Influencing factors leading to adolescent pregnancy in tea estates in Sri Lanka

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The Netherlands

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A thesis submitted in partial fulfillment of the requirement for the degree of Master of Public Health

by

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Declaration :
Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.
The thesis ***Influencing factors leading to adolescent pregnancy*** is my own work.

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INFLUENCING FACTORS LEADING TO ADOLESCENT PREGNANCIES IN THE TEA ESTATES IN SRI LANKA.

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Abstract

Problem: Adolescent pregnancies are an emerging problem in Sri Lanka and particular among Indian Tamil adolescents (10-19 years) from the tea estates. The risks and consequences for health and socio –economical risks for mother and child such as increased risk for maternal and infant mortality are unacceptable large.

The research question for this thesis: what are the influencing factors for adolescents (10-19 years) in Sri Lanka, particularly in tea estates, that lead to pregnancy and STI including HIV infection ?

Methodology: Relevant literature has been reviewed to give an overview on the contributing factors. A conceptual framework from WHO was used to structure and analyze the findings. Evidence based preventive interventions in Asia guided to present recommendations for a local ngo and the local government.

Findings: the influencing factors leading to adolescent pregnancy in Sri Lanka occur in a society where premarital sex is unacceptable. Sri Lankan adolescents, and even less adolescents on the tea estates, have little knowledge on reproductive health and lack negotiation skills. Condom use is low and accessibility to contraceptives is insufficient.

Conclusions : Adolescents in Sri Lankan tea estates are likely to engage in unprotected sexual activity with an associated increased risk for unwanted pregnancy STI including HIV infection. Lack of knowledge, skills and limited access to contraceptives, leads to severe unwanted health and social consequences. Family Life Education has insufficient impact to prevent adolescent pregnancies.

Recommendation : Adolescents in Sri Lanka and especially in the tea estates, have an evident need for more access to quality reproductive health information as well as appropriate services which address their sexual and reproductive health needs. Behavioral change is the key for improvement and therefore Family Life Education need strengthening, with additional efforts to improve skills and knowledge of teachers and clinical staff.

Abbreviations

ADFA-forum	Arena for Development of FAcilitators- Forum
AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Care
ARH	Adolescent Reproductive Health
CBO	Community Based Organizations
DHS	Department of Health Services
DHS	Demographic and Health Survey
DS	Divisional Secretary
ECP	Emergency Contraceptive Pills
EMA	Tea estate Medical Assistant
FHB	Family Health Bureau
FPASL	Family Planning Association of Sri Lanka
GNI	Gross National Income
HIV	Human Immunodeficiency Virus
MCH	Mother and Child Health
MOH	Medical Office of Health
NGO	Non Governmental Organization
NYSC	National Youth Service Council
OCP	Oral Contraceptive Pills
PHDT	Plantation Housing Development Trust
PHI	Poverty Headcount Index
PHM	Public Health Midwife
PHSWT	Plantation Housing Social Welfare Trust
PRA	Participatory Rural Appraisal
RTI	Reproductive Tract Infection
SRH&R	Sexual – and Reproductive Health & Rights
SL	Sri Lanka
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infection
TFR	Total Fertility Rate
UNFPA	United Nation Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WWC	Well Women Clinic
YFHS	Youth Friendly Health Services

Definitions:

Adolescence:

The WHO defines *adolescence* as the period of life between 10-19 years, while *youth* is defined between 15- 24 years and *young people* as those between 10-24 years.
Sometimes adolescence period is divided in *adolescents* aged 15-19 years and *young adolescents* in the age group 10-14 years.
These definitions are often used interchangeably, because for all 3 periods it is a dynamic transition period in life from childhood to adult into maturity. Adolescence is influenced by biological aspects like changes in physical appearance and reproductive capability, as well by psychological - and cognitive aspects and by changes in socio-cultural conditions.

In this thesis I will focus only on adolescents, those in the age period 10-19 years. Though, sometimes the terms 'teenager', 'girls and boys' or 'young women', 'young men' and young people are also used to make the text more easy to read.
Some studies that are relevant to the 10-19 year old group, cover the WHO defined youth or young people age group and these terms are used in the text as in the studies.

The term 'adolescence pregnancy' means pregnant women aged 10-19 years[1], for which the term 'teenage pregnancy' is used synonymously (WHO, 2004). Due to difference in pregnancies the literature distinguishes adolescents aged 15-19 years and younger adolescents aged 10-14.

Preface

My first working experience in Sri Lanka in 1999 was as a public health nurse with an international humanitarian organization. After seven years (in 2007) a friend gave me the opportunity to collaborate with a local non governmental organization (ngo) in Central Province of Sri Lanka. This ngo, called ADFA (Arena for Development of Facilitators – Forum), is an organization initiated and managed by adolescents and young people working on voluntary basis for the benefit of the youths in their sub district Panwila. Through using participatory approaches they encourage involvement of youth to initiate a development process of the community and strengthen alternative leadership of youths.

ADFA staff shared their experiences about the life in the tea estates, and about the difficulties young people face due to social- and political exclusion, poor economical situation, their dependence of the tea estate cooperation, violence of human rights, poor living circumstances, shortage of health facilities, etc.

ADFA staff shared with me their concerns about the health related problems of poor sanitation and nutrition. Other expressed concerns were sexual -and reproductive health (SRH) and rights issues; especially their lack of knowledge about so-called woman's issues and not being aware about signs and symptoms of sexual transmitted infections (STI). Speaking about SRH problems is a strong taboo in the Tamil culture and even health workers are difficult to approach for SRH problems. The cultural barrier will force them to discuss in secret and to hide complains. As consequence youths gain their knowledge from the 'street' and develop unsafe sexual behaviors and practices. ADFA staff feels the necessity to discuss about it but is lacking of adequate information and skills to address the SRH need.

During one of the field visits to Malewataga we went to the beautiful hills covered with bright green tea bushes, which give the impression of an area where people live in peace and harmony. At the same time one can observe the difficult circumstances and the hardships these communities have to face in their daily life. It was amazing to see that people are living in houses which are obvious too small and in very poor condition, struggling with shortage in means of water and sanitation and lacking of waste management. Crowds of little children, tiny women were walking over the muddy paths of the slopes carrying 25 kg bags full with tea leaves, while the men were already in drunk condition.

These personal experiences motivated me to look into contributing factors to pregnancies among adolescents; how well prepared are adolescents at the time they engage themselves in sexual activities? Are adolescents aware of the risks and consequences of their sexual practices? Particular the risk of getting pregnant for unmarried adolescent girls may create an embarrassing situation since the Sri Lankan society doesn't accept pregnancies outside marriage.

The focus of this thesis will be on the ***influencing factors in the Sri Lankan society, and particular in the tea estates, resulting in pregnancy at adolescent age***. Based on the results of this literature review recommendations

will be provided to ADFA and the local government nd reproductive health of adolescents to prevent adolescent pregnancies in the tea estates.

Introduction

After the World War II the western economies developed, education was extended for boys and girls, family structures changed including the way of living, and social control by parents, family and community declined. Premarital sex practices were still discouraged by the society, but if unplanned conception occurred, an early marriage was arranged to 'solve' the problem. However, new developments resulted in an increase of premarital sexual intercourse among adolescents including the numbers of adolescent pregnancies. Since 1960-'70 the western society as well as health authorities worldwide have perceived these growing numbers of adolescent pregnancies as an emerging public health problem (WHO, 2004)

In Sri Lanka is the issue of adolescent pregnancy, particularly among unmarried adolescents, is a growing public health concern as well. There are about 3,7 million adolescents in Sri Lanka, which is almost 19% of the population and herewith the biggest group of the population. Preliminary analysis of DHS data 2006/7 shows that there are 28 live births per 1000 women in Sri Lanka. In the tea estates of Sri Lanka this number is 38 live births per 1000 women in the same age group.

The consequences of an adolescent pregnancy, and in particular the pregnancies among adolescents in the age group below 15 years, have its impact on the health condition of young women. The physical immaturity of an adolescent will increase the risk for preterm birth (WHO, 2004), prolonged labour (WHO, 2004 and eclampsia which put life of mother and child in danger. Also socio-economically a pregnancy has its implication for individual young women and her whole family, because her opportunities for further education and employment are diminished and her future prospects are destroyed.

The core research question for this thesis is: what are the influencing factors in Sri Lanka and particularly in the tea estates that lead to risk taking sexual behaviour among adolescents.

A literature review was carried out to provide an overview of the most important influencing factors leading to adolescent pregnancy in Sri Lanka, including a brief overview of the interventions implemented by the Sri Lankan government and NGO's.
The results of the literature review gives insight in the specific reproductive health needs of adolescents.
The evidence based effective preventive interventions conducted in other parts of the world, will form the basis to identify feasible interventions to address the needs of adolescents and to support reduction of adolescent pregnancies in order prevent negative health outcomes of a pregnancy in Sri Lanka. Subsequently, recommendations will be given to the local ngo ADFA and the Divisional Health Department.

Chapter 1 presents the background of Sri Lanka. Chapter 2 describes adolescent pregnancy rates and childbirth from worldwide perspective and particular in Sri

Lanka, followed by the health related and socio-economic consequences of adolescent pregnancy. Attention will be paid to the chance of unwanted pregnancies and the risks of acquiring STI including HIV infection, leading to the formulation of a problem statement. In conclusion, the aim of this thesis follows and the methodology used for literature review.
Chapter 3 presents in four paragraphs the findings of the literature review. In chapter 4 Conclusion and discussion are combined to the analyze findings of the literature and presents implications for improvement of Reproductive Health Needs of adolescents in Sri Lanka and in the tea estates. In the last chapter recommendations will be given to the ngo ADFA, the tea estate management and the local government regarding the role each of them can play in the implementation of preventive interventions in their respective Division.

1 Background Sri Lanka

The Democratic Socialist Republic of Sri Lanka, formerly known as Ceylon, is an island of 65,610 sq km and is located almost 30 km southeast of India in the Indian Ocean. Since November 2005 it is ruled by President Mahinda Rajapakse.

1.1 Population

Sri Lanka has a stable population size of 19,121,000 (UNPD, 2005), 80% live in rural area, almost 15% live in urban area, and more then 5% of the population live in the tea estates (DCS, 2001). It is a heterogeneous country with four different ethnic groups. The largest group is the Sinhalese people (82%) who are mainly concentrated in the central - and southern regions.
The Tamils comprise 9,4% of the population and are divided in two ethnic groups; the Sri Lankan (or Ceylon) Tamils (4,3%) who have traditionally inhabited the Northern - and Eastern regions; and the Indian Tamils (5,1%) or the so-called tea estate Tamils, who are originally from South India and were brought in the 20th century as plantation labourers to work on the tea estates in the Central Highlands. Another ethnic group is the Sri Lanka Moors (7,9%) and about 0,7% of the population belong to Burghers (families of mixed Sri Lanka – Europe), Malay (traders from Malaysia) and Vedas, the tribal people (Munck, 2004).

Religion

The four ethnic groups are divided along religious beliefs and language; the majority of Sinhalese people are Buddhist (69,1% of population) and speak Sinhalese. The majority of Tamils are Hindus (7,1% of the population is Hindu) and speak Tamil. The Sri Lankan Moors and Malay population are Muslims (7,6%). More than 6% of Tamils and Sinhalese are converted in Christian beliefs (mainly Roman Catholic) and the Burghers are Christians (DCS, 2001).

Language

Sinhalese is the official language, though nowadays Tamil language is also taught in the schools. Nevertheless not all information is available in Tamil language which limits access to information on health and social economical and political issues for the Tamil speaking population. Due to differences in ethnicity, schools are segregated according to ethnicity and language. Public schools teach their subjects either in Sinhalese or Tamil, with the majority of schools using the Sinhalese medium only.

Political situation

Today, it is 25 years ago that the Liberation Tigers of Tamil Eelam (LTTE) from the Sri Lankan Tamils began an armed fight against the Sinhalese government. The underlying issue of the civil conflict in the North and East is the struggle for justice and equal political -, economical - and cultural rights starting in 1950 after independence. Until this day they have been fighting for their own state in North – and East of Sri Lanka and this ethnic conflict has cost more than 65.000 lives (Nissam, 2003).

Without doubt the war has an immense impact on the health situation of the Sri Lankan population in general, and particularly on vulnerable groups of the society. Too many adolescents have been robbed of their dignity through sexual harassment and coercion of Sri Lankan and Indian Tamils living in Sri Lanka (UNICEF, 2008).

1.2 Indian Tamils in the tea estates

An estimated number of 859.000 Indian Tamils are living in the tea estates of the Central Province and Uva Province. These Tamils from Indian origin are mainly located in remote areas of six districts Nuwara Eliya (43%), Badulla (21%), Ratnapura (11%), Kandy (9,3%), Matale (6,8%) and Kegalle (6,4%). The percentage from total Indian Tamil population is in brackets (Aheeyar, 2006). In this thesis only data from Nuwara Eliya and Badulla are used to represent conditions for the tea estates (see annex 1).

The tea estate families received basic needs as housing and health care from the tea estate management team within the premises of the tea estate. Therefore workers don't need to leave the tea estates and don't get the opportunity to interact with the communities 'outside' the tea estates. Also for outsiders it is difficult to enter the tea estates without permission of the tea estate management team. The geographical isolation, the differences in social-cultural background and deprivation of citizenship and their right to vote, have forced them to live in isolated condition (Aheeyar, 2006). The tea estate Tamils were considered as 'non-people (Walker, 2006) and herewith they remained one of the most neglected groups in Sri Lanka (Nissan, 1996). While Makenthiran (2004) compared lives of Tamils who lived in Apartheid in South Africa with the Tamils living in the tea estates of Sri Lanka, and found that the latter ones are treated much worse.

