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## **Poverty Reduction**

### **A Micro-Level Perspective**

Thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Technology

Helsinki, May 15, 2013

Supervisor: Professor Kalevi Ekman  
Instructor: Professor Kalevi Ekman



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**Title of the Thesis** Poverty Reduction: A Micro-Level Perspective

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**Department** Department of Engineering Design and Production

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**Professorship** Machine Design

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**Code of Professorship** Kon-41

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**Supervisor** Professor Kalevi Ekman

---

**Instructor** Professor Kalevi Ekman

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**Date** May 15, 2013

**Number of pages** 83

**Language** English

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**Abstract**

The international community has been struggling with the issue of poverty since the Second World War. At the moment hopes are extremely high as developing countries' GDP per capita has been on a constant rise for almost two decades now. The World Bank even proclaims that the world could end extreme poverty by 2030. On the other hand, globally the overall progress has been at least questionable so far. After almost 70 years of poverty reduction there are still over one billion humans living in extreme poverty, not to mention that almost every other human lives in poverty.

This contradiction between a dream and reality raises doubts over a sense of proportion. Indeed, even the World Bank itself has some reservations about succeeding. Thus World Bank President Jim Yong Kim appeals to everyone to participate in their grand endeavor. Among other things the World Bank requests for innovations. And this is a field where also an engineer can contribute. Hence, this master's thesis aims to discover the most effective way for an R&D engineer to advance global poverty reduction.

To be able to do that, one needs to understand what poverty is and what causes it. This is so crucial issue for succeeding in the mission that this whole work is dedicated for clarifying the actual problem. In the study internal knowledge directs external search. Theory is built solely on theoretical research. Deeper understanding of the problem is achieved by consulting experts and searching published literature and statistics. Then an empirical research is conducted to compare this understanding with a reality.

This study finds poverty being above all a social construct, which is produced and reproduced by structural forces within society. Therefore poverty can't be eradicated by a technical solution alone. But technology can provide tools to support processes of social inclusion of the poor. This study sees that this can be done the most effectively by increasing the poor's ability to benefit from things that can constrain or enable their benefiting from resources. The final outcome of this work is a brief product development description to design an interactive and adaptive tool to provide access for the poor to relevant information, contacts, formalities, education, and publicity.

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**Keywords** access, poverty, poverty reduction

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**Tekijä** Pekka Kuusela

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**Diplomityön nimi** Köyhyyden vähentäminen: Mikrotason näkökulma

---

**Laitos** Koneenrakennustekniikan laitos

---

**Professori** Koneensuunnitteluoppi

**Professuurin koodi** Kon-41

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**Valvoja** Professori Kalevi Ekman

---

**Ohjaaja** Professori Kalevi Ekman

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**Päivämäärä** 15.5.2013

**Sivumäärä** 83

**Kieli** Englanti

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### **Tiivistelmä**

Kansainvälisellä yhteisöllä on vahva tahto köyhyyden poistamiseksi. Töitä asian eteen on paiskittu erityisesti toisesta maailmansodasta lähtien, mutta saavutukset ovat jääneet globaalissa mittakaavassa varsin laihoiksi. Nyt toiveet ovat kuitenkin erityisen korkealla, sillä kehitysmaiden BKT per asukas on ollut jatkuvassa kasvussa viimeiset parikymmentä vuotta. Uudeksi tavoitteeksi on asetettu äärimmäisen köyhyyden poistaminen maapallolta vuoteen 2030 mennessä.

Tavoite tuntuu kovalta, kun tietää että yli miljardi ihmistä elää edelleen äärimmäisessä köyhyydessä. Maailmanpankki onkin kutsunut kaikki mukaan auttamaan tavoitteen saavuttamisessa. Muun muassa on toivottu uusia innovaatioita, ja tällä saralla myös tuotekehitysinsinööri voi kantaa kortensa kekoon. Tämä diplomityö pyrkiikin kehittämään tehokkaamman tuotteen globaalin köyhyyden vähentämiseksi.

Oleellista tehtävässä onnistumiselle on ymmärtää mitä köyhyys on ja mikä sitä aiheuttaa. Köyhyyden perimmäisen syyn selvittäminen onkin tämän diplomityön tärkein tehtävä. Työn teoreettinen osuus pohjaa teoreettiseen tutkimukseen. Keskustelut asiantuntijoiden kanssa, kirjallisuustutkimus ja olemassa olevaan tilastotietoon perehtyminen syventävät ymmärrystä ongelman ytimeistä. Empiirisellä tutkimuksella varmistetaan sitten teoreettisen tutkimuksen johtopäätökset.

Tämä tutkimus pitää köyhyyttä ennen kaikkea sosiaalisena konstruktiona, joka tuotetaan ja uusinnetaan yhteisön rakenteissa. Niinpä köyhyyttä ei voida poistaa pelkästään teknisillä innovaatioilla. Mutta teknologia tarjoaa kyllä työkaluja tukemaan köyhien sosiaalista inklusiota. Tämä diplomityö näkee sen toteutuvan tehokkaimman lisäämällä köyhien kykyä hyötyä asioista, jotka voivat mahdollistaa tai estää heitä hyötymästä erilaisista voimavaroista. Työn lopputulema on ehdotus tuotekehitysprojektista kehittää köyhille vuorovaikutteinen ja mukautuva työkalu heille oleellisen tiedon, kontaktien, mahdollisuuksien, koulutuksen ja julkisuuden saavuttamiseksi.

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**Avainsanat** access, köyhyyden vähentäminen, köyhyys, pääsy

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**Utfört av** Pekka Kuusela

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**Titel på diplomarbetet** Minska fattigdomen: Ett mikronivå perspektiv

---

**Institution** Institutionen för produktutveckling och produktion

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**Professur** Maskinkonstruktion

**Kod för professur** Kon-41

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**Övervakare** Professor Kalevi Ekman

---

**Handledare** Professor Kalevi Ekman

---

**Datum** 15.5.2013

**Sidantal** 83

**Språk** Engelska

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### **Sammandrag**

Det internationella samfundet önskar få ett slut på fattigdomen. Ända sedan andra världskriget har man arbetat för den saken, men globalt sett har resultaten varit minimala. Nu är förhoppningarna emellertid särskilt höga för BNP per capita i utvecklingsländerna har ständigt vuxit under de senaste tjugo åren. Ny målsättning är att få ett slut på extrem fattigdom till år 2030.

Målsättningen verkar svår då man vet att över en miljard människor ännu lever i extrem fattigdom. Världsbanken har bett alla att ta del i uppnåendet av målet. Bland annat har man önskat nya innovationer, och här kan en ingenjör medverka. Detta diplomarbete har som syfte att få till stånd en effektivare produkt för att minska den globala fattigdomen.

Det väsentliga, för att lyckas med uppgiften, är att förstå vad fattigdom är och av vad den orsakas. Detta diplomarbetets viktigast uppgift är att utreda den yttersta orsaken till fattigdomen. Arbetets teoretiska del grundar sig på teoretiskforskning. Samtal med sakkännare, forskning av litteratur och existerande statistik fördjupar förståelsen för problemets kärna. Med empirisk forskning garanteras den teoretiska slutsatsen.

Denna forskning anser fattigdom vara framför allt en social konstruktion som produceras och förnyas i samfundets struktur. Sålunda kan fattigdomen inte avskaffas endast med tekniska innovationer. Men teknologin ger redskap till att stöda de fattigas sociala inklusion. Detta diplomarbete anser att den förverkligas mest effektivt genom att öka de fattigas förmåga att dra nytta av förhållanden som ger möjligheter eller förhindrar att gagna olika resurser. Arbetets slutresultat är ett förslag till hur ett produktutvecklingsprojekt kan utveckla redskap till hjälp för de fattiga att uppnå relevant information, kontakter, formaliteter, utbildning och offentlighet.

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**Nyckelord** access, fattigdom, minska fattigdomen, tillgång

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## Foreword

It has been a long journey. In 1997 I enrolled the very first time to Helsinki University of Technology. I should have started my studies by sitting down with a math book. Instead, I found myself sitting in a train to Beijing. Since I have met countless people, visited dozens of cultures, and studied plenty of different kind of stuff. All of which have shaped my worldview profoundly. Now has come the time to have a stop-over and squeeze some of those perceptions on a paper.

This all wouldn't have been possible without my mom and dad letting me to be me. And when it comes to this master's thesis, without them supporting me through the darkest hours. I show my greatest gratitude to both of my parent.

This work wouldn't have ever materialized without the help of handful of people who kindly sacrificed their time to guide me when I was organizing and planning my field study. Especially I want to thank Ulla Heinonen for setting me up with Yim Sambo. It was Sambo who organized everything for me in Cambodia. He found me a village, persuaded villagers to participate, acted as an interpreter and co-facilitator, and got people on a good mood. So, a very special cheers to Sambo!

As I would like to continue developing further the thoughts of this master's thesis, all kind of criticism, observations, insights, and opinions related to the study, as well as research or job opportunities are the most welcomed at address pekka.thesis in the virtual city of gmail.

In Helsinki, May 15, 2013

Pekka Kuusela





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# Introduction

This master's thesis stems from a personal frustration of apparent global incompetence to root out poverty from the world. The average global GDP per capita has been rising since the Middle Ages (DeLong, 1998)<sup>1</sup>; inspiring speeches demanding action have been given constantly around the topic by influential people; governmental aid organizations, massive powerful global institutions, and enormous amounts of idealistic volunteers have been working hard for a shared dream – eradication of poverty – since the end of the Second World War, but still today almost half of the population of the world lives in poverty, as the following statistic shows (North America is excluded). The World Bank has calculated that 2 dollars per day is the median poverty line for all less developed countries (Chen & Ravallion, 2012)<sup>2</sup>.

Region	Pov.line (PPP\$/mo)	Headcount (%)	Pov. gap (%)	Squared pov. gap	Num of poor (mil.)	Population (mil.)	Survey coverage
East Asia and Pacific	60.83	39.03	13.16	5.94	757.51	1,940.85	93.20
Europe and Central Asia	60.83	4.60	1.27	0.57	21.66	470.80	94.70
Latin America and the Caribbean	60.83	16.69	7.38	4.76	91.74	549.66	95.90
Middle East and North Africa	60.83	17.37	4.05	1.46	52.73	303.59	85.70
South Asia	60.83	73.36	28.19	13.45	1,113.06	1,517.26	98.00
Sub-Saharan Africa	60.83	74.08	38.22	23.99	559.07	754.69	82.70
Total	60.83	46.88	18.61	9.64	2,595.68	5,536.85	93.00

**Figure 1.** People living below 2 dollar per day at 2005 PPP in year 2005. Source: World Bank's research department; <http://research.worldbank.org/PovcalNet/>.

Then again, the United Nations (2012)<sup>3</sup> proclaims that the international community has reached the target of reducing extreme poverty by half five years ahead of the 2015 deadline. The confusing thing here is that the original target goes "Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day", but then in their poverty projections the UN uses \$1,25 a day as an extreme poverty indicator for the entire period of time.

Therefore the very first research question is to find out the state of global poverty reduction at the moment. If the story is as a success as the UN claims, then we are taking the right steps and the progress has to be supported. But if it turns out that over one billion<sup>4</sup>, i.e. every seventh, humans living in extreme poverty after almost 70 years of poverty reduction isn't really a success story after all, then we have to try to figure out new approaches to the problem. In both cases we have to know the principles behind the actions, how theories have been implemented in practice, and what the outcome is. Those are the second research question. Still, regardless of the result of the first research question, it is necessary to ponder if something more or different can be done to speed up poverty reduction. Thus the third research question delves into the real

<sup>1</sup> [http://delong.typepad.com/print/20061012\\_LRWGDP.pdf](http://delong.typepad.com/print/20061012_LRWGDP.pdf), accessed 2.11.2012.

<sup>2</sup> [http://siteresources.worldbank.org/INTPOVCALNET/Resources/Global\\_Poverty\\_Update\\_2012\\_02-29-12.pdf](http://siteresources.worldbank.org/INTPOVCALNET/Resources/Global_Poverty_Update_2012_02-29-12.pdf), accessed 3.11.2012.

<sup>3</sup> <http://www.un.org/millenniumgoals/pdf/MDG%20Report%202012.pdf>, accessed 29.1.2013.

<sup>4</sup> Ibid.

reasons of poverty. Said all that – and recognizing the importance of these issues in poverty reduction – themes of population control, nutrition, and health care are left out of this work.

All these research questions are addressed in the first chapter. The chapter is divided into two subchapters. The first subchapter deals with the first research question and the second subchapter with the second and the third research questions. Altogether there are four bigger themes in the chapter. All of these four sections follow the same textual structure of theory, analysis, discussion, and conclusion. As all the themes fall under the discipline of social sciences, there is room for different interpretations and debate. Hence “Discussion”-paragraphs are written in a polemic manner to stimulate further pondering and debate.

In the second chapter the findings of the first chapter are taken out to the field to see if they have any correspondence in reality. A small case study is done in Cambodia for trying to understand poverty and its diversity. Findings of the study are reflected with lessons learned in the first chapter.

The whole package is summed up in the third chapter. Thus the third chapter also works as a passage to the main research question. This master’s thesis work is done in the field of engineering, which naturally limits the selection of solutions. Hence this work tries to discover out what is the most effective way for an R&D engineer to contribute to poverty reduction.

Now, when looking from this perspective, the first chapter becomes the theory chapter, the second chapter becomes the methodology, material and analysis chapter, and the third chapter becomes the concluding summary for the actual research question. Together they also clarify the problem, which is a precondition for any product development project. It is essential to concentrate on the causes, not only on the consequences.

Indeed, the fourth chapter moves towards engineering. The earlier findings are translated to specifications, on which the answer to the main research question is built. The final outcome of this work is a brief product development description for an actual product development project to reduce global poverty.

# 1 Theory

This master's thesis work tries to figure out how an R&D engineer can contribute to global poverty reduction. To succeed in that mission it is crucial to clarify the problem first. And to find out if there actually is any problem at all as official donors are at the moment intensively drumming for great achievements in the domain. This first chapter of the work is dedicated to these tasks.

## 1.1 The state and direction of global poverty reduction

The first sub-research question is about the real achievements of actions in the field of poverty reduction.

### 1.1.1 Methodology and material

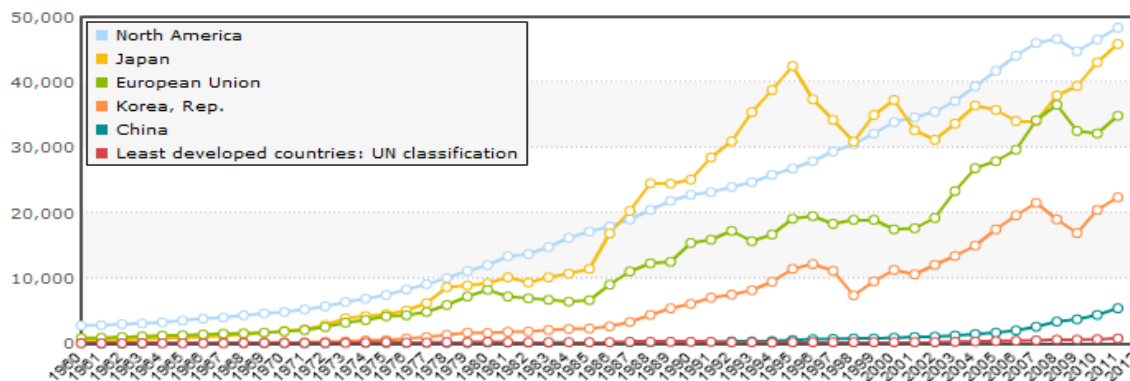
This subchapter relies on statistics provided by the World Bank. Especially their collection of time series data from various different sources at the World Bank's DataBank (<http://databank.worldbank.org>) has been the foundation for conclusions. Unfortunately the data is partly scarce, unreliable, and covers too short period of time. Another thing is that there is not such an aggregate as "developing countries" in the DataBank. Therefore other aggregates have been used to illustrate poor countries' money-related development. Some of statistics (figures 5 and 6) are compiled by the author from the World Bank's data, as they are not directly provided.

How money-related development correlates to development of money-based poverty is then another question. Anand, Segal, and Stiglitz's (ed.) book "Debates on the Measurement of Global Poverty" directs the way in that task, leading into challenging the United Nations' conclusion of the state of poverty reduction by using Chen and Ravallion's estimates of the amount of extreme poverty in those particular moments when it has actually been more properly calculated.

Thus, this subchapter is based on theoretical research. Quantitative research is applied to find out about developing countries' financial development, and literature research to find out about development of financial poverty.

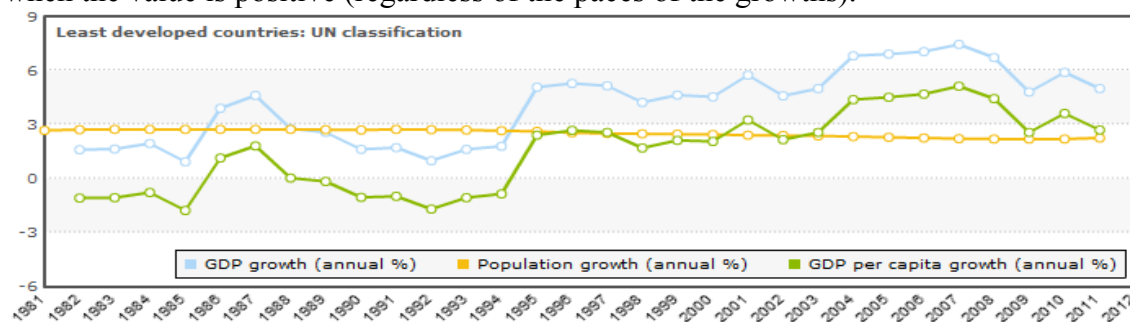
### 1.1.2 Theory and analysis

Poverty is traditionally seen as the lack of purchasing power. Therefore economic growth has been seen as a precondition for poverty reduction. In the world of nation-states countries compete with each other for global wealth. The next graph shows who are winning in that competition. The richest countries' GDP per capita has been rising steadily and sharply over the years, while the poorest countries' economic growth is stagnant.



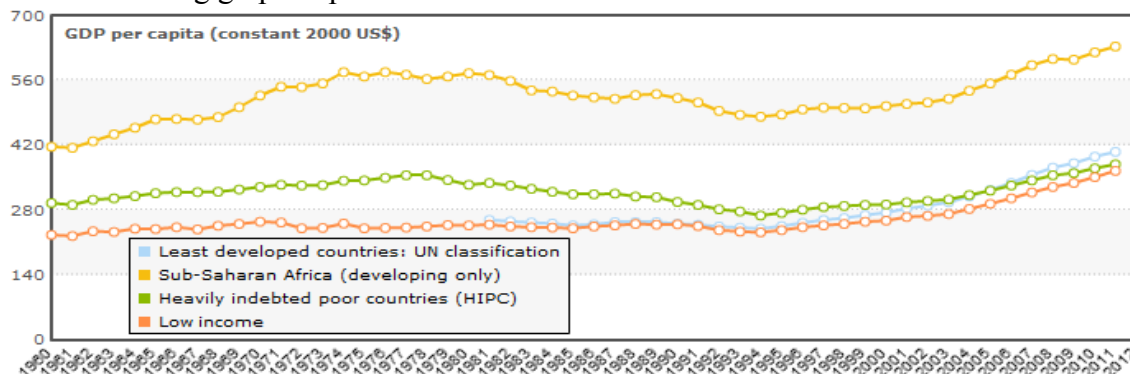
**Figure 2.** GDP (current US\$) per capita in North America, EU, LDCs, and some Asian countries since 1960. Source: World Bank national accounts data; <http://data.worldbank.org/>.

Theory goes that development follows when economic growth exceeds population growth. The next graph shows development of GDP per capita growth in the least developed countries in the last 30 years. Economic growth is faster than population growth when the curve goes up, but economic growth exceeds population growth only when the value is positive (regardless of the paces of the growths).



**Figure 3.** GDP (constant 2000 US\$) per capita growth in the least developed countries since 1982. Source: World Bank national accounts data; <http://data.worldbank.org/>.

Based on statistics, economy per capita in the least developed countries on average has been growing since 1995. This should then indicate that development was in progress in these countries. It is good to notice, though, that actually, on average, the poorest countries have only just reached their earlier GDP (constant 2000 US\$) per capita level, as the following graph depicts.

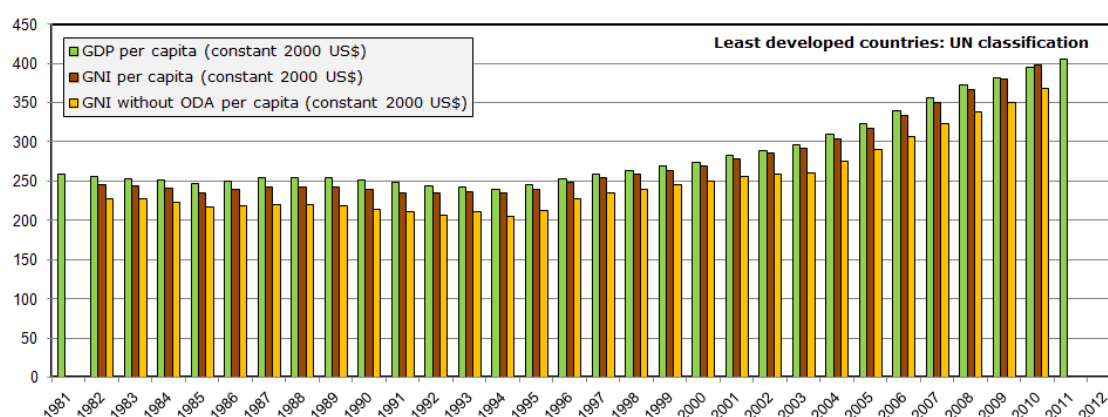


**Figure 4.** GDP (constant 2000 US\$) per capita in the poorest countries since 1960. Source: World Bank national accounts data; <http://data.worldbank.org/>.

