

# **IRSP 2009-2010 | RESULTS**

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# FOREWORD | VOORWOORD



The IRSP, founded in 2005/2006, provides students of International Relations the unique opportunity to bring their theoretical knowledge into practice by conducting research in their future working field of International Relations. After four successful years, the IRSP has become more and more experienced in the field of research. This year's fifth anniversary of the IRSP, must be seen as the result of years of hard work and the desire to annually improve the quality of the program. We did our part to develop its full potential and to make sure the IRSP has even got a brighter future to come.

This year's diversity of the programme did not come as a big surprise. For the first time in history of the programme, the IRSP was not restricted by a theme and was therefore unstrained in the quest of finding potential research partners. After months of preparation, we were extremely proud to reveal Tracking Development, UNICEF and the Ministry of Economic Affairs as our research partners. In combination with (an all time record of) eighteen participating students and three dedicated professors, this collaboration can certainly be typed as a success.

Tracking Development focused on two countries, Ethiopia and Thailand. It is difficult to name aspects which they have in common. It was therefore a challenge to compare the recent economic history of the two states in the hope of gaining valuable insights. UNICEF focused on the use of solar energy in rural Africa and specifically in Uganda, where a UNICEF field office is located. By examining the advantages and disadvantages of solar technology in rural Africa, Uganda has been chosen in order to develop a framework that could suit many other countries of this continent. The Ministry of Economic Affairs dealt with the thesis how China and India behave like responsible stakeholders in the current international world order. An interesting issue, since both countries are becoming more powerful each year. The IRSP was extremely pleased to see four of our students travelling to China and India to conduct field research, a vital addition to this research.

The IRSP welcomes you to this volume with results of 2009/2010, with all its interesting findings and conclusions. There is always a danger to go on and on, hence the suggestion to read it for yourself. Be impressed and enjoy.

**Jesper Broekhof**

Chairman IRSP 2009/2010



# ABSTRACTS | EXCERPTEN

## **RESEARCH 1 | ONDERZOEK 1**

### **Ethiopia and Thailand: A comparative Study**

The development records of Thailand and Ethiopia seem to have nothing in common. Whereas Thailand comes close to being one of the Asian Tigers and seems to be progressing rapidly on a track of industrialization and incorporation in the modern world, Ethiopia is the typical example of an impoverished African nation, albeit not one with a hampering colonial legacy. In this paper the recent economic history of the two states shall nonetheless be compared in the hope of gaining valuable insights about whether these preconceptions hold and how the two nations have gotten onto their separate trajectories to growth.

This paper is part of the Tracking Development project commissioned by the Dutch Ministry of Foreign Affairs and as such it aims at policy relevant conclusions. The core of Tracking Development is a large scale side-by-side comparative investigation of South-East Asian and Sub-Saharan African countries. A close examination shall be given to different development policies in both countries to identify which succeeded in their goals and why, and vice versa which failed and why. The framework that will be used in this paper to investigate the growth (or stand-still) of both countries is that of the Tracking Development project at large. Three sets of policy initiatives are hypothesized to be crucial in the rapid and ongoing development of Asian countries, and the lack of these policies to be decisive in the relative standstill of African countries. These policies are: first, macro-economic stabilization; second, a set of policies aimed at improving life in the rural sector, increasing agricultural productivity and an ample supply of food; and third, liberalization of the economy granting economic freedom, especially to small actors.

In order to identify successful policies, narratives of two countries (in this case Ethiopia and Thailand) shall be set up, with a focus on discovering positive and negative turning points. These turning points are associated with two development indicators: economic growth and poverty reduction. When these are found, policies shall be identified which are responsible for these turning points. By comparing turning points and policies between the two countries, we hope to gain general insights in development.

## **RESEARCH 2 | ONDERZOEK 2**

### **Solar Energy in Sub-Saharan Africa**

#### ***A solar cost-benefit analysis of Uganda***

Energy shortage is assumed to be of a major concern for the development of the Third World. This may come not as surprise since in general each country that is regarded to be a developing country shows acute energy shortages. Energy is directly or indirectly linked to all of the eight Millennium Development Goals (MDGs).

In this regard, solar technology takes in a prominent place. This is supported by the fact that NGO's are increasingly applying solar technology in their aid projects. Due to the difficulties with national grid access in the Third World, Non-Governmental Organizations (NGO's) and companies are considering other energy solutions. These can bring the benefits of electricity to the underprivileged peoples of the world, thereby providing a decisive stimulus to overall growth of a country. Certainly, there is good reason to assume that access to energy sources plays an essential role in the development of a country

The objectives of this research paper are to provide guidelines for how projects involving solar energy can be implemented successfully and sustainably. By examining the advantages and disadvantages of solar technology in rural Africa, Uganda has been chosen in order to develop a framework that could suit many other countries of this continent. Despite a considerable reduction in the poverty headcount in the past decade, Uganda remains one of the poorest countries in the world. This study will not include other renewable energy sources such as wind or bio fuel in its analysis since this would go beyond the scope of this work.

The first deliverable in this research paper will examine to what extent local populations in remote areas could profit from solar technology. The second will focus on a cost-benefit analysis of solar energy in comparison with traditional energy sources. By taking financial, environmental and socio-economic aspects into consideration. The third will provide a policy recommendation for future projects concerning the implementation of solar technology in Sub-Saharan Africa.

## RESEARCH 3 | ONDERZOEK 3

### China and India

#### *As responsible stakeholders in International Relations*

The term 'responsible stakeholder' was introduced for the first time by Robert Zoellick during the Carnegie Debates in 2005. The purpose was to initiate a new understanding of US-China relations in the current world order. Given the fact that China's economic strength has grown tremendously in a short time period, the relative dominance of the US within the trade relations with China had to be altered, as to prevent a possible shift of power towards Asia. With the term 'responsible stakeholder,' Zoellick envisioned a world order in which politics would be conducted on basis of multilateralism, diplomacy and peaceful prosperity. The argument was that any state would likely support this system, because it offers durability of agreements and general prosperity.

Considering the position of the EU – with its own challenges such as speaking with one voice, and the changing representative faces – this responsible stakeholder point of view is interesting because it could accommodate the rising powers of 'the East' and assign them a solid place in the current international order, without shifting the relative dominance in political and economic relations to Asia.

Using a comparative case approach, we have analyzed the conditions of contemporary Chinese and Indian trade politics, as well as their bilateral and multilateral trade relations. By using the Hofstede-model as a socialization model, we argue that we can make use of trade policies in order to influence the 'Dragon' and the 'Elephant' in the East. We found that by separating the occurring trade problems in structural and functional problems it is possible to identify which problems can be most easily tackled. On these 'outer circle,' or low profile challenges should the EU and the Netherlands focus first, whilst integrating the emerging powers in the system of responsible stakeholders. Eventually, this should result in a multilateral system of and equal dominance for any major trading partner in the international order.

By applying this reasoning, we also identified the challenges which are more in the center of China's and India's interests (core values). The costs for trying to influence these are considerably higher than with the functional

problems, and positive outcomes are less probable. We consider them 'structural problems' and are mostly associated with concepts such as 'identity' and 'society'. These problems are called structural, due to the length of time needed to adapt them. Hence, we argue that combating the functional challenges first, these steps could stimulate the development of an ultimate desirable world order.

An example of a functional problem for India is its perceived weakness as a tool to raise legitimacy for specific policy choices. Put differently, it explains to the international community that it is not capable of concluding an agreement due to domestic interests, and vice versa. We recognized such a situation during the negotiations on the TRIPS-agreement: India did not want to comply at first, but as soon as the needed domestic legitimacy was raised, they were willing to agree. Arguably, the same holds true for the DDA-negotiations, which ran into a deadlock over technical details of the Special Safeguard Mechanism.

One of the most practical among the Chinese functional problems concerns the implementation and enforcement difficulties. At the level of the central government it appears there are true intentions to implement the WTO-commitments, but since China is unique in its size and number of stakeholders involved – including quite autonomous provinces and cities – China's behavior can be categorized as hesitant to make too many promises. In the past, one could have noticed that generous offers by Zhu Rongji with regard to the WTO-accession conditions were not always received with thankful feelings in his homeland. This partly explain their reluctant attitude in multilateral talks with complex package deals, such as the DDA. In connection with EU trade policy, the IPR2-project represents a successful joint regulation and implementation program. Similarly, the China-EU trade could benefit from Chinese 'copycat behavior'. Of course, this does not refer to expensive European intellectual property, but to European legislation models.

To conclude, responsible stakeholdership paves the way for a new international order, with at its core the possibility for developed powers to maintain a firm position in world politics and trade.



# RESULTS | RESULTATEN



# RESEARCH 1 | ONDERZOEK 1

## **Ethiopia and Thailand: A comparative Study**

**Research for the Ministry of Foreign Affairs of the Netherlands :  
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## Introduction

The development records of Thailand and Ethiopia seem to have nothing in common. Whereas Thailand comes close to being one of the Asian Tigers and seems to be progressing rapidly on a track of industrialization and incorporation in the modern world, Ethiopia is the typical example of an impoverished African nation, albeit not one with a hampering colonial legacy. In this paper the recent economic history of the two states shall none the less be compared in the hope of gaining valuable insights about whether these preconceptions hold and how the two nations have gotten onto their separate trajectories to growth.

This paper is part of the Tracking Development project commissioned by the Dutch Ministry of Foreign Affairs and as such it aims at policy relevant conclusions. The core of Tracking Development is a large scale side-by-side comparative investigation of South-East Asian and Sub-Saharan African countries. A close examination shall be given to different development policies in both countries to identify which succeeded in their goals and why, and vice versa which failed and why. In this way we hope to gain knowledge which might influence future policy initiatives by the Dutch Ministry of Foreign Affairs in its capacity of development cooperator.

The framework that will be used in this paper to investigate the growth (or stand-still) of both countries is that of the Tracking Development project at large. Three sets of policy initiatives are hypothesized to be crucial in the rapid and ongoing development of Asian countries, and the lack of these policies to be decisive in the relative standstill of African countries. These policies are: first, macro-economic stabilization; second, a set of policies aimed at improving life in the rural sector, increasing agricultural productivity and an ample supply of food;

and third, liberalization of the economy granting economic freedom, especially to small actors.

It seems that in all instances of Asian states that seemed to be destined for a place in the margins of the world economy in the early second half of the century (such as Indonesia under Sukarno or war-torn Vietnam) macro-economic stabilization played a central role in the return to growth. The main goal of policies aimed at macroeconomic stabilization is minimizing the effect of shocks. Unless policymakers use monetary and fiscal policy to stabilize the economy, these shocks will lead to unnecessary and inefficient fluctuations in output, unemployment and inflation. This would of course have a negative effect on economic development in general. Macroeconomic stability can be measured through the following criteria: low and stable inflation, low long-term interest rates,<sup>1</sup> low national debt relative to GDP, low deficits, and currency stability. These criteria are universal and are used, amongst others, by the IMF and the EU. In this paper, the criteria will be used to analyze to what extent the macro economies of Ethiopia and Thailand can be described as stable. It is hypothesized that stable macro-economic conditions are a necessary precondition for economic growth and poverty reduction, but not sufficient.

In both Sub-Saharan Africa and Southeast Asia the majority of the population lives or lived in rural areas and the main source of income in these areas is agricultural activity. The poor also tend to be disproportionately concentrated in these areas. An obvious way towards poverty reduction is raising farm incomes through increasing agricultural output and pro-rural spending. In Sub-Saharan African countries agricultural output is generally erratic and dictated by weather patterns and intense government interference, whereas in Southeast Asia government policies focused mainly on import substitution and diversification.

Economic freedom is understood in contrast to full government control over the economy, which has been associated with crises in growth, such as in most communist countries during the Cold War. The Washington consensus (minimal state intervention will lead to economic growth) is not supported; in almost all Southeast Asian countries there has been state intervention on agricultural markets. These interventions were limited to operation alongside independent

actors instead of supplanting them. Crises follow when individual farmers have no freedom to choose preferred crops and selling outlets.

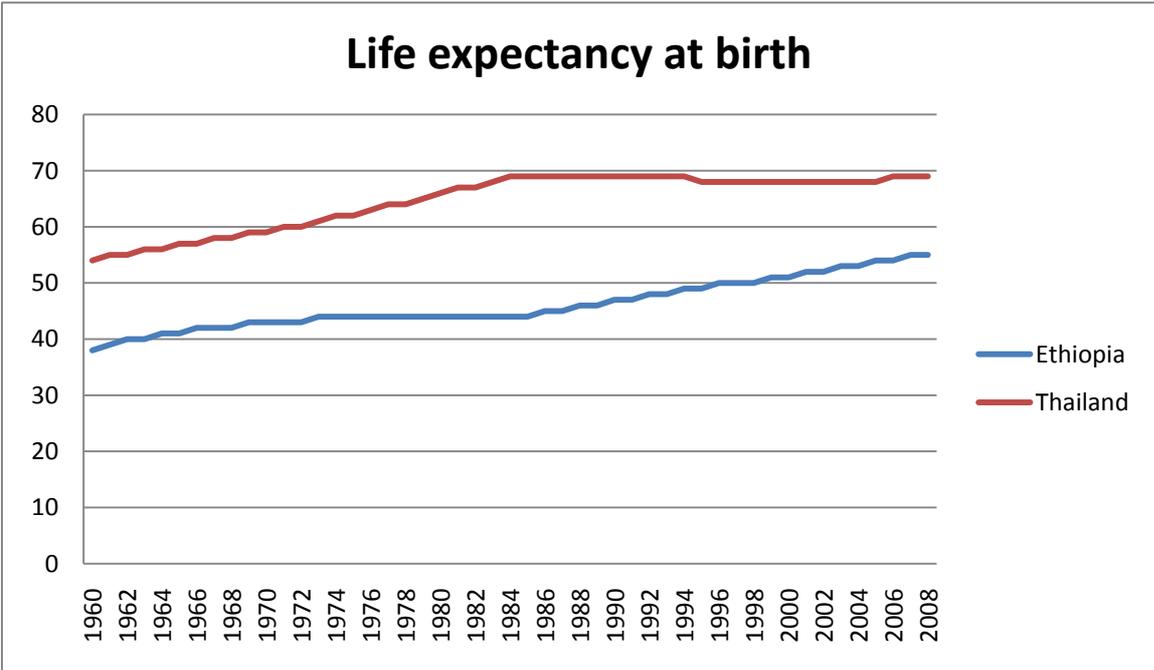
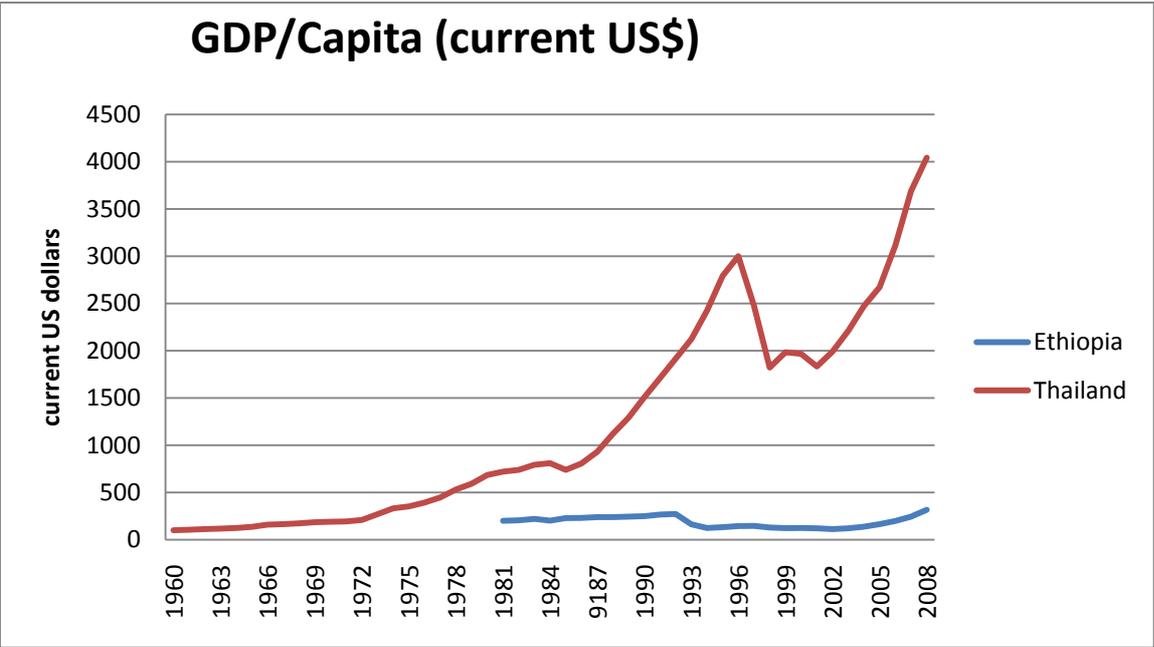
In order to identify successful policies, narratives of two countries (in this case Ethiopia and Thailand) shall be set up, with a focus on discovering positive and negative turning points. These turning points are associated with two development indicators: economic growth and poverty reduction. When these are found, policies shall be identified which are responsible for these turning points. By comparing turning points and policies between the two countries, we hope to gain general insights in development.

The first two chapters will be concerned with the narratives of Ethiopia and Thailand. First Ethiopia will be discussed in three parts: a section dealing with the Selassie period, then a section concerned with the communist Derg period, and finally a section about developments since the fall of the Derg regime. The economic development of Thailand will be discussed in a chapter with sections based on decennia.

The third chapter will compare different developments and policies from these narratives side by side. This chapter is divided in three sections: first, a section devoted to macro-economic stability in both countries; then a section dedicated to a thematic comparison of economic freedom in Ethiopia and Thailand; and finally, a section concerning rural (or urban) bias in government policies.

In the conclusion turning points in both countries will be compared and an assessment of the theory will be given based on all previous chapters and information. This chapter will be the most policy relevant part of this paper as it will include information on how positive (and negative) turning points were created.

The creation of this paper, and especially the sections on the earlier periods in Ethiopia, has been hampered by a lack of statistical and economic data. This has necessitated a deviation from the usual approach in the Tracking Development project where the focus in identifying turning points is on quantitative data instead of qualitative data, to which is resorted in this paper from time to time. On the following page two graphs illustrating GDP/per capita and life expectancy (based on data from the world bank) are included for the convenience of the reader.



## CHAPTER 1 | Ethiopia

Ethiopia is one of the oldest countries in the world, and has practically always been independent, except during 1936-1941, when Mussolini invaded the country. Ethiopia's economy is based on agriculture, which accounts for 45% of GDP and 85% of employment. The sector has suffered from drought and poor cultivation practices. Currently, Ethiopia ranks 79<sup>th</sup> on the world's GDP (power purchasing parity) comparison list. Ethiopia's modern history is easily split into three parts: the Haile Selassie regime (1941-1974), the communist Derg period (1974-1991), and the post-communist period (1991-current). The turning points in the economy will be analyzed for these periods.

### **The Haile Selassie period, 1941-1974**

The return of emperor Haile Selassie in 1941 after the Italian occupation meant a return to ancient structures of government in Ethiopia. Selassie was to be the last emperor in the house of Solomon, claiming direct ancestry from the biblical King David. He wished to transform Ethiopia from one of the world's least developed countries to a leader amongst nations and used his impressive international clout to this end extensively. Here, we will focus on internal matters of governmental concern, with a focus on Selassie's drive to a modern economy.

#### *Structure of the Government and Land tenure*

The structure of the government and the structure of land tenure were closely linked in Selassie's Ethiopia. The land tenure system was based around *gult* and *rest*.<sup>3</sup> The emperor was the master of all land and he could give out *gult* over land.

*Gult* was given out in exchange for money or services, such as raising a regiment of soldiers, to the central government. *Rest* was the system by which farmers could rent land from the owners of *gult*. *Rest* was the right to use the land for whatever purposes the owner of *rest* wanted; usually this was some form of agriculture. Owners of *rest* would often pay the owners of *gult* a part of their produce as rent, but again services could also be used as payment.<sup>4</sup>

*Gult* was often used by the political elites to ensure the loyalty of tribes and was only rarely taken away from the owners, while *rest* often changed hands. This led to structural negligence of the land by the owners of the *rest* and extortion of high rents by the *gult*-holders. This situation left Ethiopia with the worst land productivity in the world.<sup>5</sup>

Essential in this system was the northern *amhari* tribe, which controlled much of the bureaucracy and thus the handing out of *gult*. Emperor Selassie wished to change the system, for it gave, in his eyes, too much power to the local bureaucracy and thus the *amhari*. The services and money from *gult* were the main state income, but not centrally organized. This left the central state weak in terms of power and with a constant shortage of tax income. Selassie tried restructuring the land tenure system, to the great dismay of the *amhari* and other local rulers, who vehemently and successfully opposed him.<sup>6</sup>

### *Five-Year Plans*

The main driving force for economic development were, or should have been, the Five-Year Plans set in motion by the central government from 1958 onwards. In spite of the communist association that such a name elicits, they were liberal plans for developing the basic conditions needed for economic growth. Telling in this respect was the involvement of American government officials to help draw up the plans.<sup>7</sup> Note that most of these plans remained just that: plans. Reasons for their unsuccessful implementation will be discussed below.

The first Five-Year Plan comprised mainly infrastructural investments, such as the establishment of a vast network of paved roads, and the drive towards social conditions that would be beneficial to economic growth. Money was invested in the founding of schools and local medical facilities. Considerable effort was put into establishing advanced schools for various electrical and mechanical trades.<sup>8</sup>

The second Five-Year Plan, which ran from 1963 to 1967, was developed after an unsuccessful coup d'état in 1960. The coup was mainly driven by high ranking

officials from Addis Ababa and never spread to the countryside, but Selassie felt that he needed the political support of the peasant masses now more than ever and that future coups might be prevented by economic reform, seeing how the coup was mainly concerned with economic issues and not with issues of governmental or constitutional reform.<sup>9</sup> Therefore, the second Five-Year Plan was primarily occupied with increasing output of the smallest farmers. Increased agricultural output was supposed to free up workers for industry and services, making them more independent from their landlords.

The third Five-Year Plan was supposed to turn the economy into a more modern, industrialized *modus operandi*. Investments were made in trying to increase cash crop output and setting up industries. All this was done with a view to improving the current account and the savings ratio. A higher savings ratio would lead to more investments and a cycle of savings and investments could hopefully be set up. A fourth Five-Year Plan was somewhat ironically cut short by the communist revolution of 1974.<sup>10</sup>

All three plans were hampered in their execution by much the same conditions. Firstly, the central government did not incorporate a large, professional class of coordinators and planners. This hindered the central allocation of resources to where they were most needed. A second feature that permanently left the central government struggling were the local branches of government and landlords who feared losing their privileged position within the system and could, exactly because they had a privileged position, intervene. Finally, resources were extremely scarce. Due to the weak central government and the land tenure system, the income from taxes was very low. Inflow of cash from foreign governments and aid organizations helped somewhat in filling the gap between what was needed and what was available, but still, ambitions were far too high to be realistically attainable.<sup>11</sup>

### *Macro-economy*

Because of the reliance on subsistence farming saving levels were low (between 5.5 and 12.2 percent in the period under scrutiny)<sup>12</sup> in Ethiopia. Expenditure on defense was very high by contrast (over a quart of all government expenditure) due to the constant threat of civil war and neighboring countries,<sup>13</sup> further tying the government down. The taxation of subsistence farmers and nomadic tribes was problematic, leading to a reliance on the area around Addis Ababa for

government income. In the private sector, the gap between savings and investments was often filled with foreign investment, mainly American.

The Ethiopian current account ran a deficit, but this was compensated by an inflow of direct investment and development aid, mostly American (about a third of all aid) and from the World Bank (also about a third).<sup>14</sup> The overall balance of payments was negative almost every year, but never worryingly so. It was positive twice, in 1958 and 1968. In 1974 the balance of payments collapsed due to a famine (which led to high imports of food and virtually no agricultural exports) and the oil crisis (see appendix for a graphical representation).

The stability of the economy was threatened by the nature of the major economic activity in Ethiopia, farming. Firstly, farmers were heavily reliant on rain based agriculture (less than 1% of all agricultural land was irrigated in 1974). This meant that food prices could be very volatile, spiking after dry years and plummeting after wet years. This also had its effects on the current account. Secondly, the major cash crop for export was coffee (50% or more of exports in the 1950s and 1960s), the price of which halved from 1950 to 1974, showing a temporary spike in the mid fifties (see appendix). Coffee farmers were also heavily reliant on rain for their harvest, further adding to the dependency on the weather for a positive current account.

### **The Communist Period, 1974-1991**

From 1965 to 1973, the Ethiopian economy grew 3.9 percent annually, whereas population growth was 2.6%. Thus there was an increase in per capita income.<sup>15</sup> This increase would turn into a decrease due to misguided policies and natural disasters during the Derg regime. During this period, there was no economic growth, and therefore, no positive turning points.

The 1973 drought was an important motive for the coup of January 1974, when the military installed an armed forces coordinating committee: the Derg. Haile Selassie's power eroded quickly. In August, he was accused of devising a cover-up of the famine, and was arrested in September, when Major Mengistu Haile Mariam pledged another coup.<sup>16</sup> Once all his political opponents were cleared, Mengistu insured himself of leadership.

### *Ethiopia Tikdem*

Ethiopian Socialism, or *Ethiopia Tikdem*, was introduced in December of 1974: everything good for the public sector would be nationalized. The Declaration on Economic Policy of Socialist Ethiopia in February 1975 stated: “The elimination of poverty and the prevention of exploitation of the Ethiopian people can be achieved only when the government as the representative of the people, and in the interest of the mass of Ethiopian workers and peasants, directly owns and controls the natural resources and key industrial, commercial and financial sectors of the economy.” (DEP 1975:3)<sup>17</sup>

The program was brought into effect in 1975. Banks and the financial sector were nationalized on January first, 1975, ‘to guarantee equal services to everyone.’<sup>18</sup> This was not a radical step, since most of the financial sector was already controlled by the government anyway.

Next, the country’s 72 commercial and industrial firms were nationalized. This small number emphasized the country’s industrial underdevelopment.<sup>19</sup> The commercial sector was constrained by the amount of capital which they were allowed to have: retailers a maximum of 100,000 US Dollars and industrialists 250,000 US Dollars.<sup>20</sup> Two other measures involved distortionary price incentives and heavy controls of international trade and foreign exchange.<sup>21</sup> The government thus limited economic activity and growth in the already quite small commercial and industrial sector.

Nationalization of the land started of March 4, 1975, and was the key economic reform. It affected 88.7% of the population, 60% of GDP en 90% of exports, transporting the revolution from the city to the countryside. It was a radical transformation which dramatically changed the social, political and economical scene of the country.<sup>22</sup> Different forms of land reform had been suggested, but the most radical – nationalization of all land – was implemented, with the help of peasant associations. Every person was allowed a plot no larger than ten hectares, and land could be transmitted to children.

This had major consequences for all landowners, as they lost a great deal of their property, had to share their land with the landless and ex-tenants, and lost control over their land. This loss of control and the constant fear of losing the land had negative impacts on the improvements to agriculture and on the production.<sup>23</sup> The tenants were supposed to receive great profits from the reforms, as rents and feudal dues disappeared, but the post-reform taxes and the

fact that the tenants were now subject to many different (government) officials instead of just one landlord somewhat neutralized the benefits.

The landless received the most benefits, as they were now able to make a living.<sup>24</sup>

The highlands were overpopulated, so people had to move. Mengistu claimed that the resettlement would solve problems concerning droughts, and lessen the pressure on the population, as well as on the land itself. In 1975 and 1976, 88 new villages were built. In 1986, 600,000 people had been moved, and by 1989 13 million had been affected, even though international criticism, a worsened security situation and fewer resources threatened to make the plan fail.

Urban land and extra houses were nationalized in July 1975, and urban dwellers' associations were established. The rent was also lowered, from 15 down to 50%, which may have had an influence on the rising food prices, which was 28% in 1975.<sup>25</sup> A large problem was housing shortage. People who had survived by renting out rooms no longer had income. According to the proclamation, the government would pay for lost incomes, which was costly.

During Haile Selassie's rule the gap between poor and rich was very large. *Ethiopia Tikdem* was supposed to reduce this disparity; however, the growth of per capita income was discouraging. By the end of the 1980s, Ethiopia was one of the poorest countries in the world, due to poor economic growth and high population growth.<sup>26</sup> The effects of the reforms are not unambiguous, however. Even though they did not tackle the overall problems of economic development, the land tenure system was destroyed, which was a major obstacle to economic development. It could have been a step forward, were it not for the fact that the Derg had not decided how the policy could actually be changed into economic growth after two years. The reforms did not change the subsistence character of Ethiopian agriculture, and the government was faced with a growing food deficit.

Industrialization had been linked to urban growth at the expense of rural areas. Now, the Derg seemed committed to giving the primary attention to the peasantry, but there was no policy indicating how. There was no industrial policy. The government failed to create a climate conducive to private investment, and practically none was forthcoming.<sup>27</sup>

## *Famine*

1976-1978 brought the Red Terror against the Ethiopian People's Revolutionary Party and all other opponents of Mengistu's regime. It marked the beginning of a steady deterioration in the economic state of the nation, coupled with extractive policies targeting rural areas. The Agricultural Marketing Corporation was to assure the urban population of cheap foodstuffs. However, low prices did not stimulate food production, and some farmers even had to buy grain on the market to fulfill their quota. Grain wholesaling became illegal. Several other restrictions were imposed on the farmers to ensure they did not engage in non-agricultural activities.<sup>28</sup> This is a clear example of how economic liberalization was completely ruled out during the communist period – the peasants were not allowed to grow what they preferred, nor were they free to sell what they wished to whom they wished.

Signs of the upcoming famine were already emerging in 1982 and 1983. In 1984 and 1985, once again, extraordinarily little rain fell in 4 provinces, causing the harvests to fail and acute food shortages to emerge. A major factor in the way the government handled the famine was the civil war, immobilizing the economy and reinforcing the government's inability to manage the crisis to come. 46% of GNP went to military expenses, which would make the army the largest in Sub-Saharan Africa. The percentage of GNP spent on healthcare decreased from 6% to 3%.<sup>29</sup> As signs of the famine began to appear, inaction appealed to Mengistu, for he thought hungry people might be less eager to support expanding guerrilla movements. Also, he needed to concentrate on preparations for celebrating the 10<sup>th</sup> anniversary of the revolution and the proclamation of a Marxist/Leninist vanguard party.<sup>30</sup>

During the famine, the resettlement and villagization programs were expanded. Populations were moved into less drought-prone areas, to make sure they were moved away from the insurgents in the north. To move the people, trucks, aircrafts and personnel were used that should have been used for famine relief.<sup>31</sup> But far more people had their lives disrupted by villagization: peasants were forced to tear down their houses and carry them to large artificial settlements laid out in a grid pattern. The aim was to move rapidly to a Soviet-style collective farm system, but also to improve the security situation.<sup>32</sup> Food production fell, due to the fact that farmers now had to walk long distances before they reached their plot, the loss of control, the uncertainty, and the low prices for their products.

The resource gap (exports-imports) and fiscal deficit confirms that the Ethiopian economy suffered from great and growing imbalances in the 1970s and 1980s. The resource gap shows an increasing negative trend, and the growing fiscal deficit was due to the fast growing public sector expenditure.<sup>33</sup> The growing trade deficit cannot be explained by referring to terms of trade, however. This can be found in the economic policy and resulting poor economic performance. For instance, the Ethiopian birr was fixed to the US dollar, which meant that the real effective exchange rate for Ethiopia increased with the appreciation of the US dollar. This happened while the resource gap was increasing.

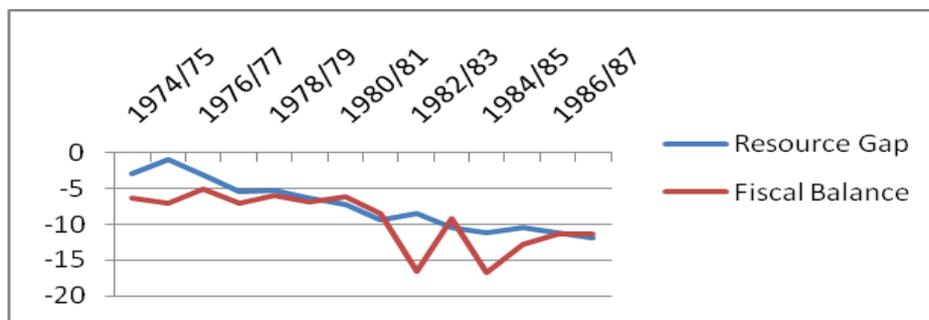


Figure 1 Source: National Bank of Ethiopia as used in Hansson, Gote. The Ethiopian Economy 1974-1994.

Firmly administered socialist economic policies had brought an accelerated drop across the entire Ethiopian economy. The low GDP rate was mainly due to poor performance in agriculture. The contribution to GDP of this sector decreased from 53% in 1974/1975 to 41% in 1987/1988. The contributions from industry and services increased, however, but could not compensate for the agricultural sector. In the 1980's, 80% of the population was employed in agriculture, and it made up 85% of exports.<sup>34</sup>

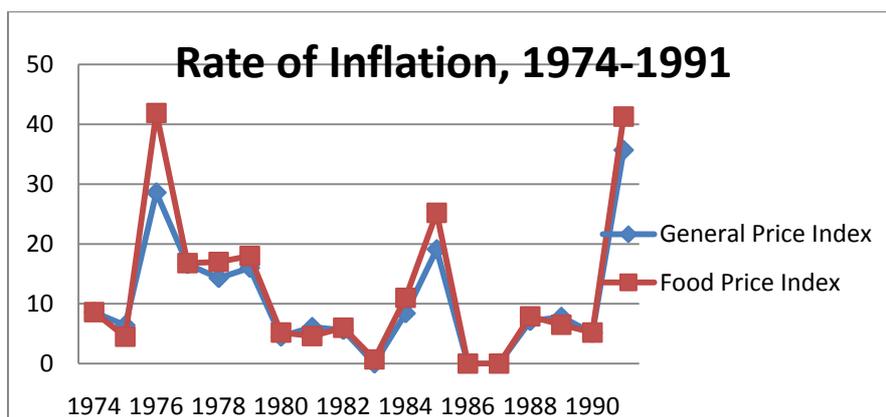
Table 1 Average annual growth of production (% , constant prices)

	1965- 1973	1973- 1980	1980- 1987
Agriculture	2.1	0.6	-2.1
Industry	6.4	1.4	3.8
Services	6.6	3.3	3.5
etc.			

Source: World Bank 1989, table 2, as used in Hansson Gote. The Ethiopian Economy 1974-1994. London: Routledge.

The military share of the national budget rose by 10 per cent from 1974 to 1984, and by 1984 petroleum imports were absorbing 47.5 per cent of export earnings. Foreign currency reserves fell from \$221 million in 1979 to \$67 million in 1984.<sup>35</sup> The current account balance was stable from 1980-1990, with a slight drop in 1985.<sup>36</sup> Imports and exports were also relatively stable, with exports (6-8% of GDP) always being less than imports (11-14% of GDP).<sup>37</sup>

Agricultural producer prices were kept low for the military to get food for soldiers at lower cost, and to keep consumer prices down. Consumer prices should have been subsidized, but instead, the producers were taxed heavily through low prices. With subsidies, domestic production would have been higher, and the demands for imports lower. Food prices have changed at least as much as prices in general.<sup>38</sup> During the great famine food prices soared, as did the general price index. During periods of political transition, inflation has also risen, in 1975 largely due to the introduction of *Ethiopia Tikdem*.



### The post-communist period, 1991-present

In the late eighties the opposition against the Mengistu regime grew exponentially because it failed to meet its promises of change. Its reaction to this opposition was suppression, which resulted in even more opposition. The most important opposition groups united in the Ethiopian People’s Revolutionary Democratic Front (EPRDF) in 1989.<sup>39</sup> This Front was able to overthrow the Derg and to implement a new democratic and decentralized system in Ethiopia. Economic reforms, emphasis on agriculture and ethnic federalism were important changes in this new regime. The following part will address the economic policy of this government, as well as its rural policy.

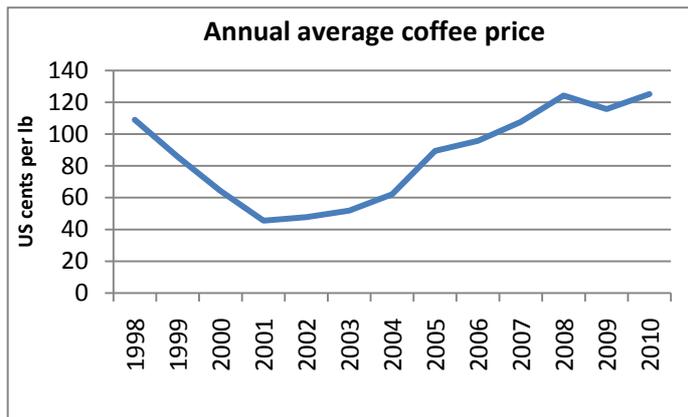
### *Structural reforms*

The changes in Ethiopia already started during the end of the Derg regime. The civil war between the Derg and armed opposition groups had put increasing pressure on the government and in a reaction the government started to apply some minor reforms. The first step in this process was liberalization of the economy, starting with liberalization of the food markets in 1988.<sup>40</sup> The quota system for farmers was removed and trade taxes and restrictions were lifted. Consequences were an increase in prices in surplus areas and stronger interregional interconnectedness, leading to fewer seasonal price fluctuations.<sup>41</sup> These economic changes had positive effects on small-scale producers. Strangely enough, the expected positive effect on the GDP did not show in the data, GDP even decreased with 0.45 percent in 1989, as can be seen in the appendix. This decline is attributed to falling government expenditures due to falling revenues caused by the civil war.<sup>42</sup>

The Derg regime was overthrown in 1991 and replaced by a Transitional Government by the EPRDF, which ruled until the first democratic elections in 1993. The Transitional Government took the reforms several steps further by starting a structural reform policy in 1992 that was incorporated in the Structural Adjustment Programme of 1993-1996 with the International Development Agency and the African Development Fund.<sup>43</sup> The aim of the Programme was to promote sustainable development and poverty reduction by means of a structural reform of the economy towards a market-based system that included macro-economic stability, economic liberalization and fundamental structural reforms.<sup>44</sup>

The Derg regime left Ethiopia with major monetary imbalances. The imports far exceeded the exports and the systematic overvaluation of the currency only supported this distortion. Therefore the national currency of Ethiopia, the Birr, was devaluated in October 1992, for the first time since the 1970s, from US\$ 2.07 to US\$ 5.0. Expected rapid rise of inflation was not forthcoming and the black market rate only rose moderately. As a result, the real exchange rate depreciated by a percentage very close to the nominal devaluation.<sup>45</sup> The government gradually liberalized the exchange rate until 1998; since then the exchange rate is fixed in a general auction. As a result, the gap between the parallel and the official exchange rate has virtually disappeared.<sup>46</sup>

In addition, the government followed a prudent monetary and fiscal policy, which led to a relative stabilization of annual inflation. Unfortunately, the weather



is a big influence on the inflation rate, since agricultural output is still very dependent on favorable weather and agriculture still constitutes 45 percent of total GDP.<sup>47</sup> These reforms together could explain the sudden rise in annual GDP growth in 1992 from a strong decline of 8.9 percent in

1991 to over 13 percent in 1992.

Another issue the government addressed is one of the most controversial issues in Ethiopia: land tenure. Constant land reform was put to an end as early as 1989. Beforehand, land could legally be taken away from households at any time. The new EPRDF government affirmed a commitment to land tenure security, but it also believed that the land right of peasants could best be protected by ownership by the state. The major problem inherent to this system is insecurity of tenure for peasants and pastoralists.<sup>48</sup> This system also has negative consequences for the industrial sector, since entrepreneurs are unable to use land as collateral for loans.<sup>49</sup>

### *Agricultural Development Led Industrialization*

The first Structural Adjustment Programme was followed by similar programs. One of these programs is the Sustainable Development and Poverty Reduction Programme of the IMF, which aimed at the rapid development of Ethiopia's economy, the ending of food aid dependency and the ability of poor people to benefit from economic growth. Ethiopia committed itself to the Programme from 2002.<sup>50</sup> The overall aim was to progressively integrate Ethiopia into the world economy.<sup>51</sup>

A large pillar of the program is made up of the Agricultural Development Led Industrialization (ADLI), which is a strategy used to improve small-scale agriculture. Small-scale farming encompassed 95 percent of the total food production, but was never prioritized by the government when it comes to investment.<sup>52</sup> With this program, the government has officially promoted participatory rural development as a bottom-up approach. Government investment has shifted towards the agricultural sector to promote the increase of

agricultural productivity. The strategy aimed to achieve growth by means of fertilizers and other agricultural inputs and major investment in small-scale water conservation. Since Ethiopia has an extremely small ratio of urbanization, domestic demand for agricultural products is by definition insufficient to foster this agricultural-based growth. Therefore agriculture has to be made internationally competitive so a part of the production can be exported.<sup>53</sup>

The next step is to expand growth through investment in infrastructure of transport and power. This is especially important for Ethiopia where livestock is still the most common means of transportation. The final phase seeks to improve growth by expansion and diversification of exports to cover the expenses of the growing capital-intensive imports.<sup>54</sup>

GDP declined in 2002, as a result of drought, but rose extensively since 2003, which could indicate that this program succeeded in its goals.<sup>55</sup> However, value added by agriculture only grew modestly from 2002 to 2008 from 42 to 43 percent, with a peak of 48 percent in 2006, while the aim of the program was to make agriculture the motor of the economy. Moreover, exports did rise from 13 to 15 percent in 2002-2005, but declined again to 12 percent in 2008.<sup>56</sup>

### *Pastoralist policy*

Government policy has always had an anti-pastoralist bias and this bias still existed in the democratic government, despite the dedication of this government to rural development. As a consequence many highland inhabitants see the pastoralists as backward and uncivilized and this thinking was incorporated in government policy towards pastoralists. The EPRDF government still pursued a policy of resettlement of pastoralists along the major rivers, and transformation of their way of living into cash crop production, the dominant means of agriculture in Ethiopia.<sup>57</sup>

Since 2003 the Ethiopian government cooperates with the World Bank in the so-called Pastoral Community Development Project, to seek to improve the livelihoods of pastoralists of the arid lowlands. Since pastoral areas account for 60 percent of Ethiopia and hold between 12-15 percent of the country's total population, this focus on pastoralists is very important for the country's economic development.<sup>58</sup> The program consists of a 15-year, three-phase, Adaptable Program Loan (APL). The means to achieve its goals are fostering income growth, access to public services and facilitating better institutional, social and

environmental conditions.<sup>59</sup> The results of the first 5-year program are moderately satisfactory. The project has been satisfactory in providing capacity building training, thereby increasing access to public services. However, it has been marginally unsatisfactory in its second objective of risk management. The planned institutional framework was not put in place, since the responsible institution, the Federal Disaster Prevention and Preparedness Commission, was reorganized in this period and failed to acknowledge responsibilities.<sup>60</sup>

### *Balance of Payments*

Ethiopia is facing a structural balance of payments deficit since imports structurally exceed exports, and the deficit is only rising. The exports increased from 6.3 percent of GDP in 1998/99 to 6.4 in 2008/09, while imports rose from 20.4 percent to 32.2 percent.<sup>61</sup>

Coffee is still the most important export product of Ethiopia. Economic growth declined in 2009 and 2010, as a result of a decline in foreign demand for coffee. Ethiopia exported 2,805,766 bags of coffee from February 2008-January 2009, while this export declined to 1,888,651 bags in the same period one year later. The coffee price rose exponentially since 2002/2003. This is part of the explanation for the double digit growth rate of Ethiopia since 2003. The coffee price declined in 2009, which could explain part of the decline in growth since 2009.<sup>62</sup>

This growing difference between imports and exports can be explained by a rapid growing demand that has been running ahead of the expansion in the capacity of the economy, contributing to high inflation and strong import growth. Moreover, international prices of oil and fertilizer, the most important import products of Ethiopia, rose sharply from 2007-2008. These exogenous shocks have made the balance of payments situation even more vulnerable.<sup>63</sup>

### *HIPC initiative*

Although the high growth numbers are a very positive development, Ethiopia is a heavily indebted country. Public debt constituted 79.6 percent of GDP in 2005/6 and domestic debt 30.7 percent. On April 2, 2004, Ethiopia reached its completion point under the Enhanced Heavily Indebted Poor Countries (HIPC) Initiative. In 2006 the World Bank approved 100 % cancellation of Ethiopia's debt to IDA. The World Bank had approved cancellation of debt owed to the Fund in 2005 and the

African Development Bank in 2006.<sup>64</sup> As a result, public debt declined to 35.9 percent in 2007/8, and external debt declined from 48.9 percent to 11.9 percent in the period 2005/6-2007/8.<sup>65</sup>

## **Conclusion**

Ethiopia transformed from a socialist country to a market-based country and realized annual growth rates of over 10 percent for the period 2003-2008. Due to the global financial crisis growth slowed down, but is still high. Moreover, the EPRDF government managed to bring the life expectancy at birth up from 47 years in 1990 to 55 years in 2008. Moreover, the poverty incidence (% of population) decreased dramatically from 46 in the early 1990s, rising to 56 in the beginning of this millennium, to 39 in the year 2009.<sup>66</sup>

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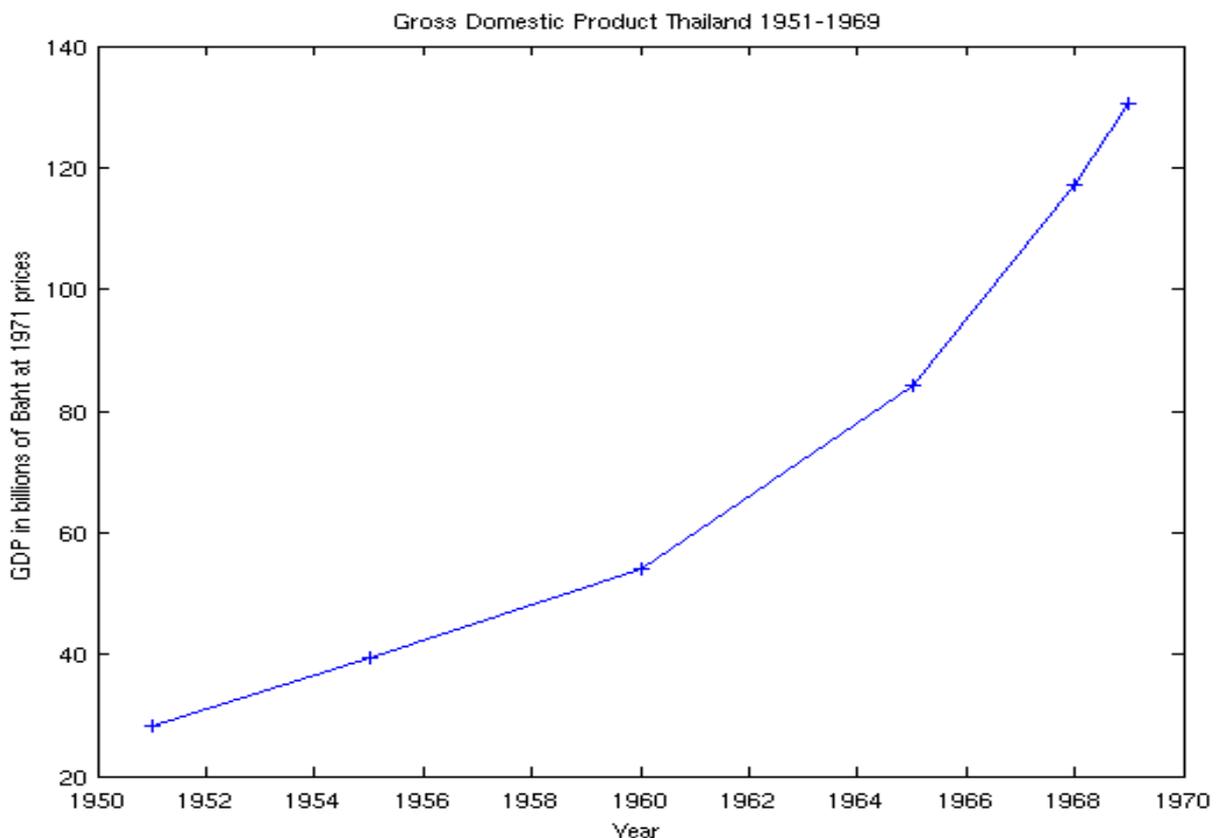
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## CHAPTER 2 | Thailand

Thailand is located in the heart of Southeast Asia. It became a unified kingdom in the mid-14<sup>th</sup> century and was known as Siam until 1939. Thailand has been a constitutional monarchy since the bloodless revolution in 1932. Since then, it has had 17 constitutions and constitutional charters. During this time, the form of government has ranged from military dictatorship to electoral democracy, but all governments have acknowledged a hereditary monarch as the head of state. Thailand is the only Southeast Asian country never to have been taken over by a



Source: Ingram, Economic change in Thailand

European power, since an Anglo-French accord in 1896 guaranteed its independence.

Today Thailand has a population of nearly 66 million people, 33% of which live in the urban areas. Bangkok, Thailand's capital is by far the largest city. The main religion of the Thai people is Buddhism. Thailand is rich in natural resources such as natural gas, timber and tin and rich in arable land.

## **1950s**

### *Agriculture in the 1950s*

It took the Thai economy nearly a full decade to recover from World War II, but after 1950 the economy started to grow rapidly. The industrial sector also went through a significant period of growth. The sectors that have grown most significantly since 1950 are construction, transportation, communication, manufacturing, electricity, services and finance. Lower growth rates could be found in, amongst others, agriculture, mining and trade. However, the agricultural sector has remained the largest and therefore Thailand can be considered an agricultural country.<sup>1</sup> Since the late 1950s the Thai government has supported private firms to operate in the agricultural sector instead of government enterprises, which were thought to be inefficient. The government started with securing and allocating land rights. This led to the impoverishment of petty farmers. Large landowners obtained both land and wagers or leaseholders and increased sales possibilities. In the mid 1950s, the government started offering credit facilities to successful farmers with which they could acquire new technology (tractors), seeds, fertilizer and insecticides. With aid from the World Bank irrigation structures were realized. This led to the necessity of harvesting all crops at the same time, which again favored large landowners and rich farmers. The difference between rich and poor within the rural area increased.<sup>2</sup>

### *Economic policies in the 1950s*

Thai economic policies shifted during the late 1950s when the military government of Sarit Thanarat (1957-1963) imposed a variety of economic controls. The most important were the establishment of the multiple exchange rate system and, above all, the state management of the rice trade.<sup>3</sup> Since the end of World War II, Thailand has experienced several government interventions in

the country's agricultural policy. The most important example of the government restricting economic freedom in the agricultural sector in the second half of the 20<sup>th</sup> century is the rice premium. This measure was introduced in 1945 as a tax on rice exports and it proved to be an important source of tax revenues for the government. Thus, the government created a monopoly on the trade of rice. It sold the rice to the shippers for a price more than 20% higher than they had paid the farmers. The export price was, moreover, expressed in foreign currency which often meant a profit for the government. Since 1950 the growth of rice has continued to decline. Yet, rice has remained the most important crop.<sup>4</sup>

The rice premium was meant to send the agricultural surplus to the urban economy. Food prices were kept artificially low. The effect was that the consumer prices as well as the prices received by farmers were well below international prices. This meant that the taxation depressed rural income and also impeded technical progression by altering the price-cost ratio in the rice sector. In addition, there were export quotas for individual exporting agents. The consequence was that a non-competitive element was assigned to the rice market. From 1973 to 1986 there was on top of the rice premium and export tax a compulsory rice reserve, to save sufficient rice for domestic consumption. Exporters were required to sell the government a proportion of their rice at a price lower than the domestic price. The government could resell and gain a profit.<sup>5</sup>

Moreover, the rice premium was meant to diversify the country's agriculture. For many small and large farms rice is the most popular crop because of the favorable climate and the present knowledge regarding the growing and harvesting of rice. According to the government, peasants were to be made aware of the long-term benefits of agricultural diversification. Diversification began to be implemented on a large scale between 1970 and 1980, when the farmers who could no longer exist by growing rice switched to growing less taxed crops, such as corn, sugar, fruit and cassava. A lot of these activities required relatively large investments. They formed pre-eminently sectors for commercial farming: the agribusiness. These new developments led to the emergence of a political, social and economic structure in rural areas. The new agricultural political-economic elite used its income, its increasing economic independence and the fact that a large part of the rural population was dependent on them to increasingly influence national politics.<sup>6</sup>

### *The central bank of Thailand*

The aforementioned economic policies were implemented by the Central Bank of Thailand. The bank has the power to shape Thailand's monetary policy and has been a stable factor over the last sixty years, despite the political instability of Thailand.<sup>7</sup> The monetary policies implemented by the Bank of Thailand since World War II have been shaped by a strong aversion to inflation. After a rapid increase shortly after the Second World War, inflation has remained below five percent. The only exceptions can be associated with the petroleum price increases of the 1970s and the Asian financial crisis of 1997.<sup>8</sup> But other than those exceptions, Thailand has done a good job in keeping inflation numbers at a low level. The only year in which inflation rose above twenty percent was in 1974, when it was 20.33%. But in the following year, inflation immediately decreased to a level of 3.49%.

### **1960s / 1970s**

Due to the presence of the United States between 1959-1974<sup>9</sup> the state of Thailand modernized and westernized in a rapid speed. Thailand was being exposed to Western culture, while until the 1960s only the elite was able to gain access to it.<sup>10</sup> During the late 1950s and the 1960s the Thai economy began to shift from production for the domestic market towards orientation to foreign markets. This, among other things, strengthened the diversification of agriculture. The US military presence was an important stimulus in this shift.<sup>11</sup>

### *Trade*

Thailand has entered in several bilateral and multilateral free-trade agreements with other countries. The most important are the Thailand-Australian Free Trade Agreement (TAFTA) and the Association of Southeast Asian Nations (ASEAN). The latter was established in 1967 and consists, besides Thailand, of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore and Vietnam.<sup>12</sup>

Competition in Thailand has mostly been open and has relied on market prices. In some cases, however, the state used income tariffs to regulate the size and composition of imports.<sup>13</sup> During the 1960s and 1970s agricultural exports were the major source of foreign exchange earnings. However, as mentioned before,

export earnings were directed away from the traditional sector to support further industrialization.<sup>14</sup> Thus, the protective system was biased against the agro-based industries and toward manufactured goods of both import- and non-import competing goods.<sup>15</sup>

In spite of this, the part of the population that worked in agriculture continued to increase until the mid-1970s. At the same time productivity of agriculture grew more rapidly than that of industry. This was not achieved by endeavored government policy, but it was the consequence of the extension of the agricultural area and diversification of agricultural activities. Responsible for this development were the farmers themselves. The policy of the government in the 1970s was confined to constructing dams to facilitate irrigation. Most of Thailand's irrigated land is concentrated in the Central Plain (the area around Bangkok). The distribution of irrigation systems has been unequal between regions. More than 60% of the arable land in the Central Plain is irrigated, compared with 13% in the Northeast, 34% in the North, and 22% in the South.<sup>16</sup>

#### *The National Social and Economic Development Plans*

In 1959 the National Economic and Social Development Board (NESDB) was established with the purpose of managing the National Social and Economic Development Plans. These are Five-Year Plans for planning and formulating development strategies based on balanced and sustainable development for the Thai people.