1.3 Education

Education in Sri Lanka is compulsory for all children between 5-14 years and is provided for free by the government. This has resulted in a high literacy rate of almost 91% in 2001, with a literacy rate of males 94,5% and females over 90%. Herewith the country is projected to reach the targets of the Millennium Development Goals. The tea estates have achieved literacy rates of only 88,3 for males and 74,7% from women with no education for men and women of resp. 13% and 26,3% (Central Bank of Sri Lanka, 2005).
The ministry of Education has integrated Family Life Education in the national curriculum for primary schools and secondary schools with different modules in each grade. This topic will be elaborated on in paragraph 3.3 (UNESCO, ch 3 2007).

1.4 Socio- economic situation

Sri Lanka is lower-middle income country, with a Gross National Income (GNI) per capita of $1.160 and in 2003 it achieved ranking 93 (out of 177 countries) in the Human Development Index. Herewith Sri Lanka is among the wealthiest countries in the region. Still poverty exists particularly in the tea estate sector in- and around the central highlands. While the Indian Tamils are producing about

35% of the Sri Lanka's wealth, economically they have been the most disadvantaged group throughout the country (Tamil Information Center, 2006). The average household income in the tea estates is 57% of national average household income and the mean income per capita is only 54% from the national mean income per capita (Aheeyar, 2006 & Central Bank of Sri Lanka, 2005)
According the Poverty Headcount Index (PHI) 15% of the population in Sri Lanka is categorized as poor people. PHI has decreased in almost all districts except for District Nuwara Eliya where it has increased from 23% to 34% in resp. year 2002 and 2007. The lowest PHI is reported in Colombo with 5% (DCS, 2006/7).

1.5 Health

General

Health is a longstanding priority of the national government policy and the United Nations Millennium Development Goals have been attained nationwide. Sri Lanka has achieved impressive improvements in the health sector and therefore in general the health status of the population is defined as 'good' by the WHO.

Table 1-1: Main health indicators

Main health indicators :	***Sri Lanka***	***Nuwara Eliya District***
Crude Birth Rate[1]	*18,7*	*20,3*
Total Fertility Rate[1]	*2,4*	*2,6*
Life expectancy at birth[2]	*71,0*	
Percentage Teenage pregnancy, 2005[3]	*6,2*	*4,1*
Neonatal mortality rate/1000 live births[4]	*9,2*	*13,9*
Infant mortality rate/1000 live births[4]	*11,2*	*15,6*
Maternal Mortality Ratio/ 100.000 live births, 2004[3]	*38,0*	*74,0*
Percentage Low Birth Weight[5]	*16,9*	*29,8*
Total expenditure on health % GDP[6]	*3,6*	
Expenditure on health as % of general government exp[6].	*7,0*	

Source: *1. Demographic and Health Survey 2006/7*
2. WHO Report 2006
3. Family Health Bureau Sri Lanka
4. Registrar's General Department 2003
5. Demographic and Health Survey 2005
6 National Health Accounts

Nevertheless there are regional disparities (WHO Fact sheet). From the main indicators in the table above can be seen that people in Nuwara Eliya District are less benefitting from the health gains than the population in Colombo urban area and in comparison with the overall population in Sri Lanka. Especially the maternal mortality is almost twice as high versus the national maternal mortality rate.

Sri Lanka has suffered of many natural disasters like landslides and floods in 2003, droughts in 2002-04, and the tsunami in December 2004. The latter one caused more than 35.000 deaths, displaced more than 850.000 people, destroyed 92 health facilities and devastated the major portion of the coastal area (WHO Fact sheet).
Massive displacements of people either due to natural disaster or to ethnic conflict, during which young people often loose protection of parents and

community, which have contributed to their vulnerability for sexual harassment, coercion and abuse (UNESCO Ch.5 2007?)

Reproductive Health

Since the International Conference on Population and Development (ICPD) in 1994 in Cairo, significant progress has been made in understanding about sexual and reproductive health.

The Sri Lankan government adopted the Programme of Action approved by the ICPD, to address the Reproductive Health needs of women.

Regarding Adolescent Reproductive Health (ARH) it was agreed at the ICPD that adolescents and youth have the right to receive information and education in order to enable them to make the right choices to prevent themselves from unintended and unwanted pregnancies, abortion, RTI and STI including HIV infection, infertility, sexual coercion and exploitation or maternal death (WHO, UNFPA & UNICEF, 2006).

1.6 Health Care System

Sri Lanka is divided into 9 Provinces, 25 Districts and 305 Divisional Secretary areas. The Provincial Administration is vested in the Provincial Councils, consisting of elected representatives of the people, headed by a Governor who is nominated by the Central Government in the Health sector.

Conflict, migration, low fertility rate and changes in the age-structure of the population (Silva, 1999) has brought epidemiological transition with new challenges for the health system (WHO Factsheet SL). In 2003 the Health Ministry has redefined its strategic direction in the *Strategic Framework for Health Development in Sri Lanka.*

Public Health Services

Most people live within 5 km of a health facility. The quality of services in the primary health facilities is low due to lack of staff, basic medication and equipment, which result in under-utilisation of these facilities. There is a concentration of medical staff in the hospital at secondary and tertiary level and thus patients rather prefer to visit these hospitals (WHO factsheet)

In collaboration with ngo's like UNFPA, UNICEF and PLAN in some urban areas and in few tea estate areas Youth Friendly Health Services clinics has been set up and integrated in existing hospital.

Public Health Midwives (PHM)

The Mother and Child Health (MCH) services ore organized through the Family Health Bureau in Colombo. It has been set up yet in mid 1920 and since 1970 maternal health services were given all priority in the overall health delivery system.

Over the whole country are well organized Health Divisions which has a network of Medical Offices of Health (MOH) and health units to provide clinic based maternal health, child health and family planning services. The MOH has divided its division in geographical determined areas with a population of 2000-5000 people, where a PHM is available and has the responsibility to provide MCH care services. She conducts home visits to pregnant women, mothers and children and provides education and advice on health issues and does counseling on family planning to eligible couples in her area.

The public health service in the tea estates are the same. In the private owned tea estates the Plantation Human Development Trust (PHDT) midwives provide preventive health services for Mother and Child care free of charge and Estate Medical Assistants (EMA) provide curative services in estate based clinics (PHDT, 2008).

The women in the tea estates (Nuwara Eliya and Badulla) and the less educated women (including adolescents) are less likely to deliver with medical assistance or to deliver in a health facility due to geographical distance and lack of pregnancy leave from employer (DHS, 2006/7 and CEPA, 2005)

2 Adolescent pregnancies worldwide and in Sri Lanka: what's the problem?

Related risks and consequences of adolescent pregnancy and how it affect their health condition, social- and economic well-being of adolescents, their children and the society (WHO, 2004), may be perceived differently.
In the past, in many parts of the world soon after menarche most girls were married and became in short time mother at adolescent age. Adolescent pregnancies and childbearing does exist already for many decades and has never been considered as a problem (WHO, 2004 AP).

This chapter will present the magnitude and the consequences of adolescent pregnancies. The first paragraph starts with epidemiology of adolescent pregnancies and childbirth worldwide and in Sri Lanka. Paragraph 2 will present the magnitude and consequences of adolescent pregnancy which will lead to the problem statement with formulation of aims and objectives for this thesis. Paragraph 3 presents the methodology used to conduct the literature review?

2.1 Epidemiology

2.1.1 Adolescent birthrates worldwide

Despite adolescent pregnancy has been given more attention in the last decades it is still a common phenomenon in many countries over the world. Between 1995 - 2000 approximately 14 million adolescents aged 15 -19 years gave each year birth, from who 12,8 million births were given by adolescents in developing countries.

In the most industrialized countries there is declining trend in adolescent childbearing. Having said this, it is interesting to emphasize that the average of births in Northern America is 51 per 1000 women aged 15-19 years, while in Asia and Sri Lanka the averages of births among the same age group is resp. 39 and 38 per 1000 women. As mention before it should be highlighted that in the tea estates the average is 28 births per 1000 women in the same age group.

Despite these estimates might be affected by reporting errors, Sample Registration Systems has shown a general decline worldwide in age specific fertility rates among women this age group from 88 to 54 births per 1000 women in resp. 1987 to 1997 (World Population Monitoring, 2002).

Table 2-1: Averages of births per 1000 women aged 15-19 years in different Regions:

World average	: 54
Europe	: 25
Africa	: 115
Latin America / Caribbean	: 75
Asia	: 39
Oceania	: 39
Japan	: 5
Northern America	: 51
Sri Lanka1	: 28
The tea estates	: 38

Source : *UN - World Population Monitoring 2002*
1 Preliminary Report: DHS Sri Lanka 2006/7

2.1.2 Adolescent pregnancy and childbirth in Sri Lanka

Sri Lanka has approximately 3,7 million adolescents in 2006. About 1.8 million are aged between 10-14 years, this equals to 9% of the population, while 1.9 million adolescents are aged 15-19 years equals to 9,7% of the population (Registrars Gen Department, 2006).

Pregnancies

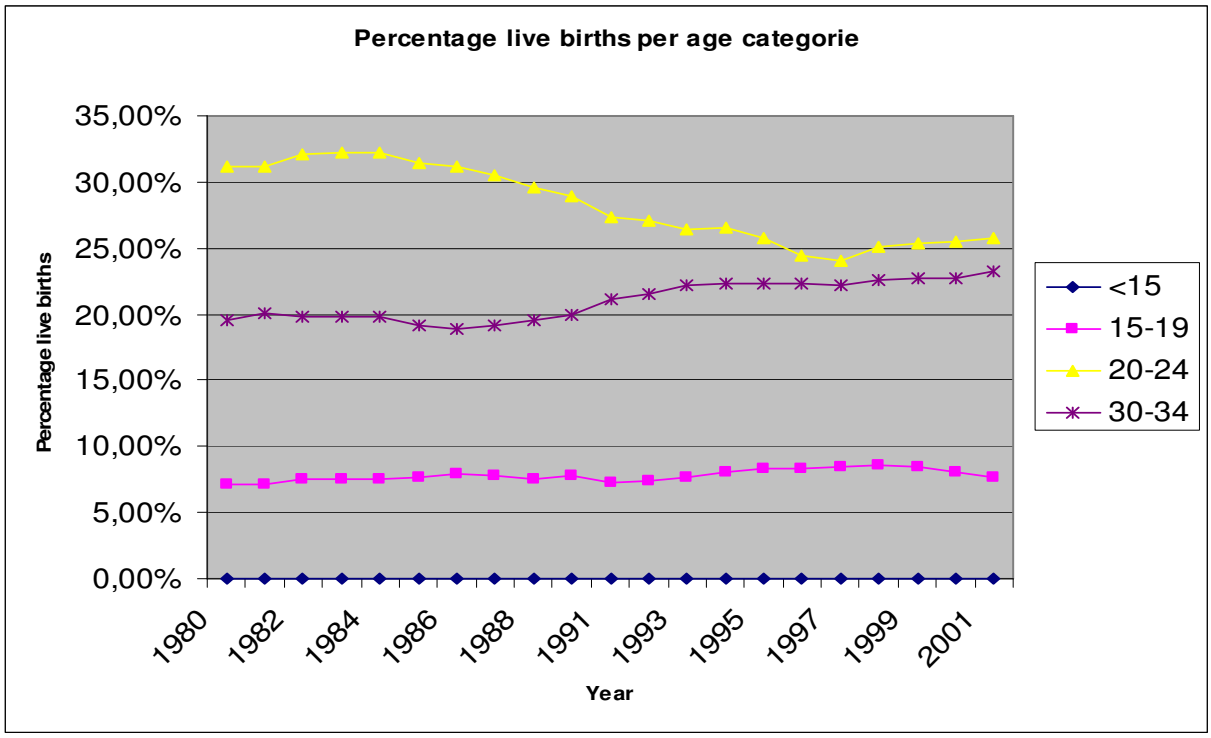
Most of the pregnant women aged 15-19 years in Sri Lanka received antenatal care (ANC) in the clinic or at home from the PHM (AH-Factsheet, 2007)). In 2005 the Family Health Bureau reported that from all pregnancies 6,2% (12.029) were adolescent pregnancies under care of the PHM and 4,1 % adolescent pregnancies in the tea estates. However, with the given average of 28.000 live births per year in Sri Lanka reported in DHS 2006/7, there is huge discrepantion between the data from both sources. About 16.000 adolescent pregnancies seem not to be reported and are likely not receiving ANC.

Almost 80% of all pregnancies that are under care of the PHM have been attended by the PHM too during delivery. This means that 20% was not under care anymore, has delivered in other places or child died in stillbirth or abortion.

In the tea estates might the risks for women (including adolescents) be higher since they are less likely to deliver with skilled attendance.

Childbirth

Table 2-2: Percentage live births among different age groups from 1980 - 2001



Source: Department for Census and Statistics Sri Lanka - Registrars General's Department

Between 1980 and 2001 the percentage of live births among adolescents 15-19 years of age in Sri Lanka slightly increased from 7% to 8,5% of all live births. Absolute numbers varied between 30.674 in 1982 and 25.730 in 1988 in the age group of 15-19 years.

