includes statutory programmes on:

- Sickness;
- Maternity;

²⁵ http://www.ilo.org/dyn/normlex/en/f?p=1000:13201:0::NO:13201:P13201_COUNTRY_ID:102993

²⁶ ILO (2010). World Social Security Report.

- Old age;
- Invalidity;
- Survivors;
- Family allowances;
- Employment injury.

An unemployment insurance scheme does not exist in Morocco.

Despite the existence of a social protection system, only a very limited number of workers is covered by this system. For example, with respect to retirement, all funds together provide pensions to only about two million persons, a number that equals approximately 26% of economically active population.²⁷ In addition to the limited coverage of the pension scheme, the pensions themselves are also very low. According to the ILO, 73% of retired persons receive a pension that is less than the minimum wage (SMIG – *Salaire minimum interprofessionnel garanti*).

Health insurance coverage has recently been extended with the introduction of an *Assurance Maladie Obligatoire* (AMO) in 2006 and a medical assistance scheme for poor people (RAMED) in 2007. The AMO scheme approximately covers 1.6 million wage earners in the private sector and their families who weren't previously covered against health risks. It is estimated by the ILO (2008) that the RAMED scheme covers approximately 9 million people.

In comparison with the total Moroccan workforce however, the coverage of the social security system is extremely limited. The ILO estimates that only about 25 per cent of the workforce is covered by social security.²⁸

Other social security schemes in Morocco include public and private schemes as well as schemes operated by NGOs. Public schemes include Inaya, a medical insurance scheme for independent workers (since 2007), drought programmes to assist rural people to survive long periods of drought, and a food subsidy scheme. The budget of the latter scheme has been increased by a factor five between 2002 and 2008, but only covers 10% of the poorest in the country.. Private schemes include various insurance schemes for pensions and health. NGOs finally operate several health and micro-finance facilities throughout the country.

Social dialogue

The institutional and legal framework that governs the social dialogue in Morocco is laid down in the Constitution and the Labour Code that came into force in 2004. Morocco nevertheless has not (yet) ratified the fundamental convention No. 87 on the freedom of associations.

This framework foresees that some categories of workers are not allowed to form trade unions, including public servants, members of the judiciary, domestic workers and agricultural workers, and all union officials must be of Moroccan nationality.

Collective bargaining moreover is limited to the most representative union, which must represent at least 35% of the total number of employees at enterprise level.

Even though a right to strike is guaranteed in the Constitution, employers are allowed to prosecute any strikers who hold a sit-in, damage property or carry out other forms of protest.

²⁷ This example of the limited coverage is both provided by ILO (2008) and the International Social Security Association: <http://www.issa.int/Observatoire/Profils-des-pays/Regions/Afrique/Maroc>.

²⁸ Cf. ILO (2010), p. 20.

The international Trade Union Confederation (ITUC) moreover indicates that social dialogue in Morocco in practice is even more limited.²⁹ On the basis of its annual survey of violations of trade union rights, the ITUC notes that Moroccan trade unions are being excluded from Export Production Zones (EPZs), through which the freedom of association is restricted in practice. In addition, the ITUC argues that the increase in the number of strikes in 2011 resulted (at least in part, as some of the strikes are most probably linked to the Arab Spring) from the absence of social dialogue at enterprise level.

3.1.3 Gender equality

Despite the enforcement of various ILO conventions focused on equal treatment and the protection of maternity rights of female workers, progress in the area of gender equality is limited because of insufficient resources made available to oversee and implement the laws, strategies and policies and to generate sufficient awareness on entitlements in women's rights amongst the population.

During the previous decade only 21.7% of the women worked in the non-agricultural sector and women accounted only for 25% of the active working population.

The number of women in decision-making positions and in politics remains low despite the implementation of various measures against gender discrimination. Whereas the proportion of women in the Parliament increased from 0.7% in 1997 to 16.7% in 2011, the new government appointed in early 2012 includes only one woman.

3.2 The scope for the role of the DCFTA and the potential impact on decent work and equality

It is challenging to identify potential impacts of the DCFTA on decent work and equality in Morocco. Based on the outcomes of the CGE model and the qualitative account of the existing social situation, it is possible to identify neutral to positive impact of the DCFTA. Due to the inability to perform a quantitative social analysis on poverty and welfare, this section starts with an elaboration of the available social effects from the CGE model. Secondly, the potential effects of the DCFTA are discussed along the four pillars of the Decent Work Agenda.

Finally, the Association Agreement (outside the scope of this analysis) already includes provisions on social security cooperation with the EU. Measures to implement these acts in Morocco are currently being negotiated and should be taken into account as the external environment for the DCFTA negotiations.

3.2.1 Quantitative employment and wage effects

This section uses the outputs of the results of the economic model presented in chapter 2 for drawing more inferences of the effect of the DCFTA in the field of wage and sectoral employment effects. As mentioned in Chapter 2 and the methodological note in Annex A, the CGE model assumes full employment and adjusts via wages. As such, the model is only able to predict employment shifts between sectors. In this subsection, the quantitative wage and sectoral employment effects are discussed in more detail.

²⁹ <http://survey.ituc-csi.org/Morocco.html?lang=en#tabs-4>.

Wage effects

Table 3.3 depicts overall wage effects decomposed by the different trade liberalisation measures assumed to capture the DCFTA scenario. The overall wage effects are positive for Morocco, both in the short run and in the long run. Effects on both kinds of labour differ only marginally with the impacts on skilled wages being slightly more positive than unskilled labour. In the long-run, it seems that the spread between wage changes of skilled and unskilled labour increases slightly in the favour of skilled labour wages. It becomes clear that in the short-run as well as in the long-run goods NTMs are the most dominating influence on wages.

Table 3.3 Overall wage effects (in %)

	Short run				Long run			
	goods NTMs	services NTMs	Spill-overs	Total	goods NTMs	services NTMs	Spill-overs	Total
Skilled Labour	1.30	0.01	0.31	1.6	1.45	0.02	0.38	1.9
Unskilled Labour	1.09	0.07	0.20	1.4	1.25	0.08	0.28	1.6
Average	<u>1.19</u>	<u>0.04</u>	<u>0.26</u>	1.5	<u>1.35</u>	<u>0.05</u>	<u>0.33</u>	1.7

Source: IIDE CGE simulation results.

Sectoral employment effects

Table 3.4 presents the most significant employment effects for the long-run based on the CGE model predictions. The employment effects are the strongest for most manufacturing sectors. This counts for positive as well as for negative employment effects. The ICT and other business services, public and other services and trade are services sectors of the economy that are projected to be relatively significantly affected by the DCFTA as well.

The leather goods and lumber and paper sector potentially face relatively severe decreases in employment. Both experience a decline in unskilled employment of 4 and 3 per cent respectively. The decrease in skilled labour is 4 per cent and 3.5 per cent slightly higher. However, neither of the two sectors ranks especially high in their share in overall employment. In contrast, the grains and crops sector takes rank 5 in total unskilled employment and experiences a 2.8 per cent reduction in this labour category. Also, ICT and other business services typically employ comparably many skilled workers. This sector is possibly confronted with a drop of 2.3 per cent in skilled labour.

Table 3.4 Most important employment impacts of the DCFTA per sector (long-run effects)³⁰

Sector	Changes in unskilled employment (%)	Changes in skilled employment (%)	Share of unskilled employment as % of total	Share of skilled employment as % of total
<i>Largest negative changes - unskilled employment</i>				
leather goods	-3.7	-4.0	2.6	1.2
lumber, paper	-3.2	-3.5	2.3	1
Textiles	-2.9	-3.1	0.9	0.4
grains and crops	-2.8	-2.8	7.3	0.2
electrical machinery	-2.3	-2.6	1.1	0.7
fabricated metals	-2.3	-2.5	1.5	0.8
petrochemicals	-2.3	-2.5	0.3	0.2
ICT other business services	-2.1	-2.3	1.7	3.5
<i>Largest positive changes - unskilled employment</i>				

³⁰ Table 3.4 is sorted with respect to the eight most significant positive and negative percentage changes in unskilled employment.

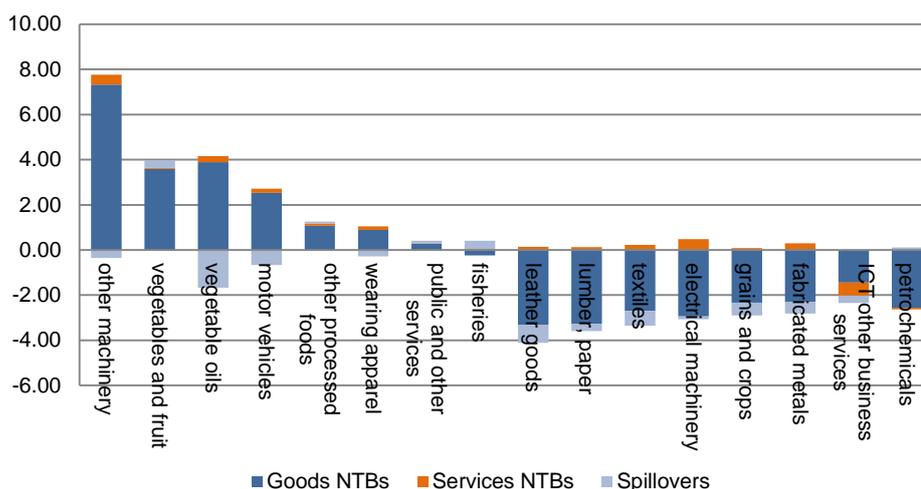
Sector	Changes in unskilled employment (%)	Changes in skilled employment (%)	Share of unskilled employment as % of total	Share of skilled employment as % of total
other machinery	7.7	7.4	2.5	1.6
vegetables and fruit	4.0	4.0	5.8	0.2
vegetable oils	2.8	2.5	0.1	0.0
motor vehicles	2.3	2.0	0.5	0.3
other processed foods	1.5	1.3	3.3	1.7
wearing apparel	1.0	0.8	2.8	1.1
public and other services	0.7	0.4	15	57
trade	0.3	0.0	11	0.1

Source: GTAP 8 database projected to 2011, IIDE CGE simulation results.

The strongest increase in employment shares is in the other machinery sector (7.7 per cent and 7.4 per cent for unskilled and skilled workers respectively). In terms of total employment, this sector is also relatively important. The vegetables and fruit sector is especially important for unskilled employment and experiences an increase of 4 per cent for both kinds of labour. Employment effects for the processed foods sector are not as high as for vegetables and fruit, but for both employment types it ranks in the top 10 in their share in employment. Lastly, the service sectors public and other services and trade are the top two employers in the Moroccan economy. Both benefit from a DCFTA in terms of employment.

Figure 3.1 decomposes the total DCFTA skilled employment effects for the sectors in Table 3.4 into goods NTMs, service NTMs, and spill-over effects. It can be seen that effects are mainly driven by the reduction in goods NTMs. This holds for positive and negative impacts alike. The drop in service NTMs has different effects on employment across the sectors. For most sectors, the effects from liberalising services NTMs is positive, except for the services sector ICT and other businesses, which is likely to face increased competition from European competitors. The other sectors seem to benefit from this reallocation of labour. In addition, skilled labour reallocations from spill-over effects seem to be mostly negative in the most affected sectors, except for the vegetables and fruit and fisheries sectors. It should be, however, noted that the overall gains or losses in employment are not changed by the influence of the spill over effects. In general, the net losses from the spill over effects are driven by the fact that regulatory alignment and trade facilitation for Morocco and the EU will also result in more market access in some sectors from abroad. Hence, in some sectors competition from more imports also increase which could result in pressure to lower wages and as a result see some workers move.

Figure 3.1 Decomposition of employment effects (skilled labour); in %



Source: IIDE CGE modelling results.

3.2.2 Other potential impacts

Job creation

The CGE model is not able to predict changes in overall employment, as it assumes fixed employment. It is, however, possible to say something about job creation on the basis of the various insights obtained throughout the course of this study. A higher demand for goods and services after the DCFTA will lead to an increased demand for wages (employment is fixed). Though mismatch in labour demand and supply and frictions on the labour market may exist, a higher labour demand in a situation of unemployment of both skilled and unskilled labour will lead at least in part to more hiring on the labour market as a whole. This reduces unemployment, but implies a lower wage impact than predicted by the CGE. We expect therefore that the increase in labour income will partly accrue to previously unemployed workers, and partly show up as higher wages.

At sectoral level, however, we are able to predict some changes in employment allocation in the economy. Employment shares will increase in those sectors that already export to the EU and where Morocco has a clear competitive advantage. The analysis in section 3.1.1 has highlighted these expected changes at sectoral level.

In addition, new export-oriented sectors may emerge in the formal economy, for example green solar-powered energy to the EU that generates employment opportunities. The DCFTA is expected to facilitate cooperation between Moroccan and European companies in the sectors as well as market access to the EU energy market. Precisely these technical sectors may exploit the large pool of un(der)employed highly educated young people.

Given the existing mismatch between skills demand and supply, especially concerning the young highly educated workers, it may be expected that business will exert increased pressure – in the light of unfolding business opportunities- on the government to reform the education system and retraining programmes. This may in the long-run lead to further job creation.

Rights at work

For certain sectors, the DCFTA will force Moroccan producers to comply with EU product and production regulations. While some of these standards mainly relate to the quality of the product,

others also directly affect working conditions (e.g. restrictions on use of dangerous chemical substances).

The expected inclusion of a trade and sustainable development chapter in the DCFTA is intended to prevent a race to the bottom in the area of rights at work. As is the case with other recently negotiated trade agreements, the DCFTA with Morocco also foresees a monitoring mechanism that incorporates the input from civil society, including trade unions and business representatives on, this topic, amongst others.

In addition, the DCFTA may reinforce pressure from the EU to improve labour standards that is based on the cooperation in the social field as established in the Association Agreement. Such pressure to improve labour standards may also arise from EU-based companies that intend to do business with Moroccan companies.

Finally, the DCFTA may stimulate business to exert pressure on the government to relax the rigidity of labour legislation in order to produce goods and services for export to the EU in the *formal* economy and thus with formally employed staff protected by labour and social legislation. This may contribute to job creation needed to anticipate on new business opportunities arising from the DCFTA.

Social protection

In the area of social protection, potential impacts from the DCFTA will be very indirect. The coverage of social protection schemes may be expanded by the governance because of the increase in incomes and a corresponding change in preferences of Moroccan constituencies whose wealth improved. The expected – but not proven in this study - higher average living standards resulting from the DCFTA (assuming that national income gains accrue equally to society) may lead to increased demand for more social security provided by a more efficient and broader social security system.

The Association Agreement already includes a chapter on EU-Morocco cooperation in the social field and hence covers already several elements of the decent work agenda. Relevant priority projects in this area are intended to improve the social security system.³¹ The EU currently negotiates with Morocco on implementing acts in this domain. To the extent that the DCFTA will make such commitments binding, an impact from the DCFTA can be expected in this area.

At the same time however, the ability to expand social protection will however also depend on changes in fiscal revenues that follow from the DCFTA (e.g. additional tax collection due to economic growth) may change the level of funds and administrative capacity to implement such a system. The CGE model used in this study does not include, however, an indicator on fiscal revenues.

In addition, business may exert pressure on the government not to increase (indirect) wage costs too much in order to remain competitive on the EU market. This pressure may stimulate the Moroccan government to target social security schemes more accurately and hence increase the efficiency of the schemes.

Social dialogue

In the light of the relatively limited social dialogue currently existing in Morocco, the DCFTA is unlikely to generate a direct positive impact.

³¹ Chapter III Cooperation in the Social Field, Art 71.

The impact of the DCFTA on enhanced social dialogue may stem from its impact on higher economic growth, higher average living standards and hence gradually increasing societal interest in stronger engagement of the societal partners in the design of employment and social policies, in conducting the overall reform process, in consultation with legislative proposals, in assessing impacts resulting from trade policy and dialogue about restructuring and flanking measures. Yet, the strength of these impacts is probably small and social dialogue continues to be influenced by factors not related to the DCFTA. Enhanced social dialogue is more likely to follow from Morocco – EU cooperation in the social field as concluded in the Association Agreement and hence the dialogue continues to be influenced by factors not related to the DCFTA.

Gender equality

Given the existing cultural and resource-related barriers to gender equality, equality issues will also be influenced only indirectly by the DCFTA, if they are influenced by the DCFTA at all. Gender equality may be strengthened by other EU-Moroccan cooperation in this field such as the Association Agreement. In addition, such changes may be reinforced by international conventions that support equality and condemn discrimination.

Equality may be furthermore promoted indirectly by the DCFTA. The resulting increase in living standards and changes in attitudes towards equality issues among Moroccan constituencies may yield more societal equality. Such changes may be reinforced by international conventions that support equality and condemn discrimination.

On the negative side however, shifts in employment opportunities among sectors may disproportionately affect weakest groups of the workforce: Those with low skills, women and ethnic minorities and hence groups subject to unequal treatment and chances. Even though worsening of the current situation is not very likely, it is difficult to provide an estimate for the future.

3.3 Human rights analysis

3.3.1 Introduction

In line with the actions on external policy explained in detail in the EC Communication from 19 October 2010, "Strategy for the effective implementation of the Charter of Fundamental Rights by the European Union"³², the Trade Sustainability Impact Assessment (TSIA) of the proposed Deep & Comprehensive Free Trade Agreement (DCFTA) between the EU and Morocco needs to take into account the human rights (HR) issues to analyse the effects that the DCFTA might bring to its people in the two blocs.

Methodologically, the human rights elements of this impact assessment are based on the EC Communication 'Operational Guidance on Fundamental Rights in Commission Impact Assessments',³³ Human Rights Impact Assessment (HRIA) work done by Simon Walker³⁴, and experience in the analysis of human rights impacts in previous TSIA's.³⁵ Our HRIA approach for this

³² EC Communication "Strategy for the effective implementation of the Charter of Fundamental Rights by the European Union", COM(2010) 573 final, available at: http://ec.europa.eu/justice/news/intro/doc/com_2010_573_en.pdf [accessed 20 November 2012].

³³ SEC(2011) 567 final, available at: http://ec.europa.eu/governance/impact/key_docs/docs/sec_2011_0567_en.pdf [accessed 20 November 2012].

³⁴ Walker, S. (2009). *The Future of Human Rights Impact Assessments of Trade Agreements*, Intersentia.

³⁵ Ecorys-CASE (2012), "Human Rights impact of the Deep and Comprehensive Free Trade Agreements between the EU and Georgia and Moldova", in Ecorys (2012), "Trade Sustainability Impact Assessment of the DCFTA between the EU and Georgia and Moldova", page 66-77 and page 66-75, Rotterdam, 2012.

report consists of three steps that are closely aligned with the TSIA approach of the DG Trade Handbook (2006):³⁶

- **Step 1:** Provide a concise overview of the HR landscape in Morocco;
- **Step 2:** Based on the HR landscape, pre-select the HR elements that are most likely affected by the DCFTA;
- **Step 3:** Based on the policy (modelling) scenarios and additional analysis, look at the potential impacts from the DCFTA for the stylised HR aspects.

In line with the EU's Impact Assessment guidelines, Step 1 constitutes the baseline for human rights, while Steps 2 and 3 compare the potential DCFTA outcomes for human rights to this baseline.

3.3.2 Step 1: Overview of the Human Rights landscape in Morocco

General human rights record

The Kingdom of Morocco is a constitutional monarchy, with a strong position of King Mohammed VI. Although parliament is elected, the Constitution supports the supreme powers of the king to dissolve parliament, call for new elections and dismiss and appoint ministers.³⁷ The 2013 UNDP Human Development Report ranks Morocco 130 out of 187 countries,³⁸ which characterises it as having medium level of human development.³⁹ In the 2013 rating of Freedom House, an independent watchdog organisation dedicated to the expansion of freedom around the world, Morocco falls in the category 'partly free state', its scores on civil liberties and on political rights are 4 and 5 respectively (based on a scale 7 - the worst and 1 – the best).⁴⁰ In 2012 the Corruption Perception Index surveyed by Transparency International ranked Morocco 88 out of 176 countries.⁴¹

Morocco has made important steps in improving its human rights record in the past years. The state under the king Mohammed VI in 1999 started the programme on providing reparations to the victims of human rights violations that occurred between 1956 and 1999⁴² (although many victims of these crimes have not received effective access to justice,⁴³ and perpetrators have not been prosecuted).⁴⁴ New legislation on the position of women was adopted that has made significant progress in *de jure* recognition of the equality rights.⁴⁵ The New Constitution was adopted in 2011

³⁶ EC (2006). Handbook for Trade Sustainability Impact Assessment, External Trade, available at: http://trade.ec.europa.eu/doclib/docs/2006/march/tradoc_127974.pdf [accessed 20 November 2012].

³⁷ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

³⁸ UN Development Programme, *Human Development Report 2013 - The Rise of the South: Human Progress in a Diverse World*, 19 March 2013, ISBN 978-92-1-126340-4, available at: <http://www.refworld.org/docid/514850672.html> [accessed 28 April 2013].

³⁹ UN Development Programme, *Human Development Report 2013 - The Rise of the South Human Progress in a Diverse World*, 19 March 2013, Statistical Annex, available at: http://hdr.undp.org/en/media/HDR2013_EN_Statistics.pdf [accessed 28 April 2013].

⁴⁰ Freedom House, *Freedom in the World 2013 - Morocco*, 10 April 2013, available at: <http://www.refworld.org/docid/5171048020c.html> [accessed 4 May 2013].

⁴¹ Transparency International, *Corruption Perceptions Index 2012*, ISBN: 978-3-943497-29-8, available at: <http://www.transparency.org/cpi2012/results> [accessed 4 May 2013].

⁴² International Center for Transitional Justice, Foundation for the Future (2011) *Morocco: Gender and the Transitional Justice Process*, available at: <http://ictj.org/sites/default/files/ICTJ-Morocco-Gender-Transitional%20Justice-2011-English.pdf> [accessed 6 May 2013].