With the First Plan (1961-1966), there was an expansion of agriculture (6.2%). This plan was characterized by a global policy of import substitution. The introduction of import tariff rates helped to build up the private sector, in particular manufacturing.<sup>17</sup> The Second Plan (1967-1971) was largely a continuation of the First Plan. The government put its emphasis on public expenditure in slower growth areas, especially in the rural sector. However, success was limited. In this period expansion of agricultural land base virtually ceased, since the land frontier was exhausted. The consequence was that agricultural contribution to production diminished. Agriculture was shedding labor into the rest of the economy and has been doing this ever since.<sup>18</sup> The expansion of the road network had a considerable effect on agricultural development. It provided farmers with direct access to external markets, which increased the prices of cash crops, as well as access to a vast amount of uncultivated land.<sup>19</sup>

During the Third Plan (1972-1976) moderate emphasis was put on development thinking and on providing rural areas with services such as electricity and health services. Priorities were set for reducing growing disparities between urban and rural areas. The share of public expenditure on agriculture rose considerably, as did the share on health and education. This had everything to do with the representative government of 1974.<sup>20</sup> However, because of the centralized administration, social and economic support mainly benefited the population in and around Bangkok so that the objectives set for development in particular rural areas could not be reached. Despite an annual real growth rate of 6.2%, income distribution became increasingly inequitable.<sup>21</sup>

During the Fourth Plan (1977-1981) there existed diversification and increased efficiency of production in rural areas. The share of public expenditure on agriculture declined while that on industry, energy, transport and defense increased. This was because of the military coup of 1976, which put the control of the government's finances back in the hands of the military.<sup>22</sup>

In Thailand, development NGOs date largely to the 1970s and the early 1980s and emerged primarily in response to the effective bias in Thai government policy against agriculture and the rural poor. Between 1973 and 1976, when military rule was briefly replaced by parliamentary democracy, development NGOs proliferated rapidly. After the military coup of October 1976, however, NGO activities deemed leftist by the government and were suppressed. Such NGOs only reopened their activities during the early 1980s as the government of General Prem Tinsulanond (1980–1988) introduced tentative reforms.<sup>23</sup>

#### *Investment and expenditures in rural development*

Public investment affects rural poverty through many channels. For a start, it increases farmers' income directly by increasing agricultural productivity. Indirect impacts come from higher agricultural wages and improved non-farm employment opportunities. Public investments help the development of the national economy by providing labor, human and physical capital, cheaper food, and markets for urban industrial and service development. Growth in the national economy reduces poverty in both rural and urban sectors.<sup>24</sup>

Thailand's government expenditure on agriculture has been around 10% of GDP since the 1970s. Besides government expenditure on infrastructure and irrigation, the Thai government has also put a large amount of money in agricultural research. It recognized that rapid economic growth could not be sustained

without increased investment in science and technology aimed at raising productivity. The Fifth National Development Plan of 1982-1986 emphasized investment in science, infrastructure and manpower. Subsequent development plans established a goal of increasing the level of science and technology investment.<sup>25</sup>

Within agriculture, the largest share of the research budget is for crop research, while the budgets for livestock, forestry, and fisheries are relatively small. In addition to investing in public research, the Thai government has also implemented policies to support private research, which have included tax incentives and subsidized loans, but the overall demand for these subsidies appears to be small.<sup>26</sup>

Government intervention in the nation's rice production continued in the 1970s in the form of the 'agricultural credit policy.' This policy was implemented in 1975 and meant that commercial banks were required to lend a fixed proportion of their previous year's deposits to agriculture. This measure was designed to enlarge the flow of private credit to agriculture.<sup>27</sup>

### *External shocks*

The balance of payments of a country is an important indicator when establishing to what extent policies have resulted in low deficits. In countries that operate with fixed exchange rates, such as Thailand, concerns over the balance of payments dominate economic policy discussions. These concerns prevent countries from building unsustainable external deficit. This is also true for Thailand.<sup>28</sup> During the 1970s the Thai balance of payments experienced two external shocks.<sup>29</sup>

Shock 1 was a temporary shock with a positive effect. In 1973-74 the prices of primary products rose, but did not have a decreasing effect on export. As a consequence, the value of Thai export rose as well.

Shock 2 was a consequence of shock 1. One of the primary products of which the price rose was petroleum, which was imported by Thailand. The more expensive import of petroleum was in first instance masked by the higher value of the export. The higher price of petroleum was however not temporary. The negative effects of this shock on the balance of payments became apparent between 1975 and 1978. These two shocks would be followed by three other external shocks in the years to come. These shocks will be discussed later.

### *Interest rates*

The Central Bank of Thailand has always stimulated high interest rates. However, due to a lack of control over foreign assets, the bank of Thailand could only influence the short-term interest rates. It could therefore only adjust shocks to inflation and avert long-term damage. In the ability to shape interest rates, the policies of the bank have been successful.<sup>30</sup>

In the seventies, the nominal interest rate for Thailand averaged 9.66%.<sup>31</sup> This number was similar to other East Asian countries and far higher than African interest rates at that time. Since 1979, the minimum interest rate on fixed deposits of Thailand varied, but was mostly close to ten percent. The interest rate maintained this level until 1995. In the twenty-first century, there is a clear development visible towards lower interest rates. This development has led to interest rates as low as one percent.<sup>32</sup>

### **1980s**

Since the 1980s, Thailand has shifted towards becoming an outward-oriented, market-based economy. The importance of the private sector is even more emphasized and the manufacturing export industry has gained territory and become more divers. Furthermore, the construction and service, especially finance and tourism, sectors grew significantly.<sup>33</sup> In 1985 manufacturing overtook agriculture as a share of Thai GDP.<sup>34</sup> For the past several decades, Thailand has experienced rapid economic growth that has transformed the country from a predominantly agrarian society to a newly industrialized economy, much like the so-called Asian Tigers. In the early 1960s, more than 80% of the population was engaged in agricultural activities. Since then the Thai economy has achieved one of the highest long-term growth rates among all countries. In 1991, 'only' 60% worked in agriculture. It is remarkable how much the industrial and service sector have expanded since then, because they accounted for 80% of Thailand's total GDP.<sup>35</sup>

In the Fifth Plan (1982-1986) emphasis was put on improving the quality of life of the rural poor. The growth momentum was thought to lie with industrial development, whose share of output was projected to reach that of agriculture by the end of the planning period.<sup>36</sup> Poverty in rural areas and migration to Bangkok were recognized as major problems. Therefore, emphasis was put on the development of provincial cities and on the creation of industrial sites outside

Bangkok.<sup>37</sup> The positive trend of the Fifth Plan was continued in the Sixth Plan (1987-1991), based on the continuation along the same policy goals. Boom years existed with an average growth rate of 11%. Driving forces were sharply rising manufacturing exports, including commercial agricultural products. Still, efforts towards the implementation of rural industries were limited, infrastructural bottlenecks emerged and success in reducing income disparities was limited.<sup>38</sup>

In the Seventh Plan (1992-1996) one of the major goals was, once again, the economic strengthening of the provinces and the reduction of income disparities between rural and urban areas to be reached by further decentralization of the industry and promotion of small and medium-scale enterprises.<sup>39</sup> The Eighth Plan (1997-2001) and the Ninth Plan (2002-2006) largely followed the Seventh Plan in its emphasis on decentralization and the attempt to reduce income disparities.

#### *The Thai Balance of payments in the 1980s*

In the 1970s, the Thai balance of payments experienced two external shocks. In the 1980s, the balance of payments was again affected by two external shocks. Shock 3 was felt during 1979-85 and was again caused by a rise in the price of petroleum. In combination with growing interest rates in 1980-82, this caused negative effects for Thailand's balance of payments. Imports increased much faster than exports and the interest payments over the debt increased even faster because of the higher interest rate.

Shock 4 was caused by lower petroleum prices, rising prices of primary commodities, and the movement of light manufacturing enterprises from Northern Asia to Thailand. This shock, during 1986-90, had positive effects on the macroeconomic stability of Thailand, because the price of imports decreased, the value of exports grew, and jobs were created.

#### *Monetary policies*

Thailand is known for its conservative monetary policies. This extends to Thailand's currency instrument. Thailand has been reluctant to use the Thai Baht as a policy instrument. The Baht was pegged to the US dollar, from the 1950s to 1984. After 1984, the exchange rate policy has been described as a managed float regime in which the exchange rate of the US dollar still plays an important role.<sup>40</sup>

There have been two moments at which the Bank of Thailand decided to devalue the Baht, during 1981 and 1984. The Bath/USD rate is displayed in a

table at the end of this section. The objective of these devaluations was to reduce the existing balance of payments deficits.<sup>41</sup> Analysts at the Bank of Thailand had concluded that this deficit was a consequence of the overvaluation of the Baht, which harmed the international competitiveness of Thailand. Evidently, the analysts argued that devaluation was the solution to this problem.

Due to the conservative nature of monetary policy in Thailand, the Baht has been a stable currency over the years. This stability also had a stabilizing effect on the price level in Thailand. The only moment where the exchange rate of the Baht showed severe instability was during the Asian financial crisis.

### 1990s / 2000s

Baht : US\$ (Reference rate) average (Baht : 1 USD)	
1979	20,42
1980	20,48
1981	21,82
1982	23,00
1983	23,00
1984	23,64
1985	27,16
1986	26,30
1987	25,74
1988	25,29
1989	25,70

#### *The development of domestic debt*

The Thai government provides the following definition of government domestic debt: "Government Domestic Debt refers to the outstanding debt of the central government issued for three purposes; financing budget deficits, the stability of financial institution system and repaying external loans."<sup>42</sup>

Thailand did not start to build domestic debt until 1996. Since then, the domestic debt of Thailand has grown to 3,248 billion Bath in 2010.<sup>43</sup> If Thailand maintains this pace, the national debt will become a severe burden on the future development of the economy. It

should be noted that the national debt did not increase in the past year.

	2009	2008	2007	2006	2005	2004
GDP at constant 1988 price (Billions of Baht)	4.262,0	4.361,4	4.256,5	4.056,5	3.858,0	3.688,1
Domestic debt (Billions of Baht)	3.248,0	2.692,7	2.482,9	2.331,2	2.127,3	1.989,9
Domestic debt relative to GDP	0,76	0,62	0,58	0,57	0,55	0,54

2003	2002	2001	2000	1999	1998	1997	1996	1995
3.468,1	3.237,0	3.073,6	3.008,4	2.871,9	2.749,6	3.072,6	3.115,3	2.941,7
1.770,1	1.735,5	1.337,2	1.200,0	1.012,6	524,9	316,6	310,3	0
0,51	0,54	0,44	0,40	0,35	0,19	0,10	0,10	0

Because of the conservative policies related to creating national debt before 1996, Thailand was able to avoid the severe debt crisis that many developing countries in the 1980s experienced.<sup>44</sup> This is a positive conclusion in the context of macroeconomic stability of Thailand.

One of the reasons Thailand started to build domestic debt after 1996 is the external debt of the country, which has been a heavy burden for Thailand's economy. In 1979, the Thai external debt was equal to 6.8 billion US\$ and this number grew to 109.2 billion US\$ in 1997. After 1997, the Thai government invested in decreasing the external debt. The government reduced the number to 69.9 billion US\$ in 2009, evidently the domestic debt increased in order to reduce the external debt.

Trade balance (Billions of USD)	
1979	-2,3
1980	-2,8
1981	-3,0
1982	-1,5
1983	-3,8
1984	-2,9
1985	-2,2
1986	-0,5
1987	-1,6
1988	-3,9
1989	-5,3
1990	-9,8
1991	-9,5
1992	-7,9
1993	-8,5
1994	-8,7
1995	-14,7
1996	-16,1
1997	-4,6
1998	12,2
1999	9,3
2000	5,5
2001	2,4
2002	2,7
2003	3,7
2004	1,4
2005	-8,2
2006	0,9
2007	11,5
2008	0,1
2009	19,4
2010	0,5

One of three important indicators to conclude to what extent Thai policies resulted in low deficits is the trade balance. The trade balance indicates the difference between export and import.<sup>45</sup> Structural negative results on the trade balance could frustrate macroeconomic stability, because it leads to foreign debt. A growing supply of the Baht stimulates inflation and foreign debt obliges Thailand to pay interest over that debt. The table to the left shows the Thai trade balance.

The data shows that Thailand had a negative result on the trade balance until the Asian financial crisis of 1998. Earlier analyses showed a rapid rise of the inflation in Thailand due to the crisis. This made Thai export more attractive to countries that did not experience strong inflation at that time. In 1998, Thailand exported products worth 52.8 billion US dollar. The value of exports experienced its highest level so far in 2008, when the value grew to 175.2 billion US dollar.

Balance of payments (Billions of USD)	
1979	-0,3
1980	0,2
1981	0,0
1982	0,1
1983	-0,7
1984	0,4
1985	0,5
1986	0,4
1987	0,9
1988	2,5
1989	4,0
1990	3,8
1991	4,2
1992	3,0
1993	3,9
1994	4,2
1995	7,2
1996	2,2
1997	-10,6
1998	1,7
1999	4,6
2000	-1,6
2001	1,3
2002	4,2
2003	0,1
2004	5,7
2005	5,4
2006	12,7
2007	17,1
2008	24,6
2009	24,1
2010	4,9

In 1997, the value of the Baht in US dollar dropped by 31.9%, but this development was hardly accountable to the Bank of Thailand. Consequences for the exchange rate of the Baht were in line with consequences of the Asian financial crisis for currencies in South-East Asia. The shift was similar to shifts in the exchange rates of other currency units of the region.<sup>46</sup>

After 1997, the Baht showed its stability by slowly, but structurally, moving towards its pre 1997 level. This was partly accomplished because of support by the IMF, multilateral and bilateral aid that Thailand received. The total aid to assure recovery was 17.2 billion US dollar, and another 3.9 billion US dollar a few months later. In return for this vast amount of dollars, Thailand had to restructure a part of the commercial banking sector, increase VAT from 7% percent to 10% and stimulate market liberalisation. The aid Thailand received to solve the financial problems was, however, relatively small. Indonesia and Korea received 42.3 and 58.4 US dollar respectively.<sup>47</sup>

The Asian financial crisis of the late 1990s was also the fifth external shock to severely influence the Thai balance of payments. It had negative effects on the balance of payments, which became especially apparent in 1997. Rapid inflation created a major shift in the balance of payments, because import prices increased. However, the higher prices of imports were compensated by the growing Thai exports.

Despite the external shocks, Thailand has been able to achieve stable results on its balance of payments. This implies that Thai policies to cope with the shocks have been successful. In times of negative shocks, Thailand capitalized on the positive opportunities that came along with the same shock.

Cash balance (Billions of Baht)	
1979	-12,3
1980	-21,8
1981	-17,5
1982	-42,5
1983	-26,7
1984	-34,9
1985	-34,4
1986	-39,9
1987	-17,8
1988	30,2
1989	59,3
1990	103,3
1991	123,7
1992	85,9
1993	68,9
1994	65,8
1995	112,5
1996	104,3
1997	-87,1
1998	-115,3
1999	-134,4
2000	-116,6
2001	-107,9
2002	-118,7
2003	34,3
2004	17,2
2005	16,9
2006	4,5
2007	-94,2
2008	-24,0
2009	-420,3
2010	-177,9

The shocks that influenced the balance of payments can also be connected to the results on the government finance cash balance. This balance shows negative results in periods of negative shocks, described above. In the case of a positive shock, like the fourth shock, the government finance cash balance shows positive results.

The table on the left clearly shows that Thailand has mostly dealt with negative results on the government finance cash balance. The negative results hurt Thailand's macroeconomic stability. The bank of Thailand can print more money, to compensate for the deficits on this balance. This would however stimulate inflation, which might be an even bigger problem for Thailand's macro economy. But when no extra money is printed, the government of Thailand has to deal with debt over which it needs to pay interest. The result of this policy will mean extra pressure on the balance of payments. So both policies that could follow after a deficit on the government finance cash balance would have negative effects for macroeconomic stability, either via stimulating inflation or via higher interest payments. The structural deficits on the government finance cash balance could therefore pose a threat to Thailand's macroeconomic stability, especially when analyzing the trend in recent years.

## **Conclusion: Thailand now and in the future**

Since the 1990s, Thailand saw the development of a structurally lower interest rate. The reason behind this development is the financial liberalization that commenced in 1992. Because of the financial liberalization, the Central Bank of Thailand can only try to control the domestic interest rate indirectly. Nevertheless, the financial liberalization of the financial market has been reasonably successful.<sup>48</sup> The development towards the lower interest rate should stimulate the Thai economy in the years to come. The IMF argues that an interest above five percent is too high. For decades the Thai interest rate was far higher than this five percent, even though this was the case all around the globe. We can therefore not speak of low long-term interest rates in Thailand.

In the 1960s, the share of the agricultural sector in GDP was 39.8%<sup>49</sup> and in 2009 this number had declined to 12.3%. Nevertheless, some 42% of the work force is still engaged in farm or non-farm activities in rural areas.<sup>50</sup> Thailand has remained, moreover, the largest rice exporter in the world. Therefore, the agricultural sector still plays a large role in providing income and employment to a large part of the Thai population. Thailand has had high rates of economic growth close to the level of the Asian Newly Industrialized Countries. However, this growth has gone hand in hand with an increasingly unequal overall income distribution. Since the First Plan of the NESDP income distribution and improvement of productivity and living conditions in the rural areas have been recognized as a major development issue. Yet, based on the belief that high overall growth rates would benefit all sections of the population, the measures undertaken aimed at accelerating industrialization mainly benefited upper income groups.

Government expenditure has been around 10% of Thai GDP since the 1970s. However, through most of the past fifty years, Thailand's government has actually been biased against agriculture. It has oppressed rural development by directing away profits from the agricultural sector towards industrialization, by levying of export taxes on agricultural products and by confining rural aid to areas around Bangkok. Therefore, it cannot be claimed that Thailand has had a rural policy in the past fifty years.

When economic freedom is concerned, in 2010 Thailand is ranked number 66 in the world and listed as number 10 of 41 countries in the Asia-Pacific region. This is above average in both the world and the region. According to The Heritage

Foundation the political instability that has characterized Thailand since 1932 has definitely had a negative impact on its economic freedom. Despite the fact that over 40% of the labour force is working in the agricultural sector, the rise of the manufacturing industries, especially those that develop high-technology products, has led to a significant growth of the export sector.<sup>51</sup> Although Thailand is in many ways an open economy, there have been major restrictions on economic freedom in the agricultural sector.

Poverty incidence, measured as the percentage of the population living below the poverty line, has fallen dramatically. In 1962, 57% of the total population lived in poverty. This ratio declined to 9.6% in 2006.<sup>52</sup> There is clearly a strong positive relation between overall economic growth and reduction of poverty. However, poverty reduction has not been uniform across regions and between rural and urban areas. In all regions, the incidence of poverty was much higher in rural villages than in urban areas.<sup>53</sup> As a result of the government's urban-biased policy, the income and productivity gaps between rural and urban areas have enlarged over time. Productivity in the non-agricultural sectors is now 8 to 10 times larger than in agriculture. In 2000, the incidence of rural poverty was 20.1% while the incidence of urban poverty was only 5.8%. Today, almost 90% of Thailand's poor reside in rural areas.<sup>54</sup>

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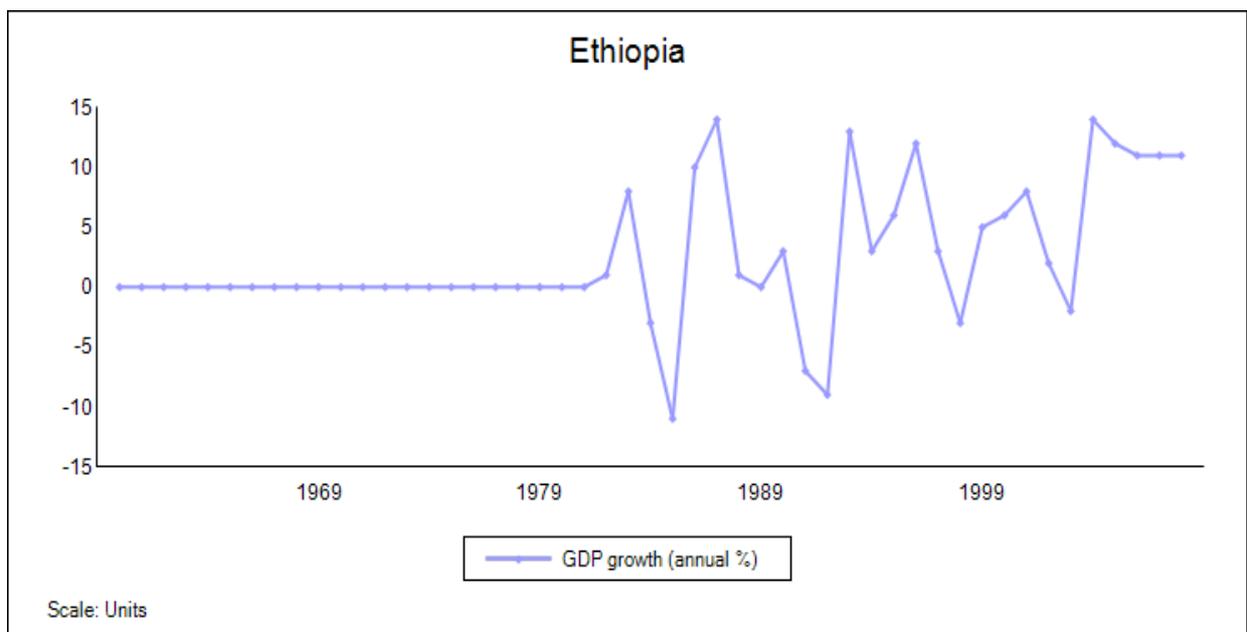
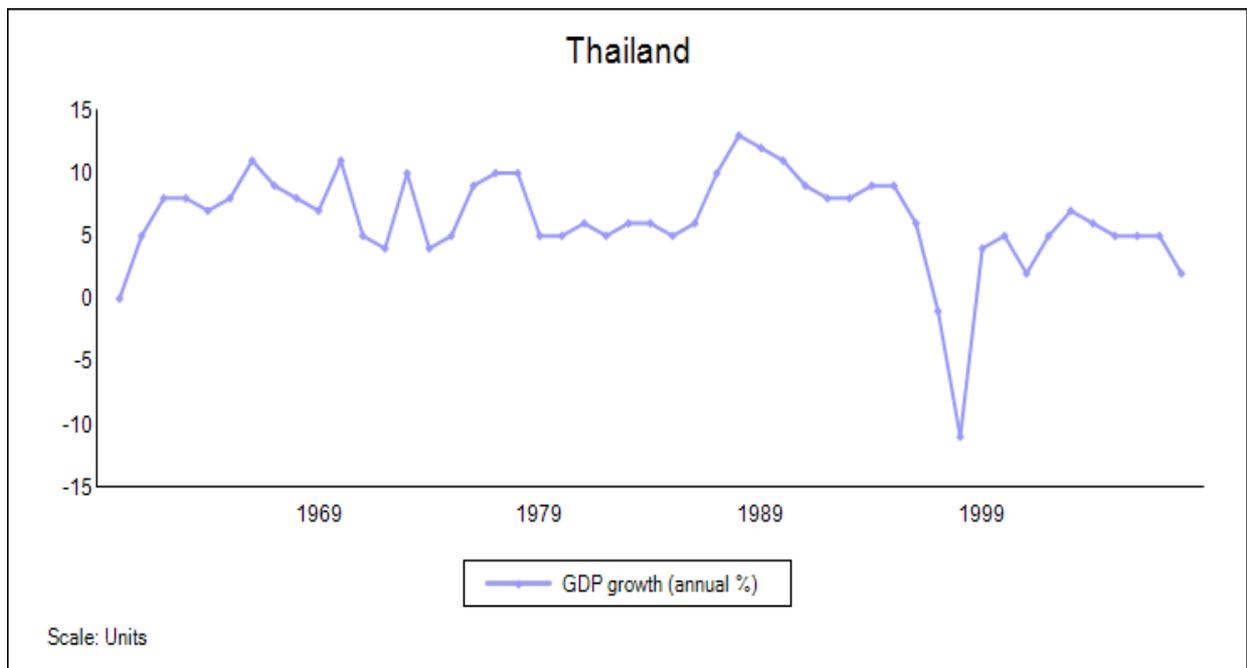
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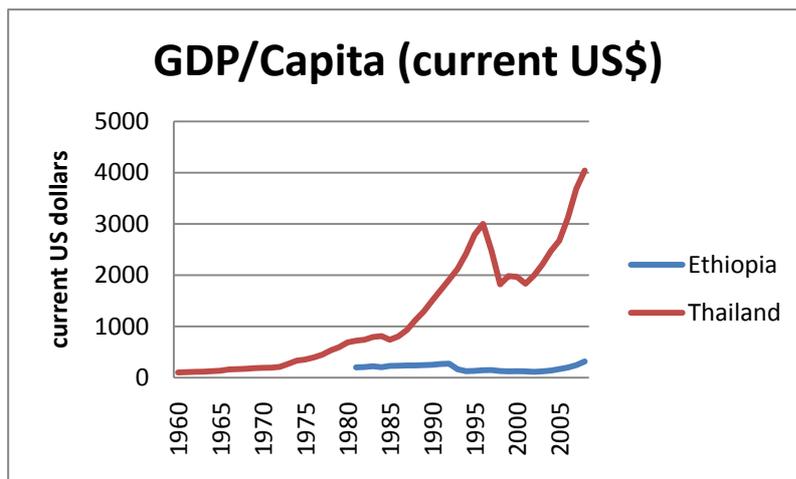
# CHAPTER 3 | Ethiopia and Thailand compared

## 3.1 Ethiopian and Thai macro economies compared

### General economic developments



The data supplied by the World Bank shows that GDP was higher in Ethiopia until 1993, but growth was much slower than in Thailand. In 1993, Eritrea became independent, meaning that a large piece of the Ethiopian economy was cut off. Growth has been less steady than in Thailand, where the Asian crisis of 1997/98 caused a major fall. Ethiopia transformed from a socialist country to a market-based country and realized annual growth rates of over 10 percent for the period 2003-2008. Due to the global financial crisis growth slowed down, but is still high.



For the past several decades, Thailand has experienced rapid economic growth that has transformed the country from a predominantly agrarian society to a newly industrialized economy. In the early 1960s, more than 80% of the population was

engaged in agricultural activities, whereas in 1991, 'only' 60% worked in agriculture. It is remarkable how much the Thai industrial and service sector have expanded, accounting for 80% of Thailand's total GDP.<sup>1</sup> Compared to Thailand, 80% of Ethiopia's population still was employed in agriculture by the 1980's, accounting for 85% of exports.

### *Balance of payments*

The balance of payments is the most important indicator for trying to establish the extent of deficits in a country. A major difference between Thailand and Ethiopia are the results on the balance of payments. Ethiopia is confronted with structural deficits on the balance of payments, while there were only four years since 1979 in which Thailand had to deal with a deficit. The Thai negative results can generally be connected to external shocks. When no external shock occurs, Thai policies result in positive results on the balance of payments.

Besides deficits on the Ethiopian balance of payments, Ethiopia is a heavily indebted country. Public debt constituted 79.6 percent of GDP in 2005/6 and domestic debt 30.7 percent. Because the World Bank approved the cancellation of a part of the Ethiopian debt in 2006, the debt has decreased substantially.

The situation in Thailand is almost opposite to that in Ethiopia. Up to 1996, Thai policies never resulted in domestic debt. After 1996, Thai domestic debt grew rapidly. One of the reasons that domestic debt has grown is the external debt. At the time of the Asian financial crisis, Thailand's external debt measured 109.2 US\$. This number had to be reduced. The Thai government reduced the number to 69.9 US\$, but the reduction of the number came at the cost of domestic resources and hence increasing domestic debt.

### *Trade balance*

The financial crisis was also a turning point for Thailand's results on the trade balance. Until 1997, the results were negative. But from 1998 on, results on the trade balance were positive, except for 2005. Thailand was able to develop a strong economy with deficits on the trade balance, but is now also enjoying the benefits of positive results on the trade balance.

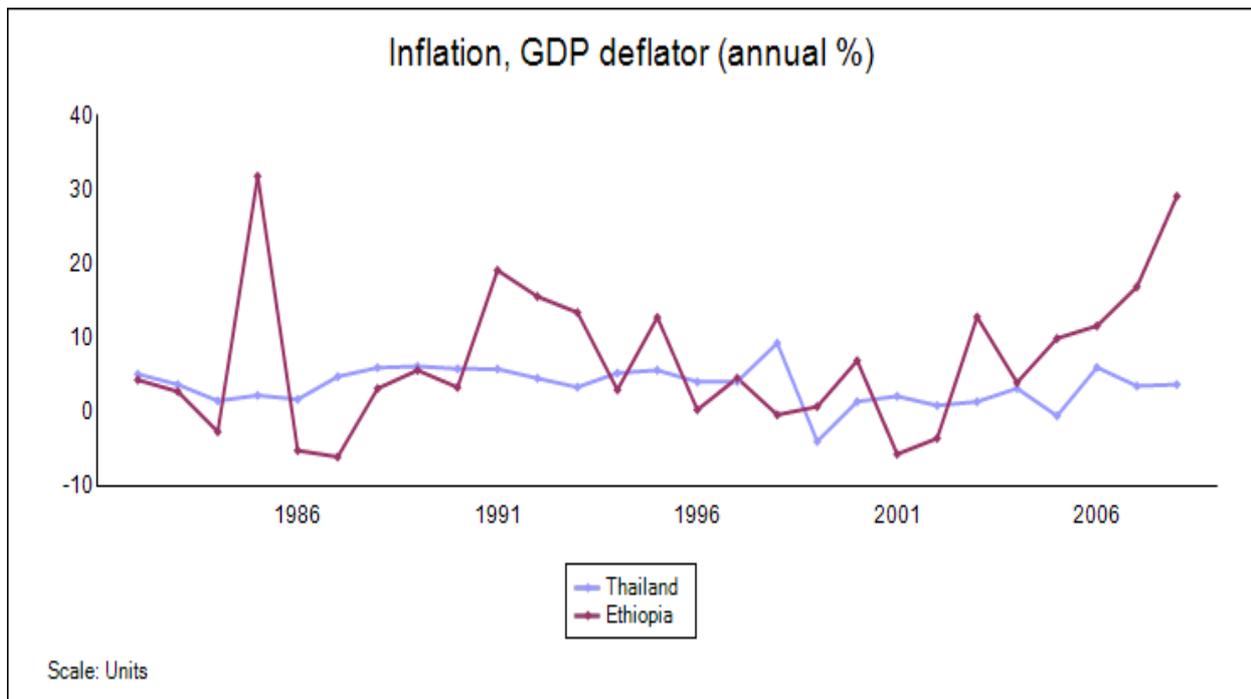
Ethiopia was not able to develop a strong economy like Thailand did, but also dealt with trade balance deficits over time. Especially in the 1970s and 1980s, growing economic imbalances in Ethiopia resulted in negative results on the trade balance. During these decades the deficit grew structurally. After the 1980s the results on the Ethiopian trade balance stabilized, but were still negative.

### *Inflation*

The most important reason that the results on the Thai trade balance changed since 1998 is increased inflation. Thai goods were cheaper for foreign importers because of the lower value of the Baht, causing a rise in Thai exports. Apart from the Asian financial crisis, inflation in Thailand has structurally been below five percent. This is a result of conservative policies by the central bank, one of the strongest institutions in Thailand. Like the balance of payments, inflation only exceeded its structural level when external shocks were involved. During the Asian financial crisis at the end of the 1990s and during the oil crisis of 1974, the inflation rose to twenty percent.

The Ethiopian level of inflation is highly unstable, partly because Ethiopia does not have a strong central bank like Thailand. Data is available as of 1974. In 1985, Ethiopian inflation was 31.8%. This number supports the instable inflation in Ethiopia. In the years following 1985, the instability is underlined by the varying level of inflation. There are years in which inflation is over ten percent, and there

are years where data shows a situation of deflation. The Birr was devaluated in 1992, to counter the monetary imbalances that were a result of the Derg regime. Unfortunately, the positive consequences of this devaluation were disappointing. Inflation continued to be unstable and since 2005 inflation is high and increasing.



Due to the strong central bank and conservative monetary policies in Thailand, the Baht is relatively stable. The Baht was devaluated in 1981 and 1984 to decrease the balance of payments deficit. The only moment where the exchange rate of the Baht showed severe instability was during the Asian financial crisis. In Ethiopia, exchange rates are determined on a daily basis via interbank transactions regulated by the Central Bank. The Birr is linked to the US dollar and remained stable at 2.07 Birr to the dollar for more than a decade. In January of 2009, it was devaluated against the strong dollar by 5%.

Since the 1990s, Thailand saw the development of a structurally lower interest rate. For decades the Thai interest rate was far higher than this five percent, even though this was the case all around the globe. We can therefore not speak of low long-term interest rates in Thailand. Negative real interest rates are an issue in Ethiopia, reducing the incentives for holding money. The real interest rate on saving deposits in Ethiopia was about 8 percentage points below the LIC average.

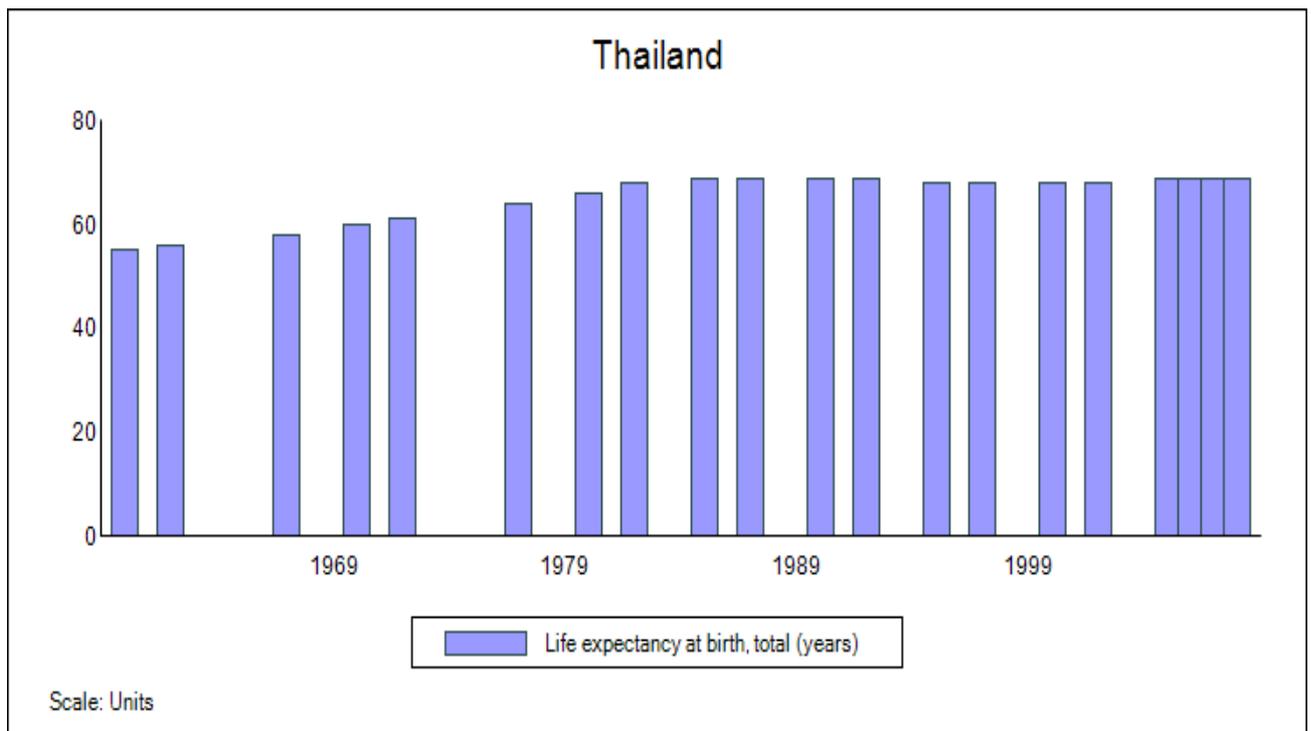
### *Adjustment*

In 1974 the Ethiopian balance of payments collapsed due to famine and the oil crisis. The famines in the 1980s also led to the decimation of agricultural exports. The first Structural Adjustment Programme in 1993-1996 was to promote sustainable development and poverty reduction, by means of a structural reform of the economy towards a market-based system that included macro-economic stability, economic liberalization and fundamental structural reforms and was followed by similar programs.<sup>2</sup>

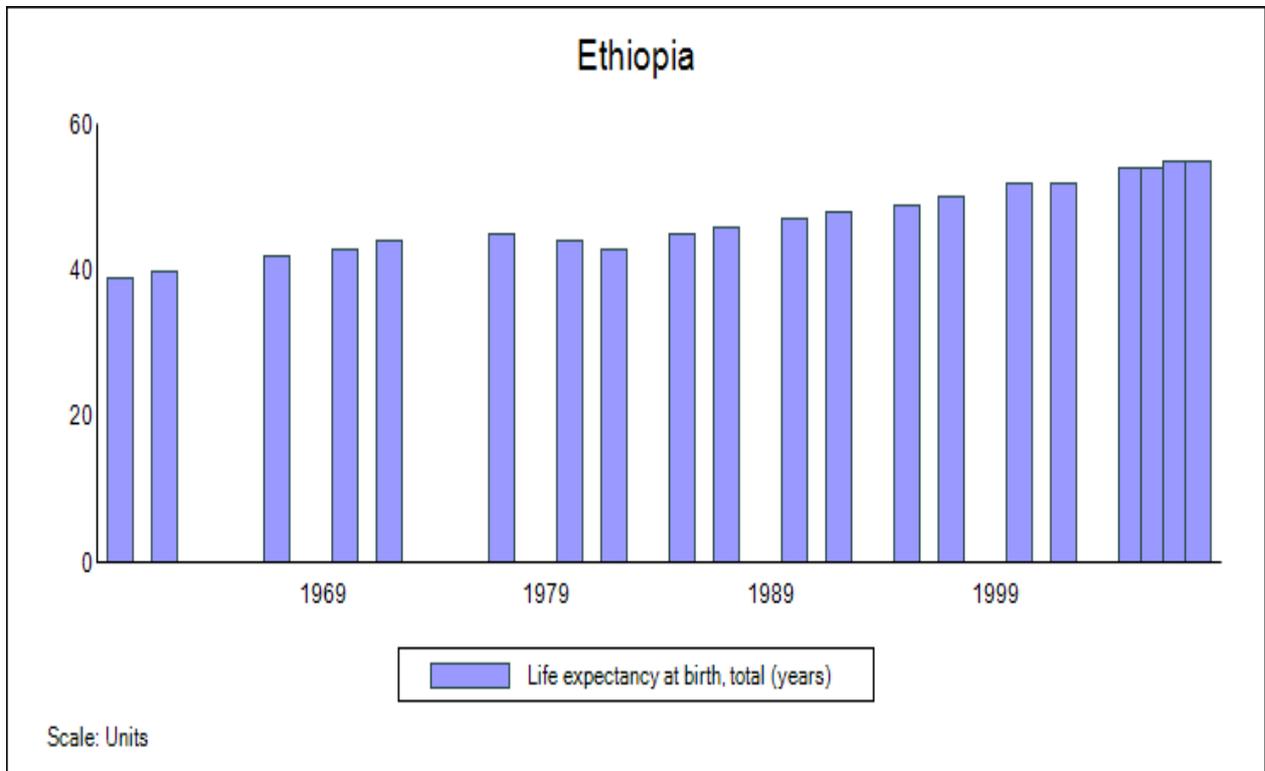
In Thailand, the major financial crisis was the Asian crisis which started when the Thai government decided not to devalue the Baht. Speculation increased, and the economy came to a halt. The government then decided to let the Baht float. In August 1997, the IMF offered a rescue package worth more than \$17 billion, and later that month, another package worth \$3.9 billion, both tied to neoliberal economic reforms. The rescue packages were paid back in 2003, four years ahead of schedule.

### *Poverty incidence and life expectancy*

In Thailand, poverty incidence, measured as the percentage of the population living below the poverty line, fell dramatically: from 57% in 1962 to 9.6% in 2006.<sup>3</sup> In Ethiopia, 38.7% of the population lives below the poverty line currently. There has not been a steady decline, as recent figures show: from 46% in the early



1990s, rising to 56% in the beginning of this millennium, and then back down to 39% in the year 2009.<sup>4</sup> For both countries, this has not been uniform across



regions and between rural and urban areas. In all regions, the incidence of poverty was much higher in rural villages than in urban areas.<sup>5</sup>

The differences between life expectancy between Ethiopia and Thailand are very large. As the graph shows, Ethiopian life expectancy has risen from 39 years in 1960, tot 55 years in 2008. The EPRDF government managed to bring the life expectancy at birth up from 47 years in 1990 to 55 years in 2008. Thailand starts with the age of 55 in 1960, and rises to 69 years in 2008. This figure shows the enormous differences in living standards and policy in both countries.

*Conclusion*

The above indicators show that Thailand is more stable where the macro economy is concerned. The Thai government has its worries. The years where there has been a shortage on the government cash balance and external shocks have been able to alter the results of important macroeconomic indicators. However, responses to external shocks have been fairly successful in the past.

Compared to Thailand, Ethiopia’s macro economy has been fairly unstable. This is for example presented in the available data of inflation. External shocks are not

required to offset important macroeconomic indicators. When there is a shock in Ethiopia, like undesirable weather conditions for example, the Ethiopian economy collapses because it is too weak to cope with the shock. Shocks like these immediately affect the current account, resulting in deficits. The government launched several Five-Year Plans to improve the results on the current account and increase the country's cash crops, but positive results have been minimal.

## **Market liberalization**

### *(Agricultural) export*

In both Thailand and Ethiopia agricultural products are important export products. In Thailand rice has been the major export crop, while in Ethiopia coffee takes up this position. Even though agriculture thus is vital to economic growth of both countries, both Thailand and Ethiopia have experienced restricting policies for these products. Although Thailand's economy has been principally free, some freedom was restricted by means of a rice premium in the 1950s. This tax on rice exports created a state monopoly on the trade in rice, and as a result the growth of rice production has declined. Moreover, the government pursued a diversification policy. In Ethiopia economic freedom was curtailed in a different way: the land was nationalized under the Derg regime with large effects on the export of the country. Peasants were allowed a plot not larger than 10 hectare, they were not allowed to grow what they preferred, and grain wholesaling became illegal. This stands in contrast to Thailand, where policies favored large landowners and rich farmers, while small farmers switched to less taxed crops due to the diversification policy. In 1988 the Ethiopian food markets were liberalized and the quota system for farmers, as well as the trade taxes, was removed. This also had positive effects on small-scale farmers.

Although non-agricultural export currently has a larger share in Thai export, rice is still an important export product. In fact, Thailand is still the world's largest rice exporting country. Ethiopia depends largely on coffee and to a smaller extent on other agricultural products for its export, while Thailand relies more on non-agricultural export. So although the starting position was rather alike, the government policies differed extensively and the development of the export sector of Thailand far exceeds that of Ethiopia.

### *Free trade agreements*

Thailand has a number of bilateral and multilateral trade arrangements, of which TAFTA and ASEAN are the most important. Ethiopia is not yet a full member of a trade bloc, free trade agreements are therefore not relevant to Ethiopian development.

### *Import abundance*

Ethiopia suffered from large resource gaps in the 1970s and 1980s. In the 1980s the imports and exports were relatively stable though, with imports (11-14 percent of GDP) always exceeding exports (6-8 percent of GDP). In the 1990s and 2000s the exports stayed relatively unchanged at 6.4 percent of GDP, while imports rose to 20.4 percent at the beginning of the millennium to 32.2 percent at the end of the first decade. Thailand also experienced a negative result on the trade balance from the 1950s until the Asian financial crisis of 1997. Since then the trade balance has remained positive, with the exception of 2005, but with large fluctuations.

Although both countries again seem to start from the same position of chronic trade imbalance, Thailand managed to bend its import abundance to export abundance, while Ethiopia's import abundance kept on growing. Therefore, foreign debt and interests on this debt place far greater strains on Ethiopian development. The admission to the HIPC initiative reduced some of this burden, but it still is an important factor in the explanation for the lack of development in Ethiopia. Thailand, by contrast, owes much of its development to this export abundance.

### *Key aspects domestic agriculture*

In Ethiopia the most important economic restraint was the nationalization of land that started in 1975 and continues until this moment. The Derg regime also pursued a policy of villagization, wherein peasants were forced to move their houses to large artificial settlements. The result was that farmers had to walk long distances to reach their plots and food production fell.

In the post-communist period the government pursued a policy of resettlement of pastoralists along the major rivers and tried to transform their way of living into cash crop production. Thanks to the World Bank Pastoral project this policy is reversed, and pastoralists may remain shepherds. In the case of Thailand, the rice

premium already mentioned under the heading '(agricultural) export' was the main restriction. Moreover, there was a compulsory rice reserve in place from 1973-1986.

There are again agreements between Thailand and Ethiopia in this category of market liberalization or restriction. The restriction of Thailand was merely towards its most important export crop – rice –, while Ethiopian restrictions had more to do with the land on which crops were cultivated, and the land where people were allowed to live. Recent structural adaptation programs with the IMF and World Bank reversed Ethiopian policies, while Thai restrictions were already reversed in the late 1970s.

### *US stimulation to modernize*

During the Vietnam War the United States had military bases in Thailand. The American presence and support led to a rapid modernization of the country. At its peak in 1969, 45,000 US army and air force personnel were present in Thailand. They all spent money on food, vacation, etc., which meant a boost for the Thai economy. Moreover, the US was eager to include Thailand as an ally in the Cold War and therefore it wanted to transform the Thai economy into a free-market economy. This stimulated the Thai industrial sector to develop. Besides this, with the American presence in Thailand large parts of its population were exposed to Western culture.<sup>6</sup>

Ethiopia also received economic support from the United States. In the Selassie era when the country had difficulties bridging the gap between saving and investments, the private sector received foreign investments, the majority of which came from the United States. The United States also helped to reduce Ethiopia's current account deficit by sending a third of all aid, while the World Bank's share to compensate this was also about one third.

### *Colonial status*

Thailand has never been colonized, in contradiction to most of the countries in the region. Thailand is a monarchy, which is very popular and a stable factor in the country. Unlike most African countries, which have a long history of colonization, Ethiopia was shortly colonized by Italy. Mussolini invaded the country in 1936 and his fascist troops remained there until 1941, but besides this, Ethiopia has been independent.

### *Government status (stability)*

Thailand had a military government in the 1950s, led by Sarit Thanarat (1957-1963). In the twentieth century, Thailand has experienced many instances of political instability. Thanks to the stability of the Royal Family, the support of the United States and the Central Bank of Thailand, the country could function rather normally. On the contrary, the type of government has been varied. Thailand has been ruled by military governments but also by parliamentary democracies. There have been many coup d'états that caused the replacement of one government by another.

After the period of Italian occupation, Ethiopia was ruled by an emperor from 1941 to 1974. Emperor Haile Selassie's power decreased quickly after a military coup, followed by another coup. From 1974-1991 Ethiopia had a communist government, the Derg regime led by Mengistu. This led to great changes for landowners and the commercial and industrial sectors. *Ethiopia Tikdem* (Ethiopian socialism) could not reduce the gap between rich and poor, there was no industrial policy, and there was hardly any economic development. This led to tensions, and from 1976-1978 the Red Terror against the Ethiopian People's Revolutionary Party took place. On top of this instability, Ethiopia was hit by a famine. The civil war between the suppressing Mengistu regime and its opponents eventually led to the overthrow of the communist regime and replacement by a Transitional Regime in 1991. Eventually, Ethiopia was led by a democratic government.

### **Rural Bias**

#### *Investment and expenditures in rural development*

Thailand's government expenditure on agriculture has been around 10% of GDP since the 1970s. The Thai government has put a relatively large amount of money in agricultural research, next to government expenditure on infrastructure and irrigation. In addition to investing in public research, the Thai government has also implemented policies to support private research. However, through most of the past fifty years Thai governments have actually been biased against agriculture. Rural development was oppressed by directing away profits from the agricultural sector towards industrialization, by levying of export taxes on agricultural products and by confining rural aid to areas around Bangkok.

In Ethiopia government policy has always had an anti-pastoralist bias. However, since 2003 the Ethiopian government cooperates with the World Bank in the so called Pastoral Community Development Project, to seek to improve the livelihoods of pastoralists of the arid lowlands. The means to achieve its goals are fostering income growth, access to public services and facilitating better institutional, social and environmental conditions.

### *Gross Domestic Product agriculture*

Both Ethiopia and Thailand are agricultural societies. In Thailand today more than 40% of the population works in agriculture. The share of the agricultural sector in GDP was 12.3% in 2009. The share of the population that works in agriculture and the share of agriculture in GDP have rapidly declined, since in the 1960s the percentages were 80% and 38.9%, respectively. The decrease in agricultural GDP has, however, been more than offset by the growth of GDP in the manufacturing sector.

In Ethiopia, agriculture accounts for 45% of GDP and 85% of employment. The low GDP rate was mainly due to poor performance in agriculture. In the 1980s, 80% of the population was employed in agriculture. The contribution to GDP of this sector decreased from 53% in 1974/1975. The contributions from industry and services increased, however, but could not compensate for the agricultural sector.

In Thailand, a large amount of the public expenditure directed towards agriculture was put into irrigation systems in the 1970s, however unequal the distribution of these irrigation systems may have been between regions. In Ethiopia, on the other hand, farmers were still heavily reliant on rain based agriculture; only 1% of all agricultural land was irrigated in the 1970s.

### *Poverty and income disparity*

In Thailand, poverty incidence has fallen dramatically. In 1962, 57% of the total population lived in poverty and in 2006 this ratio had declined to 9.6%. However, this poverty reduction has not been uniform between rural and urban areas. In all regions, the incidence of poverty is much higher in rural villages than in urban areas. In 2000, the incidence of rural poverty was 20.1% while the incidence of urban poverty was only 5.8%. Today, almost 90% of Thailand's poor reside in rural areas.

In Ethiopia, the poverty incidence decreased dramatically from 46% in the early 1990s, rising to 56% in the beginning of this millennium, to 39% in the year 2009. However, a large income disparity is still apparent between the Addis Abeba area (including the surrounding highlands) and the rest of Ethiopia.

#### *Development plans and other rural policies*

In the early 1960s, Thai plans for the development of rural areas seem to have been relatively successful. However, when the government turned its attention to more problematic areas where growth was low, success was limited. The democratic government of 1974 tried to improve living conditions on the poorer areas, but this mainly benefited the population around Bangkok. The military coup d'état of 1976 ended the governmental focus on rural areas. Focus on rural areas was regained in the 1980s.

Government expenditure in rural areas was mainly concerned with industrialization. This, combined with the rice premium, effectively means a bias against agriculture exists in Thai rural policies. These trends have continued until the moment of writing.

In Ethiopia under Selassie, efforts were made by the central government to improve the lives of rural dwellers. However, the environment for change was not favorable. Starting conditions in the 1940s were dramatic and the hold of the central government on rural areas was minor at best. Local government intervened heavily in the plans which in turn were drawn up by officials with little expertise and resources.

Conditions did not improve under the communist Derg regime. Ideologically, the Derg were very much committed to the plight of the farmers, but they failed to express this in pro-rural policies. Farmers faced harsh regulations to insure steady food supply but this could not prevent a famine which would further deteriorate living circumstances. In an attempt to avert both civil war and a famine large relocation programmes were set up. The results were disastrous.

Under the democratic EPRDF there has been strong cooperation with the World Bank and the IMF in order to improve the lives of the rural poor. Several programs have been set up to increase agricultural output, and one of the effects has been increased exports of agricultural produce. Whether these trends hold for the long term cannot be said as of yet.

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## Conclusion

The main objective of the Tracking Development project is to seek an answer to the question why Southeast Asia and Sub-Saharan Africa have diverged so sharply in development performance in the last 50 years.<sup>1</sup> The comparison between Thailand and Ethiopia has confirmed this divergence. Macroeconomic stability, rural bias and market liberalization have played a central role in this analysis. The question is whether policies in these areas explain the increased divergence between Ethiopia and Thailand over the last fifty to sixty years.

This is certainly true for the topic of macroeconomic stability. Thailand has strong macro-economic institutions, especially the central bank plays an important role in this perspective. The Central Bank of Thailand has monitored inflation and currency stability in Thailand over the entire analysed period. The Bank managed to develop policies that had a stabilizing effect. Compared to Thailand, Ethiopia's institutional structure looks weak, even though it is considered one of the strongest of Africa. The government issued Five-Year Plans, but these were hindered by several problems that can be related to a weak governmental structure and the absence of functioning institutions.

The influence of a functioning government and supporting institutions in Thailand has had its influence on most other macroeconomic indicators, such as the balance of payments and the current account. Ethiopia, on the other hand, realised unsatisfactory results on these accounts and has become a highly indebted country. Whenever Ethiopia has dealt with a negative external shock, such as weather conditions that ruin harvest, the economy automatically arrives at the brink of collapsing. When negative external shocks strike the Thai economy, negative results follow only temporary. The swift recovery of the Thai economy

after an external shock shows its stability. External shocks in both countries can therefore not be qualified as turning points, because the shocks do not change the economies. The external shocks are, however, tests of both economies. Thailand passes these tests, Ethiopia fails them.

The lack of efficient governance in Ethiopia is confirmed in the area of rural bias. Both the Selassie and Derg regimes did not succeed in substantially improving farming conditions. This is especially unfortunate considering the high number of Ethiopians that are employed in agriculture. The past decade, Ethiopia has sought the cooperation of the World Bank, which has resulted in improved agricultural production and exports. If Ethiopia maintains its growth, the cooperation could prove to be a turning point for Ethiopia.

Policies in Thailand have been directed at industrialising the Thai economy and reducing the reliance on agriculture. These policies were initiated when the United States started funding Thailand at the beginning of the Cold War. This was a turning point for Thailand. So foreign funds and foreign influence in the shaping of policies could prove to be a mutual turning point for both Thailand and Ethiopia. Despite the transformation of the economy, Thailand still was one of the main exporters of rice at the start of the twenty-first century.<sup>2</sup> These policies have resulted in the stable economic growth of Thailand.

The substantial production of rice and the industrialisation of the economy have put Thailand in a position in which international trade can potentially play an important role in its economy. Most Thai rice is exported to the US and China, but Thailand is increasingly trying to position itself in the East Asian region, through its membership of the ASEAN and its trading relations with other members of this organisation. Ethiopia is not yet a member of an organisation that can be compared to the ASEAN. What Thailand and Ethiopia do have in common is a limited freedom in trade in agricultural products in the recent past. Agriculture in Ethiopia was nationalised and the trade in Thai rice production was limited by a rice premium.

There clearly are substantial differences between Thailand and Ethiopia related to the analysed topics. These differences favour Thailand as a successful developing country. The analysed indicators seem to translate to the poverty and income disparity. The development of the Ethiopian share of the population that lives in poverty is, again, unstable. After a rise of this number, it went down to a level of 39% in 2009. This is still a high number compared to the number in

Thailand, which was 9.6% in 2006. This means a reduction of the share of the Thai population that lives in poverty by nearly 50%, compared to 1962.

Despite Thailand and Ethiopia sharing a past of non-colonization, their recent histories have created vast differences between the two countries in almost every thinkable indicator related to development. Thailand is structurally performing better than Ethiopia. It is not possible to point to a few positive turning points that are the cause of these differences. Consistent policies supported by functioning institutions secured Thailand's development and strengthened the Thai economy in times of external shocks, such as the Asian financial crisis. This is remarkable, considering Thailand's unstable political environment. In Ethiopia, the transition to the Derg regime was a negative turning point. During the Derg regime, the Ethiopian macro-economy collapsed.