Only a gradual shift of live births can be seen from the decline in the percentage of live births in the age group 20-24 years, while there is a slight increase of births in the age group of 30-34 years. Among the young adolescents age group 10 -14 year it has been between 0,02-0,05%, which means in absolute numbers 100-120 childbirths from 1990 to 2001 (DHS, 2006/7).
Percentages for districts in the tea estates could not be found neither form the literature nor form the local government sources.

2.2 Consequences of adolescent pregnancy worldwide and in Sri Lanka

In the last decades, the health needs of pregnant women have been extensively researched. Also implications of adolescent pregnancies have been well described (WHO, 2007).
In this paragraph the health risks for mother and child are explained followed by a brief outline of the socio economical consequences for pregnant adolescents, with a special focus on pregnancy among unmarried girls. Besides the fact girls become pregnant from unprotected sex, at the same time those girls having unprotected sex were also at risk for acquiring an STI including HIV infection; the last section will take this issue into consideration.

2.2.1 Health risks for mother and child

Maternal Mortality and Morbidity Worldwide
Adolescent pregnancy and childbearing have high risk for negative health effects on mother and child health (Bhakta, 2003). Physiological and psychological immaturity of adolescent women makes them more vulnerable for reproductive health problems and more likely to die from complications during pregnancy and childbearing. Pregnant adolescents aged 15-19 years are twice as likely to die during delivery and the young adolescents aged below 15 years are five times more likely to die during delivery (WHO, 2004) which resulted in 13% of all maternal deaths are due to adolescent pregnancy. Morbidity among adolescence due to pregnancy and childbirth accounts for 15% of the Global Burden of Diseases.

Maternal mortality among adolescents in Sri Lanka

Table 2-3: Percentage of deaths among 15-24 years related to different causes of death

Deaths due to	% in 15-24 age group :
Pregnancy and childbirth	17%
Pregnancy with abortion	23%
Intentional self harm	20%
Assaults	16%
Disappearance	31%
Accidents; transport, falls, drowning, fires and poisonings	13%
All other external causes	34%

Source: Registrars General's Department, 2001

A normal adolescent period is free from childhood diseases and effect of ageing. In 2001, 4706 deaths equaled with a death rate of 1,5% in the age group 15-24 (Registrars' Gen. Dep., 2006). Though this is the age group of young people and thus beyond the adolescent age group, these data give a picture on what the risks to die off are at young age. From maternal deaths 17% occurs in age group 15-24 years and Goonawardene (2003) stated in his research that from all maternal deaths, more than 8% were mothers in adolescent age (not in table). About 23% of all deaths due to abortion occur among young women (AH Fact Sheet, 2007). Data on reasons for committing suicide are scarce, but the embarrassing situation of pregnancy while unmarried may contribute to consider suicide.

A recent study in Sri Lanka illustrates that older adolescents had a higher risk of anemia, while younger adolescents had higher risk of high blood pressure and pre-eclampsia. The older adolescents had also significant higher risk of preterm birth at 34 weeks of the pregnancy[2].

Children born to adolescent girls are more likely to be born premature and to be born with low birth weight. Also the complications related to pregnancy and delivery is resulting in higher child mortality. (WHO, AP, 2004)
Infant Mortality Rate has shown a declining trend in the last four decades from 34/1000 live births in 1980 and to 13 in 2000. Between 1970 and 1997 resp. 60% and 70% of the infant deaths are contributed by neonatal deaths.
Although in Sri Lanka infant and under five mortality levels are low, studies have shown that child mortality levels are higher among women with who are below 20 years [3].

Table 2-4: Childmortality among mothers aged below 20 years and 20-29 years

Mortality	Age mother Below 20 years	Age mother 20-29 year
Neonatal mortality	17,9	13,9
Infant mortality	21,5	20,0
Under-five mortality	25,1	21,5

Source: Sri Lanka Demographic and Health Survey (DHS) 2000

2.2.2 . Social Economic Burden

Adolescent pregnancy and childbearing has a big impact on girls' future prospects. The chance to follow further education has decreased and will reduce opportunities for employment. This situation will threaten her economic development and her overall well being. The pregnancy has driven her into the vicious cycle of poverty and adolescent mothers may bring their children into a same standard of life with poor health, following lower education and they are more likely to become mother at adolescent age themselves (WHO, AP 2004).
In the tea estates it is likely that adolescent pregnancy is a big social and economic burden for girls. In the tea estates girls and women are main income earners and work fulltime at 14 years of age. Girls will not get any compensation from employer and remains dependent from her parents. In chapter 3 this will be further elaborated.

2.2.3 Abortion

Most of the pregnancies and childbearing occur within marriage or other formal union. (WHO, 2007). In Asia only 2% of the adolescents have their first childbirth before marriage. Pregnancies among unmarried adolescents are more likely to be unplanned and unwanted and thought to end in abortions (WHO, 2004).

Sri Lanka is facing a trend of increasing unplanned -and unwanted pregnancies among the age group 15-24 years (Silva, 2008). If conception occurs to young women while unmarried, the mental burden of social exclusion from family and the society will contribute to a stressful pregnancy, delivery and motherhood period.
Another alternative is that she may decide to terminate her pregnancy in secret. Because, induced abortion is illegal in Sri Lanka, unless mother's life is at danger. Thus the legal and also social restrictions force young girls to make use of unskilled providers performing unsafe abortion procedures.
It is expected that abortions among adolescents will increase, because only 42% of adolescents are not aware of the risk that induced abortion may even lead to death (UNICEF/MOH, 2004).

Abortion is still illegal in Sri Lanka unless a woman's life is in danger. About 80% of the abortions were performed in private clinics or government hospitals. The remaining 20% are not reported and might be done in 'other' ways (Silva, abortion doc).

Silva reported 2% - 8,6% among abortions seekers are in the age group below 19 years, while study shows that in 2003 between 150.000 -175.000 illegal abortions are conducted and 19% is among the aged between 15-24 years; the majority was married (POLICY; Silva et al, 2000).
On the World Population Day on the 1st of July 2007, the Health Education Bureau in Colombo (Sirisena, 2007), revealed that every day 658 illegal abortions have been performed in Sri Lanka. This means more than 240.000 abortions annually and is in shrill contrast to a total number of 340.000 births a year (Sunday Observer 2007).

The various sources are highlighting different percentages of abortions in general and the proportions of abortion conducted among adolescents. Because the illegal nature of abortion, that will contribute to mal – and underreporting.

2.2.4 Sexual Transmitted Infections and HIV infection

At the time adolescent girls become pregnant from having unprotected sex, she has also put herself at risk for acquiring an RTI, STI including HIV infection. The frequency of sex and the number of sex partners will even increase this risk.

While the prevalence of STI's is on the rise among young people, the prevalence of HIV infection and AIDS patients is still very low. In 2004 there were no infections of HIV reported among young people aged 15-24 years (HIV AIDS – Factsheet 2006). No data were available about the number of infants born to HIV infected women who are infected.
Nevertheless Sri Lanka is at high risk to develop an HIV-epidemic because the increasing sexually active youth population. Numbers of sex workers are increasing including child exploitation and abuse, migration to urban industrial zones or to Middle East for employment and an increased numbers of youths in armed army forces. (Country Report HIV/AIDS UNGASS).

Table 2-5: Percentage of ever married female adolescents aged 15-19 years aware of at least of three symptoms of STI's

Knowledge about symptoms	Year 2000
Know symptoms in both	14,5%
Know symptoms in females	18,5%
Know symptoms in male	16,3%

Source: Demographic Health Survey, 2000

The table above shows that married female adolescents aged 15-19 years have very low awareness about symptoms of STI's.

A national survey (UNICEF/MOH, 2004) highlighted that adolescents had poor knowledge on STI including HIV infection and AIDS. Only 57% of school going adolescents knew about the existence of STI's in general, and less than 20% knew correct answers on questions about signs and symptoms of STI's it's prevention.
Regarding the existence of HIV infection and AIDS, only 59% of the adolescents were aware and less then 50% knows about transmission and prevention.
Females scored slightly better then males and knowledge on STD's increased with age and with better socio-economic situation of the adolescents. On all aspects the Tamil population scored lower than the Sinhalese population.

Though, in general there seems to be a lack of comprehensive and accurate information on STI's and the link between STI and HIV/AIDS lacks. Data showed that the out-of school adolescents scored slightly better then the school going adolescents despite the interviewed topics were included in the curriculum of school (UNICEF/MOH, 2004).

Low knowledge and awareness about STD's including HIV infection and AIDS, reduce their understanding about the risks of unprotected sex. It is assumed that this will influence their motivation of using condoms. Actual data on condom use will be discussed in paragraph 3.2.4

2.3 Problem statement

Sri Lanka is one of the countries in the South East Asia region with impressive health outcomes and has achieved the lowest maternal mortality - and child mortality ratios since 1970. The population growth is stabilized as the Total Fertility Rate (TFR) has declined to 1,9 in 2000. This as result of a trend in delaying age at marriage to 23 years and the desire among married couples to limit the number of children (UNESCO, ch.4, 2007). While the mean age of marriage is increasing, at the same time the mean age at first sexual intercourse is declining (UNESCO, Ch 7.,2006). The premarital period is getting longer and the chance that unmarried adolescents will be sexual active is getting bigger.
Family planning methods is one of the important measures that will enable them to postpone pregnancy, but, usually unmarried adolescents are excluded from family planning or reproductive health services. Furthermore, good understanding on reproductive health among adolescents and the skills to put the knowledge into practice is essential to take informed decisions which can prevent them from unprotected sex and reduce the risk for unwanted pregnancy and STI including HIV infection.

Despite in Sri Lanka the age specific fertility rate for women 15-19 years is low and the absolute numbers of adolescent pregnancies are not as high in comparison with other Asian countries like India and Bangladesh or continents , 'adolescent pregnancies' is a public health concern which should be addressed in order to prevent expansion of the problem or better to reduce it further down.

However, with a growing proportion of unmarried adolescents it is seems that the proportion of pregnancies during adolescence period outside marriage has increased. The Sri Lankan society, in particular adolescents at the tea estates does not accept pregnancies outside marriages and, therefore, these pregnancies more likely perceived as an unwanted pregnancy with life threatening consequences.

Worldwide it is estimated that between 2,2 to 4 million abortions are performed among adolescents, while about 14% of all unsafe abortions in developing countries are conducted on adolescents. In Sri Lanka, 19% of the 150-170.000 unsafe abortions have been done among adolescents (Silva, 2003). Often women experience the complications of unsafe abortions like haemorrhage, with serious danger of maternal mortality.

The absolute numbers of births and the percentage of all live births among adolescents have remained stable the last decades. Only the number of births among young adolescents below 15 years has shown a reduction. Herewith the socio-economic consequences and the health risks for mother and child related to pregnancy and childbirth has remained. Although the maternal health services have been dramatically improved in Sri Lanka, this can not eliminate the risks of adolescent pregnancy.

As Sri Lanka has to deal with the challenge to reduce adolescent pregnancies by addressing the SRH&R needs in general and particularly in the tea estates, it is of great importance to make a good assessment of their needs. Therefore the aim of this thesis is to give and overview of the influencing factors leading to

adolescent pregnancies. Based on the findings of the literature review, recommendations will be provided to support prevention of adolescent pregnancies in the tea estates.

2.3.1 Objectives of the thesis

I. To identify and describe the influencing factors leading to adolescent pregnancies in Sri Lanka in general and those living in the tea-tea estates in particular
II. To describe feasible and effective interventions to reduce incidence adolescent pregnancies and improve Sexual - and Reproductive Health for adolescents
III. To draw implications for improving SRH&R for adolescents in the tea-tea estates in Sri Lanka

2.4 Methodology

2.4.1 Search strategy

Criteria for studies to include in the review
This literature review includes published and unpublished literature from 1985 to 2008. Due to time constrains only English publications have been taken into consideration. Peer reviewed articles has been used, but due to lack of data about the tea estates in Sri Lanka also literature which has not been reviewed for publications.

The search included the following databases :

- Pubmed; popline; Science Direct, Cochrane Library, Vrije University Library,
- From International Organizations : World Health Organization (WHO) in Geneve and Colombo-Sri Lanka, United Nations Children's Fund (UNICEF), United Nations Educational, Scientific and Cultural Organisation (UNESCO) United Nation Population Fund (UNFPA)
- From International Non Governmental Organizations like Guttmacher Institute, Family Health International, International PPF
- From National websites : Ministry of Health & Nutrition in Sri Lanka, Department for Census and Statistics, Ceylon Medical Journal,
- Unpublished data from personal experience in PRA survey conducted in 2 villages in the tea estates of Panwila Division, Central Province to illustrate the circumstances in the tea estates
- Documents on Adolescent Reproductive Health for age groups 15-19 years
- From on-line web-based articles using Google search engine.