However, GDP, which is an index of the total value of goods and services produced within a country's borders, can give a false picture of developing countries' economic development in today's era of so-called globalization. Transnational corporations disperse their production all over the globe making developing countries to compete over popularity with each other. A multinational company will invest into a place which provides the best environment to maximize profit. This has led to a situation where a notable portion of developing countries' GDP flows abroad. For example, according to Freitas and Kar (2012)<sup>5</sup>, in 2010 only illicit capital outflows cost developing countries US\$ 859 billion.

Instead, gross national product (GNP) describes the total value of goods and services produced by a nation's enterprises home and abroad. Hence it gives a more accurate picture of a developing country's economy. In the turn of the millennium GNP was replaced by gross national income (GNI), which equaled to GNP deducted with indirect business taxes. So, GNI measures the total amount of money that stays in a developing country for its citizens.

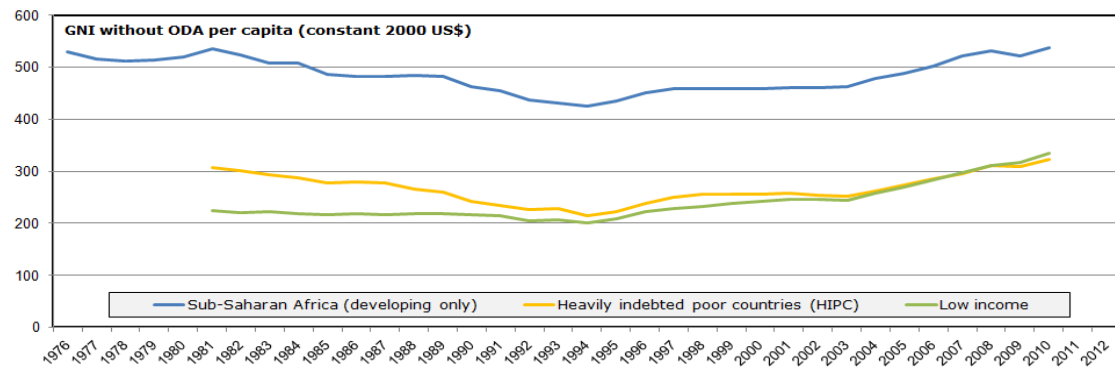
But GNI distorts the picture of developing countries' productivity as well because that part of official development assistance (ODA) which is directed to the states is included in GNI, as it is net income from abroad. The following chart clarifies, on average, development aid's signification on national incomes in the least developed countries.



**Figure 5.** National income of the least developed countries since 1982 measured in different methods. Source: World Bank national accounts data; <http://data.worldbank.org/>.

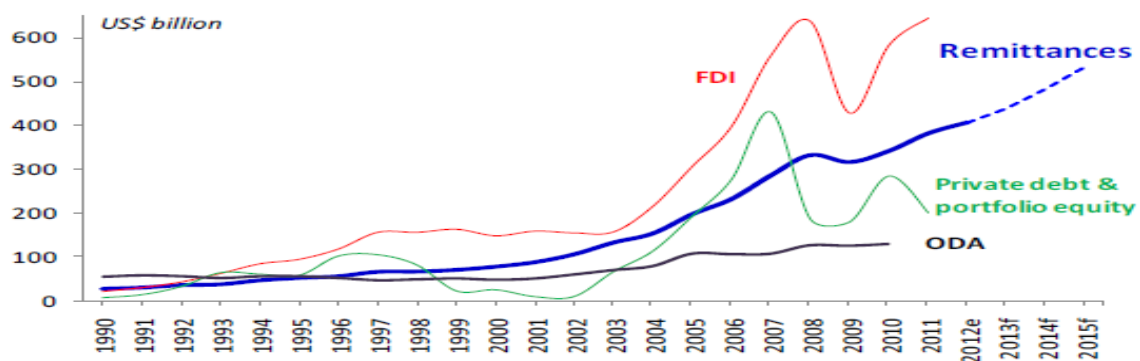
Now, if we take a look at development of the average GNI (constant 2000 US\$) reduced by ODA per capita in the poorest countries, we can see that actually, on average, the poorest countries are only just reaching their earlier per capita productivity level, as the following graph depicts.

<sup>5</sup>[http://iff.gfintegrity.org/documents/dec2012Update/Illicit\\_Financial\\_Flows\\_from\\_Developing\\_Countries\\_2001-2010-HighRes.pdf](http://iff.gfintegrity.org/documents/dec2012Update/Illicit_Financial_Flows_from_Developing_Countries_2001-2010-HighRes.pdf), accessed 15.4.2013.



**Figure 6.** GNI (constant 2000 US\$) reduced by ODA per capita in the poorest countries since 1976. Source: World Bank national accounts data; <http://data.worldbank.org/>.

Here again growth starts in the mid-1990s. But that is also exactly the same time when the amount of official migrant remittances to developing countries starts to grow in an accelerating pace, as the next graph points out. The graph also shows that official remittances to developing countries are four times bigger than ODA, and the gap is getting wider all the time.



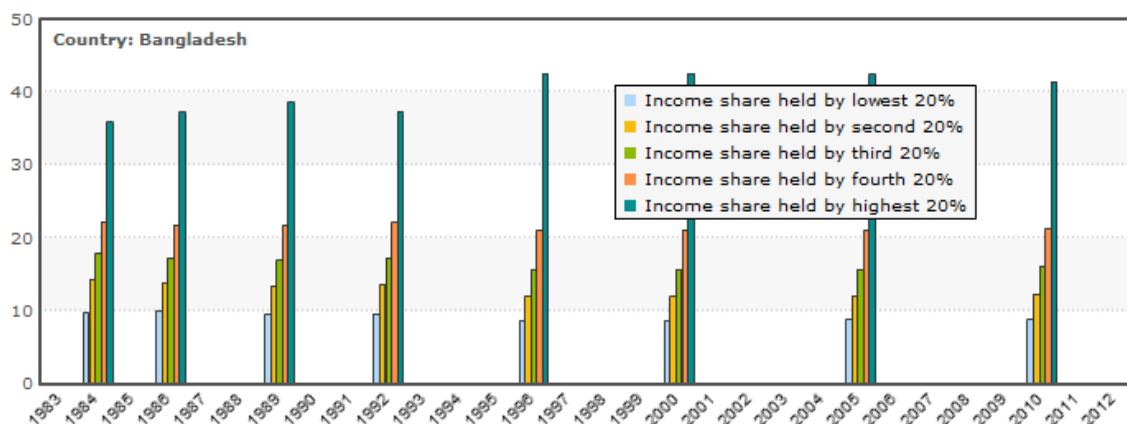
**Figure 7.** The amount of private capital flows, official development assistance, and official remittances to developing countries since 1990. Source: the World Bank's Migration and Development Brief 19 (see footnote 6).

That makes one wonder that has the poorest countries' productivity per capita actually increased at all in the recent years as official remittances are also included in GNI because they are net income from abroad. After all, the main purpose of development aid has been in modernizing developing countries to produce steady, regularly sustained, independent economic growth.

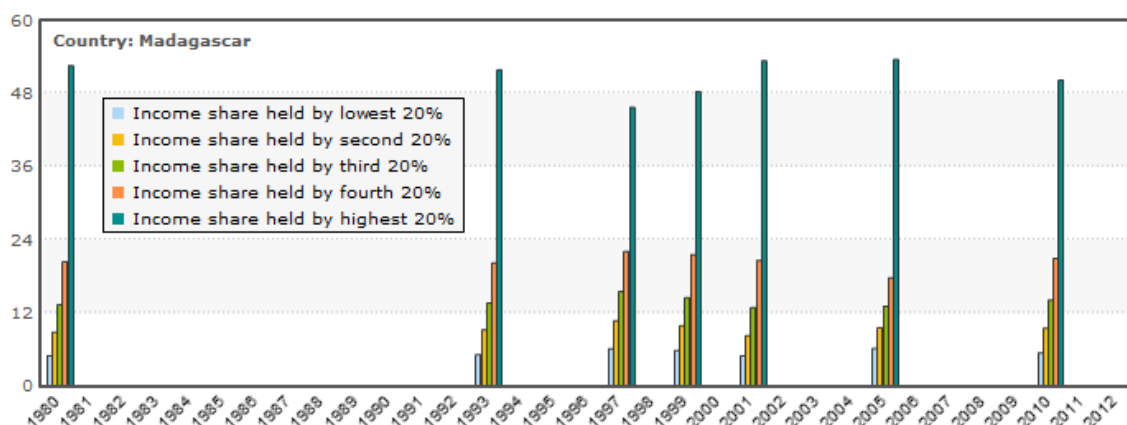
However, GNI and GDP do not tell how a nation's wealth is acquired. All production is good production from GNI's and GDP's points of view, even when it causes negative impacts to someone else or constitutes from sorting out those negative impacts. But the biggest deficiency in the use of GNI and GDP per capita indexes as indicators of income poverty is that they don't express in any way how a nation's wealth is distributed. Therefore household surveys are conducted to get a more precise picture of living standards of citizens. Indeed, most of the data of distribution of wealth comes from asking people about their income and consumption levels. Unfortunately data is scarce and its quality is questionable, which makes conclusions about development of



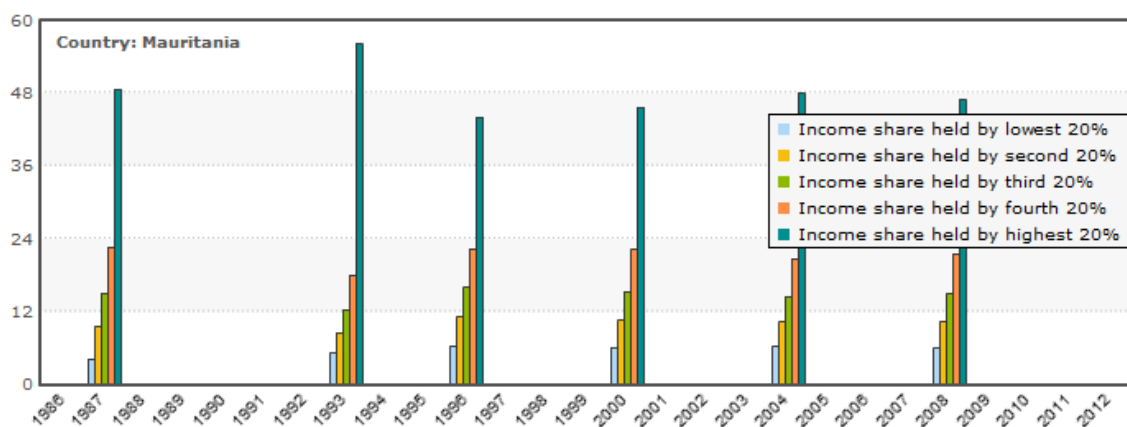
income inequality in developing countries over time quite challenging. Similarly challenging are comparisons between countries as their measuring methodologies can be totally different. Though, some conclusions can be drawn from these following charts of national income distributions over time in those least developed countries that have data for more than four years.



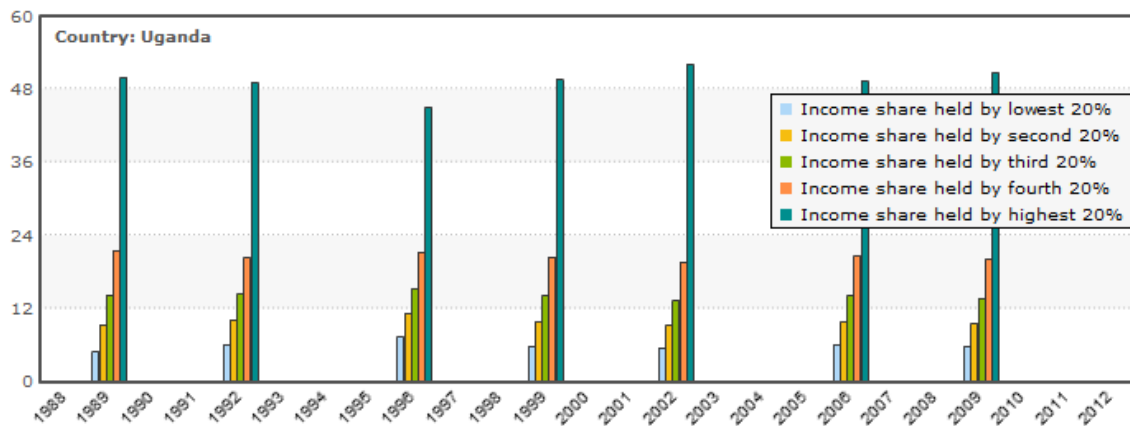
**Figure 8.** National income shares of Bangladesh. Source: World Bank national accounts data; <http://data.worldbank.org/>.



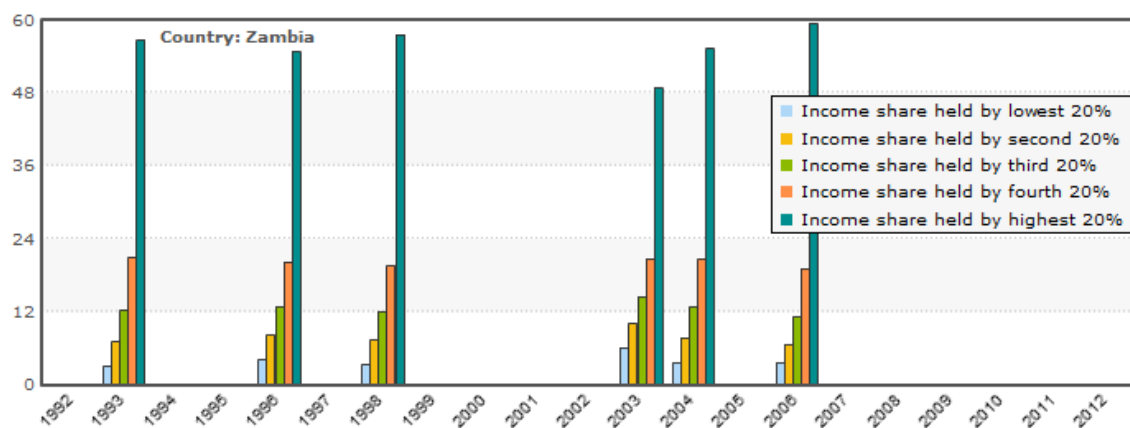
**Figure 9.** National income shares of Madagascar. Source: World Bank national accounts data; <http://data.worldbank.org/>.



**Figure 10.** National income shares of Mauritania. Source: World Bank national accounts data; <http://data.worldbank.org/>.



**Figure 11.** National income shares of Uganda. Source: World Bank national accounts data; <http://data.worldbank.org/>.



**Figure 12.** National income shares of Zambia. Source: World Bank national accounts data; <http://data.worldbank.org/>.

Here again we can only speculate of the impact of remittances on citizens' income and consumption levels. Especially when informal remittance flows are estimated to be significantly larger than officially recorded ones (World Bank, 2012)<sup>6</sup>. But, of course, value of currency is not dependent on the source of it. So, naturally, all money possessed by a poor is taken into account when one's money-based poverty is estimated.

Household surveys to find out people's income and consumption levels are done rarely in less developed countries, and when they are done they may exclude the very poor and marginalized from the sample frame. The under-representation of the poor underestimates poverty, too. In the other end of the socio-economic hierarchy, the very rich may be reluctant to answer to surveys. In addition, researchers have found that the rich who do reply tend to underreport their incomes proportionately more than the poor. This disproportion is not taken into account when survey results are scaled up to match national accounts leading to a further underestimation of poverty (and also of income inequality). (Anand, Segal, and Stiglitz, 2010).

<sup>6</sup> <http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1288990760745/MigrationDevelopmentBrief19.pdf>, accessed 20.1.2013.

When comparing poverty between countries, it is necessary to convert incomes to purchasing power – that is if poverty is seen as the lack of potential to consume. A concept of purchasing power parity (PPP) has been developed for conversion. PPP exchange rates convert local currencies into a common international currency, international dollar (which has the same purchasing power as US dollar has in the United States), so that the same representative basket of goods and services cost exactly the same amount of international dollars in every country.

In 1990 experts set line for extreme poverty to one dollar per day. It was derived from the median of ten lowest poverty lines in the World Bank's data set converted into PPP\$. But relative prices change over time. Thus the price index should follow inflation. But relative prices change over space as well. Inflation rate is different in different countries. Therefore for better global poverty line estimations PPP exchange rates should be re-calculated more often. (Anand, Segal, and Stiglitz, 2010).

Price surveys to calculate PPP exchange rates are done by the International Comparison Program (ICP). 1990 rates were based on 1985 prices. The next survey was conducted in 1993-96, and the latest in 2005. Accordingly, the poverty line for extreme poverty has risen from 1 dollar in 1990 (1985) to 1,08 dollars in 1993 and to 1,25 dollars in 2005. We can estimate how extreme poverty is developing in the world by using these benchmark years as reference points.

The World Bank's data for 1990 is missing figures for collapsed Soviet Union and Eastern Bloc. But because their impact on the long-run global poverty is minimal, we can't go totally wrong by taking the mean from 1987 and 1993 estimations. Thus, in 1990 1,27 billion people, 30 percent of the whole population were living below 1 dollar per day in 1985 prices (Chen and Ravallion, 1996, p. 33)<sup>7</sup>. In 1993 the numbers were 1,30 billion people, 28,15 percent living below 1,08 dollar per day in 1993 PPP (Chen and Ravallion, 2000, p. 27)<sup>8</sup>. And in 2005 1,40 billion, 25,7 percent were living below 1,25 dollar per day in 2005 prices (Chen and Ravallion, 2008, p. 30)<sup>9</sup>. So the only conclusion that can be drawn here is that the amount of people living in absolute poverty is not decreasing, it is actually increasing.

### 1.1.3 Discussion

Most likely this totally contradictory result compared to the UN's observation stems from different conclusions from the existing data. The UN probably uses constant 2005 PPP-adjusted international dollars in their calculation. Constant 2005 means that the currency is inflation-corrected to equal year 2005's value. Thus, if the line of extreme

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<sup>7</sup> [http://www-wds.worldbank.org/external/default/WDSCContentServer/IW3P/IB/2000/02/24/000009265\\_3970625091338/Rendered/PDF/multi\\_page.pdf](http://www-wds.worldbank.org/external/default/WDSCContentServer/IW3P/IB/2000/02/24/000009265_3970625091338/Rendered/PDF/multi_page.pdf), accessed 3.11.2012.

<sup>8</sup> [http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2000/08/26/000094946\\_00081406502730/additional/124524322\\_20041117170100.pdf](http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2000/08/26/000094946_00081406502730/additional/124524322_20041117170100.pdf), accessed 3.11.2012.

<sup>9</sup> [http://siteresources.worldbank.org/JAPANINJAPANESEEXT/Resources/515497-1201490097949/080827\\_The\\_Developing\\_World\\_is\\_Poorer\\_than\\_we\\_Thought.pdf](http://siteresources.worldbank.org/JAPANINJAPANESEEXT/Resources/515497-1201490097949/080827_The_Developing_World_is_Poorer_than_we_Thought.pdf), accessed 3.11.2012.

poverty went in 1,25 dollar per day in 2005, it should do the same in every other year as well in constant 2005 dollars. This work, instead, relies on current perceptions provided by Chen and Ravallion. It is left to the reader to decide which method describes reality of the past better.

GDP (or GNI) is an indicator for official, formal economy, which is based on the assumption of market exchange of all products and services. Thus it ignores production used by a producer oneself and production and services which are exchanged without formal pricing based on money and accounting. The size of informal economy is not marginal in developing countries. On the contrary, the World Bank (2010)<sup>10</sup> calculated that in developing countries shadow economy, on average, equaled to more than one-third of the GDP, and the ILO (2002)<sup>11</sup> estimated that informal employment comprised one half to three-quarters of employment in developing countries, in some places even more than 90 percent. The enormous size of informal sector in developing countries questions GDP's significance as the indicator of the size of economy in these countries. At the same time it questions GDP's accuracy in describing their economic growth.

Another thing is that the PPP method is an irrelevant estimate of global poverty. It is not designed to convert the poor's incomes to consumption. The World Bank uses the Elető-Köves-Szulc (EKS) method to calculate PPPs. EKS is based on bilateral (Fisher) price indexes computed using each country's output vector as weights. Therefore PPP estimates for less developed countries are unduly influenced by spending habits of developed countries. Spending habits influence unduly also to a country's consumption basket if looked from the poor's point of view. Consumption baskets, from which PPPs are derived, are formed by using national average expenditure weights leaving goods important to the poor in marginal. (Anand, Segal, and Stiglitz , 2010).