Ethiopia lacks a stable environment to develop its economy like Thailand did. Policies have been inefficient and inconsistent. The failures in Ethiopia are structural and cannot be related to one or a few turning points. For the future, Ethiopia can only hope that its cooperation with the World Bank will prove to be a turning point and that it will continue to improve its economic results, just like the financial aid of the United States was a turning point for the contents and results of Thai policies.

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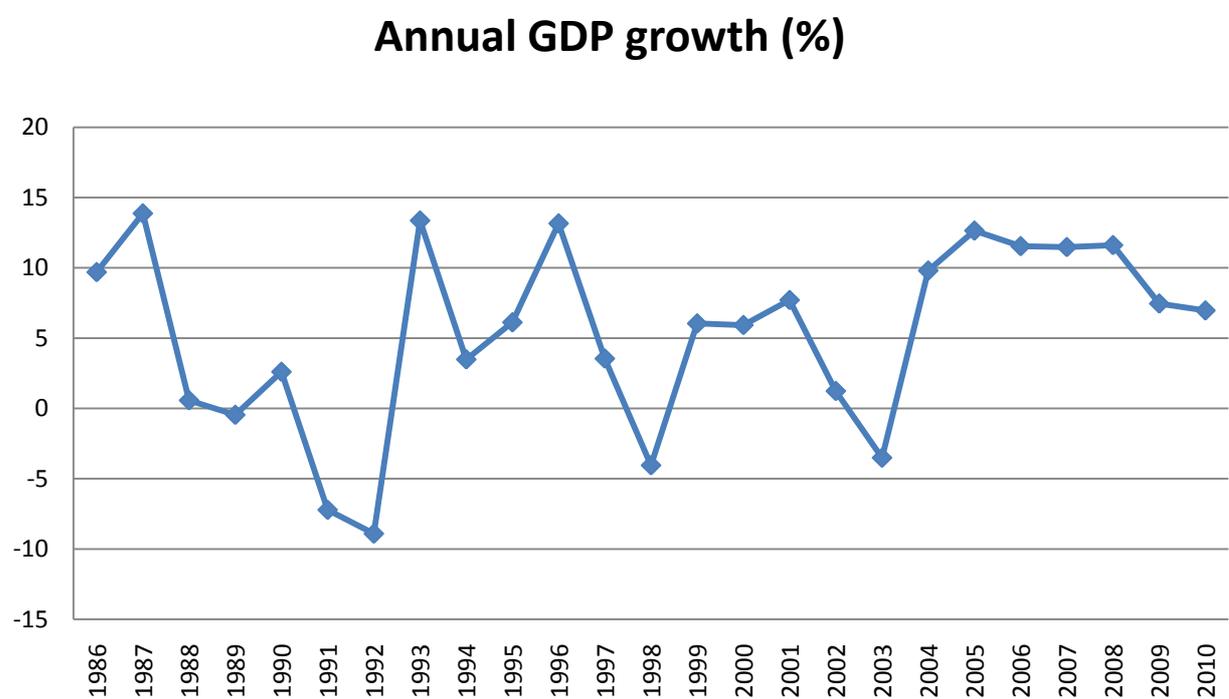
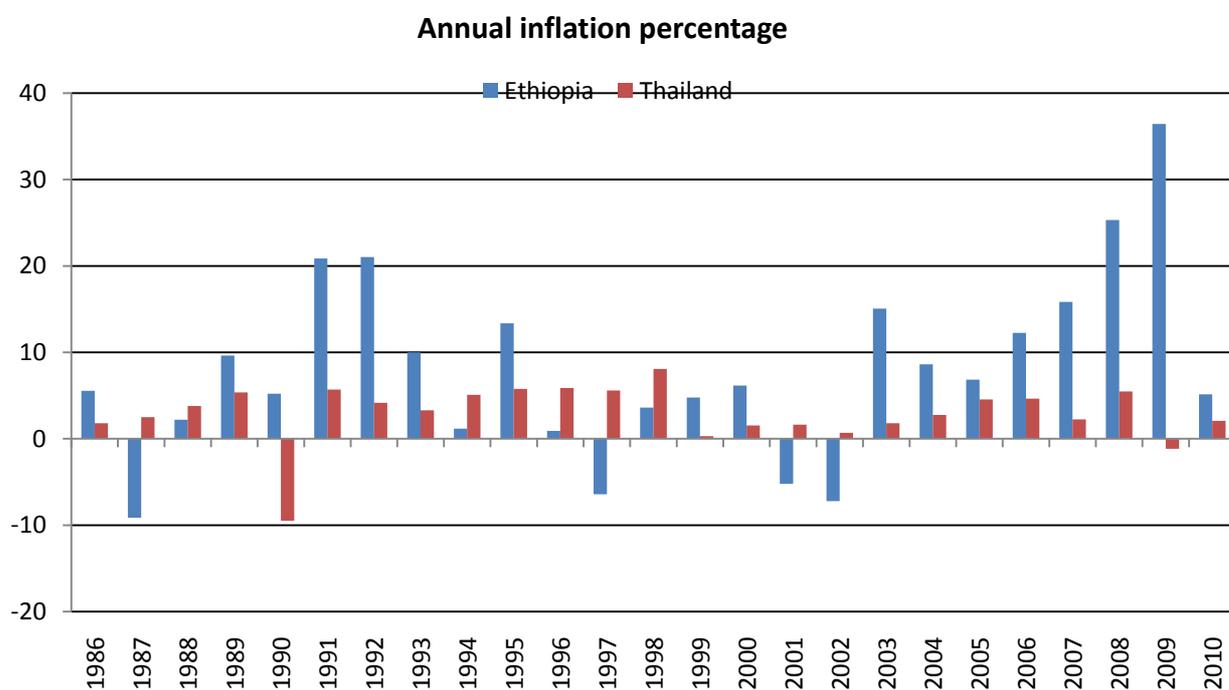
World Bank, Country profile Ethiopia, [[www.worldbank.org](http://www.worldbank.org) > data > key statistics 'Ethiopia'] accessed on March 31, 2010; World Bank, [[www.worldbank.org](http://www.worldbank.org) > data > WDI & GDF Online > WDI, GDF & ADI Online Databases > selected WDI dataset > Ethiopia] accessed on March 31, 2010.

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## Annex

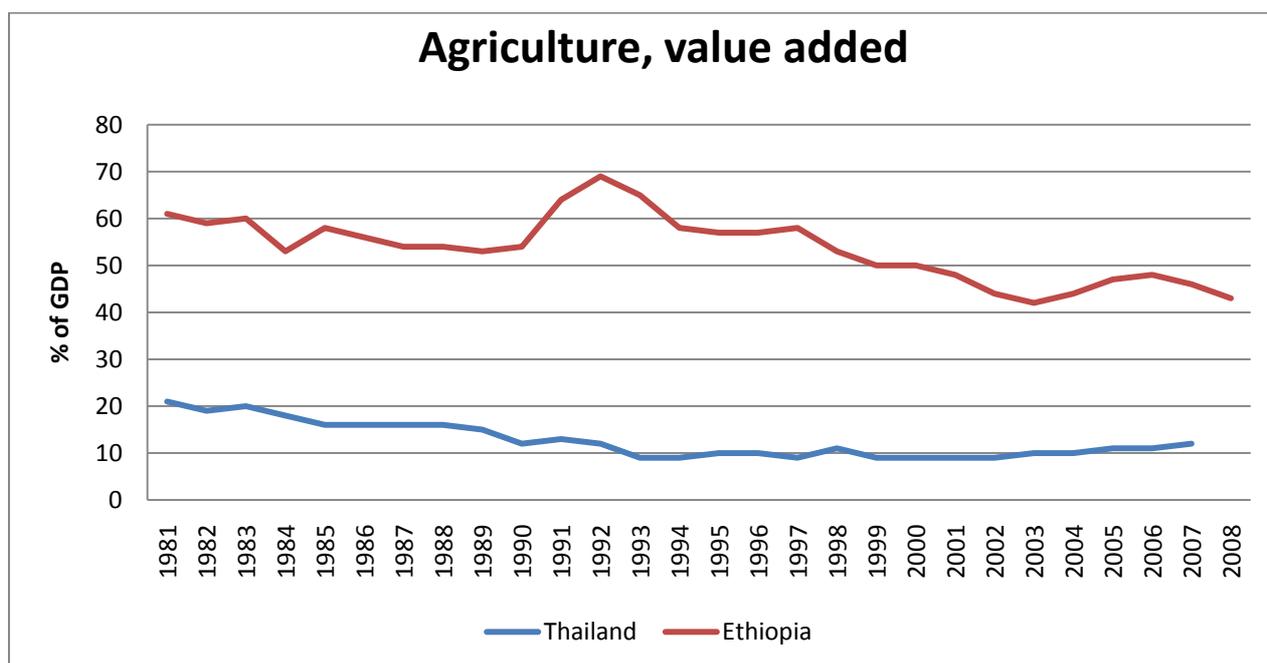


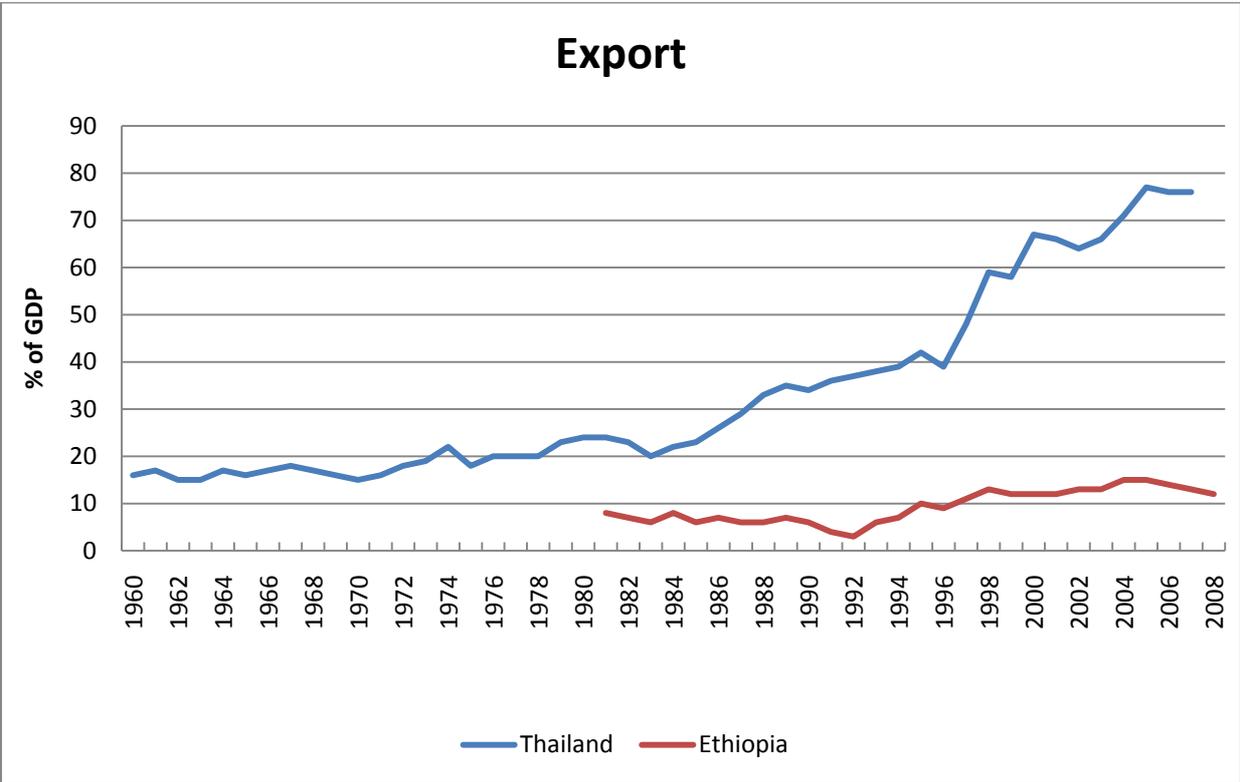
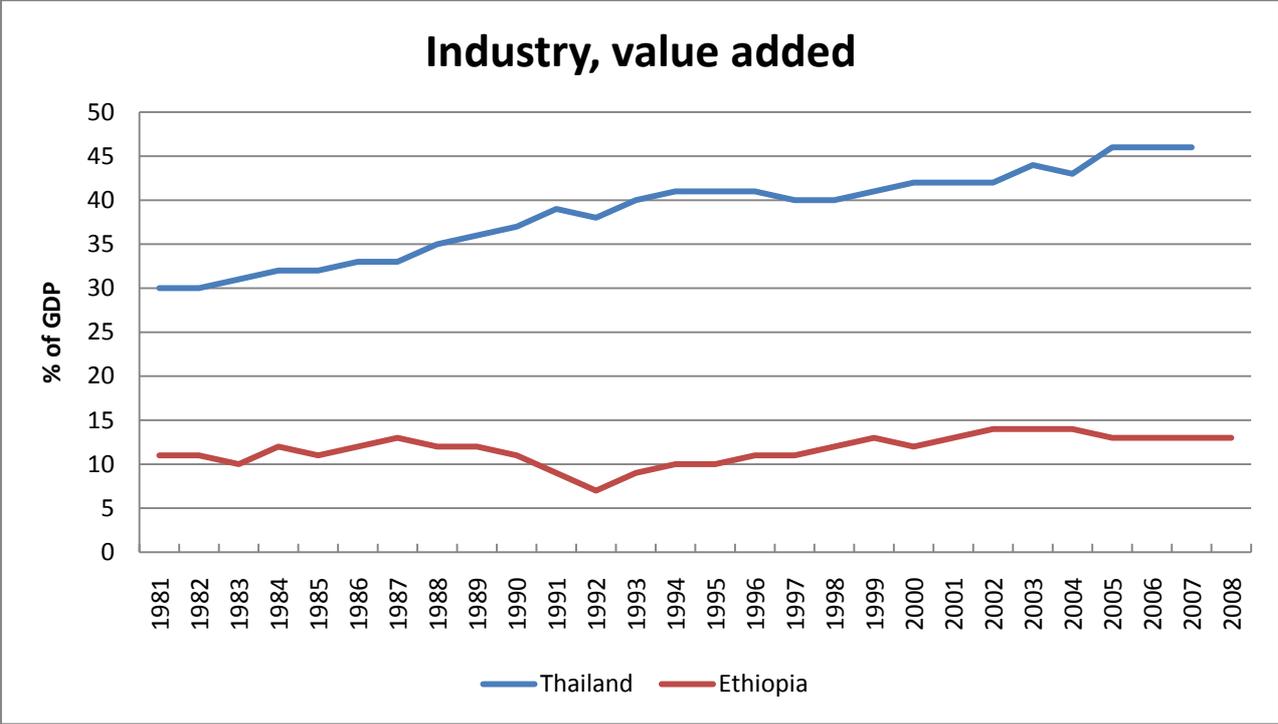
Source: International Monetary Fund, World Economic Outlook Database, October 2009  
[[www.imf.org](http://www.imf.org)]

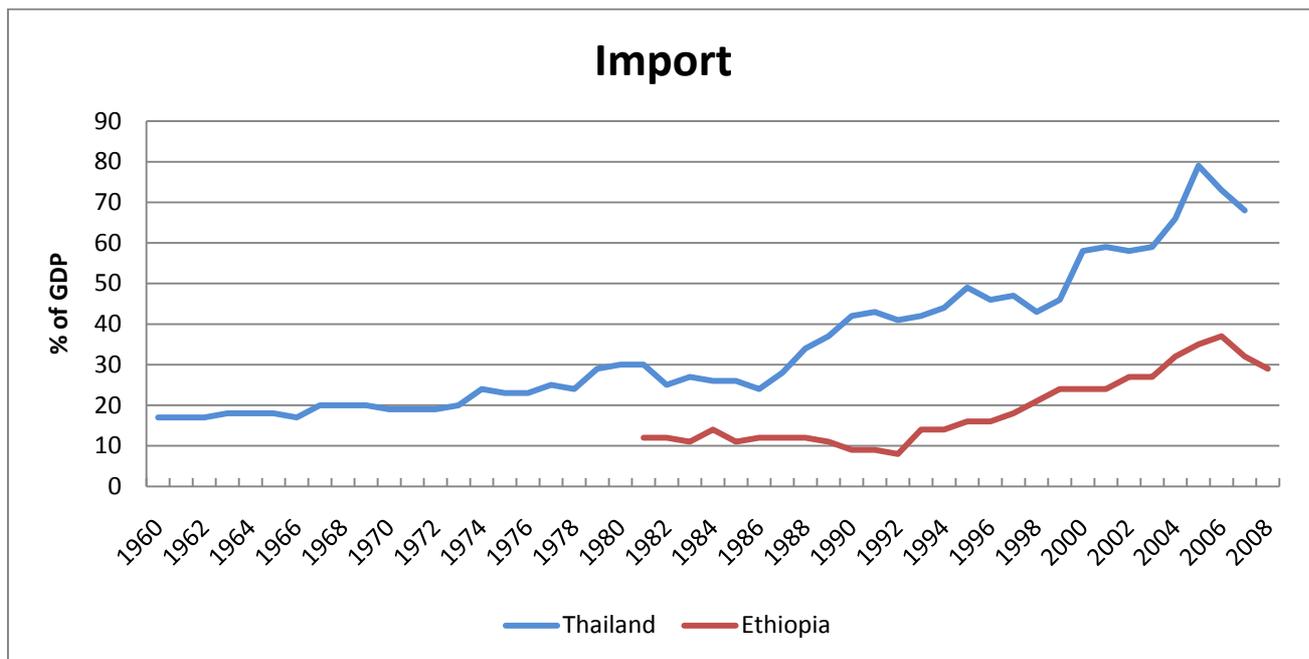
**Table 2.1: Evolution of Major Macro Aggregates (1962/63-1992/2000)**

Gregorian Calendar	1962/63- 1966/67	1967/68- 1971/72	1972/73- 1976/77	1977/78- 1981/82	1982/83- 1986/87	1987/88- 1992/93	1992/93- 1999/00
Ethiopian Calendar	1955-59	1960-64	1965-69	1970-74	1975-79	1980-84	1985-1992
Real GDP Growth Rate (%)	4.7	4.0	1.3	2.3	3.7	-0.01	5.7
Investment as % of GDP (%)	13.5	12.6	9.7	11.0	14.3	13.4	15.9
Saving as % of GDP	11.4	11.0	9.0	4.7	6.5	7.1	5.3
Exports & Import as % of GDP	24.1	22.1	26.5	29.1	26.0	20.2	37.8
Inflation <sup>8</sup> (%)		1.7	11.4	10.7	3.4	11.8	3.8
Export as % of Imports (%)	83.6	86.6	95.8	53.6	53.7	52.3	56.4

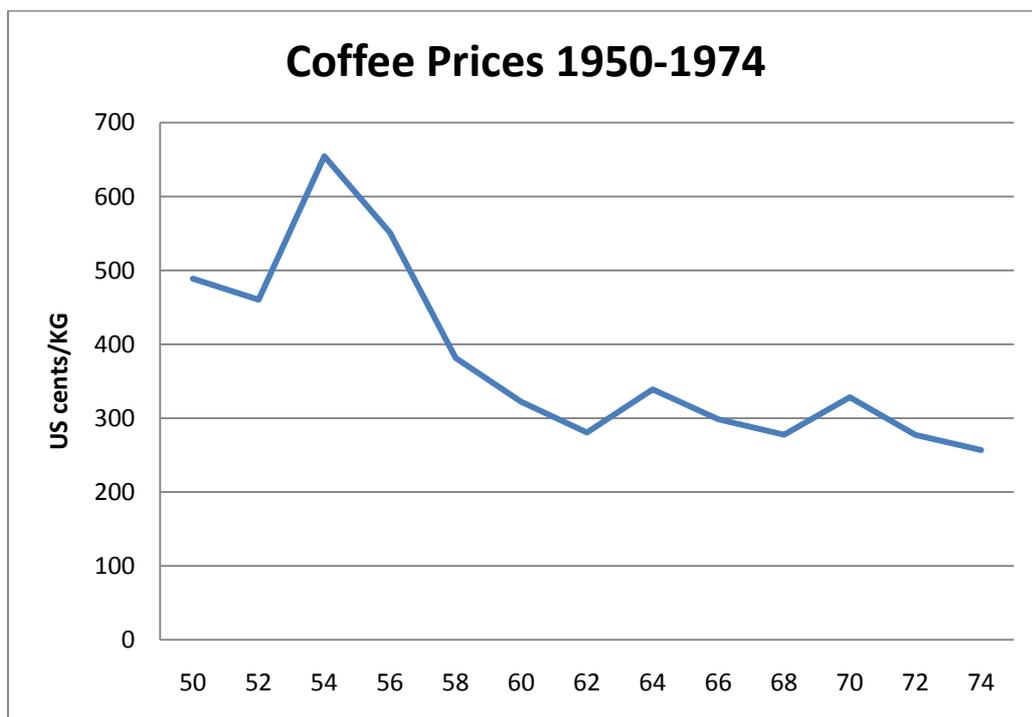
Source: Own Computation based on MEDaC (now MOFED) and CSA (various years), April 2002



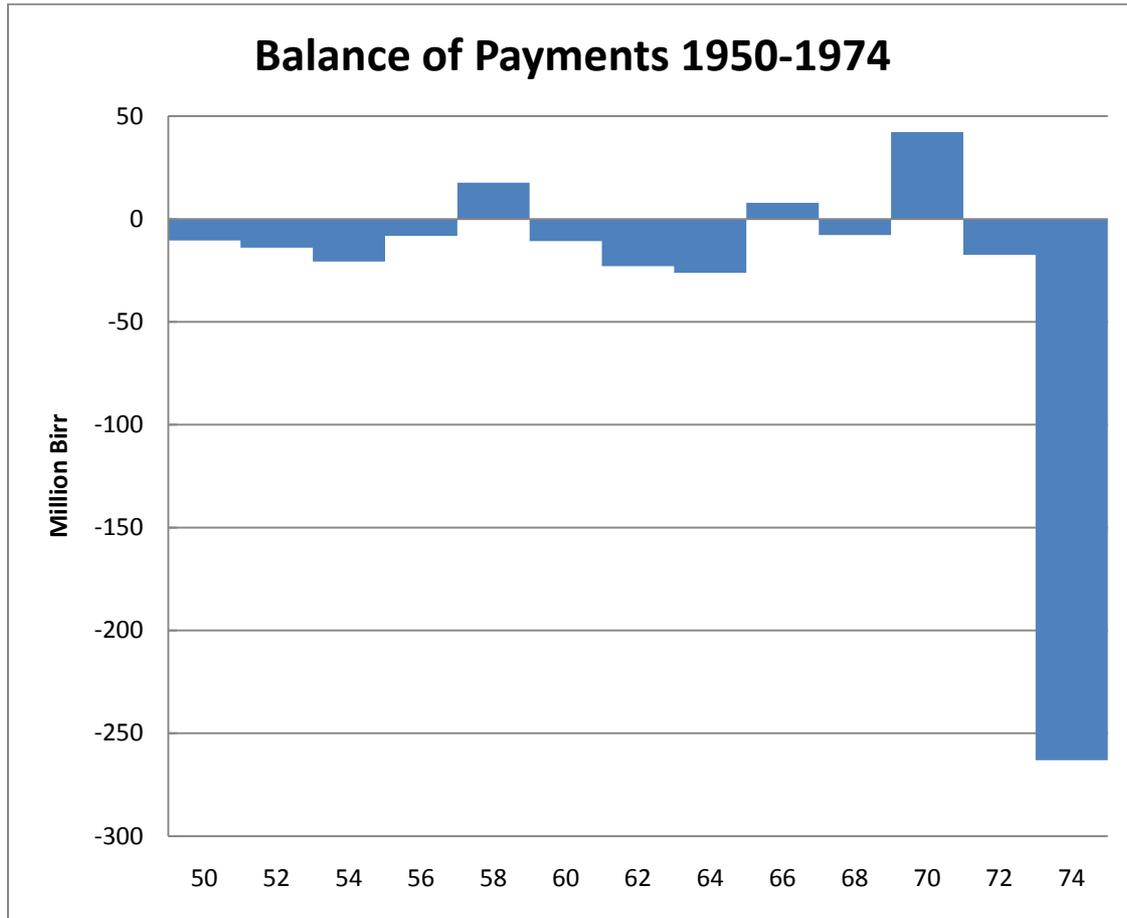




Data from IMF



Source: Central Statistical Office, cited in *An Economic History of Ethiopia, volume 1: The Imperial Era* Ed: Shiferaw Bekele (1995) Senegal: CODESRIA, p. 66.



Source: Central Statistical Office, cited in *An Economic History of Ethiopia, volume 1: The Imperial Era* Ed: Shiferaw Bekele (1995) Senegal: CODESRIA, p. 69.

**Solar Energy in Sub-Saharan Africa**  
*A solar cost-benefit analysis of Uganda*

Research on behalf of UNICEF

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## List of abbreviations

AC = Alternating Current

Ah = Ampere hours

Amperes = Watts/Volts

ARI= Acute Respiratory Infection

CFL = Compact Fluorescent Lamp

DC = Direct Current

DD= Digital Doorway

DMGs = Development Millennium Goals

GHGs = Greenhouse emissions

kVa= Kilo Volt ampere

Kw=Kilowatt

LED = Light Emitting Diodes

M&R = Maintenance and Replacement cost

NGO= Non- Governmental Organization

PV systems= Photovoltaic systems

Wh= Watt hours

Wp=Watt Peak

WHO = World Health Organization

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Generator in kilo Volt Ampere (kVA)	Max. output in kW
kVA 1	1
kVA 2	2
kVA 3,6	3,3
kVA 6	4,8
kVA 8	6,4
kVA 16	12,8

Table 2, Retail diesel prices in Uganda, Deliverable 2.

Year	1991	1993	1995	1998	2000	2002	2004	2006	2008
Price	55	71	85	68	75	70	88	101	122

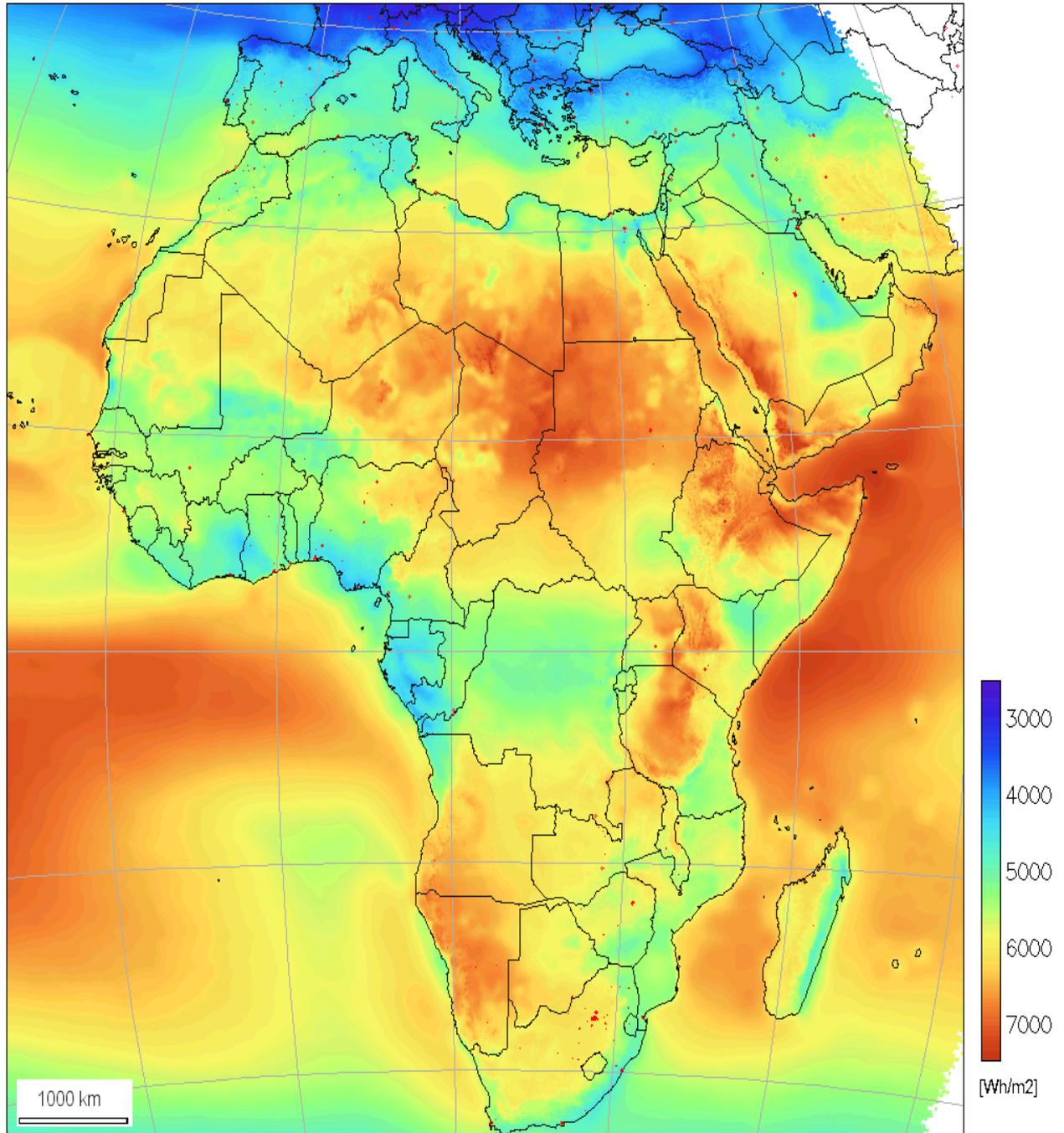
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	Initial cost	Maintenance cost
Pv modules	\$6174.50(5000 euro) per kW peak	\$61.75(50 euro) a year per kW peak
batteries	\$247 (200 euro) per kW hour	\$2.47(2 euro) per year per kW hour
converter	\$617.45(500 euro) per kW	\$6.18(5 euro) per year per kW

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PV-GIS (c) European Communities 2002-2006  
HelioClim-1 (c) Ecole des Mines de Paris/ARMINES 1985-2005

<http://re.jrc.ec.eu.int/pvgis/pv/>

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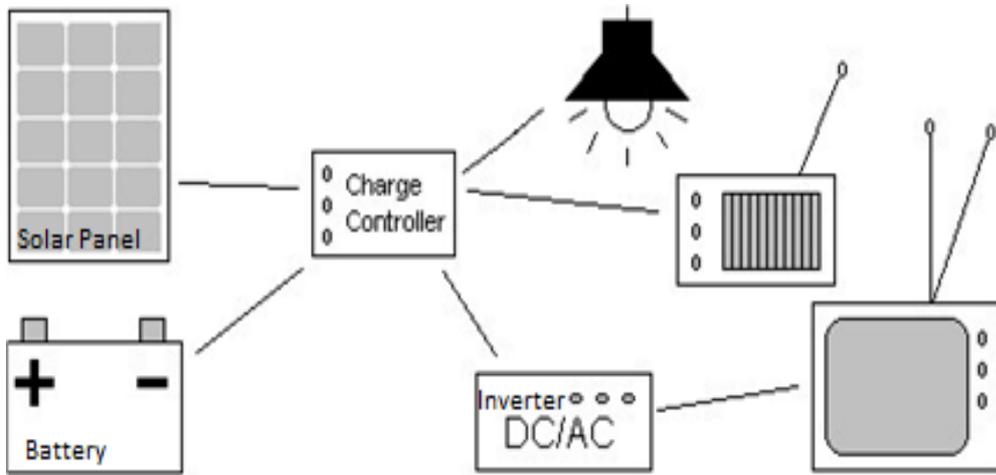


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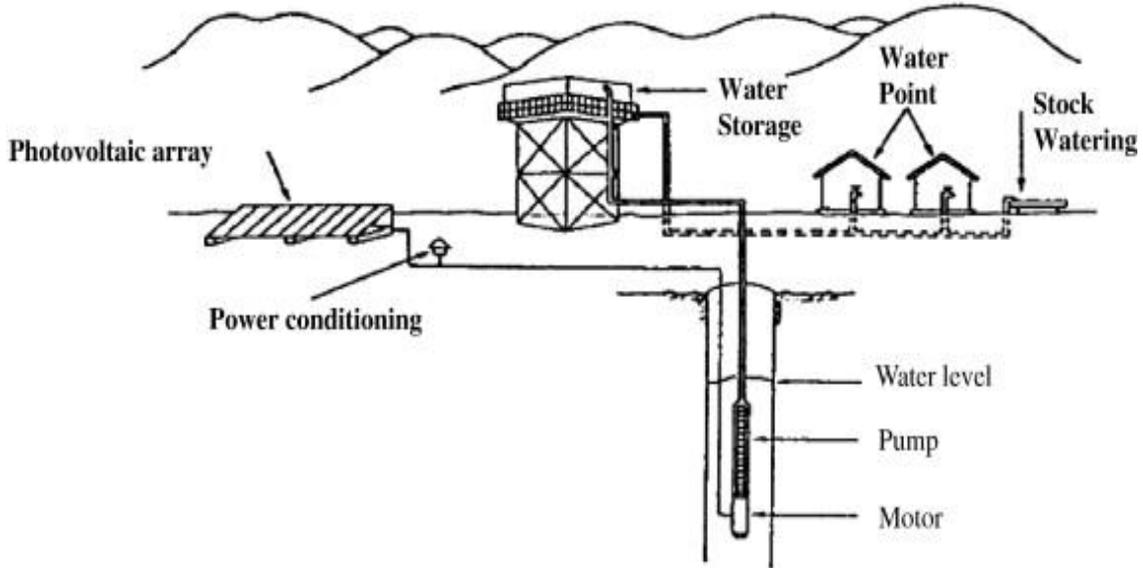


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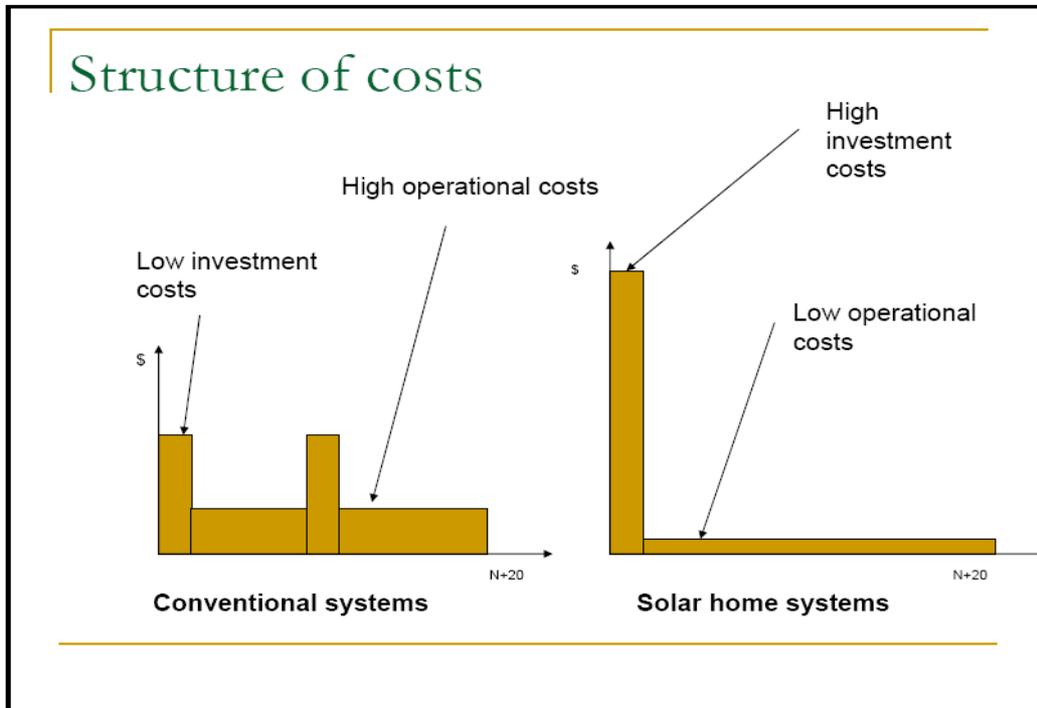
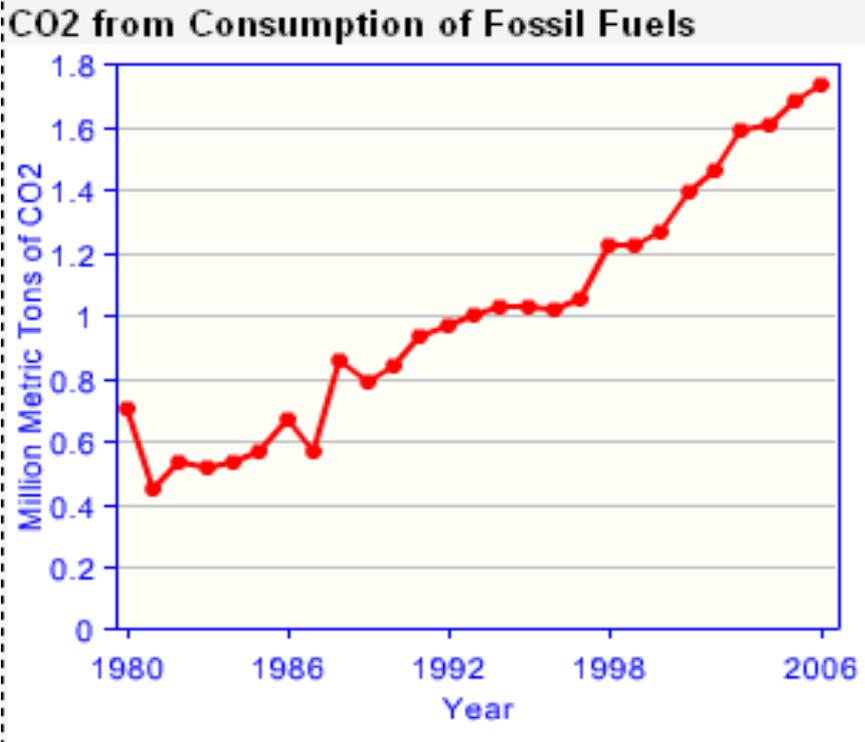


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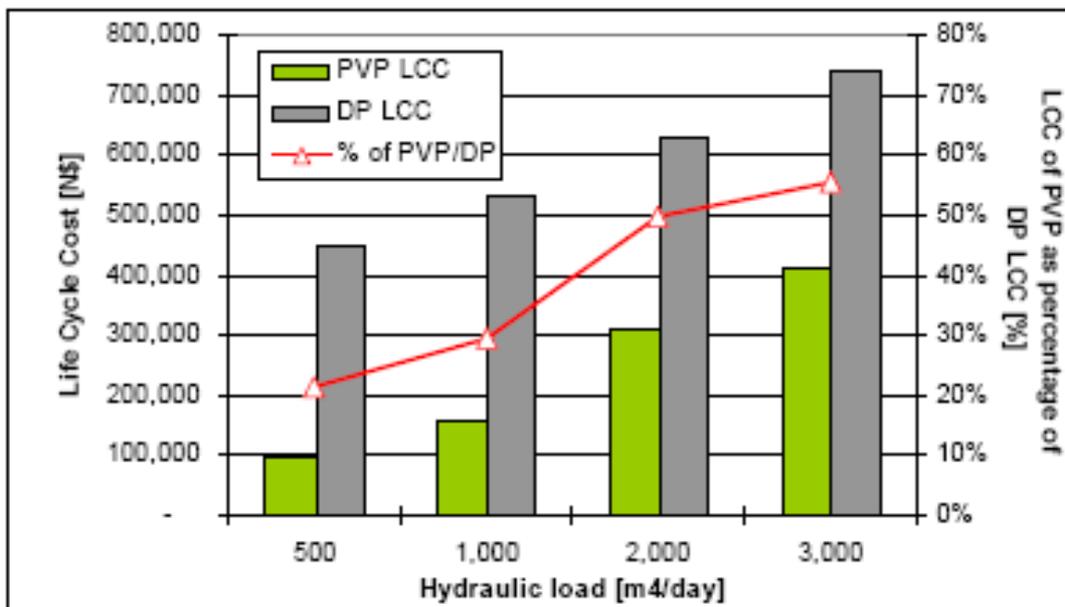


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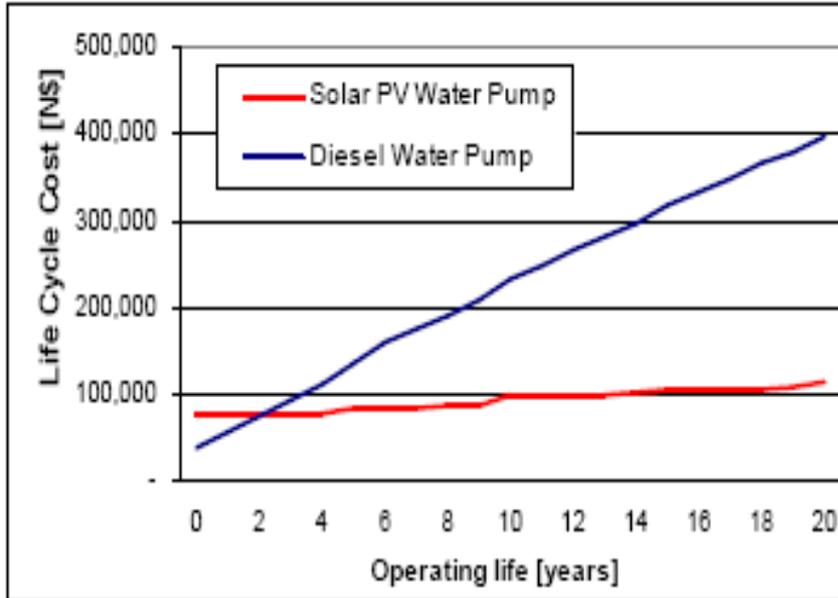
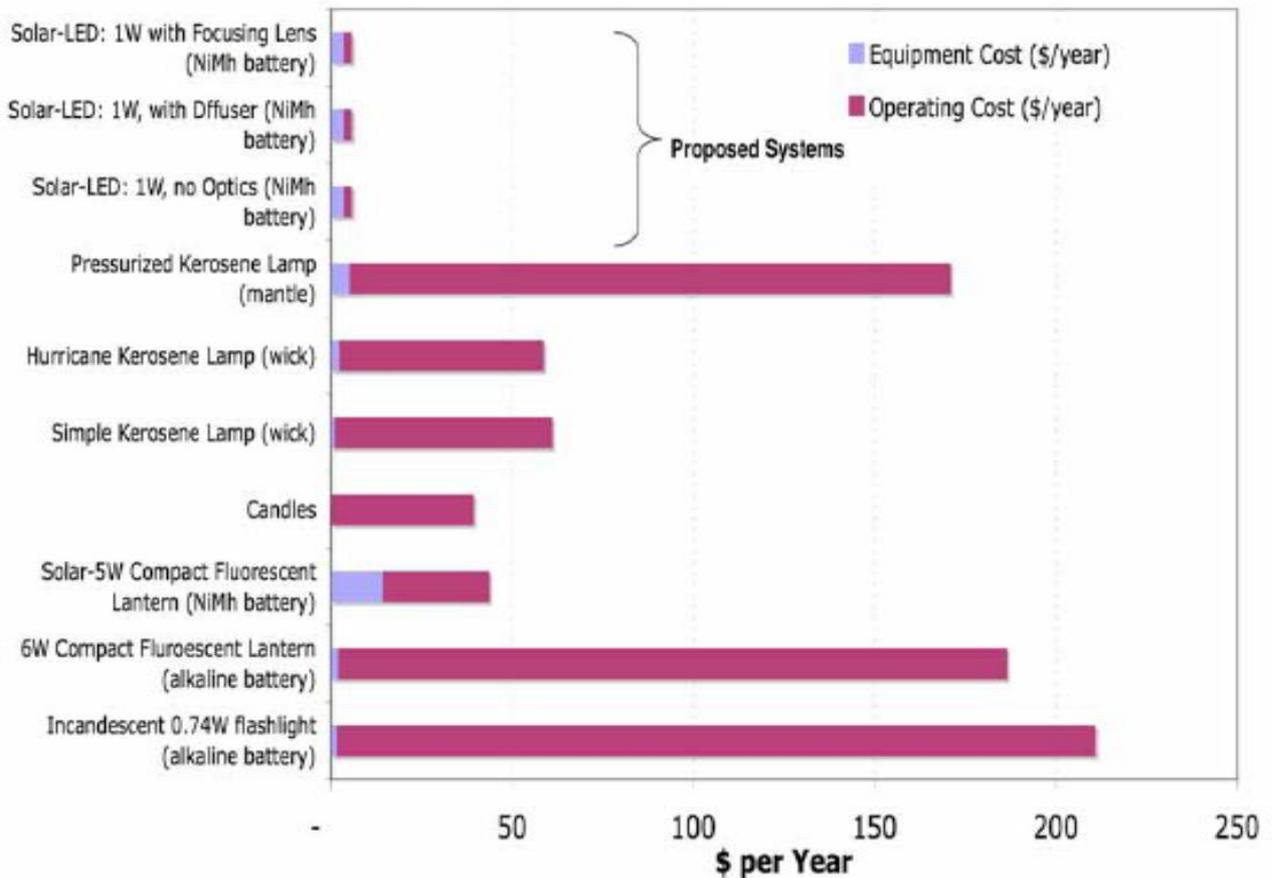


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**Off-Grid Lighting: Comparative Total Costs of Ownership**  
(assumes 4 hour per day operation)



## Introduction

*"The sun, with all those planets revolving around it and dependent upon it, can still ripen a bunch of grapes as if it had nothing else in the universe to do."*<sup>3</sup>  
— Galileo Galilei.

Energy shortage is assumed to be of a major concern for the development of the Third World.<sup>4</sup> This may come not as surprise since in general each country that is regarded to be a developing country shows acute energy shortages. This means that only a small percentage of the population in developing countries enjoys grid access. In rural Sub-Saharan Africa 89 percent of the people live without electricity.<sup>5</sup> The main reason for this is the lack of state funds for expending the national grid to remote areas. Besides, government interests and these of its people often differ, which makes the construction of an electricity grid less likely to occur. Even if the people in remote areas would get access to the national grid, many will not be able to pay for electricity derived from it. Meanwhile, the sun is always providing warmth and strength that every living creature can freely enjoy.

Due to the difficulties with national grid access in the Third World, Non-Governmental Organizations (NGO's) and companies are considering other energy solutions. These can bring the benefits of electricity to the underprivileged peoples of the world, thereby providing a decisive stimulus to overall growth of a country. Certainly, there is good reason to assume that access to energy sources plays an essential role in the development of a country. Improving the level of healthcare in hospitals and the opportunity to study and work in parts of the day when there is insufficient daylight, are only a few examples of how electricity is

interlinked with development. The UN Commission on Sustainable Development (CSD) states that “implementing the goal accepted by the international community to halve the proportion of people living on less than US\$1 per day by 2015, access to affordable energy services is a prerequisite”. In this way energy is directly or indirectly linked to all of the eight Millennium Development Goals (MDGs).

In this regard, solar technology takes in a prominent place. This is supported by the fact that NGO’s are increasingly applying solar technology in their aid projects.<sup>6</sup> Part of its recent success originates in the fact that solar energy has become a viable and reliable option for rural electrification. Especially in Africa, where developing countries enjoy sunshine most time of the year, it has been considered to make solar power a common source of energy in the current situation of tremendous energy shortage. It is increasingly believed that solar energy, as being a renewable form of energy, is more reliable than other energy systems that work on traditional energy sources such as oil and gas.

However, the engagement of solar energy for development work is not without any downsides: costs and risks that are involved during and after implementation of the solar technology need to undergo a thorough analysis. Considering several factors that will be discussed later in this paper, we will show solar systems can provide electricity on a safe and clean basis. However, when these are not taken into account before implementation, there is a high probability that the project will result in a failure and will not contribute to development at all.

The objectives of this research are to provide guidelines for how projects involving solar energy can be implemented successfully and sustainably. In order to achieve this objective, this paper is divided into three deliverables that seek to address the following questions: Deliverable 1 will examine to what extent local populations in remote areas could profit from solar technology. As a next step, an overview of available solar technology for use in remote areas without grid-access will be given. The last section of deliverable 1 will analyze the difficult conditions that inhibit the implementation of solar energy. Deliverable 2 will shift attention to a cost-benefit analysis of solar energy in comparison with traditional energy sources. By taking financial, environmental and socio-economic aspects into consideration, it will be analyzed whether solar energy represents a more feasible solution than traditional energy sources such as diesel, kerosene and biomass. Based on these insights, the last deliverable will provide a policy recommendation

for future projects concerning the implementation of solar technology in Sub-Saharan Africa.

By examining the advantages and disadvantages of solar technology in rural Africa, Uganda has been chosen in order to develop a framework that could suit many other countries of this continent. Despite a considerable reduction in the poverty headcount in the past decade, Uganda remains one of the poorest countries in the world. Access to electricity is at a low level, with a percentage of 19 percent countrywide and 3 percent in rural areas.<sup>7</sup>

Furthermore, this study will not include other renewable energy sources such as wind or bio fuel in its analysis since this would go beyond the scope of this work. Despite of this limitation, the reader should be informed that other renewable energy sources should also be considered and that, depending on social, environmental, economic and financial factors of the region in particular, it could provide another sustainable solution.

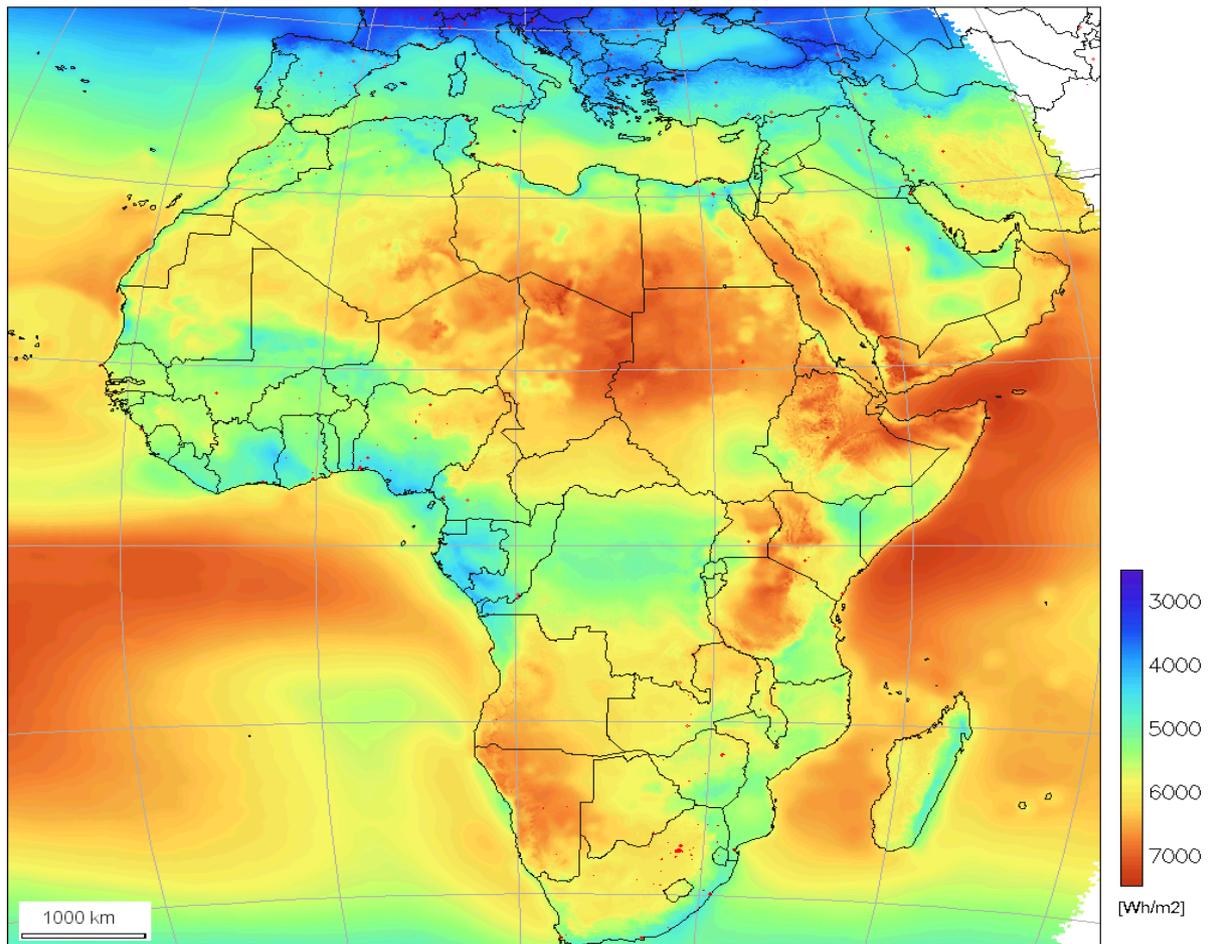
# Deliverable 1 |

## The possibilities of solar technology in rural Uganda

### 1.1. Introduction

Being situated in the “solar belt”, Uganda receives 2500 to 3200 hours of sunshine per year.<sup>8</sup>

Global horizontal irradiation (1985-2004)  
(annual average of daily sums, Gh)



PV-GIS (c) European Communities 2002-2006  
HelioClim-1 (c) Ecole des Mines de Paris/ARMINES 1985-2005

<http://re.jrc.ec.eu.int/pvgis/pv/>

Figure 2: Wh/m<sup>2</sup>/day in Africa (source: <http://www.geni.org/globalenergy/library/renewable-energy-resources/africa/Solar>)

The illustration shows how these sun hours can be converted into an annual average of watt hours (Wh) per m<sup>2</sup> per day. When taking a look at Uganda's location on the map, we find a mean solar radiation of 5000 Wh/m<sup>2</sup> or 5 kWh/ m<sup>2</sup> per day. This unit of energy equals the radiation of a heater rated at 1000 watts (1 kilowatt), operating for one hour, or the use of an 11 watt light bulb consuming one kWh in (1000/ 11 ≈ ) 91 hours. It becomes obvious that the sun forms a reliable source of energy that should be exploited.

Photovoltaic (PV) systems gained favor in the global market after the energy crisis of the 1970's. But as the fossil fuel shortages were short-lived, the interest in PV rapidly declined. It is only in the last two decades that environmental concerns including global warming, caused partly by anthropogenic activities linked to use of fossil fuels, have led to increased attention towards renewable energy in general and to solar systems on the basis that these technologies are clean.<sup>9</sup> As the market for solar systems expanded accordingly, its technologies were further innovated, adding new possibilities to old techniques and inventing new and better devices. Simultaneously, penetration of technologies into developing countries emerged by support from various sources including multilateral agencies and private sector. As a result, today many solar technologies are developed for use in these countries and can be deployed taken with concern in all aspects of the development process, e.g. energy and communication, energy and health.

In rural Uganda, the lack of electricity hampers the development of households, education facilities and health centers which similarly have a tremendous impact on the lives of individuals and communities. This deliverable will focus on the possibilities that solar technology can provide for these problems. The main focus is on the following question: what are the available solar technologies that could be used in rural Uganda in education facilities, health centers and households and what are problematic conditions in the field concerning solar technology? To derive a clear answer, the following topics will be discussed: first of all, a broad overview of the needs in rural Uganda in the different sectors will be given. Secondly, the technology applicable in the specific sectors will be outlined and

finally, the difficult conditions concerning implementation of solar technology in the field will be considered.