Search terms *:*
Abortion, Adolescent/adolescence, Developing countries, Effective interventions Knowledge, Peer education, Plantations, Reproductive Tract Infections, Sexual attitudes & behavior, Sex education, Sexual Transmitted Infections, Sri Lanka, The tea estate, Teenage / adolescent pregnancies, Unintended/ unwanted pregnancies, Youth, Youth Friendly Health Services

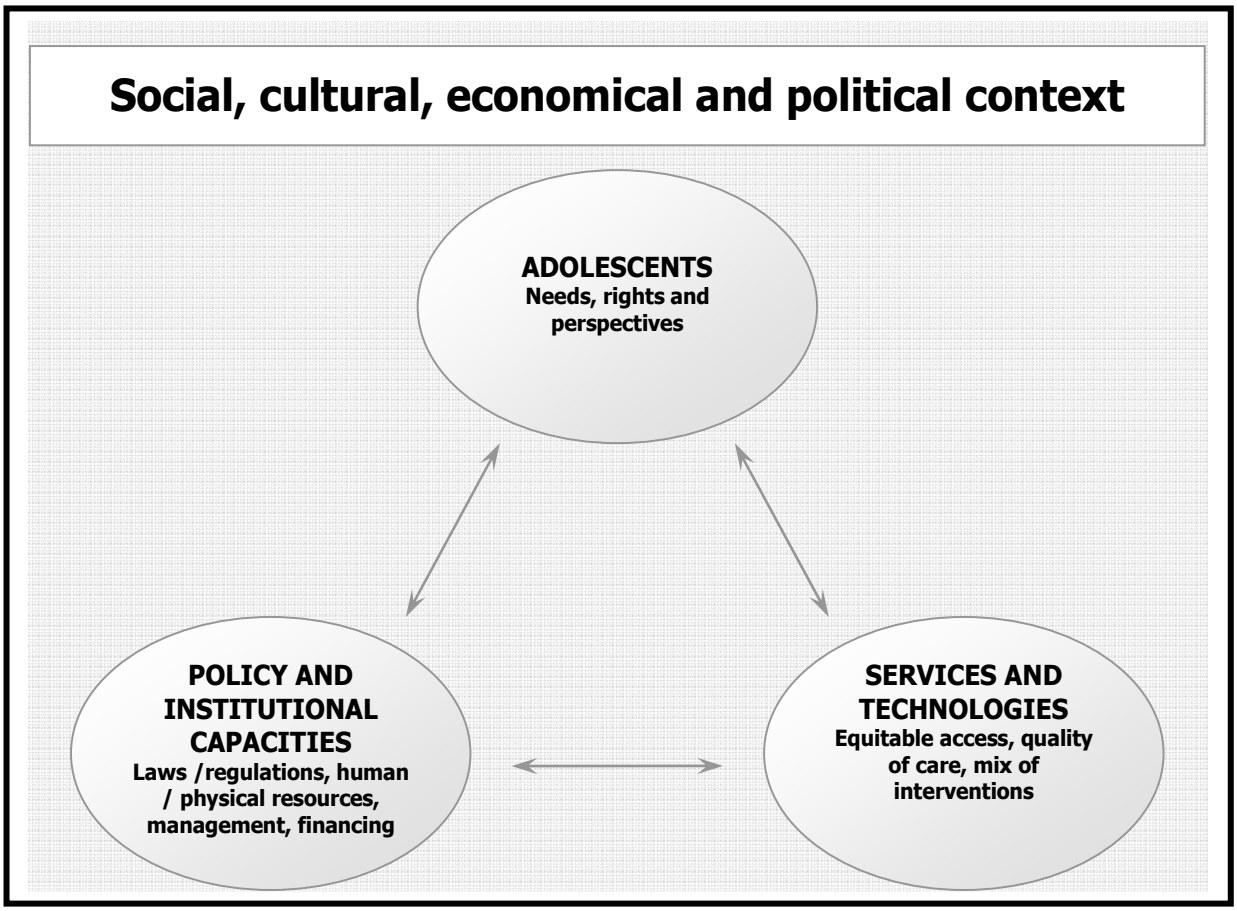
Personal contact:

- Personal conversation with Program officer Adolescent Reproductive Health at WHO in Geneva
- Email conversation with Program Officer Adolescent Reproductive Health at WHO Colombo, UNICEF Colombo and UNFPA in Sri Lanka to obtain published and unpublished data.

2.4.2 Methods

In this thesis a systems framework as presented below, which guides WHO's Strategic Approach to improve Sexual - and Reproductive Health policies and programs (WHO, 2007)[4], will be used to assess the influencing factors leading to pregnancy during adolescence period. The 4 different components in this framework, 'context', 'adolescents', 'services' and 'policies& laws' - will correlate with the different paragraphs in the following chapters to structure the findings.

The indirect contextual factors are partly described already in chapter 1, while some more direct related factors are described under chapter 3.
This systems framework pays attention to all critical factors that may influence the feasibility, acceptability, effectiveness and sustainability of interventions to improve reproductive health.



2.4.3 Limitations of the study

There is quite some data available on pregnant adolescents in general, but the circumstances and conditions of pregnant adolescents vary widely in each country due to differences in socio-economical status, educational background and available services. Many articles and data on sexual and reproductive health in Sri Lanka are from before 2000, since a lot of research has been conducted after the ICPD. However particular studies on knowledge on SRH among adolescents in the tea estates and their attitudes and behavior are scarce and therefore difficult to draw conclusions about the tea estates based on evidence. As only literature in English has been included, no comparison could be made with authors from other countries, who may have different school of thoughts.

3 Factors that influence to adolescent pregnancies

This chapter will describe in 5 paragraphs the findings in the literature on factors influencing adolescents which lead them to pregnancy. WHO's system framework (par. 2.4.2) is used to structure these findings; starting in the first paragraph with the context that describes how demographic trends and socio-cultural factors influence adolescents life in Sri Lanka and how it influence their SRH perceptions and beliefs. The next 3 paragraphs continue with influencing factors from the three categories: adolescents themselves, the SRH services provided to adolescents and the existing policies - and laws that protect adolescents SRH. The last paragraph gives an overview of the evidence based effective interventions to reduce adolescent pregnancies

3.1 Context; Sri Lanka

Poverty reduction, socio-economical development, improvement on education on girls and nutritional status have attributed to prolonging adolescent period for both, boys and girls. These played important roles in the issue of adolescent pregnancy and resulted in demographic transitions in age at menarche, age at first intercourse and age at marriage.

3.1.1 Age at menarche

Menarche means that girls biologically mature to engage in sex and to become pregnant at young age (Bhakta, 2002). In the last decades studies on age at menarche has shown that globally the age at menarche has been declined[5]. Various factors like improved socio-economical – and environmental conditions, improved nutritional status of the population and exposure to modern life, have attributed to the fall the age of menarche in Sri Lanka. In 1901 age of menarche was 14 years and has been declined till 12 years in 2000 (Adolescent Health, 2007).

3.1.2 Age at first intercourse

The mean age at first intercourse for boys is at 15,3 years and for girl 14,4 years. About 43% among school going adolescents had their sexual debut with their lover, another 46% had their first sex with friends with who they are not in love, but 11% had their sexual debut with commercial sex workers (UNICEF-MOH, 2004., DCS 2000[6].)

3.1.3 Age at marriage

Age of marriage is an important trend to take in consideration because most of the childbearing occurs among married women. Therefore it is expected that an increase in age of marriage to over 20 years of age will result in a reduction of the number of births among adolescents.

Sri Lanka

Sri Lanka is identified as the leader in the Asian region regarding changing patterns in marriages (Caldwell et al. 1989; De Silva). In contrast with other countries in South Asia, Sri Lankan's have already practiced "late marriages" since 1900[7]; the age at marriage for women was in 1901 still 18,1 years and increased to 24,6 years in 2000 which is thought to caused by the difficulties in obtaining an adequate *dowry* for the bride (Munck, 2003). The legalization of age of marriage for both men and women at 18 years and the increase in education and employment for girls have attributed to a gradual decline in the proportion of married women aged 15-19 and 20-24 years (WHO, 2004).

The latter one is in line with the results of DHS 2006/7; the median age at marriage increases according the level of education; women without education or only primary education the median age is 20 years while women with secondary education the median age is at 24. There are no ages of marriage between the different districts reported.

Early marriages below 15 years

In many countries in South Asia boys and girls get married at age below 19 years. In Bangladesh 73% of the adolescent girls are married, in India 40% of adolescent girls are married while in Sri Lanka only 7% of the adolescents are married (The World's Youth 2006 Data Sheet). This is more or less the same condition as in developed countries, like 10-15% in France and United Kingdom and 3-4% Germany and Poland

Still 1,5% among women aged 20-24 years were married at age below 15 years (AH Fact sheet) and has been reduced in 2003 to 0,04% that equals to 81 marriages among women below 16 years. Herewith the problem of early marriages appears not to be such a big concern in Sri Lanka (DCS, Registrar General's Department + ARH Policy) as it is in Bangladesh and India (IWHC, 2007).

Adolescent marriages

Gender imbalance can be noted when looking at the percentages of adolescent boys and girls that are married. In 2001 more 10% of all adolescent girls and 1,5% of adolescent boys aged 15-19 were married (DCS, 2001). From all marriages in the age group 16-20 years in 2003 (DHS), more then 27% were among girls against 6% only among boys. No data were reported in DHS regarding age of marriage in the tea estates.

Arranged marriage vs love marriage

Traditionally, marriages are arranged by the parents preferably with cross-cousins or other kinship relatives. The horoscopes of the prospective bride and bridegroom determine if both are 'compatible' to each other. There-after the negotiations between the two families over the dowry can start. Traditionally, in rural areas money, land and housing are important components of the dowry, while in urban area it is more the prestige that will be brought by the bride or groom that need to be settled. Marriages are viewed more as contract between families, rather than an 'agreement' between two individuals (Munck).

In a society where parents' pressure for education has dominated the importance to get married and where young women didn't feel a great need to engage

themselves in marriage, from itself the female age at marriage has risen up. The love or 'non-arranged' marriages are now the majority of the marriages mainly in urban area. However the agreement that the groom should have employment and the bride should have been employed as well, will result in another delay of marriage due to high unemployment among adolescents and youth (Caldwell), [8]. Also in the tea estates it is not uncommon that marriages-by-choice occur. Though, that doesn't mean that the partner of choice is somebody from outside the family. Since domestic violence and abuse is common in the tea estates, one of the motives of girls to prefer a man within the family is to insure herself against violence, sexual abuse and abandonment. Men from the same family are more likely to have affection and understanding for their wife then men form outside the family (Philips, 2005)

3.2 Adolescent needs, rights and perspectives

In this paragraph included the reflection on the link between context and adolescent perspectives and practices. How the different factor are influencing the perspectives from adolescents and beliefs on friendships and relationships, intimacy and sexuality and contraceptives

3.2.1 Norms and values - Gender identity related to adolescent boys and girls

This sub paragraph will try to explore about the social norms and values that exist in Sri Lanka and in the tea estates about gender differences and how these will influencing the roles boys and girls expect to play regarding sexuality on reproductive health. What does it mean to be boy or girl from Indian Tamil culture?

In the tea estate Tamil population, birth of a son is higher valued then birth of a girl, because a boy ensures continuation of the family name, and protection of sisters and parents at old age is guaranteed. For a girls it is different; the belief in 'sin of female birth' makes that girls are valued just as 'common' and useful in future as substitution of mother, homemaker and income earner (Philips, 2005). Adolescent girls learn to fulfill the role of being the ideal woman; someone who is obedient, modest and hard working (Munck, 2003). Often, the first daughter replaces her mother in taking care for younger children in case mother is working in Middle East (Philips, 2005).

The tea estate community has several rituals for menstruation, marriage and reproduction for women to reinforce the South Indian ideologies about women's nature and gender roles. She is not supposed to expose any sign of immoral behavior like flirting, cursing, disobedient behavior, drinking or smoking, and being seen in places where women should be (Munck, 2003). The male society in the tea estate believes that women are potentially dangerous persons because women have a stronger libido and sexual drive then men has. Traditional ideas exist that women are born with an 'emotional, spontaneous and irrational'

character that leads to uncontrolled sexuality and herewith is for male sexual abuse and exploitation explained (Philips, 2005).

Therefore young girls are very much restricted in their movements and that they should be accompanied by an adult if she wants to go in public (Munck, 2003). Even, mothers in the tea estates cannot leave their young daughters alone and have to accompany them in morning to take bath in public places or to go to toilet in the bushes (Philips, 2005). Tea estate women don't have the power to decide if they need to go to hospital with their child as it is an 'outside' issue (Pieris, 1997).

Virginity

Virginity at the time of marriage is very important for girls, and perceived of less importance for boys. The society put an enourmous value on the virgitnity of girls and it appears that young people seems to internalize this tradition. This is illustrated with the results of a study in Sri Lanka (Silva and Schensul, 200-?) on differences in attitudes of men and women towards premarital sex among unmarried youth and adults aged 17-28 years. About 57% of males and 82% of the females aged 17-28 years would like to be virgin at marriage. With only 14% of the girls compare to 46% of the boys who find it acceptable having sex without destroying a girls' virginity. Herewith girls are more likely to adhere to the norm of virginity because the consequences of premarital sex for girls are more

Table 3-1: Attitudes towards premarital sexual activity, by sex and study group aged 17-28 year

	Sex		**Study group**	
Per cent who agree or strongly agree with the following statements	**Female *(N=301)***	**Male *(N=314)***	**Low income *(N=303)***	**University *(N=312)***
I would like to marry/be a virgin at marriage (%)	82	57	68	70
It is wrong to destroy virginity before marriage (%)	76	65	67	73
It is acceptable to have sex if it does not destroy the virginity of a girl (%)	14	46	33	28

However, from question it is not clear which forms of sex are mend her. Different forms of sex can still safe guard virginity.

To guarantee virginity all ethnic groups in Sri Lanka perceive premarital sex practices as immoral and the whole family and sometimes the entire community is held responsible for the immoral sexual behavior (Munck, 2003).