A rigid global money-metric standard to describe the amount of poverty in the world is absurd. Therefore a money-metric poverty line can be viewed only as a point of reference to focus public attention to the problem. But in that role it also encourages to direct resources toward those living just below the poverty line, and leave those just above the poverty line more on their own.

#### **1.1.4 Conclusion**

Debates on definitions of poverty, accuracies of statistics, and whether poverty is increasing or decreasing in developing countries can be held all day long, but figures provided by different organizations of the United Nations – every seventh person lives in hunger; every ninth person does not have access to safe drinking water; more than 19000 children under five years old die every day from largely preventable causes like pneumonia, diarrhea, and under-nutrition; every seventh child of children who survive their first five years is denied a chance to be a child but instead ends up to child labor –

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<sup>10</sup> [http://www-wds.worldbank.org/external/default/WDSCContentServer/IW3P/IB/2010/10/14/000158349\\_20101014160704/Rendered/PDF/WPS5356.pdf](http://www-wds.worldbank.org/external/default/WDSCContentServer/IW3P/IB/2010/10/14/000158349_20101014160704/Rendered/PDF/WPS5356.pdf), accessed 27.1.2013.

<sup>11</sup> <http://www.ilo.org/dyn/infoecon/docs/441/F596332090/women%20and%20men%20stat%20picture.pdf> accessed 27.1.2013.

show ruthlessly that over 60 years of guided development hasn't brought promised empowerment and inclusive prosperity into developing countries.

Therefore it can be argued, with a good reason, that the problem should be looked from a broader angle and fresh solutions ought to be mapped out. To be able to do that we have to first understand what has been done so far, and to find out if the problem lays rather in implementation than in theory, or in both. Let's concentrate on that issue next.

## **1.2 Poverty reduction strategies and ideas behind them**

The second sub-research question is about the roots of poverty. What are the reasons for not succeeding in poverty reduction when the effect of population growth is excluded.

### **1.2.1 Introduction and methodology**

This subchapter bases totally on literature research, thus it is a theoretical research. The subchapter is divided into three parts, each of them dealing with a different component of capital. The purpose is to find out not only these components' significance on poverty reduction, but also how they have been implemented in poverty reduction and what has been an impact of these implementations. Thus, this subchapter is a very short and narrow history of contemporary poverty reduction.

By contemporary this work means since the Second World War. But it is necessary to delve into earlier ages first to get a fuller understanding of attitudes, atmospheres, and realities of that precise moment, to understand how the era of imperialism and its justifications along with arise of industrialization accompanied by the idea of capitalism are filtered through atrocities of WWII to form the will to modernize and develop.

The practice of formal development has been profoundly dominated by the idea of economic growth. Thus also the formal idea of poverty reduction has followed development of the idea of economic growth affected by unearthing of new wisdoms and by changes in fashion. The practice of poverty reduction has, however, been bounded by social, political, educational, financial, and personal realities, which all have had an impact on the outcome.

Apart from educational practices, the issues of nutrition, health, and population control are excluded from this work. The complete list of used literature can be found in the last chapter, Bibliography.

### **1.2.2 Physical capital**

The fundamental theme in economics is a concept of scarcity. Poverty has been seen as a mere lack of things. The international community's main weapon in poverty reduction has been to add something – infrastructure, factory, machinery, microcredit, school, health center, well, laptop, apps, etc. – to make the poor's lives easier and to stimulate economic growth.

#### **1.2.2.1 Theory and analysis**

The Second World War changed the world profoundly. The old rulers of the world were in ruins after the war and started to lose their grip on their colonies. The new rulers, the USSR and the USA, knew that it was much easier and tidier to control others remotely through trade, investments, and puppet leaders – especially under a mushroom shaped

shadow of the threat of a nuclear war. Ideological differences created fierce competition between the two superpowers over the world's hegemony. The superpowers' need to gain popularity and markets among people of the so-called Third World, as well as growing public demand for humanity after the atrocities of the war, created fertile ground for global determination to make human beings equal and prosperous.

Inspired by the views of President of the United States John F. Kennedy, the United Nations' Secretary-General U Thant proclaimed the 1960s as the development decade and gave his proposals for action in this matter (UN, 1962)<sup>12</sup>. Those very same themes and views have dominated development discourses ever since. As has the attitude of seeing the poor incapable of taking care of themselves, and hence need to be assisted by others.

Once the politicians had set general framework and goals for development, it was time to figure out how these goals could be achieved. Another President of the United States, Harry Truman ([1949] 1964, pp. 114-115)<sup>13</sup> had proclaimed already in 1949 that primitive and stagnant economic life was the reason for people's misery. Thus greater production would be the key to prosperity and peace. And the key to greater production would be a wider and more vigorous application of modern scientific and technical knowledge.

Rostow (1960) refined Truman's vision by arguing that the reason why there still existed traditional societies in 1960 resulted from the fact that the potentialities which flowed from modern science and technology were either not available or not regularly and systematically applied, and therefore the level of productivity was limited. He believed that this forced so-called indigenous people to devote a very high proportion of their resources to agriculture leading to a hierarchical social structure where the centre of gravity of political power generally laid in the regions, in other words in the hands of those who owned or controlled the land. Thus the attitude among "the developed" was that "the underdeveloped" had to change from feudal system to modern capitalism, reject their unproductive primitive customs and beliefs. Westerners, who had been more than willing to "civilize" others by any means necessary before the Second World War, saw now "developing" others as the white man's burden. The common view was that the underdeveloped needed a push and guidance from already developed westerners to speed up their development process, in other words their natural progress. Actually Rostow believed that traditional people had to be affronted by more advanced societies to awake their national pride. He saw humiliation by outsiders as a wake-up call to abandon old social structures and to learn modern, capitalistic virtues, which were needed in political process towards a modern independent society.

Rostow envisaged how men were started to be valued not for their connection with a clan or class or even their guild, but for their individual ability to perform certain specific, increasingly specialized functions. Similarly, physical environment started to be regarded as an ordered world which could be manipulated in ways that yield productive change and progress. Then fast growing and, thanks to radical changes in methods of production, highly productive primary industrial sectors and agriculture started to produce surplus income which flowed to the hands of those who perceived it

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<sup>12</sup> <http://babel.hathitrust.org/cgi/pt?id=mdp.39015069810383;seq=1;view=1up>, accessed 3.11.2012.

<sup>13</sup> <http://quod.lib.umich.edu/p/ppotpus/4729029.1949.001?view=toc>, accessed 2.11.2012.

to be possible and good to invest in modern uses. Rostow conjured up how by now a new class of entrepreneurs with a profit motive would expand making growth a normal condition for the nation. A substantial proportion of yielded profits would be reinvested stimulating further a growth of supplementary industrial sectors and expanding demand for factory workers, unused natural resources, innovations, modern industrial plants, supporting services, manufactured goods, and urban areas. Rostow sketched a picture where new leading industrial sectors started then to emerge and compound interest became built into growth's habits and into institutional structure. It was the picture of modernists gaining a social, political, and cultural victory over traditionalists. Rostow estimated that it would take a decade or two to reach this stage of steady, regularly sustained rate of growth once development process had started.

Rostow's estimation for starting the process was that a nation's investment rate had to be 5 percent or higher of national income, depending on the need for social overhead capital. He believed that in the process a lot of working capital was needed to expand fixed capital and to feed expanding population while working force in agriculture was decreasing. Therefore there should also be a rapid increase in productivity in agriculture and in other natural resources. While on the development path, according to Rostow, the rate of effective investment and savings may rise to 10 percent or more of national income. Little by little the nation's economy finds its place in international economy and become more refined and technologically more complex. Previously imported goods are started to be produced at home and new import requirements develop, which will be then compensated by new export commodities. Rostow predicted that after some sixty years of the beginning of the development process the economy would achieve a stage where it had technological and entrepreneurial skills to produce not everything, but anything it chose to produce. By then a large number of citizens should have gained a consumption level which transcended basic food, shelter, and clothing.

Already earlier Domar (1946<sup>14</sup>; 1957) wanted to find out how fast economy had to expand in order to remain in a continuous state of full employment. He was afraid of recession reappearing in the United States after the Second World War. Lots of workers were laid off during the Great Depression and the same was predicted to happen again. Therefore Domar took, a direct quote, idle men, rather than idle machines, as a given. Natural conclusion from this was that there would always be free labor available to run any additional machines that were built until the equilibrium rate of growth was achieved. Thus he concluded that investment guaranteed growth and meant more labor for economy as a whole (as in a general case). Around the same time Lewis (1954)<sup>15</sup> noticed that there would be unlimited supply of labor at subsistence wages available as long as supply didn't exceed demand. Lewis continued that in an over-populated economy, i.e. in underdeveloped countries, an enormous expansion of new industries or new employment opportunities could be created without any shortage of unskilled labor becoming apparent in labor market because, he believed, the immediate effect of economic development was certainly population growth.

Lewis' and Domar's notes of endless amounts of "idle men" lingering in underdeveloped countries shook nicely hands together with Rostow's demands of

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<sup>14</sup> <http://www.ie.ufrj.br/hpp/intranet/pdfs/domar1946.pdf>, accessed 2.11.2012.

<sup>15</sup> <https://webspace.utexas.edu/hcleaver/www/368/368lewistable.pdf>, accessed 2.11.2012.



modernization and investments. Therefore Domar's equation<sup>16</sup> (economic growth is equivalent to division of savings ratio (savings considered to be fully invested) and capital-output ratio (constant in the short-run)) was considered adequate for solving the problem of underdevelopment. Harrod-Domar model made it easy to calculate how big an underdeveloped country's financing gap was when the nation's saving rate was known. Based on these calculations aid and low-interest loans were started to be given into modernization of underdeveloped countries, and certainly import substitution facilitated rapid industrialization in the 1950s and the 1960s.

In the 1970s industrial growth started to slow down in developing countries due to the lack of foreign exchange and inadequate domestic demand. The 1973 oil crisis led to stagflation in developed countries and made imported goods more expensive for developing countries, too. Thus developing countries started to need even more foreign currency to be able to pay for their purchases. Developed countries encouraged them to export so-called cash crops (coffee, tea, cotton, etc.) and other raw materials to get that much needed currency. But overproduction and shrinking demand lowered the world market prices leading diminishing revenues for developing countries.

The only item which costs got smaller during the oil crises was money. The Organization of the Petroleum Exporting Countries (OPEC) filled western banks with petrodollars. To the banks' nuisance this excessive supply of money led naturally to decreasing interest rates in loan markets, even below banks' deposit and current inflation rates. Therefore they wanted to get rid of the money fast. Supply met demand in developing countries which needed to balance their fiscal deficits. For many developing countries this was the first time to lend from commercial banks. This adventure led eventually to serious debt-problems in the 1980s. Developing countries had over-borrowed from international commercial banks and from official lenders, partly to service their old debts. Now they were not able to service their massive debts any longer and banks cut off further loaning.

Aid donors and official lenders started to reorganize and forgive developing countries' debts. At the same time they also started to demand policy reforms in return for their aid. In the beginning of the 1980s the IMF and the World Bank started to implement macroeconomic stabilization and liberalization of global market economy in developing countries through Structural Adjustment Programmes (SAPs), though the IMF had always imposed conditionality on its loans. Instead of the previous aid financed investment ideology it was now aid financed reforms under a slogan "Adjustment with Growth".

From the mid-1960s to the mid-1970s there had been a lot of debate over development and its real meaning. A growing number of evidence had started to show that profits of industrialization had been distributed highly unequally and poverty was still widespread in developing countries. Seers (1972) questioned the whole concept of development by asking why we confused development with economic growth. He argued that reduction in poverty, unemployment, and inequality had to be taken into account as well when evaluating development. One among many others, Seers participated in the International

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<sup>16</sup> The model is known as Harrod-Domar model because economist Roy Harrod has studied the same topic already in 1939.

Labour Organization's (ILO) survey on Kenya in 1972<sup>17</sup>. The ILO identified the main problem of poverty as employment rather than unemployment, the problem of low incomes and distribution of wealth. Thus the ILO wanted to emphasize labor-intensive technologies over capital-intensive ones; the use of domestic materials, knowledge, and design to produce products appropriate to local environment; and local needs over imported ones. The ILO's prediction was that their redistribution from growth strategy would generate more demand for products of domestic informal sector, encourage innovations in labor-intensive techniques, and also save foreign exchange.

In 1974 the World Bank (Chenery et al., 1974)<sup>18</sup> accepted previously made diagnoses of the problem but not the given panaceas as such. The ILO's redistribution from growth strategy sounded too much degrowth and didn't actually base on any scientific proofing. Therefore the World Bank made a joint study with the Institute of Development Studies at the University of Sussex (IDS) to create analytical tools for policy-makers to improve income distribution in developing countries in the context of economic growth. Instead of calling it redistribution from growth they named it redistribution with growth. It seemed to the World Bank that distributive injustice stemmed rather from concentration in ownership of capital than of incomes. The World Bank came to this conclusion by reasoning that owning productive assets generated income which then enabled higher saving rates leading to acceleration in capital accumulation. Therefore for the World Bank the crucial question in poverty reduction was how to increase the poor's capital stock ownership.

But just after ten years the World Bank had totally opposite tone in its voice. Now the poor were seen lacking virtues of neo-liberalism (such as entrepreneurship, individual ambition, initiative, and self-help) and therefore their poverty was seen as a result of their own attitude or incompetence. Thus, instead of being rewarded for their inability to succeed in society, the poor had to learn to take personal responsibility for their poverty. Handouts were believed to only erode their incentives to work, and hence would lead to a culture of dependency. Rather money should be given to those who deserved it, in other words the rich. Their higher propensity to save, which according to the Harrod-Domar model is fully invested productively, will then create more jobs. Eventually expansion of employment creates a shortage of unskilled labor and thus, as the economic law of supply and demand predicts, an upward pressure on wage rates. So, finally, and automatically, common wealth starts to trickle down to the poor too, as Kuznets' (1955)<sup>19</sup> curve prophesies.

That trickle-down effect seemed still very far-off in developing countries in the 1980s and the 1990s when SAPs reduced government expenditures by abolishing subsidies for food and agriculture, making deep cuts to social programs, and massively dismissing civil servants. At the same time developing countries were put to compete with each other over private foreign investments and to sell off their natural assets. But profits seemed to benefit only the rich while the poor were getting poorer all the time. The

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<sup>17</sup> [http://www.ilo.org/public/libdoc/ilo/1972/72B09\\_608\\_engl.pdf](http://www.ilo.org/public/libdoc/ilo/1972/72B09_608_engl.pdf), accessed 2.11.2012.

<sup>18</sup> [http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2003/01/15/000178830\\_98101901522359/Rendered/PDF/multi0page.pdf](http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2003/01/15/000178830_98101901522359/Rendered/PDF/multi0page.pdf), accessed 3.11.2012.

<sup>19</sup> [http://courses.nus.edu.sg/course/ecshua/eca5374/Economics%20growth%20and%20income%20inequality\\_Kuznets\\_AER55.pdf](http://courses.nus.edu.sg/course/ecshua/eca5374/Economics%20growth%20and%20income%20inequality_Kuznets_AER55.pdf), accessed 2.11.2012.

blame for not achieving set objectives of poverty reduction was rolled on developing countries' institutions and governance, which were seen corrupted and undemocratic. Hence aid donors are nowadays also emphasizing "good governance" in return for official development assistance (ODA).

So-called East Asian miracle – where, without following closely the Washington consensus prescriptions, some East Asian economies were able to increase their incomes and reduce poverty faster than any other nation before in history – started to amplify demands for inclusive growth in the turn of the millennium, though. Voices demanding growth to be pro-poor, meaning that it should benefit the poor proportionally more than the non-poor, are starting to get louder again. Even so that several IMF researchers (Berg and Ostry, 2011)<sup>20</sup> argue that actually equality appears to be an important ingredient in promoting and sustaining long-run economic growth as too much inequality can cause different kinds of shocks.

Likewise, global trade liberalization, the other main theme of SAPs, has indeed caused a lot of shocks for many poor primary producers and small entrepreneurs, who are put out of work in developing countries as terms of trade are quite unfavorable for them. This is tried to be compensated by trying to empower them to be different kind of entrepreneurs under the latest slogan "Aid for Trade". In other words, aid-to-investment-to-growth strategy is now also taken straight to the poor, to the grass-root level.

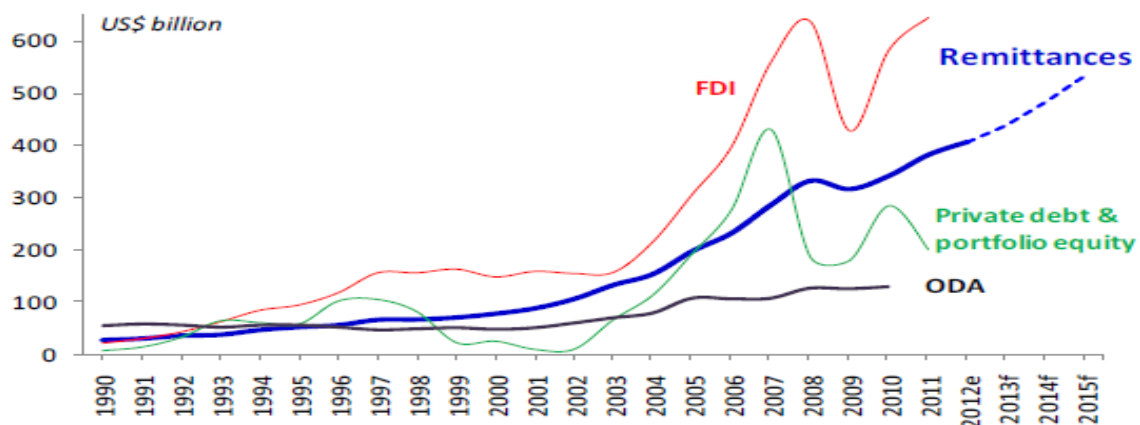
### **1.2.2.2 Discussion**

Harrod-Domar model indeed works when there are no machines to begin with. Its simplicity makes it also very tempting: getting more machines increases economic growth to a sustain level, which will then bring higher standard of living to each citizen and eventually ends poverty. So basically all you need to eradicate poverty is money. But Harrod-Domar model runs into trouble at the latest when overproduction or diminishing returns start to kick in leading to diminishing income per capita and diminishing productivity of capital. Still aid donors are not willing to give up of this capital fundamentalism. They do accept that investment alone is not a sufficient condition for development, but it is still considered as a necessary condition and the dominant determinant of rapid economic growth in developing countries, which are still considered to be in transition to the long-run development path with unlimited supply of unskilled labor. Therefore aid-to-investment-to-growth thinking has been aid donors', and thus beneficiaries' as well, leading dogma ever since.

On the other hand, based for example on the following graphs, one could argue that aid financed investments, reforms, and trade were finally starting to pay off, that environment in developing countries was finally incentivizing for investors.

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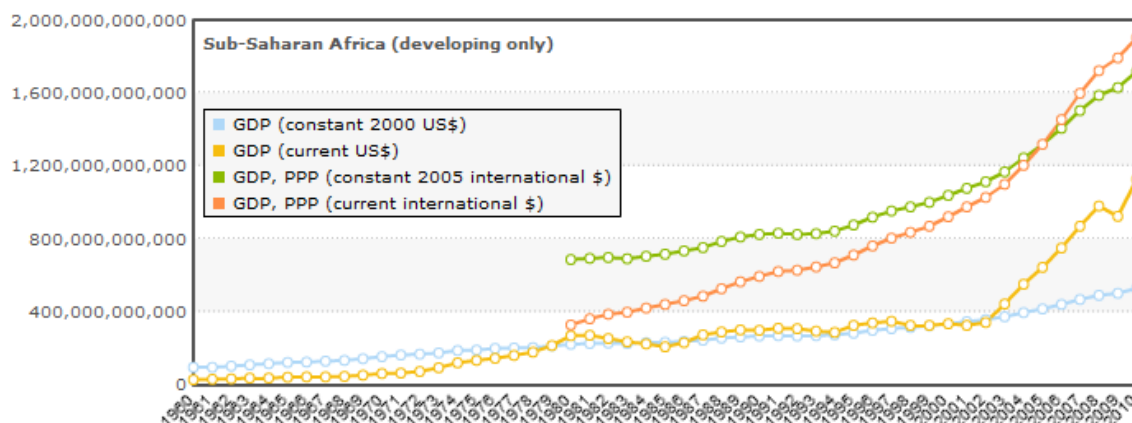
<sup>20</sup> <http://www.imf.org/external/pubs/ft/sdn/2011/sdn1108.pdf>, accessed 3.11.2012.



**Figure 13.** The amount (current US\$) of foreign direct investments, private debt & portfolio equity, official development assistance, and official remittances to developing countries since 1990. Source: the World Bank's Migration and Development Brief 19 (see footnote 6).

The rapid growth of foreign investments to developing countries arises partly from the BRICS countries', especially China's<sup>21</sup>, growing interest in various issues. BRICS are also planning to rival western-dominated financial institutions by creating their own development bank to provide initial funding for developing countries' overhead capital projects<sup>22</sup>. All this will mean that more and more financial and physical capital will flow into developing countries.

Rapid increase of financial inflows to developing countries since the turn of the millennium has had a remarkable (depending on which measuring method one wants to emphasize) effect on, for example, sub-Saharan African developing countries' official economies on average, too.