Please note that in this deliverable the financial aspects of solar energy will be completely left out, as they will extensively be discussed in deliverable two, where a cost-benefit analysis of solar energy versus traditional energy will be given.

## **1.2 Education facilities, health centers and households in rural Uganda**

Below the current energy situation in education facilities, health centers and households in rural Uganda will be discussed. After outlining needs and problems caused by energy shortages or the use of other energy sources than solar, an overview will be given of possible solutions solar technology can provide.

### *Education Facilities*

Education facilities in rural Uganda have two important needs: lighting and easy access to information. Due to the lack of both, an education gap between rural and urban Uganda has emerged that is hampering the development of remote areas. Because Uganda is situated on the equator it enjoys a fixed amount of 12 hours of light every day. The sun rises around 7 o'clock and descends at the same time in the evening. After approximately 7 pm people therefore have to depend on other lighting sources for the continuation of several activities. In most education facilities in rural Uganda, lighting after dark is either not available or of poor quality providing a disadvantage for all community members. Students are for example unable to continue their studies at night and lose hours of exam preparation. Furthermore, for many children, especially girls in rural areas, the lack of electricity translates into a missed opportunity to attend school as during the day they are overloaded with menial tasks such as fetching water and fuel.<sup>10</sup> The availability of lighting would facilitate these children to enjoy evening classes and similarly educate their parents after their 'work day' is over.

Another point of significance is the access to information. In a developed education facility, computers form a basic need as information technologies increase education opportunities and enable distant learning.<sup>11</sup> The Digital Doorway (DD) is an example which could, once installed, facilitate people to educate themselves in an easy and fast manner. In the 'solar tools' section the DD will be further elaborated on.

### *Health centers*

Due to the absence of a structured energy network, relatively well equipped health centers in Uganda are mainly based in or near the capital Kampala. Health care in rural areas is therefore of low quality as these hospitals lack equipment such as refrigerators that can store medicine and have no proper lighting options during the night and/or partly during the day. This results in the causing of many unnecessary deaths every year, as surgeries cannot be performed and women give birth in uncomfortable conditions. In Uganda, an estimate of between 6,500 – 13,500 women and girls die each year due to pregnancy related complications. Additionally, another 130,000 to 405,000 women and girls suffer from disabilities caused by complications during pregnancy and childbirth each year.<sup>12</sup>

The improvement of rural health facilities could be supported by the implementation of PV systems, providing these buildings of electricity without the need to be connected to the grid. This could ensure a decline in child mortality, acute lethal situations and maternal deaths during and after delivery. Finally, solar lighting in remote locations helps maintaining qualified health staff, which would otherwise opt to work in grid-connected towns and cities.

### *Households*

The main needs for a household in rural Uganda consists of access to water, lighting, communication facilities, and cooking. In dry areas the availability of consistent access to water, livestock watering and irrigation for agricultural activities is of high importance.<sup>13</sup> Today, people living in remote dry areas often have to walk many miles to fetch water and the hand pumps used here are unable to provide for large amounts. A solar-based water pump would contribute to the production of foods such as crops and meat (livestock watering). Moreover, by improving irrigation and the enlargement of producing crops, the capacity of the local farmers will increase which will contribute to their income.

These days, households in rural Uganda mostly depend on energy sources as kerosene, candles, biomass, and other non-electric sources for their lighting needs. These fuel-based lighting devices produce poor quality light at very low efficiencies. Solar-based lighting could provide for better lighting of households in rural off-grid areas for both indoor and outdoor purposes. A study by the foundation of lighting Africa in five African countries found that the main indoor nighttime activities that are significantly hindered by poor lighting are reading,

doing homework and preparing food. Going to the toilet, tending to livestock and visiting are the main outdoor night-time activities that are significantly hindered by the lack of lighting. The main problems these households encounter without access to qualitative lightning, is the insecurity to go outside, the inability to do homework and the postponing of tasks to the day time.<sup>14</sup>

Another concern is the availability of communication technologies in rural households. The use of cell phones is an important form of communication in off-grid areas. Their significance has been shown in a research carried out by Gamos Ltd., a company working with social factors that accompany development, on characteristics of the use of telephones amongst rural and low income communities in three African countries - Botswana, Ghana and Uganda. This study indicates the increasing importance of cell phones in developing countries such as Uganda.<sup>15</sup> The key reason for this can be found in the possibilities a cellular provides. They can primarily be used to make long-distance rural-to-urban calls, which could for example allow farmers to inform themselves on the market price of their crops. Before, middlemen could name any price and local farmers were dependent on this given price. By providing local farmers and stake holders with communication technology, regulation of local trade will improve and farmers have a better chance of developing themselves and their farm(s)/company. Mobile telephones could also provide for long-distance communication among extended families or be of importance to certain types of rural or small town businesses. Many shopkeepers, auto mechanics, electricians, veterinarians, and other similar professions are dependent on mobile telephones to place orders, make business deals, or to keep in contact with their clients.<sup>16</sup>

Finally, households in rural Uganda make daily use of wood for cooking, which has several downsides. The acute respiratory infection (ARI), caused by inhaling the smoke of indoor cooking fires, is one of the five major causes of childhood mortality.<sup>17</sup> ARIs lead worldwide to over two million deaths every year. Women and children are especially affected, since they are most around the cooking fires.<sup>18</sup>

Furthermore, households could save time which could be used for other activities than gathering wood, hereby increasing household efficiency. Lastly, only partially substituting fire by solar energy will make a significant contribution to the improvement of the natural habitat of Uganda for the high deforestation that is

going on in the country. The impact of traditional energy sources on the environment of Uganda will be further elaborated on in deliverable 2.

### **1.3 Solar PV systems**

After having described the need for electricity in rural areas in Uganda or Sub-Saharan Africa as a whole, this part of the deliverable will cover a possible solar solution: the PV system.

By means of a physical phenomenon, called the photovoltaic (PV) effect, electricity can be generated from visible light. There are two basic kinds of systems which can store solar power: Grid-connected systems and solar PV-systems. Grid-connected systems feed the local main grid by converting sun light directly to electricity. Since rural Uganda hardly has access to a grid, this research will focus on the other type: the smaller solar PV systems or stand-alone systems, which can be used by households, schools, health centres and offices. The system size of a solar PV system can be expanded by increasing the battery bank and the number and/or size of the solar panels.

#### *Usability*

Since electricity plays a huge part in the development of rural Uganda, the usability of solar PV systems seems to be endless. The systems, depending on Watt peak (Wp) per size could, among others, be useful for providing electricity in villages in remote areas, medical facilities, communication systems etc. Wp is the output of a solar module in watts as measured under laboratory illumination conditions. In field conditions the output is always lower than the rated output.

#### *Technology*

The solar PV system consists of the following components: the solar panel(s), battery, charge controller and possibly an inverter. Below these components will be described further into detail.

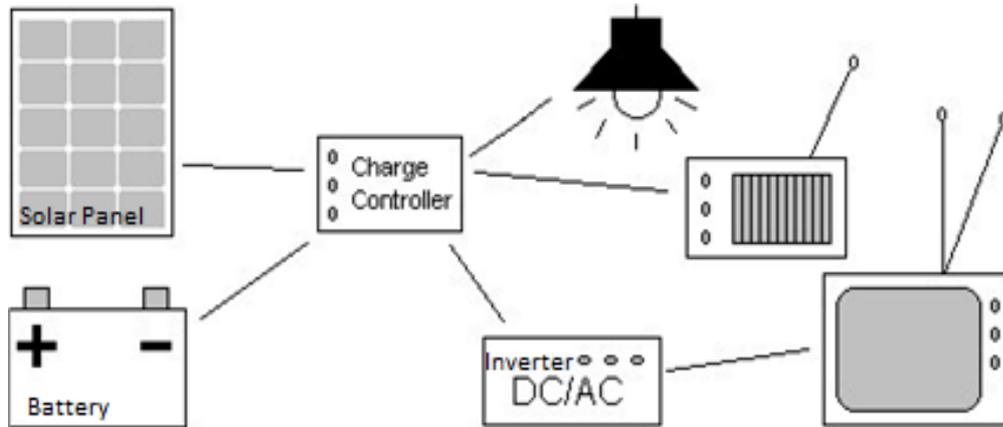


Figure 2: Solar PV system (Source: Sandgren 2001)

- Solar panel

According to the maximum power output (required amount of energy and maximum number of Watts a panel can produce for optimum external conditions), the number and/ or size of the panels can be rated. To determine the required solar array size in Wp, the total devices (in Watt) have to be multiplied by the amount of hours per day the devices have to operate. The result represents the required Watt hours (Wh). By dividing these watt hours by the usable full sun hours per day, the solar array size (in Wp) can be calculated. To give an example: given the fact that a place in Uganda has six usable sun hours per day, streetlights of 240 watt in total require a 200 Wp solar array in order to function for five hours. 240 watt multiplied by five is 1200 Wh. 1200 Wh divided by six sun hours is 200, which means that the streetlights require a 200 Wp solar array.

- Charge controller

Solar panels will not always collect exactly the same amount of energy. A battery in a solar PV system can be damaged if it is discharged or overcharged too often. Produced energy needs to balance the amount consumed. Therefore a charge controller is needed to protect the PV system. A controller monitors the battery's state of charge, as there is a circuit to measure the battery voltage. When the battery is fully charged, the controller operates a switch to conduct power away from the battery. Only some very small solar panels function without a controller.

- Battery

Since there is a need to store energy produced by a panel, PV systems require at least one battery. The capacity of a battery is measured in Ampere-hours (Ah). An Ah is a unit of electrical charge. For example, a current source that delivers one Ah can deliver one ampere for an hour or two amperes for half an hour.<sup>19</sup> Like solar panels, batteries can be connected to increase Ah. The size of the battery bank depends on the storage capacity required, the minimum temperature at which the battery will be used and the maximum (dis)charge rate. The most common device used as storage is a rechargeable lead-acid battery. Their initial cost is relatively low and they are available nearly everywhere in the world. The suitability for use with solar cells is determined by the cycle life, the number of times a battery can be discharged. Many different types of batteries exist:

- *Solar batteries* are especially designed for PV-applications and can be cycled. From these batteries a lifetime of around ten years can be expected. The disadvantage is that they are expensive (starting prices \$100) compared to conventional batteries and therefore very difficult to obtain in developing countries.
- *Traction batteries* are used to power electric vehicles. These batteries are ideal for solar power applications, if the necessary maintenance is conducted. The main disadvantage of this battery is its high cost.
- *Sealed batteries* are most suitable where a PV system needs to operate for long periods without maintenance. They have the advantage that they are spill-proof. However, they too are relatively expensive, require more charging control, and can have a shorter lifespan at high temperatures.
- *Car batteries*, mainly used for starting up vehicles, are cheap to produce and purchase (starting prices \$30). The durability of the battery is low (5-10 cycles) and therefore inappropriate for PV systems. Despite of their lower reliability, car batteries are used in many developing countries where cost is a more important consideration.
- *Stationary batteries* are generally designed for un-interruptible power supplies. In regular solar PV systems this kind of battery is not advisable, although exceptions exist and little maintenance is required.

- *Leisure batteries* are usually the cheapest type of deep-cycle batteries. They are most suitable for smaller devices which are not daily used, as their cycle life is limited to a few hundred cycles.<sup>20</sup>

Within the PV system, the battery is the device that often causes the most trouble.<sup>21</sup>

- *Inverter*

Although the solar system provides a reliable substitute for the commonly used diesel generator, one has to keep in mind that not all original devices can be directly connected to the system. Solar panels produce direct current (DC) which is stored in batteries. Most kinds of load such as computers, televisions and lighting (except for 12 Volt lights) require alternating current (AC) in order to function. The inverter is the device that can convert battery-stored DC to the standard power AC. When products are designed for low voltage DC, they run on significantly less power.

Since access to fuel and funds to purchase the fuel can be a serious constraint, the introduction of solar power offers great possibilities. However, in case a diesel generator is replaced by a solar system, it might be advisable to change the original devices into products designed for low voltage DC. In health centres the purchase of new refrigeration can even be a requisite when installing a solar system. Kerosene or gas-powered absorption fridges are most commonly used in developing countries, and unfortunately, these fridges are often not suitable for solar systems. This in comparison to other devices that (with an inverter) can be directly connected to the solar system. Furthermore new solar refrigeration solutions have been developed which do not rely on the battery of a solar system, but can operate independently.<sup>22</sup>

#### **1.4 PV water pumping systems**

As opposed to a PV system, the solar panel in a solar water pumping system allocates the generated power “directly” to provide energy for a water pump. Thus, it has fewer components than the PV system since a battery, a charge controller or an inverter is not necessarily needed. The following of this deliverable will illustrate the usability and the functioning of this system.

### *Usability*

One of the advantages of the PV water pump system lies in the fact that it enables access to water in remote and dry areas. Water supply is relatively stable since the pumps usually require little maintenance. A checkup is required only every three to five years. Secure water supply has a positive influence on rural development by its contribution to food security and the production capacity of local farmers. Apart from that, the availability and good quality of water is of great importance for health care. An example of the benefits of a PV water pumping system is illustrated in the field study underneath.

#### **Field Study PV pump**

The following field study shows how solar generated water pumps are contributing to the improvement of rural health centers and the community of the Rakai district in Uganda:

*“Youth volunteers from the United States traveled to rural areas of East Africa to work with Solar Light for Africa, a faith-based nongovernmental organization, in providing power to clinics, orphanages, schools and churches. With USAID assistance, the organization electrified the Kakuuto Hospital in Uganda’s Rakai District using solar energy, which has improved the health of patients and enabled staff to treat them more effectively. Solar-generated water pumps, two miles of piping and two water storage tanks were also installed, bringing the hospital and greater community fresh water from a natural spring. Spigots were strategically placed along the route that allow nearby villages to access the water”.*

Source: <http://www.hoise.com/vmw/05/articles/vmw/LV-VM-11-05-1.html>.

### *Technology*

A typical solar powered pumping system consists of a solar panel array that powers an electric motor, which in turn powers a bore or surface pump that pumps up the water (see figure 2 for the several components). These systems can include a battery bank to supply energy when sunlight is not available by storing unused electrical energy. However, the inclusion of a battery in the system has disadvantages. Firstly, batteries are expensive, thereby requiring high initial investment for the whole system. Secondly, while a qualitatively good solar panel has a life-expectancy of approximately 25 years, a battery commonly needs

replacement after four to five years. Thirdly, a battery makes the system more complicated, requiring specialized workers and some maintenance for good performance and operation.

Instead of using batteries, water can be stored in a reservoir. If there is no battery in the system, water is pumped as long as the sun powers the solar panel, which in turn operates the pump. Consequently, water is supplied even when there is no current need. However, a water tank, which is simple and cheap, can store the water.<sup>23</sup> Furthermore, without a battery there is less stress on the pump, since it will not have to operate during the night.<sup>24</sup>

Moreover, depending on the power the water pump needs, an inverter might be required to convert DC to the standard power AC. Apart from that, there are specific pumps on the market that are designed for PV systems. Usually, these pumps have a higher efficiency, which allows for a smaller size of the solar array, thereby decreasing the costs of the whole system.<sup>25</sup> This might make an initial investment more likely.

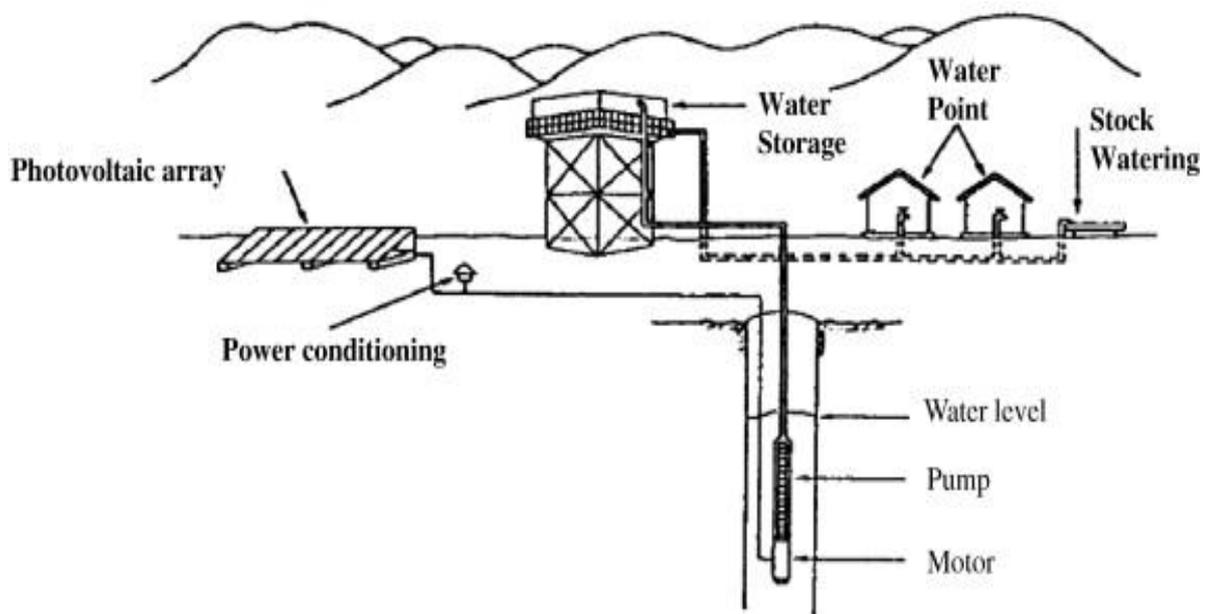


Figure 3: Waterpump system (Source: J.S. Ramos)

## 1.5 Solar Tools

Besides the Solar PV system which can be connected to several applications, other specific technology has been developed to advance the use of solar energy. These solar devices have solar cells included in their design and do not need the investment of a separate solar panel. This section will provide an overview of available 'Solar Tools' suitable for use in rural Uganda. Devices in the following areas will be considered:

- Lighting
- Communication and Information technology
- Cooking

### 1.5.1. Lighting

In solar lighting devices, solar cells convert sunlight into electricity that charges a battery, which then produces light for use after daylight. The most common lighting source used in such solar devices is the compact fluorescent lamp (CFL), though recently more efficient light emitting diodes (LEDs) have become more widespread.<sup>26</sup> Both technologies promise portable lighting and higher quality lighting and can be used in the form of lanterns, torches, task lights and area lights.<sup>27</sup>

*Overview of available solar-based lighting tools: products, advantages and concerns.*

- Torch

Products: LED Torch, Super BOGO

Advantages: Portable, Durable, User friendly, Bright light.

Concerns: Unidirectional illumination, Unit prone to theft during outdoor charging

- Lantern

Products: Solar Lantern, Indigo, Solar CFL, Solar LED

Advantages: Bright light, portable, takes up little space

Concerns: Tiresome charging, not perceived as durable.

- Task Light

Products: Firefly, Replaceable Battery LED, Solar CFL

Advantages: Portable, Economical, Bright Light, Multifunction (as torch or lantern)

Concerns: Heavy, fragile, panel prone to theft during outdoor charging

- Area light

Products: AC Power Pack, Solar Power Pack, Flood lights, Spot Lights

Advantages: Bright light, Economical

Concerns: Heavy, panel prone to theft during outdoor charging.<sup>28</sup>

All devices can be charged by solar power and have a rechargeable battery. The designs are easy to use and are flexible. They are able to generate light up to 12 hours, taking into account that the hours of light is based on solar charging in full sunlight at 25 degrees Celsius.<sup>29</sup> However, the light intensity determines the hours of light that a system is able to produce. With high intensity, a system can generate light for approximately 4 hours; on low intensity it can produce light up to 12 hours or more, depending on the brand.<sup>30</sup> Below an example is shown of one of the newest inventions on portable solar lamps.

Solar lamps can provide a significant impact on the lives of people concerning health, education and income. In both schools and households. The lamps provide a sustainable source which advances the learning process of children. Especially at night people will be able to continue their activities indoor and are therefore more likely to develop themselves faster which eventually will contribute to their income and personal level of welfare.



Figure 4: D.Light \$10 Kerosene Killer  
(source: [www.dlightdesign.com](http://www.dlightdesign.com))

### 1.5.2 Communication and Information technology

- Mobile Charger

A solar mobile charger consists of a solar panel and a converter that enables the plugging in of chargers for all sorts of mobile phone brands. The size depends on consumption and purpose. For individual use, portable chargers have been developed. Communities can make use of a small PV-panel placed on top of a community building connected to a converter inside.



Figure 5: Nova S201

(source: [www.dlightdesign.com](http://www.dlightdesign.com))

#### ***Two devices in one: Nova S201***

The Nova S01 is a LED-lamp that can also serve as an energy source for charging mobile phones. Mobile phones may be fully charged in as little as two hours.<sup>31</sup>

The main benefit of this product contains the fact that now two important needs, mentioned before, can be fulfilled: The need of communication technology in off-grid areas, and secondly, the need for lighting. By using the Nova S201, the battery of the lamp and the cell phone are charged in the same amount of time. As a consequence, less material is needed.

- **The Digital Doorway**

The main aim of the Digital Doorway (DD) is giving rural areas the possibility to benefit from information technology. The philosophy of its sponsors is to *“lift rural communities out of poverty by giving them the tools and skills to do the job themselves”*.<sup>32</sup> The DD’s aim consists of the installation of computer terminals at public places in rural communities, enabling people to educate themselves. This is possible since the terminals are easy to use and no prior knowledge is required. Users of these computers teach each other the necessary computer skills and thus vital knowledge becomes accessible in these regions. The terminals are constructed in such a manner that they are resistant to vandalism and destruction.



Figure 6: The DD and container DD in place (source: [www.digitaldoorway.org](http://www.digitaldoorway.org))

It is important to mention that the DDs exist in multiple variations. They are available with one, three or four terminals and can be adapted for wheelchair use. The DD container can be located at places without grid power. The container is a self-contained unit with a solar panel installed on the roof, which charges a battery that accommodates three terminals with power. The DDs can be equipped with a satellite receiver and General Packet Radio Service that makes updating, real-time monitoring and user feedback possible. Also statistics from the system can be stored to determine whether it still operates and which applications are being used.

Due to the high costs, the DD is not considered to be a feasible solar tool yet. Though for the future they are likely to increase in their sufficiency for the DDs are still in their stage of development. For more information on the DDs and their progress in Third world countries we would like to refer to the sources that can be found in this chapter's bibliography.

### 1.5.3 Cooking

- Solar Cooking

Solar PV systems are not able to generate enough electricity for cooking. Here, another solar technology comes into play: the converting of sunlight to heat (solar thermal power). Although this technology has existed for a long time, it has only been recently that solar cookers for use in households are emerging on the solar market. The most common types of solar cookers suitable for households are box cookers and panel cookers. Hundreds — if not thousands — of variations on these basic types exist. Additionally, several large-scale solar cooking systems have been developed to meet the needs of institutions worldwide. Below, we will elaborate on the most used forms of a panel cooker: the Cookit and the solar box.

Cookits are made of cardboard and foil, shaped to reflect maximum sunlight and convert the light into thermal (heat) energy. A heat-resistant bag surrounds the pot, acting like a greenhouse by allowing sunlight to hit the pot and preventing heat from escaping.<sup>33</sup> The Solar box exists mainly of wood and contains an isolated box, covered with aluminum foil. The box has room for a 3 liter cooking pot and has the ability of cooking (almost) every kind of food.<sup>34</sup> Many solar cooker designs are portable and easy to build and use. They do not require any fuel and are therefore clean and save for the environment.



Figure 7: The Cookit



Figure 8: The solar box

In households the main energy source for cooking is wood and coal. After collecting sunshine for a few hours, by use of the Cookit meals can be prepared without the effort of collecting wood and coal. Moreover, the solar cooker makes it possible to cook food while preserving nutrients and avoids burning and drying out.<sup>35</sup> The downside of cooking on solar energy is its high dependence on the sun. Unfortunately, solar cookers cannot be used at night and are very difficult to use during the evening when the sun is not at its peak - which is usually when people go outside for cooking. In times of rain, cloudy days or fog, the cooker does not work and other energy sources have to be present to be able to cook. Further, the solar cooker is very vulnerable and its maintenance depends on several factors:<sup>36</sup>

- The solar cooker should not be mishandled
- The solar cooker should not be overloaded (>5kg)
- The solar cooker should never be left out in the rain or be allowed to get wet.
- The solar cooker should be cleaned once in a while; the reflector surface attracts dust, therefore it should be carefully wiped with a dry cloth.
- It should be carefully cleaned off with detergent and warm water in order to prevent the accumulation of dirt and grease.
- When the solar cooker is not in use, it should be placed outside of the sun or covered with a water proof cover.

## 1.6 Difficult conditions in the field

In the previous paragraphs the needs of education facilities, health centers and households were described and an overview of solar technologies to meet these needs has been given. Although it has been shown that solar technology has a lot to offer, there are several difficulties that have to be taken into consideration to make implementation successful and sustainable. Theft, corruption, absence of knowledge, and market constraints are factors that can have huge impact on the performance of solar technology. They will be discussed in this last section. Financial obstacles are left out on purpose as they will extensively be discussed in deliverable two.

### Theft

In rural areas in Africa, most people can be considered poor. It is therefore not surprising that theft forms an obstacle when considering the implementation of solar technologies. The solar panels and its components are seen as high value items, for they consist of expensive and scarce materials which can provide for financial gain by selling them.<sup>37</sup> Also the energy that is created by the panels and components is scarce and therefore likely to be stolen so that the energy that is produced, can be resold. According to Uganda Village Project, a NGO that promotes sustainable development in rural communities in southeast Uganda, theft is a greater problem in urban Uganda than in rural Uganda due to the strong social cohesion in small villages and the severe punishment of theft.<sup>38</sup>

An example of the problems theft can cause is explained by a study of Short and Thompson, both teachers at the department of engineering in Durham. This study about water pumping installations elaborates on the security measures taken on six water pumping locations in South-Africa. The implemented installations needed security fencing, some with electrified fences and motion detectors, to protect them against theft. At the initial stadium of installation the panels were outside the dwelling, which made the facility an easy target for theft and vandalism. This resulted in many stolen solar modules. Although in a later stadium the panels were raised above the rooftops to avoid theft, the situation continued. The problems of theft were reduced after the panels had been installed upon the rooftops. Despite the fact that theft was reduced, the constant climbing to repair broken panels caused wear to the rooftop.<sup>39</sup>

A way to prevent these situations is suggested by Short and Thompson's research and also by Koen Dirven from the US-Dutch solar company Gira Solar. They propose that system ownership by a private individual or organization is a way to ensure safety of the panels and its components. As a result, villagers would have to pay for the water and would learn to appreciate the value of the panels. This idea is taken from Grameen Shakti (meaning Rural Power) – a subsidiary of Nobel peace laureate Professor Yunus's Grameen Bank – in Bangladesh. Here affordable solar home systems have been developed and offered to the rural population through a soft credit facility.<sup>40</sup>

Another solution for the protection of the solar panel and its components could be ensured by an alarm which consists of a button, placed on the panel.<sup>41</sup> The alarm starts producing noise when a wire gets disconnected from the system.

### Corruption

Since energy is scarce in rural Uganda, all devices that generate energy are seen as extremely useful and as a source of financial gain. In Uganda corruption is a common problem. The Worldwide Governance Indicators (WGI) of the World Bank in 2007 note that Uganda performed weakly in terms of corruption control. The WGI stress that corruption is widespread in public procurement, in tax administration, as well as in the police system and judicial institutions. In the Ugandan government there has been a tangible progress in establishing the required legal institutional framework to counter corruption. However, these efforts have only accomplished limited results and recent developments raise doubts about the sincerity of government efforts to effectively address corruption.<sup>42</sup>

As corruption is embedded in the Ugandan society, influential people could hoard the use of solar power for themselves through threats or other means of influence.<sup>43</sup> The selection of a headman serves as an example of how corruption can develop itself. Once a headman is in charge, he can determine that generated energy should be used for powering a television instead of pumping water for the villagers. In these situations it is likely that the villagers return to old water sources, instead of using the energy for the water pumping systems. Thus, in order to provide electricity by means of solar technology, the participation of the rural population and people who are familiar with the workings of the local

system in solar projects, is important.<sup>44</sup> In deliverable three, possible solutions will be addressed.

### *Absence of knowledge*

The absence of knowledge concerning solar technology poses a difficult condition in rural Uganda. The Uganda People Village project states that however people are poor and struggling with anything that requires expenditure of money, people seem to be open to innovative ideas and to anything that could bring electricity. They are eager to acquire access to electricity, which is especially evidenced by the fact that mobile phones are surprisingly common and in the fact that people run businesses for charging phones.<sup>45</sup>

Although the people in rural areas in Uganda are open to new means of generating electricity, for the successful implementation of solar technology, knowledge about solar technology is necessary. Technologies can be installed without proper maintenance, but will be unsuccessful for they will not be sustainable and therefore short-lived. Furthermore, people need to be informed about the supply that energy, generated by solar technologies, can provide. A common problem that occurs after implementation of solar technology is that consumers think they generate an unlimited energy supply. However, a solar PV system will only provide a limited quantity of power. This shows that a basic understanding of the capacity of the system is necessary. Only when people are able to accurately estimate the amount of energy available, the system will operate efficiently.<sup>46</sup>

Absence of knowledge could be solved if the group of people which receives PV systems is educated by the NGO's and specialists in how to use and maintain the PV devices. However, often there is no demand for PV systems in rural areas and service providers fail to introduce the systems accurately in rural communities.

### *Constraints on the market*

According to a study on solar PV systems by Professor P. Balint, market constraints continue to limit the spread of PV technology into non-electrified areas of poor and middle-income countries. Markets on solar technology are constrained by several factors, such as poor families that cannot afford the initial capital investment or down payment. A lack of confidence and experience rules

among marginalized consumers in the purchase of sustainable goods. Also a lack of service providers willing and able to sell, install, and maintain the systems in communities that are often difficult to work in because of their isolation and poverty in rural areas is one of the problems.<sup>47</sup> With a market-based approach, the collaboration of renewable technology and micro-credit can enable those without electricity to cross over the 'power line' of social inequality. Deliverable three will elaborate on this subject.

## **1.7 Conclusion**

The energy shortage in Sub-Saharan Africa hampers the region's development. Especially people in rural areas, where there is no access to an electricity grid, can profit from the direct conversion of solar energy into electricity. This first deliverable has focused on the question what sort of solar technology is available for use in the field, while taking difficult conditions into account.

With Uganda as starting point, the first paragraph described the needs and possible benefits of solar energy for rural households, education facilities, and health centres. Concerning education facilities, two important needs can be distinguished: access to lighting and access to information. In rural health centers, main needs concern refrigerators to store vaccinations and lighting for deliveries and surgeries. Improved access to lighting would also contribute to the development of rural households as fuel-based lighting produces non-efficient poor quality light and is the cause of many health problems. These are not the only concerns which can be alleviated by solar technology. Solar-cooking systems can also contribute to health and household efficiency. Moreover, access to water for village supply, livestock watering and irrigation for agricultural activities are of main importance, since over seventy percent of Uganda's population is engaged in agriculture.

Apart from illustrating how rural populations can profit from solar technologies, an overview of available solar technology for use in households, health centers, and education facilities in rural Uganda is given. Without grid access, PV systems or stand-alone systems provide the basic technology for implementing solar energy in the rural part of Uganda. The size of these systems can be expanded by increasing the battery bank and the number and/or size of the solar panels. In this

way the technology is not exclusively applicable to homes, but also useful for schools and health centres where more electricity is required.

For the purpose of increasing water access, water pump systems have been developed. As opposed to a PV system, the solar panel in a solar water pumping system allocates the generated power directly to provide energy for the water pump. No battery is needed. The water supply is relatively stable since the pumps usually require little maintenance without a battery.

Next to PV systems and PV water pumping systems, specific solar tools have been developed. The tools outlined in the fourth paragraph are stand-alone solar lighting systems: the Digital Doorway, the solar mobile charger, the CookKit and the solar box. Being made for specific purposes and independent use, the tools considered could also add value to existing power grids.

Although solar technology entails many possibilities, specific circumstances in rural areas can hinder the implementation of solar systems, PV water pumping systems and the solar tools. The conditions under which PV systems are installed are of great importance for successful and sustainable implementation. Theft, corruption and absence of knowledge concerning solar technology are important factors that have to be taken into account before implementing solar technologies. Further, constraints on markets to introduce PV systems in rural areas limit widespread development of solar technology.

After having discussed the manners in which solar technologies can contribute to the improvement of the life of rural populations in developing countries, the question of its costs – e.g. financial, socio-economic and environmental – compared to traditional energy sources needs to undergo a thorough analysis. Solar energy can only compete with traditional energy if its comparative advantages are substantial. Therefore, the next deliverable will be aimed at creating a cost-benefit analysis of solar energy versus traditional energy, making use of the insights won in this deliverable. In this way, it will be examined how and to what extent the implementation of solar power in rural Uganda can be advocated for.

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## **Deliverable 2 |**

# **A cost-benefit analysis of Solar energy versus Traditional energy**

### **2.1 Introduction**

The previous deliverable introduced rural Uganda as a model for the African continent regarding the implementation of solar energy. By taking rural off-grid households, health centers and schools into consideration, it has been illustrated that solar energy possesses great potential to address the needs of the Ugandan people. In these areas however, solar power has to compete with the traditional energy sources used by the local people.

Uganda is endowed with different energy sources, which can be broadly classified into three groups: biomass, commercial (non-biomass) and alternative energy sources (on a very small scale). Biomass energy includes fuel wood and agricultural residues for domestic use. Commercial energy comprises electricity (hydro, geothermal) and petroleum products, while alternative sources include renewable energy such as biogas and solar energy.<sup>48</sup> Firewood is used by 81.6 percent of the households as cooking fuel, while 15.4 percent uses charcoal (in 2002 the Ugandan total annual energy consumption was estimated at 20 million tons of wood).<sup>49</sup> The use of commercial fuels such as liquefied petroleum, gas, and kerosene (paraffin) for cooking in rural areas is insignificant, whereas kerosene represents the major source of lighting for more than 90 percent in households in rural areas and for 58 percent in urban areas.<sup>50</sup>

As the above shows, in contemporary households, schools and health centers in

rural Uganda, the lack of electricity is insufficiently compensated by the use of firewood for cooking and kerosene for lighting. To provide community buildings with electricity there are several options that can be considered: connection to the grid network, a diesel generator, or sustainable power solutions. Grid connection is no feasible solution in rural areas, for a tremendous investment is needed. Projects that are needed in order to construct a sufficient power line will take up several years. Moreover, the price per kWh (454 Ugandan shillings) is generally too high for the local people to pay.<sup>51</sup> Besides, a connection to the electricity grid has shown to be an unpredictable source of energy. People are in doubt about the length of their power supply; as far as they know, their power supply could last between a few hours and a whole day. On the other hand, a diesel generator is a relative cheap source of energy and available in every medium sized business in Uganda. However, it has the disadvantage of requiring diesel to function which comes down to the fact that, depending on usage, diesel needs to be transported on a weekly basis. The transportation has been shown most inconvenient since the trucks cause pollution and the poorly developed roads counteract a prosperous transport. In order for the sustainable energy sources to compete with diesel generators, it has to be financially and socially more attractive than generators. Solar energy is of significant importance in this comparison, since it has a tremendous advantage over the generator in health centers and education facilities, which we will elaborate on later. Within households, several solar tools can replace the wood and kerosene used now, but similarly, these have to prove themselves more attractive.

This deliverable will provide for a cost-benefit analysis of solar power versus the mentioned traditional energy sources. The cost-benefit analysis will be performed on an environmental, a financial and a socio-economic level. In the first chapter, a general environmental cost-benefit analysis will be given. In the second chapter, comparisons between solar and diesel in general will be made in three analogous sections. In the third chapter, photovoltaic (PV) powered water pumps and diesel powered water pumps will be compared. In the fourth chapter, a comparison between solar tools versus the use of biomass (wood) and kerosene will be made.

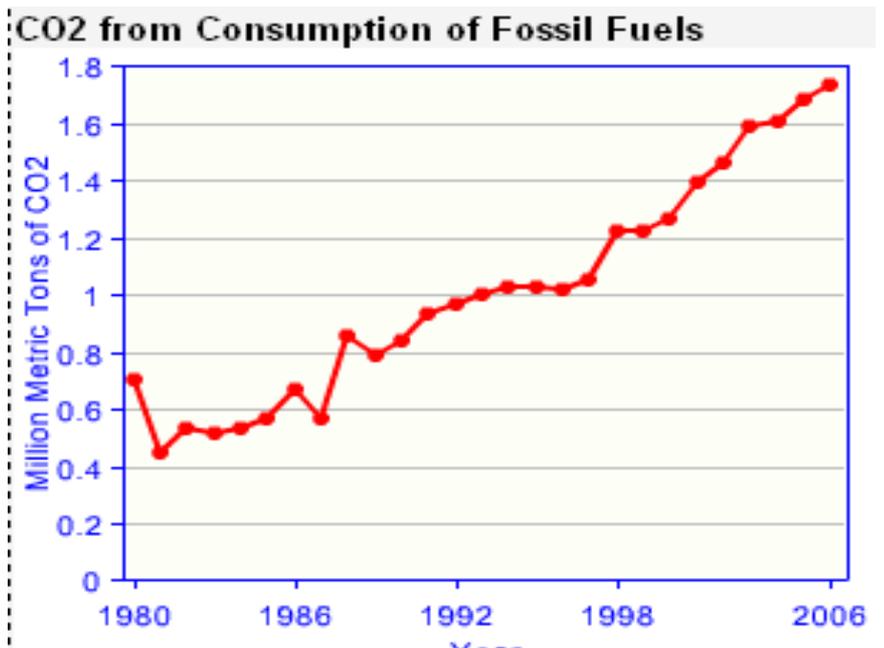
The aim of this cost-benefit analysis is to create a full overview. Therefore, the advantages and disadvantages of solar energy and traditional sources will carefully be examined. An example method of calculation for both energy sources will be provided. In addition, the socio-economic aspects will be considered, for

they are indispensable in explaining how different energy sources affect human lives and societies. The outcome will be helpful for those who consider the implementation of solar energy in rural areas in poor countries with no grid access.

## 2.2 Environmental aspects

The generation, transmission and use of energy affect all aspects of development. While social and economic effects in general can be considered positive, the impact on the environment differs highly when using different sources of energy. As many countries worldwide depend on fossil fuels to meet their energy needs, ecological and environmental problems are growing.<sup>52</sup> While the effects of climate change are growing more visible every day and fossil fuels are depleting rapidly, the belief has risen that provision of efficient and reliable energy services with minimum effect on the environment is crucial. At the same time, the insight has grown that the developing world does not necessarily have to follow the energy route of the industrialized nations, but can learn from their experience and mistakes by implementing other energy sources. Here lies an opportunity for these countries to make a switch to alternative energy sources before global warming becomes a life-threatening phenomenon.

Solar energy is one of those so-called 'green' energy sources. With our focus on rural Uganda, the environmental impact of solar energy will be compared to the environmental impact of traditional sources of energy, also taking into account the future sustainability of both energy sources. Although African countries contribute only a small percentage of global



Graph 1 Carbon Dioxide emissions in Uganda. Source: US Energy Information Administration.

greenhouse emissions (GHGs) in comparison with industrialized countries, projections indicate a much higher contribution in the future. In Uganda, fossil fuels are mostly used in the form of oil transport, petroleum products, such as kerosene, for cooking and lighting and diesel for electric power generation.<sup>53</sup> Graph 1 confirms the increased consumption of fossil fuels in Uganda since the 1980's apace with CO<sub>2</sub> that is released when the fuels are being combusted. Thus, as Uganda is becoming more dependent on a depleting energy source as fossil fuels, the environment is more and more affected. Both these factor make solar energy an increasingly unsustainable energy source for Uganda.

Besides the GHGs that are emitted through the consumption of fossil fuels, biomass comprises a giant source, as some ninety percent of the Ugandans rely on biomass as their primary source of energy. Biomass is generally considered to be a sustainable energy source. The Ugandan forests and woodlands do not only provide the people direct economic benefits such as energy, food, timber and non-timber products, but also indirect ecological benefits, such as water catchment, controlling erosion and moderation of local climate.<sup>54</sup> But as forests and woodlands are the main source of fuel for the majority of the households in Uganda, their use has logically risen apace with the high growth rate of the Ugandan population (3.3% annually between 2002 and 2008), leading to threats of deforestation and declining forest quality.<sup>55</sup> The decline in woodlands with an annual percentage of 2% between 1990 and 2005 has made the sustainability of the high dependence on wood questionable, in this way putting a danger upon the future livelihoods for many Ugandans.<sup>56</sup>

Other environmental problems in Uganda are constituted by the use of small dry-cell batteries for flashlights and radios. Most of these batteries are disposable lead-acid cells which are not recycled. The waste of lead-acid batteries can cause environmental issues and health concerns. Lead from disposed dry-cells leaches into the ground, contaminating the soil and water. Although solar systems also require batteries, they generally have a long lifespan and cause minor contamination when appropriately replaced. The provision of knowledge about the hazard of simply disposing the batteries can prevent future risks for the environment.

To anticipate on future problems for developing countries such as Uganda regarding fossil fuels, biomass and batteries, it is of high importance to start searching for alternative energy sources. Solar energy can solve environmental

problems, as provide for a more sustainable and reliable energy source in the future of African countries. In an article published in Environmental Science and Technology in 2008, scholars investigated the life cycle of solar cells, from the mining of raw materials to the finished product, and concluded that overall all PV technologies generate far less air emissions than conventional fossil-fuel based electricity generation technologies.<sup>57</sup> The absence of any air emissions or waste products during their operation makes solar energy technologies a very clean alternative for the depleting natural resources the Ugandans rely on today.<sup>58</sup>

Concluding, the implementation of solar technologies in rural Uganda would provide obvious environmental advantages in comparison to the conventional energy sources. Also, they would contribute to the sustainable development of human activities.

### **2.3 Solar systems versus traditional system**

A diesel generator generates electric energy and is used in places that have no connection to the power grid. Due to high usage of generators in rural Uganda, this form of traditional energy can be seen as a competitor of solar energy. Therefore, the cost-benefit analysis of solar energy versus traditional energy will start with an outline of their costs. Both systems will be divided into financial and socio-economic costs. First of all, the financial and socio-economic costs of the diesel generators will be illustrated. Secondly, the financial and socio-economic costs of the solar systems will be described. Subsequently, the outline of these costs will lead to a cost-benefit analysis of a diesel generator and a solar system. Finally, the use of the solar system in the rural area of the Mbarara region will be illustrated in a case scenario.

#### *2.3.1 Diesel generator*

##### Financial costs

##### *Initial investment*

A diesel generator produces electricity by using diesel as a fuel and has a build in battery charger. The financial costs involved with diesel generators are the initial investment, and after that, the operational costs which include the price of diesel

per liter. The initial investment is the price of a diesel generator which depends on maximum output measured in Kw (Kilowatt). The output power of various generators is illustrated in the table.

Generator in kilo Ampere (kVA)	in Volt	Max. output in Kw
kVA 1		1
kVA 2		2
kVA 3,6		3,3
kVA 6		4,8
kVA 8		6,4
kVA 16		12,8

Table 1. The smaller 1 to 5 kilo Watt diesel generators are a feasible solution for small community centers in the rural areas, such as schools and medical centers. Their purchase price is approximately \$1000. On domestic (second-hand) markets in sub-Saharan Africa, the prices are lower.



Figure 9: kVA 3,6 generator

*This kVA 3,6 generator has dimensions of (LxWxH) 26.7 x 17.9 x 21.4 inch<sup>59</sup>, weighs 143 lbs<sup>60</sup> and costs \$ 1000.<sup>61</sup>*

### Operational costs

The main financial costs involved with diesel generators are in the first place the initial investment of the generator and in the second place the fuel costs. The initial investment is the price of a diesel generator which varies from 1000 dollars

for the smallest generators up to 9,000 dollars for the largest generators mentioned in the foregoing table.

Diesel is an import product in Uganda and its price increased between the years 1991 to 2008, from 0.55\$ cents per liter to 1.22\$ per liter.<sup>62</sup> If this trend continues, the operational costs of a diesel generator are likely to increase in the future. In 2010 one liter diesel costs around \$1.10 in Uganda.<sup>63</sup>

Year	1991	1993	1995	1998	2000	2002	2004	2006	2008
Price	55	71	85	68	75	70	88	101	122

Table 2, *Time Series of retail diesel prices in Uganda in US cent per liter*

### Socio-economic costs

The socio-economic costs of diesel generators for the rural population of Uganda are dependent on the maintenance costs of the generator, the transportation costs of a generator to rural areas, noise, and pollution. The operational costs of a diesel generator are significant. Besides the rising fuel prices, a gas station is often situated miles away from the place where the generator is situated. The transport costs and pollution from trucks and the poor roads give rise to the high operational costs of a generator. Replacement of diesel is required every 100 hours or at least every three months if the generator is not used. If the generator is used constantly or in tropical climates, it will be necessary to change the diesel more often.<sup>64</sup> The use of synthetic oil will prolong the life of a generator. It can withstand high temperature and can work longer without losing its lubricating qualities.<sup>65</sup> Since the availability of the high quality synthetic oil is scarce and too expensive for the people in Uganda, the performance of a diesel generator would not be optimal. Time and effort will be lost by constantly traveling to the gas station for diesel in order to keep the generator running properly.

Further costs of a diesel generator are noise and pollution. However, it is difficult to provide costs calculations of noise and pollution of diesel generators. The inconvenience caused by noise and pollution is not similar for all types of diesel generators, but have to be taken into account.

### **The diesel generator – total costs in steps**

*Please note that the following steps are intended to help making a simplified cost-estimate and that the outcome does not constitute an exact representation of the total costs due to various factors that can increase or decrease the investment or operational costs.*

#### **Investment costs**

**Step one:** *determine the total watt for the devices that need to be connected to the generator.*

**Step two:** *Determine which diesel generator is needed, by looking at its maximum output (kilowatt). The output should be slightly higher than the total watt needed, to be sure the generator will never fall short to supply all devices of electricity at the same time. The cost of diesel generation capacity is approximately 65 cents per watt installed.<sup>66</sup>*

#### **Operational costs**

**Step 3:** *The operational costs will mainly consist of the fuel costs. Today the diesel prices in Uganda are around the \$1.03 per liter.<sup>67</sup> With the consumption rate of liters per hour at the specific output of the devices, an estimation of the main operational costs (the fuel costs) can be made.*

### 2.3.2 Solar system

After examination of the diesel generator, in this paragraph the costs of the solar PV system will be outlined. The price per Watt peak (Wp) is a measurement in which the costs can be displayed. Hence, a 300 Wp solar system costing \$2400 in total (i.e. installation included) corresponds to a price of  $2400 / 300 = \$8/\text{Wp}$ . However, global average cost values which are generally used for calculations tend to hide the additional costs before technology gets to the consumer.<sup>68</sup> In developed countries these costs vary significantly from those in Third World countries. Due to the regional and cross-country disparities and sales taxes, the African local cost of a solar system is much higher than the purchase of a similar system in the United States. In April 2010, the average retail price was \$4.23 per Watt peak in western countries. This price is exclusive of sales taxes, which, depending on the country, can make up to 20 percent of the prices.<sup>69</sup> In Uganda the price per Wp of an installed solar system is approximately \$8-10.<sup>70</sup>

## Financial costs

The life-cycle cost of a solar PV system consists of the initial investment, the value of operation, costs of maintenance, and the costs of battery replacement.<sup>71</sup> In the following part the initial investment, maintenance costs and battery replacement costs will be described.

### *Initial investment*

The initial investment of a solar system is relatively high, starting with \$300 up to \$1000 for a 50 Wp system.<sup>72</sup> According to Mr. Jem Porcaro, an analyst for the Energy and Environment Group at UNDP, a solar home system in sub-Saharan Africa costs anywhere between the \$500 and \$1000.<sup>73</sup> Such a system usually provides enough power to, for example, light three to six rooms and power a black-and-white TV each night. However, the high initial investment is beyond the financial means of rural households in Uganda. The high initial costs for the purchase and installation are a major obstacle. Even in the wealthiest part of Africa, rural inhabitants cannot afford a solar system.<sup>74</sup> Funding is the most important hurdle faced by the rural poor (on the aspect of funding will commented in deliverable 3).

Because of the high initial costs, the solar system in first instance seems to be more appropriate for the use in these public buildings, benefiting the community as a whole, than for households. Besides, the structure of an average rooftop is not suitable for supporting the system. Solar systems could likewise power public buildings such as rural health centers and schools. Either way, donor or government-funding plays a crucial role in the purchase of solar systems in Uganda.

To determine the required equipment for a public building, many factors have to be taken into account. What are the size and budget of a building? And for what purpose will the solar technology be used? A school or clinic obviously needs more electricity than a small house. As explained in the first deliverable, the system size of a standalone system can be expanded by increasing the battery bank and the number and/ or size of the solar panels. A 200 to 400 Wp solar module is enough to power small refrigerators that is used for storing vaccinations for child immunization programs. The World Health Organization (WHO) considers this solution attractive compared to traditional initiatives.

Therefore solar vaccine refrigerators have already been installed in hundreds of health clinics in Africa.<sup>75</sup>

The Global Cool Foundation and SolarAid, two UK registered charity organizations, operate in developing countries by installing PV systems in schools, community centres and health clinics. The systems they implement are usually 340-400 Wp in size, which is sufficient to supply small electrical equipment and provide for lighting.<sup>76</sup> Photowatt Technologies, a French company that is a developer and integrated manufacturer of PV products, also advocates for solar power in sub-Saharan rural areas. Their major community applications consist of schools and clinics. With a daily consumption of approximately 1,600 Wh a day, a school requires, in theory, a 500 Wp solar field. This is enough to supply a school with 16 lights, an overhead projector plus a socket to run small electric appliances. To supply clinics in Africa, the solar systems are extended to a size of 850 Wp. This is sufficient for a daily consumption of approximately 2,700 Wh/day, which equals the use of 16 lights, 1 examination lamp, 1 refrigerator for vaccines, 1 single sideband radio and 2 sockets to supply small electrical equipments.<sup>77</sup> With the price of approximately \$8 per Wp, in Uganda the prices of the larger solar systems for public buildings as described above can start from approximately \$ 4,000.

Batteries can make up of 40% of a solar system's total costs.<sup>78</sup> The costs of the battery's regulator usually represent around 10% of the total costs. Therefore, regulator prices are not as important a cost element of the solar system as the battery, solar module or installation costs.<sup>79</sup> The module price, representing 50 up to 60% of the total installed cost, is a key element in the investment of a PV system.

### Operational costs

After the costs of the initial investment, costs for the purchase and for installation of the solar system, no further fuel costs are involved. Only small amounts of money need to be budgeted for maintenance, repairs and insurance.<sup>80</sup>

However, there is a significant additional cost concerning the replacement of batteries, since they do not last as long as the PV panels.<sup>81</sup> Ensuring sufficient revenue to periodically replace solar arrays batteries is the most important aspect for maintenance of a solar system.<sup>82</sup> Based upon a 'price per Watt hour' rating,

the average cost for lead-acid batteries that are most commonly used is \$0.23367/Watt hour to \$0.2549/Watt hour.<sup>83</sup> However, since choice of technology and other technical factors are relevant, this is not a perfect measure.

### **The solar system – total costs in steps**

*Please note that the following steps are intended to help making a simplified cost-estimate and that the outcome does not constitute an exact representation of the total costs due to various factors that can increase or decrease the investment and/or operational costs.*

#### **Investment costs**

**Step one:** *determine which devices are present or needed and for how many hours per day. This way the required Watt Hours in the public building can be calculated.*

**Step two:** *determine the solar array size by dividing the required kWh by the usable full sun hours in the area.*

**Step three:** *calculating the investment costs. For Uganda, the price per Wp should be taken between \$8 and \$12. Although the worldwide average retail price is much lower, this price includes a full PV-system, including all components and the installation costs. For a small panel, prices per Wp are therefore higher (\$12) than they are for bigger systems where the same operational costs are paid. For the bigger systems a price of \$8 per Wp is common.*

#### **Operational costs**

**Step four:** *The operational costs will mainly consist of the replacement of the battery approximately every 5 years. The price of the battery is generally about 15% of the total investment price.<sup>84</sup>*

### **Socio-economic costs**

Increasing access to electricity is critical to ensure socio-economic development in developing countries.<sup>85</sup> It is however widely experienced that the introduction of solar systems in rural areas can only succeed if the technological concepts are appropriate to the cultural and socio-economic conditions.<sup>86</sup> Before implementing solar technology, the several social aspects have to be taken into account: During

the implementation, all beneficiaries have to learn how to use and manage the solar system. Especially in the remote rural areas, the maintenance by local users is crucial to the sustainable running of a system. Local technicians need to be trained, as the lack of knowledge of the local population seems to be a major reason for the failure of achieving a sustainable operation.<sup>87</sup> Another important question that has to be addressed is how solar systems can be protected. Theft and vandalism must be prevented. After implementation, the technological, financial and social monitoring and evaluation is essential to ensure sustainability. Hereby, satisfaction and acceptance of customers are main indicators for success.<sup>88</sup>

Besides the health concerns of lead-acid batteries and the effort of ensuring social practices, the solar system itself has few socio-economic costs. But overall, the solar system can improve convenience, safety and the indoor air quality.

### **Personal story**

Kaikara of 27 lives with her three children and husband in a hut in a small village in the Mbarara district of Uganda. During the day she is busy washing clothes, cooking and taking care of the cattle. Although she has always wished to continue her education and start her own small business in town, the nearby school enjoys no electricity as the whole region is without access to the grid. Evening classes therefore cannot take place as kerosene lights do not provide for sufficient light. With the implementation of solar technology in the school, the presence of sufficient lighting and even a computer would allow Kaikara to follow a course on entrepreneurship and give her and her family a brighter future perspective.

### *2.3.3 Comparison solar system and traditional system*

Whereas PV generation costs are consistently decreasing, general electricity prices are expected to increase.<sup>89</sup> Analysis by several organizations such as Greenpeace, the European Photovoltaic Industry Association, and firms such as McKinsey & Company forecast that grid parity will be reached within twenty years.<sup>90</sup> Similarly, costs of fossil fuels are rapidly rising. Therefore, the solar system is slowly becoming a financially benevolent substitute for the generator. Certainly for those people in rural areas where there is no grid access, a solar system will be beneficial.

However, it is not easy to translate realistic economic analysis of PV systems into an accurate long-term cost projection for the number of complex factors that are involved.<sup>91</sup> Besides that, the cost structures of PV systems and diesel-powered system technologies are entirely different, which makes it hard to compare the technologies fairly. The initial cost of generators is low, but requires constant purchase of fuel and maintenance. The initial capital investment of a solar system is significantly higher. However, fuel is not needed and maintenance costs are relatively low.<sup>92</sup> The graphic below shows how the costs of both products are structured.