⁴³ Amnesty International, *Amnesty International Annual Report 2012 - Morocco/Western Sahara*, 24 May 2012, available at: <http://www.refworld.org/docid/4fbc3923c.html> [accessed 5 May 2013].

⁴⁴ UN Committee against Torture, Consideration of reports submitted by States parties under article 19 of the Convention, Concluding Observations of the Committee against Torture, Morocco, Forty-seventh session, 31 October – 25 November 2011, 21 December 2011, CAT/C/MAR/CO/4, available at: http://www2.ohchr.org/english/bodies/cat/docs/CAT.C.MAR.CO.4_en.pdf [accessed 6 May 2013].

⁴⁵ Euro-Mediterranean Human Rights Network (EMHRN), *Recommendations on Human Rights for the New Morocco/EU Action Plan in the Framework of the Advanced Status. Towards an Effective Roadmap for the Protection and Promotion of Human Rights in Morocco*, November 2009, available at:

that formally strengthened protection of human rights in Morocco. Most recent elections were regarded as free and transparent but with the dominant position of the king in the political structure, the citizens still lack the ability to change their government.⁴⁶

Morocco has ratified majority of the United Nations human rights treaties.⁴⁷ In the most recent Universal Periodic Review, the government positively reviewed the recommendations on ratification of the first Optional Protocol to the International Covenant on Civil and Political Rights (OP-ICCPR), the Optional Protocol to the Convention on Elimination of All Forms of Discrimination against Women (OP-CEDAW), the Optional Protocol to the Convention against Torture (OPCAT), the International Convention for the Protection of all Persons from Enforced Disappearances.⁴⁸ Morocco signed but did not ratify the Rome Statute for the International Criminal Court.

In spite of all the positive developments, many stakeholders express concern about the persistence of human rights violations in Morocco. Particularly, violations with respect to the use of torture and other ill-treatment, especially in political cases; state of the prison conditions; control of the executive branch over the judiciary; excessive use of force by the security forces; child labour, particularly children working as domestic workers in the informal sector; enjoyment of the right to freedom of expression; discrimination against women; trafficking in persons. One of the major problems in Moroccan human rights record lies in the inconsistency between law and practice demonstrating the lack of implementation and enforcement of the existing laws.⁴⁹

Table 3.5 below summarises main human rights issues present in Morocco.

http://www.europarl.europa.eu/meetdocs/2009_2014/documents/dmag/dv/dmag20100428_06_/dmag20100428_06_en.pdf [accessed 5 May 2013].

⁴⁶ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

⁴⁷ See full list of ratifications in Table D.1 in Annex D.

⁴⁸ Universal Periodic Review Information (UPR Info), Recommendations and Pledges, Morocco, Second Review, Session 13, 19 September 2012, available at: http://www.upr-info.org/IMG/pdf/recommendations_to_morocco_2012.pdf [accessed 5 May 2013].

⁴⁹ UN News Service, *Morocco must do more to eradicate torture, says UN rights expert*, 24 September 2012, available at: <http://www.refworld.org/docid/5062dff22.html> [accessed 5 May 2013].

Table 3.5 Main human rights issues in Morocco

Human rights issue	Insights
Civil And Political Rights	
<i>Right to fair trial</i>	The Judiciary in Morocco is not independent and courts are allegedly used to punish opponents of the government. ⁵⁰ Opposition forces to the government and dissidents have reportedly faced unfair trial. ⁵¹ In some cases the court refused their requests for medical examinations on the possibility of torture and convicted the defendants based on obviously forced confessions. Fundamental fair trial standards are reportedly not respected in cases that involve persons suspected of terrorism. ⁵² Executive branch exercises effective control over the Higher Judicial Council, including promotion, appointment and dismissal of judges, supervision of the work of the prosecutors. Moreover, Moroccan Military Code in its present state contradicts the international standards by extending the jurisdiction of military courts to try civilians. ⁵³ On 8 May 2012 a High-level body was appointed by the king to establish the national dialogue on the reform of the judiciary and a number of events planned for 2013 in the framework of this reform. ⁵⁴
<i>Torture and other ill-treatment</i>	Torture is prohibited by law, however, many cases of inhuman and degrading treatment have been reported by various international organisations. ^{55 56} Practice of coerced confessions is allegedly often used by the judges to support conviction. ⁵⁷ Torture remains unpunished since judges frequently refuse to refer detainees to medical experts when cases of torture are suspected. The UN Special Rapporteur on torture noted that prosecution of perpetrators is rare and victims are not provided with effective remedies and reparations. ⁵⁸ Torture is allegedly common during the pre-trial phase. Groups of the population, who reportedly suffered from torture and other ill-treatment, include persons suspected in terrorism, migrants, and advocates for independence of Western Sahara, ⁵⁹ and other opponents to the government. Human Rights Watch

⁵⁰ Freedom House, *Freedom in the World 2013 - Morocco*, 10 April 2013, available at: <http://www.refworld.org/docid/5171048020c.html> [accessed 4 May 2013].

⁵¹ Human Rights Watch, *World Report 2013 - Morocco/ Western Sahara*, 31 January 2013, available at: <http://www.refworld.org/docid/510fb4d90.html> [accessed 4 May 2013].

⁵² Human Rights Watch, *Morocco: "Stop Looking for Your Son". Illegal Detentions under the Counterterrorism Law*, 25 October 2010, available at: <http://www.hrw.org/reports/2010/10/25/morocco-stop-looking-your-son-0> [accessed 6 May 2013].

⁵³ The International Federation for Human Rights (FIDH), Fully independent judiciary must be established. Morocco. 16 April 2013, available at: <http://www.fidh.org/Fully-independent-judiciary-must-be-established-in-Morocco-13156> [accessed 4 May 2013].

⁵⁴ UN Human Rights Council, Report of the Special Rapporteur on torture and other cruel, inhuman or degrading treatment or punishment, Juan E. Mendez. Addendum, Mission to Morocco: comments by the State on the report of the Special Rapporteur, 4 March 2013, A/HRC/22/53/Add.5, available at: http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A.HRC.22.53.Add.5_English.pdf [accessed 6 May 2013].

⁵⁵ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

⁵⁶ Human Rights Watch, *World Report 2012 - Morocco and Western Sahara*, 22 January 2012, available at: <http://www.refworld.org/docid/4f2007cdc.html> [accessed 4 May 2013].

⁵⁷ UN Human Rights Council, Report of the Special Rapporteur on torture and other cruel, inhuman or degrading treatment or punishment, Juan E. Mendez, Addendum, Mission to Morocco, Twenty-second session, 28 February 2013, A/HRC/22/53/Add.2, available at: http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A-HRC-22-53-Add-2_en.pdf [accessed 6 May 2013].

⁵⁸ *Ibid.*

⁵⁹ Amnesty International, *Amnesty International Annual Report 2012 - Morocco/Western Sahara*, 24 May 2012, available at: <http://www.refworld.org/docid/4fbc3923c.html> [accessed 5 May 2013].

Human rights issue	Insights
	(HRW) reports that 'security officers routinely violate international and domestic law in their treatment of persons suspected of links to terrorism'. ⁶⁰ According to the existing anti-terrorism legislation, persons detained by the security forces on the suspected cases of terrorism and threats against national security can be held in custody to extract confessions for up to 96 hours which can be extended twice (up to 12 days in total), increasing the possibility of torture. Sub-Saharan migrants have reportedly often been ill-treated by the police. Numerous complaints have been received by the UN Special Rapporteur on Torture concerning the ill-treatment of persons participating in demonstrations calling for independence of the Western Sahara. ⁶¹ On the territory of Western Sahara cases of excessive use of force by law enforcement agencies have also been registered with the purpose to 'prevent further support for the call for independence'. ⁶² Lack of effective mechanisms to investigate the cases of abuse and corruption as well as failure to prosecute the offenders, creates the feeling of impunity for the security forces and deteriorates the situation. ⁶³
<i>Death penalty</i>	Courts continue to impose death penalty but Morocco declared <i>de facto</i> moratorium on death penalty since the 1990s. ⁶⁴
<i>Prison conditions</i>	Prison conditions are reportedly poor, with a major problem of overcrowding aggravated by frequent use of pre-trial detention by judges. ⁶⁵ Other problems include unhygienic conditions, inadequate medical care, inadequate nutrition, no possibility to accommodate needs of prisoners with disabilities, aggression and violence of the inmates, drug trafficking, lack of educational programmes on rehabilitation of prisoners and their returning to the society. ⁶⁶
<i>Freedom of expression and media</i>	Freedom of expression and press is generally respected. However, restrictive laws apply to the media that criticise the institution of the monarchy, Islam or the territorial integrity of the country (Western Sahara). ⁶⁷ Statements, publications, and broadcasts that violate this restriction risk to be punished by imprisonment or significant fines. HRW reported several cases of prosecution and harassment over 2012. ⁶⁸ Human rights defenders reporting on the territorial integrity also faced prison sentences and significant fines. ⁶⁹ The 2013 Press Freedom Index prepared by the Reporters Without Borders ranked Morocco 136 out of 175 countries. ⁷⁰

⁶⁰ Human Rights Watch, *Morocco: "Stop Looking for Your Son". Illegal Detentions under the Counterterrorism Law*, 25 October 2010, available at: <http://www.hrw.org/reports/2010/10/25/morocco-stop-looking-your-son-0> [accessed 6 May 2013].

⁶¹ UN Human Rights Council, Report of the Special Rapporteur on torture and other cruel, inhuman or degrading treatment or punishment, Juan E. Mendez, Addendum, Mission to Morocco, Twenty-second session, 28 February 2013, A/HRC/22/53/Add.2, available at: http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A-HRC-22-53-Add-2_en.pdf [accessed 6 May 2013].

⁶² *Ibid.*

⁶³ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

⁶⁴ Human Rights Watch, *World Report 2012 - Morocco and Western Sahara*, 22 January 2012, available at: <http://www.refworld.org/docid/4f2007cdc.html> [accessed 4 May 2013].

⁶⁵ Human Rights Watch, *World Report 2013 - Morocco/ Western Sahara*, 31 January 2013, available at: <http://www.refworld.org/docid/510fb4d90.html> [accessed 4 May 2013].

⁶⁶ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

⁶⁷ Freedom House, *Freedom in the World 2013 - Morocco*, 10 April 2013, available at: <http://www.refworld.org/docid/5171048020c.html> [accessed 4 May 2013].

⁶⁸ Human Rights Watch, *World Report 2013 - Morocco/ Western Sahara*, 31 January 2013, available at: <http://www.refworld.org/docid/510fb4d90.html> [accessed 4 May 2013].

⁶⁹ The International Federation for Human Rights (FIDH), *Situation of Human Rights Defenders, Morocco (2010-2011)*, 24 January 2012, available at: <http://www.fidh.org/MOROCCO-2010-2011> [accessed 4 May 2013].

⁷⁰ Reporters Without Borders, *The 2013 World Press Freedom Index: Dashed Hopes After Spring*, available at: <http://en.rsf.org/press-freedom-index-2013.1054.html> [accessed 5 May 2013].

Human rights issue	Insights
<i>Freedom of assembly</i>	The law provides for the right to free assembly. However, it has been reported that approval process for demonstrations in some cases was delayed and the use of excessive force has been used to end the unwanted protests. ⁷¹ This right is not always respected (e.g. protests in Casablanca on 22 July 2012). ⁷²
<i>Freedom of association</i>	The 2011 Constitution provides for the freedom of association. Civil society and non-governmental organisations generally enjoy the right to operate. However, the government impeded the official accreditation of many associations, especially the ones that violated the restrictions on the monarchy, Islam and the territorial integrity, which undermined their freedom of operation in the field. ⁷³ Local human rights associations in Western Sahara were refused legalisation and as a result could not accept legal contributions and could not access government funds. ⁷⁴
<i>Freedom of religion</i>	Although the right to practice one's religion continues to be respected, some limitations exist with respect to the freedom of religion. For example, renouncing Islam by Muslims is prohibited. Public distribution of materials of different religions is not allowed. ⁷⁵ Freedom of media is restricted if critical of Islam, and political parties based on religion are prohibited by law. ⁷⁶
<i>Human trafficking</i>	The U.S. Department of State reports Morocco as 'a source, destination, and transit country for men, women, and children who are subjected to forced labour and sex trafficking'. ⁷⁷ Boys are forced to work in the construction industry and in small artisan and mechanic shops. Older Moroccan girls and women and female migrants are forced into prostitution in major cities in Morocco. ⁷⁹ Moroccans (both women and men, and also children) are often transported to other countries to be exploited for sex, selling drugs and other kinds of work. ⁸⁰ The government of Morocco does not comply with the international legislation on human trafficking but is making efforts to do so by providing protective services to possible victims of human trafficking. However, the government does not identify human trafficking as a problem separate from migrant smuggling and little has been done to investigate and prosecute trafficking offences and to convict offenders. ⁸¹
<i>Rights of refugees and migrants</i>	Although the situation over the migrants and refugees has improved over the past years, their situation remains challenging. ⁸² Morocco ratified the International Convention on the Protection of the Rights of All Migrant Workers

⁷¹ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

⁷² Freedom House, *Freedom in the World 2013 - Morocco*, 10 April 2013, available at: <http://www.refworld.org/docid/5171048020c.html> [accessed 4 May 2013].

⁷³ Human Rights Watch, *World Report 2013 - Morocco/ Western Sahara*, 31 January 2013, available at: <http://www.refworld.org/docid/510fb4d90.html> [accessed 4 May 2013].

⁷⁴ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

⁷⁵ United States Department of State, *2011 Report on International Religious Freedom - Morocco*, 30 July 2012, available at: <http://www.refworld.org/docid/5021059dc.html> [accessed 4 May 2013].

⁷⁶ *Ibid.*

⁷⁷ United States Department of State, *2012 Trafficking in Persons Report - Morocco*, 19 June 2012, available at: <http://www.refworld.org/docid/4fe30ca941.html> [accessed 4 May 2013].

⁷⁹ United States Department of State, *2012 Trafficking in Persons Report - Morocco*, 19 June 2012, available at: <http://www.refworld.org/docid/4fe30ca941.html> [accessed 4 May 2013].

⁸⁰ *Ibid.*

⁸¹ *Ibid.*

⁸² Euro-Mediterranean Human Rights Network (EMHRN), *Asylum and Migration in the Maghreb - Country Fact Sheet: Morocco*, December 2012, ISBN: 978-87-92990-02-0, available at: <http://www.refworld.org/docid/514d77c22.html> [accessed 5 May 2013].

Human rights issue	Insights
	<p>and Their Families but did not ratify the International Labour Organisation (ILO) Conventions No. 97 and No. 143 on migrant workers.⁸³ And it does not provide for their rights in its national law.⁸⁴ Although Morocco has ratified a number of international treaties on the protection of the rights of the refugees and possesses provisions on the refugees in its national law, failure to implement these laws deny the rights of the refugees and the asylum seekers to have access to stay (residence permit), access to enter the labour market and work under fair conditions. The Office of the UN High Commissioner for Refugees (UNHCR) is actively assisting the state in handling the refugees and the migrants and providing for their needs. UNHCR is the only organisation that can grant the refugee status. The UN Committee against Torture noted that Morocco lacks a 'specific legal framework for refugees and asylum seekers that would differentiate them from undocumented migrants'.⁸⁵ Refugees and migrants continue to be vulnerable to different kinds of abuses,⁸⁶ human trafficking, ill-treatment and violence on the part of the security forces. HRW reports several cases of police abuse of the migrants in 2012.⁸⁷</p>
<i>Domestic workers</i>	<p>Despite the existing legislation that prohibits employment of children under the age of 15, many children much younger than 15 years old, predominantly girls, are reported to work as household workers.⁸⁸ Failure to enforce the current laws with respect to domestic workers and child labour puts many of them in the situations when they work without contracts, when they are underpaid, and work long hours. Some face verbal, physical and sexual abuse. Many are confined to employer's homes with no access to education.⁸⁹ Although significantly reduced over the past years, the number of children working as domestic workers is alarming. In October 2012, the government approved a draft law on stricter sanctions on persons who violate the prohibition on employing children under 15 and stricter conditions on employing persons between 15 and 18 years of age as domestic workers.⁹⁰ Effective implementation of this legislation, investigation into the abuses committed and prosecution of the offenders, as well as the creation of various governmental programmes aimed at elimination of child domestic labour will determine the position of domestic workers in Morocco in the future.</p>
<i>Rights of the persons with disabilities (PWD)</i>	<p>Discrimination against PWD is prohibited according to the law. Moreover, special provisions exist on the access of PWD to education, medical care and employment opportunities. However, implementation of this legislation has not</p>

⁸³ See Table D.1 in the Annex D for full list of ratifications.

⁸⁴ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

⁸⁵ UN Committee against Torture, Consideration of reports submitted by States parties under article 19 of the Convention, Concluding Observations of the Committee against Torture, Morocco, Forty-seventh session, 31 October – 25 November 2011, 21 December 2011, CAT/C/MAR/CO/4, available at: http://www2.ohchr.org/english/bodies/cat/docs/CAT.C.MAR.CO.4_en.pdf [accessed 6 May 2013].

⁸⁶ Doctors Without Borders (MSF), *MSF Treat High Numbers of Victims of Violence in Morocco*, 26 July 2012, available at: <http://www.doctorswithoutborders.org/news/article.cfm?id=6137&cat=field-news> [accessed 6 May 2013].

⁸⁷ Human Rights Watch, *World Report 2013 - Morocco/ Western Sahara*, 31 January 2013, available at: <http://www.refworld.org/docid/510fb4d90.html> [accessed 4 May 2013].

⁸⁸ Human Rights Watch, *World Report 2013 - Morocco/ Western Sahara*, 31 January 2013, available at: <http://www.refworld.org/docid/510fb4d90.html> [accessed 4 May 2013].

⁸⁹ Human Rights Watch, *Lonely Servitude: Child Domestic Labour in Morocco*, 15 November 2012, available at: <http://www.refworld.org/docid/50a611872.html> [accessed 5 May 2013].

⁹⁰ Human Rights Watch, *World Report 2012 - Morocco and Western Sahara*, 22 January 2012, available at: <http://www.refworld.org/docid/4f2007cdc.html> [accessed 4 May 2013].

Human rights issue	Insights
	been effective. Many of the facilities have not been accessible for PWD, and integration into society has not been effective either. ⁹¹
<i>Women's Rights</i>	Although significant positive changes have been introduced in the 2011 Constitution on the position of women, they continue to face discrimination at the societal level. ⁹² Reservations to the CEDAW with respect to art. 9 and art.16 have been lifted, ⁹³ but national inheritance laws remain discriminative towards women. ⁹⁴ The Penal Code provisions allow rapists escape prosecution through marrying their victim. This provision has been frequently invoked by judges. ⁹⁵ Spousal rape is not criminalised. ⁹⁶ Sexual abuses often remain unreported to police for social reasons. Domestic violence reportedly prevails in the state. ⁹⁷ Sexual harassment is prohibited by law but it is considered a crime only when committed by a supervisor and then falls into the abuse of authority. ⁹⁸ Reproductive rights of women are generally respected; contraception is legal but often not available to women with low incomes, illiterate women and women in rural areas. ⁹⁹ Discrepancy between the rural and urban areas is very high. Illiteracy is common among women in rural areas. There are no women in leadership positions of Moroccan trade unions. The participation rate of women in the labour force was only about 25 per cent in 2011. ¹⁰⁰
<i>Children's Rights</i>	Some children have reportedly been denied registration because they were born to unmarried parents. ¹⁰¹ This resulted in no possibility to register at schools. The gap between the boys and the girls in attendance of school, school dropout rates is very high. ¹⁰² Although the marriage age prescribed by law is 18, child marriage is still a concern, especially in rural areas. ¹⁰³ Number of street children is high in big cities. ¹⁰⁴ Often children are involved in begging. ¹⁰⁵ Sexual exploitation of children is also common, see also in <i>Human Trafficking</i> section. Children work as domestic workers in forced labour

⁹¹ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013n].

⁹² Freedom House, *Freedom in the World 2013 - Morocco*, 10 April 2013, available at: <http://www.refworld.org/docid/5171048020c.html> [accessed 4 May 2013].

⁹³ Euro-Mediterranean Human Rights Network (EMHRN), *The Reform of Judiciaries in the Wake of Arab Spring, Proceedings of the Seminar: 11-12 February 2012, Rabat*, 12 February 2012, ISBN: 978-87-91224-86-7, available at: <http://www.refworld.org/docid/515009ac2.html> [accessed 5 May 2013].

⁹⁴ Human Rights Watch, *World Report 2012 - Morocco and Western Sahara*, 22 January 2012, available at: <http://www.refworld.org/docid/4f2007cdc.html> [accessed 4 May 2013].

⁹⁵ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

⁹⁶ *Ibid.*

⁹⁷ Human Rights Watch, *World Report 2012 - Morocco and Western Sahara*, 22 January 2012, available at: <http://www.refworld.org/docid/4f2007cdc.html> [accessed 4 May 2013].

⁹⁸ *Ibid.*

⁹⁹ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

¹⁰⁰ *Ibid.*

¹⁰¹ *Ibid.*

¹⁰² Moroccan Association of Human Rights (AMDH), Summary of the Annual Report on the situation of human rights in Morocco for 2010, September 2011, available at: <http://www.amdh.org.ma/upload/Rapports/English%20reports/RAPPORT-VIOLATIONS-2010-Eng.pdf> [accessed 6 May 2013].

¹⁰³ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

¹⁰⁴ Moroccan Association of Human Rights (AMDH), Summary of the Annual Report on the situation of human rights in Morocco for 2010, September 2011, available at: <http://www.amdh.org.ma/upload/Rapports/English%20reports/RAPPORT-VIOLATIONS-2010-Eng.pdf> [accessed 6 May 2013].