Discussion

From the finding above we can assume that adolescent pregnancy among Tea estate community is accepted as long a girl is married and has protected her virginity. Premarital sex is not allowed and therefore is pregnancy outside marriage unacceptable. That situation will be embarrassing for the family and creates life-threatening circumstances for the girl.
Pregnancy, childbirth and motherhood are in line with the role she has to fulfill. On the other hand, when men take disadvantage of girls' subordination and obedience, for a girl it is often difficult to say no. Worse, if the girl couldn't protect her virginity she has even to bear the blame of being sexual harassed or abused.

Furthermore, due to geographical distance and restricted mobility she is able to visit a health provider with those 'secrets', for the counselling she needs on emergency contraception and treatment STI's including HIV infection.

3.2.2 Education and Social Economical status

Education

As described in the background, Sri Lanka has achieved high literacy rates that have prevented young people from joining the labour force at young age. In 2000/2004 about 89% females and 84% males are enrolled for secondary education (Population Reference Bureau).

At the same time drop-out rates in 2003 were high too; more then 60.000 students have dropped out due to poverty and couldn't pay the bus fares, school supplies and uniforms. In Tamil medium schools in 2004, drop-out rates are twice as high then the Sinhalese medium schools (UNESCO, 2007). The number of drop–out increase as the grade level increases. Completion rate is high at lower grades but start to decrease from 5th grade, and decreases further as the grade level increases.

Access to education in the tea estates is more difficult compare to urban and rural areas. Among adolescents, girls have less access to education than boys, because often the girls at the tea estates have to look after younger brothers and sisters and at age of 14 years families expect girls to be employed as tea plucker too (Wickramasinghe, 2002?). Herewith they are structural disadvantaged and suffer from lower literacy and limited access to higher education.

Another concern is that public schools often teach only in one language. The students from Tamil medium school face difficulties to find employment in urban areas where the majority speaks Sinhalese language and no Tamil (Unesco, ch3, 2007).

Education on reproductive health and Life Skills based education

For many years, even before the ICPD conference in 1994, Sri Lanka was pioneering yet with Population Education Programs for school children, later on a Family Life Education program was incorporated and since 1998 the directorate for youth at Ministry of Health has promoted Life Skills based education among Sri Lankan adolescents in schools and out of school youth to upgrade RH knowledge and strengthen their communication skills.(UNESCO, ch.3). In this curriculum adolescents learn to communicate and to negotiate in relation with other people and how they can become assertive for what they want or don't want. Especially adolescent girls in the tea estate can benefit from these skills as it strengthens her to prevent and protect herself from negative sexual experiences and harassment. In paragraph 3.3 will be elaborated on the provision of these services in Sri Lanka.

Discussion

The government has achieved high literacy rates in general and these are in line with the MDG,. However, these high rates are not achieved yet in the tea estates due to high drop-out rates from schools. Herewith girls from the tea estates remain in a vicious circle of poverty, lower education, less future prospective and forced into the tradition gender role of wife and mothers. It is evident that

adolescent pregnancies are more prevalent among adolescent girls with lower education.
In addition to that, not all students could benefit from the Life Skills curriculum since boys and girls from the tea estates drop-out of school before advanced Life Skills Based education modules has been taught. (see also paragraph 3.2.3).

Employment
In general in Sri Lanka the number of adolescents involved in labour forces is declining because they remain longer in school. Despite high enrolment in secondary education, those adolescents who drop out school are participating in the labour force. More boys then girls are involved in labour. The legal minimum age of employment is 14 years.

While in other Asian countries girls are often perceived as economic burden, in the tea estates girls will bring additional income for the family because they will work as tea plucker too, worker in textile factories in Sri Lanka or domestic worker in Sri Lankan homes and in the Middle East (Philips, 2005). Often girls are withdrawn from school at 14 years of age in order to do domestic work and work in the tea estate.
In the same time, the tea-tea estates all families have daily labour 'contract' with such low wages that there is no any guarantee for the future. Therefore the young generation who have grown up in the tea estates, do not want to work anymore in the tea estates. With their low level of education they end up in lower status jobs in Kandy or Colombo, or remain unemployed.

Unemployment
In 2004 overall unemployment in Sri Lanka was 9%, with the highest percentage of 34,2% among adolescents aged 15-19 years (UNESCO , 2007).
Due to this high unemployment a high proportion of adolescents still depend on assistance of parents and results in higher poverty and delay of marriage. This leads invariably to child labour, trafficking, begging and prostitution (UNESCO, Ch. 3 2007)[9]. Although not many accurate data are available, based on numerous anecdotal reports from adolescent prostitutes, it is estimated that between 200 – 30.000 child prostitutes aged 5-17 years are engaged in sex tourism.

Discussion
Those young adolescents migrated from the tea estates are getting exposed to modern lifestyles in urban area and are more likely to get in touch with alcohol, drugs and may engage themselves in risk taking behaviour. With their new experiences they return back home into their village in the tea estates and influence their friends and peers. Naturally they will not share the appropriate and accurate reproductive health information. Therefore out-of school adolescents should be targeted to provide them with necessary RH information to prevent themselves for the risks of unprotected sex.

The government provides 10 years of mandatory education for children and adolescents. Despite good achievements, the quality of education should be taken in consideration as well, whether the teachers have appropriate material,

equipment but also skills and the right attitude to teach the different modules on reproductive health. If quality is low, this may influence the motivation of students to continue school.
The legal age for employment is at 14 years that equals with grade 9-10. As it is allowed for children to work at this age, parents may continue with withdrawal of their adolescents his might relate with high of level drop outs which increases along with increasing the grades. Drop out rates are higher in tea estate sector in compare with urban area, because adolescents from 14-15 years are expected to support their parents in daily earnings.

Also the women from the PRA Survey location confirmed that there is a small section about reproductive health in their education system. However the teachers do not try to explain about reproductive health and ignores that section. The students are too shy to ask about it and for that reason they didn't have proper education (PRA Survey, 2007) .

3.2.3 Knowledge of adolescence on SRH

In many countries in South East Asia strong taboo exists to talk about sex and till marriage is the virginity of girls highly valued. Reasons enough for mothers to give their daughters a little information only at the time that they think it is needed. Boys may remain uninformed completely. Adults perceive sexual- and reproductive health information and education as 'not needed' and dangerous for the morality in the society (IWHC, 2007).

Knowledge on conception and pregnancy
It is important for adolescents to have knowledge on issues related to conception and pregnancy to make the right choice whether they want to have unprotected sexual contact or not.
However, a nationwide survey (UNICEF, 2004) among almost 40.000 adolescents aged 15-19 from all districts in Sri Lanka showed that the knowledge and awareness among adolescents on reproductive health, contraception and STI including HIV infection and AIDS is considered as very low. Only 14% from the school going adolescents have accurate knowledge about conception and pregnancy. Tamil adolescents scored even less then 12%. On all questions, always less the 50% of the study group scored the good answers. (UNICEF/MOH, 2004).
The knowledge on all topics from out-of –school adolescents was higher then school going adolescents despite some of the topics have been taught in the school curriculum (see paragraph 3.2.3).

Sources to obtain knowledge on SRH
Most of the young adolescents in the tea estates obtain their first information on sexuality by observing their parents or married adults on sexual behavior and practices during sexual intercourse. The poor and cramped so called 'line-houses' where they live in and where the whole family sleep in one room, it is easily obtain information at home. (Munck).

The parents or adults are perceived an important source for information and advice. For minor personal problems they girls preferred advice from their

mother, longer than boys do (ARH–Fact sheet). In the tea estates adolescents preferably choose their friends to discuss personal problems (UNICEF, 2004). Most of the adolescent girls don't have trust in teachers to discuss their problems (Agampodi, 2008)[10].
Parents are embarrassed to discuss about sexual issues with their children (Bhakta) and as the age increase the mother is replaced by friends. Sexual information is shared among friend and peers through gossips, jokes and stories in 'hidden transcripts', as James Scott (1991) has named these.
Adolescents put higher value on friends' opinion, but at the same time they face the pressure to follow their social rules which can encourage them to engage in risky sexual behavior as well (Bhakta)

The formal sources of information to obtain appropriate and accurate knowledge about SRH are provided through the public, private sector and mass media via radio, television, newspapers and internet. An overview of these sources will be given in paragraph 3.3.
However, geographical distance and the isolated nature of the tea estates is causing limited access for adolescents from the tea estates to these information sources.

3.2.4 Contraception; awareness and usage

In this section will present data and information to show that knowledge and awareness about contraceptives and usage of contraceptives are low among adolescents. The consequences for their reproductive health will be discussed.

Knowledge and awareness of contraception means: knowing at least one modern method[a] of averting pregnancy. Modern methods are divided in permanent and temporary methods
Often married adolescents don't use any form of contraception prior to birth of their first child. Though, the proportion of married adolescents using contraception has increased the last years from 30% to 53%, among which the modern contraceptives has been used more often then traditional methods[b].

Table 3-2: Percentage of contraceptive usage among adolescents 15-19 years

	Age 15-19	
Method	**1993**	**2000**
Any method	30	53
Any Modern Method	17	41
Pill	7	9
IUD	4	8
Injectables	5	22
Condoms	1	1
Female Sterilization	0	0
Male Sterilization	0	0
Any tradition method	13	12
Safe Period	n.r.	
Withdrawal	n.r.	

Source: Demographic and Health Survey 2006/7

[a] *Modern methods are divided in Modern Permanent and Modern Temporary. Modern Permanent included Male and Female sterilization, male sterilization is hardly mentioned in DHS reports due to low usage. Modern Temporary includes Oral Contraceptive Pills (OCP), Intra Uterine Device (IUD), Injections, Condoms and Norplant.*
[b] *Traditional methods are including 'safe periode or kalender method', Lactation Amenorrheal Method (LAM) and withdrawal. ,*

Data on contraceptive use among unmarried adolescents is based on anecdotal evidence and small scale studies done. It is estimated that contraception among unmarried adolescents is less common due to difficulties in obtaining contraception and the cultural taboos. Adult women are not familiar with condoms, pills and IUD's. Their daughters may not be motivated by their mother to use these contraceptives, as explained in next section (Policy, 2003)

Also condom use is very low with 1,2%, which is illustrated with the following data. Among the in-school students 33% and among out-of-school adolescent 22% were sexual active. In both groups 10,6% -12% had commercial sex. Among the sexual active adolescents only 24% of in-school and 39% of out-of-school adolescents used condoms (UNICEF, 2004).

Awareness about contraceptive in tea estates

In the first table below it is shown that awareness among these women about Oral Contraceptive Pills (OCP's) is 98% (table 3-2), with lower scores in the tea estates. From women using contraceptives in Sri Lanka, only 8% among use OCP's, while in the tea estate districts as Nuwara Eliya it is only 6% and in Badulla 9%. Awareness about injections is also very high over 97% and slightly less in Nuwara Eliya but the usage of injections is still quite low, only 15% nationwide and 12% in Nuwara Eliya and Badulla (table 3-3).
About 83% of the women are aware about existence of condoms, while in the district Nuwara Eliya and Badulla, resp. 51% and 67% are aware about condoms (table 3-2). In table 3-3 it is shown that only 6% in Sri Lanka is using condoms. Reliable estimates on condom usage could not be provided for the tea estates districts. Though, it is assumed that use of condoms among adolescents might be relatively low as well.

Availability and accessibility of contraceptives

The PHM is responsible to provide advice and supply of different family planning methods (see background [1.6]). On the monthly clinics from MOH mainly married adolescents and adults have access to counselling and contraceptives here.

Usage

A decline is shown in usage of modern methods of contraceptives with increasing the level of education. Women with no education reported the highest percentage of contraceptive usage. With increasing the level of education, women are using more traditional methods of contraception (DCS 2008).

Table 3-3: Current usage of contraceptives among ever married women 15-49 years

	Sri Lanka	**Nuwara Eliya**	**Badulla**
Estimated population	**19.085.697**	**649.164**	**840.540**
% of women not using contraceptives	**32**	31	28
% of women using contraceptives	**68**	69	72
Any modern method	***52***	*63*	*62*
* permanent sterilization	**17**	38	31

* Temporary; Pills	**8**	6	9
* Temporary; IUD	**6**	n.r.	8
* Temporary; Injection	**15**	12	12
* Temporary; Condom	**6**	n.r.	n.r.
Any tradition method	***16***	*6*	*10*
* Safe period	**10**	n.r	7
* Withdrawal	**6**	n.r.	n.r.

Source: Demographic and Health Survey 2006/7

Discussion

It is remarkable that the awareness among women 15-19 is fairly high about contraceptives, but the usage of modern contraceptives is still low. One of the reasons might be difficult access to contraceptives. The health services at MOH targeting married women, by which unmarried adolescents don't have the opportunity to receive information and contraceptives. For adolescent girls is the geographical distance and social isolation an extra burden to obtain contraceptives.

Majority of the women aged 15-49 are using tradition methods or female sterilization. Since female adolescents prefer to get advice from their mother regarding reproductive health issues, and may thus follow advice form their mother regarding contraception.
However, the used methods by mothers are not appropriate method for adolescent daughters. Using 'safe period' requires a good understanding of the menstruation cycle and fertility period and commitment from both persons to have sexual contact only during safe period. Withdrawal needs sexual experience to control of sexual behavior of the men, which adolescents may not have developed enough yet. Sterilization is a permanent method to prevent pregnancy and obvious not appropriate for adolescents.
Besides these 3 methods are not protecting against acquiring STI's or HIV infection.