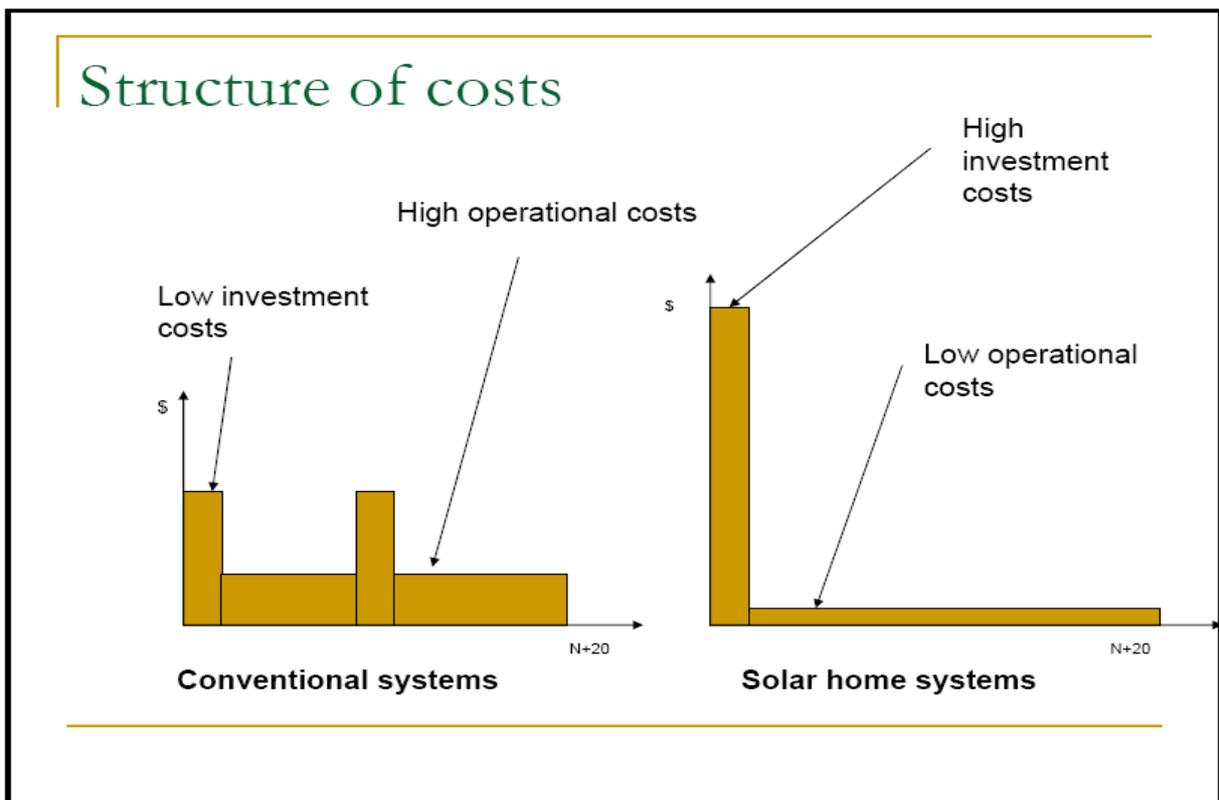


Figure 10: Conventional vs. solar systems: structure of costs (source: United Nations)<sup>93</sup>

The lifetime of the solar system is approximately twenty years while every five years the batteries have to be replaced. The lifetime of a diesel generator is approximately six years, but varies widely with the quality and frequency of maintenance.<sup>94</sup> Although the purchase of a solar system is more expensive than the purchase of a diesel generator, the latter could have a higher economic viability. The following boxes with a) a financial scenario and b) a personal scenario show how solar systems can help improve, apart from the environment, the lives of human beings in sub-Saharan Africa

*How to calculate the total costs of a solar system*

*For the exact calculations in step 1 and 2 see the box on page 12.*

- 1. Watt hours per day = Total Watt x Hrs per day*
- 2. Watt peak solar array size = Wh per day / usable sun hrs per day*
- 3. Investment costs = Watt peak x \$8-\$12*
- 4. Operational costs (replacement of battery) = every 5 years  
15% of the initial investment*

### **Financial scenario**

*Below, the financial costs of a solar system for a small hospital in the district of Mbarara will be compared with the costs of a diesel generator, considering both investment and operational costs. This example approximates the costs based on the foregoing calculations and the load at which the generator or solar system has to operate.*

### **The solar system**

**Step 1.** *The small clinic in the district of Mbarara has to be supplied with 16 lights (11 W – 8 hrs/ day), 1 examination lamp (20 W – 4 hrs/ day), 1 refrigerator for vaccines (25 W -24hrs/ day), 1 single sideband radio (21 W - 24hrs/day) and 2 sockets to supply small electrical equipment (25 W – 2 hrs/ day). The daily consumption will approximately be:*

- 16 lamps x 11 W x 8 hours	= 1408 Wh/ day
- Examination lamp 20 W x 4 hours	= 80 Wh/ day
- Refrigerator (25 W) x 24 hours	= 600 Wh/ day
- Single sideband radio (21 W) x 24 hours	= 500 Wh/ day
- 2 sockets x 25 W x 2 hours	= <u>100 Wh/ day</u> +
<b>Total:</b>	<b>= 2688 Wh/ day ≈ 2.700 Wh/ day</b>

**Step 2.** *The daily consumption of the clinic is approximately 2.700 Wh per day. Mbarara averages a daily amount of 4 usable sun hours. This means that the purchase of a  $(2.700/4 = 675)$  675 Wp solar system should be sufficient in theory. In field conditions however, the real output is normally lower than the rated output. We advise to purchase a 750 or 800 Wp solar system.*

**Step 3.** *At the price of approximately \$10 per Wp, the investment cost of the 750 Wp solar system for the clinic in Mbarara will be around \$ 7,500.*

**Step 4.** *The operational costs for the battery replacement depend on many factors. Assuming that the price of the battery is 15% of the total initial costs (\$ 7.500), this will come down to an extra \$1,125 every five years after the installation of the system.*

## **The diesel generator**

**Step 1.** *The hospitals load (see solar system step 1) is approximately 250 Watt in total.*

**Step 2.** *Small generators like the Honda EU1000iA have a maximum output of 1 Kw, which seems to suit perfect in this situation. This type of generator falls within the pricing range of \$ 1000.*

**Step 3.** *The Honda EU1000iA has a consumption rate of ~0.3L per hour at +/- 250 watt.<sup>96</sup> The total Wh per day was 2.700 Wh. Divided by 250 watt ≈11 hours per day.  $11 \times 0,3L \times \$1,03 \approx \$3,40$ . The estimated fuel costs of the use of a diesel generator in the hospital are \$ 3,40 per day.*

*Please note that this would be the ideal situation, in which all devices are turned on. In reality this will not be the case as some devices are working 24 hours a day and others only for a few hours. In this way more diesel will be consumed.*

## Cost-benefit analysis

We assume a solar system has a lifetime of 20 years and a generator 8 years.

$X = \text{years}$

### **Solar system**

Investment costs \$7,500 + battery replacement \$ 1,125 every five years:

Total costs in US dollars within a time span of 20 years =  $7,500 + 1,125*(X/5)$

### **Diesel generator**

Investment costs \$ 1,000 + fuel consumption \$ 1,241 per year ( $365 * \$3,40$ ):

Total costs in US dollars =  $1,000*(X/8) + 1,241X$

## Analysis

With the foregoing information the total costs after  $X$  years could be estimated. Although variable maintenance costs are not included, the following calculations of this scenario show clearly how the purchase of a solar system could be cost effective over time. In this case and under normal circumstances, after ten years the use of a solar system is already more lucrative than a diesel generator.

	<b>Solar system</b>	<b>Diesel generator</b>
Initial investment	\$7,500 ●	\$1,000
After 5 years	\$8,625 ●	\$7,205
After 10 years	\$9,750 ●	\$14,410 (generator replaced)
After 15 years	\$10,875 ●	\$20,615
After 20 years	\$12,000 ●	\$27,820 (generator replaced)

### **Personal scenario**

Saving money on the long term is not the only advantage. Dr. Ogwang, working in the hospital as a doctor and children's specialist, is also taking remarkable advantage from the installed solar system. Because of the shortage of doctors in rural Uganda, dr. Ogwang is indispensable in Mbarara. So is electricity, as a core element for the improvement of the children's health. Dr. Ojwang is now able to do his work without the inconvenience of noise and pollution caused by the preceding diesel generator. With cooled vaccines and sufficient light, dr. Ojwang is saving the lives of many children, in a healthy environment.

## **2.4 Solar water pumping systems versus conventional pumping techniques**

The solar water pumping system and its beneficial effects have already been discussed in deliverable 1. However, when only taking the benefits into account, they have no practical value when technology is too complicated to implement or when the costs of solar water pumping systems transcend all the alternatives and other traditional forms of water pumping. When assessing the feasibility of a project, financial aspects play a crucial role. Money is often the decisive factor in whether or not a project enters the implementation stage or becomes successful. It is important to put the financial costs of both traditional and solar water pumping systems under close scrutiny and to analyze to what extent they are comparable with each other. Since the diesel generator water pumping system represents a technology that is "already highly developed and evolved",<sup>96</sup> one could argue that it is a well-established technique for pumping water in developing countries.<sup>97</sup> Consequently, the solar water pump has to prove its superiority over the diesel water pump in terms of financial costs.

Apart from diesel water pumps, hand and foot pumps also belong to conventional pumping techniques. However, these techniques will not be taken into consideration in this comparison. Because hand and foot pumps can merely operate on a small scale they form the cheapest option for low consumption rates and low pumping heads.<sup>98</sup> Therefore, they are the only and first option in poor areas that lack water supply. Nevertheless, when considering the comparison with solar and diesel pumps the problem lies in the fact that hand and foot pumps

work with manpower instead of electricity. As a result, these pumps are not sufficient to pump water from deep heads or to ensure high flow rates of water. Furthermore, these pumps cannot supply water in dry seasons when the water level is decreasing.<sup>99</sup> Additionally, pumping larger amounts of water with a hand pump would require constant labour. Still, daily water flow rates could not reach those of water pumping systems that run on electricity. For example, diesel pumps that deliver an average flow of 10 or 32 m<sup>3</sup> per day are beyond the possibilities of hand or foot pumps.

### Financial costs

Again, in the comparison between solar and diesel water pumps, the main question is how the financial costs of both systems can be calculated. The entire cost of a pumping system has a certain life expectancy in years that is made up of the capital cost, operating cost, and maintenance and replacement cost (M&R). The costs altogether refer to the so called 'life-cycle cost'. The capital cost is the initial investment that needs to be made, whereas operating costs and M&R costs pose future costs.<sup>100</sup>

For both systems the costs of the initial investment are dependent on the performance that is required. The systems can be sized differently, addressed to the pumping head and daily water demand. The size of the pumping head depends on the environmental circumstances which determine the depth of spring water underground. The deeper the natural water reservoir and the higher the daily demand, the more kWp is needed. For example, for a pumping head of 26 metre and a daily demand of 41 m<sup>3</sup>, 1.61 kWp suffices, while for a pumping head of 87 metre and a daily demand of 52 m<sup>3</sup>, 5.8 kWp is required.<sup>101</sup> The required power determines the size of the diesel engine for diesel pumping systems and the amount of Watt peak the solar panel of solar pumping systems needs to have.<sup>102</sup>

The operating costs of diesel pumping systems consist of the diesel consumption including transport costs that are made in order for the pumping system to operate. For solar pumping systems, no fuel is required.

The maintenance costs for diesel water pumping systems are the sum of the costs of engine oil, filters, brushes, diaphragms, valves, rotor, impellers, labour, and the components that need to be replaced after a certain time, etc.<sup>103</sup>

In the following paragraphs the different costs for diesel water pumping systems and solar PV water pumping systems will be examined and applied to both systems. In the last section, the final comparison between solar and diesel pumping systems will be made.

#### *2.4.1 Diesel generator water pumping system*

##### Financial costs

###### *Investment costs*

The fact that diesel water pumps are widely used certainly has to do with the fact that capital costs do not form a high barrier as is the case with solar water pumps. A study conducted in 2006 on behalf of the Namibian Ministry of Mines and Energy, found that the capital costs of a diesel pump that delivers 10m<sup>3</sup> per day at an 80m head formed 10% of the life cycle cost.<sup>104</sup> All in all, capital costs are formed by the generator, the motor/pump, accessories, and installation costs. The cost of a generator depends on how much electricity it produces. To give an example, a 2 Kw, 50m pump head costs \$1000. Installation costs in the United States of America are \$500 US\$. Moreover, it is important to note that these costs are dependent on labour costs. In developing countries, installation costs are significantly lower which is why, for example, in Bangladesh installation costs are only \$100 per pump. In a water pumping system, the engine is mostly incorporated in the pump. Therefore, they are both included in the price. According to the article of Kala Meah, the price of an engine and pump together comes to \$750. Accessories (filters, brushes, diaphragms, valves, rotor, impellers) cost around \$200.<sup>105</sup>

##### Operational costs

When assessing the long term costs, the picture shows a different view. According to a study done by the Namibian Ministry of Mines and Energy, M&R costs and operating costs form with a 90% the vast bulk of the life cycle cost.<sup>106</sup> This does not come surprisingly given the fact that, normally, the diesel generator needs to be replaced every four to five years. Furthermore, diesel needs to be bought repeatedly and transportation costs need to be considered, since the fuel has to

be transported from another location. In case a vehicle that runs on gasoline is responsible for transportation, extra fuel costs are involved. If a manual vehicle is used for obtaining the fuel, transportation costs are lower. Besides, the costs of transportation also depend on the situated distance of a gas station. Moreover, maintenance costs should not be neglected neither. Usually, the generator requires reparation two to three times a year. Reparation of the engine requires intense and skilled labour. This factor contributes to the diesel water pumping system being a costly solution in the long run.<sup>107</sup>

#### *2.4.2 Solar PV water pumping system*

Hand pumps and pumping systems powered by diesel have been used for decades. However, hand pumps cost a lot of men power and do not offer great quantities of water; diesel pumping systems have been criticized due to the environmental damages they cause and the obstacle of requiring diesel on a regular basis. Pumping systems relying on renewable energy sources might solve these problems with the more traditional pumping systems. Options for pumping systems relying on renewable energy sources include PV pumping systems and engines working on wind generated electricity or biogas. The PV systems have advantages over these systems in meeting the need of remote communities, for a lot of isolated zones in African countries have great sunlight exposure and this energy source is more available than wind or even biomass or biogas in many places.

The currently existing solar water pumps are mainly used for village water supply, livestock watering and irrigation. Although PV pumping systems are not cost effective compared to electricity supplied from the electric grid, the costs for standalone PV pumping systems can compete with pumping systems powered by diesel.<sup>108</sup> In PV water pumping applications, the cost of water is affected by its system productivity, interest rate, capital investments, and operating and maintenance cost.<sup>109</sup> In this paragraph the costs of standalone PV pumping systems will be discussed.

#### Investment costs

The costs of the pumping systems relying on solar energy themselves are highly dependent on the characteristics of the system being used. The different types of

PV pumps currently available on the market can pump up to 200 metre head. The differences in head determine the flow of water which the pumping system can produce. For example, there are pumps that deliver a flow of 10,000 litre water a day at 100 metre head or 20,000 litres a day at 50 metre. Although there is no limit to how powerful a solar powered pump can be, the pumps seem to be more cost effective when they are smaller. This is because PV systems have little or no economies of scale, and all other alternatives have strong economies of scale. For example, a small solar pump requires less than 150 W and can lift water from depths exceeding 65 metre at 5.7 litres per minute. In a ten hour sunny day it can lift 3,400 litres of water which is enough for several families.<sup>110</sup>

The high initial costs of PV water pumping systems contain the PV solar modules and the pump itself. Because the pumps connected to the solar modules are highly differential and thus have very differentiated costs, specific examples will be given in the next paragraph. The estimated costs of solar modules that are connected are estimated by Ramos and Ramos in 2009 at 5000 euro (6174.48 USD) per kWp. Because of the rapidly developing technology regarding the field of solar power these costs are estimated to decline over time.

The initial capital cost also depends on whether the pumping system contains a battery. The capital cost of a battery is quite high and it is questionable whether it is useful to let a pumping system operate at night. The estimated costs of a battery by Ramos and Ramos are 200 euros (246.98 USD) per kWp. A cheap and simple solution could be found in placement of a water reservoir to preserve excess pumped water. In this manner, the costs of a battery could be eliminated completely.

### Operational costs and maintenance

It is clear that PV pumps avoid uncertainties associated with fluctuating availability of the price of diesel fuel, and thus the operating costs are zero.<sup>111</sup> The PV technology nowadays is developed in a way that the technology is very reliable, the life expectancy is very high: 25 to 30 years, and needs little maintenance. Within the technology, water pumping has long been the most reliable and most economic application of solar electric systems.<sup>112</sup> In general, a PV solar pumping system has little operating and maintenance cost, because after placement the system can work on itself. However, always certain maintenance

costs remain. As mentioned before, the initial cost of batteries that could be used in the PV water pumping systems are high and easily avoided through the use of a water reservoir. The elimination of batteries from the system eliminates most of the maintenance costs of the system as a whole, but also the maintenance cost of the pump. Moreover, the PV pumps only need minimal attendance and can often work unattended for a long period of time as do the solar modules.

The life expectancy of the components of the PV water pumping systems is high. The solar modules produce energy up to 25 years and the pumps have a life expectancy varying from 5 to over 10 years. It is also valuable to mention that most of the pumps are designed to be repaired in the field. Unless the pump controller fails, the only maintenance is cleaning the solar modules every 2 to 4 weeks, which can be done by non-skilled local labour.<sup>113</sup>

	Initial cost	Maintenance cost
Pv modules	\$6174.50(5000 euro) per kW peak	\$61.75(50 euro) a year per kW peak
batteries	\$247 (200 euro) per kW hour	\$2.47(2 euro) per year per kW hour
converter	\$617.45(500 euro) per kW	\$6.18(5 euro) per year per kW

Table 3: Estimated costs of PV pumping systems, 2009 by Ramos and Ramos<sup>114</sup>

### Socio-economic costs

In the part of the paper concerning environmental aspects and socio-economic costs of diesel generators, the costs other than financial costs regarding noise and pollution were already mentioned for both the diesel pumping system and solar pumping system. Since the social-economic costs of PV solar systems and diesel pumping mainly rely on the differences from traditional hand pumps, these will be discussed in this paragraph.

In the first place, prior to installation, the impact of an enlarged water supply on communities should be considered. Since diesel pumping systems and PV pumping systems are capable of pumping at more head and provide a constant water supply, water pumping and fetching have become a social event, if this custom will be eliminated, the community could feel this absence as a negative

impact of the pumping system. Moreover, the emergence of a new water source or increased water supply could influence gender relations in rural areas. Because the supply of water for a family is mainly seen as the responsibility of women, their social position might change in the community. Also the social constructed responsibility of water lies with women. Therefore, men might not want to participate in maintenance activities concerning water activities.<sup>115</sup>

In the second place, socio-economic costs for both diesel pumping systems and PV pumping systems are raised by theft protection costs. Because the systems as a whole, or valuable parts such as the solar panels, are seen as high value objects they need to be protected to ensure sustainability in the pumping system. Naturally, this brings protection costs along.<sup>116</sup>

Also, the shift from hand pumps to either diesel water pumping systems or PV water pumping systems implies that, since the use of hand pumps is very time consuming, the people living in rural areas could feel an increase in availability of their spare time. This could lead to more community interaction in important social events. Besides, more the time can be spend on (small) economic activities such as private farming. So, if men and women are convinced of the usability and reliability of the solar water pump, the social cohesion within a community might grow after implementation of a water pumping system.<sup>117</sup>

### **Personal Story**

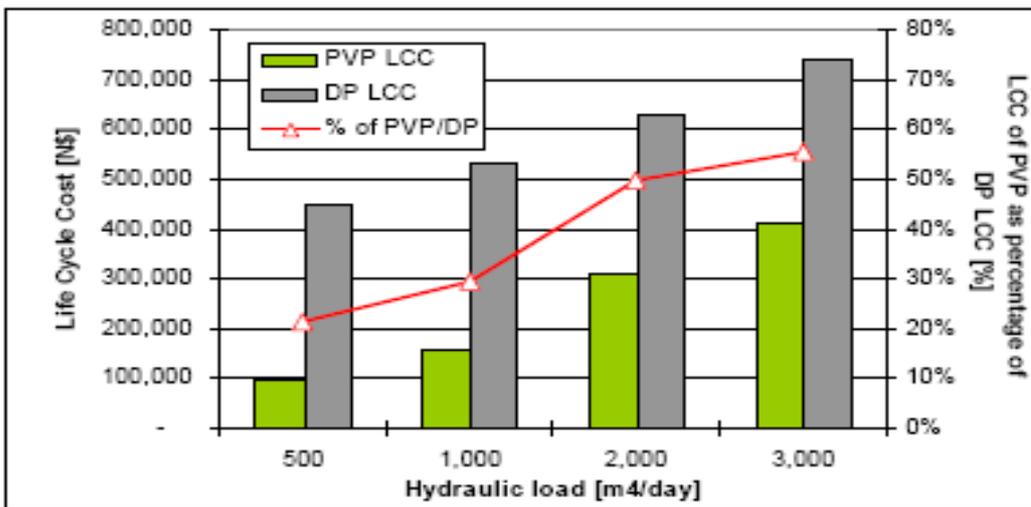
The installation of a solar water pumping system has made life easier for Nyombi, who lives with his family in a remote village in Uganda. Thanks to the installed solar water pump, Nyombi and his family are able to get their clean water from a nearby reservoir that is always filled with fresh water. On a sunny day, the pump provides up to 30 cubic meters of water. This sufficiently covers the water demand of the village, where a little less than 1,000 people are living. According to UNDP standards, a person needs 20 litres a day. So, Nyombi, as all other villagers, have 5/10 cubic meters of water left to use for other purposes such as irrigation. Since the installation of the solar pump 10 years ago, their agricultural activities have become much more stable and predictable. The stable availability of water protects the villagers from crop failures that often occur in the dry periods. Nyombi can be sure that there is enough food for the needs of his family, and is able to sell a little on the local market. This provides him with a higher and stable income, which made it possible to let all of his two children go to school.

Nyombi explains that his wife had to walk for an hour to get water when there was no solar pump. There was only a hand pump that did not supply a lot of water, and the water that was brought by his wife was not enough to meet all their needs in regard to cooking, washing, cleaning etc. Apart from that, the hand pump did not supply water in dry seasons. The solar pump, on the contrary, proved to be very reliable. Nyombi heard from a friend that in their community a diesel pump was installed. His friend told him that the diesel pump is not very reliable. At first, the system worked, but the villagers were often lacking the fuel to keep the pump running, since they either lacked the money to buy it or had problems with transporting the fuel to their village. The supply of water was further interrupted because the engine stopped working very often. A technician, who lives in a town not far away, is able to repair it, but nobody felt responsible to pay the technician. It also took some time to hire the technician. Since three years, the diesel pump installation is useless because the technician found that the engine needs to be replaced, and nobody can afford to buy a new diesel engine.

### *2.4.3 Comparison of diesel and solar pumping system*

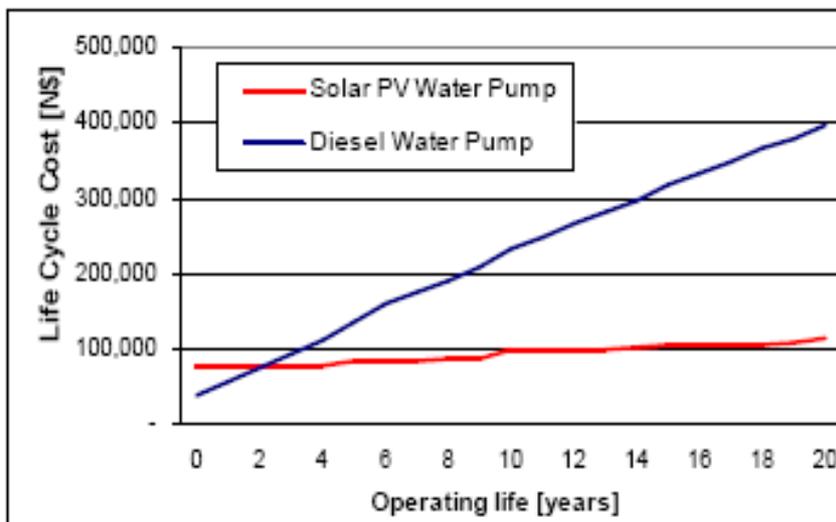
After having mentioned the most relevant costs of the separate systems, a comparison between the life cycle costs of both systems will be drawn. The study revealed that the systems have important differences in their centre of gravity for their cost. As the highest costs of the PV system are situated in their capital cost, the initial investments are great. However, other costs that play a role in the future, such as operational and maintenance costs are strikingly low. As a result, the PV system becomes a feasible solution compared to the diesel pumping system, where costs can run up quite quickly.

This finding is illustrated below in graphs 2 and 3, which were published in a report conducted on behalf of the Namibian Ministry of Mines and Energy. Figure 3.7 gives the life cycle costs (in Namibian dollars) for the solar and diesel pump at different hydraulic loads.<sup>118</sup> At a hydraulic load of 500 m<sup>4</sup>/day, the life cycle cost of the solar pumping system lies at only 20% of the life cycle cost of the diesel pumping system. As the diesel pump is more cost effective at higher hydraulic loads, this percentage is rising accordingly. However, the hydraulic load that is expected of a solar water pumping system mostly falls within the range of less than 1000m<sup>4</sup>/day. For example, the Solar Electric Light Fund claims that the pumps they have used for agriculture or village water supply did not require a hydraulic load higher than 1000m<sup>4</sup>/day.<sup>119</sup> Therefore, it can be assumed that in real world scenarios the life cycle costs often come at a fifth of the costs being involved in diesel water pumps. Consequently, as is illustrated in figure 3.8, it is often the case that the breakeven point, which is the point at which the costs are equal, occurs already after two years.<sup>120</sup>



**Figure 3.7: Life Cycle Costing as a function of the hydraulic load**

Graph 2.



**Figure 3.8: Typical years to breakeven graph for PV pump vs. a diesel pump**

Graph 3.

Last but not least, it should be mentioned that the water demand at the site of the pump should be taken into account. In situations where the water demand significantly varies or where there is no constant water demand, diesel pumps may present a more cost effective solution because the initial capital cost is lower and pumping is only incurred when needed. The solar water pump, on the other hand, pumps water as long as the sun provides the system with electricity. In other words, the diesel pump has an advantage of flexibility over the solar pump.

A change in water demand can be addressed immediately by deciding to run the diesel engine for a longer or a short amount of time a day.

## **2.5 Kerosene and biomass versus Solar tools**

In this part of the paper the financial and socio-economic costs of kerosene and biomass will be outlined. The comparison will focus on the extent to which solar energy could form a substitute for these energy sources. The reason for examining kerosene and biomass in a separate chapter is that the use of these fuels is of significant importance in rural areas. Although kerosene and biomass could be used for the same purposes, a separation is made between the purpose of lighting and cooking: kerosene will be linked to lighting purposes and biomass to cooking. In the first place, the solar lighting systems will be examined and compared with traditional sources of lighting. In the second place, the comparison will be made between cooking on biomass and solar cooking solutions. Finally, a short conclusion will be given.

In order to form an equation between solar and traditional lighting, the traditional sources will be examined first, followed by the financial and socio-economic costs of the portable solar lighting tools. Finally, a balance will be demonstrated between solar and traditional lighting sources.

### *2.5.1 Traditional lighting in rural Uganda*

#### Financial costs

Biomass and kerosene are the main sources used for lighting (around 90% of the homes use these sources).<sup>121</sup> In 2002 an indication showed that a total of 42,400 toe of kerosene is used by households each year, which is available through petrol stations and some retail outlets.<sup>122</sup> Over the last few years, the price of kerosene has increased with a faster rate than the annual fuel price and will possibly be more expensive than petrol in the future.<sup>123</sup> Currently, the price of kerosene stands at around \$1.03 per liter.<sup>124</sup>

## Socio-economic costs

Although in rural areas kerosene seems to be the cheapest and easiest solution, the disadvantages of this type of fuel are inescapable. These disadvantages include health considerations and the lack of sufficient lighting for evening activities. According to the World Health Organization there are more than 1 million deaths every year attributed to kerosene lamps; 62% of the people that die are under the age of fourteen. Besides, as mentioned before environmental aspects, kerosene lamps are annually responsible for at least 100 million tons of carbon dioxide emission.<sup>125</sup> Especially children suffer from the disadvantages of kerosene fuel. In South Africa, between 40,000 and 60,000 children are poisoned each year after ingesting paraffin/kerosene.<sup>126</sup> The reason for the high death/illness rate of children is the lack of protection and ventilation of the area where the fuels are used for cooking and lighting. In Uganda and many other African countries, kerosene is used in wick lamps which are causing infants and toddlers being burned and scalded.<sup>127</sup>

Moreover, the brightness of the light produced by the burning kerosene is not sufficient for studying or working at night. A study by the foundation of lighting Africa in five African countries, found that the main indoor nighttime activities that are significantly hindered by poor lighting are reading, doing homework and preparing food. Going to the toilet, tending to livestock and visiting are the main outdoor night-time activities that are significantly hindered by the lack of lighting and which would be considered priorities in the distribution of light. The main problems these households encounter without access to qualitative lighting, is the insecurity to go outside, the inability to do homework, and the postponing of tasks to day time.<sup>128</sup>

The following background story demonstrates the socio-economic costs of kerosene and its major impact on an average family in rural Uganda.<sup>129</sup>



*Text and photo by Alex Mugarura in Kishasha, Uganda ([www.lighting.philips.com](http://www.lighting.philips.com))*

**It is just over 7pm in Uganda when Kyomugisha Mackline and her two children are preparing to go to bed. The reason for this is not sleep, but darkness.**

Kyomugisha (35, and her daughters Kemigisha and Kyomuhang, live in a remote Ugandan village of Kishasha, in Kashari county of the Mbarara district. A few minutes to 9pm, the village is dead quiet. Only a few dogs can be heard as they bark probably from the neighboring village.

Back in her three roomed house, Kyomugisha lays inside her bed awake. She has nowhere to go apart from her bed because darkness reins her house like it does in almost all families in her village. Kyomugisha can hardly afford buying enough kerosene to light the traditional Etadoba lamp which is the only source of light in her home at night. The only option her family has is to eat supper before the sun sets to benefit from its natural light.

Kyomugisha's family is one of millions of rural families in Uganda that rush to accomplish all their daily chores before it gets dark. They simply cannot afford paying for artificial light. Only three percent of rural households in Uganda have access to the electricity grid.

### *2.5.2 Solar lighting*

This part of the chapter will contain the financial and socio-economic aspects of the purchase and use of portable Solar lighting systems. These systems have been described in deliverable 1.

## Financial costs

The prices of the portable lighting differ per brand and company that produces them. Overall, one could say that the cost of purchase lay between \$10 and \$20. The maintenance of lamps differ and depend on usage. In addition, the maintenance of the products also depend on whether the solar panel is integrated into the lamp, or if the panel is working separately. Besides, (absence of) available knowledge of technology influences the lifespan of the product. Although the mentioned portable systems require less technological expertise than the solar systems explained earlier, training on how to use the product is still necessary in order to guarantee long term custom and utility. The costs of training depend on the type of project, duration and the amount of people involved. Later in this part an example of a solar lamp project will be provided, including estimated costs.

## Socio-economic costs

One has to consider the circumstances and needs of a family, health center, and school facility when taking the purchase of solar lighting tools into consideration. A model should be set up that indicates the amount of light that is needed per day, depending on the needs of the facility. In the comparison between solar lighting and kerosene, examples will be given on this matter.

An example of an already implemented project of solar lamps in rural communities has been provided by the Koru Foundation. The Koru Foundation has the aim of tackling poverty through a renewable energy conducted project in Uganda, which has been later transferred to Trocaire. Trocaire invested in 285 lamps for the poor and disabled in the Lucinda and Kanine villages of the Pader District in Uganda. From their experience 'the lamps will increase self-sufficiency as well as reducing people's reliance on expensive and harmful imported paraffin and candles'.<sup>130</sup> This project also stresses the importance of training and educating people in the efficient usage of the lamps. According to the final report of Trocaire, with the investments of 285 lamps, including the training in Solar and repair at community level, a total of \$2750 has been spent on the project.<sup>131</sup>



Figure 11, Solar lighting in a household Source: Koru foundation

### 2.5.3. Comparison solar lighting and traditional lighting

Information on the financial and socio-economic aspects of solar and traditional lighting has been given. A financial comparison can be made on the short, or on the long term which, we will elaborate on below.

Kerosene is available in every petrol station and many retail outlets. On the other hand, the price of kerosene is rising rapidly and the majority of the Ugandan population with low incomes find difficulties in purchasing the expensive fuel. Besides that, the use of kerosene contributes to serious health issues concerning burns and poisoning.

When exposed to these risks on an early age, the consequences are severe and could lead to death. In contrast, solar lighting is clean and user friendly. It provides bright light that enables children to study. Some generate up to five to six times more light than kerosene.<sup>132</sup>

The price of kerosene is relatively high and likely to increase. On the short term therefore, it is an expensive purchase. When considering the introduction of a solar lamp in a household the following calculation can be made:

We assume the price of kerosene to be \$ 1.03 per liter in 2010, and the use of one rural family (depending on size and activities) approximately 1 liter per week. Consequently, the expenses for one family on kerosene will be \$ 4.12 per month ( $1.03 \times 4$ ) and \$ 49.44 per year ( $4.12 \times 12$ ). When the option of solar lighting comes into view, the costs differ from \$ 5 – \$ 20 per lamp. When taking a lamp of \$10, initially rural households will consider one lamp per family. After less than 2.5 months ( $4.12 \times 2.5 = 10.3$ ) the costs of kerosene exceeds the purchase price of one solar lamp. In this manner other prices of solar lamps can be compared with the price of kerosene, taking into consideration the family size and use.

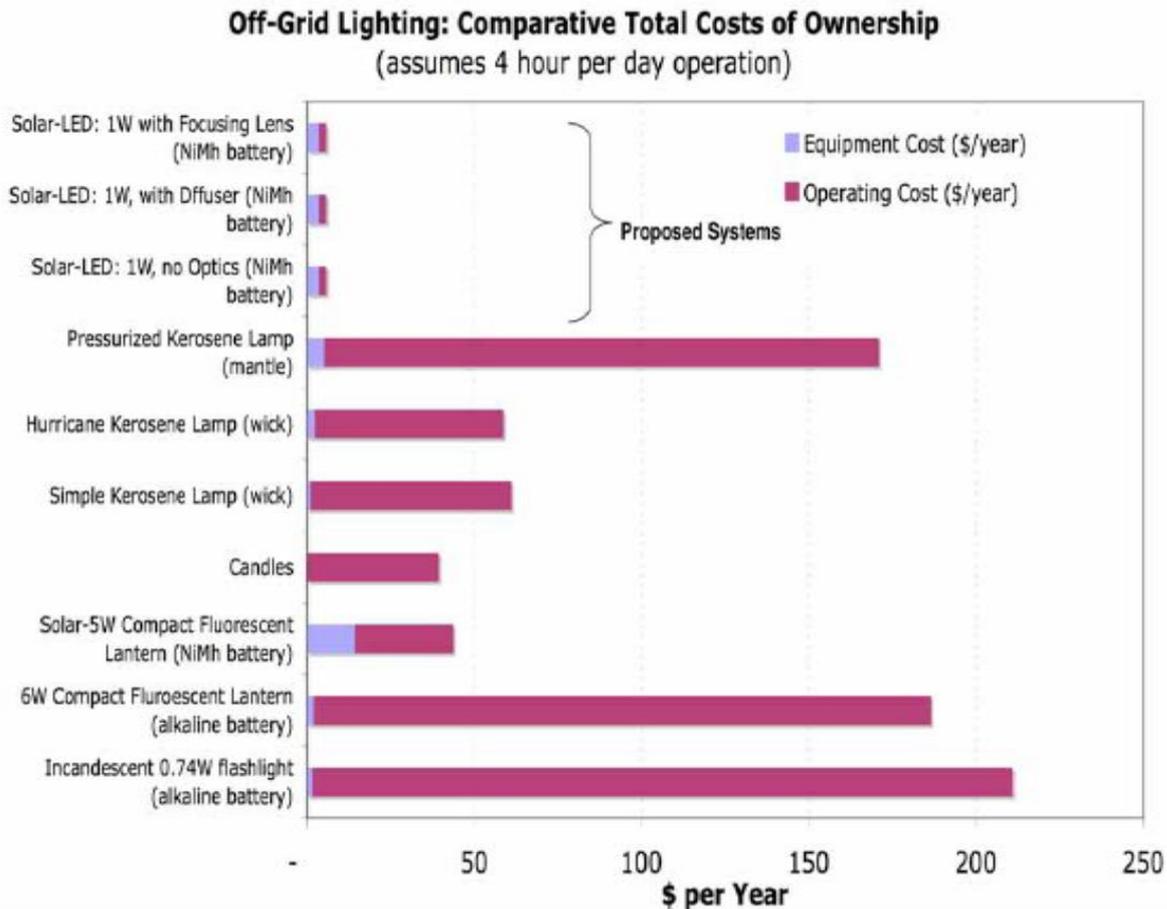
**The following calculation can be made for a school**

The same type of calculation has been made for the previous example. An average rural school that lacks electricity from the grid is obligatory to use other forms of lighting such as kerosene. With a dollar price of 1.03 per liter, a school is likely to consume approximately five liters a week. Consequently, the expenses will be \$ 5.15 a week and \$ 20.60 per month and \$247.20 year. With the introduction of 5 solar lamps, of each 10 dollars, the investment will contain \$50. After 2.5 months the expenses of the 5 solar lamps will be zero.

The calculations point out that the purchase of one solar lamp is more expensive than the amount of dollars needed for kerosene on the short term. However, the example shows that on the long term the costs of kerosene will transcend the costs of solar lamps. Nevertheless, we have to bear in mind that maintenance of a solar lamp depends on the degree of accuracy of use by its owner. It is likely that every five to ten years a new lamp needs to be purchased. Besides that, to forestall the lamps being damaged relatively quickly, an investment has to be made by teaching the owners how to use the product and how to circumvent possible problems.

A complement is added in order to compare the prices of traditional lighting energy sources to solar energy. The high upfront costs of Off-Grid Lighting are the only obstacle herein; however, these could easily be circumvented if a loan system would be introduced.<sup>133</sup>

Graph 4.



**Personal scenario**

There is no electricity throughout most of Northern Uganda, thus young people find it very difficult to do home assignments once sunset arrives. Dembe, the oldest son of a family of five kids, is continuing school since the many years of war, and since the 'Lords Resistance Army' disrupted his family's life. Dembe uses a kerosene lamp in his hut, which gives off a great deal of smoke and provides poor light. Besides, the family also uses kerosene for the several activities around the house in the evening. Dembe's family received a solar lamp, and has been using it for the past few months. The solar lamp has to charge in the sun for approximately 5 hours and produces bright light in the evening for 4 up to 6 hours. Dembe is delighted with the obtained solar lamp, because it is much easier for him to make his home assignments. Plus, the side effects of the kerosene are omitted. Moreover, his family does not have to spend the weekly \$1 to \$2 on kerosene. These savings make a big difference to the family that has a low

income. Now there is more money for basic necessities and education opportunities for Dembe and his younger brothers and sister.

#### *2.5.4. Traditional cooking*

Building on the insights of the previous section, this part will continue with elaborating on the use of biomass as a traditional source of energy. The first part will clarify the significance of wood in a Ugandan rural society and the second part will focus on the advantages of cooking on solar energy. Finally, the comparison will be made between the financial and socio-economic aspects of the traditional source and that of the solar 'Cookit' and 'Solar box', mentioned in the first deliverable.

#### *Financial, socio-economic costs*

Electricity is used for cooking by only a small minority. According to the article 'Energy profile of Uganda', the Ugandan census of 2002 reported that 81.8% of Uganda households (22.4% urban households and 91.4% of rural households) use firewood for cooking and another 15.2% charcoal (66.6% urban households and 7.0% of rural households). Combined, this totals to 97% of Ugandans using wood or charcoal (89% urban households and 98.4% of rural households).<sup>134</sup> Moreover, a total of 13.5 million tons (5.23 million toe) of wood are used by households in Uganda, outstripping supply by 3.8 million tones of wood per year.<sup>135</sup> As a result, wood is becoming increasingly scarce. Due to this scarcity, environmental problems occur concerning deforestation, erosion, and a decrease in quality of the soil, as described in environmental aspects.

Relevant to cooking activities, the scarcity of wood requires people to spend more time and effort in collecting it. This situation applies not only to Uganda but is relevant to other countries in Africa as well. According to a report on household energy and DMGs between 1990 and 2003, Ugandans spend on average 2 hours a day on collecting wood. In Niger this reaches up to 4 hours, Ethiopia approximately 3 hours, Namibia 1.5 hours and in Nigeria less than half an hour.<sup>136</sup> Although the fact that in most rural areas wood is gathered, in urban areas it is usually purchased with prices ranging from 16 (19.76 USD) to 38 Euro (48.93 USD) per toe.<sup>137</sup> Taking the market prices, wood is the cheapest form of energy (20-45 dollar/toe) followed by charcoal (250 dollar/toe), Kerosene (1,000 dollar/toe).<sup>138</sup>

Due to the large amount of people in rural Uganda who use traditional stoves (over 90%), people are heavily dependent on wood and charcoal.<sup>139</sup> The high usage of these fuels is causing dependency. Therefore a change in fuel seems not likely to happen in the nearby future. However, the use of wood for cooking generates tremendous health problems for those subjected to the smoke. According to the report on the household energy and DMGs, indoor smoke is one of the underlying causes, and to blame, for nearly 800,000 child deaths annually.<sup>140</sup> Moreover, more than one third of the child deaths, 35,000 deaths, occur on the African continent. Another 288,000 child deaths occur on South-East Asia.<sup>141</sup> A study of the World Health Organization has indicated that with reducing these alarming numbers, the air pollution in homes should decline. This could be achieved by providing people the access to cleaner fuels and access to improved stoves.<sup>142</sup>

#### *2.5.5. Solar cooking*

##### Financial costs

The purchase cost of solar cooking differs per product. The prices of a solar cooker range from \$5 to over \$200, depending on the size and advancement of the cooker. These relative expensive cookers have no purpose in third world countries. Besides the high expenses, they are too big and too clumsy to be a sufficient tool for the poor. The solar solutions for cooking which can be applied to Africa, therefore costs at most \$30.

The costs of the previous mentioned saving-wood stoves depend on the material they are made of. The maintenance costs of solar cookers depend on how the solar cookers are used. When information is provided on usage and maintainability of the product, the cooker should last for years. Important maintenance factors of the solar cooker and box have been outlined in deliverable 1.

#### *2.5.6. Comparison solar cooking versus traditional cooking*

Evidently, a solution for the problem concerning the tremendous wood usage which ensures scarcity of wood and poor health conditions for people, should be seriously considered. Generating wood for cooking in rural areas is cheap, since it

is assumed to be a costless source of energy. Accordingly, it could be assumed that no initial costs are involved for those in rural areas. However, the hours spent on gathering could be spent on economic and study activities. With less time lost in collecting fuel and less health problems, children will have more time available for school attendance and homework. Besides, alleviating the drudgery of fuel collection and reducing cooking time will free women's time for productive endeavors, education, and child care.<sup>143</sup>

Moreover, reducing the time and distance that women and girls need to travel to collect fuel will reduce the risk of assault and injury, particularly in conflict situations.<sup>144</sup> Concerning health, it could be concluded that due to the smoke of the fires, especially children suffer heavily. This turns out in a tremendous amount of deaths every year. Therefore, a less polluted home can improve the health of new mothers who spend time nearby the fire after having given birth.

The costs of purchase and maintenance of the solar cookers are higher compared to cooking by using wood. By taking these socio-economic costs of wood into consideration, solar cooking, together with the wood savings stoves, seems to be the most sustainable solution for the problem of energy shortage in rural areas. When examining the solar option, the result is that no wood is required for cooking and this will save time, health risks, and trees. In our world of rising fuel prices and extreme deforestation the contribution of solar cookers as a reliable and sustainable energy source should not be underestimated.

**Personal scenario:**

Nabukenya is a woman living in a small hut nearby the rural village Ngoma. She is taking care of five children. Two of them are from her sister, who died shortly after her husband died of AIDS. Her own husband is often away from home, searching for jobs. With having seven mouths to feed, she is obligated to spend a lot of time on cooking and gathering wood. Every day, up to 5 hours she spends on these activities. Two of the oldest children, an eight year old girl named Keisha, and a boy of 10 named Kalungi, often join their mother in collecting and cooking, trying to support her in taking care of the family. Nabukenya explains how she benefits from the solar cooker which has been provided for several families like hers in the region around Ngoma.

*'I feel always guilty for my children to leave them at home alone and taking two with me for gathering wood. Since I cannot financially rely on my husband I feel forced to create my own income. With the solar cooker, I have more time left. Instead of five hours of collecting and cooking, it now takes 2 hours without any collecting. Now, I could earn a little money to let all of my children go to school. My children feel much safer in the hut, since the danger of smoke from the fire has been abandoned by using the solar cooker. Moreover, the Solar cooker has been proven very easy in use. Burns are not common anymore and the food has the same good quality. I feel blessed'.*

One might say that it is difficult to exactly provide a comparison of financial costs for kerosene, biomass, and solar energy. Many factors including the environment, economic situation, and available technological knowledge are influencing the costs of purchase and maintenance of solar products. Although the use of traditional sources of energy has severe consequences for people's health and level of education, the transition to solar solutions is hindered due to high purchase costs.

Albeit the costs of kerosene will be outweighed on the long term, the lack of knowledge, and wrong usage that is likely to harm the product, contains the main argument not to switch to Solar. A shift needs to take place from the focus on the short term expenses to long term sustainability. Only then a real step forward to development will be made to where the introduction of solar energy will be the face of increasing prosperity.

## 2.6. Conclusion

It has evidently been shown that the purchase, implementation, and maintenance costs of solar energy in general entail several important considerations. First of all, the purchase of the systems, from a solar light of \$20 to a PV system of \$1000, has been shown relative expensive compared with traditional energy sources. The average income of a person in Uganda does not allow for such expenditures. Consequently, the high initial investments need to be made by financially strong institutions.

Although purchase and implementation contain a great investment, the maintenance costs of a solar system are significantly less. This leads us to the conclusion that for traditional energy, in the context of the generator, the initial costs may be cheaper than the solar systems, but on the long term the costs often exceed the maintenance costs of solar systems. In other words, the operational costs of a generator are high. They involve daily use of fuel and need to be replaced after 5 to 10 years. Solar systems, on the contrary, do not require any fuel and are supposed to last for at least 20 years. Replacement of the batteries, which normally occurs every 5 years, forms a significant cost for the solar system. Nevertheless, on the long term the solar system seems to be an economically viable option.

The same accounts for the comparison between diesel pumping systems and solar PV pumping systems. Examination of the financial costs involved in solar powered pumping systems revealed two important findings: the initial capital costs are very high, whereas future costs, which are formed by operating costs, maintenance, and replacement costs are significantly low. On the whole, even though the initial investment of solar water pumping systems is high, making it an expensive alternative to energy sources run by traditional energy, solar systems bring about no additional cost of maintenance or fluctuating costs of purchasing diesel. As a result, on the long term solar water pumps are in most cases less expensive than diesel pumps.

Notwithstanding the fact that maintenance costs of solar systems are assumed to be relatively low, effort needs to be put in to guarantee the long time operation of the technology. Instructing the local people in using the technology properly is of main importance for the lifespan of solar technology.

Regarding the comparison between kerosene for lighting and solar energy, portable lighting systems will be financially feasible on the long term. Therefore, to lighten rural areas on the short term, the price of a solar system is more expensive than the use of kerosene lamps. However, on the long term, the costs of kerosene lamps will transcend the costs of solar lamps.

When looking at the comparison between biomass for cooking and solar cookers, solar energy is of significant importance for the weakest group of Africa's population: women and children. Even though, there are no initial costs involved in generating wood for cooking in rural areas, there are socio-economic and environmental costs involved. These costs would be avoided by using the solar cookers. Although their initial price and maintenance costs are higher compared to wood, people's well-being and a stable environment should come first.

Taking the implementation of solar energy into consideration for any type of application, the local technological knowledge is of vital importance. The initiative taker should invest time in training locals. Only then, will receivers fully understand the use of the system as well as become aware of how the use of solar energy will improve their personal life and the life of the community as a whole. Besides the financial costs, the improvement of health related issues and the education level of children is of significant importance. Solar systems are clean, provide bright light, and are a reliable energy source for rural clinics and schools.

In the end, the obvious socio-economic and environmental advantages of solar technology should be able to outweigh its high upfront costs and make human development a priority. Unfortunately in reality this is often not the case. The supporting NGO's and governments still hesitate to cover costs on the long term, which may not be worth the benefits on the short term. Thus, the accent should shift from low short term costs of energy products to the important value of sustainability that Solar products have over traditional sources. Only then a real step forward to development will be made. Therefore, the introduction of solar energy could be the face of increasing prosperity.

## **2.7. Final Conclusion**

In sum, the goal of this research has been to point out the most important issues regarding the implementation of solar energy. It indicates the feasibility and

possibility of solar energy in general. By making it more specific and understandable, examples of implementation have been demonstrated by applying the PV systems to different situations.

The needs of people in rural Uganda have been examined in terms of their social and economic situation. From here, it has been shown to what extent solar energy is able to positively contribute to the development of rural areas in Uganda and ultimately to Sub-Saharan Africa. By providing an overview of solar technologies, different uses of this form of energy have been shown. Solar technologies are able to provide electricity for several applications: to lighten and provide access to water in households, schools, and health centers. This could finally contribute to an overall better standard of life, education, and healthcare. Besides that, the difficult conditions that could hinder the implementation of solar systems have been acknowledged. Identified difficult conditions in rural Uganda, but also in general for countries in Sub-Saharan Africa, are theft, corruption, lack of knowledge, and constraints on the (local) market.

Furthermore, a cost-benefit analysis of solar energy versus traditional energy sources on environmental, financial, and socio-economic levels has been given. When the environmental level is considered, the impact of solar energy tremendously differs from the impact of traditional energy sources on the environment. The use of solar energy does not entail any pollution and is assumed to be a reliable source of energy. However, when observing Uganda's consumption of fossil fuels and the high use of biomass by the (rural) population, we see that both put significant pressure on Uganda's natural habitat. Moreover, Uganda's production of greenhouse emissions and the country's dependency on depleting fossil fuels ensures the traditional energy sources as unsustainable and therefore not reliable in terms of future prospects. Especially the use of biomass as a primary source of energy and its increased consumption leads to high levels of deforestation in Uganda. By addressing the use of batteries in Uganda, one can conclude that inappropriate recycling of lead-acid cell batteries will damage the environment as well. These batteries are easily thrown away by the people. On the other hand, the batteries used in solar technologies have a relative long lifespan and cause minor contamination provided that they are appropriately recycled.

Furthermore, the cost-benefit analysis focused on the financial and socio-economic aspect. This was realized by means of comparing diesel generators with

solar systems, diesel water pumps with solar water pumps, and kerosene and biomass with solar energy solutions. The comparisons between diesel generators with solar systems and diesel water pumping systems with PV pumping systems have shown virtually equal results. Even though, the initial investment of diesel generators is lower than the initial investment of solar systems, diesel generators involve daily use of fuel and high maintenance costs. Solar systems, on the other hand, do not require fuel and their maintenance costs are relatively lower. This makes solar systems an economically viable option on the long run in comparison to diesel generators.

Moreover, the use of solar energy brings socio-economic benefits for a rural African society. Concerning solar water pumps, which provide for more water than diesel water pumps, the social position of women is likely to change in their community, since they are often kept responsible for the family supply of water. Besides, because solar water pumps reduce threat of water shortage, families will be able to spend more time on economic activities and schooling. When considering the comparison between kerosene and biomass with solar energy, the price of solar technology (such as lamps and cookits) is higher compared to the price people pay per week on kerosene and biomass. However, in a few weeks, the costs of 1 liter kerosene will transcend the costs of one solar lamp. By emphasizing the socio-economic costs of wood regarding serious health problems caused by smoke, and time and effort spent on collecting wood, the use of 'Solar tools' should be considered an important development in rural households.

It becomes obvious that the financial costs of the solar systems are high which entail a vast investment on the short run, whereas the benefits of solar systems can only be seen on the long run. Therefore, high initial costs make investment in solar systems a difficult first step to take in poor countries of Sub-Saharan Africa. However, when we target on the ongoing environmental and socio-economic constraints of that area, we have to seek for a sustainable solution. At the moment, it appears to be that 1.6 billion people still have no access to electricity. Therefore, the sun should be utilized in more effective way than simply being wasted shining on people's skin.

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## **Deliverable 3 | Recommendations**

In this research we have discovered the advantages solar power is able to bring in Sub-Saharan Africa and Uganda in particular. Simultaneously, we have discussed difficulties that could occur during and after implementing the technology. We have seen that solar energy is applicable for all kinds of applications and facilities which makes it a functional technology. Also, with a life-span of approximately 20 years, low maintenance costs and only the sun to rely on, solar technology is, on the overall, assumed to be reliable, especially in countries as Uganda that enjoy many sun hours per day. However, in order to make implementation feasible, substantial factors need to be taken into account. An important question remains: what, in general, should be reflected upon when initiating projects regarding the implementation of solar energy in rural areas in Sub-Saharan Africa?

This research has processed a vast amount of data on solar technology. However, the subject still remains very general. Therefore, an overview of the main obstacles that solar energy entails will be provided in order to give short, but substantial answer on that main question. This will be proposed in the form of recommendations.

- **Solar energy may is not the only sustainable solution**

Apart from solar energy, other sustainable energy sources can be a solution for the energy shortage in Sub-Saharan Africa. Since this research focuses only on solar power, the possibilities of the other sustainable energy sources are not considered. However, they might have benefits over solar power, which implies

that research needs to be done on the cost-benefit analysis of these sustainable energy sources, before making a decision to implement solar energy. Before deciding the geographical location of the area should be considered. An important environmental aspect is the weather condition in general (hours of sun per day, regular storms etc). Moreover, one should investigate the emergence of floods and earthquakes on a yearly basis of the region.

- **Take difficult conditions of a region into consideration while implementing solar technology**

To implement successful solar projects in Sub-Saharan Africa, its difficult conditions should be minimized. In this research, theft, corruption, lack of knowledge, and constraints on the (local) market have been acknowledged as being difficult conditions in rural Uganda. Even though these constraints are general, they may not be ignored for any region in Africa. In order to prevent theft and corruption, ownership by community is a way to ensure safety of the solar systems. Bringing people in a position of responsibility, they are likely to take more care of the technology once convinced of the solar advantages. In addition, knowledge regarding the technology of solar energy is inevitable for proper use of the technology. Therefore, much effort need to be invested in the training of the local people. This training should be done in cooperation with a recognized figure of a village that gains high status in African societies.

- **Explore the local market**

A constrained and weak developed market for solar energy advocates for low local investment. Whereas local investment is of high importance for the development and independence of Africa as a whole, solar energy is still too expensive for the poor African people. Although people are able to sell and buy solar technology (panels, batteries) on local markets, the quality and reliability is often not guaranteed since many 'second hand' products are sold 'first hand'. Commonly, the African local markets are known for providing low quality products. Unfortunately, since people are very poor, they seem to have no other option. Small loans (micro credits) could provide an important solution for this problem. An example in this context contains a woman that receives a panel for charging the batteries of cell phones. People would come to her hut, and in exchange for recharging their phones batteries, she takes in an amount of money.

By providing these opportunities for the locals, the market can develop itself, instead of non-Africans (in order to provide 'help' for the poor) buying and importing the solar technology from abroad.