¹⁰⁵ *Ibid.*

Human rights issue	Insights
	<p>conditions, see more in <i>Domestic workers</i> section. A high number of children under 15 work in agriculture.¹⁰⁶ Children from Western Sahara are reportedly engaged with dangerous forms of agriculture work that involved lifting heavy loads, working with dangerous agricultural tools and dangerous chemicals.¹⁰⁷ Sanctions against the child labour have reportedly not been enforced due to lack of resources.¹⁰⁸</p>
<i>LGBT rights</i>	Sexual activity between same sexes is prohibited by law. ¹⁰⁹
Economic, social and cultural rights	
<i>Right to health</i>	The Moroccan Association of Human Rights (AMDH) reports that people with limited incomes, people from the rural areas, people living in the city slums have limited access to medical services. Maternal mortality, especially in rural regions, is still high. ¹¹⁰ Infant mortality is 29 per cent. ¹¹¹
<i>Worker's rights</i>	<p>According to the law, workers enjoy the right to form and join trade unions, to go on strike and to bargain collectively, with the exception of the armed forces, police and some members of judiciary, agricultural workers and domestic workers.¹¹² Domestic workers are not included in the labour code and therefore do not enjoy these rights. The challenge for worker's rights lies in the fact that the government have not always enforced labour laws due to weak labour inspection resources¹¹³. Also, reportedly, enforcement procedures have been delayed and rendered less effective because of lengthy delays and appeals. The scope for collective bargaining has been limited. Employers frequently had the habit of setting wages unilaterally. With the expanding of the export processing zones, forming trade unions has become difficult. Workers are reportedly afraid to form trade unions fearing to lose their jobs, following practice of a number of employers to dismiss workers (including temporary workers) trying to form a union.¹¹⁴ Many employers Informal sector reportedly employed about 60 per cent of the labour force and did not meet the minimum wage requirements.¹¹⁵ Occupational health and safety standards are outdated and do not meet the current international requirements.¹¹⁶</p>

¹⁰⁶ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

¹⁰⁷ United States Department of Labour, *2011 Findings on the Worst Forms of Child Labour - Non-Independent Countries and Territories*, 26 September 2012, pp. 707-709, available at: <http://www.refworld.org/docid/506594071d.html> [accessed 6 May 2013].

¹⁰⁸ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

¹⁰⁹ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

¹¹⁰ Moroccan Association of Human Rights (AMDH), Summary of the Annual Report on the situation of human rights in Morocco for 2010, September 2011, available at: <http://www.amdh.org.ma/upload/Rapports/English%20reports/RAPPORT-VIOLATIONS-2010-Eng.pdf> [accessed 6 May 2013].

¹¹¹ UNESCO, *2012 Education for All Global Monitoring Report. Youth and Skills. Putting Education to Work*, ISBN: 978-92-3-10240-9, p. 328, available at: <http://unesdoc.unesco.org/images/0021/002180/218003e.pdf> [accessed 6 May 2013].

¹¹² International Trade Union Confederation (ITUC), *Annual Survey of violations of Trade Union Rights, Morocco -2012*, available at: <http://survey.ituc-csi.org/Morocco.html?edition=336> [accessed 6 May 2013].

¹¹³ United States Department of State, *2012 Country Reports on Human Rights Practices - Morocco*, 19 April 2013, available at: <http://www.refworld.org/docid/517e6e0118.html> [accessed 4 May 2013].

¹¹⁴ International Trade Union Confederation (ITUC), *Annual Survey of violations of Trade Union Rights, Morocco -2012*, available at: <http://survey.ituc-csi.org/Morocco.html?edition=336> [accessed 6 May 2013].

¹¹⁵ ILO, Employment Sector, Employment Working Paper No. 64 (2010), *Labour Market Policies and Institutions: A Synthesis Report. The cases of Algeria, Jordan, Morocco, Syria and Turkey*, Fortuny and Al Hussein, available at: http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_policy/documents/publication/wcms_161400.pdf [accessed 24 June 2013].

¹¹⁶ International Labour Organisation, Report of the Committee of Experts on the Application of Conventions and Recommendations, 102 Session, 2013 Report III, Part I, p. 718, available at: [http://www.ilo.org/public/libdoc/ilo/P/09661/09661\(2013-102-1A\).pdf](http://www.ilo.org/public/libdoc/ilo/P/09661/09661(2013-102-1A).pdf) [accessed 24 June 2013]

Human rights issue	Insights
<i>Right to education</i>	Illiteracy rates are approximately 40 per cent, ¹¹⁷ especially among women (60 per cent of women are illiterate according to the UNESCO report). ¹¹⁸ School dropout rates continue to be high, especially in rural areas. ¹¹⁹ Education for All Development Index prepared by UNESCO ranks Morocco as 94 out of 120 countries, which puts it at the lower range of the medium development with respect to education. ¹²⁰ Children working as domestic workers are denied to have access to education (see section <i>Domestic workers</i>).
<i>Right to adequate standard of living</i>	The disparity between the urban and rural areas is very high. Reportedly people from rural areas are almost twice poorer than the people from the urban areas. ¹²¹ Housing conditions in the slums are below standards. Access to public services by poor families is limited. ¹²²

3.3.3 Step 2: Pre-selection of HR elements that are most likely affected by the DCFTA

For the next step, Step 2, we will look at the human rights that are most likely candidates to be influenced by the DCFTA. That does not mean all other rights are not relevant, but they are not the focus of this trade impact analysis, as the impact of the DCFTA on these rights will be much more indirect, including – for example – changes in societal preferences due to changes in income.

We need to mention that the human rights that are relevant for the DCFTA can be relevant in different ways. First of all, addressing certain HR issues mentioned would make Moroccan society (and economy) more resilient against potential negative impacts of a DCFTA – thus mitigating them. Second, certain measures would be addressed (legally) within the framework of the DCFTA and are thus picked up directly (not as a necessary or expected output, but as an input).

Below in Table 3.6 we present which human rights issues are likely to be affected by the DCFTA and why/how.

Table 3.6 Linking the relevant HR elements to the DCFTA

HR issue	Why relevant for DCFTA?	Affected by DCFTA?
<i>General human rights record;</i> <i>Ratifications of international HR treaties;</i> <i>Implementation of the international HR</i>	The general HR record is an important indicator for the attitude of the Moroccan government and the country towards the rights of individuals. The better the record, the more potential a DCFTA will have and the lower the downside risks with HR being protected for those that may lose out. The ratification of international HR treaties is important to protect citizens against the risks associated with potential pressure on working rights or other rights, so ratification of	Yes

¹¹⁷ UNESCO, 2012 *Education for All Global Monitoring Report. Youth and Skills. Putting Education to Work*, ISBN: 978-92-3-10240-9, p. 308, available at: <http://unesdoc.unesco.org/images/0021/002180/218003e.pdf> [accessed 6 May 2013].

¹¹⁸ *Ibid.* p. 320.

¹¹⁹ Moroccan Association of Human Rights (AMDH), Summary of the Annual Report on the situation of human rights in Morocco for 2010, September 2011, available at: <http://www.amdh.org.ma/upload/Rapports/English%20reports/RAPPORT-VIOLATIONS-2010-Eng.pdf> [accessed 6 May 2013].

¹²⁰ UNESCO, 2012 *Education for All Global Monitoring Report. Youth and Skills. Putting Education to Work*, ISBN: 978-92-3-10240-9, available at: <http://unesdoc.unesco.org/images/0021/002180/218003e.pdf> [accessed 6 May 2013].

¹²¹ UNESCO, 2012 *Education for All Global Monitoring Report. Youth and Skills. Putting Education to Work*, ISBN: 978-92-3-10240-9, p. 279, available at: <http://unesdoc.unesco.org/images/0021/002180/218003e.pdf> [accessed 6 May 2013].

¹²² Moroccan Association of Human Rights (AMDH), Summary of the Annual Report on the situation of human rights in Morocco for 2010, September 2011, available at: <http://www.amdh.org.ma/upload/Rapports/English%20reports/RAPPORT-VIOLATIONS-2010-Eng.pdf> [accessed 6 May 2013].

HR issue	Why relevant for DCFTA?	Affected by DCFTA?
<i>treaties into national legislation;</i> <i>Corruption level.</i>	these treaties is important for the context of the DCFTA. Also – and maybe even more than ratification – the implementation matters for the <i>de facto</i> degree of HR protection, especially against potential negative effects of the DCFTA. Some of the gains from trade may end up – illegally – in the wrong pockets due to corruption. Law on Procurement and Public Service is an important tool to prevent this, potentially ensuring that the expected gains from the DCFTA benefit Moroccan people in a broad sense.	
Civil and political rights		
<i>Right to fair trial</i>	Right to fair trial is not likely to be affected by the DCFTA. For a more indirect link to the DCFTA through the general HR situation, see above.	No
<i>Torture and other ill-treatment</i>	Torture and other ill-treatment are not likely to be affected by the DCFTA. For a more indirect link to the DCFTA through the general HR situation, see above.	No
<i>Death penalty</i>	Death penalty is not likely to be affected by the DCFTA. For a more indirect link to the DCFTA through the general HR situation, see above.	No
<i>Prison conditions</i>	Prison conditions are not likely to be affected by the DCFTA, unless the DCFTA affects the government budget. For a more indirect link to the DCFTA through the general HR situation, see above.	No
<i>Freedom of expression and media</i>	Freedom of expression and the media is not directly linked to the DCFTA. However, indirectly through strengthening the civil society it could be linked.	No
<i>Freedom of assembly</i>	Freedom of assembly can be linked to the DCFTA since the trade unions can operate freely and effectively only if this right is guaranteed.	Yes
<i>Freedom of association</i>	The role of civil society organisations is important in helping to improve the HR situation in Morocco. Civil society should assist the government in the process of HR protection from any negative effects that the DCFTA may cause and to enhance the positive effects. Another important element is that civil society broadens the societal base that is involved in the DCFTA, making the DCFTA more inclusive. This would also apply to Western Sahara.	Yes
<i>Freedom of religion</i>	Freedom of religion is not likely to be affected by the DCFTA. For a more indirect link to the DCFTA through the general HR situation, see above.	No
<i>Human trafficking</i>	The social conditions in the DCFTA could help Morocco fight human trafficking. The DCFTA could potentially provide an additional enforcement mechanism and through its effect on national income provide additional resources for the Moroccan government to increase spending on education and health care. Better social conditions, including better access to education and health care could affect human trafficking in a downward manner.	Yes
<i>Rights of refugees and migrants</i>	Rights of the refugees and the migrants in the workplace, their right to work is directly affected by the DCFTA since with its introduction their rights may be affected to respond to opening of new markets as well as stronger international competition.	Yes

HR issue	Why relevant for DCFTA?	Affected by DCFTA?
<i>Domestic workers</i>	Domestic workers may be linked to the DCFTA because of the sectoral economic impact of the DCFTA and the potential impact on labour rights.	Yes
<i>Rights of the persons with disabilities (PWD)</i>	Potentially the DCFTA may affect the rights of the persons with disabilities for social protection in the form of work placement.	Yes
<i>Women's Rights</i>	One of the main ways to promote growth and development – also in relation to the DCFTA – is to close the gender gap. This gap in Morocco is very high and deeply rooted, showing itself in many manifestations in Moroccan society. The DCFTA will affect sectors in the Moroccan economy differently and could thus affect women's rights – especially employment perspectives.	Yes
<i>Children's Rights</i>	The DCFTA may strengthen mechanisms against forced labour and child exploitation, and it may also affect some of the root causes of child labour, such as poverty.	Yes
<i>LGBT rights</i>	LGBT rights are not likely to be directly affected by the DCFTA. However, through possible discrimination at the workplace, the DCFTA and the LGBT rights may be linked.	Yes
Economic, social and cultural rights		
<i>Right to health</i>	Regulatory approximation as part of the DCFTA will result in the application of EU SPS (including food safety) standards in Morocco – this will affect health conditions. Also, budgetary consequences of the DCFTA could affect funding availability for hospitals and other health-related public services.	Yes
<i>Worker's rights</i>	Worker's rights are directly linked to the DCFTA, since the right to work, basic safeguards of the rights to work (minimum wage, hours of work, holidays, etc.) as well as the right to adequate work conditions are directly affected by the enhanced trade relations between the EU and Morocco. Certain vulnerable groups like children, women, LGBT persons, migrants, refugees, workers with temporary contracts may also be influenced by the changes that the DCFTA is bringing to Morocco. Freedom of association would affect, for example, the trade unions who could provide a stronger voice as well as social base to discuss and create support for changes in labour laws and conditions. The DCFTA also affects the Moroccan economy at sector level, likely leading to the reallocation of labour. This could put pressure on labour and work conditions. Also foreign competition in some sectors may do so.	Yes
<i>Right to education</i>	Right to education is affected by the DCFTA through the access to education by children, use of women workforce while many women in rural areas are illiterate and do not fully understand their rights – their rights may be abused.	Yes
<i>Right to adequate standard of living</i>	Standard of living (which could include the degree and depth of poverty) is affected by the DCFTA – both in general for society as a whole and for specific groups and regions.	Yes

3.3.4 Step 3: Screening for main HR impacts from the EU-Morocco DCFTA

Ex-ante screening for the main potential HR effects of the EU-Morocco DCFTA is performed to identify those trade measures in DCFTA that are more likely to have significant impacts on the enjoyment of human rights and therefore warrant the assessment. For this report, the HR screening is based on two pieces of information:

- First, the CGE model provides the overall estimated economic and social impact of the DCFTA (see Chapter 2);
- Second, the additional social analysis sheds more light on more detailed social level impacts.

Table 3.7 presents the potential economic and social effects of the DCFTA and how these may in turn affect the different aspects of the HR situation in Morocco as described in the previous sections. The basis of the assessment in the table is the HRIA methodology as developed by Simon Walker.¹²³

¹²³ Walker, S. (2009). *The Future of Human Rights Impact Assessments of Trade Agreements*, Intersentia.

Table 3.7 Potential HR impacts from the DCFTA

Categories of impact of DCFTA on HR overall	Potential Human Rights effects	Significance: HR stress Direction of change compared to baseline Nature, magnitude, geographical extent, duration and reversibility of changes
Trade law complements HR law	The EU does approach (DC)FTAs as part of a constitutional framework to support democracy, political stability and respect for HR, hence the name DCFTA. This implies that human rights are in a broader sense also looked at, alongside the pure trade-related provisions. We expect therefore a positive effect of the DCFTA on human rights.	A small positive effect of the 'DC' element of the FTA is expected because of the constitutional framework the EC employs in these negotiations. The geographical extent runs across the country. The chance for reversibility of this change is low as it will be enshrined in the DCFTA as well as – in part – in national law in Morocco.
<i>Expected effect: small positive effect of trade law on implementation of and adherence to human rights law – especially labour law where the DCFTA will enhance mechanisms to monitor and enforce</i>		
DCFTA promotes growth and resources for realisation of HR	The CGE model predicts growth in national income for Morocco (€ 1.3 bn in the long run), and growth in Moroccan total exports (15.3 per cent in the long run) and bilateral exports (23.6 per cent in the long run). The reduction of non-tariff barriers to food exports (SPS) and manufactured products (TBT) contribute far most to these effects. Tariff reductions are not part of the DCFTA so no budgetary effects are foreseen to come from changes in tariff rates. Moreover, the CGE model does not estimate the effects on fiscal revenues, but it could be said that they slightly increase due to higher economic activity. Wages are expected to rise by 1.9 per cent and 1.6 per cent for the high- and low-skilled workers respectively, while overall consumer price levels are foreseen to increase by 0.4 per cent. So on average the DCFTA has the effect of improving living standards of those living in poverty (the human right to an adequate standard of living, the right to adequate food), also in the short-run. Potentially higher fiscal revenues may be positive for the people's right to education and health – as these public facilities can be better funded, given the Moroccan government provides equal access to all to whom the DCFTA applies. The margin between increases in wages and prices is however only 1.5 percentage points. Of course this will also depend to a large extent on national policy and not so much on the DCFTA itself.	This may be a small to medium positive effect of the DCFTA due to the strength of the macro-economic income and export growth effects as well as modest increases in average disposable incomes. A potential poverty alleviation effect would apply especially for the agricultural sector if SPS barriers are really reduced and also to some manufacturing sectors if TBT barriers are reduced. Potential improvement in the right to education and health may apply to all of Morocco and Western Sahara if the Moroccan government shares out the gains equally. The effects are predicted to be long-run effects so duration is long-term and reversibility is low – provided appropriate national policies and structures are developed (e.g. tax system, education and health strategies and budgets, etc.).
<i>Expected effect: Small but positive effect of DCFTA on resources for the government both in the short and long run when the incomes from higher tax revenues rise while there are</i>		

Categories of impact of DCFTA on HR overall	Potential Human Rights effects	Significance: HR stress Direction of change compared to baseline Nature, magnitude, geographical extent, duration and reversibility of changes
<p><i>no losses in tariff revenues as part of the DCFTA. Positive is also that disposable incomes for most strata of the population are expected to go up, reducing poverty. Reducing poverty may lead to less pressure on families to resort to child and forced labour in sectors where this practice occurs at present.</i></p>		
<p>DCFTA can breach HR in practice</p>	<p>More openness following the DCFTA is expected to lead to slightly higher wages on average, but also to more competition, also for those domestic sectors unable to compete. Labour displacement (movement of people between sectors) is considerable. Prices are predicted to go up slightly because of the DCFTA mainly due to higher production standards (and thus production costs) in agriculture and manufacturing. The combined wage-competition-price effect is not conclusive at a more disaggregated level as it depends on how the sector-specific wage changes are spread around the average and where the highest cost increases accrue. Vulnerable regions and groups may be tempted to give in to erosion of HR and labour standards. Although in the long run, labour mobility and increases in labour demand will mitigate such effects, those losing out from the DCFTA effect could remain and become further marginalised, posing local risks to HR protection. We will have to investigate the effects of the market approach in practice through engaging with civil society and key stakeholders. Commercial and industrial interests are allowed to become more powerful due to the DCFTA as investments are liberalised. This may have a divisive effect for some sectors and between regions. The CGE model shows that wages on average are going up in Morocco by 1.9/1.6 per cent in the long run for skilled/unskilled workers. This implies that workers leave sectors for better wages in other sectors to a certain degree. This implies that declining sectors contract because workers choose to leave that sector and this – in turn – implies that HR of those workers are not violated. This is also the case for Morocco in the short run. Two caveats here are that the CGE model assumes: labour mobility between sectors (which may in reality be much harder than the model suggests) and no informal economy (which may in practice exist leading to less strong increases in wages than assumed), thus potentially putting more pressure on the human right to work than the model would suggest.</p>	<p>This may be an issue, depending on how the DCFTA is flanked by mitigating policy measures. For example, vulnerable groups may need protection from competition and cultural heritage needs to be protected. Prices seem to add to HR stress overall but are outweighed by wage increases. Sector-specific deviations are possible. In the agricultural sector, where an informal economy may be present, the effects may also be less favourable. The geographical extent of this measure is very broad. Competition may touch upon all sectors in society and affect both internationally oriented and domestic ones. Market forces introduce efficiency, not only in private but also in (semi) public sectors. The pull-effect on average dominates as is shown by rising wages, which implies that workers move away from declining sectors to growing sectors because they can earn higher wages in the growing sectors – at least according to the model. Labour mobility and absence of the informal economy are two assumptions however, potentially giving rise to HR violations.</p>
<p><i>Expected effect: for the very large majority of the population the HR situation is expected to improve as poverty is expected to fall because wages rise faster (1.9%) than prices</i></p>		

Categories of impact of DCFTA on HR overall		Potential Human Rights effects	Significance: HR stress Direction of change compared to baseline Nature, magnitude, geographical extent, duration and reversibility of changes
<p><i>(0.4%). However – though not possible to quantify given the quantitative information available – in previous trade agreements a some parts of the population – notably the vulnerable elements in society – may see poverty increase (e.g. 6% of the population in Armenia following the DCFTA there). This would constitute a small negative effect due to a breach in HR in practice from the DCFTA. A reduction in poverty that is expected for the majority of the population could lead to reductions in forced and child labour as explained below this table.</i></p>			
DCFTA can limit government capacity to promote HR	Tariff revenues are not affected by this DCFTA. Also the effect on government revenues is not clear. If government revenues were to go up – not unlikely given the increased economic activity - ,this could imply that there are more funds available for ensuring people’s rights to – for example – education and health (assuming no political stability issues stand in the way and the preferences of the Moroccan government).	The magnitude of the effect of the DCFTA is not clear. The geographical coverage is nation-wide.	
<p><i>Expected effect: See ‘DCFTA promotes growth and resources for realisation of HR’</i></p>			
DCFTA can lead to ‘race-to-the-bottom’ in HR protection to remain competitive	The DC-part in the FTA emphasizes the social and HR impacts of the DCFTA – ensuring labour standards are adhered to and even improved as part of the DCFTA. Indeed, competition increases, also on the labour market and vulnerable groups and regions may be tempted to give in to erosion of HR and labour standards. In the long run, these effects may be mitigated by labour mobility and dynamic investment effects, though. Morocco has not ratified the Optional Protocol to the International Covenant on Economic, Social and Cultural Rights which would have provided a stronger legal environment to combat this potential race-to-the-bottom. Implementation remains in any case a challenge.	Changes compared to the baseline are small and seem to indicate wages are going up – this however does not state how labour conditions are affected. The geographical coverage is nation-wide, but especially strong in geographical areas and for vulnerable groups where competitive pressures are larger.	
<p><i>Expected effect: In some sectors the effect of the DCFTA may be that due to competition, pressure on labour standards increases – this may affect in particular specific regions or vulnerable groups. Due to the already ratified ILO conventions this effects is expected to be small-medium size – and could be further reduced in case Morocco ratifies the abovementioned conventions. Through ratified conventions, occurrence of child and forced labour can be combatted.</i></p>			
DCFTA limits the use of trade measures to improve enjoyment of HR	The CGE model includes and suggests there is evidence of another effect here: the MFN spill-over effect – allowing Moroccan exporters access to other countries as well when standards are upped to EU-level. This gives another positive boost to incomes	Small effect in a positive way due to the fact that the DCFTA is used to a small extent to put pressure on Morocco to adhere to HR standards. Catching up a relative lag with	