3.2.5 Sexual attitude and behavior

Sexual attitude and behavior in relation to adolescent pregnancy is clear; the more often adolescents have sex without effective contraception, the more she increase the chance to become pregnant. Having sex without effective contraception is thus a risk taking behavior (Kirby, 2007). Though, in previous sections it is explained that not all adolescents are aware about the risks and that contraceptive use is low.
Driven by physical desire for intimacy and sexuality, they are keen to experiment in that. Despite the strong traditional Sri Lankan and Tamil culture that restricts premarital sex, often they are encouraged or pressurized by their peers to engage themselves in sexual activity before the marriage.

Premarital sex
Adolescents had their first sexual intercourse with different partners; 42% with girl -/boyfriend, 38% with a friend, 11% with commercial sex worker and 9% with relatives (UNICEF 2004).
Among school going adolescents aged 14-19 years, over 6% have experienced heterosexual intercourse, with 14% of those are boys and 2% among those girls (UNICEF, 2004). The difference between boys and girls gives the assumption that boys are more exposed to other sources of sex as commercial sex workers or 'work' in the sex-tourism.
Among the out-school adolescents in the same age group 22% do have heterosexual relationship which involved intercourse with boy- or girlfriends, but 12% reported having sex with commercial sex workers. More then 9% have homosexual experiences.

Unsafe sex practices
Among the adolescents who have heterosexual experiences from the same survey (UNICEF, 2004), only 39% told that they had used condoms means that 61% has practiced unsafe sex. Both, boys and girls are exposed to high risk of a pregnancy, and obtaining an STI.
The size of this group exposed to these risks and consequences, is stressing the urgent need to provide them with knowledge and skills to prevent themselves for unnecessary risks.

3.2.6 Sexual harassment, violence and sexual abuse

Often young girls in the tea estates are left alone to take care for younger children, or she has to replace mother when she will get employment in urban zone or Middle East [par. 3.2.1]. Herewith the protection of the daughter is less which makes her vulnerable for sexual harassment and abuse.

A case study from RHIYA illustrates the consequences. "The tea estate community is very traditional and wives never address their husbands by name. Girls stay at home while parents are working away in the field during the daytime. This creates many opportunities for love affairs, for consensual sexual relations, in some cases with married men, as well as for sexual coercion, sometimes by family members. Thus, unwanted pregnancies used to be quite common in this tea estate. Once, a mother came to me with her 12 year-old daughter, who reported that her daughter did not have menses for seven months. When I inquired further, the girl told me that immediately after she became "a big girl" (reached puberty), a married man from a neighbouring line-room had raped her during the absence of her parents and other family members" (RHIYA, [11])

Sexual abuse /violence
Data on violence against adolescents is limited available. Little evidence can be obtained from hospital records on admissions of rape victims among female

adolescents (AH Fact sheet). Most of victims were raped by family members when their mother was working in Middle East. From the school going adolescents about 10% of the young adolescents and 14% of age group 15-19, boys and girls have ever experienced sexual abuse in their lives. Among out of school adolescents also 10% reported being ever abused. Sexual abuse is the lowest in middle socio – economic class.
Moonesinghe (2002) reported in his study that wife beating has the highest prevalence among Indian Tamil women.

Alcohol
According the WHO Geneva (2005) is alcohol consumption in Sri Lanka related to cultural background based on ethnicity and religion, gender, social status and the type of employment. The Tea estate Tamils and people in urban area are drinking 'frequent' while Moors have 'low' drinking behavior. Drinking among women in general is negligible, except among women in the tea estates. Low income groups prefer to drink illicit brewed alcohol. Recent trends indicate that alcohol has positive association with different kinds of violence, including child abuse[12]

A national survey (DHS 200) revealed that boy and girls start drinking alcohol for the first time at an average age of 14 years. Alcohol consumption among out-of school adolescents is rather high in Sri Lanka; 19% of the adolescents do drink alcohol (over 80% are consuming beer). Among school going adolescent alcohol consumption is lower; 6% of boys and 1% of females are current users. Adolescents in the tea estates are drinking much more in compare with other areas (ARH Fact sheet).

Prostitution
IWHC concluded that throughout South and South East Asia prostitution is common among young adolescent girls from poor families since they are more vulnerable to be recruited or sold. In Sri Lanka more boys then girls are victim of child prostitution (IWHC, 2007). No data were available particular on the tea estates regarding this issue. Though it has been noted that sexual harassment is common at the tea estates done by supervisor and the tea estate managers (file Tea estate : tea market

3.2.7 Health seeking behavior

Health seeking behavior of adolescents is determined by several factors and plays herewith an important role in prevention of adolescent pregnancies. The most important factors and findings are presented in this section.

Adolescent girls' autonomy to make decisions by themselves and the ability to seek for reproductive health services is a very important determinant. However, often adolescent girls, and particularly unmarried girls, have little authority to make decisions themselves and have limited possibilities. In the male dominated society that prevails in the tea estate (Philips, 2003), where women in general don't have the authority to decide to visit a health center (Wickramasinghe, 2002) it is expected that even adolescent girls are not able to decide themselves to visit health center in case of RH problems.

3.3 Adolescent Reproductive Health Services in Sri Lanka

In this paragraph a brief overview is given on the services and efforts provided by government and NGOs to address SRH needs to adolescents. Most of the services and efforts are provided through several important stakeholders in Sri Lanka, like Family Health Buro, Department of Education, the National Youth Service Council (NYSC) and NGO like UNFPA, FPASL , PSL and ….

Adolescent Reproductive Health Strategy

Since 1993 Family Health Bureau of Ministry of Health established national steering committee with representation of Ministry of Education and NGO's to address adolescent health issues. A book on common adolescent health issues, titled Dawn of Adolescence was developed for higher grade school children (ARH –POLICY, 11) but has not been implemented correctly and has been withdrawn.

One of the major goals of the Family Health Buro is to improve the health and well being of adolescents with programs aiming to promote life skills of adolescents, to establish adolescent friendly health services, capacity building of health providers, development of networks of stakeholders at all levels, involvement of parents and promotion of healthy lifestyles in the broadest meaning of the word[13]. The Public Health Midwifes are responsible to implement these programs.

In 1998 the Family Planning Association of Sri Lanka (FPASL) launched an initiative funded by European Commission (EC) /United Nation Population Fund (UNFPA), to provide reproductive health information, counseling and health care services to address the needs of out-of school adolescents/youth.

Since the ICPD in 1994 the concept of reproductive health has been introduced and public Health Midwifes are expected to address reproductive health issues of adolescents and post-adolescents period before they become mother, prevention of reproductive tract infections, sexually transmitted infections including HIV/AIDS, concept of women's empowerment and male involvement in reproductive Health activities.

Life Skills Based Programs

Since 1973 the Department of Education together with UNFPA attempted for the first time to provide population health education at schools. Later in 1993 the National Institute of Education (NIE) implemented a *population and family life education project* to promote reproductive health education in schools and to include reproductive health components into the school curriculum for the different grades.

Addressing the reproductive health needs it is recommended that *family life education* and *sex education* should be strengthened and extended into the education system. And naturally, this required recruitment and training of teachers and good preparation of training modules, to address reproductive health needs of adolescents in appropriate manner. (ARH-Policy, 11)

UNICEF Sri Lanka has implemented Life Competency Programme at lower grades (UNICEF/UNAIDS, 2005). UNICEF also supports The Plantation Human Development Trust (PHDT) to carry out the programme in Sri Lanka's Tea estate Sector. Facilitators hold monthly meetings with parents and make home visits and to discuss reproductive health issues.

Hotline services

In collaboration with PATH, WHO and the Sri Lankan Consortium on Emergency Contraception, the FPASL launched hotline for emergency contraception to provide counselling and advice about this topic, but also on regular family planning, reproductive health questions and protection for STI including HIV infection.

Well women Clinics (WWC). (or in services chapter 4)

In 1996 the Ministry of Health established Well Women Clinics, which has holistic approach to address women's reproductive health issues. Adolescents, unmarried women and others who don't have access to governmental health services are encourages to attend these clinics. Nevertheless, in practice most of the women are visiting a WWC to perform a PAP smear.

Opinion Adolescents

Despite all described available services adolescents perceived that RH services are not available. The feel neglected by all adults; health care providers and parents (Agampodi).

A survey among adolescents aged 17-19 years in Western Province revealed that there are services and clinics twice per month available at Medical Office of Health (MOH), but for boys no are services available to discuss RH problems. Only girls knew about the availability of PHM and her services, but none of the boys knew that the PHM could provide services for RH problems. Awareness about the youth corner in the general hospital and the presence of YFHS was very low (Agampdi, 2008).

3.4 Policy and Institutional capacity in Sri Lanka

Adolescent Reproductive Health policy

Adolescents and Youth should have access to Youth Friendly Health Services (YFHS) for reproductive health concerns including counseling on contraception and safe treatment of unwanted pregnancies (ARH, 2003) .

With support of the United Nations Development and Population (UNFPA), a special sector wide taskforce has been established to formulate a *national Population and Reproductive Health Policy and action plan.* In August 1998 the cabinet has approved the new policy which consisted of eight goals to be achieved in 10 years.

The fourth goal is aiming for *Promotion of responsible adolescent behavior* and the only goal that is specifically concerned about adolescent well-being and health. It recognize the need to promote responsible sexual behavior among adolescents and caring attitudes, to reduce the consequences of negative health outcomes as adolescent pregnancies and STI's including HIV/AIDS (ARH SL-Policy) .

Legal barriers which have impact on adolescent reproductive health :

Marriage

Since 1998 the government legalized the minimum legal age for marriage at 18 years for both boys and girls (AH Fact sheet), though in the report Consent & Confidentiality = the legal age of marriage for girls is 16 years and 18 years for boys. The legal age of consent for sexual intercourse is for both boys and girls 18 years. These 2 factors has major impact on accessing reproductive health services for unmarried as well as married adolescents! This legalization of increase in age at marriage for women from 14 to 18 years has strengthen women's reproductive health rights because herewith the law on rape became effective when sexual intercourse with females below 18 years occurred, even with her consent. (DHS 2006/7).

Contraceptives

The national policy doesn't restrict or support access to contraceptives. Married adolescents do have access to contraceptives regardless their age. While unmarried adolescents under age of 18 years have to request for contraceptives and the health care providers will distribute.

Abortion

While in most of other countries in Asia the abortion laws has been reviewed by which abortion is allowed in most of the cases, in Sri Lanka the present Penal Code is more then 100 years old and doesn't allow pregnant women to terminate their pregnancy with the an induced abortion. Abortion is illegal except under special condition to save the woman's life, with no difference in the law for

married and unmarried adolescents under 18 years. (AH Fact Sheet; ARH POLICY; Consent and Confidentiality)[14]. In 1995, amendments proposing to allow abortion in case of rape and incest have been refused mainly by catholic members of the legislative. The rising numbers of unsafe abortions keeps the debate going on to which extent abortion should be legalized.
There is no policy of providing training to health care workers regarding safe abortions and management of post abortion complications.

STD including HIV /AIDS

The National Constitution predicts that health care is provided for free to all, including STD treatment regardless age and marital status. Training on STI management is given to all health care providers, but there is no attention for special needs of adolescents. There is no policy of providing training to health care workers regarding VCT, and no law restricting unmarried adolescents less than 18 years to access VCT. Also consent of parents/guardian is not obligatory.

Employment

Minimum age for work is 14 years (AH Fact sheet)

Child abuse

The National Child Protection Authority has been empowered to protect and prevent child abuse (AH Fact Sheet) The international definition of a child is defined as a person below 18 years(Consent & Confidentiality)

3.5 Effective preventive interventions to reduce incidence adolescent pregnancies

In response to the Fifty-fifth World Health Assembly resolution (WHA55.19), the WHO with the United Nations Population Fund (UNFPA) and United Nations Children's Fund (UNICEF) developed a framework to improve sexual - and reproductive health of young people in East Asia and Pacific Region.
The framework identified adolescent pregnancy, the unmet need for contraception, RTI and STI including HIV/AIDS, and sexual violence and exploitation as the four risks which needs to be reduced for young people. Based on literature and project reviews on sexual and reproductive health, the framework recommends interventions and actions in three strategic areas:

1. **Promoting of healthy behaviors or 'Behavior Change Communication' (BCC)" through Life-Skills-based information and education, Peer education, Community based – and Work based programs and programs using media**
2. **Ensuring access to reproductive health services of young people**
3. **Creating a supportive environment"**

Behavior Change Communication
Effectivity of sexual and reproductive health education is increasingly recognized and therefore introduced as early at preschool level. However, surveys in the Region show that adolescents may have knowledge, but often they lack the skills how to deal with pressure and to respond appropriate to appealing situations. This is because information alone is not sufficient to take responsible decisions and they are not able to transfer knowledge into positive healthy sexual behavior.
'Behavior Change Communication' (BCC) interventions are addressing this issue. Therefore BCC interventions like Life- Skills based education are promoted for in- and out-of-school adolescents. Psychosocial skills are practiced and developed in culturally appropriate way and will contribute to enable adolescents preventing themselves against health and social problems and protect their human rights (WHO, UNFPA & UNICEF, 2006) [15]. BCC programs that aim for reduction of adolescent pregnancies and thus reducing adolescent sexual risk taking behavior focus on two main behaviors: either to avoid pregnancy by abstinence, or delaying having sexual intercourse, or correct and consistent usage of condoms or other methods of contraception if they do have sex (Kirby, 2007).
The success of these interventions largely depends on the collaboration with Ministry of Education, the implementing schools and the capacity of teachers to facilitate and deliver the Life-Skills education programs.