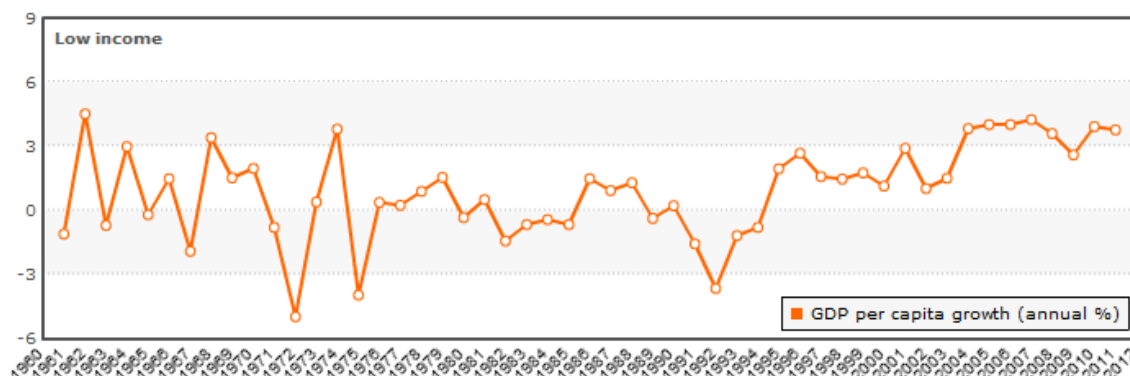


**Figure 14.** GDP of sub-Saharan African developing countries 1960-2010 measured in different methods. GNI curves are confusingly identical with GDP curves. Source: World Bank national accounts data; <http://data.worldbank.org/>.

<sup>21</sup> [http://www.academia.edu/1798405/Chinese\\_Investment\\_in\\_Africa\\_Checking\\_the\\_Facts\\_and\\_Figures](http://www.academia.edu/1798405/Chinese_Investment_in_Africa_Checking_the_Facts_and_Figures), accessed 15.4.2013.

<sup>22</sup> <http://www.brics5.co.za/statement-by-brics-leaders-on-the-establishment-of-the-brics-led-development-bank/>, accessed 15.4.2013.

Similarly, in, for example, low income countries, on average, official economic growth has exceeded population growth steadily since the mid-1990s (see also the previous subchapter). That was around the same time when FDIs started to play a significant role in developing countries' capital flows.



**Figure 15.** GDP (constant 2000 US\$) per capita growth in low income countries (i.e. in countries with 2010 GNI per capita \$1005 or less) since 1961. Source: World Bank national accounts data; <http://data.worldbank.org/>.

Thereby, one could claim that developing countries had finally reached those economic preconditions set by Rostow and were taking-off towards maturity. Population growth regularly exceeding economic growth could be taken as sustained, and therefore developing countries' investment rate could be finally considered to be high enough to lift them on the development path. Thus one can think that all we have to do now is to wait the trickle-down effect to take care of poverty, as it did earlier in Europe and East Asia.

Indeed, by studying development of developed countries Kuznets (1955<sup>23</sup>; in Rostow, 1963, Chapter 2) noticed that income inequality followed inverse-U shaped curve. He explained how in the beginning of the development process income inequality increased as only upper-income groups could save, which resulted to increasing proportion of income-yielding assets in their hands. This led to increasing industrialization and urbanization as per capita productivity in urban pursuits increased more rapidly than in agriculture. Kuznets concluded from history that then the dynamism of a growing and free economic society started to militate against the rise of upper-income shares. Property assets that originated in older industries had almost inevitably a diminishing proportional weight in the total because of more rapid growth of younger and more profitable industries ran by new entrepreneurs, who were followed by workers from lower-income industries. History taught to Kuznets also that once the early turbulent phases of industrialization and urbanization had passed, a variety of forces, like better chance for organization and adaptation, bolstered economic position of lower-income groups within urban population. Eventually incomes started to be less subject to transient disturbances as technology and economic performance rose to higher levels.

Of course, Kuznets and Rostow wrote their texts in a totally different world than we are living today. Before the 1960s it was a sovereign state's national task to succeed in

<sup>23</sup>[http://courses.nus.edu.sg/course/ecshua/eca5374/Economics%20growth%20and%20income%20inequality\\_Kuznets\\_AER55.pdf](http://courses.nus.edu.sg/course/ecshua/eca5374/Economics%20growth%20and%20income%20inequality_Kuznets_AER55.pdf), accessed 2.11.2012.

economic growth. Rostow even underlined that the aim had to be in a strong modern national government which would direct the process of modernization of economy and society. Thereby it was citizens' task to be willing and able to respond to possibilities opened up for them by new techniques, forms of market, and credit organizations. It was local entrepreneurs' job to be the driving force for a nation to reach skills and finance it needed to be able to produce whatever it wanted to produce. Thus a nation's economy was seen as its own citizens' private endeavor, and its profit was believed to stay fully in the nation to benefit its citizens. It wasn't until the 1960s when foreign private corporations started to play a bigger role in global economic development by transferring their production in a larger scale to developing countries to increase their competitiveness and to expand their markets. Foreign investments do create formal jobs and thus absorb "surplus" labor to formal economy, but they also transfer a share of profit to abroad. This all distorts the picture of developing countries' development and economic state.

It seems then that development of developing countries has not gone the way Rostow planned. His model of guided modernization of underdeveloped societies to realize their aspirations for a better life and to release their believed natural drive and ability to maximize their material profit has failed. Still 50 years after Truman's Four Point Speech Stiglitz (1998b)<sup>24</sup> defined development as a movement from traditions to modern, from an acceptance of circumstances to action for change. For him development was the movement which provided individuals and societies more control over their own destiny, wide their horizons, reduced their sense of isolation and afflictions brought on by diseases and poverty, and improved their vitality of life. Therefore Stiglitz claimed, as so many had before – and after – him, that development strategy should be aimed at facilitating a modernization of society.

Even he was writing at the time of different reality, Kuznets knew that economic growth was always a struggle without any easy automaticity. He understood that the long swing in income inequality had to be viewed as a part of a wider process of economic growth and interrelated with similar movements in other elements. Kuznets was worried that in developing countries economic growth might destroy positions of some lower-income groups more rapidly than opportunities elsewhere in economy might be created for them. And indeed, as already mentioned in the previous subchapter, the ILO (2002)<sup>25</sup> estimates that informal employment comprises one half to three-quarters of employment in developing countries, in some places even more than 90 percent. Kuznets foresaw that without factors counteracting the cumulative effect of concentration of savings upon upper-income shares, there wouldn't be any hope of a significantly perceptible rise in the level of real income of lower-income groups within a lifetime of a generation, or even that the next generation might fare much better.

Huge informal sector disputes neo-classical theory of distribution of income, where national income is divided among all factors of production: capitalists get interests, land owners get rents, producers get profits, and workers get wages. "Independent" entrepreneurs and workers of informal sector don't fit into the formula because they are living outside of officially organized market economy having only weak links with it.

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<sup>24</sup> <http://siteresources.worldbank.org/NEWS/Resources/prebisch98.pdf>, accessed 3.11.2012.

<sup>25</sup> <http://www.ilo.org/dyn/infoecon/docs/441/F596332090/women%20and%20men%20stat%20picture.pdf> accessed 27.1.2013.

Theories of the trickle-down effect and Kuznets' curve are established on formal employment of population. Therefore policies affecting the split between wages and profits are mainly meaningless to the "informal part" of population.

### **1.2.2.3 Conclusion**

The international community has been worried about global poverty for a long time already. There has been an urge to do something about it. That something has been attempts to increase production in developing countries as greater production means more wealth and jobs. The theory goes that once labor is formally employed the trickle-down effect will start to work and reduce poverty automatically.

Production has been tried to be increased not only by financing overhead and physical capital, but also by perfecting developing people, societies, and economies to be rational, scientific, entrepreneurial, and competitive in the modern, capitalist world. But after almost 70 years of guided modernization developing countries still produce mainly raw materials and lightly-processed products, which price gap to imported processed products widens all the time.

It seems though that environment in developing countries is getting incentivizing for foreign investors. Thanks to them, developing countries have reached their 1970s' GDP per capita level. But that doesn't necessarily mean that a developing country's economy grows like its GDP shows because part of profit flows to abroad. More about this topic can be found in the previous subchapter.

However, investments create formal jobs, which are an essential ingredient in theories of distribution of wealth. Here the question lays in the massive size of informal sector of developing countries because as long as supply of unskilled labor exceeds demand their wages stay at subsistence level. Not to mention them who stay "informal" and have to struggle daily for or rely on charity in their subsistence.

BRICs appearing into developing countries will also have an impact on poverty reduction. According to Mwase and Yang (2012)<sup>26</sup> BRICs (excluding Russia) emphasize "mutual benefits" without interfering into sovereign nations' internal affairs in their aid. Aid receivers have widely welcomed this policy. At the same time donor countries are rivaling each other over global resources and are worried about their own economic growths. After all, they are naturally the most concerned of their own interests.

Time will tell what sort of an effect the changing situation has on poverty reduction. Will there be again a competition over hegemony as in the Cold War time. If so, will that mean a return solely to Harrod-Domar model. And if so, will the poor also benefit from increasing capital flows or are the same mistakes made all over again. Mwase and Yang mention already raised concerns associated with BRICs' development financing over debt sustainability, pace of local employment creation, labor practices, and

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<sup>26</sup> <http://www.imf.org/external/pubs/ft/wp/2012/wp1274.pdf>, accessed 16.4.2013.

competition with local firms. Limiting the right to benefit from own natural resources could be added to that list.

Hopefully recent financial and physical capital flows to developing countries will eventually lead to a prosperous future for the poor as well. This master's thesis is skeptical of fastness of that process, though, as investment alone is not the panacea for poverty because it doesn't guarantee sustained long-run economic growth and the trickle-down effect rests on social movements. Therefore trusting that aid-to-investment-to-growth strategy will this time eradicate poverty is too hazardous. Hence it can be still argued that the problem should be looked from a broader angle and fresh solutions ought to be mapped out.



### 1.2.3 Human capital

Around the mid-1960s Singer reminded that developing countries' problem was actually not just economic growth, but growth plus change, in other words people's capability to create growth. Singer called for development with a human face. By that he meant that attention should be put on people's health, education, and nutrition.

Ten years later, because of high prices of capital in labor-intensive sectors and dependency on availability of skilled labor force in capital-intensive modern sectors, the World Bank (Chenery et al., 1974)<sup>27</sup> predicted that expansion of employment of unskilled labor was going to be extremely limited. Thus the World Bank saw that upgrading unskilled labor's skills would be almost a precondition for greater labor absorption.

Also the ILO (1972<sup>28</sup>; 1976) emphasized the full integration of informal sector into formal society. The ILO trusted that adequate employment opportunities, education, and good health were important ingredients in this process as they would facilitate fuller participation in decision-making on issues which affected the poor.

#### 1.2.3.1 Theory

Solow (1956<sup>29</sup>; 1957<sup>30</sup>) criticized Harrod-Domar model for it consistently studied long-run problems with usual short-run tools and for assuming that production took place under conditions of fixed proportions so that there wasn't any room to substitute labor for physical capital. Instead, he based his long-run growth model on an assumption that a single composite commodity was produced by labor and physical capital under the standard neo-classical conditions of variable proportions and returns to scale. This led Solow to further assume that saving ratio (investment) depended positively on yield of physical capital, and concluded that saving was cut down when physical capital-labor ratio was high, in other words diminishing returns as a worker could operate only a limited number of machines at the same time. Solow's fundamental equation states that the ratio of physical capital to labor tries to reach the equilibrium ratio, and that the growth of output is always intermediate between those of labor and physical capital.

But the real new wrinkle Solow figured out was an elementary way of segregating variations in output per head due to technical change from those due to changes in availability of physical capital per head. He used the phrase "technical change" as a shorthand expression for any kind of shift in production function. Thus, for example, improvement in education of labor force appears as a technical change. Solow noticed that seven-eighths of the total increase of the US output over the first half of the 20<sup>th</sup> century was traceable to technical change and only one-eight to increased physical

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<sup>27</sup> [http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2003/01/15/000178830\\_98101901522359/Rendered/PDF/multi0page.pdf](http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2003/01/15/000178830_98101901522359/Rendered/PDF/multi0page.pdf), accessed 3.11.2012.

<sup>28</sup> [http://www.ilo.org/public/libdoc/ilo/1972/72B09\\_608\\_engl.pdf](http://www.ilo.org/public/libdoc/ilo/1972/72B09_608_engl.pdf), accessed 2.11.2012.

<sup>29</sup> [http://faculty.lebow.drexel.edu/LainczC/cal38/Growth/Solow\\_1956.pdf](http://faculty.lebow.drexel.edu/LainczC/cal38/Growth/Solow_1956.pdf), accessed 2.11.2012.

<sup>30</sup> <http://www9.georgetown.edu/faculty/mh5/class/econ489/Solow-Growth-Accounting.pdf>, accessed 2.11.2012.

capital. From that realization he concluded that technical change – not saving (investment) as Domar had suggested – was the source of sustained growth in the long-run. Higher output generated by technical change leads then to more saving, which increases the growth rate even more. Indeed, now physical capital-labor ratio never reaches the equilibrium value and output increases forever. At least as long as there is demand for the commodity.

In practice technical change means that workers' productivity increase. Workers produce more with the same machines, so it seems as there are more workers. Therefore an effective number of workers can keep up with an increasing number of machines so that diminishing returns never sets in. At least as long as there is demand for the commodity.

### **1.2.3.2 Analysis**

Education has been on the agenda of contemporary global poverty reduction since the beginning. The UN's Universal Declaration of Human Rights proclaimed already in 1948<sup>31</sup> that everyone had the right to education, which should be free and compulsory in the elementary stage. Declaration also stated that technical and professional education should be generally available. The United Nations Educational, Scientific and Cultural Organization (UNESCO) started to lobby for this view very intensely. In 1960 UNESCO announced that illiteracy would be abolished in a couple of years, but already two years later they estimated that it would take ten years after all. Later on UNESCO set a goal to give basic education to every child in the world. Latin America was supposed to achieve this goal by 1970 and the rest of the world by 1980. In the late 1980s UNESCO again announced that illiteracy would be wiped out, this time by the year 2000.

In 1990<sup>32</sup> the World Conference on Education for All (EFA) was organized in Jomtien, Thailand, by UNESCO, the United Nations Children Fund (UNICEF), the United Nations Development Programme (UNDP), and the World Bank. Delegates from 155 countries, a big crowd of international development co-operation organizations, non-governmental organizations (NGOs), and invited experts participated in. They set targets for completion of at least primary education for every child in the world and for reduction of adult illiteracy to one-half of its 1990 level by year 2000.

Year 2000 came and the EFA-participants realized that the amount of children without access to primary schooling had actually increased from more than 100 million (UNESCO, 1990)<sup>33</sup> to more than 113 million (UNESCO, 2000)<sup>34</sup> in those ten years. Adult illiteracy had decreased from 960 million (UNESCO, 1990) to 880 million (UNESCO, 2000), but it was far from the set target of one-half, not to mention wiping

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<sup>31</sup> <http://daccess-dds-ny.un.org/doc/RESOLUTION/GEN/NR0/043/88/IMG/NR004388.pdf?OpenElement>, accessed 3.11.2012.

<sup>32</sup> [http://www.unesco.org/pv\\_obj\\_cache/pv\\_obj\\_id\\_760E13319F15E9160A7F66913B4BBB7795A60400/filename/JOMTIE\\_E.PDF](http://www.unesco.org/pv_obj_cache/pv_obj_id_760E13319F15E9160A7F66913B4BBB7795A60400/filename/JOMTIE_E.PDF), accessed 3.11.2012.

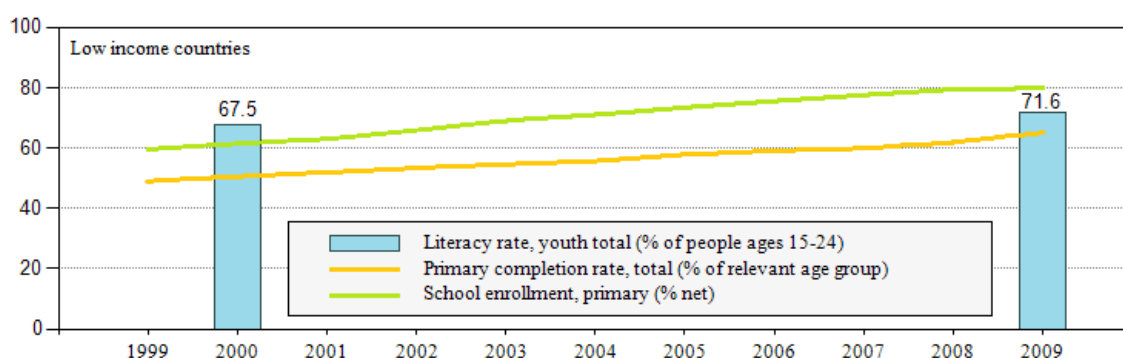
<sup>33</sup> Ibid.

<sup>34</sup> <http://unesdoc.unesco.org/images/0012/001202/120240e.pdf>, accessed 3.11.2012.

illiteracy out altogether. Therefore it was time to postpone the achievement of original goals by fifteen years to 2015.

### 1.2.3.3 Discussion

EFA's latest estimation is that if current trends continue there can be as many as 72 million primary-school-age children out of school in 2015 (UNESCO, 2011, p. 40)<sup>35</sup>. Besides, enrollment to school doesn't automatically mean completing it, and completing primary education doesn't necessarily mean the ability to read and write. Following figure shows development in low income countries.



**Figure 16.** Development of participation to primary education and of youth's literacy rate in low income countries 1999-2009. Source: World Bank national accounts data; <http://data.worldbank.org/>.

While completion of primary education of relevant age group increased 14,6 percent units (from 50,7 percent to 65,3 percent) between years 2000 and 2009, increased youth's literacy rate only 4,1 percent units to 71,6 percent in the same period of time. Of course, too straight conclusions can't be drawn from these numbers as the data covers only ten years and it takes few years from an ending age of primary education (between 9 and 13 years of age (UNESCO, 2005, p. 14)<sup>36</sup>) to become a youth (15-24 years of age). But when adding the UNESCO Institute for Statistics' (UIS) latest figures that revealed that there were still 775 million illiterate adults (15 years and older) in 2010<sup>37</sup>, we could argue that after decades of commitments and reaffirmations of those commitments the international community hadn't been able to deliver what had been attempted in the field of the poor's education.

It is not in the scope of this work to analyze different forms of social exclusion of the poor from good education. We are more interested in the poor's incentives to acquire education. There aren't any if costs of schooling are greater than benefits. What is the point in learning to read if you don't have anything meaningful to read? As Bray already asked in 1986, "If Universal Primary Education [UPE] is the answer, what is the question?"

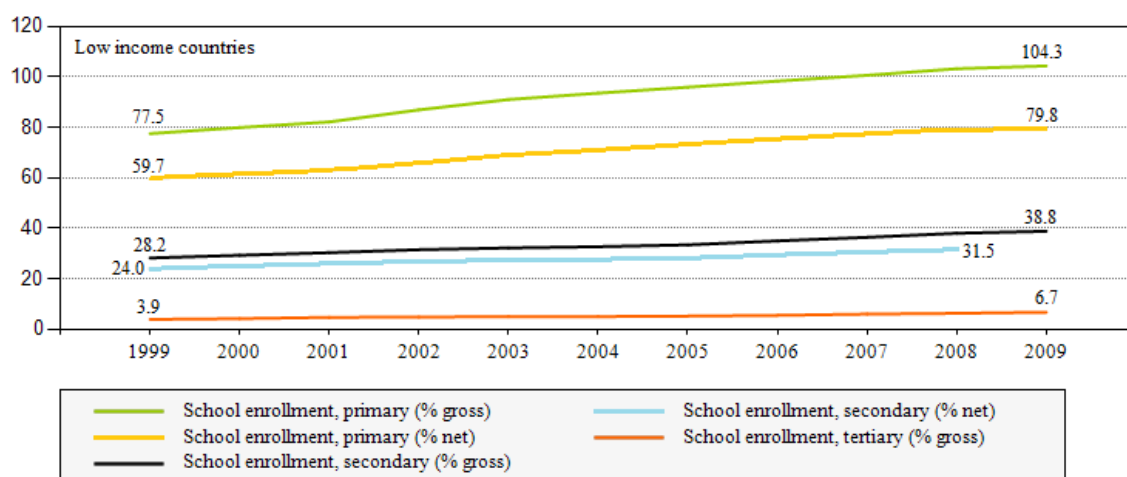
<sup>35</sup> <http://unesdoc.unesco.org/images/0019/001907/190743e.pdf>, accessed 3.11.2012.

<sup>36</sup> <http://www.uis.unesco.org/Library/Documents/oosc05-en.pdf>, accessed 3.11.2012.

<sup>37</sup> <http://www.uis.unesco.org/literacy/Pages/adult-youth-literacy-data-viz.aspx>, accessed 20.10.2012.

The question has been about economic growth, as labeling education as accumulation of human capital shows. Required practical skills (vocational, technical, and entrepreneurial skills) to increase labor productivity, and hence the poor's opportunities to be employed in modern sector, are, however, not acquired until in higher educational levels. Therefore in many developing countries the meaning of primary education is mainly to give at least a chance for pupils to attempt to secondary education. Thus the main consideration point in primary education is to success in final exams, which are criticized for mainly measuring remembrance of taught facts.