Categories of impact of DCFTA on HR overall		Potential Human Rights effects	Significance: HR stress Direction of change compared to baseline Nature, magnitude, geographical extent, duration and reversibility of changes
abroad	and employment possibilities in Morocco, improving the right to an adequate standard of living. This is a carrot for Morocco to accept the DCFTA package, with benefits in the HR field alongside it. From the analysis there is no evidence that the EU-Morocco DCFTA has negative impacts on any third country.	countries that get better market access to the EU market and due to getting higher market access to third markets as well, which leads to faster growth, income gains and employment possibilities.	
<i>Expected effect: None, the DCFTA has no clear negative impacts on third countries.</i>			
Enforcement of DCFTA stronger than enforcement of HR law – DCFTA a higher priority	The DCFTA approach seems to – overall – support HR law (especially through the ‘DC’ addition) and thus enforcement of DCFTA helps enforcing HR law. There are some possible exceptions to be watched carefully in the next phase of the study, like the sectoral HR effects when economic efficiency is pursued (i.e. some sectors and vulnerable groups in those sectors may lose).	This impact may be small since DCFTA and HR law seem to work in the same direction. The difference comes when some workers or citizens lose from the DCFTA while the large majority gains.	
<i>Expected effect: Due to the inclusion of regulatory approximation and standards in the DCFTA, as well as inclusion of social and environmental chapters, a potential positive impact in terms of enforcement of HR law (including labour law) is expected because the DCFTA is a stronger means to enforce this.</i>			
DCFTA fails to respect right to take part in conduct of public affairs	DCFTAs typically find it challenging to engage civil society into the process of negotiating and implementing. That is a risk also here, especially since in Morocco the civil society landscape is not very strong and civil society organisations in Western Sahara have problems in legalising their activity. With the DCFTA leading to more efficiency – this being one of the goals of the DCFTA – other considerations might play 2 nd fiddle – which might in particular affect those less vocal like minorities, small-scale domestic producers of produce, or women in employment. Attention ought to be paid by the DCFTA negotiators to be as inclusive as possible, and this TSIA study takes special precautions to ensure participation. Nonetheless participation is a crucial fundamental right that cannot be taken for granted.	Medium potential negative impact if the process is not properly monitored and inclusion pushed – if an inclusive process is pushed for, the expected impact is positive. Caution is needed here as especially the vulnerable groups (e.g. minorities, small-scale domestic producers, women, Western Sahara) may suffer if not properly represented and / or listened to. This effect would apply to the whole country. The effects may be temporary and thus reversible on other issues.	
<i>Expected effect: The DCFTA aims to be inclusive to civil society. However, the de facto effect will depend on whether the two sides at the negotiating table, both in general and as negotiators in particular, act inclusively. So the impact could be significant in terms of number of organisations that could participate if allowed. The impact could also be profoundly negative if civil society feels it is not taken seriously.</i>			

Categories of impact of DCFTA on HR overall	Potential Human Rights effects	Significance: HR stress Direction of change compared to baseline Nature, magnitude, geographical extent, duration and reversibility of changes
Trade 'values' threaten human rights 'values'	Where trade values emphasise 'efficiency', HR valued emphasise 'human dignity'. This DCFTA is expected to be beneficial for the country and for most people. Efficiency is the driving force behind those gains, but less focus is given to human dignity. Some people may lose out and from an HR point of view that is unacceptable as each and every individual has fundamental rights. For those affected negatively, alternative options need to be found as this is the state's responsibility. Some people may lose out and from an HR point of view that is unacceptable. For those negatively affected, alternative options need to be found, which is primarily the responsibility of the Moroccan government. In this DCFTA, it could be worth looking at sectors and regions that show employment decline and growth (the latter, for example, being: vegetable oils, machinery, and vegetables and fruits). When certain sectors lose out for push-factors, flanking measures may be needed.	This may be an issue as the DCFTA may unintentionally disadvantage people, especially in the short-run (e.g. declining versus growing sectors, labour displacement, lower wages in the short run). This may be an issue for Morocco in general.
<p><i>Expected effect: Trade values are based on a different framework than human rights values. The DCFTA is expected to strengthen trade values. This is expected to improve a lot of HR aspects, but not for all. It is the latter – with HR values looking at human rights for each individual that are absolute – that could mean that for some their HR values are threatened. For the majority, this is clearly not the case.</i></p>		

Further explanation: an example of causal chain analysis of the potential impact of the DCFTA on Forced Labour in Morocco.

“For many governments around the world the elimination of forced labour remains an important challenge for the 21st century. Not only is forced labour a serious violation of a fundamental human right, it is a leading cause of poverty and a hindrance to economic development. ILO standards on forced labour, in combination with targeted technical assistance, are the primary international tools for combating this scourge” (ILO website)¹²⁴.

The ILO and U.S. Department of State report Morocco as ‘a source, destination, and transit country for men, women, and children who are subjected to forced labour and sex trafficking’.¹²⁵ Boys are forced to work in the construction industry and in small artisan and mechanic shops. Older Moroccan girls and women and

¹²⁴ ILO website on Forced Labour, available at <http://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/forced-labour/lang--en/index.htm> [accessed at 3.7.2013].

¹²⁵ United States Department of State, 2012 *Trafficking in Persons Report - Morocco*, 19 June 2012, available at: <http://www.refworld.org/docid/4fe30ca941.html> [accessed 4 May 2013].

female migrants are forced into prostitution in major cities in Morocco.¹²⁶ Moroccans (both women and men, and also children) are often transported to other countries to be exploited for sex, selling drugs and other kinds of work.¹²⁷

When looking at the causes of forced labour, also in Morocco, we find in the literature that mainly overpopulation, poverty, and orphans qualify as factors. Overpopulation combined with limited resources forces people to work to feed all mouths. Poverty forces parents to send in children to add to family income and survive. Finally, orphans have a much higher chance of ending up in forced labour because they have to take care of themselves since no one else does. Unemployment is not a cause but a consequence of forced labour.

Looking at the impact of the DCFTA on forced labour, we need to look at the identified causes for forced labour and see how each of them are affected by the DCFTA in order to be able to infer more general conclusions.

Cause for forced labour	Expected DCFTA impact	Direction and size of the effect
Overpopulation	No impact of the DCFTA expected	None
Poverty	Expected to go down because of the DCFTA (wages are expected to rise faster than prices) but not to a large extent	Potential small positive effect of the DCFTA – as poverty goes down
Orphans	No impact of the DCFTA expected	None

Proper flanking measures are needed to ensure the DCFTA may have the effect of reducing forced labour – especially making poverty reduction a broad policy goal. This assumes that the direct effect of the DCFTA on forced labour outweighs the indirect effect through growing and declining sectors (e.g. expected growth of the trade (retail, wholesale, restaurants) sector where forced labour is present).

¹²⁶ United States Department of State, 2012 *Trafficking in Persons Report - Morocco*, 19 June 2012, available at: <http://www.refworld.org/docid/4fe30ca941.html> [accessed 4 May 2013].

¹²⁷ *Ibid.*

4 Additional Environmental Analysis

This section describes environmental issues and environmental policies in Morocco, and looks at ways in which a DCFTA could induce changes in these issues or policies. The first part of the chapter deals with the current state of the environment and environmental policy in Morocco, introducing the key issues and developments to be considered. The second step consists of a pre-analysis of how the DCFTA could affect the state of the environment in Morocco, both in general and for each of the identified issues. The third and final part looks at the likely impacts of the DCFTA on the environmental aspects described.

In the analysis of each of the issues and the impacts of the DCFTA on these, quantitative and qualitative analyses are combined insofar possible. The quantitative analysis of air pollution and CO₂ emissions is most detailed in this respect and most clearly linked to the results of the CGE model (presented in Chapter 2).

4.1 Current environmental profile of Morocco

The first step in the environmental analysis is the analysis of the current environmental profile of Morocco, which includes a description of the current status of environmental performance in Morocco based on the indicators **air pollution, waste, water, ecosystems & biodiversity, climate change** and the ‘**greening**’ of the economy – in line with indicators used in the Environmental Performance Index (see below).

4.1.1 Environmental profile Morocco

Morocco has a long coastline of about 3,500km bordering the Atlantic Ocean and the Mediterranean Sea. It shares its land borders with Algeria to the East and Mauritania to the South. Morocco has a territory of 710,850 km² (Western Sahara included) and a population of 32.6 million people. According to Van Breusegem and Souلامي (2011) - the most recent Morocco country report for the ENP - agriculture and light industry are important Moroccan economic sectors. Its economic growth is believed to have been hampered by the volatility of the rainfall-dependent agricultural sector. An estimated 9.5 million hectares of land are used for agriculture, which represents 13 per cent of the surface of the country. Morocco's climate is semi-arid and more than 80 per cent of the country is at risk of desertification. The main environmental issues faced by Morocco include air quality, deterioration of water resources (in quantity and quality), waste management, biodiversity and deforestation. They result for a large part from human activities and this trend will be even more accentuated by climate change. Morocco's high population growth and socio-economic development are putting substantial pressures on natural resources (Van Breusegem and Souلامي, 2011).

The Yale Environmental Performance Index for 2012 - a proxy measure assessing the performance of a country in terms of its environmental policies – ranks Morocco as number 105 out of 132 classified countries, making it one of the ‘weaker performers’ (Emerson, et al., 2012). Based on this measure the country performs relatively well in areas such as **agriculture** and **climate change**, while most problematic areas include risks to **biodiversity** and **habitat**, effects of **water on human health**, and **ecosystem** effects related to the use of **water resources**. While assessing the impacts of the DCFTA on the environment, these issues will thus receive special attention.

Since the Rio Summit in 1992, Morocco became more environmentally conscious and confirmed its involvement by including the right to water access, to a healthy environment and to sustainable development (art. 31) in its new Constitution of July 2011 (Zeino-Mahmalat, E. and Bennis, A., 2012). Morocco is a party to 85 multilateral environmental agreements (MEAs), including:

- Convention of the Law of the Sea, 2007;
- Vienna Convention for the Protection of the Ozone Layer, 1995;
- Montreal Protocol on Substances that deplete the Ozone Layer, 1995;
- Framework Convention on Climate Change, 1995;
- Convention on Biological Diversity, 1995;
- Convention to Combat Desertification, 1996;
- Kyoto Protocol to the Framework Convention on Climate Change, 2002;
- Cartagena Protocol on Biosafety, 2000;
- Stockholm Convention on Persistent Organic Pollutants, 2004.

The entity in charge of managing the main MEAs is the Environment Department of the Ministry of Energy, Mining, Water and Environment. The close cooperation between national and international levels allowed Morocco to benefit from the main financial international instruments related to environment. For instance, Morocco benefitted from 100 million dollars from the Global Environment Fund (GEF) (Zeino-Mahmalat, E. and Bennis, A., 2012).

Morocco also took many institutional and legal actions at national level. However, implementation faces many challenges such as the difficulties to reconcile environment and socio-economic development, lack of coordination between stakeholders and lack of monitoring and control of effective implementation of the laws (Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010).

4.1.2 Air pollution

In this section, we describe the baseline current situation of air emissions for a selection of air pollutants in Morocco. First, we describe the context of air pollution in Morocco. The remainder of the section presents emission volumes, emission intensities and a rough indication of the costs to society related to air pollution. In step 3 of this chapter, the effects of the DCFTA on these indicators are presented.

Introduction

Air pollution is a growing issue in Morocco, especially in urban centres such as Casablanca, Rabat, El Jadida and Safi, where most of the traffic and industries are concentrated. Industrial development and urbanisation has led to the increase of air pollution over the past twenty years. The main pollutants are sulphur dioxide (SO₂), nitrogen oxide (NO_x) and suspended particles. According to Van Breusegem and Soulami (2011), vehicle emissions are a main source of Morocco's air pollution, with Rabat and Casablanca concentrating around 50 per cent of the vehicles. The high contribution of vehicles emissions to air pollution is mainly due to the aging of the fleet of cars in combination with a lack of engine maintenance, the absence of emissions controls, and the use of low quality fuels with high sulphur and lead content. Other important contributors to air pollution include especially industrial sectors such as oil refineries, power generation plants, phosphate-processing units, cement factories and the iron and steel industry. Dust and sandstorms also contribute to air pollution. According to the Ministry of Energy, Mines, Water and Environment, the cost for air degradation (hence the combined costs for the aggregate of all environmental damages) and its impacts would sum up to 3.6 billion dirhams per year (323 million euros per year) which represent about one per cent of GDP.

Current emission volumes in Morocco

The table below presents emission levels of air pollutants by sector of economic activity. The pollutants that we have considered are the classical air pollutants SO_x, NO_x and two types of primary particulate matter (PM_{2.5} and PM_{coarse}).

Table 4.1 Baseline emission levels, thousand tonnes

Sector	NO _x	SO _x	PM _{2.5}	PM _{coarse}
Agriculture	11.07	0.03	4.71	2.89
Industry	16.14	62.77	7.06	4.33
Transport	60.59	6.38	1.31	0.80
Utilities	56.80	237.49	17.32	10.62
Rest of Emissions	18.61	19.02	3.55	2.18
Total	163.22	325.68	33.95	20.81

Source: EDGAR database for NO_x, SO_x, and particulate matter. Distribution of PM₁₀ based on ENPI country report Morocco: PM_{2.5}: 62%; PM_{co}: 38%. Data are for the year 2008.

We present current (baseline) levels of air pollution per sector of economic activity. Unfortunately, the sector structure that we can use for the analysis of air pollution is much less detailed than the structure in the CGE model. This is due to the need to match emission sources to our model sectors. The correspondence between sectors that we use is further explained in Annex C. For vehicle emissions, an important source of pollution, we have allocated all emissions related to vehicle use to the transport sector. The sector *Rest of Emissions* (RoE) includes sources that could not be assigned to specific sectors of economic activity. An example would be emissions from heating systems that can be used in buildings related to any economic activity. It includes emissions from activities in the services sector, but also includes emissions sourcing from agriculture, industry, transport and from residential sources.

The utilities sector is an important source of SO_x, NO_x and PM emissions. The industry and transport sectors contribute more than average to, respectively, SO_x and NO_x emissions. The agriculture sector has a more modest contribution to absolute emission levels. The RoE sector includes sources that cannot explicitly be assigned to a specific type of economic activity. These remaining emissions are roughly comparable in volume to emissions from agricultural activities, though SO_x emissions are larger.

Current emission intensities in Morocco

Emissions per euro of value added give an indication of the emission intensity of the economy and the various sectors for the classical pollutants. As shown in the table below, the utilities sector also appears to have the highest emission intensity per unit of value added. The last row in the table indicates the average emission intensity per euro of GDP for each pollutant. SO_x has the highest emission per euro GDP in Morocco, mainly driven by the utilities sector.

Table 4.2 Emission intensities in Morocco, tonnes per €million of value added

Sector	NO _x	SO _x	PM _{2.5}	PM _{coarse}
Agriculture	0.95	0.00	0.40	0.25
Industry	0.59	2.28	0.26	0.16
Transport	9.92	1.04	0.21	0.13
Utilities	30.82	128.85	9.40	5.76
Total	2.11	4.21	0.44	0.27

Source: Baseline emission levels from EDGAR database and GTAP data for value added.

Note: For the category Rest of Emissions, no value added can be assigned because emissions cannot be explicitly linked to sectors of economic activity.

External costs estimates

A rough indication of the external costs related to the baseline emissions in Morocco can be attained by multiplying the baseline emissions with the external cost factor per tonne of emissions. The external cost factors are taken from the NEEDS framework, as explained in detail in Annex C. The table below provides estimates for the baseline external costs derived accordingly.

Table 4.3 Benchmark externality associated with air pollution in Morocco in €million

	NOx	SOx	PM2.5	PMcoarse
Agriculture	49.07	0.38	102.24	3.78
Industry	71.50	784.26	153.32	5.67
Transport	268.44	79.66	28.37	1.05
Utilities	251.67	2,967.35	376.12	13.92
Rest of Emissions	82.47	237.68	77.13	2.85
Total	723.15	4,069.32	737.18	27.28

Notes: emission data for 2008; external cost factors taken from WP1 of RS3a NEEDS project, <http://www.needs-project.org>.

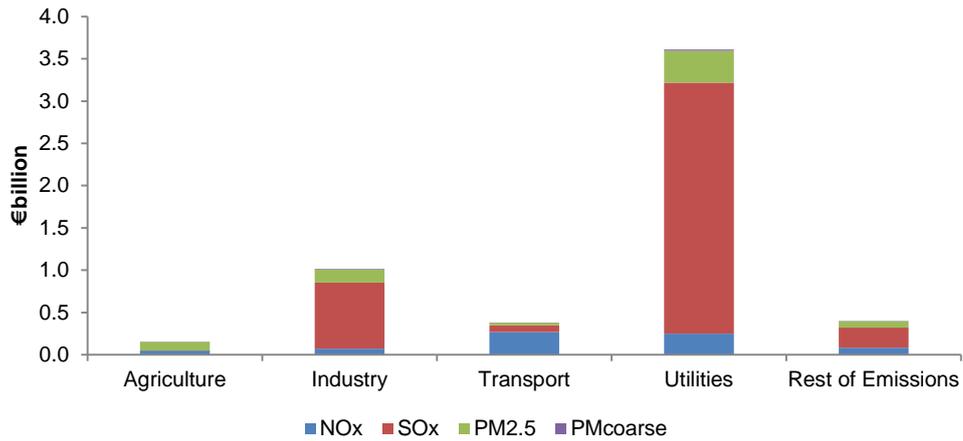
These figures only provide an order of magnitude of the costs involved allowing for the comparison of the different types of air pollution across sectors.

The reported monetary values for total external costs of air pollution should be interpreted very cautiously, though. The external cost factors are typically indicating the costs of extra emissions on top of the baseline situation. They indicate marginal costs, not average costs. If total costs of emissions increase more than proportionally with the volume of emissions, marginal costs are higher than average costs, resulting in an overestimation of the baseline external costs. In particular, the estimate provided here exceeds the estimated annual costs of air pollution reported in the introduction to this Section by a factor 16.¹²⁸

The table shows that SOx currently leads to the highest costs to society arising from air pollution. The utilities sector is the major area of economic activity causing external costs of air pollution, followed by the industrial sector. The figures below present this information graphically.

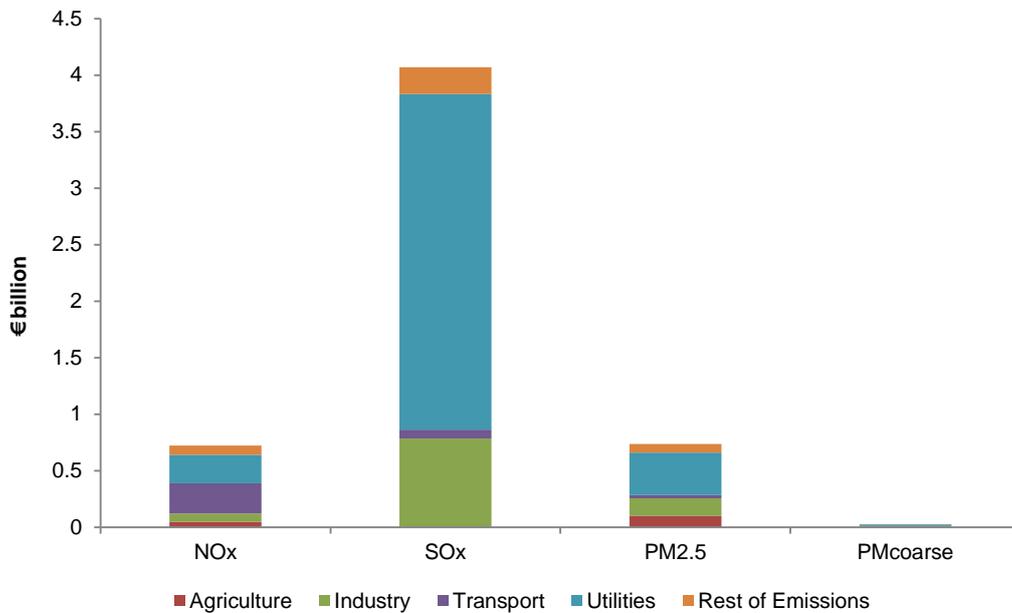
¹²⁸ External costs are roughly EUR 5.6 bn. In 2011, GDP stands at about USD 100 bn as reported by the World Bank. (about EUR 77 bn.) If we add CO₂ costs at roughly EUR 1 bn, external costs of air pollution and climate change combined represent 8.5% of GDP according to these estimates.

Figure 4.1 Benchmark externality associated with releases of air pollutants in Morocco, €billion per sector



Source: Own calculations based on emission data EDGAR for 2008; external cost factors taken from WP1 of RS3a NEEDS project.

Figure 4.2 Benchmark externality associated with releases of air pollutants in Morocco, €billion per pollutant



Source: Own calculations based on emission data EDGAR for 2008; external cost factors taken from WP1 of RS3a NEEDS project.

4.1.3 Waste

Solid waste management represents an important challenge for Morocco. An estimated 5 and 1.5 million tons of municipal solid waste are generated in urban areas and rural areas respectively per year (Van Breusegem and Soulami, 2011). To this 1.5 million tons of industrial waste should be added including 256,000 tons of hazardous waste, yielding a total of eight million tonnes of waste per year (Saadi, 2013). This leads to an average of 0.25 tons of waste produced per habitant per year; as a comparison the average in EU-27 was 5.1 tons of waste produced per habitant in 2010 (Eurostat, 2013). Waste generation is expected to increase with the improvement of living standards. There is no strong waste management policy and a lack of cost recovery policies, leading to a lack of funding, little attention paid to recycling and insufficient cooperation between

municipalities. Other important issues are the lack of technical expertise and the low level of public awareness (Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010).