- **Make sure your project is able to generate progress and (local) independence**

This may be one of the most important aspects when implementing a (solar) project in Africa. Electricity is of high significance for the economy, and lack of access has been one of the main constraints for doing business in Africa. Close to 50% of African companies identify the lack of electricity as a major obstacle.<sup>145</sup> By simply imposing solar technology in rural off-grid areas without taking the long-term situation in consideration, the project is doomed to fail. In order to contribute to real development, people need to be able to benefit and develop themselves on the long term. Thus, development is not simply about placing a solar panel in a poor community, it is also taking into account the ability of a population to benefit from solar technology and the advantages it is able to bring on the long term. Therefore other initiatives should accompany the Solar project. For instance stimulating people to undertake economic activities since the provided Solar energy in homes will save a lot of time that was usually spend on collecting wood, water and fuel. Since more than 75% of the population in Sub-Saharan Africa does not have electricity (in rural areas it is more than 90%), it is assumed to be one of the most underdeveloped continent of the world.<sup>146</sup> Providing electricity to its population is therefore not a goal on itself, but a way to stimulate (small) business, progressing the level of education, and the status of women. Only when the implementation of solar energy stimulates people to work for their own future, the project can be labeled as a success.

- **Conducting field research**

In order to discover the constraints on the local market and the vision of life of African people it is important to do specific research in the field. When considering implementation solar technology, the needs of the individuals and communities can differ per region as can the technology required to fulfill these needs. Knowledge of the local situation is therefore of fundamental importance. Furthermore, while conducting research in the field, the possible difficult

conditions of the location chosen for implementation of solar technologies should be determined and the financial costs of projects could be estimated. Therefore, for financial implementation of a project it has to be acknowledged, that for relative prosperous regions a micro credit would seem possible, while poorer regions would not have the possibility to pay the loans and sponsoring of a project would be more feasible. Only then a complete picture of the location and socio-economic characteristics can be made, which is needed in recital for implementation of solar energy.

While carrying out this research, the team was not able to undertake a fieldtrip to Uganda. However, we discovered that by contacting people in the field of solar energy, they were all happy to help and support our research by providing us with conducted projects, relevant data, and information on calculations. Logically, building up a group of contacts is necessary before going into the field. Especially in order to develop a good and reliable relationship with the local population, one should approach the head of tribes and the mayors of African villages. Faith and religion is of high importance in many African regions. When gaining a close relationship and trustworthy position in the African social structure, their cooperation and enthusiasm will highly contribute to the successful implementation of Solar technology.

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# RESEARCH 3 | ONDERZOEK 3

## CHINA AND INDIA

### *AS RESPONSIBLE STAKEHOULDERS IN TRADE POLICIES*

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# **CHAPTER 1 |**

## **Theoretical Framework**

This chapter will shape the theoretical framework surrounding Responsible Stakeholdership (RS). The framework roughly consists of two main parts. The first part discusses the definition of RS from both a European and an Asian perspective. In other words, this research starts with formulating an answer to the question: 'to what extent is there a universal applicable and agreed upon definition of RS?' The second part will shortly explain the Hofstede-model, which will be used for the final analysis of the paper and its potential importance in studying RS.

### **I Perspectives on Responsible Stakeholdership**

#### **I.1 Responsible Stakeholdership in Western Perspective**

The term 'Responsible Stakeholder' (RS) has been introduced in 2005 by then US Deputy Secretary of State Robert Zoellick (currently President of the World Bank).<sup>1</sup> Zoellick referred to the article "China's 'Peaceful Rise' to Great Power Status" by Mr. Zheng Bijian, and posed the question how the US should deal with China's rising power. In his speech, Zoellick mentioned that 'all nations conduct diplomacy to promote their national interests. Responsible stakeholders go further: they recognize that the international system sustains their peaceful prosperity, so they work to sustain that system.' A responsible stakeholder would be more than just a member, it would work to sustain the international system that has enabled its success.

Zoellick emphasized that by introducing the term of Responsible Stakeholder, his intention was not to constitute a special category for China. Instead, he suggested that given China's success, its size and rising influence, it has an interest in working with other major countries to sustain and strengthen the international system that keeps the world more secure, enables it to be more prosperous, and creates opportunities for the peoples.<sup>2</sup> He added that this is a challenge for all the major participants: the European Union, Japan, India, Russia, others, and of course the United States, too.

International stakeholders contribute to defend or sustain the international system. Xenia Dormandy wrote that such an international system could be defined as a *norm-sharing mechanism* that establishes and enforces behavioral standards while sharing information to support those ends.<sup>3</sup> In this case, stakeholders are less focused on who brings what resources to the table and more on identifying and prioritizing geopolitical issues. Additionally, an international system could be a *burden-sharing mechanism* in which responsible stakeholders are willing to share responsibility and make sacrifices to achieve mutual goals.<sup>4</sup>

Likewise, Clemons and Konishi wrote that a responsible stakeholder is 'a nation with its own house in order, ready to contribute to the international common good above and beyond its own parochial national interests.'<sup>5</sup> Hence, an actor cannot be categorized as a responsible stakeholder if it remains confined to its own national interests.

More detailed, according to Zoellick, 'responsible stakeholders work to expand open and free trade, sustain a functioning international market, promote and spread human rights and democracy, stem proliferation of weapons of mass destruction (WMD), are open and transparent regarding military affairs, and attempt to resolve conflicts through peaceful means.'<sup>6</sup> One elaboration of the RS-concept has been written by Dan Blumenthal (Resident Fellow of the American Enterprise Institute). He formulated the expected behavior of a responsible stakeholder with regard to Zoellick's features:<sup>7</sup>

- Counter-proliferation: responsible stakeholders understand that certain regimes, aggressive, and linked to terrorist groups, are the greatest proliferation threats. The great power should use all tools of statecraft to prevent those regimes in particular from obtaining weapons of mass destruction;

- Regional security: a secure, peaceful, prosperous and democratic system needs to be strengthened. In connection herewith, the principles of openness, transparency, good governance, and the peaceful resolution of disputes come into play;
- Energy security: responsible stakeholders should rely upon the oil market and not mercantilism for their supply. They share a responsibility for the security of supply, which means contributing to the stability of supplier regions;
- Economic development and assistance, promotion of openness, lack of corruption, good governance, and furtherance of collective rather than purely national goods are all expected of a responsible stakeholder;
- Open and rules-based economy: responsible stakeholders work to open and liberalize new markets and abide by the rules of the international trading system;
- Peacekeeping and enforcement: for responsible stakeholders it can be necessary to intervene in unstable states to counteract possible terrorist threats. Peacekeepers and enforcers have to be nation builders as well and therefore sensitive to human rights;
- Human rights and state sponsored genocide: responsible stakeholders recognize that they have a moral imperative to stop genocide and civil war, and they realize that humanitarian disasters can destabilize key parts of the world.

Since many scientists have discussed the probable elements of RS, it would be unwise to depend on Blumenthal alone. After examining several treatises<sup>8</sup>, one can conclude that the above 'requirement-list' is quite extensive and covers almost all issues, but one:

- The environment: in our opinion, environmental sustainability must be added due to its global impact and importance. Responsible stakeholders should behave to maintain the sustainability of the environment in their economic and trade activities.

It is interesting to see RS in the light of the academic debate in the field of International Relations between Realists/Neo-realists (Realism) and Liberal Institutionalists (Idealism).<sup>9</sup> Schiffer and Shorr wrote that 'given the context it was coined, the term was bound to be viewed as a demand placed by an established power on an emerging one.'<sup>10</sup> Originally, RS was brought up as strategy to

'manage' the rise of China and thus to encourage China to be a status quo power within a US-led international order. This is a clever advance from old-fashioned containment or appeasement strategies.<sup>11</sup> For realists/neo-realists, RS will be merely seen as a strategy in maintaining the status quo. This also confirms that RS is originally a term and framework developed by US as the hegemony of the current order.

On the other hand, Schiffer and Shorr then argue that 'there is nothing inherent in the concept that presumes a global hegemon or an immutable set of values.'<sup>12</sup> Adding to Dormandy's, Clemons' and Konishi's arguments, they believe that RS establishes the core principles of the liberal international order.<sup>13</sup> For liberal institutionalists such as Robert Keohane, RS is in line with multilateralism in terms of norm-sharing and the transcendence of national interests. Through multilateralism, states are perceived to be building accepted standards of behavior. These standards exert their own normative pressure on state action and contribute to the development of long-term obligations between states, which stress cooperation.<sup>14</sup> Thus, liberal institutionalists do not regard RS as a US-framework imposed on new rising powers, but it is a universal framework for all major participants. A European Council Statement on China-EU relations is one of the official papers expressing that RS is not merely a framework created by a dominant power, but it is based on universal understanding and cooperation.<sup>15</sup>

It is important to note from the above discussion that there is no disagreement between Western realists/neo-realists and liberal institutionalists concerning the concept and definition of RS. Rather, they disagree on why RS has been brought up in the first place, for what political reasons, and to whom this concept originally 'belongs'. Since the first explicit mentioning of RS occurred within US-forums and USChina relations, one can assume that the term is in principle an American concept. However, already in 1972, Francois Duchêne launched the question of the 'conception of the EU as a "civilian power" [...] and its ability to expand its model of ensuring stability and security through economic and political rather than military means.'<sup>16</sup> The European Commission expresses in various statements their efforts 'to strengthen an effective, fair, just and rules-based multilateral international system, with the United Nations at its centre'.<sup>17</sup> In 2006, the Council launched the terms of 'international commitments and responsibilities', the need for an 'effective, fair, just, and rules-based multilateral system', and that the EU should actively support China's emergence as a

successful and responsible member of the international community.’<sup>18</sup> If we translate the difference between the American and European perspective into the realism/idealism debate, one can assume that the US can be found under the heading of Realism, whereas the EU is much more of an Idealist. Again, this does not mean that they disagree about the supposed content of RS, but it is important to be aware of this with respect to their intention, behavior, and emphasis.

Despite the lack of an exact definition, it is possible to distract the features of RS in Western perspective. Overall, a responsible stakeholder should *contribute* to the international order rather than merely benefit from it. Put differently, a stakeholder of the international community should take its responsibility through proactive and altruistic behavior on the global level. Besides, the definition of Clemons and Konishi should be taken into account: a nation can act responsible at the global level only when ‘its own house [is] in order’.<sup>19</sup> National circumstances, for example concerning the environment, human rights and the rules-based economy, should be in a comparable condition as those of the international order. Otherwise, a country is not likely to contribute to these standards on a larger scale.

Along the lines of these most important aspects of RS – *house in order* and *contribution to the international order* – this research will analyze Chinese and Indian trade politics by looking at its behavior towards both internal and external matters. With regard to trade politics, having your *house in order* means that the country in question has built itself in line with the norms of openness and market liberalization of the international economic order. Two internal aspects are relevant to a nation’s *house in order*: state capacity or effectiveness, and the private sector’s entrepreneurial capacity.<sup>20</sup>

To evaluate entrepreneurial capacity, one should look at the conditions shaped by the state to create a flourishing private sector and attract Foreign Direct Investment (FDI). State capacity is concerned with how states have effectively built institutions capable of performing a number of economic functions in the market system, that affect efficiency and equity of objectives. This includes the function of creating an internal market by using the following objectives:

- protecting intellectual property rights (IPR);
- guaranteeing sanctity of contract and providing law and order;

- regulation and stabilization of domestic markets by ensuring a low inflation, macroeconomic stability, and avoidance of financial crises;
- legitimization of markets through mechanisms of social protection and insurance, and more importantly, through redistribution mechanisms and conflict management.<sup>21</sup>

As for its *contribution to the international order*, the analysis should focus on the country's behavior in the global economy, especially in its bilateral and multilateral trade relations. The eight RS-conditions, as mentioned before, are useful when analyzing the *contribution to the international order*. Whether the state concerned is trying to transform the rules of the international order, or whether it is trying to strengthen the current system, could be considered less important. What counts foremost is whether the state is willing and able to look beyond its borders.

## **I.2 Responsible Stakeholdership in Asian Perspective**

Instead of using the term 'responsible stakeholdership', it is more common for Asian scholars and policymakers to use the term (global) leadership. In this respect, leadership means that a state should be able to come up with a vision that appeals not only to themselves, but also to the international community.<sup>22</sup> Kishore Mahbubani wrote that since Zoellick called on China to become a 'responsible stakeholder' in the international system, China has responded positively to this call. According to him, most Asian countries want to become responsible stakeholders in the international system. Mahbubani quotes prime minister of India, Manmohan Singh, who said in December 2006 the following:

'Just as the world accommodated the rejuvenation of Europe in the post-War world, it must now accommodate the rise of new Asian economies in the years that lie ahead. What this means is that we need global institutions and new global "rules of the game" that can facilitate the peaceful rise of new nations in Asia. It also means that existing global institutions and frameworks of cooperation must evolve and change to accommodate this new reality. This is as true for the reform and revitalization of the United Nations and the restructuring of the United Nations Security Council, as it is true for the management of the multilateral

trading system, for the protection of the global environment or for the security of world energy supplies.<sup>23</sup>

The above statements imply that in P.M. Singh's opinion, a *restructuring* of the current world order is necessary to accommodate the rise of Asian economies. *Fairness* is also emphasized by other Asian leaders. Chinese analysts and policymakers believe that economic globalization created the open economic system, which has been essential for China's growth. Although pressuring China to live up to international commitments, the globalized world also offers opportunities to express its discontent, to take measures to defend its economic interests, and even to assert a leading role in global governance. Shi Guangsheng (China's former Trade Minister) stated that the WTO has failed to reflect the interests and demands of developing countries in a more adequate fashion.<sup>24</sup> Restructuring the current world order to become more fair and just is an important aspect of being a responsible stakeholder.

On the other hand, Indian scientists put less stress on the notion of restructuring the current world order. Responsible nations do not necessarily agree with the international system, but they are willing to talk about it.<sup>25</sup> Consequently, they participate in international forums, for instance in the UN or in other financial, regional, and bilateral settings. An RS makes a positive and qualitative contribution to the current international system. Even small contributions are enough to be called RS on that issue. The less developed a country is, the more domestic dependencies it has. When internal matters become urgent, contribution on the international level is not possible in that particular field.<sup>26</sup>

Importantly, Asian countries emphasize the state sovereignty, national self-determination, autonomy, and pragmatism as the virtues of being a global leader or responsible stakeholder. The mutual benefit for 'self' and 'others' is the main consideration, in contrary to normative and ideological assumptions.<sup>27</sup> This may explain the current policy practice of India and China in joining the multilateral framework, which serves their own interests on the one hand, but serves wider interests on the other.

Being pragmatic also means to prefer mutual and fair economic gains above normative issues such as human rights and democracy; to limit peaceful resolution and common security by the principle of non intervention;<sup>28</sup> and to put environmental and energy sustainability considerations on the agenda, while

emphasizing the internal needs and capabilities. Remembering our earlier realism/idealism-discussion, one can identify clear realist aspirations here. However, this sovereign Asian approach does not necessarily weaken their perspective on RS. There is nothing wrong with trying to defend domestic trade interests. In fact, one could argue that defending your self-interest is responsible state behavior, taken into consideration the responsibility to protect and develop your own population. However, it should be remembered that what is meant by domestic interests does not always mean that those are really in the best interest of the country because, as a consequence of domestic interplay, the 'domestic interests' are actually representing the interests of a certain domestic group or elite.<sup>29</sup> The notion of domestic interest is also expressed in the concept of China's 'Peaceful Rise'. The Peaceful Rise is a phrase that has been used by officials and scholars in China to describe the country's foreign policy approach in the early 21st century. It seeks to characterize China as a responsible world leader; emphasizes soft power; and vows that China is committed to its internal issues and improving the welfare of its own people before interfering with world affairs. The term suggests that China seeks to avoid unnecessary international confrontation.<sup>30</sup>

Furthermore, in an article on the emerging and increasing importance of East-Asian countries, Jusuf Wanandi builds upon the RS-concept in connection with the Asian role in global governance. The author explicitly mentions the influence of Zoellick's definition by saying that 'an important recent development has been the establishment of certain principles in the relations between the United States and China that originated with the suggestion by then Deputy Secretary of State Robert Zoellick to recognize Chinese stakeholderhood in the global and international order and in its institutions.'<sup>31</sup>

Subsequently, Wanandi states that 'this new approach has started to work, especially on the North Korean nuclear proliferation issue. This principle will work if China takes its responsibilities seriously and if the United States accepts some temporary exceptions that can be agreed upon through dialogue.'<sup>32</sup> Furthermore, Ralph Cossa confirmed that the RS-concept may have been regarded with suspicion in Asia in the beginning, but now it has become mutually accepted to a certain extent. The exact content is still open for debate, but roughly, the idea of international problems, mutual interests, and joint responsibilities is also well-known in Asia.

All of the elements coming up when Wanandi emphasizes the essential elements of East Asia's future responsible stakeholdership, resemble its Western counterpart: non-proliferation; the success of the Doha Development Agenda; greater support and cooperation on matters of the global good, such as climate change; energy security and availability; efforts on pandemic diseases; human security issues, such as international crime, trafficking, and money laundering; measures against regional and global terrorism; and support for the reforms within the UN-framework.<sup>33</sup> Before concluding this section, another important feature of the Asian perspective on RS must be pointed out: rule-by-example. Whereas the EU strongly emphasizes and stimulates rule-by-law, the Asians put more emphasis on the example set by leaders. Put differently, this means that other major powers' behavior, good or bad, will have an important impact on China's thinking and behavior. It is therefore crucial that the EU sets a good example in taking its international responsibilities, and stimulates the US to do so too.<sup>34</sup>

In order to make a useful comparison between the Asian and Western perspective on RS, we will use the eight elements as mentioned in chapter I.1. A concise analysis of Chinese and Indian views on these elements will illustrate the Asian perspective on RS. For the benefit of this research it is not necessary to go too much into detail on the different features, because only final conclusions of Asian behavior help us determining whether the Western view has been adopted by China and India.

First, on the account of counter-proliferation, China and India disagree with each other. China seems to collide with the Western non-proliferation standards, seeing their support for complete elimination of nuclear weapons.<sup>35</sup> On the other hand we can see that China demonstrates passive behavior when it comes to stimulating international disarmament and, for example, stimulating Iran and North-Korea to eliminate their nuclear arsenal. As for India, it proclaims itself as a nuclear weapon power and demands the accompanying international status and rank. It even pleads for rule changes to allow it to receive extensive imports of nuclear fuel and reactors. Indian politicians and atomic scientists reject outright any proposal that might limit India's self-sufficiency in this area.<sup>36</sup>

Secondly, with regard to the regional security, Asia also recognizes the indispensable need to cooperate transnationally to counteract international security threats: 'only by strengthening international cooperation can we

effectively deal with the security challenge worldwide and realize universal and sustained security.<sup>37</sup> China's engagement in and with institutions like ASEAN, ASEAN+3, ASEAN Regional Forum, APEC, Shanghai Cooperation Organization, East Asia Summit, and the Six-Party Talks demonstrates its willingness to build a stable, secure and prosperous region. The future Chinese attitude towards other Asian great powers (e.g. Japan, India) will indicate whether they have learned what it means to be a responsible stakeholder. On the other hand, it can be argued that China is still involved in many territorial disputes with its neighbors (e.g. Taiwan, Vietnam, Philippines, India, Russia). Balancing those two developments, we could say that the Chinese perspective on regional security is characterized by an increasing awareness of its importance, respect of other states' sovereignty, and non-interference in internal affairs.<sup>38</sup> Moreover, China also confirms the emergence of international security threats: the latest White Paper on National Defense specifically refers to the 'diversifying and globalizing' security threats.<sup>39</sup>

Thirdly, concerning energy security, both India and China – as well as other developing countries – need immense amounts of energy to provide for its internal economic development. That said, all their perspectives on energy security stand in the light of this core value. Therefore, they have to safeguard today's and tomorrow's needed energy resources. Nevertheless, their records on energy security do not reach beyond extraction to safeguard the security of supplier regions. Again, this is due to the principle of non-interference in another state's internal affairs. In their view, energy security consists merely of the availability of sufficient supplies at affordable prices. In a recent contribution by China's National Energy Administration, the Chinese priority for economic expansion and thus increased energy production/consumption is expressed. Only at the bottom of the list, one can find renewable energy.<sup>40</sup>

Fourthly, for the sake of economic development and assistance, the principle of pragmatism comes first and foremost in Asia. In other words, 'it does not matter whether a cat is black or white; if it catches mice, it is a good cat' (Deng Xiaoping).<sup>41</sup> China's engagement in Africa testifies to their pursuit of national interests, but also their preference for mutual gains. In other words, it is convinced of the possibility of a win-win situation. Besides loans and grants, China delivers assistance in the form of education and training. The China-Africa cooperation glooms hopeful and could carefully be considered as a confirmation of its responsible behavior. As said before, China's realistic approach prescribes

that there must be something in it for themselves, but still, their efforts transcend national interests.

Aside from its role in the tsunami response group and in UN peacekeeping missions, the Indian government has been less enthusiastic about participating in burden-sharing mechanisms.<sup>42</sup> The nation is not yet willing to forgo immediate domestic interests for longer-term international objectives. Dormandy argues that India's domestic political dialogue still revolves around the primacy of its sovereignty and the promotion of national, instead of international, goals. With 25% of its population living in poverty, India is also constrained by political and practical necessity to focus on reducing rural poverty.

Fifthly, in connection with open and rules-based economy, both Asian countries entered multilateral trade negotiations, such as the WTO-rounds. However, whereas China seems to have succeeded in adapting its economy into some sort of free market socialism and is actively thinking about shaping a new International Political and Economic Order,<sup>43</sup> India still holds on to high tariffs for reasons of their population's welfare. Naturally, this is 'understandable', but it leads us to think that India's view on open and rules-based economy lacks the identity of a responsible stakeholder according to western standards. C. Raja Mohan states that the current approach is clearly unsustainable and therefore the balance in India seems to be shifting.<sup>44</sup> While the population continues growing at a rate of 15 million people every year and land availability decreases, India has to find a solution to produce more in agriculture to feed its people and maintain its self-sufficiency. Therefore, India will be facing a serious food security problem, unless it opens up its agricultural policy.<sup>45</sup> This suggests that the Indians in principle agree with the need for an open and rules-based economy, but that protectionist motives come first for now.

Sixthly, with regard to peacekeeping and enforcement, Asia keeps its head lower than the US or the EU. The principles of non-interference and state sovereignty prove their value again in this respect. Nevertheless, 'Beijing demonstrates a willingness to take some risk and accept some cost that benefits more than only its own narrow self-interest'.<sup>46</sup> India is also a major contributor to UN peacekeeping troops. Sometimes they are blamed for acting only slightly and ad hoc, but their insistence on noninterference makes them a reluctant peacemaker. Nowadays, the non-interference principle collides with the emerging

‘responsibility to protect’.<sup>47</sup> This testifies to the increasing Asian agreement with peacekeeping-necessities.

Seventhly, regarding human rights, the Indian Constitution stands as one of the most comprehensive and self-contained documents on human rights. India took active part in drafting the Universal Declaration on Human Rights, especially highlighting the need for gender equality, and is fully committed to the rights proclaimed in the Universal Declaration. India is also a signatory to the six core human rights covenants and the two Optional Protocols to the Convention of the Rights of the Child.<sup>48</sup> It should be noted that, in practice, the implementation might not yet be in accordance to what is being stated in the official papers. Based on the Summary of Stakeholders’ Information in India’s Universal Periodic Review, India is still lacking to tackle various aspects of human rights in the country.<sup>49</sup> For example, women’s rights within family and marriage (especially rights to properties, inheritance, and maintenance) are not ensured. The number of child marriages are rampant: 24% of the 15-19 age group is married.<sup>50</sup> Additionally, despite the existence of laws protecting human rights, India has failed to properly implement and enforce policies to protect its marginalized communities, such as the Dalits, tribal groups, religious minorities, women and children.<sup>51</sup>

As for China, the government publishes many reports, white papers, and official views on human rights issues. The fact that they do discuss these matters points to their concerns. In a joint statement with the EU, ‘the two sides emphasized their commitment to the promotion and protection of human rights, the rule of law, and the strengthening of dialogue and cooperation in the field of human rights on the basis of equality and mutual respect.’<sup>52</sup> Clearly, their perspective on human rights resembles the Western perspective, but how they live up to their commitments, remains an open question for Chapter 2.

Finally, concerning the sustainable environmental issue, developing countries such as India, China, and many other Asian countries, stress the mutual but differentiated responsibility. In other words, economies that are still ‘under construction’ also have the duty to take environmental consequences into account, but the industrialized countries need to carry a heavier burden since their shoulders are stronger. The Chinese government has formulated and implemented a National Climate Change Programme. Additionally, China is member of the Kyoto Protocol and United Nations Framework Convention on

Climate Change (UNFCCC). Despite this obvious international willingness to cooperate, many researchers are skeptical: China's economic prosperity will always have priority. This can clearly be illustrated by the latest Climate Conference in Copenhagen where China wrecked an international agreement. China refused to allow any binding target to cope with climate change. China, backed by India, has suggested to remove the target to restrain the temperature rise to 2o C in 2020 and use the language of "as soon as possible". It seemed that in Copenhagen, China wanted to weaken the climate regulation regime in order to avoid the risk that it might be called on to be more ambitious in a few years in time.<sup>53</sup> India's perspective on climate change and reduction of CO<sub>2</sub>-emissions can be considered very pragmatic. Rajani Ranjan Rasmi of the Ministry of Environment and Forests stated the following in an official letter towards the United Nations Framework Convention on Climate Change (UNFCCC): 'India will endeavor to reduce the emissions intensity of its GDP by 20-25% by 2020 in comparison to the level in 2005 [...] the proposed domestic actions are voluntary in nature and will not have a legally binding character.'<sup>54</sup>

As we can see, all these aspects show us the same line of Asian reasoning, which leads to a somewhat different approach to the concept of RS. In theory, the countries agree to a great extent with the Western perspective. However, if the principles clash with internal economic development, noninterference, and state sovereignty, the balance often tends to favor their national interests above international public goods.

## **II Hofstede-model**

To come to a solid conclusion by the end of this research, it is necessary to create some sort of hierarchy in interests and values for each actor. By doing so, it will be possible to formulate recommendations on which aspects China and India can, and on which they cannot be pushed. Along these lines, it would be valuable to use the Hofstede-model, as developed in cross-cultural disciplines, such as intercultural communication and international business. This model prescribes which norms and values are of vital interest to actors and which are of least importance. By comparing differences, foreign policy can be made in a more efficient way, as to target those lower values and working inwards to tackle those values that are less changeable. In connection with the liberalization of markets,

this would signify a priority for overcoming the values (problems) with the lowest resistance. The highest values in the hierarchy are known as the *core values*. By understanding cultural differences we are able to predict whether or not someone or something will integrate into a system.<sup>55</sup>

#### *Hofstede Model on Cross-Cultural Value Analysis*

Following the line of reasoning as we can find in theories on political socialization, this model is applicable for RS as well. By appraising differences in values for China and India, it will become clear to what extent they are willing to trade in old practices for responsible behavior in the world system, and to what extent they will *integrate* into the concept of RS. Every value that is not a core value is considered to be exchangeable to a certain extent. Naturally, the lowest values are the first to be sacrificed. This model could provide us a convenient step-by-step-approach, which guides Dutch, European, or Western trade policies in general, towards a common RS-understanding with China and India.

### **III Conclusion**

By comparing the Western notion of Responsible Stakeholdership with the Asian idea of Global Leadership, it can be concluded that there are some common values between the Western and Asian perspectives: an RS should *contribute to the international order* instead of merely benefit from it. An RS should not only pursue its own interests, but should transcend its borders by pursuing wider or global interests. Before doing so, an RS has its *own house, at least partly, in order*.

China and India seem to follow up Western ideas in official meetings, legislation and international covenants. However, if the principles clash with internal economic development, noninterference, and state sovereignty, the balance often tends to favor their national interests above international public goods.

On the other hand, there are differences in perceiving the current order. As Asians see it, the current order is not yet fair and supportive to developing countries, and likewise, emphasize the importance of restructuring the current order. There is also a different emphasis on the values needed to become an RS, such as pragmatism and autonomy.

In the next chapter we will focus on the Chinese and Indian trade policies and their trade relations with the EU in the light of the above RS definition. It will

revolve around the following question: to what extent do China and India behave as Responsible Stakeholders in the area of trade policy?

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## CHAPTER 2 |

# Trade Policy Interests and Behavior of China and India

This chapter will be dedicated to the trade policy interests and behavior of both China and India. The first chapter concluded with the general definition on the concept of RS. In this chapter we will further elaborate on the general trade interests and behavior of both countries in relation to their perspective on RS. The domestic Asian interests of internal economic development, non-interference, and state sovereignty will be discussed in the light of RS-theory.

## China

### I.1 China's Trade Politics

This section will present a general overview of China's interests and behavior in its trade politics within the concept of RS. This section will become the general background for the next two sections in discussing China's involvement in multilateral and bilateral relations. With respect to the most important aspects of RS – *house in order* and *contribution to the international order* – China's trade politics will be analyzed by looking at its behavior towards both internal and external matters.

#### I.1.2 China's house in order

As explained in Chapter 1, having your *house in order* means, with regard to trade politics, whether the country has built itself in line with open and liberal market

principles of the international economic order. There are two internal aspects to be analyzed: state capacity and entrepreneurial capacity. China's state capacity is concerned with how China has effectively built institutions which are capable of performing in a market system, and affect efficiency and equity of objectives. In line with the theoretical frame of the first chapter, four economic functions can be distinguished:<sup>56</sup>

Firstly, concerning the protection of Intellectual Property Rights (IPR), China has formulated its goals in the National Intellectual Property Strategy. Article 6 determines that, ultimately, 2020 will be the year that China hopes to meet the strategic goal of a 'comparatively high level in terms of the creation, utilization, protection and administration of IPRs.'<sup>57</sup> Besides this long-term goal, the State Council has set some short-term goals for the next five years (2008-2013) with a somewhat lower threshold, e.g. Improving the Intellectual Property Regime (art. 8-10); Promoting the Creation and Utilization of Intellectual Property (art. 11,12); Strengthening the Protection of IPRs (art. 13); Preventing Abuses of IPRs (art. 14); and Fostering a Culture of IPRs (art. 15). Subsequently, several specific tasks are being highlighted. Finally, in art. 65: 'China needs to actively participate in the development of international intellectual property order and effectively involve itself in undertakings of international organizations.'

The mentioning of the international environment, public interests, and the long-term development implies the awareness of RS in connection with IPR protection. The European Parliament has acknowledged that China has already achieved progress, but points to the fact that the implementation and enforcement of IPR is still not sufficient. It stresses the necessity of coordination of national and local enforcement.<sup>58</sup>

There are a growing number of EU-China joint projects in connection with IPR. These include the EU-assistance to Chinese IPR legislation processes, training of judges and (local) law enforcement officials, and facilitating study visits for Chinese officials to EU member states.<sup>59</sup> According to the EUChina Project on the Protection of intellectual Property Rights (IPR2), those programmes have given fruitful results. Currently, China is changing its Trademark Law and Patent Law. From these two regulations, it can be seen that there are some Chinese provisions that follow from EU laws and recommendations.<sup>60</sup>

Recently, there are some indicators showing that China's efforts in implementation and enforcement of IPR is improving. Local governments have

provided funds and assisted local Chinese firms in its patent application. Ninety percent of all patent applications in China come from local Chinese firms. Besides foreign firms, there is a growing number of Chinese firms that sue other Chinese firms and foreign firms in Chinese courts concerning IPR infringement. This shows that the private sector in China is starting to trust the Chinese court system to solve their IPR problems.<sup>61</sup> The 2008 Olympic Games in Beijing have provided evidence that the Chinese government is indeed capable of protecting IPR if it devotes all its efforts and resources: it was difficult to find any fake brands or mascots of the Olympics. The Chinese government is also very serious in IPR protection when it comes to food and medicine products because this is related to health issues of its citizens.<sup>62</sup>

Of course, there are still many obstacles. Although most judges and law enforcement officials are fully committed in IPR protection, both quality and quantity are still insufficient. Several regions suffer from some kind of local protectionism: some provincial governments do not fully enforce IPR regulations because it would cause unemployment and social unrest among locals. Some important products are originally too expensive – also because of transportation costs – and locally produced imitations provide both extra employment and cheaper products. The flourishing of Chinese knowledge industries and the increasing number of knowledge resources will lead to an increasing demand of IPR-protection in the future.<sup>63</sup>

Secondly, in relation with guaranteeing the sanctity of contracts, China's Contract Law encourages contractual compliance by providing legal recourse. But most contracts require government approval. This brings problems when it comes to dispute settlement. Foreign firms have experienced inconsistent results with Chinese dispute settlement mechanisms, none of which are independent of the government. The government often intervenes in high profile disputes. Corruption may also influence local court decisions and local officials may flaunt the judgments of domestic courts. China's legal system rarely enforces foreign court judgments.<sup>64</sup> Although law in general – and business law in specific – is improving,<sup>65</sup> and the authoritarian institutional environment is relatively well able to maintain internal security and order conducive for the market economy, China has not yet succeeded to build a reliable legal system which is capable of guaranteeing the sanctity of contracts.

There are some explanations of this insufficiency. The Chinese started to build their independent judicial system quite late. Between 1958 and 1978 there was no independent judicial system in China. There were no judges, lawyers or prosecutors outside the state party government officials. Those state party officials still have extensive influence on the judiciary nowadays.<sup>66</sup> From a cultural perspective, the importance of maintaining friendly relations and avoiding the loss of face (being humiliated in public) in Chinese culture explains why most Chinese are not fond of dispute settlement in the court. They prefer to settle their dispute informally. This lack of public support contributes to the slowness of judicial development in China. Another reason is also the lack of human resources and knowledge, especially on the provincial level.

Thirdly, concerning the market stabilization function, during the latest financial crisis, China has proven its capabilities and effectiveness in stabilizing the market. China has been successful in keeping its economic growth rates above 8%. The government has taken measures by providing special budgets to kick-start the economy in the form of massive infrastructural investments, and by taking expansionary monetary policies, which allowed the banks to continue providing credits to companies and individuals. In a parallel move, it speeded up health and social security system reforms in order to stimulate domestic demand in the medium to long term.<sup>67</sup>

Finally, the function of legitimizing the market via mechanisms of social protection, insurance for redistribution and conflict management should be taken into account. Democracy is the institution par excellence for the legitimization of markets. Subramanian stated that democracy will deliver social protection and especially income distribution.<sup>68</sup> Grassroots democracy on village level in China's rural areas has improved the income distribution on village level.<sup>69</sup> However, it is doubtful that this kind of democracy with gradual democratization starting with village elections will give enough impact on the income distribution on the national level. With the score of 47 on the Gini index scale (2007), China ranks third with respect to the inequality in family income distribution.<sup>70</sup> Many believe this is a result of the authoritarian environment of Chinese politics. Thus, except for the last function of income distribution, China's state capacity is at least partly in order. IPR-protection enforcement and legal dispute settlement are still in a developmental stage. Despite the overwhelming domestic difficulties, poverty,

and other important priorities faced by Chinese leaders, there is obvious commitment to improvement.<sup>71</sup>

Before concluding anything on the assessment of China's *house in order*, the private sector's entrepreneurial capacity should be discussed. In line with chapter one, we look at the conditions for a flourishing private sector and FDI. China has taken several policy reforms in order to create positive conditions for the development of private sectors. According to Subramanian, China is relatively advanced in building an institutional framework in comparison to India. China has improved its law making and is relatively successful in maintaining internal order and stabilizing the market.

From the thirty-four Chinese firms listed in The Global Fortune 500, the majority is state-owned. An analyst from *Caijing*, China's principal financial magazine, states that China is lacking stimulation of domestic demand. Similarly, private enterprises should have a greater share in financing investments, and companies should have easier access to financial markets. The low level of domestic demand and the relatively low share of financial investments by private enterprises suggest that China's state-centric approach towards investment is not sustainable for the future market.<sup>72</sup> Moreover, Yasheng Huang argues that China's private sectors are not efficient and do not have enough entrepreneurial capacity, compared to India's private sectors. China did not succeed in creating those conditions needed for a more efficient private sector to flourish.<sup>73</sup>

There is also lack of conducive relations between the government and private sectors. The Chinese government sees that the private firms are mostly concerned with their short term profits and are not willing to involve in broader aspects, such as their participation in the negotiation and implementation of WTO-rules in China. Vice versa, the private sectors do not fully trust their government in giving them enough support and protection. The government has not been successful yet in developing a relevant education system, research institutes, nor an efficient linkage between the educational system and private sectors, which would contribute to the economic development of China.<sup>74</sup>

Concerning the FDI since the open-door policy in the 1980s, China has rapidly become one of the world's top destinations for FDI. Until recently, the primary form of FDI consisted of joint ventures and China exercised strict controls on the nature of inward investment. Chinese joint venture laws provide more protection to foreign-invested enterprises than to Chinese non-state firms and small-and

medium sized enterprises. This is the reason why although in China there are uncertainties concerning private property rights, the protections from joint venture laws keep the foreign investor from withdrawing their investments.<sup>75</sup>

Although apparently both state capacities and entrepreneurial capacity do not completely fulfill their related economic functions, China is trying hard to build itself in line with international norms. The most important thing concerning China's house in order capacity is political openness. As Subramanian mentioned, political openness is important in terms of social protection and income distribution. The authoritarian Chinese state has successfully created infrastructure, generated high economic growth, maintained market stability and is now capable of providing basic human needs (such as sanitary facilities) for its population. But this authoritarian rule has not been able to deliver the equal income distribution to the larger part of its population, which will confront China with serious problems. There is certainly a need for more political openness. The entrepreneurial functions are developing, but due to a low degree of privatization, this capacity does not create favourable conditions for flourishing entrepreneurs.

Overall, China is still far from saying that it has its house in order in terms of trade politics in the ideal sense. Rather, it has its house partly in order thanks to an improvement in IPR-regulation and implementation, efforts to implement WTO-rules, and the state capacity to stabilize the market and internal order. Considering its size, number of inhabitants, diversity in the capacity and resources among Chinese provinces, domestic problems such as rural poverty, and other features of China as a developing country, some experts and European officials working in China acknowledge the efforts of the Chinese government in trying to get its own house in order.<sup>76</sup> The insufficient rule of law and too much government interference is the main problem that China has to work on in order to get its *house in order* in the future.<sup>77</sup>

### **I.1.3 China and its contribution to international order**

As for its *contribution to the international order*, the analysis will now focus on the country's behavior in the global economy, both bilaterally and multilaterally. China's political elites acknowledge that economic globalization has brought opportunities for China's economic growth, as well as potential threats to its

economic vulnerability. For this reason, Beijing embraced economic interdependence and globalization with increasing enthusiasm along with careful measures to handle it.<sup>78</sup> This development points to an important feature of the RS-concept: China does not seem to aim for destruction of the international system, but they are building it in line with norms of openness and liberalization themselves. According to the Chinese government, the cooperative efforts of states should focus on their struggle against protectionism.<sup>79</sup> It is certain that China has greatly benefited from the international system, but to what extent have they also contributed? This section gives a quick overview of the main concerns, which are also covered in the following two sections.

China pursues three different strategies in its involvement in the world economy:<sup>80</sup>

- participation in multilateral economic cooperation, especially WTO;
- internationalization of the Renminbi;
- soft power and/or public diplomacy.

Related to the first strategy, generally speaking, China views its membership in the WTO as a means to influence the shape of the international economic system.<sup>81</sup> In the WTO, China supports the efforts to liberalize international trade. Involvement in the Dispute Settlement Body (DSB) is increasingly common for China. China has used anti-dumping measures quite active, which shows that China uses the tools of established international rules.<sup>82</sup>

However, it is important to note that in the WTO ministerial meeting in Cancun (September 2003) Lu Fuyuan gave rhetorical markers that indicate China's determination to prevent the Doha talks from resulting in further substantial obligations for Chinese liberalization.<sup>83</sup> This can be interpreted as China's ambiguity in supporting trade liberalization. But it can also be interpreted as China's concern on fairness in the position of developed against developing countries. According to China, the obligations of developing countries to liberalize its markets are not balanced and their gains are not equal. China claimed that it has significantly liberalized and opened its market before its accession to the WTO. It seems that China is pleased with the current state of WTO-negotiations and does not want to push it any further.

Accession to the WTO had many effects to China in terms of liberalization, industrialization in coastal areas, and export sectors. Farmers in Chinese rural areas are actually subsidizing the industrial, coastal infrastructure. Hu Jintao's mantra is an harmonious society and according to him, liberalization is enough and China should now focus its efforts on addressing agricultural and welfare distribution problems. Therefore, China experiences agricultural and health care reforms. Educational reformation is a probable next target. Liberalization has had major benefits and has been the main driver for China's economic growth. In the coming years, pressures on economic growth will perhaps make its leaders to focus again on international trade and the WTO.<sup>84</sup>

There is also internal discussion among Chinese political leaders and academics concerning China's involvement in the WTO. Some want China to become more involved in the WTO and global affairs, but others prefer China to focus on its domestic problems. The latter feel that if a state wants to go change the current international rules, it should first have its own house in order. This is principally the main concern and creates reluctance for Chinese leaders to become an active major power in WTO negotiations. Most likely, there will be no dramatic change in Chinese policies in the near future. The Chinese attitude and its wait-and-see-approach in the WTO will probably prevail.<sup>85</sup> Actually, not only China, but most of the countries in the world are now focusing their policies on solving domestic problems because of the impact of the current financial crisis. This will bring a negative impact on the multilateral trade agenda because it has a nationalistic character or protectionist backlash in it.<sup>86</sup>

The second strategy, the internationalization of the Renminbi (RMB) as a world reserve currency will create comparable opportunities for China as the dollar does for the US.<sup>87</sup> Since the current crisis has decreased the role of the US as a leader in the financial system, Hu Jintao, Wen Jiabao and the governor of the Bank of China stated the necessity to reform the international financial system. A future system might include the combined use of the Dollar, the Euro, and some Asian currencies (Yen and RMB), which might serve as a reserve currency for other countries.<sup>88</sup> This strategy also has risks for the Chinese economy in terms of inflation and the decreased competitiveness of Chinese goods.<sup>89</sup> However, there will also be financial benefits for China: it clears the way for capital flows and a general raise of income.<sup>90</sup>

In line with this strategy, China has been substantially developing its financial role in the East Asian region. In times of the financial crisis of 1997-1998, China has been helping ASEAN countries by refusing the devaluation of its currency (maintaining a rate of 8.3 RMB to US\$1), even though, according to Mahbubani, this was not in China's own interests.<sup>91</sup> Still, one could argue that the economic and political stability of the ASEAN-countries – being China's primary market in that time – was certainly in China's interest. Together with Japan, China leads the construction of the Chiang Mai Initiative (CMI) as a regional financial infrastructure that has a similar function as the European Monetary Cooperation Fund (EMCF).<sup>92</sup> This can be considered as China's responsible behavior in the region, but again, this is clearly in line with China's own interests. Japan, South Korea, and especially China realized that they needed to develop institutional links for better cooperation on economic issues and to increase investments and trade flows with ASEAN. The economic health of ASEAN member states was very much in their interest, and for many ASEAN members, the crisis underscored the benefits of establishing formal economic links to the more developed economies of Japan, South Korea and China as a means of averting any possible future crisis.<sup>93</sup>

China is more active within the IMF than within the WTO because the currency issue is more simple than the package deals of WTO negotiations and agreements. There are simply too many interests of various Chinese stakeholders and actors for the central government to take into account before formulating an official position in WTO negotiations. China is starting to have effects on the global financial markets since an increasing number of Chinese firms are investing abroad. Currently, China is a net exporter, but the export will probably decrease, whereas it will increase its imports.<sup>94</sup> Therefore, Chinese leaders understand that there is a need for revaluation of the RMB. Although the current value of the RMB is beneficial for its export, it will influence its capability to import and invest abroad. Sooner or later, the RMB will appreciate, but if China appreciates its currency too quickly, it might hurt its own economy. Consequently, China will appreciate when they think the time is right, and it will happen gradually.<sup>95</sup>

China also pursues a non-economic strategy: the third strategy is the use of soft power and/or public diplomacy towards other countries, most notably the EU. The goals of China's soft power towards the EU are twofold: <sup>96</sup>

- building political trust by improving the image of China's political system, its foreign policies and human rights situation;
- addressing the increasing fears of China's economic rise and its attempts to attract foreign investment.

China wants to counter rising EU-criticism on both the increasing EU-China trade deficit and on Chinese trade barriers. China also seeks to convince the EU that China's economic development offers opportunities for businesses and that China deserves to get the status of market-economy.

It is obvious that China's role has been increasing especially regionally. Following from the above three strategies, it seems that China's participation in the world economy is primarily driven by its national interest. China has an interest in multilateral affairs because it provides economic advantages. There is no way back or alternative option. Hence, China uses economic openness to solve their domestic issues, for instance by creating job opportunities.<sup>97</sup>

Whereas the EU experiences more principles-based tendencies, China is more guided by domestic economical interests. This does not mean that China has not participated in the international order. True, China is not really taking a leading role in the DDA-talks, but instead of deliberate disobeying or unwillingness, this is more due to their aversion to compound package deals and their preference for simple, issue-confined agreements. They stress the relative high degree of economic liberalization that already occurred before its accession, but the central government is committed to the implementation of WTO-rules. The level of openness in the energy sector is relatively high, even compared to the EU or the US.<sup>98</sup> China is also quite active in the IMF and financial issues in general. China's ambitions for a more stable international reserve currency delivers benefits not only for China, but also for other countries in the Asian region.

#### **I.1.4 Sub conclusion**

Taken into account the above elements and linking this to the theoretical framework of RS, China's responsible behavior has been improving in recent years. The *house in order*, with respect to China's state capacity, seems to be still developing: they improved their law making and arrangement, IPR protection and maintenance of internal order and a stable market. Nevertheless, law

enforcement, especially in guaranteeing sanctity of contracts and dispute settlement, and income distribution are far from ready. The openness of China's economy has not yet produced further political development and openness. Furthermore, it has not yet successfully constructed the private sector's entrepreneurial capacity.

As for its *contribution to the international order*, China sometimes acts as an RS, but only when it serves its own interest at the same time. Of course, pursuing national interests does not exclude a state from being an RS: every state pursues its own national interests. Especially in the regional financial infrastructure, China has contributed significantly.

If the ideal standard of an RS is used to evaluate China, one could conclude that China is far from behaving as a true Responsible Stakeholder. But by considering:

- the domestic problems (rural poverty, size of the population, employment challenges, and human resource problems on the provincial level) China faces as a developing country;
- the relatively high degree of its economic openness;
- the obvious proofs of serious efforts taken by the Chinese government in implementing international norms and growing awareness to use its tools to resolve its problems;
- its capacity to maintain market stability and economic growth in the current financial troubles; and
- its active involvement in the financial market (e.g. IMF) while many developing countries of the ASEAN have cut their ties with the IMF after the 1998 Asian financial crisis, it can be concluded that China currently has become more responsible in term of trade politics.

## **I.2 China as a responsible stakeholder in the WTO?**

### *I.2.1 Introduction – China Multilateral*

The WTO is the perfect forum for being an RS because each country – large and small – has the same say and can have a fair play in trade. Therefore, the WTO is the most successful example of multilateralism. The existence of the Dispute Settlement Body (DSB) is what actually makes the whole process of the WTO

more fair.<sup>99</sup> China's accession occurred on 11 November 2001 after fifteen years of tough negotiations. As concluded in I.1.3, China is, generally, a firm advocate of multilateral trade liberalization. Adherence to the rules and the pro-activity of a nation in the Doha-round or the DSB can show us whether or not a member state contributes to the international system.

### *1.2.2. Commitments*

In order to achieve the above WTO commitments, the National People's Congress amended numerous laws concerning foreign investment, trade, and IPR. Some laws are under discussion for the sake of improved transparency (e.g. the Civil Law and Supervisory Law). China shows slow progress to transform WTO obligations to national legislation. Often, reformations have a sensitive nature in the Chinese democracy.<sup>100</sup> The WTO-implementation and enforcement takes a mind shift which will probably take many more years. People are not used to capitalist systems such as the WTO. Instead, they are used to a planned central government. The lack of knowledge and capacities on the provincial level contributes to this.<sup>101</sup>

However, spokesman of the General Assembly Li Zhaoxing stated that 'there is nothing to worry about as China strictly followed the WTO rules in foreign trade or both export and import [...] in line with the WTO rules, to stick to the principles of being fair, reasonable, equal and mutually beneficial in trade.'<sup>102</sup> In this sense, China adheres to the WTO rules and thus behaves responsible. However, at a later stage, China proclaimed that not all free market principles would be copied into national law. China stated that they could not respect the free movement of cultural services and goods, since the particularity of cultural products.<sup>103</sup>

Many reports point to a more nuanced result than Li stated. China does not fully adhere to the WTO-rules. Especially the implementation of the IPR system is still far from consistent. This is mainly due to the hierarchical structure of the Chinese government: the local authorities do not always follow the promises made by the central government and there are different resources and capacities in each province. The implementation of China's WTO-obligations is discussed annually via the Transitional Review Mechanism (TRM). China's cooperation is often very small due to the Asian cultural background and because China is the only country under such inspection.

Moreover, EU's non-recognition of China's Market Economy Status (MES) makes it easier to maintain protectionist measures against Chinese imports. Recognition would signify that China is an equal trading partner of the EU. In 2016 all countries need to recognize China's MES according to the WTO accession procedure, but China asked the EU to do it earlier.<sup>104</sup> Although this issue has been raised within the WTO, it mainly has consequences for the bilateral negotiations with the EU. It will be further covered in the next section.

China does not seem to have contributed much to the international norms of multilateral trade. They place cultural values above international adherence. However, the suspicious attitude of other member states towards China to put them under special control in the TRM, can explain China's reserved position.

### *1.2.3. Doha Development Agenda (DDA)*

At the Fourth Ministerial Conference in Doha, Qatar (November 2001) WTO members agreed to launch new negotiations about fair international free trade: the Doha Development Agenda (DDA). China is a strong proponent of the Special Safeguard Mechanism (SSM) in order to protect Chinese farmers. China seems to be able to agree with a new WTO-deal only if the SSM is arranged in such a way that small farmers can be protected in emergency situations, and if China can exclude enough sensitive agricultural goods from tariff-reduction. China is very keen on protecting some of their agricultural goods. Studies have shown that accession to the WTO exacerbates inequality, by lowering barriers to grain imports and increasing opportunities for manufacturing exports and services. The poorest rural, agriculture-specialized households that have limited labor mobility will lose from eliminating the SSM. The declining welfare in the agricultural sector will even cause an overall increase in poverty.<sup>105</sup> The Chinese feel that Western countries (mainly the US) should comply with stricter obligations than third-world countries like China. They continue to perceive themselves as being a developing country and will not take any more, let alone just as much, responsibility as their Western counterparts do.<sup>106</sup>

The Chinese ambassador to the WTO, Sun Zhenyu, said that China faces more pressure in the Doha Round, since WTO members demand that China opens its markets further. He mentions challenges in the fields of agriculture, finance and energy while claiming that 'all WTO members, including the US and the EU, need to improve their performance, and the US and EU should not measure China's

performance with standards that exceed China's commitments and capacity.<sup>107</sup> Sun especially blames the Americans of disturbing the DDA-negotiations because they stick to agricultural subsidies.<sup>108</sup>

Besides hard agricultural discussions, China faces demands to adapt both their service sector and fishery industries. In the field of services, China strongly opposes the EU's and USA's wishes for stricter rules in countries with insufficient or non-existent market economy. In this case, China forms a coalition with large underdeveloped states such as Argentina, Brazil, Pakistan, and South-Africa. Furthermore, China contributes a substantial share to the overfishing and will probably demand exception if a fishing Prohibition would be implemented.

Since the economic crisis, the DDA talks do not seem very promising for the upcoming period. State capitalist countries, like China, take advantage of the great financial debacle. While multilateral talks stagnate, China makes use of bilateral agreements with for example India.<sup>109</sup> Some experts blame countries for acting like this because bilateral talks would be rather obstacles than advantages when creating an open world market.<sup>110</sup>

Furthermore, the dossier of Non Agricultural Market Access (NAMA) is problematic in the DDA talks. China shows willingness to offer more transparency, but so far is unwilling to enter into sectoral agreements. They claim that more market access for the EU and US, through sectoral agreements, would be in the disadvantage of China's national industries. However, China is taking a constructive role in the DDA-negotiations concerning thirteen NTBs in the field of NAMA. Whether the DDA talks will move any further in the direction of conclusion in the near future remains a dubious question and is often met with pessimism.<sup>111</sup> Especially in the case of China, there are too many stakeholders involved, what makes it hard for the Chinese to balance all these different interests.

#### *1.2.4. Dispute Settlement Body*

China has been a complainant in seven cases and a respondent in seventeen cases. They have never initiated a complaint against another state, although they have once been number two. Cases against China were mainly about IPR and anti-dumping affairs, and were mostly led by the US.<sup>112</sup> Concerning China's IPR enforcement (disposal of goods confiscated by customs authorities, denial of copyright for works that have not been authorized for publication), WTO ruling has been substantially sided with the United States' claims. In addition, also

criminal procedures and penalties are part of the claims. Surprisingly, China's reaction is calm and quiet. The Panel report ruled on each of the claims.<sup>113</sup>

The EU and China are in conflict about an import tariff on the side of the EU in the shoe sector. China accuses the EU of disturbing the free market and acting protectionist. The EU defends itself by saying that China uses dumping practices which makes it impossible for European producers to compete.<sup>114</sup> Instead of putting the case to the Dispute Settlement Body (DSB), China compensated by imposing a higher tariff on European screws. Apparently, China tries to solve the dispute beyond the multilateral and independent DSB, which does not correspond with the concept of RS. It has not come to an actual case at the DSB yet, but last February, China declared for the first time an official complaint.<sup>115</sup> Recently, China has quite actively used anti-dumping measures.<sup>116</sup> Their hesitant attitude is related with Chinese cultural background which sees legal measures as the last resort. Chinese prefer to use other means to avoid losing face in public.

In fact, the above dossiers are only small compared to the latest complaint from the US towards China. They blame the Chinese government for keeping the exchange rate of the Renminbi (RMB) artificially low. Due to overcapacity, their domestic market cannot absorb the supply and the stocks are being sold on the global market against very low prices, which confronts foreign enterprises with heavy competition.<sup>117</sup> This leads to anti-dumping measures and trade tensions.<sup>118</sup> "The yuan is under-priced," he [EU trade commissioner De Gucht] told the Financial Times in an article printed on Thursday (18 March). "It certainly has an impact on their [US] export and trade patterns. The complaint is legitimate and there is awareness of that in Europe."<sup>119</sup> Earlier however, the governor of the People's Bank of China, Zhou Xiaochuan, stated that they imposed the RMB-Dollar peg as a temporary measure in order to combat the global financial crisis: 'Sooner or later, we will exit the policies.'<sup>120</sup>

#### *1.2.5. Sub conclusion*

China has made considerable commitments towards the WTO, but does not seem to be willing to reform too much and too quickly. In that sense, China is rather getting its own house in order than making a substantive contribution. Despite the dubious position of China in the DDA, it should be taken into account that China is not the only nation who is acting 'irresponsible' concerning agricultural protection. Above all, China declared that it wants to lower its tariffs and close an

agreement as soon as possible. Currently, they are taking part in coalition-building with underdeveloped countries in South-America and Africa. At last, it is not surprising that China's attitude in the DSB is somewhat meager. As concluded in Chapter 1, this is in line with the Chinese commitment to integrity, sovereignty and non-intervention. Overall, in those areas where China is having its own house in order, they really seem to contribute to appraise international principles to a higher level.