The following graph indicates how eagerness to enroll to education drops level by level. While two-thirds (see previous figure) of an age group completes primary education, only one-third of an age group enrolls to secondary education in low income countries.



**Figure 17.** Development of enrollment to different levels of education in low income countries 1999-2009. Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown, while net enrollment ratio is the ratio of total enrollment among the relevant age group. Primary education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music. Secondary education completes the provision of basic education that began at the primary level and aims at laying the foundations for lifelong learning and human development by offering more subject- or skill-oriented instruction using more specialized teachers. Tertiary education, whether or not to an advanced research qualification, normally requires, as the minimum condition of admission, the successful completion of education at the secondary level. Source: World Bank national accounts data; <http://data.worldbank.org/>.

Filmer's (2000)<sup>38</sup> observation on wealth's influence on enthusiasm to participate in education encourages us to make an assumption that the vast majority of the poor do not continue their education beyond the primary level. Thus schooling mainly teaches to the poor the behavior, attitudes, values, discipline, and hierarchy appreciated – and called for by Rostow already in 1960 – in formal jobs in modern capitalist setting, when they are more in need of practical information and skills for their own living environments in rural areas and informal sector. The poor's incentives to invest in formal education are none if they don't have any use for things they learn in school, and hence are not

<sup>38</sup> [http://www-wds.worldbank.org/external/default/WDSCContentServer/IW3P/IB/2000/02/09/000094946\\_00012505525066/Rendered/PDF/multi\\_page.pdf](http://www-wds.worldbank.org/external/default/WDSCContentServer/IW3P/IB/2000/02/09/000094946_00012505525066/Rendered/PDF/multi_page.pdf), accessed 3.11.2012.

rewarded for their efforts and achievements. Why bother educating oneself if you can't get a corresponding work anyway, or if total benefits in formal sector are actually lower than in informal sector, where you manage without formal education all the same?

On the other hand, the poor demand that given education is based on formal curriculum, because otherwise they feel that their knowledge is not recognized by others and hence not helping them to achieve better opportunities and rewards. Wealth, power, and prestige of formally educated people create a belief that only formal knowledge is of any significance. And of course in the modern world you can prove your formal knowledge only with an official diploma from a professional organization or the state.

#### **1.2.3.4 Conclusion**

Education is taken as an important ingredient of economic growth, and thus of poverty reduction too. Therefore it is regarded as human capital. It is believed that investment in human capital absorbs the poor population into the modern capitalist world and promotes health, nutrition practices, skills, employment, more equal distribution, competitiveness, higher incomes, and slows down population growth.

But the international community's efforts to educate the poor of developing countries haven't been as successful as wished for. There are still plenty of children who never enroll to or drop out from school, as well as plenty of adults who can't read or write. Statistics show improvement in these fields, though. Hopefully this development continues in accelerating speed.

However, formal schooling and literacy don't automatically mean improvements to the poor's situation. Attention must be paid to content of education. People seem to have commonly a want to improve their own and their loved ones' lives. Thus they are personally mainly interested in things related to their needs, practices, interests, and problems. Similarly education should be based on these learning needs. In addition, especially with the poor, education should be potentially applicable to daily life so that one can see its impact straight away.

Functional and practical education gives pupils a reason to invest in learning, in other words in their future, because skills they learn become tools to improve their lives and satisfy their needs. Of course, functional and practical education can follow formal curriculum too. Learning material is just tailored to serve the poor's needs.

Educating everyone has proved to be a harder task than expected. Hence it can be again argued that the problem should be looked from a broader angle and fresh solutions ought to be mapped out.

## 1.2.4 Social capital

Aid donors have a strong faith on the rule of law as a guarantee for fair, equal, moral, and just treatment of individuals and, on the other hand, as a barrier to arbitrariness and unilateralism. The same rule of law guarantees property rights, which determine how individuals can control, benefit from, and transfer resources. Exclusive authority over property by its holder is one of the most fundamental requirements of capitalism. It is expected that individuals protected by law create new forms of resources to generate wealth and compete with each other peacefully and equally for control of those resources. Thus the concept of rights should provide such an environment that annihilates Kuznets' concerns and leads to the trickle down of wealth.

### 1.2.4.1 Theory and analysis

McNamara (1973)<sup>39</sup> drew attention to absolute poverty in rural areas where the overwhelming majority of the poor lived. The ILO (1972)<sup>40</sup>, for its part, pointed out that there were a large amount of people living in absolute poverty in urban areas, too. The ILO noticed that even the poor often worked very long hours, the work was not profitable enough in a sense of earning them income up to a modest minimum. The ILO called these working poor as informal sector.

Against of a common view of seeing informal sector as stagnant and non-dynamic the ILO claimed informal sector to be economically efficient, profit-making, and innovative, even more so than formal large-scale producers. Similarly, McNamara denied a common view that productivity of small-scale farming was inherently low. He believed that it was rather the opposite: small farms could be as productive per hectare as large farms when proper conditions were given to them.

The ILO accused a pejorative view of regarding informal sector as a safety net for idle people who couldn't find normal wage jobs resulting in restrictions, unsupportiveness, ignorance, and even active discouragement by formal sector. Thus informal sector's access to credit, government services, contracts, knowledge, and efficient technologies were heavily limited. The World Bank (Chenery et al., 1974)<sup>41</sup> echoed by saying that the poor were, often by outright discrimination, lacking all kind of capital. All these limitations prevented linkages between the poor and higher-income groups to be formed. Informal sector kept serving mainly the poor section of population, which further maintained limitations in scale, technologies, and capital.

Similar patterns of exclusion of the poor have been witnessed by researchers ever since. Therefore the notion of access has to be conceived not only as the right, but also as the

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<sup>39</sup> [http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2008/03/10/000333037\\_20080310052811/Rendered/PDF/420310WP0Box0321445B01PUBLIC1.pdf](http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2008/03/10/000333037_20080310052811/Rendered/PDF/420310WP0Box0321445B01PUBLIC1.pdf), accessed 2.11.2012.

<sup>40</sup> [http://www.ilo.org/public/libdoc/ilo/1972/72B09\\_608\\_engl.pdf](http://www.ilo.org/public/libdoc/ilo/1972/72B09_608_engl.pdf), accessed 2.11.2012.

<sup>41</sup> [http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2003/01/15/000178830\\_98101901522359/Rendered/PDF/multi0page.pdf](http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2003/01/15/000178830_98101901522359/Rendered/PDF/multi0page.pdf), accessed 3.11.2012.

ability to benefit from a resource. And as ability is, as Peluso and Ribot (2003)<sup>42</sup> put it, akin to power, can't all complex space-time conjunctures of social relations, which de facto determine an individual's and group's resource access, be captured completely into any law.

Peluso and Ribot depict how a broad set of space-time related material, cultural, social-, and political-economic factors – strands as they call them – constitute bundles of power around webs of power. It is these strands that configure through various means, processes, and relations which actors are enabled to gain, maintain, and control access to a resource. Benefit distribution is then negotiated between able actors inside the boundaries of ideological and discursive manipulations, relations of production and exchange, social identities and relationships, illicit actions, as well as legal property rights.

But, as Peluso and Ribot remind, an individual's, group's, and institution's position and power within various social relationships are always in a process. Similarly, relations between those which control others' access and those which must maintain their own access open are contested through co-operation and conflict. Thus benefits – and access – can be redistributed and captured in the course of changing social relations – as well as changing legal frameworks – as new conflicts and co-operative arrangements emerge.

#### **1.2.4.2 Discussion**

What aid donors try to achieve with their interventions on poverty is to empower marginalized individuals and groups to be contributing members of formal capitalist society. But aid donors use only the “light” version of the concept of social inclusion if they overlook some other more powerful individuals' and groups', including themselves, ableness to exercise their capacity to exclude the marginalized. In that case the poor are tried to be socially included without paying enough attention to structural forces which prevent the poor from having the same opportunities which are open to other groups.

The fault of failing to take advantage of resources falls solely on the poor if the importance of social relationships as determiners of resource access is ignored. Li (2007) describes how diagnosing the problem incompletely as stemming from the poor's qualities makes experts to focus on the poor's capacities for action instead of practices through which one social group impoverishes another. When the problem is thus recast in the neutral language of science, the poor become only targets of governmental programs launched in the name of their well-being. Interventions aim to conduct the conduct of the poor by setting new conditions. The poor's improved conduct is then expected to balance welfare, profit, revenue, and other objectives. But experts' interventions can never achieve all they seek if key social- and political-economic processes are excluded from them, Li argues.

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<sup>42</sup> [http://ourenvironment.berkeley.edu/wp-content/uploads/2011/09/Theory\\_of\\_Access.pdf](http://ourenvironment.berkeley.edu/wp-content/uploads/2011/09/Theory_of_Access.pdf), accessed 15.3.2013.

### **1.2.4.3 Conclusion**

Laws and rights don't guarantee the ability to benefit from resources. Actually property plays just a small part in those mechanisms of access which shape distribution of benefits, incentives for action, resource management, and efficiency and sustainability of resource use. It is, above all, structural and relational constraints that hinder the poor's ability to take better care of themselves by themselves. Individuals and groups enjoy unequal access to benefits based on their position within a social stratification scheme. Thus people's chances in life depend heavily on their rank in social hierarchy.

But even poverty results from social processes, it doesn't mean that the poor are just passively waiting social forces to act on them. Individuals have also a capacity to act independently and to make own free choices. They can seize on opportunities to better their positions, but for some of the poor overall obstacles are just too high to overcome. These are the people this work is mainly interested in, the ones who stay poor or fall down to poorness. For these poor people poverty is not just a technical or managerial or even economical problem, it is essentially a social and political problem. In other words, for the poorest poverty originates most of all from the lack of social prestige and relations, preventing thus also their access to physical and human capital.

Access as the ability to benefit from resources may be that broader angle this master's thesis has been looking for. That can be ensured only by going to the poor and ask them. The next chapter is about that.



## 2 Practice

This work is a master's thesis in the field of engineering. The work's aim is to find out how an R&D engineer can help in global poverty reduction. Therefore this work doesn't go, for example, into deep power and access analyses. For our purpose an understanding of the roots of poverty is enough. In the previous chapter we theorized the ultimate reason of poverty stemming from the lack of access to benefits. Now it is time to see how the theory matches a reality.



**Figure 18.** Surroundings of east of Phnom Penh. Source: Google maps, 2012.



**Figure 19.** Environments of Ta Chha village. Source: Google earth, image dated 2010.

For that reason a research was made during a one month's time around the turn of the year 2009-2010 at Ta Chha village in Cambodia. The exact location is marked by an ellipse on the previous map. The place was chosen for a target purely because the author's connections to do this kind of a research in a developing country were best in Cambodia. Ta Chha village was chosen from three suggested options.

The satellite image of the village's environments reveals that there is also some water areas right south of the village and the road is just a dusty one. Furthermore, the size of the lake in north varies during seasons. At the time of this research the lake was actually much closer to the village than the map above indicates.

## **2.1 Methodology**

Chambers (1983) has criticized very strongly outsiders for underperceiving poverty. Colorfully he portrays how experts usually just end up to a brief and hurried day visits to a safe and easy to access places in a nice weather – that is if they even bother to leave their urban offices or hotels – in a try to contact with and learn from poor people. Chambers calls this development tourism, and as good sensible tourists these visitors don't want to visit their destination at a bad season. But that is exactly the season when they should visit because, according to Chambers, at that time food is short, food prices are high, work is hard, and infections are prevalent. Poor people are most likely to get poorer and indebted during bad seasons and in their desperation they sell or mortgage their assets. This all go unnoticed to a visitor who see the poor mostly when they are the least deprived, when they are harvesting their yield, and feasting at celebrations. That gives an outsider a false impression that the poor's deprivation is not so bad after all and they are actually enjoying their life.

Chambers continues by arguing that experts can't even find the poorest. A visitor wants to be polite, so one is very timid to put one's hosts into awkward positions. As a result, Chambers argues, a visitor misses those who are not active, present, or living. The poorer people may be hidden from the main streets and places where other people meet. They don't necessarily use health clinics, go to market places, participate to projects, adopt new technologies, send their children to school, and so on. The poorer people's socio-economic position makes them often also reluctant to push themselves forward. They don't speak up. Some of them don't even sit down in the presence of people with higher statuses. Therefore a visiting expert with a very limited time can't even afford to talk with them. Thus in those quick formal visits a visitor meets only the elite of the poor, the less poor, who try their best to benefit from the situation, and accepts the less poor's views, or even lies, as facts because there is no time, or interest, to check them out. Actually, Chambers claims, symbiosis is perfect because a visiting expert is not concerned of questions outside of one's own special field and thus looks for and finds out only what fits into one's ideas. Therefore one rather satisfies one's interests and curiosity through informants among the better-educated or the less poor, those who tell what one wants to hear. Hence development tourism neglects people and concentrates on formal action and physical objects.

Chambers criticism has been influential. Different methods to ensure that also the poorest are noticed have been developed. These mostly technical methods are not strict procedures, though, but a set of tools and techniques which can be used selectively. Common to the methods is that they base on practical participation, respect of all participants, and confidentiality. Facilitators' role is to give participants freedom and courage to express themselves freely in their own ways, and also to direct action by open-ended questions when needed.

According to Laitinen (2002), the most known method is called Participatory Reflection and Action (PRA, also known as Participatory Rural Appraisal), wherein "outsiders" task is not to lecture "insiders" how things should be done, but to create conditions for increasing awareness, learning, and skills. At the purest PRA interventions should be based on insiders' terms, objectives, criteria, definitions, and languages so that participants don't just provide information, but also control, analyze, and use it themselves. It is important to ponder whom the information is collected for, who interprets it, and who makes conclusions from it.

Visualization plays a big part in PRA. Analyses are elucidated with maps, drawings, and other figures which lower participants' threshold to participate and provide them opportunities to express themselves without a need to speak. Used materials, tools, and locations should also be familiar to participants. Visualization shows concretely peculiarities, and also how differently different individuals and groups see the same things. Bothering and intriguing issues can be discussed once they are exposed, as well as needs and problems can be addressed when they are known. Similarly opportunities and capabilities can be strengthened. Thus in PRA the process of collecting information is as important as the data itself as it triggers dialogues.

But Li (2007) claims that nothing ever happens as laid in experts' schemes. Further, PRA can discover only fragments of reality. Therefore PRA, as all interventions, has – intentional or unintentional – political impacts. It either strengthens prevailing power structures or reorganizes them. It is really important to realize that a facilitator intervenes to other peoples' and societies' lives. As important is to be aware of possibility that one's actions and views have consequences. Once the visitor has left, the locals still have to live with each other, and also with the officials.

## **2.2 Material**

Through the case study we try to get a better understanding of the poor's lives in a Cambodian village. The research concentrates on deficiencies, as the main purpose is to find out only the roots of their poverty. It is as important to map out their strengths and possibilities, too, when actions are considered. Basically methodology for identifying needed things is very simple: participating and observing. Trickier is to find out the marginalized and to create an environment where they are free, willing, and capable to share their thoughts honestly.

At first we try to get a general view of the living environments. Information was gathered from provided statistics and discussions with the commune chief, the village

chief, the health center staff, and individual villagers met around the commune, as well as through personal observations.

Secondly, we concentrate on Ta Chha village. To break the ice and to get a detailed picture of the village, the villagers are invited to participate in making a presentation of the area. The participants are asked to create together a map of their communal environment and to mark the places of importance on it. One purpose of this practice is to stir up conversations among participants by bringing central features of the community's life on the surface, and thus to the facilitator's knowledge, too, providing entry points for advantaged questions around topics.

Lastly, we delve into households' and individuals' lives. The villagers are asked to fill the following questionnaires. The purpose for these inquiries is a try to understand how diverse the community is and what sort of socio-economic groups can be found there. The first questionnaire (figure 20) is used to estimate a household's living conditions and a level of poverty in moneywise. The second one (figure 21) goes deeper into individuals' lives. There are few issues in questionnaires which might be considered sensitive. The last thing a facilitator wants to do is to create tensions among the facilitated people. Therefore the villagers are advised to leave blank those sections they feel sensitive about. The question about income is a question of any other sources of income than a person's work, not the amount of income, which is, of course, difficult to estimate as no-one really has a regular income and is also dependent on seasons.

Now, once we have a clearer picture of the community we are studying, we can start to try to understand the community's and its inhabitants' realities through participating, observing, exercises, discussions, and interviews. In this case, as resources are limited, the researchers concentrate only on a few defining factors and group sessions. Based on questionnaires a few villagers are invited to participate in semi-structured interviews. In actual sessions the participants are asked to produce seasonal and daily calendars of their lives and different resource, institution, and collaboration analyses. Different diagrams and tables are created to visualize outcomes and to rank issues. The main purpose is to promote discussion and encourage everyone's participation, and to direct discussions to wanted directions, too. The facilitators use also open-ended questions and bring topics into discussion if needed, but otherwise they only observe, keep the spirit high, promote relaxed, flexible, confidential and encouraging atmosphere, and let the participants explore fully issues that arise into discussion.

So, in academic terms, this case study is an empirical research which combines quantitative and qualitative methods in complementing manners.

<b>Name:</b>				<b>Address:</b>			
<b>Materials of the dwelling house</b>				<b>Society</b>			
Wall:				Responsibilities; who, what and why?			
Roof:							
Floor:				Positions of trust; who, what and why?			
<b>Equipments of the household</b>							
	Yes	No		Yes	No		Amount:
Toilet			Television			Car	
Fridge			Computer			Motorbike	
Oven			Karaoke			Rowing boat	
Radio			Motor boat			Fishing gear, what	
		Generator		Battery		No	Other, what
Electricity:							
		Wood		Gas		No	Other, what
Cooking:							
		At home		At field		No	
Water pump:							
		Rain		River		Other, what	
Drinking water:							
		At home, what		For work, what		Other, what	
Private tools:							
Common tools:							
<b>Owned animals</b>							
	Horse	Buffalo	Cow	Pig	Poultry	Other, what	
Amount:							
<b>Size of the land</b>							
	Own		Rented		Communal		Other, what
Residential:							
Rice paddy:							
Vegetable plot:							
Forest:							
<b>Drawing of the courtyard:</b>							

**Figure 20.** Questionnaire for living conditions. Modified to fit on a page by the author.

[illegible]

**Figure 21.** Questionnaire for personal conditions. Modified to fit on a page by the author.

### 2.2.1 The commune

Ta Chha village forms Sarika Keo commune with two other villages. The commune is run by a commune council, which consists of the commune chief, two deputy chiefs, and four members who are elected every five years from the commune. In addition to a commune hall there are also a small police station with six male police officers and a small and ill equipped health center in the commune. In the health center there are two beds for birth givers. The staff sterilizes their equipments by boiling them. Water, which they get from the river, is purified by running it through a filter. Electricity the health center needs is produced by solar panels.

The health center is run by a male dentist and four female nurses. It concentrates on general diseases and pregnancies. Cases they can't handle are sent to Phnom Penh. Services are mainly chargeable, few exceptions are related to epidemic diseases. Basically the ones who have been defined as poor by the commune council should get services without payment, but still some villagers need to take loans to get treatments in the health center. On the other hand, the health center itself needs to take a loan time to time to buy medicines as they are constantly running out of those.

The health center also organizes campaigns to increase overall awareness of health issues. They spread health posters and once a month they have a public meeting with villagers. Usually 50 to 100 villagers – half men, half women – participate to these meetings. Permanent topics are related to overall hygiene and post-partum issues. At the time of the research other topics brought into discussion were bird flu and swine flu. Birth control issues are discussed only with women who are pregnant – and men if they happen to be around at that time.

According to the nurses tuberculosis and HIV were spreading around the commune at the time of the research. Statistics for year 2009 partly confirms this for tuberculosis. Lower acute respiratory infections (lower ARIs, see Simoes et al. in Jamison et al., 2006, pp. 483-485<sup>43</sup>) were raging among children under five years old with 100 to 200 diagnosed cases every month. HIV cases are not compiled separately into the statistics. Actually, the vast majority of cases of other age groups are labeled as “other”. Overall, the total number of new compiled cases per month stayed between 622 and 630 from January to April (except March: 578), starting then to climb up and reached the peak in October with 793 new cases, and then fell to 725 new cases in November (numbers for December were not yet ready when the research was conducted).

Those are of course official figures as not everyone uses the health center. Some villagers resort to traditional medicines while some use private services. Medicines are also openly sold in shops, including some heavy drugs. Indeed, intoxicants, mostly alcohol, are causing problems in the commune, mainly in forms of fights and thefts. For that reason the village chief didn't allow the researchers to stay overnights in the village.

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<sup>43</sup> <http://files.dcp2.org/pdf/DCP/DCP25.pdf>, accessed 21.10.2012.

Drinking and the shortage of money stem from the lack of (profitable) work. According to the village chief poverty is increasing day by day and people need to borrow money to survive. There is a small credit community that controls borrowing. It has seven members who decide on lending. Actual money comes from outside and interest rate is 3 percent per month. Problems started to manifold when private operators started to bypass the credit community and grant loans straight to villagers. While the credit community gives loans only for well argued reasons, private operators are not so interested how the money is spent. At that time there were 8 different operators offering microfinance. Their interest rates varied from 2 to 5 percent per month depending on their terms and conditions. Furthermore, there are moneylenders with hefty interest rates of 10 to 20 percent per month. According to a few informants even 80 percent of Ta Chha villagers have borrowed money from some of these institutions.