Morocco lacks capacity in waste management. It is a legal obligation for local authorities to collect waste, but it is estimated that 82 per cent of the urban and only 20 per cent of the rural population are covered by waste collection services (Van Breusegem and Soulami, 2011). As a consequence, around 300 'wild' dumpsites (of which only ten are controlled) have developed in the country (Saadi, 2013). These wild dumpsites are a major source of air, soil groundwater, surface water and maritime pollution leading to spread of diseases and parasites and with some potential damaging economic consequences, with the reduction of the tourism potential in the coastal areas for instance.

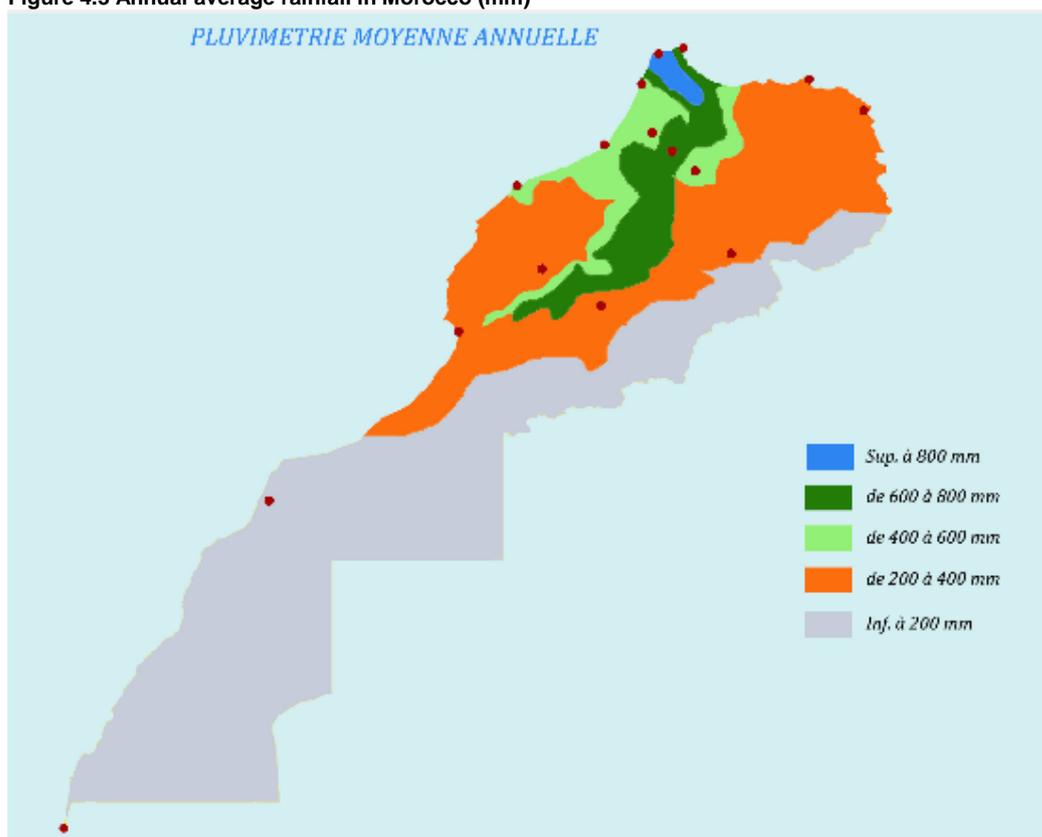
Only a small share of the collected waste is recycled: 30 per cent of the recyclable waste, implying 10 per cent of the total amount of waste is recycled (Van Breusegem and Soulami, 2011). There is however an informal recycling system developing, with around 15,000 scavengers collecting valuable waste items from dump sites and landfills (Saadi, 2013). As a result, they are exposed to health and safety risks. Recently Morocco started exploring the possibility of using the gases emanating from landfills for energy generation. Biogas collection and flaring systems have therefore been installed in some landfills (Salé and Fes) (Van Breusegem and Soulami, 2011).

4.1.4 Water

Water management is a key issue in Morocco both in terms of quantity, given the scarce and uneven distribution of rainfall, and in terms in quality as Morocco faces issues of water pollution and challenges in developing access to drinkable water and sanitation services.

Water scarcity is one of the key issues for Morocco: 90 per cent of the Moroccan territory is classified as arid or semi-arid climate leading to limited water resources (Van Breusegem and Soulami, 2011). Moreover, according to the Moroccan Office of the High Commissioner for Water, Forests and the Fight against Desertification, the water share for each citizen will be reduced by 49 per cent until 2020. Morocco is highly dependent on rainfall as only 30 billion m³ of water can be considered as national water resources, while rainfall brings in on average 150 billion m³ every year (Saadi, 2013). The problem is that rainfall patterns in Morocco are not regular. There are important variations during one year, with alternating heavy rainfalls and drought episodes with variable length and intensity, and between different years. Rainfalls are not evenly distributed across the country as seen Figure 4.3. On average, annual rainfall is above 1,000mm (1 million m³/km²) in the mountainous zones of the North and below 300 mm in the Moulouya, Tensift and Souss-Massa basins, the southern zones of the Atlas and the Saharan zone which nearly covers 85 per cent of the country ((Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010). It is estimated that 7.4 per cent of the surface of Morocco receives 51 per cent of the surface water potential (Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010).

Figure 4.3 Annual average rainfall in Morocco (mm)



Source: Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010.

An increase in water scarcity will have substantial impacts on agriculture (approximately 19 per cent of GDP) and food safety. There are several factors that contribute to water scarcity in the country including climate change, population growth, sedimentation of reservoirs and inefficient irrigation as agriculture represents a major share in water consumption. Moreover, Morocco experiences important water losses (estimated up to four billion m³/year) within the irrigation networks and in the drinking water networks (up to 400 million m³/year) (Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010). The Moroccan government took some measures, such as the Green Morocco Plan (2009), that promote irrigations techniques.

In addition to water scarcity, Morocco faces challenges in terms of water pollution, access to drinking water and sewage connection. For the latter, there are substantial differences between urban and rural areas as seen in Table 4.4.

Table 4.4 Access to drinking water and to improved sanitation facilities in urban and rural areas in Morocco in 2008

2008	Urban areas (% of population)	Rural areas (% of population)
Access to drinking water	98% (91% through municipal networks, 9% through public fountains)	60%
Using improved sanitation facilities	81%	52%

Source: Van Breusegem and Soulami, 2011.

Although still poor compared to EU standards, sewage connections have significantly improved in rural areas in the past decade, given that in 1990 only 27 per cent of the rural population used improved sanitation facility. This is not the case for drinking water. Given that 55 per cent of the rural population had access to improved drinking water in 1990, it only increased by 5 per cent in 18

years to 60 per cent in 2008. As a result, we can conclude that important improvements are still to be made. Peri-urban areas are also affected, as about two million Moroccans living in the peri-urban areas of the main cities still do not have access to water supply and/or sanitation services (Van Breusegem and Soulami, 2011).

Water pollution is also a major issue with different causes. One of them is the lack of infrastructure for wastewater treatment. It is estimated that less than 30 per cent of the collected sewage is actually treated; the rest is being released directly to the environment, leading to surface water, groundwater and soils pollution (Van Breusegem and Soulami, 2011). The coastal region is particularly vulnerable to seawater pollution. The marine coastal environment is affected by unsustainable agriculture practices, run-off from solid landfills and industrial discharges. This region concentrates around 60 per cent of the urban population, but it is estimated that 55 per cent of the domestic wastewater, i.e. 415 Mm³/year, is released directly into the sea. Moreover the coastal region concentrates 80 per cent of the industries that also release most of their wastewater directly into the sea. There are important concerns in the areas of Jorf Lasfar, Safi, Mohammedia and Ain Sebaâ Sidi Bernoussi regarding heavy metals contamination, especially with cadmium, lead and mercury (Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010).

4.1.5 *Ecosystems & biodiversity*

With its great diversity of climates, landscapes, and natural ecosystems, Morocco is the second richest country in terms of terrestrial biodiversity and the richest in terms of marine biodiversity in the Mediterranean basin. The rates for rare and endemic species are 11 per cent for fauna and 25 per cent for vascular plants, these rates are ones of the highest in the Mediterranean basin. Endemic species show unique biodiversity presence in a country, which cannot be found anywhere else in the world. Morocco is also host of many wetlands, including four that have been classified by the RAMSAR convention as sites of international importance as birds' habitats in 1980. Around 20 other sites have been added recently to the RAMSAR list in Morocco (Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010).

One of the main challenges for Morocco is to reconcile the conservation of this great biodiversity with the socio-economic growth of its population. Indeed the main income-generating activities, i.e. agriculture, fishing, forestry and tourism, are highly dependent on natural resources, but are often not sustainably managed. For instance, overgrazing in agriculture leads to soil erosion affecting 70 per cent of the arable land. Other factors such as fast and unplanned urbanisation and the fact that most of the protected areas are inhabited add even more pressure, leading to highly damaged ecosystems and biodiversity. As a result, it is estimated that 96 per cent of the land is subject to some degree of human induced land degradation (Van Breusegem and Soulami, 2011). Moreover, out of the 24,534 species of the Moroccan fauna, it is estimated that 610 of them are endangered. The figures are worse for the flora as 1,670 out of 6,995 species are endangered (Saadi, 2013).

Moroccan forests are also under pressure. They cover 7.2 per cent of the territory, making Morocco the most highly forested country in the Maghreb. In addition to being carbon sinks, these forests play an important role for preservation of water, biodiversity and for protection from soil erosion. Moreover, the economic activities they host contribute 5 per cent to the gross national agricultural product and 1 per cent to the total gross national product (Van Breusegem and Soulami, 2011).

Despite their importance, only 3 per cent of the forests are protected by law with a low reforestation rate. It is estimated that 31,000 hectares per year are lost because of overexploitation, illegal timber, conversion of forest land for agricultural purposes and wild fires fuelled by droughts that on average destroy 3,600 ha of forests per year. Urbanisation and land conversion for agricultural

purposes are estimated to affect 4,800 hectares of forest per year (Ministère de l'Énergie, des Mines, de l'Eau et de l'Environnement, 2010). Poor soil quality, caused for instance by extensive agricultural activities, leads to reduced crop yields and to soil erosion. This in turn leads to soil run-offs and sedimentation of rivers and lakes. Deforestation also contributes to the aggravation of desertification, with now more than 80 per cent of the country being at high risk of desertification.

Morocco lacks capacity and resources in terms of nature conservation both for biodiversity and forestry. It faces two challenges:

1. the fragility of the ecosystems;
2. the vulnerability of the population living in them.

Measures have been taken such as the establishment of protected areas including 10 national parks and 24 Ramsar sites, fishing restrictions, and reforestation plans. A reforestation campaign launched in 1999, which according to ONEM (National Environment Observatory in Morocco), led to the reforestation of 502,358 hectares mainly in the North West region and high Atlas. In 2010 a project to plant one million palm trees by 2015 has been launched by King Mohammed VI (Van Breusegem and Soulami, 2011). These reforestation efforts had an important impact as, according to the Food and Agriculture Organisation (FAO) data, Morocco shows a gain of 44,700 hectares of forests during the period 1999-2000 and of 98,440 hectares for the period 2000-2010. Without these efforts Morocco would have had a net loss of forests.

4.1.6 *Climate change*

This section describes the baseline current situation for CO₂ emissions, as main greenhouse gas related to climate change. After an introduction to the context of climate change for Morocco, we provide an overview of baseline emission volumes and a rough indication of the external costs related to the baseline situation.

Introduction

Morocco is one of the signatories of the Kyoto Protocol without binding targets (non-Annex I). As such, it participates in the Clean Development Mechanism (CDM), which enables Annex I countries (and resident companies) to reduce 'their' emissions by investing in mitigation measures in non-Annex I countries. The national authority in charge of administration of CDM projects is composed of the National Council of CDM which gathers representatives from different ministries and other stakeholders and of the Permanent Secretary for MDP.

CO₂ emissions in Morocco are growing, partly because of economic growth and rapid urbanisation. In 2008, 42 million tons of CO₂ were emitted from energy use (Van Breusegem and Soulami, 2011). Power generation in Morocco mainly uses imported fossil fuels. The share of oil represents around 70 per cent. Only four per cent of the total energy production comes from renewable energy sources. Studies observed that during the 45 last years the temperature risen on average by 0.16°C per year, while at the same time the spring rainfall has decreased by 47 per cent at the national scale (Mokssit, 2012). Reduction of snow cover on the Rif and Atlas mountains are also indication of global warming.

The impacts of climate change will exacerbate other environmental issues such as water scarcity and desertification for instance. According to Mokssit (2012) food security will be affected because of water scarcity and soil degradation which can lead to a decrease of 33 per cent of agricultural yield in some regions at the end of the century. Health is also likely to be impacted because of modifications of geographical repartition of certain diseases such as malaria and cholera. The vulnerability of coastal regions, which gather 60 per cent of Moroccan population and 52 per cent of

tourism activity is likely to increase because of the sea level rise. This will also have an impact of biodiversity with the presence of wetlands classified as RAMSAR sites on the coastal regions. Moreover, certain species are adapting to changing climate conditions at a too slow pace which could lead to the extinction of 22 per cent of the flora and several birds and mammals species (Mokssit, 2012).

Current emissions and external costs

Quantitative evidence on the impact of the DCFTA on climate change is linked to data on CO₂ emissions for Morocco. CO₂ emission volumes are available at the country level rather than by sector or emission source. In 2008, emissions of CO₂ in Morocco amounted to 48 million tonnes. In comparison to the classical pollutants discussed above, it is obvious that the volume of emission of CO₂ vastly exceeds that of the classical pollutants. However, emission volumes do not tell the whole story for the assessment of the costs to society of various emissions. Costs per tonne of emissions vary between the different types of air emissions. In contrast to NO_x, SO_x and particulate matter, CO₂ is not a pollutant as such. The environmental cost related to CO₂ is hence different in nature than for pollutants. As greenhouse gas, CO₂ can contribute to global warming and climate change. Hence, the external environmental costs are the costs related to climate change.

To value the costs related to CO₂ emissions, an estimated value of the external costs per tonne of emission is needed. No single such estimate applies, as is shown by the range of estimates that emerge from the academic literature on the topic. For an overview and meta-analysis of this literature, see Tol (2005). The value depends on a lot of aspects, such as choices made in the method of calculation. Annex C provides a brief overview of the main methodological issues. The median value reported by Tol was around USD 14 per tonne, and the mean at USD 93 per tonne (in 1995 price levels). In line with earlier Trade SIA studies, we assume a value of €20 per tonne of CO₂. This would imply that the baseline costs to society from CO₂ emission are €958 million. As before, the cost estimate is intended mostly in order to allow for comparisons of costs across different air emissions. Costs of CO₂ emissions are in the same order of magnitude as NO_x and particulate matter but much lower than SO_x, even though the volume of CO₂ emissions is much higher. Interpretation of the absolute value should be done with caution, as the external cost factor is an estimate of marginal social costs rather than average social costs. The reported value is therefore most likely overestimating actual costs to society, assuming the marginal cost estimate is accurate.

4.1.7 'Greening' the economy

While the relationship between economic activity and the environment is usually considered to be negative, increasing efforts are made in Morocco to change this relationship and to engage the private sector in a process of greening the economy, together with international partners. As the DCFTA will directly affect economic activity and international economic relations, these developments are worth noting here.

The main political body responsible for formulating enterprise policies is the Ministry of Industry, Commerce and New Technologies. It also acts as the coordinating body. So far, the Ministry has implemented three strategic initiatives, i.e. the Charter for SMEs, the Rawaj Vision 2020 and the Plan Emergence 2015 (EIM Business & Policy Research / Oxford Research, 2012).

Recently, Morocco has introduced mechanisms to support sustainable enterprise development. The underlying paradigms driving policy change in this area are energy reforms, the introduction of the polluter pays principle as well as an emphasis on attracting investment (EIM Business & Policy Research / Oxford Research, 2012). Furthermore, Morocco has a tendency to adopt market-based

instruments which allows the country to derive much of the financing used to support greening the economy from private sources (EIM Business & Policy Research / Oxford Research, 2012).

In line with this market-based approach, the Ministry of Industry together with the National Chamber of Commerce (CGEM) have set up the Moroccan Centre for Clean Manufacturing (CMPP) as a one-stop shop for Moroccan companies seeking to access climate change funds. It entertains contacts with all the major donor agencies and is implementing projects in conjunction with many of them. Furthermore, it promotes the adoption of clean technology and production processes and seeks to support the development of green industries (Grant, 2011).

In order to reduce its dependence on imported fossil fuels - which is as high as 97 per cent - Morocco has set up a solar plan and an integrated wind energy program. It is expected that the planned investments will reduce annual CO₂ emissions by 9.5 million tonnes which could lead to the creation of 23,000 jobs by 2020. A significant number of jobs is also expected to result from the implementation of the National Strategy for Energy Efficiency in Buildings, Industry and Transport (about 40,000 by 2000) and the National Plan of Sewerage (about 10,000 jobs). The National Programme of Household Waste is expected to provide for the creation of 11 000 jobs over 15 years (UNEP, 2012).

While these developments sound promising, there are some challenges to be overcome in order for the economy to become more environmentally-friendly. It has been criticised that no comprehensive enterprise policy has been developed (EIM Business & Policy Research / Oxford Research, 2012). An integrated strategy for moving towards a green economy as well as comprehensive development of new industrial clusters of green technologies could be further improved.

4.2 Issues relevant to the assessment of the impacts of the DCFTA

In the table below, the environmental issues outlined above are listed, together with an assessment of how the DCFTA could have an impact on them in general terms. In the following section, we then elaborate further on the specific expected impacts for Morocco given the current (status quo) situation described above.

Table 4.5 Expected scope of DCFTA environmental impacts by category

Environmental aspect	Why relevant for DCFTA
Air pollution	Direct consequence from economic / industrial activity; Influence from DCFTA: Sectoral shift, change in economic activity.
Climate change mitigation	CO ₂ emissions are a direct consequence from economic / industrial activity; Influence from DCFTA: Sectoral shift, change in economic activity.
Biodiversity	Increased trade activity can make illegal trade of protected species easier.
Biodiversity	Increased land use can endanger species.
Ecosystems	Increased air pollution / acid rain due to DCFTA can damage ecosystems.
Waste	Changing activity in certain industries (e.g. industry) and changing overall welfare can lead to a change in waste production.
Water	Changing activity in certain industries (e.g. clothing, agriculture) can lead to a change in water use.
Green economy	DCFTA may create a larger demand market for green products and foster compliance with environmental product standards.
Most aspects	Environmental issues are influenced by policy, which can be affected by the

Environmental aspect	Why relevant for DCFTA
	Association Agreement between Morocco and the EU. At this stage we cannot say whether how the DCFTA will influence implementation of the Agreement.
Most aspects	Economic growth is usually associated with increased pollution.

4.3 Expected impacts of the DCFTA for Morocco

We start by noting that the DCFTA is going to be just one of several forces that will influence the environmental developments in Morocco. From a legal perspective, the DCFTA follows from the broader Association Agreement (AA) that details cooperation between the EU and Morocco in several areas. One of the chapters provided for a free trade area to be established (hence the launch of the negotiations for a DCFTA).

Given the focus of this report, one should understand that our analysis, while acknowledging that the DCFTA finds its legal framework in the AA, treats the DCFTA as different from the AA. Also, the AA entered into force in Morocco in the year 2000 and hence the environmental effects resulting from the AA should be treated completely separately. The focus here is thus on the environmental impact of the DCFTA only.

The analysis also takes into account, to the extent possible, the possible interactions between the DCFTA and international environmental obligations that Morocco has committed to. Possibly, the DCFTA could enforce the international agreements. Lastly, complex interactions between domestically driven policies, including environmental policies, and the policy/regulatory changes likely to be motivated by the DCFTA need to be distinguished. Some of the potential effects from the DCFTA could be mitigated by environmental measures and programmes such as:

- The Liquid Sanitation and Purification of Wastewater National Programme in urban and semi-urban areas (PNA) 2005-2020;
- The Liquid Sanitation National Programme in rural area;
- The Domestic Waste National Programme (PNDM);
- The National Programme against air polluting emissions;
- The Industrial Depollution Programme;
- The Biodiversity Protection and Valorisation Programme.

Thus, two general impact channels are valid for all issues identified in the first section (the environmental profile). First, the conclusion of a DCFTA may lead to an increase in the efforts to deepen the Association Agreement and work on the provisions on environmental policy outlined there as well as any binding international agreements. Whenever relevant, these provisions will be mentioned in the context of the corresponding issue.

Secondly, the economic growth triggered by the DCFTA will cause environmental effects. As the DCFTA is estimated to contribute to faster economic development of Morocco (see Chapter 2), this higher level of output will, everything else equal, lead to more environmental pressure. This highlights the importance of separating environmental effects related to higher level of economic activity and the evolution of environmental pressure in general. A more important question in this context is to consider to what extent DCFTA-driven economic growth in Morocco could become 'greener'. This is one of the potential effects that receive some more attention in the following sections. Important to take into account also is that there are substantial differences in environmental impact of sectors of the economy reflecting different sector size, energy intensities, character of inputs, dominant technologies, etc. The DCFTA environmental effects caused by

changes in particular sectors will be a combination of the effects of a sectors' growth and technological and other transformations influencing the environmental pressure.

4.3.1 Air pollution

The quantitative simulations only consider the direct links between economic activity and air pollution. Any other direct and indirect effects related to economic development, such as changes to technology and shifting preferences towards abatement policies cannot be taken into account explicitly. As we assume no changes in underlying technology in terms of emissions per unit of value added, the estimates that follow below can be considered as the upper limits (maxima) of emission changes.

Assessment of the DCFTA impacts on emission volumes

The impact of the DCFTA on emission volumes is split into two components, in line with the two determinants identified earlier: the scale and the composition effect. Both the volume of economic activity and the sector composition of these activities determine the level of emissions. As we have seen before, emission intensities differ between various sectors of the economy. Thus, a shift of activity between sectors will lead to a change in total emissions of air pollutants.