### **I.3 Bilateral Trade Relations**

#### *I.3.1. Introduction*

In this section, the research will focus on the bilateral relations with China. As for the Netherlands, our main gateway to China runs via the European Union. A global, multilateral framework for the coordination of trade policies can be achieved primarily through the WTO and bilateral agreements. The principal issues concerning the EU-China bilateral relations in the near future include the Doha Development Agenda (DDA); the High Level Economic and Trade Dialogue (since 2008); and an update of 1985's Trade and Economic Cooperation Agreement: the Partnership and Coordination Agreement (PCA). Because the DDA-negotiations seem to be in a deadlock – for the time being – the EU replaced its central focus towards bilateral free trade agreements.

The EU Parliament (EP) stressed in 2008 that China has the responsibility to take all possible measures to support an equal and sustainable economic development. At the same time, the EP stated that the trade relations with China cannot be isolated from the development of a substantive, constructive and effective political dialogue concerning a broad range of issues (e.g. the inclusion of a human rights-clause in the PCA).<sup>121</sup>

#### *I.3.2. PCA*

Since a few decades, the EU and China have demonstrated various kinds of cooperation, but one of the basic bilateral disagreements consists of the contradiction between the so called Washington Consensus (WC) versus the more recently developed Beijing Consensus (BJC). The WC represents a standard formula which should lead to a prosperous and successful economy. It was adopted by the major Western states and Western-dominated international

institutions (e.g. the Worldbank, the IMF). The prescriptions are mainly based on liberalization, free trade, privatization, deregulation, and other financial reforms. However, its credibility has declined over the past decades. Dani Rodrik (Prof. International Economy, Harvard University): 'It is fair to say that nobody really believes in the *Washington Consensus* anymore. The question now is not whether the *Washington Consensus* is dead or alive; it is what will replace it'.<sup>122</sup>

In 2005, the World Bank published a review of the preceding decades of reform, in which the vice-president acknowledges that 'there is no unique universal set of rules. We need to get away from formulae and the search for elusive "best practices"'.<sup>123</sup>

Thus, after the decline of the WC some sort of vacuum had arisen. The academic literature refers to the Beijing Consensus (BJC) as one of the upcoming alternatives. There is no exact definition of what it entails, but it is merely an overarching term for the alternative paths to economic growth for the developing world. This new concept 'does not believe in uniform solutions for every situation.' [...] Change, newness and innovation are the essential words of power in this consensus.<sup>124</sup> The BJC is based upon three overarching ideals of Chinese development: 1) innovation, 2) the pursuit of dynamic goals/rejection of per capita GDP, and 3) self-determination.<sup>125</sup> Still, the Chinese economy has moved unmistakably toward the market doctrines of neoclassical economics, with an emphasis on prudent fiscal policy, economic openness, privatization, market liberalization, and the protection of private property.

Van Kemenade added that the Beijing consensus has some interesting elements in terms of the role of the state in governance, especially during financial crises. This view is becoming more popular nowadays. But this Chinese model of governance might not work for other countries, what makes it questionable that the BJC can be exported to other (developing) countries. China is unique and its great scale causes its significant position in any trade deal.<sup>126</sup> Yang Yao has argued that China primarily stresses GDP growth instead of equal distribution.<sup>127</sup> China heavily depends on external demand for their domestic production and the government's budget spending on capital investment is close to 50 percent (in comparison: most 'advanced' democracies spend about 8 percent). But in order to safeguard internal peace and prevent social unrest – which is among the highest priorities for the Chinese authorities – the CCP needs to pay attention to income distribution too.

Overall, the Beijing Consensus signifies that China has entered the global scene as an international leader, mainly for the developing countries. In practice, they have also benefited from the Washington prescriptions and they could improve their own behavior with regard to the second guideline of the BJC.

Despite such fundamental disagreements, there has already been much cooperation and mutual understandings between the EU and China. As early as 2006, the European Commission reported on their website that 'in 2004 both sides agreed to broaden their relationship into a strategic partnership. It was also agreed in 2005 to move towards negotiations on a new EU-China framework agreement. It is expected that the 2006 EU China Summit will agree to launch these negotiations.'<sup>128</sup> There are 14 mechanism of dialogue between EU and China. It is a need to go more deep discussion on technical issues. EU concern is to make China confident or trust that EU is transparent, open and law governed. Some has regular meeting concerning industrial policy: textile, automobile and medical. This is highly regulated in the EU and it wants to make China also more transparent in these sectors. Other business sectors may not have this level of meetings and cooperation, but this can be more considered as business as usual, than a lack of mutual trust.<sup>129</sup> For example in green power, wind energy. There is good level of trust and good level of predictability in both sides.<sup>130</sup>

Political leaders of both powers meet annually during a Joint Summit. The latest Summit resulted in the Joint Statement of 30 November 2009, which says in point 5: 'leaders commended the progress in the negotiations on the EU-China Partnership Cooperation Agreement/updating the 1985 EEC-China Trade and Economic Cooperation Agreement (TECA). They encouraged the competent authorities to speed up the negotiations for an early conclusion.'<sup>131</sup> With the 1985 TECA, EU member states have entrusted the Commissioner for External Trade with the task of conducting economic negotiations with China at the EU level in order to collectively exercise a greater bargaining power. In spite of a Common Commercial Policy (CCP) and repeated calls by the Commission for increased policy coordination, EU member states have continued to compete against each other for China's market shares in order to redress the growing bilateral trade deficits and maintain the global competitiveness of their companies.<sup>132</sup>

The Chinese are well aware of the importance of some so-called 'standard or obligatory clauses' in the European PCA's (e.g. anti-terrorism, human rights, democracy, prohibition of proliferation of WMD, cooperation with the ICC,

etc.).<sup>133</sup> The Chinese on the other hand, stress their principles of 'One China', peaceful coexistence and equality, and mutual benefit. One of the major painstaking issues among the PCA-troubles is the (lifting of the) arms embargo. In addition, they urge the EU to abolish discriminatory trade restraints (e.g. special anti-dumping and safeguard measures), technical barriers, loosen the export of its high technology and recognize China's full market economy status. In fact, China would regard the final inclusion of the clause on the EU's recognition of China's full market-economy status as one of the key parameters in evaluating the values of the new China-EU PCA.<sup>134</sup> China recognizes the core values inherent to human beings of democracy, human rights, rule of law and good governance, but the government persists on the separation of the realization of those human core values from the practical situation of each country. According to the Chinese, there exists no uniform model of democracy/views toward values. Consequently, the hard demands EU poses in the PCA cause China to suspect interference in the internal affairs of China.

On the accounts of the International Criminal Court (ICC), the fight against terrorism, and small arms and weapons, the EU does not have standard clauses for agreements with third parties. So, in this matter can the EU formulate clauses on a case-by-case approach. In February 2009, none of the political clauses of the PCA were inserted in negotiating directives yet, which indicates they have a long way to go.

### *1.3.3. Potential Challenges in China-EU Bilateral Relations*

Listed below are some of the challenges with regard to the China-EU bilateral relations:

- EU's non-recognition of China's Market Economy Status (MES). This makes it easier to maintain protectionist measures against Chinese products according to Chinese complainants. These accusations arise because the status as a non-market economy allows other WTO members to initiate an investigation against supposed dumping practices. Such an investigation establishes what would be a 'fair' price on the world market based on labor and resource costs. To establish the height of average labor costs, similar labor in other countries serves as comparison material. However, China states that their competitive advantage is cheap labor, cheaper than the average in other countries. The investigation may

then result in denouncing Chinese production as dumping practices and western anti-dumping measures as justified. China wants MES as soon as possible since this status prohibits such investigations and antidumping measures. But on the other hand China is not willing to give more concessions to get it.

- The difference between the European Commission – representing all 27 EU member states – and the 16 member states of the Eurozone. The Chinese rather have members of the Eurozone speak in one voice, and even more preferable would be the adherence of Great-Britain to the Eurozone. Besides the EU/Eurozone difference, there are the problems of changing faces and the lack of speaking with one voice. The European institutions and procedures are devised in a manner that twice a year another state chairs the Council-meetings. Consequently, Chinese ministers are constantly facing different negotiating partners. The Lisbon Treaty established a more long-term function in the person of the ‘European President’ who is in fact a permanent (2,5 yr.) head of the Council and the European representative on the account of Foreign and Security Policy. Nonetheless, recent reality points out that the Chinese premier Wen Jiabao rather calls the rotating chairman of the Council (currently Spain) for quick information and deliberation.<sup>135</sup> Some Chinese analysts say that the EU can offer a unique and valuable blueprint for Asian regional economic integration, but the entirely different historical and geographic contexts raise serious doubts.
- China is critical about the European educational record. In order to come to grips with future resource and environment problems, the Chinese feel that technological advancement and scientific developments can provide the optimal way-out for the international community. The EU however, according to China, suffers from severe technologic deficits and will most likely have trouble at competing in these potentially commercially important markets.<sup>136</sup> They foresee that the EU may lack the capacity to innovate, and as a consequence, the EU should be more competitive in education in terms of linkages with the industry and private sectors. The educational system is not flawed, in contrary, but the interaction between the academic and private sector in the EU is not as good as in US. For instance, in the IT-sector, the US is still the front runner, because they give the private sector a more prominent role. The EU would benefit from firmer connections between education, companies, research institutes, and industry.<sup>137</sup>
- IPR protection: as a net importer of intellectual property, China is less inclined on protecting it than a net exporter, such as the EU. Nevertheless, from statements

by president Hu Jintao a new policy strategy becomes clear. It seems that China is willing to expand its cooperation with the EU on IPR protection and law enforcement. The reason for this, as Jintao explained in 2006, is that only by doing so will China improve its capabilities to innovate, it is in the public interest and will benefit China's long term development.<sup>138</sup> Apparently, there is a Chinese awareness that an efficient protection system of intellectual property is needed to: 1) ensure friendly relations with IPR-exporting countries; and 2) to build a safe environment for its own future high-tech industry, which China seems determined to develop in the coming decades.

- Energy security: China's economy is very dependent on oil and energy resources, especially from African markets. Often, these African countries are being considered to be lacking good governance, social security, human rights protection, etc.<sup>139</sup> This is consistent with the Chinese view on how to conduct trade relations: not intervening in the domestic affairs of other countries. The European Parliament adopted a resolution on China's Policy and its effects on Africa.<sup>140</sup> In this resolution, the EU explains that it supports China's practical cooperation with African countries without patronizing them. However they would like to see more political clauses (with regard to human rights and environment) attached to this cooperation. This implies that the Chinese acting in Africa is not necessarily irresponsible. Still, the EU views these 'non-condition'-investments as harmful for the process of democratization in such countries.
- Arms sales to China: since 1989 there is an arms embargo in the form of a European Council Declaration.<sup>141</sup> 1998 EU Code of Conduct on Arms Exports: 8 criteria to which states assess applications to export military equipment. Some of the criteria clearly reflect concerns *beyond* the national and short-term interests of the EU.<sup>142</sup> These criteria could signify the notion of responsible stakeholder-behavior. The EP reported in 2004 that member states did not always fully adhere to those guidelines (e.g. France, Italy, UK sold arms to China anyway). In 2000, a Dual Use Regulation has been established. "China's position is very clear," Li said. "What we are not in favor of and are opposed to is in fact that this ban involves and reflects political discrimination. This political discrimination is not conducive to cooperation, it is totally useless and should be abandoned. If we really look at mutual benefit this is what we should do."<sup>143</sup>
- Human rights: since 1995 a biannual Summit takes place: the EU-China Human Rights Dialogue. The European focus lies on the death penalty, the situation in

Tibet and Xinjiang, the rule of law, freedom of expression, torture, the existence of "black" (unlawful) prisons and 10- year delay in China's ratification of the ICCPR. The other way around has China also comments on Europe's situation: China drew attention to the situation of minorities, including religious minorities, violence by police forces, overcrowded prisons, pre-trial detention and torture in police stations as issues of concern in the EU.<sup>144</sup> Chinese state officials keep expressing their dedication to human rights issues, but in practice the results are disappointing.<sup>145</sup>

#### *1.3.4. Sub conclusion*

Overall, the Chinese behave quite responsibly in their bilateral relations with the EU. It expires of transnational interest especially with regard to the financial and economic cooperation. Some examples of this were the expression for the engagement of the Eurozone, the concern for the technological deficit, the position of the RMB and the hopeful statements of Hu Jintao concerning IPR-legislation. They all suggest that China is to some extent behaving as an RS.

With regard to the 'non-condition' investments in Africa, China is becoming aware of the limits of 'non-interference'. Beijing's face on the international scene has become part of its national interests. While China maintains the principle of non-interference in other countries' internal affairs, in Africa, this does not equate to indifference, especially humanitarian crises, or towards political conditions that ferment

terrorism. Furthermore, concerning the EU weapons embargo and the non-recognition of MES, China claims it wants to be treated as an equal player, thus as an RS.

Finally, the fact that they are critically approaching internal matters of the EU indicates that they are increasingly aware of their international responsibility as a global stakeholder. However, the disappointing implementation results imply the opposite. They need to realize that being an RS does not only bring certain rights and moral stature, but it also brings responsibilities as a leader on the global scene.

# India

## II.1. Introduction

In the following section of the research, we will elaborate upon Indian trade politics. More in detail this means that we will discuss the features in line with the concept of RS, and assess on which of those India's trade behavior can be considered as responsible or irresponsible. The approach to the following India-analysis will be conducted in a similar fashion as we did with regard to China. Therefore, the distinction between the RS-features of the *house in order* and the *contribution to the international system* will make a useful comeback.

### II.1.1. India's house in order

The same principle of *house in order* in relation to trade politics applies for India as it did for China. Thus, having your *house in order* means that a state is capable to conform to the norms of open and liberal markets of the international economic order. Again, the internal aspects are state capacity/effectiveness and the entrepreneurial capacity.<sup>146</sup> According to Subramanian, China has been relatively stronger in building an institutional framework than India has been. The reasons for this are manifold:

- The democratic nature of the Indian political system, in comparison to China;
- Compared to China, India has been quite slow in initiating the necessary institutional reforms to develop from a peripheral to a semi peripheral country.<sup>147</sup> The current institutional framework is still in a developmental stage, and it will take time for India to build state level institutions (approximately 15-20 years). This is not per se remarkable, because it took the EU/US almost thirty years. The government regulates water, stock markets, and security, and has started privatization and decontrolled the free market functioning;<sup>148</sup>
- There is an ongoing conflict between the central and de-central governments. Unlike China, there is no regional autonomy in India;<sup>149</sup>
- The current operating systems have profound duties. The costs of keeping the system running are high and efforts are extensive. Therefore, India has insufficient resources to build institutions;<sup>150</sup>

- The human capital stock is weak. RTAs or FTAs (i.e. economic growth) cannot change the face of India. Although education in India is relatively good, there is little room for own initiatives. The Indian culture hardly accepts practical and creative ideas. Unfortunately, the result is that the status quo is being sustained.<sup>151</sup>

Currently, one of the most important topics on India's development agenda is the agricultural sector. The reason for this is first and foremost the objective of providing food for the Indian population. The problem is not so much the lack of food supplies, but to a greater extent the dependency on the monsoon and the absence of good infrastructure.<sup>152</sup> Indian agricultural politics does not only experience domestic pressures, but to a same, or presumably even larger extent, international pressures since India has to lower its tariffs under the WTO-framework (DDA).

We found that there is a difference in approach between India and China, since India is one of the oldest democracies and thus has to be capable of speaking different tongues to different audiences and will constantly be balancing decisions on basis of short-term and long-term gains (which involves a certain level of risk). This practice, according to Randeria, is known as a cunning state: 'a cunning state is a developing state which shows strength or weakness depending on the domestic interests at stake.'<sup>153</sup> In relationship to RS, the concept of cunning states does not exclude responsible behavior, but rather aids developing states in the construction of a stable base on which RS may flourish. It should be noted that China, as a one party political system, does not necessarily experience this phenomenon due to the smaller extent of pressure groups and different levels of legitimacy.<sup>154</sup>

As a cunning state, there is a tendency for India to act on their perceived weakness in order to raise legitimacy towards its population as well as to the international society on specific policy choices. Whenever popular discontent rises, India points to international demands and pressures. The same happens when there is international discontent, which it then turns its explanation to domestic constituencies pressure. This could be seen as unwillingness, failure or irresponsibility, however, as Randeria concluded, there is cunningness to it, mainly because India does not lack bargaining power, nor technical expertise. India prefers to make sub-optimal use of the limited space currently available for

autonomous policy formulation and implementation within the WTO-framework.<sup>155</sup> India has partially implemented policy prescriptions, restricted surveillance to selected domains of policy, and successfully prevented infringement of sovereignty in important areas. It strategically employs the rhetoric of sovereignty to prevent international intervention in certain realms (human rights, rights of indigenous people), but is willing to implement policies prescribed by international institutions in other realms (economic policy, fiscal discipline, trade rules).<sup>156</sup>

As for macroeconomic stability and legitimization of markets through social protection, India does not have the capability of countering inflation, due to structural dominance pressuring several financial institutions, which should coordinate inflation targeting policies.<sup>157</sup> The growing integration in the world economy creates a need to keep constant vigil on the external sector and continued efforts on improving the fundamentals of the economy. Therefore, monetary policy is becoming more independent from external pressures. Moreover, the existence of supply shocks suggests that there is more emphasis on transparency and communication under the inflation-targeting regime in India.<sup>158</sup> Taken these results into account, it could be argued that India has succeeded in building effective financial institutions, which effectively address the inflation-ratios, since the only dominance still to overcome are related to the structural bottlenecks in Indian economy.

Furthermore, Mehl and Reynaud argued that the public domestic debt composition is safest in emerging Asia (including India) and the Middle East/Africa, in comparison to Latin America. What this means is that these regions have almost no debt in foreign currency and only a small share of their total public domestic debt (8-12%) is indexed. The global financial stability, thus, is becoming safer by this shift from external towards domestic debt. Following, macroeconomic policies are found to be associated with riskier domestic debt compositions.<sup>159</sup>

With respect to the market legitimization function through mechanisms of social protection and redistribution, Goyal concluded that 'Indian polity is sharply averse to inflation spikes, the age are protected from the persistent high inflation. But the complex of minimum support cum procurement price subsidy policies resulting from the conflict between farmer and consumer interests has led to chronic low inflation.' And 'excessive risk taking and speculation in financial

markets has aggravated global commodity inflation and resulted in a net transfer from the poor and vulnerable to the rich. Since taxpayer money is being used to bail out the financial sector, it must accept stronger regulation.<sup>160</sup> Randeria explains that India considers this as the result of New Global Designs (IPR, biodiversity conservation and privatization of the commons) and, thus, uses the 'international pressure' for legitimization towards its people.

For the entrepreneurial capacity of India, there are two important indicators, namely the Indian service sector and the effort to attract Foreign Direct Investment (FDI). The Indian service sector is growing increasingly every year, although Indian politics is much more consumed with its agricultural challenges. The service sector, such as computer technology, pharmaceuticals, and aviation are among India's major markets where liberalization is most progressive. India still prefers joint ventures between Indian companies and other parties, but the state influence in these sectors is diminishing.<sup>161</sup>

As for India's investment and financial systems, the first economic reforms (starting in 1990) have resulted in a steady increase of the private sector and foreign direct investment (FDI).<sup>162</sup> However, doing business in India for many corporations remains a hard and difficult process. The reason for this is twofold: on the one hand, the Indian government very rapidly liberalized the economy, but in certain key sectors, FDI caps and restrictions remain. On the other hand, there are the issues of corruption and a complex tax system, which do not raise foreign enthusiasm for investing in India.<sup>163</sup>

FDI is necessary for India's economy because it is not capable of raising the sufficient amount of liquidity to initiate the expansion of costly projects, such as infrastructure, on its own. Therefore, in 2008, the Indian government eased the FDI restrictions in several sections of the economy and is increasingly emphasizing their openness to foreign investment. Nowadays, the Indian government works on the bureaucratic system in order to make FDI rules more systematically. Corruption is countered by dismantling the 'license raj' and the computerization of several services. Despite all these changes, FDI still lags behind because the investors keep experiencing, albeit to a lesser extent, the old difficult Indian system of doing business.

### *II.1.3. India and its contribution to international order*

India contributes to several international and regional trade cooperation organizations, which include the WTO, the South Asian Association for Regional Cooperation (SAARC) and the Association of South East Asian Nations (ASEAN). Nevertheless, India takes in different positions within and towards these organizations.

The SAARC was established on the 5th of December 1985 as an economic and political organization in South Asia with seven members, including India. The organization has primarily economic objectives, however, during summits, more political issues such as Kashmir and terrorism are being raised. On 1 January 2006, the South Asia Free Trade Agreement (SAFTA) was established and came into effect among the seven SAARC countries: Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. SAFTA aimed to reduce tariffs for intraregional trade among the SAARC members. Pakistan and India are to complete implementation by 2012, Sri Lanka by 2013 and Bangladesh, Bhutan, Maldives and Nepal by 2015. The road to implementation, however, is plagued by the everlasting conflict between India and Pakistan.<sup>164</sup>

Pakistan has ratified the agreement, but trade between India and Pakistan will not be initiated under this agreement, but under the existing import regime. A news report quote mentioned that 'unless and until there is visible progress on political issues between the two countries including the Kashmir issue, Pakistan cannot initiate open trade with India. Both the countries are holding composite dialogue to solve the political issues, which are the main hindrance in the way of open trade.'<sup>165</sup> The SAARC suffers a big trust deficit. India could play a more constructive role in this. What needs to be created is a framework to talk, solve and cooperate. Especially regional cooperation on transport and electricity would make India stronger. Regional negotiations require solid proposals from any member state, but the main subjects are politics and no-go areas.<sup>166</sup>

India, with regard to the political component of the SAARC, once again demonstrates its preference to separate trade from politics when it comes to the case of Kashmir. This preference is not necessarily irresponsible behavior, but it does not comply with the element of creating a more peaceful and stable environment. It should be noted that all regional partners are undemocratic countries. Regional relations are critical since there is much public uproar on the possibility of nuclear conflict. India is not yet entirely a RS since they are very

inward orientated, but within this context India has no choice. India can be seen as a partial RS, since they are willing to make compromises.<sup>167</sup>

After the collapse of the Soviet Union, India lost a strong ally, as well as substantial military and financial support from the Russians. Due to the weakening of its geopolitical position, India felt the urge of strengthening its position within the region and put more emphasis on cooperation within the ASEAN. Within the ASEAN, both China and India are members and they experience each others' competition. As China has an FTA with other ASEAN countries, India has a strong incentive to participate within the ASEAN.<sup>168</sup>

Although India struggles with the problem of poverty – 750 million people are living in poverty – they are very fervent to become more powerful in international affairs. India perceives its role of a global actor as a moral right.<sup>169</sup> As for the WTO, this will be explained in the following section II.2.

#### *II.1.4. Sub conclusion*

Linking the first chapter to the findings in this section there are arguments in favor for India as an RS. The *house in order* is not as developed in India as it is in China. By using the tools of the cunning states concept, the line which separates domestic and international interests becomes more blurred. Therefore, it is not arguable whether or not India in its current form of a cunning state is acting irresponsible or contra-RS. They are making calculated risks in which they are making choices between domestic and international interests. This means that the concept of *house in order* should not be analyzed in its strict sense, but at the level of legitimacy of governmental practices, India is more developed. Therefore, one could argue that India does have its house partly in order, even though there are still many bottlenecks and short-term losses to overcome. But the fact that they have pursued this strategy for quite some time and will probably remain doing this for the coming decades, could mean that the levels of legitimacy in Indian institutions are sufficient enough to pursue these practices. Essentially, this means that for the time being India does have its *house in order*. India's *contribution to the international order* is also less than China's. However, India does seem to be more willing to cooperate in international organizations if they have the opportunity to be a counterweight for China. An important remark with regard to India's negotiating attitude is that it desires a separation of trade and politics.

## **II.2. India as a responsible stakeholder in the WTO?**

### *II.2.1. Introduction – India Multilateral*

The principles of *house in order* and *contribution to the international system* can show us whether or not India is a responsible stakeholder. In the World Trade Organization (WTO) this can be assessed by considering the adherence to the rules, and the position of the country in the Doha Development Agenda (DDA) and the Dispute Settlement Body (DSB).

### *II.2.2. Commitments*

India was an original contracting party to the General Agreements of Tariffs and Trade (GATT) and became one of the founding members of the WTO. There were many issues, which India had to adapt to comply with the GATT and the WTO, such as custom tariffs, anti-dumping laws, sanitary and phytosanitary (SPS) measures, and IPR protection. Compared to China, India has less flexibility for compliance to the WTO-rules, since China is a relatively new member of the WTO. Indian unilateral tariff reduction in earlier years has been applied without direct benefits in return.<sup>170</sup> At this moment, the country has amended the majority of its domestic acts concerning WTO regulation, while several others are still under discussion.

Nevertheless, at some points, India does not completely adhere to the WTO. The first example concerns the quantitative restrictions on imports: these have been gradually removed, but only after six different WTO members brought the matter before the DSB. The only restrictions still in force are those concerning security, health and preventive measures, and public morality. When it comes to quantitative restrictions on exports, many efforts have been made to remove trade barriers. Nonetheless, India continues to maintain a number of them, which have been subject of several disputes in the DSB.

Another problem is the protection of IPR. Although the Indian government has taken several measures to improve the implementation of the IPR protection laws, several areas are still inconsistent with the WTO. The main reason for this is that enforcement is often inadequate due to lack of resources, and an overcrowded and ineffective court system that prevents the conclusion of cases.<sup>171</sup> Public health, for example, still remains an issue. Article 39.3 of the TRIPS Agreement obligates signatory countries to prevent disclosure about drugs tests

and to prevent its unfair commercial use. While India does not allow disclosure of actual data, it does allow competitor companies to rely on the substance of the data.<sup>172</sup> As a result the data can be used commercially.

When it comes to custom tariffs, enforcement is again the obstacle. Although much new legislation have been passed and old acts have been amended, problems still occur in this case. Both in 2007 and 2008 the European Commission has requested WTO consultations with India regarding custom tariffs. The first case was suspended when India changed some elements of its law. Despite recent amendments to its legislation, there are no clear indications that the restrictive retail and wholesale practices in India have ceased.<sup>173</sup> Therefore, the second case will seek clarifications from India on the way tax legislation and other measures on market access for wine and spirits are applied.

In general, the country has amended most of its legislation in favor of WTO regulations. In some of the issues where this was not the case yet, India has committed itself to future compliance to WTO rules. This indicates that it tries to adhere to the international system and is not obstructing it, which is a clear example of responsible behavior.

### *II.2.3. Doha Development Agenda (DDA)*

India has taken a very active stance in the DDA and has become an important actor within the negotiations. During the Cancun meeting in 2003, it began forming coalitions with likeminded members in its main fields of interest. One such alliance is the G-20, which is constituted of developing countries and mainly focuses on agriculture.

Agriculture is one of the main issues for India in the DDA. The country holds a defensive position, aiming above all at the maintenance of its self-sufficiency.<sup>174</sup> The agricultural sector employs sixty percent of the Indian population, which is the main reason why India is not willing to make any concessions since it wants to safeguard the interests of low income citizens and poor agricultural producers. The Indian agricultural sector is due for major reforms, but until the government develops a hard strategy to overcome the obstacles to structural adjustment, it can make no deal on agriculture.<sup>175</sup> This position is easy to understand in the light of Responsible Stakeholdership when they refer to the idea that a country needs to have its own house in order. In the case of India, agriculture is a major part of

this house and this needs to be sorted out before it can behave responsible in this area.

When it comes to Non-Agricultural Market Access (NAMA), the main issues are the formulae for tariff reduction and the treatment of unbound tariffs. India has an advanced and diversified manufacturing sector and therefore has a significant interest in easier access to foreign markets. In several of these products, India faces peak tariffs and tariff escalation in the markets of developed countries. The country is also interested in opening up its own markets in order to attract private foreign capital and technology and to make these sectors more competitive. According to Mrs. Swapna Nair, related to the semi governmental Indian institute ICRIER, it can be said that currently, India is being responsible on both agriculture and NAMA. However, India disagrees with the proposal to change the format of the WTO, which is currently: 'nothing is agreed upon until everything is agreed upon'. The sectoral approach, as proposed by the US, has been rejected by India.<sup>176</sup>

India has adopted quite a positive approach towards the services negotiations. The services industry is India's main competitive advantageous trade area, and therefore, it is offensively promoting trade liberalization.<sup>177</sup> India has identified a large number of service sectors on which it is prepared to strike give-and-take bargains. Instead of getting further access for its services it is prepared to consider binding the liberalization done under its economic reforms programme and offer future liberalization.<sup>178</sup>

India now has become more politically mature, and it understands that image matters. This has the implication of India taking a more friendly approach, where before it was taking a very strong position, which is seen as defensive by many parties.<sup>179</sup> The Indian representatives were not very supportive of launching the DDA because according to them developing countries were faced with unanticipated costs of implementing the agreements of the Uruguay Round, and the cost to them of the empty promises made by the developed countries.<sup>180</sup> As a result of that they did not want to start new negotiations, and although India was unable to keep the DDA from commencing, it was successful in eliminating the Singapore issues. Furthermore, it was mainly because of a disagreement between the US and India about the threshold for justifiable Indian protectionist measures for its agricultural sector, that the DDA reached a stalemate in 2008. India must open up its borders, but as long as agriculture is the mere livelihood of the people

and not an industry, India will maintain a more protective stance. Yet, India is not aiming for much in agriculture, its goal is simply to meet self-sufficiency for domestic food supply.<sup>181</sup> Again this shows that India first needs to sort out its domestic issues before it can act responsibly.

Part of the agricultural conflict in the DDA is the SSM in which countries can intervene when a certain percentage of price fall or loss in export products is met. The disagreement is not so much about the SSM itself but more on the extent of the volume trigger that could lead to the SSM raising tariffs above the Uruguay round bound tariff rates.<sup>182</sup> For India, the SSM is the sole possibility to lower tariffs on the politically sensitive area of agriculture. The SSM would be a change to break through the political sensitivity and stiffness in India.<sup>183</sup> Even though the DDA reached a stalemate, India still wants to continue it. In September 2009 India initiated a mini-ministerial conference, hosting most major WTO members, which made this get together a rather representative version of a WTO meeting. During the conference it was unanimously concluded that strengthening the multilateral trading system by concluding the DDA at the earliest was of vital importance.<sup>184</sup> Also outside the multilateral talks prime minister Manmohan Singh indicated that India has a strategic stake in the successful functioning of the multilateral trading system and in a positive outcome of the Doha Round.<sup>185</sup> Even though the mini-ministerial meeting did not lead to many concrete results, India's initiation of it shows that the country considers DDA-continuation to be very important.

#### *II.2.4. Dispute Settlement Body*

India is one of the most active users of the DSB among the developing countries. Dispute activity was particularly strong in the first years after this new mechanism entered into force and then slowed down somewhat. India has been a complainant in 18 cases and a respondent in 20 cases. Disputes are often with the European Community and the United States. In the first case India is mostly the respondent and in the latter the complainant.

Dispute activity regarding India has focused on trade in goods.<sup>186</sup> Concerning anti-dumping, it has far more often challenged foreign antidumping measures than vice versa. Regarding Licensing and Agriculture, a different picture emerges: India has been more often a defendant than a complainant. Indians are quite positive about the existence of the DSB. The DSB is what actually makes the whole

process of the WTO more fair. Brazil, Mexico, and India are the three developing countries which are most active in the DSB. The DSB is quite flexible for developing countries, so there is not much of a constraint to use it.<sup>187</sup>

India is particularly active as a complainant against restrictions in the textiles sector.<sup>188</sup> A minor portion of Indian complaints concerns primary products (agriculture and shrimp fishing), steel products, and pharmaceutical products. As a respondent, she was called upon to defend her policy measures (primarily quantitative restrictions and anti-dumping measures) in a variety of sectors including pharmaceuticals, agricultural and chemical products, textiles, automotive products and others.

India has been actively participating in improving the DSB. Because of her experience with the mechanism, India was able to submit relevant and clear proposals. The country took part in several informal groups, trying to build bridges between proposals that were elaborated inside these different groups. The main focus was on developing countries interests, in particular with a view to strengthening special and differential treatment of developing countries.<sup>189</sup> Herein it was supported by other developing countries like Niger and Malaysia. This active use of the DSB and participation in improving it implies that they are responsible, because of the preference to use this international legal body instead of drawing their own conclusions.

#### *II.2.5. Sub conclusion*

Regarding India's role in the WTO it can be said that India is a responsible stakeholder. Often, although not always, the country cooperates with the international community, it adapts itself, and at some points it even tries to improve the WTO. Concluding, India plays an active role in the WTO and everything indicates that they are willing to continue like this.

#### *II.3.2. The EU-India Bilateral Relations*

The EU-India relationship goes back to the early 1960s. India was among the first countries to establish diplomatic relations with the (then) EEC. The first India-EU Summit was held in Lisbon in 2000, and in the Fifth Summit in The Hague on 8th November 2004, India became one of the EU's 'strategic partners.'<sup>190</sup> The EU and India have put in place an institutional framework, cascading down from the annual EU-India Summit, a senior-official level Joint Committee, the Sub-

Commission on Trade, to working groups on technical issues. In 2007, the EU and India launched the negotiations for an ambitious and comprehensive Free Trade Agreement (FTA), which aims to increase their trade in both goods and services. So far, eight rounds of negotiations have been held. However, there are some pending problems that continue in the prominence of the talks, including market access and public procurement. Another issue becoming a growing barrier is India's reluctance to accept EU's request to include social issues, such as human rights and labor policies within the purview of the FTA.<sup>191</sup> However, during the official visit of EU Trade Commissioner to India on 3-4 March 2010, both sides expressed their determination to conclude the FTA negotiations ahead of the EU-India summit in October 2010.<sup>192</sup>

### *II.3.3. Potential Challenges in India-EU Bilateral Relations*

'The cornerstone of the EU-India relationship lies in trade and investment.' This statement by Pascal Lamy, the European Union Trade Commissioner in 2003, underscores the nature of the relationship.<sup>193</sup> Yet, what are the potential challenges that might come between India and the EU to build a stronger partnership? Below are a list of some issues that might become potential challenges in India-EU bilateral relations:

- India's trade regime and regulatory environment remain relatively restrictive. In 2009, the World Bank ranked India 133 (out of 183 economies) in terms of the 'ease of doing business';<sup>194</sup>
- Trade barriers remain very high in India compared to other developing countries, especially on the agricultural market. India's unweighed average agricultural bound tariff for 2004-2005 is 40%, the fifth highest in the world among 106 developing countries.<sup>195</sup> Besides tariffs, non-tariff barriers hinder the import of certain agricultural goods to India. One way of doing this is the use of state trading enterprises (STE) to control imports. This applies in particular for rice, wheat, coarse grains except maize and barley, and copra-products, which make up 40% of the Indian agricultural GDP;
- Rapid economic growth in India coincided with sharp drops in poverty incidence, which fell from 51% in 1977-1978 to 27% in 1999-2000. However, it is heavily contested whether economic growth and further integration into the world trading system have led to better opportunities for all. Serious problems remain,

including unemployment, regional disparities, and enduring poverty of farmers. More than two-third of India's labor force works in the agriculture and are more or less directly dependent on this field.<sup>196</sup> Moreover, part of the population still lives in extreme poverty, whereby around 40% lives from less than \$1.25 per day.<sup>197</sup> According to the 2008 Global Hunger Index, India ranks 66 out of 88 developing countries and countries in transition;<sup>198</sup>

- Due to poverty and overpopulation, child labor (mostly engaging in agriculture and allied activities in rural areas, and in a variety of industries and informal sector activities in urban areas) is still rampant in India. In some parts of the country, one could find the most exploitative form of child labor, including forced and bonded labor.<sup>199</sup> The government of India estimated that 12.6 million children under the age of 14 are at work in various occupations, including hazardous ones. NGOs estimate that this figure could be even higher. In 2006, the government implemented a new Indian child labor law, which bans children under 14 from working as domestic servants or on food stalls. But India has not yet ratified ILO Conventions on Child Labor, which would signify a positive step towards the eventual abolition of child labor. However, the Indian government is not in a position to take such steps. Labor is never a voluntary activity, it is the only way to survive. That is why child labor cannot be eliminated easily;<sup>200</sup>
- One major obstacle in concluding the EU-India FTA negotiation is the inclusion of the
- Sustainable Development chapter, which includes social issues such as labor standards, human rights, and climate change. Even in the preliminary discussions, the Indian party made it clear that inclusion of the chapter would be unacceptable. According to an Indian diplomat, the FTA negotiations were 'not the appropriate place' to discuss these issues and there was 'possibility' of such references being accepted.<sup>201</sup> Once started including these issues, it is unclear where to stop trading partners to be involved in internal matters.<sup>202</sup> This is the position that India has maintained since the Singapore Ministerial Meeting of the WTO, especially with regards to India's objection of linking core labor standards to trade;
- According to the business sector, some important issues to consider in doing business with/in India are relatively high government interference, underdeveloped infrastructure, the closed nature of some investment sectors,

and the need for a local partner with cultural knowledge to overcome problem such as non-transparent markets and bureaucratic challenges in India;<sup>203</sup>

- The EU wants to include public procurement in the FTA, but the purpose of doing this is unclear for India. On the multilateral level this is excluded as well, so according to India there is no reason to incorporate this on the bilateral level. India is not familiar with procurement and fears for its integrity once allowing it in the FTA;<sup>204</sup>
- A major issue is the EU's wish to include NTBs in trade in services. From the Indian point of view, the service sector is the sole sector from which India could gain something after concluding the FTA. Without EU concessions (elimination on NTBs), India could still not export its services to the EU, because then India has to comply to high environment and labor standards. For India, the problem of sovereignty is too deeply rooted to demand for NTBs.<sup>205</sup>

#### *II.3.4. Sub conclusion*

As its trade is expanding, India has become more open and liberalized. Yet, despite impressive economic growth, the general problem of poverty is still a serious difficulty for the Indian government. Clearly, in terms of its ability to tackle domestic social issues, India still needs to have its house in order, before it can be categorized as an RS. Poverty seems to be one the main causes of its inability to counter domestic social problems, such as child labor. Nevertheless, India could do more in norm-sharing, for example by ratifying core ILO conventions.

With regards to the issue of labor standards, India's objection might be less due to a reluctance to accept fair labor standards, but more to the Indian sensitivity and prestige in not wanting to be subjected to any external pressures when trade relations are involved. Therefore, India's reluctance to have social clauses included in the EU-India FTA may not be a fair indicator of its behavior as an RS.

With respect to India's reluctance to open up its agricultural sector, an important factor for India to consider is related to its food security. Although in the long-term the liberalization of agriculture would benefit India, liberalization also means that India will be more dependent upon agricultural imports. As a result, it will not have full control on ensuring the food supply sustainability. Another difficulty relates to how it can provide substitute employments for its workforce, which is currently concentrated in the

agricultural sector. Therefore, India's protectiveness in agriculture does not necessarily mean that it is not behaving as an RS.

### III. Conclusion

In this chapter we have composed an overview of certain aspects of China's and India's trade politics and linked this to the concept of RS, as described in the first chapter. Trade politics of both countries were analyzed by using the theoretical elements of *house in order* and *contribution to the international order*. With regard to the former, China was more advanced than India at building effective economic institutions, however India, in comparison to China, is starting to liberalize more of its sectors and is more advanced at entrepreneurial capacity. The main problem for China, in relation to their domestic interest is the absence of strong rule of law, the closed political system, and the strong state influence in the private sector. For India, the problems are the small time-frame and the difficulties it experiences being the world's largest democracy. Their contributions to the international order differ as well. China seems to be more willing to support its Asian neighbors and to be involved in global financial arrangements (e.g. the IMF), than is India. For India, regional integration is important because this geopolitical advantage makes it possible to seize to the mighty China.

Regarding the WTO, both countries have to some extent made considerable commitments to the organization. In both cases it becomes clear that they are willing to commit themselves and to discuss trade politics on a multilateral level. However, they both wish to separate trade from politics and domestic interests come first. As for the DSB, both countries seem to demonstrate a somewhat meager attitude towards it, especially China because of the Chinese cultural background. But recently, China has started to use it more actively to solve its problems.

On the bilateral level, China and India seem to progress into RS-behavior. Especially in sectors related to financial and the private sectors both seem to be acting as RS. However, they are experiencing different problems which often relate to their respective domestic problems, which are not yet solved adequately (mostly concerning human rights). 58

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## CHAPTER 3 | Recommendations

This chapter will be dedicated to the recommendations for the Dutch/European trade policies towards China and India. The previous chapter indicated the trade problems between the two countries and the European Union on both the bilateral and multilateral level. In this chapter we will make a division between these problems and the interests of China and India, which will enable us to make recommendations for aspects which could be solved on the shorter or longer term and which ones touch upon the core values. According to the Hofstede-model, as explained in Chapter 1, one should start influencing or changing a country on issues at the outer circle of the model, because these are most likely to be given in. Interests at the core of the circle have less potential to change. In this third chapter we will distinguish between core values (structural) and outer circle values (functional) following the pattern of problems indicated in Chapter 2. Secondly, we will recommend instruments how to influence China and India to become Responsible Stakeholders.

There are many areas of conflict between the EU and both China and India. These can be divided into two categories: functional and structural conflicts. Functional conflicts are substantial, temporary or urgent issues that can be solved by bargaining or cooperation between two parties. Structural conflicts are issues, related to the field of culture and values, and are more long standing problems. These two categories are similar to the concept of the Hofstede-model. The structural conflicts touch upon core values while the functional conflicts are similar to the values in the outer circle.

Bilateral problems are to be solved differently than multilateral issues. As concluded in Chapter 2, we cannot blame China and India for not entirely complying with WTO standards and solving DDA subjects, since neither the US, nor the EU do so. The credibility or legitimacy of the entire multilateral system should be improved, before directing China and India towards more responsible behavior. On the bilateral level, it is possible to direct the specified governments to make improvements in the areas that the EU/NL see as problems, but there is less potential to do so on the multilateral level. Therefore, the solutions/recommendations should be divided between the multilateral and the bilateral level.

## 1.1 China

### 1.1.1. EU-China Bilateral Relations

#### Functional problems:

- **Problem:** implementation of WTO-rules (specified to IPR protection). Despite the progress made by the Chinese government, the EU is still not convinced of China's true commitment and political willingness. The Chinese acknowledge and appreciate the EU expertise in regulation and law enforcement, and the Chinese private sector increasingly needs the government to maintain more firm IPR protection. The Chinese become more inclined to learn from the EU because of the relative similarity in its social system (compared to the US).<sup>206</sup> In this respect, there are already several cooperation projects between the EU and China. Mostly, these are still primarily initiated and funded by the EU, so there is a growing need for more equal partnership.

**Tools:** EU expertise in regulation and law enforcement.

#### **Recommendations:**

1. The EU should encourage China to maintain a more equal partnership on this area. There is obvious need for China to have more rule of law, especially in IPR protection. China appreciates the EU more than the US in terms of economic ideology: i.e. the economic philosophy of the EU is closer to China (e.g. social democratic system, social welfare, and state intervention). China could copy some

legislation procedures/models (e.g. the Chinese Antimonopoly Law is closer to the EU's model than the US's).<sup>207</sup> The EU should share its expertise while China should finance those projects. The willingness of China to finance those projects will be an indicator that China is becoming responsible.

2. The EU should stimulate the increasing public support for having the rule of law in China. The image of the EU is good among Chinese citizens, but the majority still does not understand the cultural values of the EU.<sup>208</sup> Improvement can be achieved by arranging more cultural exhibitions and image building of the EU on the provincial level which could stimulate the Chinese private sector to learn more of EU-practices in terms of rule of law.

- **Problem:** the difficulties faced by Chinese investors and managers in investing and conducting business in the EU.<sup>209</sup> The Chinese government has held several exhibitions and invited EU companies to attract Chinese investors, but there are some suspicions concerning Chinese investments with regard to government ownership. Not all Chinese companies are owned by the government, some are in fact purely private. Chinese investors struggle to get approval of investments in the EU. Chinese managers also have difficulties in running businesses and lead European employees due to different business culture, western labor standards, and employment regulations.

**Tools:** EU leverage as one of the major destinations of Chinese investments. The same standard and procedure in the EU conduct of doing business is a pull-factor for investment.<sup>210</sup>

### **Recommendations:**

1. The EU needs to gain Chinese trust in European transparency, openness, and law governance. We should also step up our efforts to sustain, or even improve, our economic competitiveness. Consequently, the Chinese investment flows to the EU could be stimulated, which could similarly stimulate China to become more active in the international order. Since they could evolve from a FDI-client into a provider, China's leading roles could be enhanced. Likewise, China should be stimulated to become more involved in the global regulation formulation concerning business and investment climates.
2. Offer mutual change in investment. For instance, the EU can commit itself to facilitate Chinese investments in any given sector in the EU (infrastructure, energy

distribution, telecommunications) for which China, in exchange, will liberalize its own investment infrastructure (e.g. removing the ownership restriction), and continue to pursue a mutual opening of public procurement. This will stimulate the improvement of China's house ordering.

- **Problem:** EU's arms embargo.

China has not been involved in a similar military revolt since 1989. The EU cannot uphold their non-involvement in weapon sales forever. China points to trade in dual-use products and the export of helicopters to Taiwan.<sup>211</sup> Trade relations will improve when the EU lifts its weapons embargo.

**Tool:** EU advance in military technology.

**Recommendation:** the EU can lift the arms embargo, but could push for the establishment of a mechanism to make sure that the Chinese weapon arsenal is more transparent.

- **Problem:** (non-)recognition of China's Market Economy Status by the EU.

**Tool:** EU as China's biggest export market.

**Recommendation:** China will get this MES in 2016 anyway. Besides the trade implications of MES, it is also an image issue.<sup>212</sup> The anti-dumping cases only represent a small part of the entire trade volume (around 1%).<sup>213</sup> China has made several concessions before and the officials behind those concessions have lost public support and had to resign (Lu Yungto, Zhu Rongji). It is quite unlikely that China will offer much – if at all – in return for receiving MES. This does not mean that we should lower our standards to grant them the status before 2016. With respect to bilateral trade policies, the MES-discussion could be outdated already, and will probably not influence any important negotiations in the near future. Perhaps some kind of independent DSB Committee can surpass this problem (this will be discussed under the heading of recommendations within multilateral forums).

### Structural problems

- **Problem:** Political clauses in the PCA agreement.

**Tool:** EU is China's biggest export destination market.

**Recommendation:** It would be highly beneficial if the PCA can be concluded, but the political issues are closely connected with the core values of China and the PCA does not really affect the EU-China trade activities.<sup>214</sup> The EU should be more careful with its standards and just try to stimulate the internal political changes in China. The increasing number of educated people in China and the increasing welfare among the Chinese population will endorse a certain need for political changes. Probably it might not result in democracy or human rights protection in the Western sense, but more in terms of rule of law.

- **Problem:** Difference between the Eurozone and the EU (more in general: varying representatives of the EU). It is hard to build bilateral relationships and mutual trust if the European face keeps changing. It is suggested that we should stimulate or work towards more Common Foreign and Security Policy (CFSP). Although this problem is not part of the Chinese core values, it has appeared difficult for the EU member states to develop one common foreign policy. Since the Lisbon Treaty, some institutional structures in connection herewith have changed, but the EU 'President' has to prove its value yet. For the EU, this issue is a structural problem.  
**Tools:** the CFSP, Permanent Chairman of the Council.

**Recommendation:** It will always remain an incredible challenge to speak with one European voice on all issues concerning the EU-China (trade) relations. The EU could shorten the list of issues and focus on that, maybe it could devise a system of enacting separate PCA-clauses before concluding the entire package.

- **Problem:** Washington Consensus (conditional aid) vs. Beijing Consensus (non-interference and no-condition investments). This comes clearly to the fore in Africa where China is being criticized for investing money in corrupt and/or failed states, such as Zimbabwe. This core problem represents different views on how to conduct trade and foreign policy.  
**Tool:** Maintaining EU standards and consistency.

**Recommendation:** France started to lend to some countries which are considered dubious, at least.<sup>215</sup> With the Chinese wait-and-see-attitude and the traditional principle of rule-by-example, it is important that the EU maintains its consistency

on the standard of investment. The inconsistency of EU members will stimulate China to behave irresponsibly.

### *1.1.2. China and its Multilateral Relations*

- **Problem:** The value of the Renminbi (RMB).

**Tools:** the increasing export from the EU to China, and China's appreciation of the European response on the low RMB-exchange rate.

**Recommendation:** The value of the RMB will increase sooner or later. China dislikes the US' response on this (the China-bashing in the US Congress) which leads to resentment from China's side. China is not good in dealing with foreign criticism: it responds negatively and this leads to counterproductive results. China defines the criticism as part of a misplaced western neo-imperialism.<sup>216</sup> Chinese leaders and economic policymakers understand the need for an RMB-revaluation. EU could push China to revalue its currency, but the strategy must be more soft handed than the American approach. The EU could support the internationalization of the Chinese currency and possibly other currencies (Euro and Yen) to become world currency reserves next to US dollars. This will expand the opportunities for China to participate in the IMF, and will be beneficial for the stabilization of the financial market.

- **Problem:** the MES-recognition debate.

**Tools:** the establishment of an independent DSB Committee.

**Recommendation:** China considers the reluctance of the EU to grant China Market Economy Status as some sort of protectionist measure. This reduces China's trust towards multilateral trade cooperation. One solution could be the establishment of an independent committee within or under the Dispute Settlement Body, which should be specialized in investigating dumping practices and anti-dumping measures. Consequently, the MES debate will play a less substantial role, and will be diminished to a more symbolic issue. Whether a possible WTO-change will come in time before China is granted MES (2016) is unlikely, but it could make the step towards filing a complaint at the actual DSB smaller. The independent committee should have the right and duty to investigate

and publish reports on dubious practices, but it should not be able to sanction. Instead, it can independently file a complaint at the DSB if it considers it necessary. Although this will be difficult to achieve, China seems to be supportive to such an initiative.

### **Sub conclusion**

As was pointed out in the previous part, the functional problems are more likely to be solved than the structural issues. China can profit from the EU-expertise in regulation and law enforcement, markets, investments, and technological capabilities. A strong EU to counterbalance the US is also a consideration for Chinese officials. Therefore, the EU has a leverage to stimulate China to step up its efforts and spend its resources on behaving more responsible. The EU can set an example by making sure that we stick to our own high standards and thrive to increased consistency. It is important that the EU takes in mind that Responsible Stakeholdership is not something that can be forced upon by a third party, but there are some ways to stimulate it. Along with the development of its 'house in order' a country will gradually become more and more of an RS. That said, it must be noted that China seems to shift its focus somewhat inwards, to solve their domestic issues and get their house in order. 64

## **1.2. India**

### *1.2.1. The EU-India Bilateral Relations*

#### Functional problems

- **Problem:** India's defensive position towards the conclusion of the FTA negotiations with the EU. In connection with trade issues, India appears reluctant to include government procurement and the elimination of NTBs in goods and services. The Indian side argues that the FTA is not attractive enough and India will not gain much from it.

**Tools:** benefits of the EU-India FTA, such as trade surplus and investments for India and also status/leverage for India on various international forums as the result of the successful conclusion of an EU-India FTA.

### **Recommendations:**

1. India must be re-convinced of the advantages of an EU-India FTA. FTA's in the '90s were not successful (surplus turned into deficit) for India. Also, India believes it could hardly profit from an FTA with the EU, the international status excluded. The Dutch government should stress the fact that India will get more status/leverage on various international forums, such as the WTO. As an upcoming economy, it is important to be recognized as such;
  2. Efficacy and training support should be included in the FTA, otherwise the chapter will not be effective. The inclusion of language is insufficient. India would never execute this because they fear intervention in the current state of affairs, and because of their implementation deficit. They fear the unknown. Somehow, the Indian government should constructively engage its people. The Netherlands could assist in this process by including trainee assistance on new agricultural technologies in India in the FTA;<sup>217</sup>
  3. Indian companies should cooperate more with foreign companies, so that India can start to export. The government cannot become more responsible in the international system right now, since its main responsibility is to look after its farmers. The Dutch government should support Dutch companies to build trade relations with Indian companies.
- **Problem:** the inclusion of the Sustainable Development (SD) chapter – which includes social issues like labor standards, human rights, and climate change – in the EU-India FTA negotiations. In the multilateral negotiations, many developing countries, led by India, took the view that the inclusion of such 'social clauses' would fall in the category of 'conditionalities' and act as a pretext for protectionist measures by the industrialized countries.<sup>218</sup>

**Tools:** assuring that the inclusion of the SD-chapter is not a mask for the EU to create other means of protectionist trade measures; and providing technical assistance, trainings, and financial aid to help India implement the SD-chapter.

### **Recommendations:**

1. Only language cannot solve the Indian problem. The EU demands the inclusion of an SD-chapter, and even political clauses, but India would never be able to live up to the new standards because the country has too many internal problems. The

EU could better focus on technical traineeships or financial aid, instead of the inclusion of technical, abstract language;

2. The EU should not take the SD-chapter out of the FTA, even if that could improve the chance to conclude it. The EU should be consistent in all its bilateral trade agreements. Institutions are bound to a regulatory framework which should not be changed for each individual country; and
3. Although the SD-chapter should not be taken out, the EU simultaneously should not be too ambitious on FTAs, because it would only break them down. The political clauses of the wider PCA would better not be added to the FTA. The problem of sovereignty is too deeply rooted to demand for numerous requirements on services. India is still in an early stage of development. By sticking to the requirements the EU is only losing negotiating power. If the EU does not take a softer stance on NTBs, the EU has nothing left to offer to India.

### Structural problems

- **Problem:** poverty and development inequality. The dark side of India is the poverty of its people, caused by unemployment, regional disparities, and enduring poverty of farmers. According to William Nanda Bissel, all other issues including India's chronic caste and religious tensions pale in significance to, and are often the result of poverty.<sup>219</sup> Another issue that arises from poverty is child labor. Therefore, poverty and development inequality are the fundamental domestic issues that strongly holds India back from moving forward to take the role of a more responsible stakeholder.

**Tool:** aid, technical assistance, and investments.

### **Recommendations:**

1. Aiding the Indian government to improve its role to redistribute welfare to the most vulnerable and poor section of its society. This can be in the form of EU technical support for the improvement of good governance, democratic conditions, and human rights, as well as technical assistance in areas where India needs more development, such as agriculture and IPR; and
2. Indian companies should cooperate more with foreign companies, so that India can start to export. The government cannot become more responsible in the international system, since its main responsibility is to look after its farmers. The

Dutch government should support Dutch companies to build up trade relations with Indian companies.

- **Problem:** the Indian culture poses a problem with regard to being a responsible stakeholder, because the idea of a win-win solution is simply not understandable for Indians. So, it is either they become the winner or they do not want any deal at all.

**Tool:** The image of the EU as a responsible stakeholder (which includes promoting mutual interests), which surpasses the sacrifice of one's self-interest.

**Recommendations:**

1. The Netherlands and the EU should make India more aware of the benefits of being a responsible stakeholder, and that this does not mean sacrificing one's self-interest. This can be done through the role model of the EU itself as an example of being a responsible stakeholder; and
2. The EU should become a successful sample normative power, which automatically involves the necessity of being a responsible stakeholder. Zaki Laïdi wrote that EU's power lies in its normative power. He wrote that for Europe to be a power at all, the probability is by reinforcing what remains its major political resource: 'its capacity to produce and set up at the global level a system of norms as broad-sweeping as possible to organize the world, discipline the interplay of its actors, introduce predictability in their behavior, develop among them a sense of collective responsibility, and offer those who engage in this path, particularly the weakest, at least some possibility of using these norms as an argument against all, including the world's most powerful.'<sup>220</sup> This idea of normative power is relevant to the concept of responsible stakeholders because being a normative power requires an actor to become a responsible stakeholder. The EU should live up to this image as a normative power, hold on to this identity, and be successful at it. This in turn will create the trust that it is indeed in the mutual interest of all stakeholders to be an RS, and that this does not mean sacrificing one's domestic interests.