Villagers have difficulties to service their debts as borrowed money is not used in a profitable way or acquired profit is not high and stable enough. The researchers witnessed of 6 different microfinance operators and few moneylenders confiscating one villager's house and land for her debts. She didn't look too happy when walking towards her mother's house. At the end, when everything is gone, the only option is to move to slums of Phnom Penh in a hope for being able to survive the next day.

Overall, land is really wanted in Cambodia at the moment. Land grabbing has become a major issue all over the country. It touched Sarika Keo commune as well when a corrupted civil servant from a district level sold 400 hectares of villagers' land as a state's land to one company for rice cultivation. Villagers were able to prevent the conquest by making it public. The chain of events started when one of them called to a radio station.

Unclearness in property rights of land arises from the lack of formal documents. Families have lived in the area for ages, well, at least before capitalist era. Therefore they don't have any official papers to prove their ownership of the land they use and live on. This also creates land boundary disagreements between villagers. To solve the problem the commune council has started land titling. For a small fee (500 riel- 10 cents) they concede licenses for land ownership. This hasn't ended land grabbing attempts from outside, though.

But not all outsiders are determined to steal villagers' land. Time to time well-offs from Phnom Penh come to buy land for private and business purposes. And villagers are quite tempted to sell as prices are very high for their standards. One informant's estimation is that even 90 percent of villagers have sold at least some of their land. How does he end up to that figure is unclear, but it reveals that land selling is a big issue in the commune. He is also planning to sell his land and then buy a new one from somewhere more remote location.

Some villagers sell only their residential land and move to their rice paddies, and some others do the opposite. Selling rice paddies is especially risky because then you don't only lose your source of income but also a source of food. A firm has bought a lot of fields by promising jobs for those who will sell. This promise was not materialized yet at the time of the research. Still the sellers have already invested the money they have gotten into consumer goods and easy life. One informant tells that a year ago karaoke



blared around the clock in almost every house on the other street. Then he continues that it is not so noisy there anymore. Once the money and rice paddies are gone, the only option is to find other sources of income. At worst this requires a move to Phnom Penh.

One buyer has turned rice paddies into a big, efficient banana plantation. He has dug a massive water reservoir onto his land. Reservoir is filled by pumping water from a small river (see figure 22). Indeed, water is another issue in Sarika Keo commune, which sounds surprising as the place is surrounded by plenty of water. But rice farming needs also a plenty of water. At rainy season nature provides needed water, but in dry season irrigation has to be organized otherwise. Those who don't have access to water at dry season can have only one yield of rice per year, whereas those with access can have two yields.

Nowadays access to irrigation means water pumps. Things were different at the Khmer Rouge era 1975-1979. The Khmer Rouge started massive irrigation projects to increase rice production. The whole nation was forced to dig canals and grow rice. There was an irrigation canal network on the area of today's Sarika Keo commune as well. The water intake was on the border of Ta Chha and the neighboring village. Today the canal is filled with land and used as a pathway for cattle to go to drink water from the Mekong River – and it looks like that also as a rubbish dump. Now it is told that reopening of the canal is not possible due some tensions between neighbors and opposition by some civil servants and cattle owners.

Another water issue is the lack of access to clean drinking water. There are plenty of wells in the commune, but officials have forbidden the use of them because of arsenic. Therefore the main source for drinking water is rainwater, which is collected to huge jars. When rainwater runs out, drinking water is taken from the lake. Some even use that polluted water of wells. In those cases water is boiled before the use.

Flooding causes problems time to time, too. According to the commune chief nine hectares of land have been lost because of floods. On the other hand, the lake is reshaping all the time revealing sometimes some land to be used. The lake provides also fish, but less and less every year. At the same time the amounts of fishers and fishing gears have increased. Even dynamite has been used. Overfishing has led to a protection of fish stocks during spawning periods by a ministry. This hasn't stopped fishing entirely in those protected months, though.

Some villagers haven't let decreasing shares of fish put them down. Two men from Ta Chha village were just starting fishing farming at the time of this research. They had dug a huge hole into the ground and were filling it with water. Their plan is to buy some fishlings, raise them, and sell them for profit. Overall, villagers are very entrepreneurial. There are small shops and different kinds of services here and there around the commune. Also itinerant peddlers circulate around villages. In addition, a wide range of skillful traditional artifacts are produced by local artisans. There is a will to develop this field to become one source of livelihood. The problem is that they are lacking machinery, in other words finance. But they are not willing to take microfinance as it is seen to be too expensive. Another problem, according to a few informants, is the lack of markets. They claim that these sorts of businesses are controlled by the state. Actually, many women have moved to Phnom Penh to work in state-owned factories as sewers.

Lately there has been a lot of discontentment among workers in these factories and they have striven for better working conditions and salaries.

Not only entrepreneurial, but villagers are also innovative. For example, one pig farmer produces gas for cooking from pigs' excrement. Another has built a running water system to his house. Some distill spirits from rice. The most impressive innovation – at least to the eyes of a mechanical engineer – is a self-made threshing car. Builders don't have any formal education for it, but the knowhow of making threshing cars runs in their family. They buy needed parts from market and build cars from a scratch. There are also skillful mechanics and builders in the commune. Some of them have even been educated in Phnom Penh.

Unfortunately profits from villagers' private enterprises in trade, services, manufacture, and agriculture are low. Fish is rare, rice dealers seem to have a cartel so that all of them are offering the same, low price to rice farmers for their rice, and artisans don't have markets for their products. Thus these primary producers don't have much money for consumption and therefore service providers, shopkeepers, and peddlers are lacking paying customers. Without any insurances or social security to soften hard times this can be disastrous for them as they must invest beforehand into their deliverables. Actually, the shortage of money has made bartering a quite common form of making business.

During harvests some rice farmers need to hire labor to help them. Mostly they try to manage with help from family members as labor from outside is considered expensive. At the time of the research salary was 20000 riel~ 5 US\$ per head per day. Of course there are also some wealthy people living in the commune. And by assuming from villagers' willingness to sell their land, this lot will increase. The richer like to upgrade their living conditions as they can afford to do so. Work is usually given to a group of local construction workers who have been educated by a building master who lives in Ta Chha village. Time to time they have work also outside of the village. But in overall their amount of work has decreased lately. In addition, a few companies are hiring locals to labor for them, although it is quite small-scale and temporary. One earthmoving company, which uses regularly the road that goes through the commune, has hired some local truck drivers to wet the road to please villagers who are annoyed of the dust. Another firm hired a few locals to help in erecting poles for electric cables.

Indeed, electricity was coming into the commune at the time of the research. So far villagers have used batteries and generators for electricity. This new arrangement will be a more expensive one, though. Overall the commune is on the edge of big changes. The government has plans to build one more road into Ta Chha village and to pave all the roads in the area by year 2010. Some informants claim that the reason for the government's eagerness to modernize infrastructure is in their willingness to lure more investors into the area. That means inevitably that villagers are largely expected to sell their lands. A common rumor in Cambodia assumes that land grabbing has a political elite's backing.

This direction of development worries villagers. In addition, personal property taxes are said to be increasing a lot in the near future. At the same time there isn't any support for the poor. As an example informants mention how Thailand guarantees a minimum price

for rice farmers for the rice they produce, but Cambodia does not have anything like that (not mentioning western countries' subsidies for their agriculture (the author's note)). The future scenario does not seem very bright for villagers: expenses are rising, earnings are declining, and the pressure to sell land, without any knowledge of permanent formal job, is growing.

## 2.2.2 The village

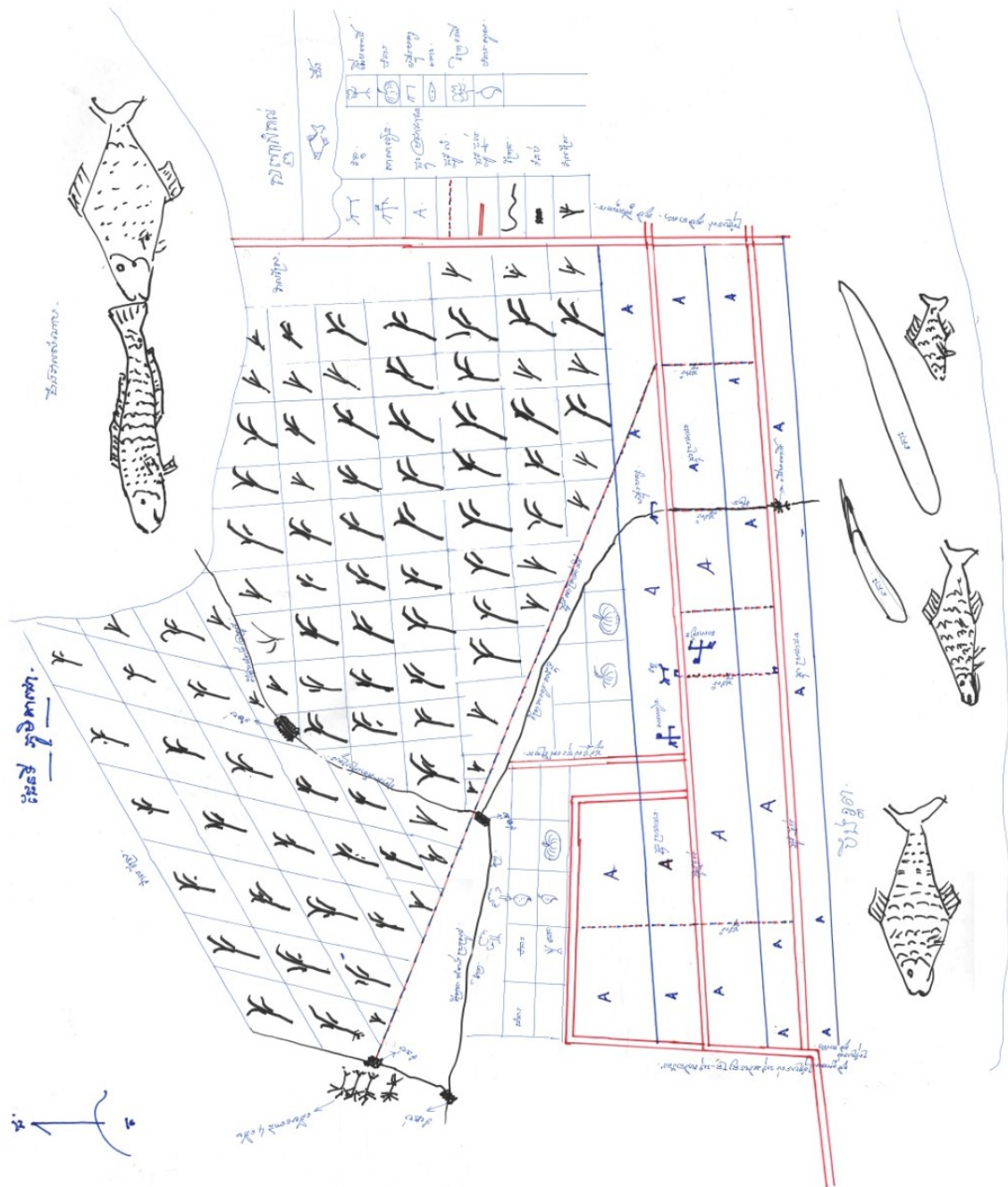


Figure 22. Common map of Ta Chha village.

According to the commune police's statistics from year 2009 there are 534 households in Ta Chha village. The total number of people is 2305, of which 1146 are women and 1159 are men. 30 out of the total of 33 single caretaker households are single mother families. 5 persons are disabled.

The map above is made by few villagers. It shows villagers' immediate living environment. The map makers were also asked to mark all places of importance onto the map. But as they concentrated only on their own village, the map missed out, for example, market places, which were in other villages, the commune hall, police station, and health center, which were in the next village.

There is also a small Buddhist monastery with a small Buddhist community in the village. The village's communal hall and a huge banyan tree are marked on the map, too. Those are the places where common feasts are celebrated. A state-run primary school is free and has grades from one to six. All children of the village are participating in primary education – when it is actually given. Secondary education, grades from seven to nine, is given 2,5 km away from the village. For higher education pupils have to go to Phnom Penh. The village's two school buildings are occasionally used for village meetings, too.

Elder villagers reminisce how in the 1950s there were only 100 families living in the area. The only road went by the river and just a few rice paddies were located next to the lake. The rest of the area was dense forest with all kind of animals, including a tiger. Today all that forest has been cut down in order to give room to residential areas, vegetable plots, and more rice paddies. There are some trees growing here and there, though, which provide wood for cooking and heating. Palm trees also provide palm juice.

### **2.2.3 The people**

Administratively Ta Chha village is divided into groups. One group consists of ten households and is governed by a group leader. Group leaders are appointed by the commune chief. One requirement for the job is the ability to read and write. Therefore the group leaders are asked to help in filling questionnaires for the households (see figures 20 and 21).

The group leaders kindly put a lot of effort into the task. According to the village chief information of all households is provided. This means that the commune police's official number of households is a bit too high as 492 households filled the questionnaires. Information is provided of 2165 villagers from whom below 50 have some disability, below 140 are currently sick, and below 40 are single caretakers. It is also notable that about 290 households do not have a toilet at all. And some from the minority who do have a toilet don't have a way to empty it. Overall, the village lacks any waste disposal. Garbage is mainly burnt in backyards.

About 20 percent of villagers of ages of 15 years and above cannot read, a bit higher percentage cannot write, and a bit lower percentage cannot count. In the other end only

four households have a computer and about 240 villagers have a mobile phone. As a curiosity, there is also a small mobile phone shop in the village.

Diversity of occupations is surprisingly wide. Representatives of following categories of vocations are found in Ta Chha village:

- 1) Rice cultivation
- 2) Vegetable farming
- 3) Animal rearing
- 4) Fishing
- 5) Professionalism
- 6) Skilled labor
- 7) Paid labor
- 8) Middleman
- 9) Shop-keeping
- 10) Peddling
- 11) Service selling
- 12) Food selling
- 13) Animal selling
- 14) Renting
- 15) Production
- 16) Driving
- 17) Public servant
- 18) Religion
- 19) Artist
- 20) Domestic work
- 21) Studying

Rice cultivation is by far the main source of livelihood in Ta Chha village. From the total of 492 households 341 are somehow related to it. The second largest is fishing with 84 households. Rice cultivation and fishing are also widely practiced around Cambodia. Therefore two groups for interviews are formulated around these vocations. The common factor for the third group is illiteracy. Actual sessions are held under the Banyan tree as it is a quiet and undisturbed place where at least the vast majority of villagers feel comfortable.

#### **2.2.3.1 The rice farmers**

The facilitators chose 6 rice farmers to the first group session: one woman and one man with pump irrigation and two women and two men without irrigation. To the meeting showed up two young men with irrigation and four young women without irrigation. Pretty soon it came clear that by irrigation they meant dam irrigation, not pumping with a machine. So, all of them were without pump irrigation and therefore had only one yield per year. Thus there were a group of poor male rice farmers with one yield per year and a group of poor female rice farmers with one yield per year.

The groups were asked to illustrate their year. This is what they come up with:

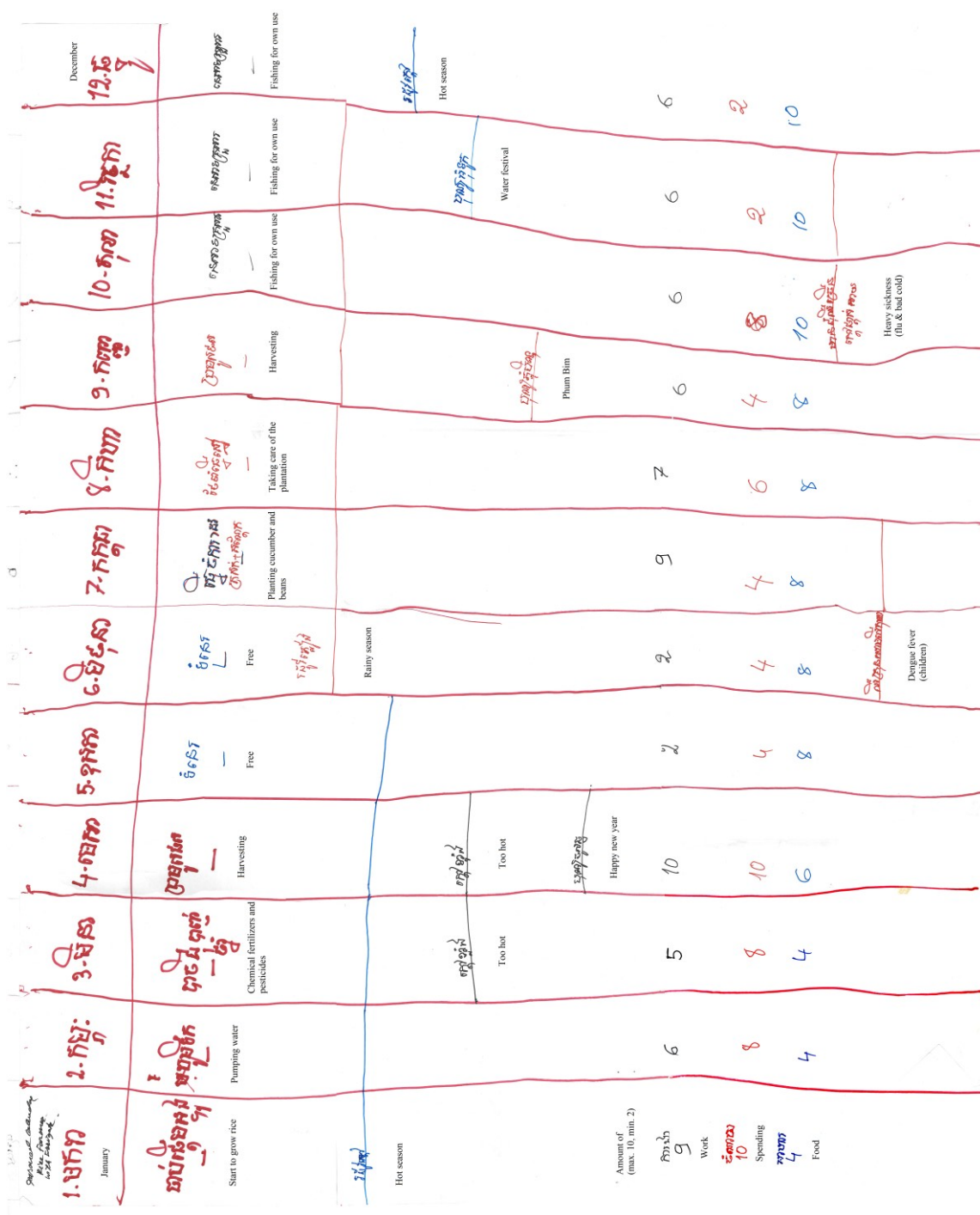
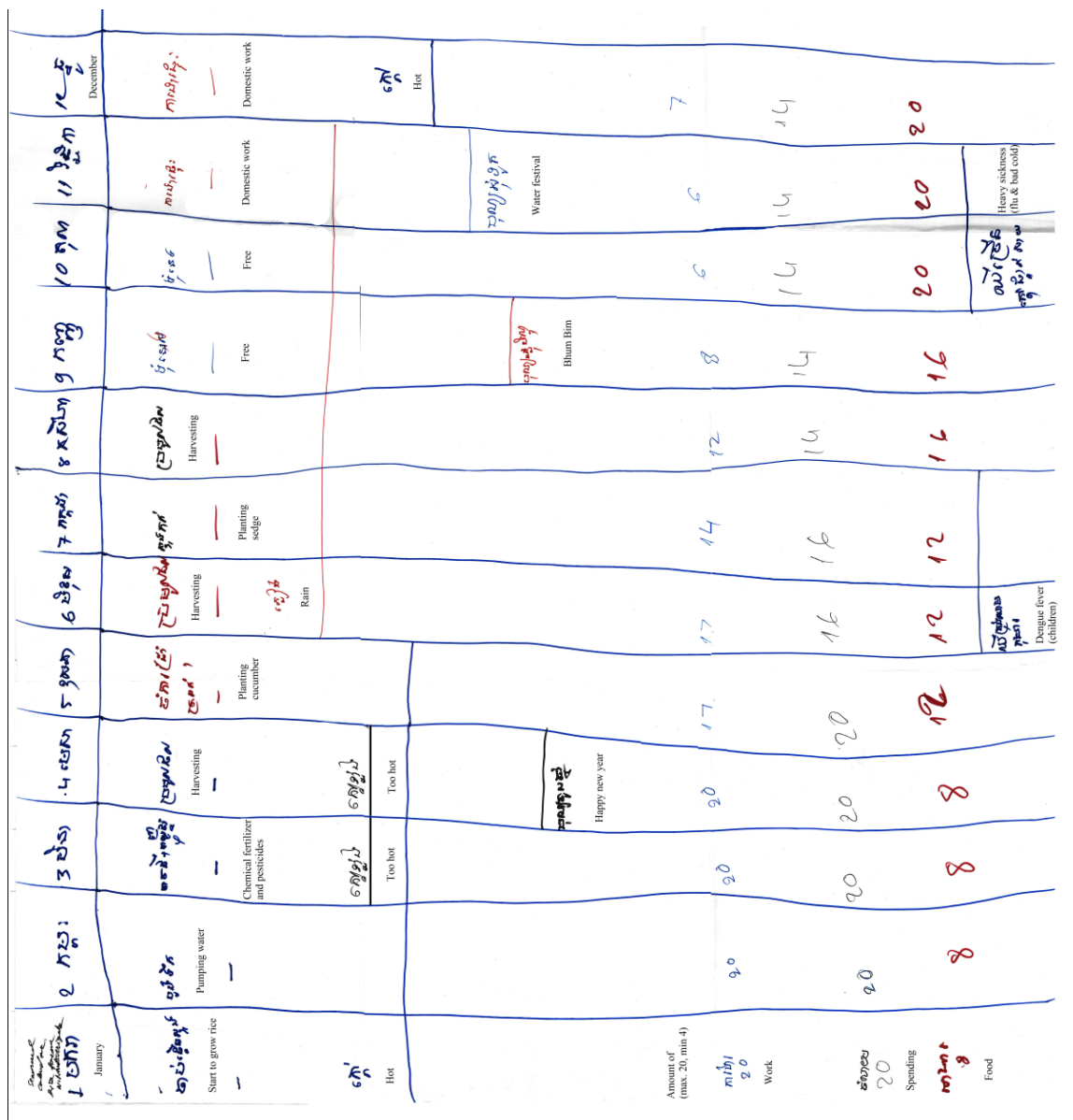


Figure 23. Seasonal calendar of male rice farmers without pumps. English translations added later by the author.