The impact of the volume of economic activity is measured using the scale effect. As economic activity increases, the volume of emissions also tends to rise. The second determinant of emissions is sector structure. This determinant of changes in total emissions of a pollutant is the composition effect. Annex C describes in detail how the total effect on emissions and its scale and composition components are computed. Here, we will present the results of these computations. As we assume no changes in underlying technology in terms of emissions per unit of value added, our estimates can be considered as upper limits (maxima) of emission changes.

According to the CGE results, the DCFTA will result in an overall increase in GDP of 1.3 per cent in the short run and 1.6 per cent in the long run. At the sector level, the DCFTA is expected to result in a decrease in value-added for the primary energy, textiles, leather goods, petrochemicals, chemicals, fabricated metals, electrical machinery and inland transport sectors. An increase in value-added is expected for the food and metal industries. Thus, overall the DCFTA is expected to result in a decrease in value added of the most polluting industries. While the scale effect is therefore expected to lead to an increase of air pollution, the composition effect will reduce emissions. The overall effect depends on the sum of these components.

According to the CGE results and estimation of the impact on emissions, the DCFTA is expected to have an overall positive impact on air pollution. The overall impact on emissions for the classical air pollutants is illustrated in the table below, which also repeats the baseline values for emissions.

Table 4.6 Baseline values and DCFTA-induced changes of emissions, thousand tonnes

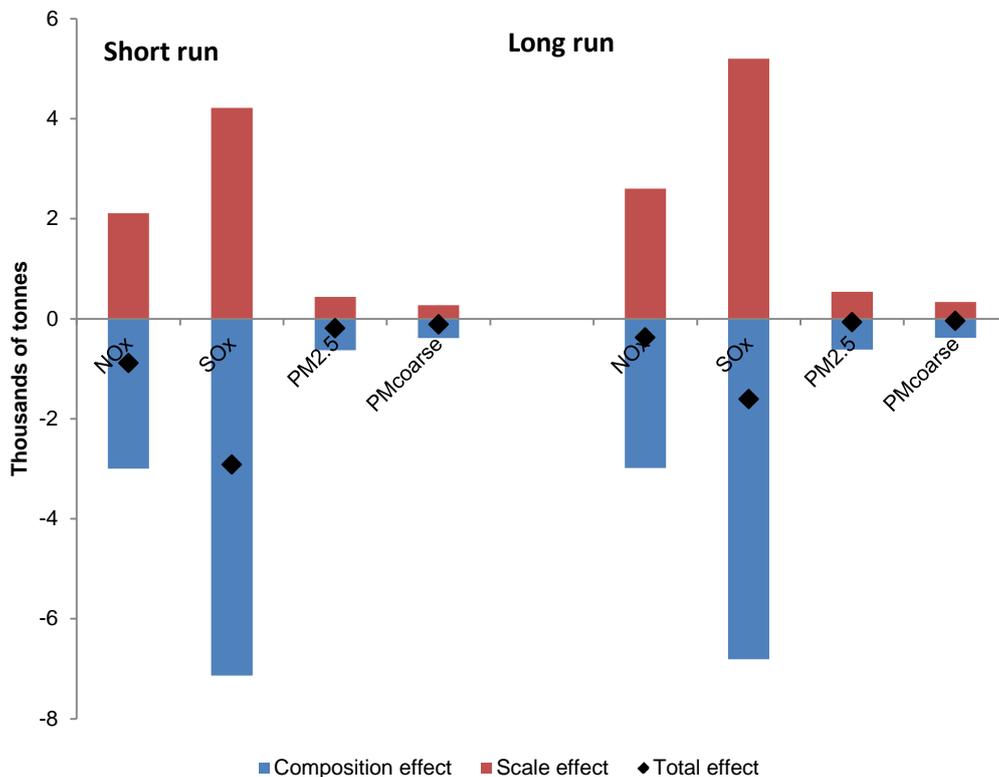
	NOx	SOx	PM2.5	PMcoarse
Baseline level	163.22	325.68	33.95	20.81
Short run change	-0.89	-2.92	-0.19	-0.12
%	-0.54%	-0.90%	-0.56%	-0.56%
Long run change	-0.38	-1.61	-0.07	-0.04
%	-0.23%	-0.49%	-0.21%	-0.21%

As a result of the increase in GDP and the shift of economic activity across sectors, total air emissions for each of the pollutants fall. The net changes resulting from the scale and composition effects are small, reaching -0.9 per cent for SOx in the short run as maximum decline. The decline

in air pollution is a bit smaller in the long run, because of the higher impact of the DCFTA on GDP resulting in a larger scale effect. The dominant composition effect reflects sector shifts in economic activity due to the DCFTA. For example, value added shifts from primary energy (utilities) and some polluting industrial sectors such as chemicals, textiles and leather goods and paper, into agricultural sectors such as vegetable oils and fruit and vegetables.

The figures below show the decomposition of the impact on emissions into scale and composition effects for each of the pollutants. The pattern of scale and composition effects is very similar for the short and long run. Due to the growth in economic activity expected from the DCFTA, the scale effect on emission volumes is positive for all pollutants. For SO_x the increase in emissions due to the rise in GDP amounts to about 5,200 tonnes in the long run. The composition effect on emission volumes, on the other hand, is expected to be negative for each of them. This reflects the shift of activity into sectors that pollute less per euro of value added as illustrated above. The composition effect dominates the scale effect for all pollutants. However, the scale effect becomes relatively more important in the long run. This implies that emissions of NO_x and SO_x in particular are somewhat higher than in the short run.

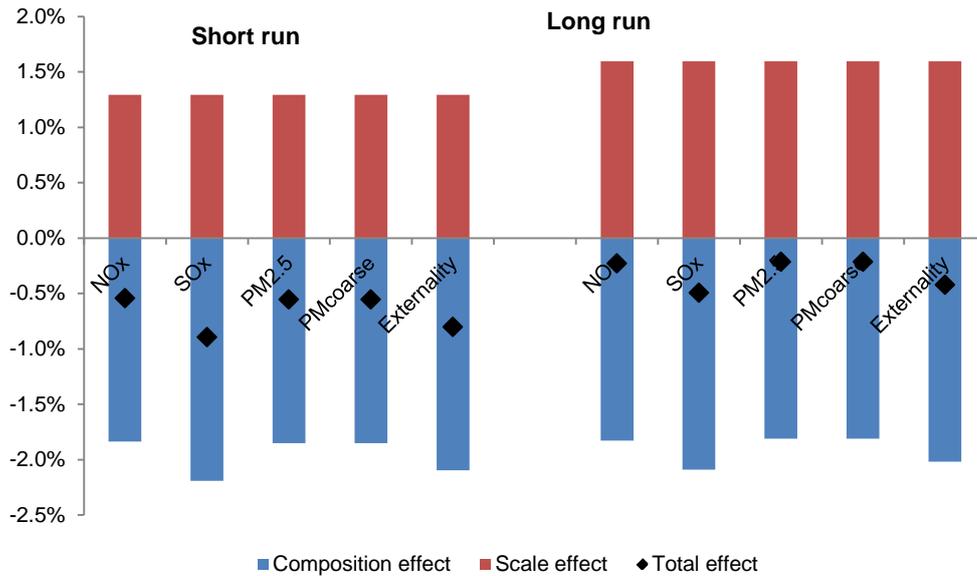
Figure 4.4 Decomposition of DCFTA-induced change in emissions of classical pollutants in Morocco, thousand tonnes



Source: Own calculations based on CGE model outcomes and baseline emissions.

Figure 4.5 provides an overview of the impacts and their components in percentage changes. It also includes the relative impact on the external costs related to these classical air pollutants. The scale effect is equal across pollutants, because it is based on the change in GDP. The composition effect is rather stable across pollutants in the short run, between -1.8 per cent and -2.2 per cent, and does not change much in the long run. The impact on external costs is mostly driven by what happens to SO_x, the main pollutant in terms of volumes and costs.

Figure 4.5 Decomposition of DCFTA-induced change in emissions of classical pollutants in Morocco, %



Source: Own calculations based on CGE model outcomes and baseline emissions.

Assessment of the DCFTA impacts on external costs of air pollution

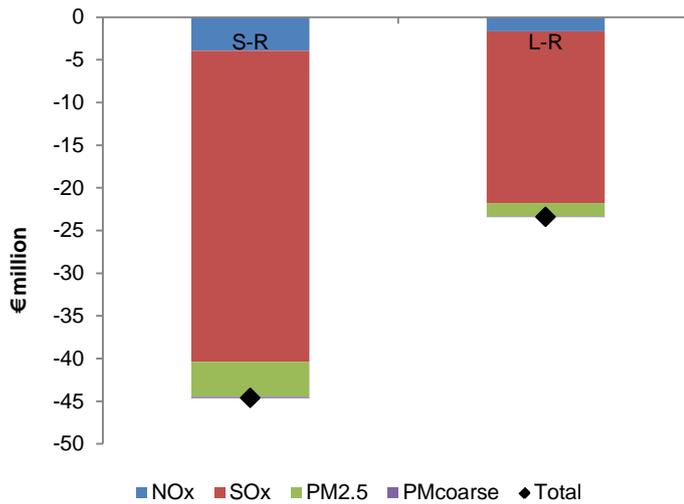
The external costs per tonne of extra emissions for each pollutant are taken from the NEEDS project framework and estimated using the impact pathway approach (see annex C for more detail). This approach assesses emissions by location and source from a detailed grid of Europe and its neighbouring countries. The spread of pollutants throughout this grid and beyond is estimated based on a model, leading to exposure changes across the grid, which is then translated into total cost estimates assigned to air pollution sources.¹²⁹ The external cost per tonne for each pollutant include external costs for several impact categories, including human health, loss of biodiversity, crops and building materials. Because of data availability, we include health costs only. The costs to human health are typically around 90 per cent of total costs.

As it was shown in Figure 4.5 above, the external costs to society that arise from air pollution decrease by -0.8 per cent in the short run due to the DCFTA. Part of this environmental gain is lost in the long run. External costs are still 0.42 per cent below the level before the DCFTA, though.

The impact on the monetary value of pollution costs to society is presented in the figure below. Due to the beneficial composition effect in emissions, the overall impact of the DCFTA on pollution externalities is beneficial as well. The costs of health damages to society caused by classical pollutants decline by €45 million in the short run and by €23 million in the long run. Most of the decline in total external costs is due to the fall in SOx emissions (see the Figure 4.6 below).

¹²⁹ For more information on the method, consult Preiss, P. et al. (2008), 'Report on the procedure and data to generate averaged/aggregated data' Downloaded from <http://www.needs-project.org/docs/RS3a%20D1.1.zip> and other reports within WP1 of RS3a NEEDS project, <http://www.needs-project.org>.

Figure 4.6 DCFTA-induced changes in external cost for Morocco (without climate costs)



Source: Own calculations of emission impacts, and external costs factors from NEEDS project framework.

4.3.2 Waste

Industrial waste amounts to 1.6 million tons per year, 256,000 tons of which is hazardous. These hazardous wastes are often stored in municipal dump wastes and not addressed adequately. The chemical and petrochemical industries are responsible for 40 per cent of these hazardous wastes, and the textile and leather industries for 33 per cent of them (Ministère de l'Énergie, des Mines, de l'Eau et de l'Environnement, 2010). The CGE model predicts a decrease in output for both sectors after implementation of the DCFTA in the long run. The DCFTA is thus likely to result in two counteracting effects. It may induce an increase in domestic waste generation because of the improvement of living conditions, whereas it should have a positive effect by limiting the activities of industries producing the most hazardous wastes.

4.3.3 Water

Seawater pollution is mainly caused by domestic wastewater and industrial wastewater being directly released into the sea and by maritime transport, given that the average daily traffic is about 240 ships through the Gibraltar Strait and 360 ships along the Atlantic coast. The DCFTA may have an impact on industrial wastewater and has an impact on maritime transport. Table 4.7 details the quantity of liquid waste per industry.

Table 4.7 Liquid waste by industry (Million cubic metres Mm³)

Industrial sector	Industrial liquid waste (Mm ³)
Chemical and paracheical industries	931
Textile and leather industries	16.5
Food industry	40.7
Mechanical, metal and electric industries	0.2

Source: Ministère de l'Énergie, des Mines, de l'Eau et de l'Environnement, 2010.

The chemical and petrochemical industries are the ones that produce most liquid waste by far given that they produce about 23 times more liquid waste than the food industry, which is the second most polluting sector (Ministère de l'Énergie, des Mines, de l'Eau et de l'Environnement, 2010). According to the CGE model results, the DCFTA is expected to lead to a decrease in output for the chemicals and petrochemicals industries, as well as in the textile and leather industries (which rank third in the production of industrial waste). Moreover, a decrease in output of water transport

services is also predicted by the CGE model, which could lead to a positive effect on seawater pollution by reducing the quantity of wastewater directly released into the sea. However this effect has to be interpreted with some caution since it is expected that the implementation of the DCFTA will lead to more trade in general, which also increases the activity of (domestic and foreign) shipping activities in Morocco, which in turn could increase the environmental marine pressure again. The net effect is difficult to predict.

Regarding agriculture, the CGE modelling exercise predicts a mixture of output gains and losses for agricultural subsectors. Vegetables, fruit, animal products, fisheries and vegetable oils are expected to experience a slight output increase as a result of the DCFTA. In contrast, grains and crops and other crops are expected to see output decrease due to the DCFTA. Overall, the DCFTA is expected to lead to a slightly increased activity in the agricultural sector (from the modelling results presented in chapter 2). Given that the agricultural sector represents a major part in water consumption, it is expected that the DCFTA increases the stress on water resources that are already scarce in Morocco. This is supported by the increase in livestock activities which are water consuming and contribute to overgrazing. An increased use of fertilisers may also increase issues of water pollution.

4.3.4 *Ecosystems & Biodiversity*

Regarding biodiversity and forestry, the DCFTA may have a rather negative impact. Indeed, as stated before in the water section, it is expected that the DCFTA will lead to an increase of activity in the agricultural sector, hence increasing the stress on natural resources. Even if the value added in forestry products is expected to decrease slightly, this is overcome by a more substantial increase in vegetables, fruit and vegetable oils production, which are likely to lead to land use changes, which in turn can lead to aggravate deforestation. Moreover, if the increase in agricultural output comes together with an increased use of fertilisers, this can aggravate underground water pollution and increase the threat on wetlands. A slight increase in fisheries output predicted by the CGE model may also increase pressure on fishing resources that are already overstressed.

Finally, a general increase in trade after the implementation of the DCFTA could also facilitate more illegal trade as an increased volume of trade increases the opportunities for illegal transport. One documented example of this has been raised by stakeholders and constitutes the trade in wildlife (Eurogroup for Animals, 2013). The (illegal) trade in wildlife can represent a grave threat to biodiversity. In particular, Morocco is believed to be one of the primary exporters (transit points) in Africa of wildlife animals, such as the macaque and reptiles. According to one of the stakeholders, research has shown that some 50 macaques are traded illegally from Morocco to the EU. The illegal export of these animals illegally reduces biodiversity in Morocco (and the rest of Africa) and should be seen as a potentially negative consequence of the DCFTA. On the other hand, possibly improved custom procedures and general trade facilitation as a result of the DCFTA might reduce the scope for illegal wildlife trade between Morocco and the EU.

4.3.5 *Climate change*

The impact of the DCFTA on climate change as a result of changes in carbon (CO₂) emissions is small. The change in emissions of CO₂ was simulated in the CGE model and taken as an input here. The CGE results indicate a fall in emissions of 100 tonne in the short run and 600 tonne in the long run. In percentage of the baseline emissions, these changes are marginal (less than one-hundredth of a per cent). Expressed in monetary terms, using a value of €20 per tonne for marginal external costs of carbon, the DCFTA is estimated to reduce external costs of carbon by €2,000 in the short run and €12,000 in the long run. These values are so small that they fall within the

margins of error. Even with much higher costs per tonne of carbon, the estimated impact of the DCFTA on this aspect of environmental costs would likely be negligible.

4.3.6 *'Greening' the economy*

Looking at air pollution, the modelling results suggest a continued 'greening' process of the Moroccan economy following the DCFTA: the composition effect – due to internal reorganisation of economic activity – influences emissions negatively and outweighs the scale effect, which could be taken as an argument for a development towards a larger and 'greener' economy.

Looking at the international component of greening the economy, the DCFTA is likely to strengthen the general trend: the EU as a demand market for green products will become even more important and compliance with EU (environmental) product standards may become a prerequisite for successful exports (EIM Business & Policy Research / Oxford Research, 2012). On a more general level, the DCFTA is part of Morocco's convergence to Europe, and could increase international exchange and investment potentially fostering trainings and R&D activities. This may contribute further to more environmentally-friendly production.

It has to be noted that the increased investment and greening activities are unlikely to influence the agricultural sector on a large scale, and thus address mainly pollution, but not water scarcity. We can thus say that a 'green' economy is not necessarily 'blue'. It is unclear whether the DCFTA can promote a de-coupling of agricultural production and water use.

5 Consultations and Communication

5.1 Stakeholder consultation plan and implementation

Consultations with relevant stakeholders constitute a key element of the Trade SIA methodology and hence our study; the input from stakeholders contributes to a higher quality (more relevant) impact assessment. In the inception report of this study we presented a detailed stakeholder consultation plan. This plan is a living document, which is continuously adjusted and updated during the course of the project according to progressing insights and comments from civil societies. The different instruments used as part of our consultation plan for this Trade SIA are summarised below.

1) Electronic consultation and documentation

Among the many lessons learned from previous TSIA's, uninterrupted communication with stakeholders has proven to be a key element to take into consideration when conducting the study. Therefore, as in previous studies, Ecorys has built a dedicated Trade SIA website for EU-Morocco DCFTA through which stakeholders are constantly updated on the different phases of the study and its results. The feedback process is facilitated by the contact email, available on the website, through which stakeholders can directly provide Ecorys with inputs and comments. Some of the features hosted on the website include:

- A Built-in mechanism to facilitate the feedback;
- A direct link to the Facebook Page;
- Various links to the websites of main stakeholders that are involved in the process;
- A Section on the background of the study;
- A Section containing relevant documentation, including 1) background material on the Trade SIA methodology, 2) documents that are relevant for the negotiations/our study, and 3) all project reports (both draft and final versions) as well as presentations that were made throughout this study;
- A Section with news items.

The website for the Trade SIA EU-Morocco is available at: <http://www.trade-sia.com/morocco/>.

The dedicated email address for the study is: tsiamorocco@ecorys.com. Any question related to the project, as well as opinion, ideas or specific related issues can be communicated to the team via this email address.

This two-way communication strategy has been reinforced by the launched of a Facebook page ([tsiamorocco](#)), which not only contributes in strengthening the communication between stakeholders and Ecorys, but also provides stakeholders with a platform to interact with each other on issues relevant to the study.

Since we strongly believe stakeholders can effectively contribute to the success of this project, Ecorys also makes use of a newsletter to inform civil societies about new deliverables and the progress of the project. A mailing list that includes NGOs, business associations, industry groups and special interest groups has been developed. Together with the EU delegation and the Steering Committee, a selection of key stakeholders has been identified. The mailing list and list of key stakeholders will continue to be updated and complemented during the course of the project, if necessary. The key stakeholders have received a first newsletter, which included an update on the project and the DCFTA and an introduction to the consultation opportunities available.

The newsletter, the Facebook page, the website and the email address all together facilitate the feedback which helps in validating the results, obtaining new information adjusting the study's focus and placing the results in a proper perspective.

2) Public meetings

A public meeting has been organised on April 09th 2013 in Brussels with the aim to meet and to engage with EU civil societies and the key stakeholders. On the agenda of the meeting, was the presentation of the main findings, the methodologies, the assumptions and the choices made during the TSIA study. The public meeting was held after the submission of the draft inception report on April 26th.

The second public meeting will be organised after the submission of the final draft of the final report, on the 2nd of October 2013. Additional meetings may be set up on an ad hoc basis.

3) Workshops in Morocco

In line with our efforts to engage the local civil societies in Morocco, a Trade SIA workshop will be organised in Rabat (Morocco). The workshop has been scheduled for the 27th of June 2013, so that the results from the Interim Technical Report can be discussed and inputs / feedback on this deliverable can be taken into account. The workshop also focuses on the in-depth (sectoral) analysis of the next phase.

4) Other relevant conferences and workshops

Linking up to other conferences and workshops relevant to the study is another element of the stakeholder consultation plan. Ecorys and the Commission are currently discussing on the possibility to engage with and to invite participants from similar events that being organised within the country. In the EU, the project team will present on and attend a meeting on the DCFTA organised by the EESC in Brussels on the 4th of June.

5) Face-to-face interviews with individual representatives and/or targeted surveys

Lastly, the consultation plan is complemented with face-to-face bilateral interviews with selected stakeholders. We strongly believe such interviews together with surveys are important means of receiving more detailed inputs of high quality.

5.2 Overview of consultation inputs received

Following the steering committee meeting that was held in Brussels on April 9th this year; we have observed a strong commitment from civil societies to actively contribute to the success of this study. We have invited all participants to make use of all the various communication channels we have put in place and to solicit and to facilitate their involvement.

We have been pleased with the quality of inputs we have received so far from a broad range of stakeholders. In direct collaboration with the EU delegation, Ecorys has acknowledged and answered, to the extent possible, all suggestions and recommendations that have been communicated.

An overview of the issues that have been raised by the stakeholders through the different communication channels as well as our response to them is available in Annex F. The main inputs received so far include the following:

- Suggestions for literature (incl. HR literature) and stakeholders to include the analysis;

- the importance of analysing the importance of mode 4 in services trade;
- the question to what extent investment policy will be included;
- the importance of studying illegal wildlife trade via Morocco as main trading hub to the EU;
- the call for including a human rights impact assessment on the Saharawi people in Western Sahara;
- the need to first make ex-post assessment of previous trade agreements;
- the need for excluding the October 2012 agreement from the analysis;
- the question whether the issues of land concentration and ownership will be taken into account;
- the need to conduct consultations in French;
- questions on methods and inclusiveness of stakeholder consultations.