BCC interventions particularly for out-of –school adolescents is peer education, community-based education, work-based outreach programs and those programs that use the media. These programs should support the existing community based health programs on reproductive health.

Kirby (2007) concluded in his review that *comprehensive sex education* programs are aiming for a behavior change as well too. If 17 determined characteristics included, these programs have proved to be effective in different ethnic groups, different genders with or without sexual experience and they are

replicable in other communities with the same positive results. For any particular *abstinence* program there does not exist strong evidence that it is effective in delaying having sex or reducing sexual behavior.

Adolescent Reproductive Health Services

Information and education will be only effective if reproductive health services for adolescents are equally available. Reproductive health services can play a large role in prevention of health problems, in promotion of sexual and reproductive health and well being and fashioning positive sexual and reproductive health behavior of young people. However, the effectivity of the services largely depends on its quality and accessibility, the coverage and the availability, their utilization and sustainability. Youth Friendly Health Services (YFHS) should be implemented according the set criteria of the WHO to make effective.

Creating a supportive environment

To be elaborated

4 Conclusions and Discussion

An important public health concern in Sri Lanka is adolescent pregnancies in Sri Lanka.
The trend that there is an increasing group of unmarried adolescents has resulted in an increase of premarital sexual activity among adolescents, with the associated increased chance of unprotected sexual practices. In addition to pregnancy, unprotected sex brings young people also at risk of acquiring an STI including HIV. The consequences of a pregnancy for immature women below 20 years of age, married or unmarried bring life of young women and their babies at risk during pregnancy and delivery. The socio- economical consequences are driving young women into a vicious circle of poverty.
Pregnancies among young women aged 15-19 years nowadays are more likely unintended pregnancies and are often terminated through an illegal performed induced abortion (see conclusion 1). Besides the risk of a pregnancy and it's consequences, unprotected sexual practices bring young people also at risk of acquiring an STI including HIV infection (see conclusion 2).
Many girls, and boys, in Sri Lanka are not well informed about the risks and consequences of unprotected sex and lack the enabling skills and environment to prevent themselves for an unwanted pregnancies or an STI including HIV infection.

High abortion rate among adolescents
Although abortion is illegal in Sri Lanka, it is widely performed by private providers under unsafe conditions. About 19% of abortions are conducted among adolescents in Sri Lanka and 23% of maternal deaths among women 15-24 years due to abortion.
The fact that adult women are using abortion as 'family planning method' can contribute to misunderstanding about abortion among their adolescent girls. Besides they lack of information about other alternatives like emergency contraception and correct and consistent usage of modern contraceptive methods which can prevent abortion in safe way.
There is much room for improvement in raising awareness among women dangers of abortion, counseling and distribution of emergency contraception and extension of in family planning services
Furthermore supportive policy should be created to improve guidelines on safe procedures for abortion and post abortion care. Advocacy for legalization of abortion should continue as it would prevent many complications of unsafe abortions.

Risk on STI including HIV infection and AIDS
Based on the findings in the literature like the high number of adolescent pregnancies [2.1.2] in relation with low condom use among sexual active school-going and out-of school adolescents [3.2.4], their poor knowledge on STI including HIV infection and AIDS [2.2.4] and low accessibility to contraception for unmarried adolescents, the combination of these factors contribute to increased risk to acquire an STI including HIV infection.

Adolescents of Tamil tea estates are in all mentioned aspects disadvantaged in comparison other areas.
Improvements should be made in increasing knowledge and awareness STI and HIV infections, improve skills of adolescents to negotiate for condom use and their ability to use them in correct and consistent way through improved access to YFHS for counselling and distribution of condoms to reduce the risks of acquiring STI and to control the HIV epidemic.

Contributing factors
The aim of this thesis was to identify and describe important influencing factors that lead to unprotected sexual practices with the risk for pregnancy and STI including HIV among adolescents 10-19 years, particular in the tea estates. In the literature it is found that:

Norms and values on sexuality [3.2.1]
Sexual attitude and behavior are based on norms and values of the traditional male dominated society in Sri Lanka where virginity at marriage is highly valued. After marriage, adolescent pregnancy and motherhood are accepted in tea estate community as it is in line with the role she has to fulfill. Pregnancy outside marriage will be unacceptable since premarital sex is not allowed and will create embarrassing situation for the whole family and a life-threatening situation for the girl.
At the same time, girls are expected to be obedient to fulfill the sexual desires of husbands and often other men who take disadvantage of girls for non consensual sex practices. This places particularly girls from the tea estates, and other enclosed societies, in an even more vulnerable situation.
The lack of negotiation skills of girls to avoid harassment and abuse, the taboo of talking about sexuality issues and to keep negative experiences secret, contributes too underreporting of sexual harassment and abuse.

Improvements can be made in developing strategies to increase awareness among parents and tea estate community in order to creating enabling environment that provides protection and avoid situations that may result in harassment and abuse of girls. Furthermore a supportive policy should be created to ensure that the implementation of Life Skills based education for school going and out-of school adolescents should be evaluated and strengthened.

Low level of knowledge on Sexual Reproductive Health among adolescents in tea estates in Sri Lanka.
The literature have shown that adolescents aged 14-19 years in Sri Lanka have low knowledge on reproductive health, conception, pregnancy, contraception and STI including HIV infection among is considered as low. Adolescents from tea estates have in all aspects less knowledge than those of other areas. Out-of school adolescents have better knowledge about these topics in comparison to in-school students.

Improvement of knowledge about reproductive health is thus an important issue.

Teachers seem not well prepared to teach students in reproductive health aspects and STI including HIV infection and AIDS, though specific reasons for the poor quality on RH education should be investigated in detail. Attention should be paid to strengthen the capability of school management and teachers to ensure reproductive health education, for example trough a Training of Trainers (ToT) program in RH. A supportive policy should be created to develop training materials, guidelines and monitoring and evaluation of RH education.

High drop-out rates from schools in the tea estates.

The government has achieved high literacy rates at national level which are in line with the MDG. However, such literacy rates are not achieved yet in the tea estates due to high drop-out rates from schools from grade 9 and higher. Subsequently not all adolescents in the tea estate benefit from the Life Skills based education because the modules are taught in grade 8-10 [3.2.3]. Herewith adolescents from the tea estates have less opportunity to learn the negotiation skills they need to protect themselves for unprotected sexual practices, harassment, coercion and abuse.

Improvement can be made by introduction Life Skills education should be introduced earlier in primary education, furthermore encouragement of girls education even during pregnancy and after motherhood.

Monitoring of following 10 years mandatory education. Advocacy for increasing age of employment to 16 years.

Low condom use among sexual active adolescents in Sri Lanka.

Knowledge and awareness about contraceptives among all adolescents in Sri Lanka is rather low, and among tea estate (Tamils) adolescents even lower. The usage of contraception is also low, only 50% of adolescents are using modern methods and condom usage among sexual active adolescents is low. This implicates that both service providers, for education and for family planning, are not able to address the need of adolescents. The failure of the education system to provide appropriate and accurate information leads to that adolescents are not enabled to make the right decision for themselves.

The low use of emergency while the usage of traditional contraceptive methods is still high in Sri Lanka.

Abortion rate is high among adolescents which means termination of an unwanted pregnancies due to unprotected sex or failure in using contraceptives in correct and consistent way.

Access to contraceptives for adolescents is difficult due to services are in principle targeted for all women, but in practice these services are only accessible for married women only. Even married adolescents are likely to receive information and services which is less appropriate to their age. Moreover unmarried adolescents are also facing social cultural barriers to access health services as it is culturally unacceptable that unmarried adolescents are in need of contraceptives. In addition to that, girls from the tea estates are facing also the barrier of geographical distance and difficulties to escape from their isolation.

Improvements can be made with implementation of Youth Friendly Health Services with counselling and services appropriate for adolescents, married and unmarried. Supportive policy should be created to implement these services not

only in urban area but also in tea estates. Collaboration with private providers should be supported in order to increase the coverage in remote areas as the tea estates. Furthermore, development of outreach activities, outlet-places and youth clubs where out-of school adolescents can meet with peer educators or social workers etc, which support increase access to contraceptives, especially condoms, for adolescents from tea estates. , .

Sexual attitude and behavior **[3.2.5]**
Taking in consideration that only 1,5% of adolescent boys are married (par 3.1.3) and that adolescent boys more than girls are sexual active, means that the chance for premarital sex among boys is fairly high. At the same time condom use is very low among school going - and out-of-school unmarried boys (par 3.2.4.) This means that a significant proportion of adolescent boys have a serious risk of conceiving their partner including the risk for acquiring an STI or HIV infection. Although girls have to face the direct impact of a pregnancy, it is also very important to identify and recognize the consequences for the adolescent fathers. Up to date their needs to avoid or to prevent pregnancy has been neglected.

Reproductive Health Services for adolescents are poorly available and mainly restricted to urban areas of the country. Most of the services are targeted on married adult women, ignoring adolescents of both sexes by which contraception for adolescents are difficult to obtain. STD clinics are gradually expanding over the country and accessible for adolescents, but limited to curative services.

From the literature it became clear that that all governmental health services targeted on married adult women /couples. Despite adolescents do have the right to obtain family planning services, maternal care during pregnancy and delivery, only married adolescents have free access to these health services. The attitude, behavior and skills form the health provider to deal in appropriate way with unmarried adolescents is insufficient.
The tea estate population is an isolated and neglected group by government, more vulnerable for health problems. Despite an extensive network of public health services, interventions and programs to address reproductive health needs, there is an in-equal distribution of health services and educational services. Herewith adolescents from the tea estates have lower access to health facilities.

In the **National Health Policy** document Adolescents' Health does not get specific attention. Though a policy document on Reproductive Health for Adolescents is developed and Action Program is approved by government in 1998 which has acknowledged the needs and the rights of adolescents in reproductive health.

Boys:
Adolescent pregnancies are about the position of the young girls and the consequences of the pregnancy for her. How well informed were the choices of a man to conceive a woman? Data on the perception of boys on 'becoming unwanted father' and it's consequences for them poorly researched.

Sri Lanka still needs to develop good strategies to address the needs of adolescent in Sexual -and Reproductive Health and Rights and to protect them for the negative health outcomes of their sexual behavior. To achieve the aims of this thesis recommendations are given on how to reduce adolescent pregnancies in the tea estates in the next paragraph.

5 Recommendations

Based on evidence based effective preventive intervention and programs, as described in paragraph 3.4, feasible interventions which are applicable for the tea estates will be recommended. To promote safe sexual behavior to avoid pregnancies among adolescents in particular areas, such as the tea estates, standard interventions and programs should accomplished with locally developed concepts as well, implemented by local institutions and persons with 'same' behaviors.
It is recommended to ensure broad embedding through a combination of programs with a different focus, with different stakeholders and engagement of parents and schools, because that is more effective in influence existing values and modern culture, which is consistent with the view of Kirby (2007).
The WHO's system framework as explained in the methodology (par. 2.4.2) with the strategic areas of paragraph 3.5 has been put in the matrix below to structure recommended interventions and programs .

RECOMMENDATIONS FOR 3 CATEGORIES TO PREVENT ADOLESCENT PREGNANCY BY IMPROVING SRH& NEEDS

Strategic areas / WHO framework	PROMOTE HEALTHY BEHAVIOR	ENSURE ADOLESCENT RH SERVICES	CREATE SUPPORTIVE ENVIRONMENT
RECOMMENDATIONS FOR CIVIL SOCIETY	**For ADFA :** Behavior Change Communication through : • Peer education • Community Based Education • Street drama • Youthcamps Provision information and Education • Internet services at ADFA office	**For ADFA** • Counselling services, advice and referral at ADFA 'drop in-center' and through hot line telephone; • Collaboration with FHB y of Health in order to get support to work with MOH in Division of Panwila • Networking and build up linkages between civil socity, tea estate management, government and other ngo's to address SRH needs	**For ADFA** : • development of CBO with village health committee • collaboration with Youth committee at the tea estate • Streetdrama as conversation starters to raise awareness about the topic and socialize parent s and 'gatekeepers' in thecommunity to discuss about this topic • Advocacy for good policy as mentioned below
RECOMMENDATIONS FOR SERVICE PROVIDERS	**TO HEALTH DEPARTMENT** • to develop IEC materials • **TO EDUCATION DEPARTMENT** • implementation of life skilss based education curriculum • ensure capacity building of teachers to implement LSB curriculum in tamil medium • ensure materials and equipment in tamil schools in tea estates	**TO PROVINCIAL AND DIVISIONAL MOH** • Development of Youth Friendly Health Services at MOH office for married and unmarried young people according set criteria (friendly, more explanation to adolescents, opening hours according school time, information and distribution of contraceptives, referral, • Capacity building of MOH staff and Public Health Midwifes through training on adolescent reproductive health services and counselling skills • Ensure availability of contraceptives including condoms in public and private sector and minimize barriers to access contraceptives including Emergency Contraceptive Pills (ECP)	Involvement of private sector in Adolescent Reproductive Health Care to increase coverage
RECOMMENDATION FOR POLICY MAKERS	Creation of policy to promote healthy bahavior among adolescents Study / assessment for the needs	**TO DEPARTMENT OF HEALTH AND NUTRITION AT PROVINCIAL AND DIVISIONAL LEVEL** • Monitoring of the set objectives to reduce	**TO MINISTRY OF HEALTH AND NUTRITION** • Development of National Health Policy on Adolescent Health needs • Legalization of abortion

	Research on Reproductive Health problems and available services among adolescents in the tea estate population.	adolescent pregnancy with 20% in 2015 • Policy on capacity building of health care providers on Adolescent Reproductive Health Services • Allocation of funds to ensure implementation of policy by service providers	**TO MINISTRY OF EDUCATION** • to ensure fulfillmet of 10 years compulsory education • to ensure pregnant and parenting adolescents continue education **TO MI NISTRY OF LABOUR**: • increase legal age for employment form 14 to 16 to reduce drop-out of school children and avoid child labor

5.1.1 Recommendations to civil society to address adolescents SRH&R needs

For ADFA

Based on fact that ADFA's is working with out-of-school youth on voluntary basis, with their experience in community development approach to mobilize youth, it is line that they can play an important role in the three strategic areas:

I. Promoting healthy behavior among out-of-school youth

1. Behavior Change Communication

- Peer education program;
  - Collaboration with local youth committee at village level
  - Selection and training of local peer educators at village level
  - Training of key persons (adults and adolescents)on Adolescent Reproductive Health to become peer educator
  - Assessment among in-school and out-of-school adolescents on perception of adolescent on sexuality, premarital sex, gender differences, male domination vs women subordination, contraception, virginity, marriage etc. reproductive health system and sexual & reproductive health concerns among adolescents in the tea estates,
  - Group discussions with different target groups; school going vs out-of-school adolescents, married vs unmarried adolescents, with girls vs boys

- Community Based Education ;
  - Establishment of CBO's with formation of health committee
  - Provide Training on health to Health committees
  - Using 'Stepping Stones' program
  - Organize drama and entertainment activities
  - Organize parents – children to encourage discussion between them on sexual – and reproductive health.