**Figure 24.** Seasonal calendar of female rice farmers without pumps. English translations added later by the author.

Rice farmers feel that a year starts in January when water level starts to recede after rainy season. Simultaneously land dries up so that they can start to cultivate their paddy fields. First the land is ploughed. Usually this is done with own or hired cow or buffalo. Those with more money and bigger fields hire a tractor. Next rice farmers build a canal and dyke for flow irrigation, rake the land, and sow seeds by throwing them. After a week straws are about 20 cm long. At this point few farmers pull out their rice shoots and re-plant them onto a different field by hands to increase their yield. Most farmers don't do this because then they need to hire extra labor to help them. Then it is time to let water and chemical fertilizers in. Pesticides are started to be used when first pests are seen. Instructions for how to use chemical fertilizers and pesticides correctly are given by sellers at the market. The village chief claims that some villagers get sick from pesticides. After some two and half months the rice turns yellow and irrigation is stopped. Two weeks after this, in April, the rice is harvested. Harvesting is mainly done

by hands, whereas machines are used for threshing. Few villagers own threshing machines and rent their services for rice farmers. Payment is given in waste that is generated in the process and used as food for animals, or in some portion, usually 5 percent (1 sack for every 20 sacks), of produced rice. What is left after farmers have filled their own storages is sold to dealers, which, as already has been mentioned, set the price. At the time of this research the price was said to be 1200 riel~30 cents per kg. Villagers are quite indignant about the low price they get for their rice and compare situation to Thailand where government guarantees a minimum price.

Sizes of rice farmers' paddy fields are asked in the household surveys. 156 household provide that information. Of these households 37 percent's rice field is 0,5 hectares or smaller, 37 percent's is between 0,5 and 1 hectares, 22 percent's is between 1 and 2 hectares, and the rest 4 percent has a rice field of size between 2 and 3 hectares. The household surveys reveal also that 96 households, about one-third of the all rice farmers, have a water pump at their rice fields. The other way round it means that two-thirds don't have and therefore two-thirds of rice farmers have only one yield per year. Now, if one hectare produces 3000 kg of rice per a yield, as the village chief claims, then over one-third of rice farming households earn from rice production less than 450 US\$ ( $3000 \text{ kg/ha} \times 0,3 \text{ \$/kg} \times 0,5 \text{ ha}$ ) per year.

After harvesting of rice men have two free months, which they spend mainly by, direct quote, playing volley ball. On the other hand, women are joking that men actually sing karaoke during those two months. In July men plant cucumbers and soy beans to be sold, take care of the plantation, and harvest in September. The rest of a year they fish food for their families by keeping fishing nets in the lake overnights.

Accordingly, women plant cucumbers into small plots behind their houses already in May and harvest in June. In July they grow sedge and in August they harvest it. From sedge they weave mats, which are then sold to some dealers. Women consider September and October as free months and the rest of a year they feel that they are doing domestic work. Actually they are working at home all the time, but the amount of work increases towards the end of a year.

Participants are asked to rate individually the amount of work they do in every month using scale from one to five. One means none, three some, and five a lot of work. It turns out that women rate the amount of time the work takes, while men rate how hard the work is. Similarly they are asked individually to estimate how much money they spend in every month and how much food they have in every month. Scale is the same; one means none and five means a lot. Results can be calculated from the seasonal calendars by dividing numbers by amounts of participants.

Rice cultivation is a full-time work. Farmers go to their fields to work every morning, rest in the afternoon, and go back to the fields in the evening. So, even men estimate that they have only some work in February and March, they still spend all their time working. The work is just not as physical as in January and April.

At the same time when their workload is the greatest they have to spend money the most and have food to eat the least. Farmers actually have to invest a lot of money to be even able to do their work. Help is needed to be hired for ploughing and harvesting.



Seeds, fertilizers, pesticides, and gasoline have to be bought from market. Same items are needed again when vegetables are grown. Men also need to buy some fishing gears in the end of a year.

Traditionally in Cambodian culture a woman is responsible for a family's money. Male interviewees put it, with a twinkle in their eyes, that men earn money and women spend it. That explains partly why women feel that they spend much more money during a year. It is women's responsibility to pay for children's health care, schooling, and clothes, for example. They also buy food and, this time a twinkle in women's eyes, wine for husbands.

On a personal level men spend the most on chemical fertilizers and secondly on gasoline. Comparably, women feel that they spend the most on different kind of machines: motorbike, water pump (for the home garden, not for the rice field), and some sort of motorbike washing machine (one's husband's business) and secondly on gasoline. Other products they buy are also processed goods (excluding most food products), which are naturally much more expensive than agricultural primary products and raw materials they have to offer. For that reason some rice farmers have to borrow money; some more, some less. They try to borrow from neighbors and relatives because they are afraid of micro-finance companies which are mainly just exploiting villagers. There was before one non-governmental organization (NGO) with a credit pool program operating in the village. Their goal was rather to help poor villagers out of poverty by granting capital to certain investments than only to maximize their own profit. But, according to the commune chief, they pulled out because no-one was willing to take responsibility in the credit group and see that the loans were actually serviced. Now that sort of micro-finance is missed.

The lack of affordable money lending has led to a situation where real estate companies are seen as saviors. Rice farmers with bigger plots of land are happy to sell parts of it and get some cash. These interviewees claim that already half of the farmers have sold at least bits of their land, while the others are waiting for prices to go higher up as they have heard that some company will buy the land in future. The ones who have sold all their land try to buy some land from their neighbors to live on and hope to find some labor work in the village.

The interviewees do understand that once all the land is sold it is also gone for good. And once they don't have any land left they neither do have their occupation and steady source of money and food anymore. They also understand that once all the land is sold they have to go to outside of the village to seek for work as paid labor. So, in the end they don't really want to sell their land but they feel that they don't have any options. Pressure from higher up to sell is very high as the land is threatened to be taken from them otherwise. But they are not willing to give up without a fight. They hope that complains and demonstrations will make the government to protect their land as has happened before. At the same time villagers are well aware that it is in the government's interest to lure investors into the area. A rumor goes that there is a plan to merge this area into Phnom Penh.

All in all, the interviewees have a higher faith in the commune council, monks in the pagoda, and the health center when it comes to institutions. Those are seen useful,

trustworthy, and helpful. In turn, the best sources for information and advices are the village chief, TV, and radio. The interviewees also express their concern on the situation of the poor. They feel that no-one is helping and caring for them. But instead of the government they wish that NGOs will come to help them.

For example, one interviewee's dream is to set up a buffalo farm and sell calves. To achieve this dream he needs to save some money. Therefore he needs to reduce his expenses in rice cultivation and still increase the yield at the same time. But because of increasing killings of snakes, the amounts of insects, rats, and mice have also increased. Therefore he must buy more expensive pesticides every year to protect his field. He feels that it is impossible for him to save money in this kind of a situation and only some NGO can help him to achieve his dream.

Similarly, the interviewees want an NGO to come and build an irrigation system for them so that they can have two yields per a year. When asking why they don't dig an irrigation canal by themselves, as there has already been one before, they reply that it is too expensive for them. Wondering of how it can be so expensive if they all participate, pick up shovels, and start to dig reveals again that there are actually some people opposing the irrigation canal. The interviewees feel that there isn't any solidarity in the village. Everyone is just thinking of oneself and therefore the poor lack everything. All must be tried and done by oneself. The interviewees are also afraid to take this great undertaking all by themselves as they feel that they don't have needed skills for it. One interviewee mentions though that the commune council has some plans to restore the irrigation canal.

### **2.2.3.2 The fishers**

The second session is held with a group of fishers. There is one woman in the village whose main vocation is fishing, but for some reason she is not allowed to participate. Hence all participants are middle-aged men. They are concerned of how recordings of the session are going to be used and also quite cautious in their answers on sensitive issues.

Also for fishers a year starts in January when problems with fishing and a need to borrow money start. In hot season from the end of a year to the middle of a year water level goes down and fish get rare in the lake. From January to June fishers get 2 to 3 kg of fish every day. So, in the first half of a year they fish only a little and try to earn some extra money by working as paid labor and selling firewood they collect.

Rains start to increase the amount of water in the lake in July. At the same time starts fishes' breeding season. In addition to water, flooding Mekong River brings along also more fishes to the lake. So, in the second half of a year fishers are busy with fishing. In July they get 5 kg of fish per day, from August to September 10 to 12 kg per day, and from October to December 5 to 6 kg per day.

This division can also be seen in how they estimate the amount of work they do every month. Months from July to October are the most workful for them. A bit confusingly those are also the months when fishing is prohibited by law because of the breeding

[illegible]

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The lake is divided to a public area and fishing lot owners' area. Fishing lots can be bought with money. Those are clearly marked and respected, so tensions over them are non-existent whereas in the public area illegal fishing causes conflicts time to time. The main form of illegal fishing is overfishing. Especially richer people from outside of the village with their modern fishing gears and huge small mesh fishing nets empty the lake quite effectively. Overall, more and more people are coming to fish at the lake leaving less and less fish into the lake.

Of course there is also fish in the Mekong River, but the interviewees don't have suitable equipments to fish there. Two of them have motors in their boats, but those are not powerful enough for strong currents of the river. The other two complain that with motors they will be able to fish much more from the lake. All of them complain that life is very hard and totally depending on fish. One compares his life to other villagers' and feels of being poor. He wishes that he will have more land and a bigger home.

Apparently there are two kinds of fishes in the lake: white fish and black fish. A season for black fish starts in July and ends in October. According to the village chief the producer price for white fish is 5000 riel~1,25 US\$ per kg and for black fish 10000 riel~2,5 US\$ per kg. From their daily catch the interviewees keep half kg for own consumption and sell the rest to dealers. To figure out the right price they ask offers from a few dealers and also other fishers about their selling prices. Room for price negotiations is much smaller, though, if you own money to the dealer. Then the dealer sets the price and the fisher is obligated to sell his catch to the dealer. These loans are actually more like money advances which are paid back in a day or two. The interest rate is taken in the price of the fish. Quite a few of fishers have this kind of arrangements with dealers.

The interviewees are individually asked to estimate how much money they have in every month using scale from one to five. One means not enough for basic consumption, three just enough for one's needs, and five that some money can be put aside. Results can be calculated from the seasonal calendar by dividing numbers by four or by scaling up the scale by four. The calendar reveals that only in three months, August to October, fishers have enough money to satisfy their needs. The money they can save in those three months is not enough to get them through low season. Therefore they have to take real loans as well. It is understood by the author that they borrow some money from micro-finance companies with an interest rate of 3,5 percent per month, but mainly they lend from their neighbors with a hefty interest rate of 20 percent per month because they can't fulfill the micro-finance companies' demands of guarantees as they don't have any property. Some of fishers are able to pay their yearly loans back in the very end of a year, and then start the cycle of debt again. But some are not. Thus they have to borrow more money on top of their old debts every year.

The fishers' estimation of their monthly spending of money in the seasonal calendar reveals that they spend the most in low season when they have the least of money. That shows how big portion food takes from their budget. In April they work in rice fields helping in harvesting and threshing. The seasonal calendar shows that the amount of their money is still minimal at that time, but the amount of spending decreases in May. That leads to a conclusion that they get their salary in rice.

In addition to food humans need also water. In rainy season the interviewees collect rain water to drink. When it finishes they use water from the river. From March on the river starts to dry up and water becomes muddy and finally undrinkable. At this point some start to use contaminated water from wells. In the interviewees' opinion the only nuisance of arsenic is that it makes skin smell bad, but maybe it also has something to do with them being heavily sick in April. The interviewees, though, like to believe that sicknesses result from dry and hot weather which causes a lot of road dust. That could explain flu symptoms but not really diarrhea, especially when the rice farmers are not sick at that time of a year. On the other hand, the rice farmers have fever and bad cold in October and November when the fishers don't. Maybe the representatives of both groups just can't be sick in their main working seasons. The rice farmers also claim that children have dengue fever in June and July.

Both the fishers and the rice farmers can afford to treat their illnesses. The fishers do need to spend more money in April than in surrounding months, though, but that is at least partly due to Khmer New Year, which is celebrated by taking food to the pagoda and later by singing, dancing, and drinking with the whole village under the shades of the Banyan tree. Things get usually quite rough during the party and brawls are said to be common. But moneywise the fishers consider Pchum Ben (Phum Bim in the seasonal calendars), which is celebrated on the 15<sup>th</sup> day of the 10<sup>th</sup> Khmer month, more burdensome for them, as can be seen in the seasonal calendar. At Pchum Ben deceased ancestors who are trapped in the spirit world because of their bad karma come on Earth as ghosts to repent their sins. Naturally they are starving, so the living ones prepare food for them to ease their suffering. Some of the food is tossed straight to the ancestors and the rest is given to monks, who act as mediators and deliver the food to the ancestors. Also money and other worldly materials are offered to monks because Pchum Ben is a favorable time to acquire merit to oneself, too.

The fishers claim that they also have to pay to their children's teachers. To new machines they have to invest once in every four or five years. New fishing gears aren't needed every year either, but when needed they are bought from outside of the village. There are skillful boat makers in the village but no wood. Similarly fishing nets, fish traps, and so on can be produced in the village, but the quality is not good enough for the fishers. They, as the rice farmers, think that the village's real resources are related to agriculture, more closely to rice, fish, and vegetables. To the fishers it seems, though, that the ones who benefit the most from their resources are dealers.

The fishers are quite fed up with fishing and especially of being dependent on natural resources on a daily basis. They feel a need for another occupation. Thus they think that for a better life they need more skills, and therefore they will gladly participate in vocational training if only some is offered for them. In the meanwhile the fishers plan to start chicken or pig rearing because then they can sell an animal and buy some rice to eat if they haven't been able to catch any fish. But once again the lack of money becomes an obstacle. They wish that there will be some NGO with cheap credits operating in their village in future. Actually the fishers yearn after that same NGO as the rice farmers do because it has provided well pumps, a kindergarten, and a school for another village.

The fishers feel that they can't contact any agents outside of the village straight by themselves. Everything must go through the commune chief or the village chief. Though, the village chief himself is displeased of micro-finance companies' way to give loans to villagers without consulting him first as they used to do. On the whole, the fishers have total confidence in the village chief. If they ever need some advices, information, or help they ask the village chief. Others they trust the most are monks at the pagoda. They consult them in matters concerning life. One fisher adds sarcastically that he trusts in alcohol and in a picture of a minister.

When asked what they would do if they had 1000 US\$ the fishers answered that they would invest it in chickens, water pumps, and create small businesses. They don't see any point in investing in fishing when there is no fish. Besides, they claim that the money is not enough for a boat needed in the Mekong River, which is quite surprising when you have seen what kind of boats are used there. The answer also reveals that the fishers are fishers only because they don't have any other means to survive. Probably for that reason they laugh when asking about their fishing skills. The fishers haven't ever heard of skill of fishing. Fishing is just something they must do.

Overall, the fishers are very worried about the direction of development. They wish that fishing in the lake will be more sustainable and rice cultivation will be protected so that rice farmers don't need to sell their fields. They are afraid that current progress will lead to a very hard life. The most sorry they feel for the next generation.

### **2.2.3.3 *The illiterates***

The last session is with a group of illiterate villagers. The plan is to have it with one male and one female representative from age groups of below twenty, from twenty to thirty, and over thirty; so six persons all together. Five people, four women and one man, and they all around twenties turn up. All of them but one are very shy and reserved at the beginning.

None of the participants have finished first grade in elementary school. Some did attend for a couple of months and some didn't even enroll. All of them have the same reason for dropping out. Their parents were so poor that they couldn't afford to keep them in school. Instead they needed to go to work as paid labor in rice fields, grow vegetables at home, and collect different items from nature to sell.

All of them want to go to school. They think that literacy will increase their quality of life because then they are able to learn from newspapers what is going on in the world and to acquire new skills from books, which helps them to find work. They would also like to learn to count better. Now they are capable of doing some addition and subtraction with small numbers, but not enough to do any business, for example. The values of banknotes they derive from pictures on and sizes of them.

They would like someone to teach them a couple of hours every day after their work. But still they want the teaching to be based on the official curriculum because they reckon it is the only way to learn to read, write, and count. Overall, they have a quite abstract view on learning processes. For example, they believe that they will know how

to read once someone has taught letters to them. Thus their understanding is that at first they have to learn to read, in other words the letters, and only after that they can learn other things from books. The idea of combining the two seems to be incomprehensible for them, or maybe the researchers are not explain it clearly enough to them.

They do agree, though, that they are far more interested in farming than, for example, in history. They do also agree that if learning to read requires a deeper content than just letters, it is better to have it around issues of their interests. Hence, they were asked to give examples of issues that they would like to know more about. Not so surprisingly their main topics are health (sanitation, hygiene, quality of drinking water, birth control), agriculture (pesticides), and animals (vaccinations, productivity, caretaking). From these the group votes productivity of poultry as the most interesting.

In the next stage we ponder together what kind of different forms and methods can be used in teaching literacy through poultry productivity. The illiterates are again stuck with formal ways of education. They think that the only way to learn is by copying texts from an official school book under a guidance of a formal teacher. But they also think that when it comes to poultry productivity it is better to actually see a poultry farm and people working there and also hear them explaining things. So the discussion is directed to ways to combine these different forms of learning so that one can actually learn many things at once, and also to find out what is their favorite media for learning if they only can choose. At the end the illiterates come to a conclusion that multimedia is a nice way to learn, but they don't see how it can be possible. At this point the author runs out of money and time, so the issue is left to them to ponder about.

## **2.3 Analysis**

The village is totally countryside, even it is located next to the capital city. Livelihood of the vast majority of the villagers is solely dependent on nature. Skills how to utilize nature are passed from one generation to the next generation. Probably for that reason villagers don't consider their know-how as skills. The main occupation is rice cultivation. Those who don't have enough land have to make their living from something else, for example fishing.

All of them have to invest some money, though, before they are able to profit from nature. Thus villagers have to borrow money time to time with high interest rates as their incomes are not steady and regular. Unfortunately for many villagers the profit they make is not big enough to compensate needed investments, loans, and living, and for many others it is barely enough but basically nothing can be put aside, not to mention to be able to invest in machinery.

The biggest reason for low profits for the rice cultivators is the lack of access to markets. The rice dealers have a cartel and the rice cultivators have no option but to sell to them for a price they set. For the fishers, instead, the reason is a financial dependence on the dealers. A fisher is obligated to sell his catch to a dealer who has lent money to him for a price the dealer sets. Also other producers' ability to commercially benefit from their products is limited by the lack of access to markets. The producers' low profits have naturally a negative impact on the service providers' profits, too.

The lack of access to affordable financial capital leads to the lack of access to physical capital. About two-thirds of the rice farmers can cultivate only one yield, instead of two, per year because they don't have water pumps at their rice fields. Partly this is also due to the lack of prestige because they don't have enough power to get the irrigation canal build.

Although, new overhead capital is going to be built into the area. Roads will be paved and electricity wired. But the roads work both ways. They better the villagers' access to the outside world, but they also better outsiders' access to the village. And migration has already started. Investors are lured to invest into the area. Not into rice cultivation, though, but to start their own businesses. Unfortunately they need the villagers' fields for that. Some of them just try to grab the land, others put pressure on the villagers to sell, some promise work in return for land, and some of the villagers are happy to sell to get some money. Likewise, more people come to fish in the lake, which has led to overfishing and thus killing the fishers' livelihood.

Losing their natural livelihoods put villagers into a lousy position. Most of them lack human capital and access to labor opportunities. Some might be able to start rice cultivation again in some more remote location with the money they get from selling their land, some might get some simple work from arriving companies, but for the rest future looks hard.