6 Screening and Scoping

6.1 Screening criteria and indicators

The screening and scoping exercise performed in this Chapter identifies sectors or horizontal (cross-cutting) issues that are expected to experience a significant impact from the implementation of the DCFTA between the EU and Morocco. As such, it provides a filter between the macro-level analysis carried out in Phase 1 and the detailed analysis at the grassroots-level of Phase 2. In addition, it will enable us to identify specific areas of concern or interest that may require specific attention in the negotiation process or warrant the development of flanking measures and implementation support.

The selection of specific sectors and horizontal issues is based on the following five criteria:

1. Initial importance for the economy;
2. Expected economic impact of the DCFTA;
3. Expected social, environmental and human rights impact;
4. Stakeholder issues of special importance;
5. Strategic importance of sector / issue in the negotiation.

Criterion 1. Initial importance for the economy

The potential impact of a DCFTA on economic sectors differs with the importance and position of this sector in the economy; e.g. a small change for an important sector (in terms of value added or employment) might cause more impact than a large change for a very small sector at national level.

As such, percentage changes have to be interpreted in combination with a given sector's initial position in the economy. The initial importance of sectors for the Moroccan economy is assessed using the following indicators:

1. Sector share in total value added;
2. Sector share in total (un)skilled employment;
3. Sector share in total export and exports to the EU.

Data used for this analysis are based on GTAP 8 (base year 2007) projected to 2011. The CGE simulation uses the same data. Consequently, data are fully harmonized along the different stages of the analysis, which enhances overall consistency of the report. Also, this makes the identification of sectors for further analysis more transparent and easier to access.

Criterion 2. Expected economic impact of the DCFTA

The second criterion for the screening and scoping exercise is the impact of the DCFTA on specific sectors and / or in relation to certain horizontal issues. Here, the CGE modelling results help to detect economic effects on the sectoral level, whereas the causal chain analysis provides insights for identifying relevant horizontal issues. Due to the properties of the CGE model used it is ensured that the 'enabling nature' of certain facilitating sectors, e.g. transport, is taken into account in the results. Combined with the first criterion, this criterion establishes a quantitative (economic) base for the selection of important sectors and / or horizontal issues by showing where the main impacts from the DCFTA are likely to occur.

Criterion 3. Expected social, environmental and human rights impact

The additional analysis of social, environmental and human rights impacts (presented in Chapter 3) also give an identification of sectors or issues that are crucial in either one or all of the above three areas and for which sectors they would be most relevant. Using the additional analyses and causal chain analysis, under this criterion we assess the direct and indirect effects of the DCFTA in the three areas and flag issues relevant for specific sectors. Such effects include changes in production structures (shift to sectors using different capital-(un)skilled labour ratios) or impacts in areas where specific environmental or social issues are at play.

CGE results are used as primary inputs for the social and environmental analysis. For the former this particularly means using changes in employment for (un)skilled labour, whereas the environmental analysis uses changes in sectoral output and value-added, as well as CO₂ emission changes. This allows for drawing conclusions about DCFTA impacts on airborne pollutants/GHG and poverty/income distribution, respectively.

Criterion 4. Stakeholder issues of special importance

This criterion aims to flag the issues of specific importance for the various stakeholders involved in the DCFTA process. Through the consultation plan presented in the previous chapter (Chapter 5), the Trade SIA incorporates inputs from civil society and key stakeholders of the DCFTA negotiations and implementation. This can include areas that are considered as important for various reasons by a large part of the stakeholder community and / or in the public opinion. In addition, it can include issues of special political or policy importance, or issues of significance for the relations between the EU and Morocco.

Criterion 5. Strategic importance of sector / issue in the negotiation

To ensure that the Trade SIA study remains relevant to the DCFTA negotiation process, the importance of specific sectors / issues to the reality of the DCFTA process and negotiations is also one of the screening criteria. This criterion takes into account specific offensive or defensive interests of both negotiating parties or sectors / issues which are perceived as vulnerable or in need of special attention in relation to possible flanking measures. Input for this criterion is delivered by suggestions, comments and feedback from the main negotiators on specific issues.

6.2 Screening results

6.2.1 Cr. 1: Initial importance of the sectors for the economy

In order to determine the initial importance of each sector for the Moroccan economy, the Top 15 largest sectors in terms of their share in total value added are presented in Table 6.1. These values are based on projected GTAP 8.0 data and reflect 2011 data.

The Top 15 sectors account for 81 per cent of Morocco's total value added, 87 per cent of skilled employment, and 79 per cent of unskilled employment, respectively. The public and other services sector takes by far the largest share in total value added. Also, more than half of total skilled labour is employed in this sector. However, despite being the top sector for skilled labour employment, its absolute share in total unskilled labour employment is much lower. Generally, the share in total unskilled employment is more evenly distributed among the sectors. In contrast, for skilled employment public and other services, trade, construction, inland transport, and ICT and other business services add up to approximately 77 per cent of all skilled labour.

Table 6.1 Top 15 largest sectors in Morocco, by value added and employment

Rank	Sector	Sector Classification ¹³⁰	Share in total value added (%)	Share in total skilled employment (%)	Share in total unskilled employment (%)
1	Public and other services	S	23.4	57.4	14.8
2	Trade ¹³¹	S	9.1	6.7	10.8
3	Construction	S	8.4	5.1	9.9
4	Other transport (services)	S	5.8	4.2	6.8
5	Grains and crops	A	5.4	0.2	7.3
6	Vegetables and fruit	A	4.2	0.2	5.8
7	Animal products	A	3.6	0.1	4.9
8	ICT other business services	S	3.4	3.5	1.7
9	Other minerals	M	3.1	1.2	2.9
10	Other processed foods	M	3.1	1.7	3.3
11	Chemicals, rubber, plastics	M	2.6	1.5	2.4
12	Other machinery	M	2.4	1.6	2.5
13	Processed meats	M	2.4	1.2	2.4
14	Utilities	S	2.4	1.3	0.9
15	Wearing apparel	M	2.1	1.1	2.8
SUM	Sum of top 15 sectors		81.4	87.0	79.3

Source: GTAP 8 database, base year 2007, projected to 2011.

Table 6.1 also indicates that in terms of value added the Moroccan economy is equally driven by service and industrial (manufacturing) sectors. Out of the Top 15, there are 5 service sectors, which add 50 per cent of the value. In total, service sectors make up 55 per cent of value added, 83 per cent of skilled employment and 49 per cent of unskilled labour, respectively. As mentioned above, the government sector plays the most important role. This is not very different to the EU, where public and other services sum up to approximately 21 per cent of value added. However, in the EU the ratio between skilled and unskilled labour is with 1.8 significantly lower compared to 3.9 in Morocco. As such, the Moroccan public sector is more dominated by skilled employment.

Out of the Top 15 sectors, the sectors processing food and agricultural products account for an important 60 per cent share of all producing activities and approximately one fourth of total unskilled employment. In addition, other minerals and chemical production account for 3.1 per cent and 2.6 per cent of total value added, respectively. Basic infrastructure provision, which includes gas, water, and electricity, is captured by utilities and provides 2.4 per cent of the total value added. Finally, manufacturing activities in the Top 15 sectors account for 15.7 per cent of value added, 8.3 per cent of skilled employment, and 16.2 per cent of unskilled labour.

Table 6.2 shows Morocco's sectoral trade performance and thus points towards those sectors that might be affected most by a DCFTA with the EU. Total exports as well as the importance of the EU for Moroccan exports and imports are illustrated. In addition, the table depicts the rank in share in total value added (see also Table 6.2). This will give insights in how top export sectors compare to their share in total value added.

¹³⁰ A=Agriculture, M=Manufacture, S=Service.

¹³¹ Trade: all retail sales; wholesale trade and commission trade; hotels and restaurants; repairs of motor vehicles and personal and household goods; retail sale of automotive fuel.

Table 6.2 Top 15 export sectors for Morocco, by value and share

Rank	Sector	Export - gross value f.o.b. mln EUR	Share in total export value (%)	EU share in total export value (%)	EU share in total import value (%)	Rank in share in total value added
1	Wearing apparel	2,219.3	11.1	93.7	30.6	15
2	Other machinery	1,929.1	9.7	91.7	58.4	12
3	Chemicals, rubber, plastics	1,771.7	8.9	51.1	53.8	11
4	Other processed foods	1,741.1	8.7	66.1	31.0	10
5	Vegetables and fruit	1,545.0	7.7	75.2	34.8	6
6	Public and other services	1,537.9	7.7	29.4	30.1	1
7	Other minerals	1,349.6	6.8	46.2	28.3	9
8	Other transport (services)	1,193.6	6.0	43.1	38.5	4
9	ICT other business services	1,077.9	5.4	46.6	53.8	8
10	Air transport	748.3	3.7	36.3	41.2	19
11	Textiles	647.8	3.2	95.3	45.8	28
12	Electrical machinery	534.0	2.7	27.4	30.0	24
13	Metals	501.6	2.5	53.5	36.5	30
14	Leather goods	473.5	2.4	92.0	32.7	16
15	Petrochemicals	398.4	2.0	62.9	50.3	31
Top 15 Summary Stats		SUM	SUM	AVG	AVG	Avg Rank Dif
		17,668.7	88.53	60.7	39.7	8.3

Source: GTAP 8 database, base year 2007, projected to 2011.

In total, Moroccan exports of industrial goods take a more prominent role than service exports. They add up to 73 per cent of all export value compared to 27 per cent of service exports. The Top 15 sectors account for 89 per cent of total exports. Furthermore, the EU is a very important trading partner for Morocco. This holds particularly for exports. More than 55 per cent (for Top 15 export sectors even 61 per cent) of total exports go to the EU. In addition, the last column compares the Top 15 exports sectors with their ranks in value added. The average rank difference (8.3) signals that there is a discrepancy between the importance of a sector for the economy and its export performance. For example, wearing apparel has a relatively low share in value added (2.1 per cent) but accounts for 11.1 per cent of total exports. In contrast, grains and crops is the top non-service sector in terms of value added, but only ranks number 32 in export performance.

Sectors with the best export performance are, as already mentioned above, wearing apparel, but also other machinery, chemicals, rubber, plastics, and other processed foods. These are all manufacturing sectors. The most important service exports are transport services (air and inland), ICT and other business services, and public and other services, which includes for example services provided for the Moroccan diplomatic corps. The share of the EU market differs between the sectors. The EU market is for example very important for textile and clothing goods. These are captured by the sectors leather goods, textiles, and wearing apparel. For all of those the EU export share is more than 90 per cent. For other sectors such as electrical machinery, the EU is not such an important export market. On the import side the EU is a very prominent sourcing region for fisheries, animal products, and utilities. For these sectors the EU is in more than 80 per cent of the cases the import partner. On average, approximately 43 per cent of all goods are imported from the EU.

6.2.2 Cr. 2: Economic impact from DCFTA

The quantitative results of our modelling exercise as presented and discussed in Chapter 2 are considered here at sectoral level for Morocco to identify the sectors for which we expect the most significant impacts in economic terms. In addition, we consider key horizontal issues that are expected to be relevant to the DCFTA implementation and potential impact.

Sectoral level economic impacts

Table 6.3 presents the most significant long-run changes in terms of value added per sector. It captures the most substantial positive changes (expansion of the sector) and negative changes (contraction of the sector) compared to the baseline. Furthermore, impacts on the trade performance of these sectors are depicted.

Table 6.3 Most important sectors based on economic impact of the DCFTA (long-run effects)¹³²

Sector	Change in value added (%)	Change in value of output (mln EUR)	Change in total imports (mln EUR)	Change in total export (mln EUR)
Largest positive changes - value added				
Other machinery	8.5	658.0	675.0	1368.3
Vegetables and fruit	4.0	176.3	21.1	211.1
Vegetable oils	3.3	11.9	22.2	28.6
Motor vehicles	2.7	60.4	94.0	144.8
Other processed foods	1.9	190.9	131.5	264.6
Wearing apparel	1.3	65.4	70.1	133.7
Public and other services	0.9	397.8	66.3	-27.1
Trade	0.7	81.9	19.8	-4.7
Largest negative changes - value added				
Leather goods	-3.6	-96.4	65.4	18.1
Lumber, paper	-3.1	-137.7	115.9	5.7
Textiles	-2.7	-82.0	115.1	57.6
Grains and crops	-2.7	-144.7	165.9	4.1
Electrical machinery	-2.1	-64.4	176.4	103.8
Fabricated metals	-2.1	-56.5	134.3	28.3
Petrochemicals	-1.9	-71.3	72.2	18.8
Other crops	-1.8	-19.8	35.7	7.8

Source: GTAP 8 database projected to 2011, IIDE CGE simulation results.

The largest expansion effect is expected to be experienced by other machinery, which includes for example electrical machinery and apparatus, medical, precision and optical instruments, and watches and clocks. Such expansion is also accompanied by an increase in exports of approximately €1.4 billion. Other sectors, which benefit from a DCFTA between the EU and Morocco, are vegetables and fruit, vegetable oils, and the motor vehicles sector. For all these sectors the positive change is largely driven by the simulated reduction in goods NTMs. Negative changes are strongest for leather goods, lumber, paper, and textiles. Leather goods experience a contraction in output of -3.6 per cent. This corresponds to a decline in output of circa €96 million. At the same time imports increase more than exports. Consequently, it is likely that leather goods are mostly sourced from abroad rather than produced domestically. Alternatively, there is a large amount of intra-industry trade.

¹³² Table 6.3 is sorted with respect to the eight most significant positive and negative percentage changes in value added.

Finally, comparing Table 6.1, with Table 6.2 and Table 6.3, it becomes clear that the most significant negative effects are primarily occurring in sectors ranking rather low in their share in total value added. Only the grains and crops sector is to be found in the Top 15 of Table 6.1. Its share in value added is 5.4 per cent and 7.3 per cent in unskilled employment, respectively. In contrast, six out of the eight sectors presented in Table 6.1, which benefit from a DCFTA between the EU and Morocco, can be found in the Top 15 of value added share in the total economy. Together their share in unskilled labour is 68.7 per cent and 40 per cent in skilled employment, respectively.

Horizontal issues that arise from the CGE modelling results, relate to the reductions in NTMs for goods and services. In the long run, goods NTMs account for almost the entire gain in national income for Morocco due to the DCFTA since the positive effect of services NTMs and the negative spill-over effects cancel each other out. The model does not allow for highlighting which specific NTMs drive the positive effects and hence horizontal issues will be identified under criteria 3, 4 and 5 below.

6.2.3 Cr 3: Social/environmental importance/impact

The analysis of key issues in social and environmental spheres as well as key channels of potential social and environmental impacts of the EU Moroccan DCFTA as presented in Chapters 3 and 4 in particular, suggest several issues and sectors of importance.

Social impact

In chapter 2, wage and sectoral employment effects based on the CGE analysis have been presented. It has been concluded that in the long-run wages increase moderately by 1.9 per cent and 1.6 per cent for skilled and unskilled labour, respectively. The sectoral level employment effects were highest for those sectors that also experience a significant change in value added. Sectors that experience an employment shift out of their sector were particularly recorded for the following sectors: **leather goods, lumber and paper, and textiles**. In these sectors, the share of skilled and unskilled labour (compared to the total) is expected to decrease in the range of 3 per cent to 4 per cent. None of the sectors that face a decline in employment share of over 3 per cent is ranked in the Top 10 in their share in total employment for the respective labour category.

Positive employment changes occur especially in the **other machinery** sector: Skilled employment increases by 7.7 per cent and unskilled labour by 7.4 per cent. Considering that this sector is ranked 9th in share in skilled employment, we can regard this a significant impact. Furthermore, employment in **vegetables and fruit** is expected to expand by four per cent for both categories of labour. This sector is comparably important for unskilled employment.

Environmental impact

Table 6.4 summarises the results of the environmental analysis. It describes current key issues and states likely DCFTA impacts. A more detailed description of the environmental impact can be found in Chapter 4. Conclusions on the potential positive and negative effects have been drawn on the basis of the CGE simulation presented in Chapter 2. As such, it is assumed that a higher sectoral output increases the environmental distress caused in the baseline situation.

Table 6.4 Summary of environmental analysis

Issue	Description	DCFTA Impact (Sector)
Air pollution	<ul style="list-style-type: none"> • Growing issue in urban areas • Main pollutants are SO₂, NO_x, and suspended particles • Vehicles cause 60% of total pollution • Other main polluting activities are oil refineries, power generation, phosphate processing, cement factories, and the iron and steel industry • SO_x (ca. €4 billion) cause the highest benchmark externality. This is mainly due to activities in the utilities and industrial sectors. 	<ul style="list-style-type: none"> • Increase in GDP is likely to increase car ownership; • Decrease in output of most polluting industries (e.g. primary energy, petrochemicals, fabricated metals, inland transport) and increase in output of less polluting industries (e.g. food producing industries); • In the long-run NO_x, SO_x, PM2.5, and PMcoarse emissions are expected to decrease slightly. This is caused by an activity shift to less polluting sector (composition effect). The associated change in external costs is approximately €24 million.
Waste	<ul style="list-style-type: none"> • in total 6.5 mln tons of municipal solid waste per year; • 1.5 mln tons of industrial waste of which 256.000 are hazardous waste; • 20% of rural population covered by waste collection services; • 10% of total waster recycled. 	<ul style="list-style-type: none"> • Improvement of standard of living generates more domestic waste; • Declining output in chemical and petrochemical, and leather industries reduces hazardous waste; • Decrease in output of petrochemical industry results in less liquid waste.
Water	<ul style="list-style-type: none"> • uneven distribution of rainfall; • water share per citizen will be reduced by 49% in 2020; • significant water losses in irrigation (e.g. in agriculture) and drinking water networks; • Access to drinking water and sanitation facilities in rural areas is 60% and 52%, respectively; • Water pollution significant issue (e.g. 55% of domestic waste water released into sea). 	<ul style="list-style-type: none"> • Vegetables, fruits, animal products, and vegetables oils increase output and use more water; • Grains and crops, and other crops sectors face output decline and require less water in their production.
Ecosystems & biodiversity	<ul style="list-style-type: none"> • global rates for rare and endemic species are 11% for fauna and 25% for vascular plants; • economic drivers such as agriculture, fishery, forestry, and tourism dependent on natural resources; • 96% of land subject to human induced land degradation; • 31.000 ha of forest lost each year; • soil erosion eminent problem. 	<ul style="list-style-type: none"> • Higher trading activities create more opportunities for illegal wildlife trade, possibly offset by trade facilitation and better customs procedures; • Increase in agricultural activities will require more land use, which in turn aggravates deforestation; • Increase in usage of fertilizers leads to underground water pollution, potentially harming wetlands.
Climate change mitigation	<ul style="list-style-type: none"> • 42 Mton of CO₂ emitted from energy use in 2008; • 4% renewable energy production. 	<ul style="list-style-type: none"> • Based on the CGE analysis CO₂ emissions will drop marginally by 600 tonne in the long-run.

Source: GTAP 8 database projected to 2011, IIDE CGE simulation results; own compilation.

6.2.4 Cr. 4: Stakeholder issues of special importance

Throughout the study key stakeholders are invited to participate in the consultation process in various ways and through various channels as outlined in Chapter 4. So far, stakeholders participated via a public meeting in Brussels. In addition, feedback has been received on a bilateral basis via email, through the dedicated website, as well as Facebook. Additional consultations with civil society during the civil society workshop in Rabat also yielded valuable input on the choice of sectors and /or horizontal issues.

Table 6.5 presents a selection of relevant stakeholder issues related to sectoral and horizontal aspects.

Table 6.5 Stakeholders specific issues

Comment	Relevant sector / horizontal issue this may relate to
Investment policy as a new competence in the EU's trade policy since the coming into effect of the Lisbon treaty, and growing critical debate on the parameters of the current framework for investment protection, including within vested institutions such as UNCTAD, the ILO, and the OECD?	Investment, FDI
There needs to be full impact assessment of the effects that Mode 4 offers both in terms of the employment effects on host Member State countries, and the potential security effects relating to Moslem extremist terrorism.	Trade in Services, Security
The highest number of illegal wildlife trades to the European Union comes from Africa with Morocco as primary exporter (e.g. macaques, reptiles).	Illegal Wildlife Trade, Animal products sector
UN Global Compact and the Guiding Principles for the Implementation of the UN "Protect, Respect and Remedy" Framework, and recommendations of the UN Special Rapporteur on the Right to Food, in relation to sustainable development and the need for ex ante and ex post HR impact assessment.	Human Rights
Human rights situation in Western Sahara (Saharawi people).	Human Rights
Competition issues in the tobacco, transport, and banking industry.	Tobacco and Beverages, Transport, Finance and insurance
The Government established an anti-corruption institution (Instance Nationale de la Probite de la Prevention et de la lutte contre la corruption) combating corruption; the agency is working in close cooperation with Transparency International Morocco, in particular on public procurement issues.	Corruption, Public and other services sector
The extent to which land issues and land ownership can be included.	Land use, land ownership
Could the Intellectual Property Rights chapter be elaborated upon for Morocco?	Intellectual Property Rights
Water (water scarcity in the agricultural sector and water quality in the manufacturing sector)	Water scarcity and quality
Energy issues (concerns about the import dependence of Morocco that would intensify as a result of the DCFTA)	Energy
ICT services (under business services) (including the study of off shoring / outsourcing as a business model in this sector)	ICT sector, off shoring
Tourism	Tourism
Grains and crops (due to the dependence on imports of grains and crops as input for processed foods and consumer products)	Grains & Crops

6.2.5 Cr. 5: Strategic importance of sector / issue in the negotiations

Based on inputs received from the Steering Committee and the EU Delegation in Morocco several issues of specific interest for the DCFTA process have been identified in this preliminary phase. During the kick-off meeting, the Steering Committee indicated “**offshoring**” as important cross-cutting issue in the services sector. However, the Steering Committee still has to finalise their view on the sectors or horizontal issues of interest. In addition, the EU Delegation to Morocco mentioned the horizontal issues of **corruption**, **competition** and **human rights** as important topics in the DCFTA for Morocco. In the course of Phase 1, this information will be complemented during the Steering Committee meeting and other consultation activities.