### 1.2.2. India in its Multilateral Relations

Initially, it was argued that the lack of agreement between India and US on the details of the Special Safeguard Mechanism (SSM) in agriculture, which would temporarily allow developing countries to raise their tariffs in terms of a price fall or import surge, caused the breakdown of the July 2008 DDA negotiation. It has now been widely accepted that though this was the proximate cause for the breakdown, there are several other contentious issues, which could have stalled the talks as well.<sup>221</sup>

- **Problem:** agriculture. This is a very politically sensitive issue, both for developed and developing countries. For India, it is the fear of loss of livelihood and food security, acting as the stumbling block. This is why India's key focus during the July discussion was the SSM, which provided Indian farmers temporary protection from sudden surges of imports or sudden fall in prices.

**Tools:** investment and technical expertise of the EU in agriculture.

**Recommendation:** for India, the agricultural sector is not yet an industry, but the livelihood of the poor people. Therefore, this issue is highly sensitive either in economic or political sense for the Indian government. An initiative from the EU that could help India resolve this issue is by giving technical assistance and investment, helping the agricultural sector in India to become an internationally competitive industry.

- **Problem:** market access for non-agricultural goods. The four key issues that were being discussed at the July ministerial meeting were tariff reduction coefficients for advanced economies, level of coefficients and flexibilities for emerging economies, anti-concentration provisions, and participation in sectoral negotiations. Swapna Nair emphasized that the central concern for India in negotiations on non-agricultural market access is retaining future policy space.<sup>222</sup> Those who argue against pushing through the Doha Agenda cite various studies and the meager gains that will accrue to developing countries. This might be true, but what needs to be considered is the losses that might occur after a failure of the DDA. Not only would these losses be enormous in terms of pure economic losses, also the political repercussions would be large.<sup>223</sup> Thus, similar to their

defensiveness on the bilateral level, the fundamental issue here is their fear of the unknown.

**Tool:** be less ambitious in setting the goals.

**Recommendation:** Be less ambitious in determining the goals of the multilateral negotiations, which may give time for developing countries like India to adjust to their policy space.

### **Sub conclusion**

It can be concluded that agriculture is one of the most important topics on India's development agenda. The country holds a defensive position, aiming above all at the maintenance of its self-sufficiency. The problem for India is not so much the lack of food supplies, but because agriculture is the livelihood of the majority of the poor Indian population. It can be understood that this issue is highly sensitive, both economically and politically. As a consequence, we categorized it as a structural problem.

Meanwhile, other issues, such as NAMA and India's defensiveness in negotiating bilateral FTA's, are categorized as functional problems. We argued that in these areas, the EU and the Netherlands could intervene more to stimulate India to become more a responsible stakeholder, through investments, technical assistance, and aid in the sectors concerned. Last but not least, is the importance of the EU distinguishing itself as a responsible stakeholder, which will set the example that being a powerful actor in world politics and trade does not mean violating the role of an RS.<sup>69</sup>

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# **APPENDICES**

## **APPENDIX A- CHINA**

### **I. Notes of interview with Mr. Alexander Van Kemenade**

**China Regional Forecasting Service, The Economist Group,  
Beijing, 12 May 2010**

The roles and tasks of the institution of Mr. Kemenade are as follows: they provide mainly economic services for businesses, but also intelligence for corporate and government claims in the form of consultancy and economic forecasting. Related to this interview, it might also be important to mention his previous working experience in an organization, which was concerned with a China trade project. This was an EU supported project, set up in China with the purpose of assisting China in implementing WTO regulation. It consisted of a 5-years program in research, seminars, and training to Chinese institutions to train them in WTO-affairs, and the implementation of WTO-commitments. Mr. Van Kemenade focuses on trade defense, anti-dumping subsidies, regulations concerning market economy status, and anti-trust regulation.

His work is both focused on the WTO-commitments as well as on EU-China relations. It is involved in setting up exchanges for EU-officials, EU member

states, and business representatives. It is facilitating European and Chinese exchanges and the implementation of EU best practices in terms of trade policy, and the adjustment of national legislation to WTO-commitments. So, it is focused on the WTO in general, with the purpose of implementing WTO-rules in China, but the view is also on sharing experiences and bilateral relations.

Mr. Van Kemenade asks which RS-definition will be used in the research. Erika describes the concept we are using: a responsible stakeholder is actively involved in shaping the international order, what does not mean to only complying with the current int. order. It is more about transcendence of its national interests and then the shaping/restructuring of the international order.

Van Kemenade acknowledges that there are many discussions on China's status as an RS, but he thinks that the expectations are a bit high. People can be misled about what China is able to do. China is very impressive, big, and rapidly growing, especially when one sees Beijing, Shanghai. However, if you would travel to the inland, one can see more poverty, difficulties, and problems which may present a different picture of China.

The outside world assumes that China is growing so fast so it should have more political willingness, act more assertively, get involved in the world affairs, and bring out its vision on the world in terms of being more responsible. But the issue is that Chinese senior leaders are still facing many difficulties in connection with governing their own country and solving domestic problems for its people. This is the overwhelming priority and the most important thing to do for the leaders in China. Chinese leaders feel that if you want to go out and change the world, first you must have your own house in order. This creates more reluctance for Chinese leaders to become a major power, and act more as a responsible stakeholder on the global stage.

Still, it will happen at some point. China has starting to have significant effects on the global financial market and many Chinese firms are investing abroad. Currently, China is a net exporter, but their export will probably decrease in the future, while their import will increase.

In conclusion, Van Kemenade is quite pessimistic concerning the question how China will influence the world. The leaders still have no grand vision, which would be important as a world leader. China's passive attitude and the emphasis on non-interference will still be important in the future.

Van Kemenade is also well aware of the debate between the Washington

and Beijing Consensus. The Beijing consensus has interesting elements in terms of the state's role in governing countries during financial crises. This view is becoming more popular nowadays, but this Chinese model of governance might not work for other countries. Therefore, it is questionable that this could become a model for other countries. China is unique: thanks to its great scale, it has employs a significant position in any trade deal. An example of this concerns IPR. The IPR protection might not work well in China, but still many investments come from abroad. The IPR-issue is not important enough here, but China's market size is the main consideration.

He does not advise developing countries to follow China's currency devaluation and the IPR- neglect. For other developing countries, IPR protection might be the key element for attracting FDI.

Mr. Van Kemenade thinks that the bilateral relations between the EU and China are quite good and grades it with a B (7). This question is actually a little bit tricky, because what is the EU exactly? Certain countries enjoy more than others. Holland, for example, enjoys a win-win-situation with China and but the Southern part is less lucky. Overall, the relation is good, but there is crisis in the last 5, 6 years. After Sept11, there were high hopes for the EU and China to act as a counterbalance to the US. It made the years of 2004/2005 as years of high fever on the EU-China relationship. It focused mainly on strategic partnership and the purpose was to counter the US-hegemony. However, subsequently, China realized that it is not easy to have a relation with the EU because the EU is not one cohesive block. As a result, the fever was soon over, but the trade relation is still good. For now, it is too early to evaluate any reforms of the EU-China relations.

There have not been many changes in the relationship. Actually, the EU has lost some credibility in China since China sees the European difficulties in decision-making processes. Although, there is now a EU foreign minister, he cannot make real decisions. Van Kemenade's prospects on the political ties are not optimistic, but on trade relations he is more positive, because the EU is more soft handed than the US (the China bashing in the US Congress). An example of the 'soft approach' is the EU response on the Chinese currency issue. China also appreciates the EU more than the US in terms of economic ideology. The economic system of the EU is closer to China (e.g. EU's social democratic system, social welfare, and state intervention). China has learned, and can

learn even more from the EU. China 'copied' some EU- legislations (e.g. Chinese Anti-Monopoly Law is closer to the European model than the US-version). This similarity in law also has its good effects on trade. For instance, if there is similarity in safety regulations or quality standards, the mutual market access will be ameliorated.

Concerning the role of the Netherlands within the EU, Van Kemenade explains that the EU can be divided into pro-free trade, and anti-free trade blocks. Holland, Sweden, UK, and Denmark – among others – can be considered as members of the pro-free trade block. These countries are much more in favor of expanding relations with China. On the other hand, Spain and Portugal see China as a competitor (for instance, the bra wars in 2005). China is aware of the fact that EU member states do not always have the same opinion. Holland takes a more light approach towards China, probably because the Dutch economy is more competitive. Holland has enough confidence in relation to China: they see complementary economies with import of goods from China and export of services to China.

When we came up with an article concerning Chinese critique on the EU's educational innovation records, Van Kemenade says he has not read this before. But if it is true, it is really interesting. Maybe the reason is that China compares the EU with the US. Their critique on the European education policy is not that it is flawed, but that the interaction between the academic and private sectors is not as good as in the US. In the IT-sector, the US is leading with a big L. This is due to the fact that they place the private sector more in the center, whereas the EU illustrates more government sponsored industry. The EU needs more relevant education, company connection to education, research institutes. Important to keep in mind is that their criticism does not suggest that their education is any better, for the Chinese system is still far from well-developed.

In connection with the business practices in China, there is sometimes a cultural clash. Problems surrounding EU-investments in China: IPR, general lack of transparency, the bureaucratic system, business licenses, and petty corruption. Occasionally, this forces Western businessmen to act corrupt as well, what is very frustrating. It is also a different way-of-thinking. Chinese employees need more instructions, while the Western employee is more initiative (probably thanks to the creativity stimulation education). But this is changing rapidly, especially in certain developed areas. Many Chinese

companies have adopted Western standards in their companies and can now compete with Western competitors.

The other way around, Chinese managers are struggling with the Western standards in labor and employment, and approval of investments in the EU. Often, there are suspicions concerning Chinese investors: purely private or connected to the state. There is also a fear that the Chinese success story will take over Europe. But overall, time passes and Chinese managers are able to develop themselves.

Asked about the major problems for EU-China future trade relations, Van Kemenade responds that on the EU-side, there is a lack of competitiveness. The Greek debt crisis has shown the real EU- problem. The EU cannot ignore the globalization: if the EU wants to embrace globalization it has to improve their competitiveness. The Lisbon Treaty does not improve this. There is a need for the reform of its social model which is not compatible in the world where the barrier is broken down. There is also distorted view on China, as if it would be authoritarian or communist (because of labor issues and the 'oppression' of Tibet).

On the China-side, they are not good in dealing with criticisms. China responds negatively, attacks back, and denotes the criticism as part of Western neo-imperialism, etc. China should improve their public image and public relations.

He adds an example: of the 100 dollar an Ipod costs, only 4 dollar only go China. The issue in the modern economy is not the manufacturing of a good, but other aspects of trade, such as design, distribution, etc. This is important and generates more income. Chinese leaders are learning this, but very slow.

Coming from historical roots, there is still some mistrust to be found among Chinese. National humiliation in the Opium War is still embedded in the national psyche. Hence, when there is critique concerning Tibet or Taiwan, China perceives it as Western interference, especially if the critique is expressed in public. Criticism in public makes China losing its face (which is an important Asian value). If the West would be more sensitive, it would be better to express critique in a different way.

With regard to the MES for China, Van Kemenade stresses that we should see the whole picture surrounding this issue. In this respect, the SSM is very important. Currently, two clauses are being negotiated in the new WTO-agreement:

1 State intervention should not lead to trade disruption ; and

2. The special safeguard mechanism (SSM).

China sees the non-recognition of MES as injustice. China has made several concessions in the past. This safeguard concession is seen as a mistake and the officials behind those concessions has lost support from the public and had to resign (Lu Yungto, Zhu Rongji).

If there is an (anti-)dumping case, an investigation can establish the 'fair' costs of production. In China, the labor costs are so low that they are hardly comparable to other countries. When establishing the fair price, comparable labor/goods in other countries are taken as a benchmark, but the Chinese do not agree, because their labor is simply their main competitive advantage. Not only state owned enterprises suffer from this, but also (small) purely private firms. In practice, China is more a market economy than other countries (e.g. Russia).

The WTO-negotiations are not moving anywhere and the PCA is used to consolidate all the previous bilateral negotiations. Van Kemenade is not really following the details of PCA, but on the level of the Chinese officials, they started to think about what are the benefits of this agreement. Because of the financial crisis, now both the EU and China are more focused on domestic issues. Hu Jintao's mantra is 'harmonious society'. Accession to the WTO has had a lot of effects for China in terms of liberalization, industrialization in coastal areas, and export sectors.

Farmers are actually subsidizing the coastal industry and infrastructure. There are unbalanced costs. Hu Jintao wants to address this. According to him, liberalization so far has been enough and now China should address agricultural and poverty problems. Therefore, China is now focusing on agriculture reformation, farmers as net subsidy receivers, health care reforms, and in the future this may result in education reforms.

Liberalization/opening up has had major benefits and was the main driver for China's growth. In the coming years, a bit more pressure on growth will probably make the leaders to focus on international trade, the WTO, etc. again.

The Chinese focus on domestic issues hampers the WTO and international

trade, because of the nationalistic character, there is a backlash of FDI. China started blocking investment after a similar case in the West. So, China merely followed a Western example, but it certainly hampers international trade negotiations.

## **II Notes of interview with mr. Siebe Schuur**

### **Head Economic Section of the Dutch Embassy in the PRC, Beijing, 12 May 2010**

The Economic Section of the Embassy counts around 20 people. In China there are 7 business support offices in some smaller cities of China, which work with local staff. Main goals are:

- 1) Increase the exports of the Netherlands to China, i.e. increase the number of importers in China. Export numbers can be influenced by exchange rates and number of exporters in NL.
  
- 2) Allow firms who have invested in China to earn benefits from those investments.

He works here since 2007, so he cannot give detailed information about the progress so far. Two benchmarks: first, the MES (will be granted to China in 2016), and secondly, China has become disappointed with the DSB of the WTO. China has developed more of a mercantilist approach. Since the financial crisis, they say that they are fighting the global crisis, but they are not saying they support liberalization and the fight against protectionism. In fact, NTB's are more important than tariff barriers.

China knows how to use the int. system. They may not believe in it, but they are clever in using the system. Domestic petrochemical industry is very strong in China. Many anti-dumping cases in that area against foreign firms, also against Indian firms. The government is influencing the number of cases launched at the DSB. Tit-for-tat-approach by China: if the EU does something, China counteracts. They do not look to the complaints of the sector itself, but they look at the number of complaints and the identity of complainants against

themselves.

China has a big surplus to the EU, but in practice, China is not more dependent upon the EU than vice versa. It uses the problems between EU member states coordination. The EU has neglected the structure of the negotiations. The US has started in 2007 with a strategic economic dialogue. On US side it was the Secretary of Treasury and on the Chinese side it was the vice premier. It has now broadened to other areas too. It has worked very well. Unfortunately, the EU has not been able to develop the same kind of set up in the economic field, which means more problems to establish efficient negotiations. Mr. Schuur suggests to copy the US strategy.

There is a number of issues that are all related to Chinese regulations which do not adhere to a level playing field. There are in China regulations, making a difference between foreign and domestic companies. Chinese companies have a competitive advantage in Chinese business. It depends very much on the different areas. But in general: different level playing field. This could be a the lowest common denominator for all EU-countries.

Mr. Schuur thinks that the major EU leverage on China is the possibility to let China know that they would hurt their own export if they do not comply. Instruments that are used are applied via the WTO, but cases take a lot of time (i.e. a couple of years).

Concerning the PCA, Schuur is clearly realistic: they are negotiating, but it will not be agreed upon in the near future. China wants two things: they want the EU to lift the weapons embargo, and they want to receive MES. Once they have MES, it is much more difficult for the EU to open anti-dumping cases. Not having MES, makes China an easier subject to anti-dumping investigations. But in the end they will get it anyway. It is not much of a leverage for the EU. They will not make a concession in return for getting MES. Furthermore, the EU should keep the political clause and economic clause together, according to Schuur.

China always starts from their national interests, also within multilateral/bilateral negotiations. They want to have a bigger say in the int. financial system, that is why they are acting there. They do not understand the US' pressure on the low RMB exchange rate. They accuse the US of not being responsible, because the US uses bilateral tools instead of multilateral forums.

The Chinese think that the other countries do not have their own houses in order and China does. Many developing countries have said: we do not want the

IMF anymore. They see it as a bad sign that the EU brings the IMF up again and again. Of course, there are big internal imbalances. But during the last 2/3 years, their financial policies have been excellent. Overall, they are doing fine. China runs its country as a company, that is why they are interfering. A number of markets are indeed not free (energy, media), but still in compliance with WTO rules and commitments.

In the DDA negotiations, China says it does not stand in the way of an agreement, but in practice they are not pushing anything. EU/USA are pressing NAMA, but China just sits on the fence. So, they say they are positive, but in practice do not act.

G20 is not relevant to the WTO. The agenda should not be broadened. Bringing in too many things will hamper the developments. The smaller the countries, the longer the agenda they are proposing, and vice versa. China says it is taking the lead to solve current international financial crisis. They do not have an objective to stabilize the entire world economy, but more on the regional level.

China is being criticized for their low currency value, but at the moment, the exchange rate of the Euro is falling too. The Renminbi (RMB) will appreciate in the end. They do not see the actual problem. One tiny disadvantage: if they appreciate the RMB too quickly, it will hurt the Chinese economy. Yes, they will appreciate, but only when they think the time is right and gradually.

Schuur elaborated upon the Dutch position towards China. Last week, Balkenende was in Shanghai and met with Jintao, and twice with Dutch enterprises. The first meeting was with young entrepreneurs, the second with managers. The managers complained, whereas, the young entrepreneurs said doing business here is easier than in the EU. This implies that if a company is big and owns many factories, it will face more problems than a small company, operating in a sector which is not strategically sensitive. For foreigners, it is difficult to start up business in infrastructural projects, because it offers many jobs to Chinese. We are especially strong in the services sector so there are still many young entrepreneurs coming to China.

Schuur emphasizes that we should not make too much a fuss about the cultural difference issue. Of course they act differently, but on the whole, they are very pragmatic. IPR protection is certainly still a contentious issue! It is the question how to approach it. What happens with the knowledge in the

patents? Does it mean that they do not invest in China? No, the big companies are only trying to protect it more.

The Dutch Embassy encourages China to invest in EU. The question is often whether the investment is initiated by the Chinese government. If a company wants to invest in China, you just have to take into account the accompanying procedures, etcetera. The production in China started because Western companies wanted to export on a lower cost base. Majority of goods produced in China was for export, but now it is more for the domestic demand. So the reasons, e.g. for Philips, to produce in China has changed. China is picking up very quickly on their own on technology.

With regard to regional integration in Asia, Schuur explains that the ASEAN will grow stronger step by step. Is not a stumbling block towards multilateral liberalization (e.g. Chang Mai Initiative). EU is negotiating with single ASEAN member states, but not with ASEAN as such. If multilateral negotiations do not work out, bilateral negotiations look more attractive. The USA started this behavior in Seattle. Ever since, even with the DDA, the USA seems less interested in multilateral forums. The EU has been a bit slow with changing its focus from multilateral to bilateral relations. Trade policy is only possible via the EU so for the NL we cannot agree on separate agreements, only sector-specific deals. Inside the EU, NL is inside the free trade camp, but not as much as the Swedes. On the other side are France, Spain, Portugal, Poland, who are worried about Chinese imports. Three big states are always the most important within the EU: 1. Germany, 2. France, 3. UK. NL is also very important. China is one of the major topics, but the problems is that the EU does not have a clear China strategy. Every now and again, we have to define a new position.

Pragmatically, Schuur advises to keep the agenda of negotiations with China as short as possible. China plays divide-and-rule. Is there a bad image of China in the EU? There are a few countries wherein there is a fear for China fear. He remembers a study which resulted in positive effects for the EU thanks to the Chinese rise. The EU is not longer an example for the ASEAN, because it has too many regulations, but not much progress according to ASEAN leaders.

One major problem in China is the rule of law. This is not well embedded in China yet. One must realize that between '58 and ' 78 there was no Ministry of Justice in China: no judges, no lawyers, no prosecutors. After that, they had to build up their whole judicial system. Especially on the local

level, there are still a lot of problems.

For China, the EU is very interesting in this respect. China resembles the EU in its size and many provincial varieties. But the EU is also very complex. For example, the meaning of the Lisbon Treaty is not clear yet. They do not really understand this, because in China, the CCP conducts internal negotiations first before presenting a reform like that. The party is juvenized; not only old party members anymore.

In China, there is a much clearer structure. Local implementation: first party meetings. Party conference in November. Broad decisions are made there. Then the decisions are presented before parliament. So, the right order is: Party, People's Congress, Parliament. Party secretary is always in charge, above the Minister. This also effects DSB procedures: the party secretary will always support party members. So being a party member is more important than being a foreigner.

Schuur adds that there is some competition between India and China (e.g. territorial disputes). Another thing is that China is concerned about NAMA, while India is more concerned about agricultural issues. China and India are pleased with the current state of the WTO. But the IMF is the main agenda for China. China wants to have a bigger share in it. Proactive attitude of China in the IMF is based on China's national interest.

Overall, China will change if it wants to change. China simply has too many people, providing jobs for everybody is the main concern to avoid social unrest. There will be a rule of law in China someday, but it is dependent upon China's pace. NL can offer technical assistance in law implementation. China also needs this. This could be beneficial for both countries. (For instance, training of judges and lawyers.)

### **III Notes of interview with European Commission Delegation to EU Chamber of Commerce in China, Beijing, 12 May 2010**

#### **Mr. Miguel Ceballos- de Baron and mr. Antoine Seillan**

In general, China is more becoming more responsible. China is an economic late-comer and it still needs big efforts. It is not easy to stimulate China to become more active multilaterally. Many are sometimes impatient, but it takes time. The progress is positive, but gradually. It could be speeded up a little more. Overall, their achievement is positive, but they are not as active as India or Brazil. China is a good negotiator and active in the G20. China contributes ideas and presents it, but not in a leadership role. It may come later, but I do not know. There is another option for China by not contributing at all. But this would be bad for both China and the rest of the world. Many critics on China's involvement (being inactive), but this is unfair critique.

Involvement in the DSB is quite common for China. China has used anti-dumping measures quite active. This is good because it shows that China uses the tools of international rules. China has interests in multilateral liberalization, because it is important for China. There is no option for China to choose otherwise. China uses economic openness to solve their domestic issues (example: carbon tax).

The EU is probably more principles-based, whereas China is more guided by domestic interest. But that should be no problem, since every country is so. Actually, the energy sector is relatively more open than the EU's or US's. China is quite open to the world. And its open nature is important in creating jobs in China.

It is difficult to measure whether China is still a developing country. Maybe 'industrial country' is a more appropriate term. Sometimes the figures do not match reality. The richest province in China may be on the same level of less developed countries in Southern and Eastern Europe, but the poorest fall in the category of the poorest cities in Africa.

China's exporters see the EU as a single market. The most important for China is the access to the EU market (single custom and single standard). China looks with great interest at the development of EU- structures and institutions. China prefers a multipolar world with US, Brazil, India, EU, Russia

and China as the major actors. 20 % of the Chinese export market is placed in the EU. Because the EU trade and investment are quite open, there are no border frictions.

EU has good technology, and China likes the EU social model. China does not see the EU as a threat. Different than Chinese view on the US because of the American military base in Asia.

Overall, China needs a strong EU to counterbalance US dominance. China has a good knowledge of EU In negotiations there are always hidden intentions, that is normal. So, there might be double or hidden agendas, but the level of actual mistrust is low. There are 14 mechanisms of dialogue between the EU and China. There is a need to go more deeply in discussion on technical issues. The EU is to make China trust that that the EU is transparent, open, and law governed.

Some sectors have regular meetings concerning industrial policies: e.g. textile, automobile, and medical sectors. In the EU, these sectors are highly regulated and the EU wants to make China more transparent in these sectors too. There are some business sectors that do not have this number of meetings and amount of cooperation, but this can be considered as 'business as usual' instead of mistrust (e.g. green power, wind energy). Our office goes to Chinese and clarifies those issues. There is a good level of trust and a good level of predictability on both sides.

From the outside, China is a centralized country, but in reality, the province is quite autonomous. China supports local initiatives. But this can also result in local protectionism, not only for foreigners but also for other provinces. Local provinces focus on creating jobs, GDP growth, and attracting investment, but the central government is more concerned with sustainable development and environment.

The EU has decentralized local offices. The reason is that the EU targets the cities and development of consumers. France and UK have 5 to 6 offices in China. It is also beneficial for the culture, procedures, leaders, and customs.

Another example is the agreement between EU leaders to protect the Euro. This decision is important for China. If the EU is able to stabilize the Euro, this benefits China. China supports the European integration.

There are no serious problems between the EU and China concerning trade. Only some irritating factors, but not really substantially impacting the economy. MES is neither a big problem. Of course, there are some tactics and negotiations

going on, but those are not really problems. Anti-dumping cases are below 1 % of the total trade.

With regard to the PCA, the two gentlemen explain that there is some review on the bilateral agreement of 1995, but it is not going to change fundamentally. There is also no need to separate the trade and political issues. Probably, the question is more which one to settle first. But the PCA is not fundamentally touching upon trade.

Just as mr. Schuur, mr. Ceballos-de Baron and mr. Seillan do not think that the EU can be or will be a valuable model for the ASEAN. There are fundamental differences: geopolitical problems, not strategically stable, and different size. The EU had a dramatic historical experience (2 major wars). In Asia, there is no fundamental catalyst for integrating the ASEAN. If one wants to have deeper economic integration, one should also address political integration. Without this last element, the first will not work. Commission to get feedback from the ground. Chinese are more inclined to the America consumer culture. The Commission advertises the EU, which has an old culture as well.

China invests in India and Pakistan in the financial sector. Insurance companies there are cheaper than in the EU. The EU cannot compete because of some rules that tied the EU companies (OECD rules). These rules were designed before the involvement of China. Do we need new rules to involve China? It seems there is no reason for China to obey this, since it will only restrict their economy. But France also started to lend to some countries which are not considered appropriate because China already started lending in the past.

The EU is China's biggest market, but the EU is not yet using this leverage enough. There is considerable growth in Chinese investments abroad. China supports the foreign investments and creates supporting institutions in order to protect their investors. They also organize exhibitions by inviting EU delegations to attract Chinese investors. This will influence China's role as a leader, because they will not only act as an investment client, but also as a provider.

Concerning IPR protection: China makes good quality products. Their technology will need more IPR protection in the future as litigation to protect their patents. We will see more Chinese companies complain against Taiwanese, American, and European companies.

EU and China are currently enjoying a win-win-relationship, but this could

become more competitive in the near future. The EU contributes much to China in IPR protection and technology. It will be a strong incentive for the EU to keep its competitiveness and technology advantage.

[Personal opinion:] Internet is used by the state party to study the interests and feelings of the people. It is important to know all about, and respond to the society in order to sustain the regime, to defuse the tension, and to monitoring society. This is a responsibility system from the government.

[Personal opinion:] Rule of law is essential. This is also the problem that EU companies are confronted with. There is a lot of government control and no opportunity for the society to manage the tensions. When the Chinese society will become more educated the solution would be more rule of law, transparency, and social stability. So not necessarily, democracy.

#### **IV Notes of Interview with Rob Anderson**

##### **Political Section of the Dutch Embassy in the PRC, Beijing, 12 May 2010**

First of all, mr. Anderson emphasizes that he is not specialized in trade politics, but more in the foreign security policy of China. China's position in the world is definitely growing. Especially since it accelerated after the int. financial crisis. Due to the fact that they emerged as one of the main economies during the crisis and because the USA is heavily involved in a domestic crisis (and the EU too with the Greek debt crisis), China is becomes the runner up to the US and the EU. The USA is in decline because of its heavy involvement on the world stage and its domestic problems, but also because of a moral crisis (since Bush). There's no right/wrong anymore. China's role is growing, and so is the pressure on China to take more responsibility. But it does not echo through in the Beijing leadership. China's foreign policy agenda is reflected by what is going on internally. One can see that China has a limited view on the world: it will only act decisively if it feels that it would serve their domestic agenda. Int. responsible stakeholdership is a definition which we (the West) created. Implies that we all live in a community that is based on some kind of universal values/norms. China does not have such an agenda. Their need to act

is more based on a pragmatic approach and domestic interests. For example, in Iran, Sudan, and Afghanistan, the West 'feels' that we need to act there (morally), but for China this is not the case. There's no clear and present danger for China. For the coming years we will not have to wait for China taking up its responsibility to act on that stage. If you really think that China is a free rider (it benefits, but does not contribute), then it would be an imbalance. On the other hand, as long as we do not realize what really moves China in int. relations than we do not come to a meaningful discussion on how to really cooperate with each other. For China, the main objective stability, and to secure its own domestic development.

At the end of the 19<sup>th</sup> century, China was bigger than the rest of the world. That was kind of reversed during the Cultural Revolution. Right now, China is reappearing again rapidly. As to values, if you have to fight for your day-to-day-living, then values is not the most direct thing to think of in your contact with others. It is more about getting your daily bread and butter. Beijing and Shanghai are way more advanced than some European countries. They are clearly not representing average China. All provinces have huge differences and problems. Income gap. The government is trying to maintain stability in the country.

Leadership prefers pragmatism above values. We like to talk about human rights, good governance, etc. But these are not principles China subscribes to. It does not mean that China is not sensitive to calls from the outside world to take up their responsibility. They do see the need to interact on the world stage to try to find solutions on global common problems, but there is only so little they can do. They will act within their capacity and stress in the negotiations on the global climate change the differentiated responsibility. It wants to fight the problem, but within their capacity as a developing country. China uses this as an argument which convenes them in different discussions. Internally, there are many discussions on China's role in the future. Some say China should act more as a responsible stakeholder. Others think they should not follow the Western path and develop an agenda on its own. It will not result in risk seeking behavior which could pressure the leadership in any way to influence their decisions.

There is a fur of actors on the political side and discussions between scholars take place too. There are the CCP, the PLA (army), ministries, different non-

governmental think tanks, and universities, which all influence the discussion on International Relations. Difficult to say who calls the shots or who is dominant in the debate. There is a general feeling that the trend is more towards conservative thinking instead of progressive, outward-oriented thinking.

Whether developing countries go to China for help depends on the topic. China is not sensitive to outside pressure. However, the current debate about the possible revaluation of the RMB, there is clearly a need for China to do something about it. Due to pressure from outside they expelled their action, because they didn't want to listen to outside pressures. It is in their own interest to do so, but because the West pressed on this, they probably waited. The question is how to deal with this? China is becoming more assertive... keep in mind that it's difficult player.

China values its relation with big powers. The most important relationship is still with Washington. With every step it takes, China considers how it would influence its relationship with the USA. Very realistically, China is still waiting for EU to prove itself. The EU states that it wants to enhance the PCA talks and stuff, but China says: well, prove it.

Most important priority for China is stability with its direct neighbors: Japan, and ASEAN countries. It uses different means to realize that. They work slow, but are predictable. Nothing changes really fast. Time is on their side. The more they grow, the more time they have to get their house in order, the more economic leverage they have. Whether they use it for political leverage depends on how strictly they stick to their non-interference principle. If it would use their leverage in the DPRK for example, they would violate their own non-interference principle. Their core values in foreign policy are non-interference and respect for territorial integrity. They strive for an harmonious world society. If you take stability as their leading principle, it does seek to establish friendly relations with Japan and other neighbors. However, also energy and security issues come up: on that issue they are competitors. China does not like surprises. Therefore, it wants to make sure that no single country becomes dominant. Yet, they are not seeking for their own hegemony either. That is why they refuse the G2-structure: it puts too much pressure on China.

The EU-China relations are mainly economic. The EU represents an important trading partner, but China remains quite hesitant with regard to strategical/political issues, because they do not understand how the EU

precisely works. Moreover, the EU sometimes does not position itself as a very reliable partner since their faces/voices keeps changing. We will have to see and wait how the Lisbon Treaty works out. If the EU would form one bloc, that would increase our leverage, and it would increase the chances for a multipolar world.

For the Netherlands, China is a big partner on the economical aspect. Our bilateral relation is quite good. Bilateral cooperation is strong on science, technology, and agriculture. But we also think that it would be beneficial if the EU would speak with one voice towards China. NL as a small country would benefit from a stronger EU.

## **V. Notes of interview with Andreas Obst, EU-China IPR2 project, Beijing, 13 May 2010**

The main activities and tasks of the IPR2 project revolve around the second phase of IPR enforcement in China. The overarching goal is to ensure that China is in line with the WTO rules. With respect to IPRS, this means that they should act in accordance with the TRIPS agreement. It is part of the EU control on China's commitment and is subsidized by the EU (2/3) and the Chinese government (1/3), but is equal in participation. Each party selects an agency which implements the project. For China this is the Ministry of Commerce.

Obst and his colleagues also look at civil implementation. On yearly basis they report on both parties. In China this is very difficult because there are many ministries and relevant institutions. Quite a big group of partners. They communicate the goals for the coming years and the results. Most IPR cases are between Chinese companies and not between Chinese and European countries. For this area it is thus easy to find common grounds.

Local governments are involved, but the process always has to go via the central level. This is one characteristic of the Chinese way of doing, which has good and bad sides. It would be nice to go to the local government immediately, but it is also good that everything is being coordinated. The government always wants to know on beforehand, not only in this case.

Almost 2/3 of the projects are taking place in China, and the majority takes place outside Beijing. They take Chinese firms to EU to demonstrate them. Right now, the Chinese are changing the Trade Mark Law. Therefore, IPR2 takes them

to Europe to teach them the workings and WTO related regulations. In Europe, the study trips can be more effective than taking Europeans to China. They did the same on the new Patent Law. There you can see that some provisions really followed some recommendations by the EU. They are quite open to find the best possible solution. The Chinese system is of course different and it wants to take more than share, but principally, in the legal framework the goals are the same. Example: WTO case against US, they quickly changed their Copyright Law.

First phase (preceding the IPR2 project) was from 1999 until 2004. The focus lay on the accession of China in the WTO. Subsequently, there was a gap for 2/2.5 years in which was discussed what should be the new phase. Now the focus is on the enforcement stage. Nevertheless, they are still working on the regulation, because China is still and again changing their IPR-related laws.

Shortly evaluating the phases up until now, Obst signals many obstacles, which one can read in several papers. It is far from perfect: there is still local protectionism, and judges and officials are not qualified enough. Even if China is fully committed, there are not enough resources. Some doubt their commitment, but Obst thinks that they are truly committed, simply because it is clearly in their own interest to come up with a solid IPR protection system. On many areas, the EU is still more advanced, but China is approaching rapidly.

Obst refers to the example of the Olympic Games (Beijing, 2008). The IOC knows many rules of protection on the OG symbols and mascots. The Chinese did a good job in enforcing all these rules. Hence, if China puts all its efforts and commitments into something, they are indeed able to enforce. The Chinese industry is pushing hard to get it right. This is mainly the high tech industry, but unfortunately, they are not really involved in the internal Chinese processes. The primary reason for China's hesitant attitude is because they cannot promise to enforce it fully and on time.

Everyone has to keep in mind that IPR protection is only one small part of the wider framework. At the moment it's hard to say whether the soft European or the hard American approach works better. On the grassroots level, the American approach works fine, but e.g. during the latest WTO case between the US and China, all sectoral dialogues were shot down. Some are pushing for tougher penalties, but you could argue that the Chinese culture/system works

differently. You should not push too much on political interference. There are many problems on that account, but in the end you have to apply something which works best.

Vast majority of patent application comes from Chinese companies. Statistics present that 10% of the applications come from abroad, but they actually come from Chinese daughter companies of foreign enterprises. The procedure becomes more easy, because it can be done online now. It still costs a lot of money, but in the EU this is not cheap either. The Chinese government funds assistance offices. In June 2008, they issued their IPR strategy. The number of occasions is rising. They have put some mechanism into force to subsidize, but Obst has no details on that. Mainly by big companies.

More and more cases are being filed against misuse. Two ways: administrative or civil. There is a distinction between trademarks and design, which makes a difference in the procedure. European companies are eager to protect their products, so they complain, but it occurs also the other way around. Example: Schneider electronics was sued. In the end there was a settlement in which Schneider paid a compensation. Samsung also sued, but lost the case. Courts are increasingly efficient. More problematic when they are being sued. Lot of courts can have jurisdiction. Court deciding the case can be not qualified enough. You can also sue at the place of infringement. Applies for the EU too, so it works in both favors.

In the broader perspective of RS, the central government is responsible and wants to work on it. Some local governments are not and have other priorities, but Obst has less contact with them. So it differs in many areas. If it comes to health (such as medicines and food), the public is also very well aware of the necessity to safeguard quality. Being RS means being present/active in the int. forums. Maybe the Chinese activity is not always positive for the EU interests, but China is certainly active. In the area of IPR protection this applies too. They are being sued, but are also suing themselves.

With regards to the MES, Obst's personal opinion is that China is still a developing country. I.e. their economic figures may be impressive, but in reality there is much poverty.

## **APPENDIX B - INDIA**

**10 May 2010**

### **I. Notes of interview with professor Manoj Pant of the School of International Studies of the Jawahar Lal Nehru University, New Delhi**

An RS is a state that does not break down multilateral talks. It does not necessarily agree with the current international system, but they are willing to talk about it. In this respect, India can be regarded as an RS. For India there is nothing to win, nor to lose when engaging in multilateral trade, because India will never become a major exporter when giving up its tariffs and subsidies. India is focused on internal trading issues, rather than on WTO or Europe, because it is still an underdeveloped country. Consequently, India will not give many concessions.

Prof. Pant is asked whether FTAs and RTAs are a good thing to develop the WTO. Pant explains that the EU has special FTA's with Africa. Small countries profit from these, but the larger ones are now trading with India. The FTA's of the EU cannot be kept intact forever, since the int. trading system has changed. African countries become political actors too. That is why the EU starts orientating more on FTA's and the WTO now. FTA's and RTA's are helpful to develop multilateral trade within the WTO, since similar concessions have to be made. An early conclusion of the DDA talks is not necessary, but it is more important that we keep on talking. For Asia, RTA's are a gain, so it is not recommendable to stop doing this.

The major problems in concluding the EU-India FTA are: firstly, the EU is pushing too hard to include procurement in the FTA. The purpose of doing this is unclear for the Indians. On the multilateral level this is excluded as well, so there is no valid reason to incorporate this on the bilateral level. Secondly, human rights and environmental issues must not be linked to trade issues. These should be discussed in different forums. Environment is actually already enforced by the EU on the company level (minimum criteria in order to export to the EU). Thirdly, the only wish of India is to gain EU access on services, since this is the sole sector from which India can gain something. Tariffs are not the main

problem, but the non-tariff barriers (NTBs) should be covered much more in the FTA. Without EU concessions (elimination) on NTBs, India can still not export its services to EU, because they have to comply to high standards of environment, labour etc. The EU should not be too ambitious on FTAs, because it will only break them down. The problem of sovereignty is too deeply rooted to demand for numerous requirements on services.

An example is the OECD negotiation: it broke down because the French did not want to comply. However, the prospects to conclude the India-EU FTA are good, because the EU, a well-developed block, could add something to the Indian economy. However, the remaining problem is that it will be hard for India to benefit from the FTA. Service number 1,2 and 4 are the most important ones to India.

With respect to the Chinese influence Pant states that at the one hand, China and India have a cooperating relationship. China is the driving force behind manufacturing. Even India can profit from this. At the other hand, China is an uncertain partner. The conflict of '40-'45 and '62-'63 are still remembered and India places question marks with China's market functioning. India faces the problem of dumping practices. According to Pant, a country would never go beyond its self-interest in trade. This would de facto mean that RS is not really applicable in trade relations. Economy is a matter of gain. To get to multilateral trade, one of the biggest countries should start opening up its market. But this will never happen because this country would loose from its unilateral action. However, while acting out of self-interest, a country can still behave more or less responsible.

India is in an early stage of development. The perception of the stage of development counts much more than the actual statistics. Pant states that India has never been guilty of anti-dumping practices. It makes actively use of the DSB. It does not to be reformed, since India has well-developed courts and cannot be blamed of judicial weakness. India will not give China the MES, because of many anti-dumping cases (investigation is needed to figure out the real production costs).

Prof. Pant does not agree with Subramanian. Indian institutions are currently developing. The government regulates water, stock markets, and security. Furthermore, it is privatizing and starting to decontrol the free market functioning. A reason for underdeveloped institutions is the ongoing conflict

between the central and de-central government. Unlike China, there is no regional autonomy.

According to the Worldbank, it is hard to do business with China. Pant thinks this is due to the little trade facilitations. It takes time to build institution at state level, approximately 15-20 years. That is nothing remarkable, because it took the EU/US also a long time.

Overall, Pant would like to emphasize that we should not forget that labour is never a voluntary activity, it is the only way to survive. That is why child labor cannot be eliminated easily. Although environment and labour are definitely part of the concept of RS, do never bind it to trade talks. It would be unwise since it touches upon sovereignty. Once started including these issues, it is unclear where to end.

## **II. Notes of interview with mr. Navneet Sharma, the Cuts Institute of Regulation and Competition, New Delhi**

According to Sharma, RS means that a state participates in international forums, either the UN, or other financial, regional, or bilateral settings. Additionally, it should make a positive and qualitative contribution. India is joining in peacekeeping operations. Even small contributions are enough to be called an RS on that issue.

The less developed a country is, the more domestic dependencies it has. When things become very necessary, contribution on international level is not possible. An RS can indeed go beyond its self-interest. In fact, India is already contributing.

How this RS-concept relates to trade issue? Sharma's answer to that says that when a country sells a lot abroad, it has the duty to increase its imports too. International trade should be made sustainable. For example, great political debts are not considered responsible. The last WTO treaty (1995) is not completely neutral and fair. But overall, the WTO is good. It is not clear whether FTAs are contributing to or stumbling multilateral trade. So far, India has concluded 10 FTAs. At this moment, it gets harder to conclude FTAs, because people become more aware of its consequences. Countries are calculating all related aspects. It goes much further than simply eliminating tariffs. This is the result of the FTA with Thailand (among others) after which India's trading surplus turned into a deficit. After this, trade moved to the political sphere.

The FTAs are being concluded because the WTO negotiations are not moving forward. India would prefer multilateral agreements, but since this is not working, it starts to look for alternative opportunities.

The FTA between the EU and India is very ambitious. The EU demands much from India on the service sector. In this way, services can never be exported. As long as the EU does not offer more attractive chapters on services, India will not gain from it. Thus, by sticking to these requirements, the EU is losing negotiating power. NTBs are important to eliminate, otherwise the EU has nothing to offer India.

The second point of focus is the elimination of the Sustainable Development (SD) chapter. On paper, the inclusion of the SD-chapter would make an FTA more responsible, but in reality not, because a nation needs time to use and adapt to new language. India is fighting to get the SD-chapter out and it is not likely that the FTA will be included as long as it is still part of it.

India does not have a good experience with FTAs. In the 1990s, the Indian surplus changed into a deficit.

Mr. Sharma uses the example of the revolution of Ghandi. Make farmers aware of tariffs and NTBs and listen to their wishes before concluding an FTA. At this moment, farmers are completely ignored. Free trade only serves the upper and middle class.

Efficacy and training support should be included in the FTA, otherwise the SD-chapter will not be effective. The inclusion of language is insufficient. India would never execute this because they fear intervention in the current state of affairs. They fear the unknown. Somehow, the government should constructively engage its people.

The WTO is a good organization in Sharma's opinion, because it gives a voice to everyone and is transparent. The DSB is working good, although the costs to use it are high. This is the reason why India does not raise complaints very often. Procurement is still problematic. The West should be aware of the underdeveloped stage of procurement in India (it lags 15-20 years behind).

In order to improve the DDA, a clearer mutual understanding is needed. India needs more NGOs. An increased civil society would require change in Indian policy. (so: the DDA must be concluded, is a good thing)

Negotiations with China are not significant, rather one should look at true intentions. India is in disadvantage with China. China is very self-

interested, so not much has been achieved yet. China and India have common grounds, but the relationship is very insecure. Neither China, nor India could be entirely self-sufficient. Growth cannot be achieved without bilateral talks on supplies. In that sense the interests are harmonized.

On the account of regional cooperation, Sharma adds that the SAARC suffers a big trust deficit. India should play a more constructive role. What needs to be created is a framework to talk, solve, and cooperate. Especially, regional cooperation on transport and electricity would make India stronger. Regional negotiations suffer solid proposals from any member state. The main subjects are politics and no-go areas.

The role of agriculture in Indian trade policies is still significant. New upcoming technologies used by trading partners conflict with the protection of India livelihood. The country takes in a defensive position because of its political sensitivity. Is this sustainable, with regard to the expected population growth? Agricultural development is not one of the concerns when talking about population growth in India. Also, there will always be commodities of other sectors when food shortage would appear. It would be an interesting idea to include trainee assistance on new agricultural technologies in India in the FTA.

One of the problems remaining is the transition of the smallest farmers to other sectors. The creation of institutions which engage all stakeholders of agricultural transformation, would be helpful to overcome the transition problem. The EU could assist in this process, but only when it is no longer bound to trade relations. It would be better to put it in a form of neutral developmental aid.

In contrast to Pant, Sharma does agree with Subramanian. A reason for this is the traditional Indian reaction: first, the current operating systems have profound duties. The costs of keeping the system running are high and efforts are huge. Therefore, India has little room to build institutions. Secondly, the human capital stock is weak. RTAs of FTAs (i.e. economic growth) cannot change the face of India. While education in India is good, there is little room for own initiatives. Indian culture does hardly accept practical and creative ideas. Result is that the status quo is been kept. Slow improvement to develop institutions, but merely at the private level. Competing companies promote dialogue.

**11 May 2010**

### **III. Notes of interview with Mrs. Swapna Nair, Indian Council on Research on International Economic Relations**

According to Mrs. Nair, the concept of RS is applicable on the WTO. India has demonstrated some responsible aspects so far. First, India has taken initiative for bilateral negotiations with the EU. The meeting of September 2009 brought the negotiations back on track. Secondly, India is willing to reduce CO<sub>2</sub>. The review mechanism of the WTO, which was initially refused, is now being reconsidered. India is going through a high policy transformation. One of the causes of this is the change of Minister.

Two aspects are problematic in concluding the DDA. First, the SSM in which countries can intervene when a certain percentage of price fall or loss in export products is met. EU/US want to reduce the level of the mechanism as far as possible. For India, the SSM is the sole possibility to lower tariffs on agriculture. The agricultural sector in India is politically sensitive and of vital importance. The SSM would be a change to break through the political stiffness. Secondly, the tariffication (putting NTBs into tariffs) came along with compensation. Thus, subsidies have simply been shifted. Subsidies should be eliminated as they are very distorting.

In India, subsidies are not working very well, since there is little lobbying. India's status in the WTO:

#### **1. Agriculture**

- a. Safeguard Mechanism is the mechanism where states can increase its tariff if there are triggers (price fall and quantity increase) that could endanger the domestic market. Currently, the negotiations are to decide how high the trigger should be. The US of course, wants it higher. There is also the Special Safeguard Mechanism (SSM), which is only applicable for the developed world as a compensation for the elimination of their non-tariff barriers through the process of tariffication.

b. Subsidy

- i. Amber box (distorting subsidy)
- ii. Green box (non-distorting subsidy)

2. Non-Agricultural Market Access (NAMA)

- a. Coefficient: 20-25%
- b. Flexibility associated with it
- c. Unilateral

It can be said that currently, India is being responsible on agriculture and NAMA. However, India disagrees with the proposal to change the format of the WTO, which is currently: “nothing is agreed upon until everything is agreed upon”. The sectoral approach, as proposed by the US, has been rejected.

China could show more flexibility in the WTO, because China is a relatively recent member of the WTO. So, China seemed to show a lot more movement, because it still has a lot of margin as compared to India, which has done relatively many unilateral concessions. This unilateral action has been done without benefit.

The WTO is the perfect forum for being an RS because each country -large and small- has the same chance and can have a fair play in trade. Therefore, the WTO is the most successful example of multilateralism. The existence of the Dispute Settlement Body (DSB) is what actually makes the whole process of the WTO more fair. Brazil, Mexico and India are the three developing world countries which have mostly used the DSB. The DSB is quite flexible for developing countries, so there is not much of a constraint for the developing countries to use them.

[A personal opinion on the question who would be the least responsible in IR: the USA, because its policy has been very inward looking, unilateral concessions by India are not recognized by the US, and the US keeps asking for sectoral agreements. To an extent India and China have been RS, but China is a new member so it still has more margin to move, while India is an older member, which means that it does not have much more policy space to make

movements. Overall, no country at all is an outright responsible stakeholder in the WTO because each country joins it to get maximum interest.

Does India consider India as an RS? EU's policy is changing, especially with regards to what happened in Greece, where EU members have offered a financial package to help Greece. This will cause the EU to spend money and this would likely have an impact on their policy in the WTO. It will make the EU tighter/stronger.

The DDA is not improving because no one is taking the initiative to improve the conditions, and no one is being altruistic. There is nothing wrong by trying to defend self-interests in trade. In fact there is a theory, which mentions that by defending your self-interest, you are actually being RS. However, it should be remembered that what is meant by domestic interest does not always mean it is really in the best interest of the country, because there is also domestic interplay, which makes the "interest" actually just a representation of the interests of a certain domestic group/elite.

India now has become more politically mature, and it understands that image matters. This has the implication of India taking a more friendly approach, where before it was taking a very strong position, which is seen as defensive by many parties.

#### **IV. Notes of interview with Mr. Banu Singh, The Institute for Defence Studies and Analyses (IDSA), New Delhi**

Democracy cannot be applied on all nations, for example on Myanmar. The main interest of India in Myanmar is to get influence because of the centrality of the country. It is the central gate to South East Asia. ASEAN has included Myanmar as a member state, against the will of India, China, the EU, and the US. In 1992/1993, India's policy changed: it has no longer military support of the UN. Additionally, India became less focused on bringing democracy in Myanmar. India cannot spread democracy. This is only possible via informal channels. So India wants to engage India, build trust, and would never dominate the region with such demands. The EU should put more efforts into understanding the Indian- Myanmar situation. The EU and India should meet on a bilateral level, prior to international conferences. The US is more engaged with the Indian position. The EU and India could coordinate their

policies as well, but the EU has not shown enough willingness yet, according to Mr. Banu Singh.

## **V. Notes of interview with Mr. Edouard Bourcieu, First Secretary, Delegation of the European Union, New Delhi**

Corporate Social Responsibility (CSR) is a new term, which includes cooperative responsibility. In this regard, it is the private sector that plays the role as the opposition to the government sector. It is an important thing but not primary. India is particularly worried of the development of the private standard, which could become a new kind of technical barrier to trade. India is worried that this technical issue will be framed within the WTO. India is also worried about some public sectors that belong to the state, being transferred to the private sectors. But this kind of worry is positive.

With regards to conclusion of EU-India FTA, it is feasible, but personally he thinks that there are some doubts because there are still many problems in it. The new Indian Ministry of Trade of Commerce and Industry, Anand Sharma, is more forward looking. In March 2010, the EU Trade Commissioner De Gucht and Anand Sharma met and both made a commitment to conclude the FTA-negotiations by October 2010, as the ultimate deadline. However, the EU Trade Commissioner also made it clear that the EU would not sacrifice substance over process, which means that the EU wants to maintain its ambitious FTA goals with India.

Mr. Bourcieu believes that India could certainly profit from the FTA, because it will get more status/leverage on various international forums, such as the WTO. As an upcoming economy, it is important to be recognized as such. Several difficulties in concluding the EU-India FTA:

1. Reduction of tariff of 90% tariff lines—the highest which India has ever made compared to its other FTA partners. However, the EU would like to see India to narrow down again its sensitive list.
2. The negotiation has agreed on the Services text and is now entering negotiations on Market Access in Services.

3. Sensitive areas:
  - a. Procurement—still in the confidence building process, where the EU is still trying to explain to India what it wants to achieve from procurement.
  - b. Sustainable Development Chapter
    - i. India politicized the issue a lot.
    - ii. For the EU it is more about cooperation rather than commitment, but it is still important to have this Chapter as part of the agreement, otherwise it will not pass in the EU parliament.
  - c. Intellectual Property Rights (IPR)
    - i. discussions have been politicized a lot especially with regards to generic medicine.
    - ii. the EU has moved a lot to improve regulations, especially with regards to the rights of India to develop life-saving medicines.
    - iii. India's local medicine makers have been very active to make it a tough issue in the negotiation.

The different faces of the EU are not such a big issue for India. They do not try to take advantage of this. India understands that there is only one lead negotiator of the EU. Yet, the EU would have had more weight if it would be more coherent. However, in trade this is not so much of a problem.

## **VI. Notes of interview with mr. Alex Oosterwijk, Political Department of the Dutch Embassy in India, New Delhi**

In the eyes of mr. Oosterwijk, on the regional level India is running behind as an RS. 750 million people are currently living in poverty. Before taking responsibility on a global level, the internal problems have to be solved. India is 10-15 years behind on China. India sees its role as a global actor as a moral right. They struggle with the problem of poverty, but they are very fervent to become more powerful in international affairs. The caste system is a major problem for

poverty, because it causes immobility. Furthermore, the energy sector and infrastructure are still problematic.

India is surrounded by undemocratic countries. Regional relations are critical; there is much public uproar on the possibility of nuclear conflict. Consequently, it would be an irresponsible act if India imports African weapons and defence related products. This does not mean that India is less responsible than other states, although it is not very supportive. India is not yet entirely an RS, since they are very inward orientated. But India has no other choice. India can be seen as a partial RS, since they are willing to make compromises.

The EU cannot do much to stimulate India's RS-process, because India suffers an implementation problem. Including RS features in FTAs are not taken lightly. Besides, the EU should not take the SD- chapter out of the FTA, even if that could improve the chance to conclude it. The EU should be consistent in all its bilateral trade agreements. Institutions are bound to a regulatory framework which should not be changed for each individual country. Therefore, NTBs in the service sector cannot be eliminated. For the EU, the FTA with India is not of such vital importance, because employment would not drop without the FTA.

Eventually, the FTA will be concluded. The political clauses should not be added to the FTA, that would decrease the chance of concluding. The EU should soften its stance. A compromise would be that unilateral political statements on the side of India would be accepted by both nations as legally binding clauses.

Mr. Oosterwijk does not think that the EU is more responsible than India, for EU member states do not even stick to their own rules (ex the Growth and Stability Pact). The EU puts higher standards of human rights minima on India than on China. In this way, the EU achieves its economic goal, but it uses double standards. The EU could never move its position closer to India, since the EU consists of united values which cannot harmonize on e.g. the Myanmar situation. The EU cannot be compared with the US.

## **VII. Notes of interview with Mr. Anand Krishnan, Senior Policy Advisor for Agriculture in India, Nepal & Sri Lanka (New Delhi)**

Agriculture is a core subject for India, mainly because 65-75% of the population is dependent upon it. Yet, India is not aiming for much in the agricultural negotiations. Its goal is simply to meet self-sufficiency for domestic food supply. Moreover, India does not have that much market access to enter the EU's agricultural market, only for a limited number of fruits and vegetables. Another problem is the level of protection in the EU's standard, including SPS. There are more or less 30 kinds of requirements that Indian agricultural products must meet before it can enter the European market. Therefore, the EU is quite a protected market for India. India must open up more, but as long as agriculture still represents the livelihood of the people and can be less treated as an industry, it will hold on to a more protective stance.

To become an RS, Indian companies should cooperate more with foreign companies, so that India can start to export. The government cannot become more RS in the international system, since its main responsibility is to look after its farmers.

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