2. Provision of information and education

- Development of internet learning on RH for adolescents in the Division Panwila.
- Development of referral system for counselling and services at YFHS center.

II. Ensure adolescent Reproductive Health Services

- Counseling services at ADFA office in collaboration with SRH specialist from public or private sector.
- Telephone hotline

III. Creating supportive environment at policy level and community level

- Workshops at Divisional level for civil society, tea-the tea estate management, local authorities, health service providers, and ngo's as FORUT, PLAN International, RHIYA, NYCB to discuss reproductive health issues.

- Collaboration with other ngo's on training and to avoid overlap of areas and building network in Panwila Division
- Stakeholder workshop in Division of Panwila

- Lobby to the tea estate management as employer of the tea estate population to gain support for improvement of Adolescent Reproductive Health issues. Economic consequences of adolescent pregnancies and other RH problems that have negative impact on the production of tea, should be explained and discussed to get the tea estate management interested to improve SRH of adolescents.
- Lobby and collaboration with the tea estate management and local police to reduce the production of illicit alcohol
- Increase of health of adolescents is investment in next generation.

To implement and develop these actions capacity building of ADFA staff on Adolescent Sexual and Reproductive Health is required to reduce personal barriers and familiarize them to speak about sexuality and reproductive health. Additional assessments on programs and interventions done by government, NYCB, and international and national NGO's (especially UNFPA, FPASL, PLAN) need to be planned.

5.1.2 Recommendations to service providers to prevent adolescent pregnancies / to improve SRH

Development of Youth Friendly Health Services at MOH office which includes services for married and unmarried young people according criteria

- Provision of information on all possible contraceptive methods and supply of contraception through Public Health Midwifes and at MOH
- Counseling on family planning and pregnancy with adolescent girls and boys. Special attention should be given when couples want to shift from common traditional methods to modern methods.
- Ensure combination of services for pregnancy diagnosis, abortion counseling and ante natal care
- Adolescents should be given adequate social support during pregnancy, delivery and post partum

- Counseling on RTI and STD's and HIV /AIDS for sexual active couples about condom use in stead of withdrawal

- Development of referral system of cases to YFHS in Kandy

5.1.3 Policies and laws

Recommendations need to be explained from matrix

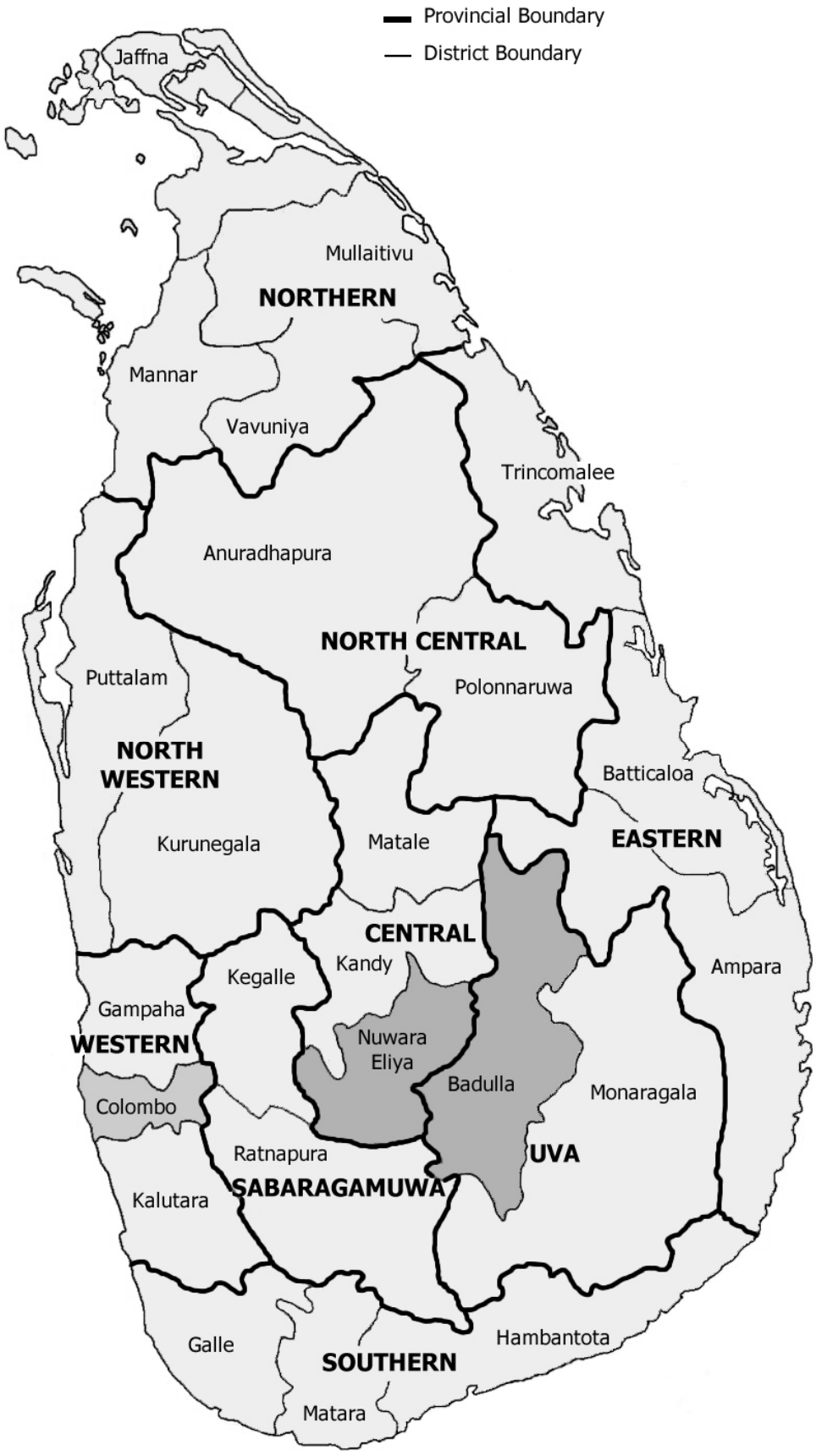
The tea estate specific problems with their own influencing factors need to be further investigated.

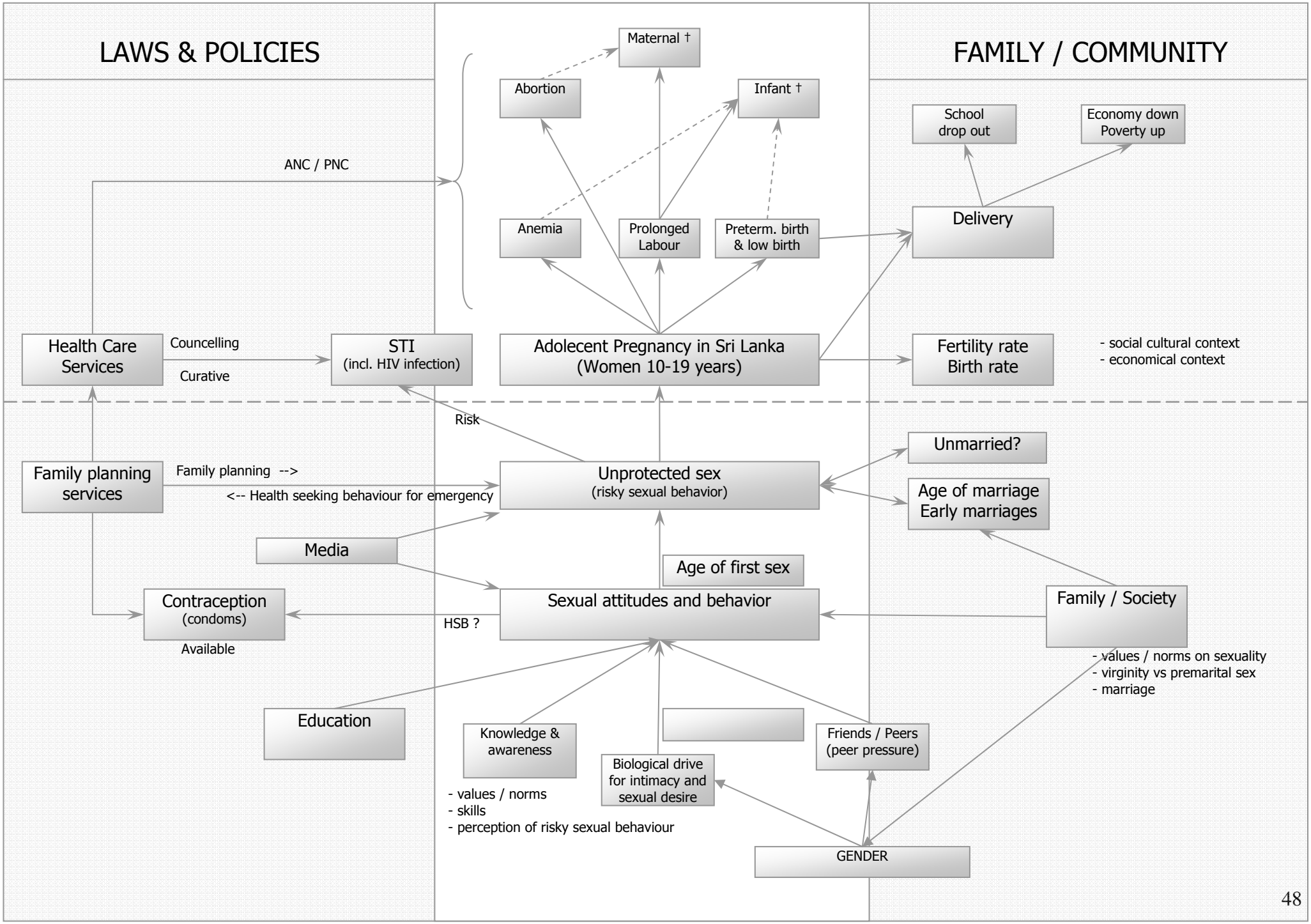
Annexes

I. MAP Sri Lanka

II. Problem analysis diagram

Annex I


Provincial Boundary
District Boundary
Jaffna
Mullaitivu
NORTHERN
Mannar
Vavuniya
Trincomalee
Anuradhapura
NORTH CENTRAL
Puttalam
Polonnaruwa
NORTH
WESTERN
Batticaloa
Kurunegala
Matale
EASTERN
CENTRAL
Kandy
Kegalle
Ampara
Gampaha
WESTERN
Nuwara
Eliya
Badulla
Monaragala
Colombo
Ratnapura
UVA
SABARAGAMUWA
Kalutara
Hambantota
Galle
SOUTHERN
Matara


LAWS & POLICIES
FAMILY / COMMUNITY
Maternal †
Abortion
Infant †
School drop out
Economy down Poverty up
ANC / PNC
Anemia
Prolonged Labour
Preterm. birth & low birth
Delivery
Health Care Services
Councelling
Curative
STI (incl. HIV infection)
Adolecent Pregnancy in Sri Lanka (Women 10-19 years)
Fertility rate Birth rate
- social cultural context
- economical context
Risk
Unmarried?
Family planning services
Family planning -->
<-- Health seeking behaviour for emergency
Unprotected sex (risky sexual behavior)
Age of marriage Early marriages
Media
Age of first sex
Contraception (condoms)
Available
Sexual attitudes and behavior
HSB ?
Family / Society
- values / norms on sexuality
- virginity vs premarital sex
- marriage
Education
Knowledge & awareness
Biological drive for intimacy and sexual desire
Friends / Peers (peer pressure)
- values / norms
- skills
- perception of risky sexual behaviour
GENDER

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