6.3 Selection of sectors and horizontal issues

Having thoroughly assessed the study results according to the five screening criteria for the various sectors, we can now summarise and select the sectors which are of highest importance for the DCFTA negotiations between the EU and Morocco. Table 6.6 summarises our assessment for each of the sectors.

The threshold for being included as a potential sector for further analysis per criterion is the following:

- Criterion 1: Sectors that have an important value added and/or export share to the EU;
- Criterion 2: Sectors that experience significant changes in the main economic variables;
- Criterion 3: Sectors that increase output and are associated with causing environmental damage, and sectors that receive particular social impacts (e.g. strong labour movements);
- Criterion 4: Sectors that have been mentioned by civil society;
- Criterion 5: Sectors that have been stated by the steering committee as strategically important.

Table 6.6 Screening and selection of sectors

Sector	Cr 1: Initial importance	Cr 2: Economic impact	Cr 3: Social / HR / Env	Cr 4: Civil society	Cr 5: Importance for negotiations
Grains and crops	✓	✓		✓	
Vegetables and fruit	✓	✓	✓		
Other crops					
Animal products	✓		✓	✓	
Forestry products					
Fisheries					
Primary energy			✓	✓	✓
Other minerals	✓				
Processed meats			✓		
Vegetable oils		✓	✓		
Other processed foods	✓		✓		
Beverages and tobacco				✓	
Textiles	✓	✓	✓		
Wearing apparel	✓				✓
Leather goods	✓	✓	✓		
Lumber, paper		✓	✓		
Petrochemicals					
Chemicals, rubber, plastics	✓				

Sector	Cr 1: Initial importance	Cr 2: Economic impact	Cr 3: Social / HR / Env	Cr 4: Civil society	Cr 5: Importance for negotiations
Non metallic mineral products					
Metals					
Fabricated metals		✓			
Motor vehicles		✓			
Other transport equipment					
Electrical machinery		✓			
Other machinery	✓	✓	✓		
Other manufactures					
Utilities					
Construction	✓				
Trade	✓				
Other transport (services)	✓		✓		
Water transport					
Air transport					
Communications					
Finance and insurance					✓
ICT other business services	✓			✓	
Consumer services					
Public and other services	✓				✓

6.3.1 Sector selection

For a sector to make it into the long-list presented in Table 6.6 out of the five criteria need to be fulfilled. Based on this assessment at the sectoral level the following sectors are selected for the shortlist:

- Vegetables and fruit;
- Animal products;
- Textiles;
- Leather goods;
- Other machinery
- Grains & crops
- Energy

The final selection of sectors will be made based on consultations with the Steering Committee and civil society. The final selection will be based on an initial analysis of specific issues for each of the sectors on the long-list and taking into account the importance of specific sub-segments within these sectors. Additionally, a reflection of the three broad sectors of the economy will be respected in selecting the final sectors for in-depth analysis. Based on these considerations, we propose to analyse the following sectors:

1. **Vegetables and fruits;**
2. **Textiles, wearing apparel and leather goods;**
3. **Energy, with a specific focus on renewable energy.**

6.3.2 *Horizontal issue selection*

Several horizontal issues appeared to be important for the Trade SIA of the DCFTA between the EU and Morocco. Specifically from the environmental analysis and from the workshop in Rabat, it emerged that **water scarcity and quality** is an issue in multiple sectors. Investments and FDI, as well as human rights and IPR issues were addressed by civil society. Lastly, both the Steering Committee indicated that the topic of **offshoring** is important during the negotiations as well as civil society in Rabat that indicated that sectors with high offshoring activity experience important progress. Civil society indicated that land use and land ownership is important in Morocco and Tunisia. In addition, some agricultural sectors are expected to increase production significantly (such as vegetable oils and vegetables and fruit), which increases irrigation and the demand for water. Lastly, the environmental analysis has shown that water scarcity and water quality is currently a high environmental pressure in Morocco.

Since the topic of **offshoring** was mentioned as an important issue for both civil society in Morocco and the Steering Committee, we propose to select **offshoring in business support services** as horizontal issue for the in-depth analysis in Phase 2.

7 Preliminary Conclusions and the Way Forward

7.1 Preliminary conclusions

7.1.1 Main economic results of a DCFTA between the EU and Morocco

From an economic perspective, the DCFTA between the EU and Morocco are estimated to result in overall positive effects for both regions. The results on country-wide level are on average positive for both regions. Studying the economic effects of the DCFTA in more detail for specific economic sectors shows that some sectors are estimated to increase output and exports as a result of the DCFTA, whereas others will experience declines in output and exports.

Main results on a macroeconomic level

The DCFTA between the EU and Morocco is expected to have a significantly positive effect on national income for both trading partners. As Table 7.1 shows, the estimated gains for the EU are an annual gain of €1.4 billion in national income in the long run. Given the size of its economy, this increase is, however, negligible in percentage terms (zero per cent). The national income gains for Morocco are almost identical in absolute size, €1.3 billion in the long run, but translate into a significant 1.6 per cent increase in GDP. The effects on third countries are negative but close to zero in percentage terms. These estimated effects do not include the effects from concluding the recent October 2012 agreement on agriculture between both regions, since this agreement is taken to be part of the baseline situation *before* negotiating the DCFTA.

Table 7.1 Main macroeconomic effects of the DCFTA for the EU and Morocco

Variable	Short Run		Long Run	
	EU	Morocco	EU	Morocco
National Income, Million €	834	1,145	1,403	1,300
GDP, % change	0.0	1.3	0.0	1.6
Consumer prices, % change	0.0	0.4	0.0	0.4
Wages, less skilled % change	0.0	1.4	0.0	1.5
Wages, more skilled % change	0.0	1.6	0.0	1.9
Total Imports, % change	0.0	8.0	0.0	8.4
Total Exports, % change	0.0	15.3	0.0	15.3

The effects on Moroccan trade flows are significant, with a 15 per cent increase in exports and an eight per cent increase in imports in the long run. These combined effects thus lead to a relative improvement in Morocco's overall trade balance. Average wages are expected to increase by 1.7 per cent in the long run, while consumer prices are expected to slightly increase by 0.4 per cent. Overall, these effects lead to an increase in purchasing power for an average Moroccan citizen. The effects on trade, wages and prices for the EU are negligible.

Main results on a sector level

On a sectoral level, the overall gains of concluding the DCFTA can be split into sectors that are likely to gain from the DCFTA and sectors that are likely to see output decline. For the EU, the changes in production at sector level are close to zero. In Morocco, the most significant change in value added is the estimated increase in the production of other machinery and equipment sector,

which is estimated to increase its value added by 8.5 per cent in the long run. This sector is also estimated to experience the largest absolute increase in exports (+€3.3. billion in the long run, corresponding to a 71 per cent increase of current export volumes). The driving force behind this increase is the reduction of NTMs in this sector. Two other sectors in which large increases in value added are expected are the vegetables and fruit sector (+4 per cent increase in the long run) and the Vegetable Oils sector (+3.5 per cent increase in value added). The sectors that are estimated to experience a significant reduction in output are the leather goods (-3.6 per cent) and the lumber and paper segment (-3 per cent).

Sectors that experience small positive changes in relative terms, but that are more important sectors in terms of the total share of value added in Morocco are public and other services (+1 per cent) and trade (+0.8 per cent). Sectors that are slightly negatively impacted, but are an important sector for the Moroccan economy are grains and crops (-2.7 per cent) and ICT and other business services (-1.7 per cent).

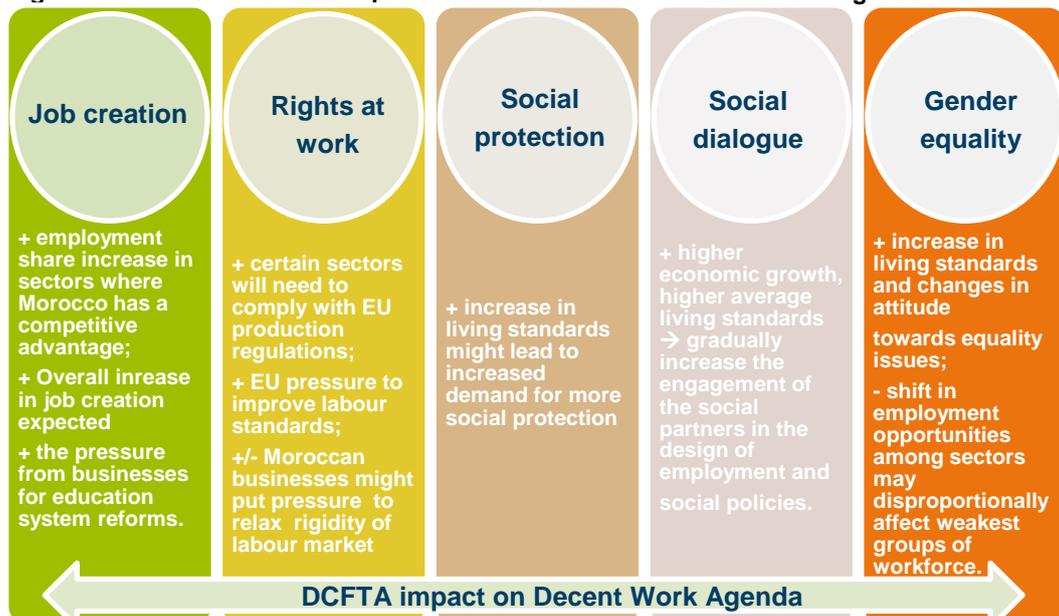
7.1.2 Social impact

Social implications of the DCFTA will be mostly determined by changes in the relative prices of consumer products and wages, job creation and shifts of employment between sectors. In addition, interactions of the DCFTA with domestic policies and external encouragement to improve labour standards and foster the Decent Work agenda in Morocco could be important effects of the DCFTA.

Due to the unavailability of a complete and recent household budget survey for Morocco, this study has not been able to quantitatively compute the effects of the DCFTA on poverty and welfare for different strata of population groups. Still, the overall wage increase for both more skilled and less skilled labour groups, combined with only a marginal average increase of consumer prices, is likely to result in an overall gain in purchasing power of the Moroccan citizens.

Moreover, the DCFTA is likely to cause some employment reallocation between sectors. Some 1.1 per cent of the total unskilled and skilled labour force is estimated to move between sectors due to the changed production structures in the economy. This may be especially difficult for groups with a weaker socio-economic status / vulnerable groups. The expected impacts of the DCFTA on the five pillars of the Decent Work Agenda have been summarised in Figure 7.1 below.

Figure 7.1 Summarised impacts of the DCFTA on the Decent Work Agenda in Morocco

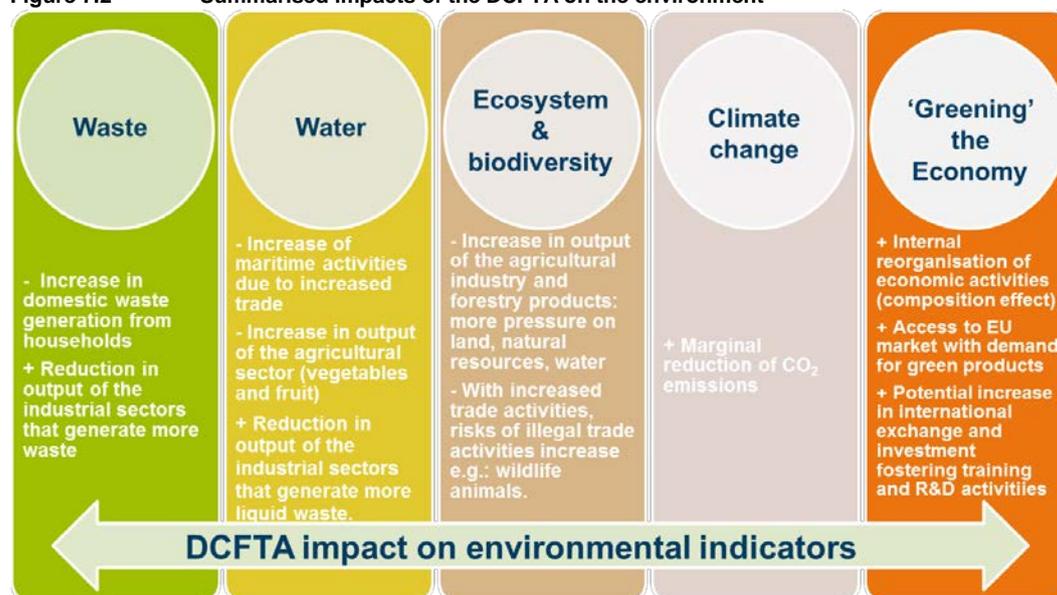


7.1.3 Environmental impact

The DCFTA is expected to bring a combination of positive and negative environmental effects and the overall impact is difficult to predict. In some sectors that have a significant impact on Morocco's environmental situation, the environmental repercussion of the DCFTA are likely to be positive albeit small (e.g. in some industrial sectors, such as textiles and clothing). In contrast, aggregate output of the agricultural sectors (driven by the increase in fruit and vegetables and vegetable oils production) is likely to increase a little, which increases the demand (irrigation) for already very scarcely available water sources.

The quantitative environmental analysis carried out shows that the emissions of common type of air pollutants will decline in Morocco as a result of the DCFTA. The composition effect slightly dominates the scale effect for SO_x, NO_x and PM. In monetary terms, this implies that the DCFTA may in the long run cause a reduction in external costs (related to health and other implications of air pollution), estimated at €24 million for Morocco. The estimated impacts of the DCFTA between the EU and Morocco are shortly summarised per relevant environmental indicator in the diagram below.

Figure 7.2 Summarised impacts of the DCFTA on the environment



7.2 Screening of sectors and horizontal important issues

Based on the screening and scoping exercise, we propose to analyse the following sectors or horizontal issues in more detail in the next phase of the study:

- Vegetables and fruits
- Textiles, wearing apparel and leather goods
- Energy, with a special focus on renewable energy
- Offshoring in business support services

7.3 Roadmap and way forward

The first important next step is to agree on the selection of sectors and horizontal issues for in-depth analysis in the next phase. This will be done together with the Steering Committee, but also

based on additional input from relevant stakeholders. Other regular activities as presented in the stakeholder consultation plan in Chapter 5 will also continue.

Table 7.2 presents the planning of the main milestones in the remaining phases of the study.

Table 7.2 Planning

Activity	Leaders	Deadline
Draft Final Report	Ecorys	16 Sep 2013
Online publication of Draft Final Report	Ecorys	23 Sep 2013
Send Draft Final Report to Civil Society and/or summary (format to be defined with Ecorys)	EC and Ecorys	23 Sep 2013
Steering Committee meeting	EC & Ecorys	AM 16 Oct 2013
Civil Society Dialogue	EC & Ecorys	PM 16 Oct 2013
Minutes of Steering Committee and Civil Society Dialogue	Ecorys	23 Oct 2013
Revised Final Report (final report)	Ecorys	30 Oct 2013
Approval Final Report (EC has 45 days for approval)	EC	<i>Asap upon submission</i>

References

References used in the social and environmental analysis

Chen, S. and M. Ravallion (2003): Household Welfare Impacts of China's Accession to the World Trade Organization, Policy Research Working Paper no. 3040, The World Bank.

De Janvry, A. and E. Sadoulet (2008): *Methodological Note: Estimating the Effects of the Food Price Surge on the Welfare of the Poor*, mimeo, UC Berkeley.

INS (2012): *Mesure de la pauvreté, des inégalités et de la polarisation en Tunisie: 2000-2010*, National Statistical Office of Tunisia (INS)/ African Development Bank/ The World Bank.

Dabrowski, M., Dyker, D., Emerson, M., Izryadnova, O., Jarocinska, E., Kudina, A., Maliszewska, M., Ščasný, M., Volkov, Y., Volovik, N. (2009), *Free Trade Agreement between the European Union and the Russian Federation Economic, Social and Environmental Implications. Report prepared by CASE for DG TRADE, European Commission.*

Maliszewska, M., Jarocińska, E., Ščasný, M. (2010), *Modelling Economic, Social and Environmental Implications of a Free Trade Agreement Between the European Union and The Russian Federation*, No 93, CASE Network Reports.

EC (2003). *External costs: Research results on socio-environmental damages due to electricity and transport*. European Commission, Directorate-General for Research. Luxemburg: Office for Official Publications of the European Communities.

Preiss P, Friedrich R and Klotz V (2008). *Report on the procedure and data to generate averaged/aggregated data*. Deliverable n° 1.1 - RS 3a. R&D Project NEEDS – New Energy Externalities Developments for Sustainability. Prepared for DG Research.

Eurostat (2009): "Manual for Air Emissions Accounts".

Narayanan, B. et al. (2008), "Guide to the GTAP Data Base".

Van Breusegem, W. and Soulami, M. (2011). *Analysis for European Neighbourhood Policy (ENP) Countries and the Russian Federation of social and economic benefits of enhanced environmental protection – Morocco Country Report*, funded by the European Commission, Brussels.

Van Acoleyen, M. and A. Baouendi (2011). *Analysis for European Neighbourhood Policy (ENP) Countries and the Russian Federation of social and economic benefits of enhanced environmental protection – Tunisia Country Report*, funded by the European Commission, Brussels.

Ecorys and CASE (2012): *Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Georgia and the Republic of Moldova*. Final report. Funded by the European Commission.

Hunt, A. (2006) "General Issues in Costing Analysis: Units of account, Base years, and Currency conversion", Annex B to HEATCO Deliverable 5, University of Bath, Downloaded from http://heatco.ier.uni-stuttgart.de/HEATCO_D5_Annex.zip.

The Emissions Database for Global Atmospheric Research (EDGAR):

<http://edgar.jrc.ec.europa.eu/overview.php?v=42>.

Stern, N. (2007). *The Economics of Climate Change: The Stern Review*. Cambridge: University Press.

HM Treasury (2011): *The Green Book: Appraisal and Evaluation in Central Government*, London: TSO, http://www.hm-treasury.gov.uk/d/green_book_complete.pdf.

Anthoff, D. (2007): Report on marginal external damage costs inventory of greenhouse gas emissions, NEEDS Delivery n 5.4 – RS 1b.

Anthoff, D., Hepburn, C., Tol, R. (2009): Equity weighting and the marginal damage costs of climate change. In: *Ecological Economics* 68:3.

Tol, R. (2005): The marginal damage costs of carbon dioxide emissions: an assessment of the uncertainties. In: *Energy Policy* 33.

Eurostat (2009): "Manual for Air Emissions Accounts", Annex 1 "Correspondence between SNAP97 (CRF/NFR) and NACE rev.1.1" and Annex 2 "Correspondence between 1996 IPCC source categories (CRF/NFR) and SNAP97".

Emerson, J.W., Hsu, A., Levy, M.A., de Sherbinin, A., Mara, V., Esty, D.C. and Jaiteh, M. 2012. *2012 Environmental Performance Index and Pilot Trend Environmental Performance Index*. [online] Available at: <<http://epi.yale.edu/epi2012/rankings>>.

Eurostat, 2013. *Waste statistics* [online]. Available at: <http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Waste_statistics>.

Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement, 2010. *Etat de l'Environnement du Maroc* [pdf]. Available at: < <http://www.minenv.gov.ma/PDFs/rdeem.pdf>>.

Mokssit, A., 2012. Le point sur le changement climatique au Maroc. In: Zeino-Mahmalat, E. and Bennis, A. eds. *Environnement et Changement Climatique au Maroc – Diagnostic et Perspectives* [e-book], Konrad Adenauer Stiftung, pp. 35-39. Available at: < http://www.kas.de/wf/doc/kas_31546-1522-1-30.pdf?120706103051>.

Preiss, P. et al., 2008. *Report on the procedure and data to generate averaged/aggregated data* [pdf]. Available at: <<http://www.needs-project.org/docs/RS3a%20D1.1.zip>>.

Saadi, M., 2013. Environnement. Les défis écologiques du Maroc. *Telquel* [online], 8th January 2013. Available at: < <http://www.telquel-online.com/Actualite/Economie/Environnement-Les-defis-ecologiques-du-Maroc/552>>.

Van Breusegem, W. and Soulami, M., 2011. *Analysis for European Neighbourhood Policy (ENP) Countries and the Russian Federation of social and economic benefits of enhanced environmental protection – Morocco Country Report* [pdf]. Available at: http://www.planbleu.org/portail_doc/environnement_benefit_assessment_Morocco.pdf.

Zeino-Mahmalat, E. and Bennis, A., 2012. eds. *Environnement et Changement Climatique au Maroc – Diagnostic et Perspectives* [e-book], Konrad Adenauer Stiftung, pp. 35-39. Available at: <http://www.kas.de/wf/doc/kas_31546-1522-1-30.pdf?120706103051>.

EIM Business & Policy Research / Oxford Research, 2012. Survey on Sustainable Enterprise Development in the Mediterranean Partner Countries. Final Report [pdf]. Available at: <http://ec.europa.eu/enterprise/policies/international/files/2012_survey_on_sustainable_enterprise_final_19_04_2012_en.pdf>.

Grant, P., 2011. Climate Change Financing and Aid Effectiveness - Morocco Case Study [pdf], Report produced for OECD. Available at: <<http://www.oecd.org/dac/environment-development/48458464.pdf>>.

UNEP, 2012. Green economy advisory services: Morocco [pdf]. Available at: <http://www.unep.org/greeneconomy/Portals/88/documents/advisory_services/countries/Morocco%20final.pdf>.



P.O. Box 4175
3006 AD Rotterdam
The Netherlands

Watermanweg 44
3067 GG Rotterdam
The Netherlands

T +31 (0)10 453 88 00
F +31 (0)10 453 07 68
E netherlands@ecorys.com

W www.ecorys.nl

Sound analysis, inspiring ideas