Villagers know that and they are not happy with the development. But they feel that they can't really affect on it anyway. Quite revealing is that villagers wish some NGO, not the state, to come and rescue them. Simultaneously this could make one wonder if villagers were lacking initiative as they were always crying for NGOs to give them money and do the work. But the shortage of money is indeed a massive obstacle to start anything new and villagers are lacking access to affordable finance. Among villagers there is also a will to better one's life. They desire for new skills, they just don't have access to acquire them. The lack of skills gives them also low confidence on themselves, and the poorest's low position in socio-economic ladder reduces their ability to act for their own better well-being. Poverty creates the lack of self-esteem, which makes making a change by oneself more challenging, especially if more powerful groups and individuals are opposing the change.

Why they didn't ask any NGO to come and help them then, one might continue. Then again, villagers are lacking knowledge of how it can be done, as well as contacts to right authorities. They also have a feeling that they can't contact outside agents by their own but everything must go through commune chief or village chief. Another feeling which hinders their capacity to act is the feeling of the lack of solidarity and communality. Villagers claim that everyone is just thinking of oneself and not taking responsibility for others, leading to a feeling that everything must be tried and done by oneself, and thus the poor lack everything. Sorrowfully the poor conclude that no-one is helping and taking care of them.



## 2.4 Discussion

It has to be admitted that the research is conducted in a way that would probably make Chambers feel awkward: in a short period of time at one place next to a capital city with a nice weather when it is cold, rainy, and dark at home. And the used method is not exactly PRA but rather Rapid Rural Appraisal (RRA), which is similar but used only for collecting information for outsiders. The main reason for these states of affairs was the author's lack of resources – time, finance, authority, health, linguistic abilities. Therefore this research should be seen only as what it is: a part of a master's thesis work.

The lack of resources also forced the author to depend mainly on “formal” channels of information. Informal meetings with the villagers were limited to only a few short walks around the area as the researchers were not allowed to stay overnights in the village. The problem with “formal” sessions is that they have to be organized through some authority, who, at the end, decide who can participate and who can't. Simultaneously the most marginalized are excluded from researchers' awareness.

In this case the researchers pre-picked participants to be interviewed based on the surveys but the village chief disapproved quite a few of them. In some cases there was a relevant reason, though, as it turned out that some selected villagers didn't cultivate rice anymore but had sold their land and moved to Phnom Penh. Also, some of the selected didn't want to participate. Thus there were some last minute changes in combinations of the groups.

And again for the author's lack of resources, information given by villagers and filtered through an interpreter to a language which wasn't any participants' native wasn't verified in any way. One could wonder, for example, how poor the fishers actually were financially if they earned about 1500 US\$ ( $10 \text{ kg} \times 2,5 \text{ \$/kg} \times 60 \text{ d}$ ) in just two months of August and September in a country where the minimum wage in garment, textile, and shoe industry, for example, was only 61 US\$ per month in 2011, and where the national poverty line was 2500 riel~60 cents per person per day in 2010 prices (CIDS, 2011)<sup>44</sup>. But it has to be said that they hide their wealth very well then. Seriously speaking, all the other evidences indicate that fishers are very poor. Actually, the evidences indicate that, on average, a poor fisher is poorer than a poor rice farmer, which then proves the fact that the poor are not just a homogeneous mass like they are often interpreted.

Instead, the author's total ignorance of rice cultivation prevented him to find out why rice wasn't cultivated in rainy season at all. For a layman the location looks perfect for growing rain-fed or even floating rice in those less busy months at the end of a year. However, in Ta Chha village rice farmers cultivate only dry season rice. According to the World Food Programme (WFP)<sup>45</sup> dry season production accounts only for 8 percent of the total crop area in Cambodia, primarily in places close to major rivers and their floodplains. Dry season rice's advantage is that it gives higher yields than wet season production, though.

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<sup>44</sup> <http://www.wageindicator.org/documents/publicationslist/publications-2011/Minimum-Wage-Compliance-Report-CAMBODIA.pdf>, accessed 3.11.2012.

<sup>45</sup> <http://www.foodsecurityatlas.org/khm/country/availability/agricultural-production>, accessed 3.11.2012.

Even it is a researcher's job to seek for the truth it is not the absolute truth that makes humans' world go round. Everyone makes own interpretations from a truth that is given to one and acts and thinks based on this worldview, not based on some theoretical ideal. Therefore understanding the poor's interpretations of "the truth", in other words their reality, is as important and even more fruitful as knowing "the truth" when it comes to reducing the poor's poverty. For example, for Ta Chha villagers the truth is that they feel that they are forced to sell their land, even the law, in other words the truth, says the opposite.

## **2.5 Conclusion**

This small case study illustrates how there is indeed a need for physical and human capital among the poor of Ta Chha village. But resources put in physical and human capital are wasted, or they end up to benefit someone else, if no attention is paid to social capital, too. For example, it would be technically quite easy to increase villagers' ability to take better care of themselves by organizing irrigation for all farmers, loans for ones who wanted to start animal rearing, more equipments for fishers, and education around wanted topics, but all these efforts would be lost when the lake was emptied from the fish and the land taken away by outsiders. Even just a fear of this prevents villagers to make big investments for future. Money get from selling the land is mainly spent in consumer goods and entertainments. According to the village chief 80 percent of male villagers are alcoholics. Still, awareness of injustice of land grabbing and access to the right authority have already once given villagers enough social capital to prevent plain thievery of their land by some corrupted public servant.

Therefore social capital, in other words access as the ability to benefit from resources, is that broader angle this master's thesis has been looking for. How that understanding can be refined to poverty reduction is then the next challenge.

### 3 Interpretation of findings

In economic sense poverty reduction can be divided into two components: accumulation of wealth and distribution of that wealth, in other words a nation's economic growth and a citizen's economic growth. There seems to be a common agreement that these two components can't be separated from each other. Disagreement is rather over whether the priority should be given to reducing poverty (which is then expected to lead to a more sustain economic growth) or to sustaining economic growth (which is then expected to lead to poverty reduction). The latter view seems to be winning as the international community's efforts on the issue have been vastly driven by worries of economic growth of developing countries. However, it is not in the scope of this work to analyze distribution patterns of wealth or methods for creating solid and sustainable economic growth in developing countries. This work concentrates on poor individuals in a given reality, while recognizing the impacts of money transfers and the size of an economy on the matter. Still, it is important to delve first into a history of global poverty reduction to get an understanding of what has been done and what has been more or less ignored.

Increase of financial capital has been considered to be the basis of developing countries' economic development. Financial capital is expected to materialize to physical capital through investments, and increase in physical capital is supposed to lead to a greater production, in other words economic growth. Over the decades, aid donors first financed developing countries' investments to modernize and increase domestic industrial production and overhead capital, later the focus turned more into reforming the societies to be economically more competitive and thus also more incentivizing for foreign private investors.

That policy seems to be finally paying off. Foreigners' enthusiasm to invest into developing countries has moneywise surged after the turn of the millennium (see figure 7). So has money transfers from abroad to home by immigrants and migrants, too (see figure 7). These money inflows have enabled developing countries, on average, to reach their previous economical per capita levels, and now they are starting to go beyond (see figure 4 and figure 6). However, what GDP statistics do not tell is that how much of profit flows to abroad<sup>46</sup>, and what GNI statistics do not tell is that how big amount of send money is spent on imported goods. Thus there is haziness over the amount of money that actually stays in developing countries' economies to benefit the citizens.

In addition to investments, aid donors have seen it also necessary to modernize the citizens of developing countries to maximize the effect of investments on economic growth and to awake them to regularly manipulate their environment for their own economic advantage. The basis of developing countries' cultural change has been in formal schooling system where pupils learn modern, capitalistic virtues along with Newtonian rationalism. Aid donors have emphasized the importance of basic education since 1960, and indeed, the amount of enrollments to primary schools in developing countries has exploded during these years (see figure 17).

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<sup>46</sup>[http://iff.gfintegrity.org/documents/dec2012Update/Illicit\\_Financial\\_Flows\\_from\\_Developing\\_Countries\\_2001-2010-HighRes.pdf](http://iff.gfintegrity.org/documents/dec2012Update/Illicit_Financial_Flows_from_Developing_Countries_2001-2010-HighRes.pdf), accessed 15.4.2013.

Certainly, human capital, in other words skills, is an important ingredient of technical change, which then, instead of investments, is the source of sustained economic growth in the long-run, both in national and individual levels. In formal schooling system actual skills needed to succeed in modern environments are learnt in secondary and higher education levels. Even the average enrollment rate to secondary education in developing countries has been increasing steadily over the years, it is still lagging far behind from the primary education enrollments (see figure 17). Conclusion is that in developing countries the poor drop out from formal education before any actual skills are taught. Thus the poor's skills are mainly inherited or they have to figure them out by themselves.

On the other hand, there are not so many professional jobs available in developing countries anyway. For the poor formal work opportunities are mainly around simple manual labor where needed procedures are explained at the work. Besides, even these options are rare, and thus the size of informal sector is huge in developing countries<sup>47</sup>. That takes us back to investments as they create formal jobs. But as long as there is "unlimited" supply of unskilled labor, there is also a temptation to pay subsistence, or even less, wages, which doesn't really improve the poor's situation.

Because of the lack of available formal jobs in developing countries, and also the lack of access to formal labor opportunities, the same principles of poverty reduction are also taken straight to the poor. NGOs are organizing and supporting micro-finance, basic education, vocational training, and infrastructure around developing countries in a try to empower the poor to become agents of their own development. The poor of informal sector are already entrepreneurs by necessity. Thus the vision is that by increasing their physical and human capital they will become more successful entrepreneurs, who even employ other poor and trickle down the wealth. So, their economic growth is supposed to increase their own ability to take better care of themselves and also of others' welfare.

The trickle-down effect has achieved some sort of a status of naturalness. It has been inferred from history that a nation's income inequality follows an inverse-U shaped curve while the nation's economic growth processes. At first income inequality increases before wealth starts to trickle down to the poor as well. Unfortunately global wealth hasn't trickled down to everyone yet. Still today every seventh person is living on less than \$1,25 a day<sup>48</sup>, which is considered by the international community as the indicator of extreme poverty. Almost half of the population is living in poverty, i.e. on less than \$2 a day<sup>49</sup>. Therefore it is hard to describe the international community's almost 70-year efforts to eradicate poverty as a success. Emphasizing physical and human capital and the trickle-down effect has not brought a decent, satisfying life to everyone, which Truman ([1949] 1964, pp. 114-115)<sup>50</sup> proclaim to be the right of all people.

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<sup>47</sup> <http://www.ilo.org/dyn/infoecon/docs/441/F596332090/women%20and%20men%20stat%20picture.pdf> accessed 27.1.2013.

<sup>48</sup> <http://www.un.org/millenniumgoals/pdf/MDG%20Report%202012.pdf>, accessed 29.1.2013.

<sup>49</sup> [http://siteresources.worldbank.org/INTPOVCALNET/Resources/Global\\_Poverty\\_Update\\_2012\\_02-29-12.pdf](http://siteresources.worldbank.org/INTPOVCALNET/Resources/Global_Poverty_Update_2012_02-29-12.pdf), accessed 3.11.2012.

<sup>50</sup> <http://quod.lib.umich.edu/p/ppotpus/4729029.1949.001?view=toc>, accessed 2.11.2012.

But Kuznets (1955)<sup>51</sup>, who noticed the historical regularity of the trickle-down effect, also underlined that it was dangerous to take this pattern for granted in the changing world just because it seemed to be the case in the past. Income equality is not only related to a nation's economic growth, but also to wider political processes. Li (2007) explains how created conditions for economic growth simultaneously set conditions for some sections of population to be dispossessed. This societal transformation strengthens or reshapes political-economic relations in society. When social impact is ignored in poverty reduction, the poor stop to be political actors and become only the targets of governmental programs launched in the name of their well-being. Simultaneously this incomplete diagnosis of the problem makes interventions focus only on the poor's capacities for formal action and on physical objects, not on practices through which one social group impoverishes another. Poverty reduction can never achieve all it seeks if more attention is not paid to social capital's role in the process.

In this work term "social capital" is a synonym for the ability to benefit from things (e.g. material objects, persons, institutions, symbols) which can constrain or enable individuals to take advantage of resources. Social capital can be based on rights, but most of all it is based on power, which evolves from social identity, economic status, social relations, knowledge, and access. Peluso and Ribot (2003)<sup>52</sup> divide people to the ones who have acquired the ability to control others' resource access, the ones who try to maintain their resource access open, and the ones who try to gain resource access. Division of profits is then negotiated between these actors. The poor are the ones with poor resource access and poor negotiation power. In other words, their ability to benefit from things is poor.

The case study concretizes how poverty stems not only from the lack of physical and human capital, but ultimately from the lack of social capital, which actually includes also access to physical and human capital. Like everyone else, also villagers of Ta Chha village live underneath webs of power, which regulate individuals' access to capital, production, exchange, technology, opportunities, labor, forms of knowledge, realms of authority, and so on. Benefits obtained through access are then divided to shares based on negotiations under burden of kinship, reciprocity, patronage, dependence, obligation, and so on.

All in all, resource access and benefiting from that access are results of complex and changing social identities and social relations. Poverty is an outcome of those multiple ways these forces work and interact. Accepting that is a key to poverty reduction. And even if it would be true that poverty reduction was inevitable and natural consequence of economic growth, this work sees that the process can be accelerated by increasing the poor's social capital, in other words ability to access to and benefit from resources.

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<sup>51</sup>[http://courses.nus.edu.sg/course/ecshua/eca5374/Economics%20growth%20and%20income%20inequality\\_Kuznets\\_AER55.pdf](http://courses.nus.edu.sg/course/ecshua/eca5374/Economics%20growth%20and%20income%20inequality_Kuznets_AER55.pdf), accessed 2.11.2012.

<sup>52</sup>[http://ourenvironment.berkeley.edu/wp-content/uploads/2011/09/Theory\\_of\\_Access.pdf](http://ourenvironment.berkeley.edu/wp-content/uploads/2011/09/Theory_of_Access.pdf), accessed 15.3.2013.



## 4 Transforming results to product development project

The problem of poverty can't be solved by technical solutions as it stems essentially from social exclusion. Technology can only provide tools to support processes of social inclusion of the poor. More precisely it means increasing the poor's ability to benefit from things that can constrain or enable their benefiting from resources by providing relevant access. Relevant access can mean, for example, access to equality and rights, access to authorities and services, access to affordable financial capital and modern physical capital, access to commercial markets and labor markets, access to knowledge and (relevant) education, access to mobility and social relations, and so on.

### 4.1 Specifications

What kind of access is needed depends on the case. Every poor is an individual with individual needs. One-suits-all kind of solution does not really suit all but empower some and impoverish some others. Li (2007) strongly criticizes experts for ignoring this in their interventions to reduce poverty. She claims that experts bound and characterize problems so that their interventions match their repertoire. Identification of a problem is thus intimately linked to the availability of a solution. As experts' repertoire offers only certain, technical, solutions, identified deficiencies are represented as objective, neutral, and value-free and cast in legal or scientific terminology to emphasize these characteristics. This kind of recasting of problems in the neutral language of science makes them, erroneously, non-political. Thus key social- and political-economic processes are excluded from experts' calculations and new conditions devised to correct identified deficiencies by adjusting the poor's conduct can't eradicate poverty.

This practice of "rendering technical", as Li calls it, also constitutes a boundary between those who need to be developed and those who will do the developing. Only a properly trained expert has access to certain knowledge and techniques to identify problems and solutions. Expert status also carries authority to shape discursive terms – e.g. "economic growth", "sustainable development", "climate change", "empowerment", etc. – to naturalize interventions in the name of the poor's or common well-being. Thus possible resistance by dispossessed against development programs is often just attributed to their failure to understand what is good for them. Chambers noticed though already in 1983 that greater misery could ensue if experts' decisions and actions were based on false impressions and beliefs.

Therefore, as Chambers (1983) argues, it is essential to understand mechanisms and nature of poverty better when acting to reduce others' poverty. Things have to be seen from the other end, through the poor's eyes. The direction of teaching and learning has to be reversed so that those at the top learn from those below. The poor's needs, practices, interests, problems, skills, strengths, capabilities, possibilities, weaknesses, incapacities, as well as historical and cultural backgrounds can be tried to be identified by going there and visit them, but something always escapes outsider's attention as the poorest are also the most marginalized. Thus an individual poor should also have a straight access to influence on designing of that technical tool that will be designed to reduce one's poverty.

These specifications modify the product vision statement to the form of “Develop an interactive and adaptive tool for the global poor to increase their access to and benefiting from individually relevant resources.”

## **4.2 Product sketching**

The demand for individuality and formability set tight terms for the product. It has to serve an individual poor’s changing needs and wants, and even increase one’s awareness of opportunities and possibilities. Thus, what we are talking about here is rather a system than a product in its traditional meaning. And more precisely a real-time service to which the poor must have access to. Both the service and access are equally important.

The demand for acting on changing realities creates a demand for a proactive service provider, an operator who upkeeps and updates the service. The operator’s job is to create, find, maintain, organize, and moderate content, and also to provide a channel for the poor to use content, place requests on content, influence on content, and share content they create. Thus the service is an open, but still moderated, platform for content providers and users.

The operator searches for necessities and encouragements by trying to understand the poor’s reality, for example with similar methods as are used in this work. Findings are then translated to content by the operator. Of course, the searching and translating can be outsourced to external actors, and already existing data and applications can be used. It is also important that the operator listens to the poor’s wishes and suggestions for content as outsiders can’t ever grasp the whole, changing reality of the poor. Hence every poor must have unrestricted, direct, and easy access to the operator, as well as a possibility to create and upload own material.

The magnitude of the latest demands means that a special device is needed to gain access to the service. Operating of the device must be clear and simple even to uneducated, illiterate persons. The user interface must enable every poor to communicate with the operator, access to content, and share own material. In addition, attention must be paid to usability of content, too. The operator must organize the whole content so that the poor can find relevant content and use it beneficially. After all, the main purpose of content is to provide access for the poor to relevant information, contacts, formalities, education, and publicity.

## **4.3 Discussion**

Admittedly, the contradiction is seemingly blatant here: an engineer is reducing poverty by offering a technical solution based on his repertoire. Another extreme would be to lay back and watch diverse forces determine patterns of change. But as actions, also non-actions have an impact.



When seeing technology as a tool, not as an ultimate solution, we can offer wider range of solutions – including also non-technical ones – from where a poor can choose topics that interest and benefit one. And by making the tool interactive we can diminish that gap between experts' reality and the poor's reality. A direct link between aid donors and aid receivers can also diminish the physical gap between these actors. Loads of NGOs are doing wonderful, but quite often small-scale work with limited resources around the world. A common, interactive platform enables to reach masses and to answer to changes quickly, efficiently, and accurately. It provides to NGOs a channel to spread their ideas, and on the other hand to use existing content in their work.

The poorest are also the most marginalized and hence their self-confidence is low and attitude resigned, or, in the other extreme, defiant. Thus, content could be shaped to strengthen the poor's confidence in themselves and in their own knowledge and culture. Interactivity, in turn, enables the poor to share their wisdoms and concerns with others creating thus empowering physical and psychical dimensions, as well as points of departure for greater communality. Therefore one goal of the product is to encourage the poor to create content also by themselves by sharing, for example, their traditional knowledge. This would hopefully increase their self-confidence, feel of worthiness, and communality. At least it would preserve samples of the poor's cultures, histories, languages, and knowledge for later generations.

Naturally, openness creates possibilities for wrongdoers, too. For example, the system can be tried to be used for malicious propaganda, discrimination, and human trafficking, or to violate the poor's intellectual property rights of their traditional knowledge. As the whole idea is to try to help poor people, not to make their life even more miserable, it is justifiable to moderate uploaded material. Besides, the poor will invest money and time into the product only if they feel that they are really benefiting from it. Therefore content that increases quickly the poor's capabilities to increase their own well-being must be available from the very beginning.

## **4.4 Conclusion**

“The poor” is not a homogenous group of people living in poverty. They are all individuals with individual skills, needs, interests, and obstacles. On top of global, national, and societal hierarchies there are also many different hierarchical structures among the poor which define a poor individual's position in a community. All these hierarchies together affect on a poor individual's ability to access to and benefit from resources which can improve one's well-being. More precisely, between a poor and a resource there are things that control access to and benefiting from the resource. Poverty emerges from these diverse relationships. Hence, poverty can be reduced by providing a tool to contact, use, and affect on things.

This tool must be personal as every poor is an individual with individual skills, needs, interests, and obstacles. The tool must also be interactive and adaptive as skills, needs, interests, and obstacles change over time. For the same reason the tool must include a library from where a poor can choose materials that are relevant for the one at that precise moment. The library and content that is stored into it must be usable even for

illiterate people so that they can easily find and use everything that is relevant to their well-being.

Interactivity gives a voice to the poor so that they don't have to just passively wait and receive what is offered to them by outsiders. Instead they can affect on content, have a straight contact to different agents, and share their own material. Hopefully this will also increase the poor's self-confidence, communal organization, and networking, as well as preserve cultural heritages.

The outcome of this work is a brief product development description to design an interactive and adaptive tool to provide access for the poor to relevant information, contacts, formalities, education, and publicity. The next step would be then to start the actual product development project. If someone got interested, the author can be reached through gmail in address pekka.thesis.

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