

Menstrual Hygiene:

*A Neglected Condition for the Achievement
of Several Millennium Development Goals*



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Introduction

Up until now, poor menstrual hygiene in developing countries has been an insufficiently acknowledged problem. In several cultures there are (cultural and or religious) taboos¹ concerning blood, menstruating girls and women and menstrual hygiene. Worldwide there is also structural gender inequality², which continues to exist through the widespread preservation of (sex-tied) preconceptions, stereotypes and cultural patriarchal attitudes, because of which the position of women as independent actors is being undermined daily.

The lack of attention to this issue is striking. Approximately 50% of the world's population knows from their own experience how important good menstrual hygiene is to be able to function optimally during the menstruation period.³ Yet this is hardly realised by in particular politicians, programmers and policy makers.⁴ This is also surprising in view of the explicit relation of this issue to water and sanitation and the distribution of all kinds of diseases, which can be reduced considerably by good hygiene.⁵

In this paper, I draw attention to the relation between menstrual hygiene⁶ and school drop-out of girls from the higher forms of primary (grade 4 & 5)⁷ and secondary education, as several Millennium Development Goals (MDGs) will not be achieved if several state and non-state actors do not undertake immediate action.

The best place to translate the plans concerning menstrual hygiene is in the context of educational institutions.

Millennium Development Goals (MDGs)

The MDGs, which the member states of the UN agreed on during the Millennium Summit in 2000, are important guiding principles for the policy on development co-operation. They are quantitative goals, which must be achieved by the efforts of governments of both developing and developed countries within a period of 25 years (1990–2015).

Education and menstrual hygiene

In spite of the fact that great progress has been made and MDG 2 has been achieved in the lower forms of primary education in many developing countries, the participation of girls, in particular in Africa and Asia, lags far behind the participation of boys in the higher forms of primary (grade 4 & 5) and secondary education. Besides the fact that girls are married off at an early age (child marriages¹³) in some cultures, many girls are kept at home when they start menstruating, either permanently (drop-out) or temporarily (UNICEF, 2005; GAPS & FAWE Uganda, 1999) during the days that they menstruate¹⁴. Because of this, girls get left behind, especially in complex and abstract subjects where there is a continued building on



previous knowledge. This can eventually also lead to school drop-out. Research confirms that the onset of puberty leads to significant changes in school participation among girls.¹⁵

The monthly menstruation period also creates obstacles for female teachers. They either report themselves sick¹⁶, or go home after lessons as fast as possible and do not have enough time to give extra attention to children who need it.

The most important conclusion to be drawn is that there is a lack of courage and (political) will to acknowledge menstrual hygiene as a problem. The gender-unfriendly school culture and infrastructure, and the lack of adequate menstrual protection alternatives and/or clean, safe¹⁷ and private sanitation facilities for female teachers and girls, undermine the right of privacy, which results in a fundamental infringement of the human rights of female teachers and girls.

Through the combination of the lack of good quality education, the lack of sufficiently well-trained teachers and because of this overcrowded classrooms¹⁸, the high school drop-out rate in several developing countries due to HIV/AIDS, the curriculum content and the quality of the learning material, children cannot enjoy their internationally recognised right to education¹⁹ sufficiently. The consequence of this is that girls get left behind and there is no equal opportunity. Due to this obstacle, MDG 3 cannot be achieved either.

Relevant MDGs⁸

MDG 2: Achieve universal primary education

- *Target 3:* Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

MDG 3: Promote gender equality and empower women⁹

- *Target 4:* Eliminate gender disparity in primary and secondary education preferably by 2005 and at all levels of education no later than 2015.

MDG 5: Reduce maternal mortality by three-quarters

- *Target 6:* Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio.¹⁰
- *Target:* Improve Reproductive Health for All by 2015.¹¹

MDG 7: Ensure environmental sustainability

- *Target 10:* Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation.

MDG 8: Develop a global partnership for development¹²

- *Target 17:* In co-operation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- *Target 18:* In co-operation with the private sector, make available the benefits of new technologies [...].

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Menstrual hygiene as a 'big' taboo

Although there are differences by country, culture, ethnic group, social class or family, the oppression of women has its effect on issues concerning reproductive health and other issues related to the reproductive system and its functions and processes. Most striking is the restricted control, which many women and girls have over their own mobility²⁰ and behaviour during menstruation due to their 'impurity' during menstruation, including the myths, misconceptions, superstitions and (cultural and/or religious) taboos²¹ concerning menstrual blood and menstrual hygiene. Remarkable is also that the education by parents concerning reproductive health, sexuality and all related issues is considered almost everywhere as a "no-go" area.

In the Bible²², there is an explicit reference to the impurity of women during their menstruation. In the Jewish tradition, menstruating women and everything that they touch is considered to be impure. Among Hindus, menstruation is considered 'polluting'. During the menstruation period, women and girls are not allowed to visit a temple, pray, or cook. They are not allowed to touch anybody and have to stay away from their family, because they are seen as impure. Among Muslims, menstruating women are prohibited from touching the Koran²³ and praying during a minimum of three and a maximum of seven days; they are also not allowed to enter the mosque, to fast, or to have sex²⁴. In ancient Greece Pliny the Elder also wrote about this in *Naturalis Historia*.²⁵

These ideas still play a role in several cultures, as a result of which women and girls get various restrictions²⁶ imposed on them during their menstruation period. Examples from a few countries demonstrate this.

In Bangladesh, menstrual blood is seen as 'the greatest of all pollution'²⁷ (Blanchet, 1987). Menstruating women must stay inside as much

as possible; they are not allowed to prepare food or to work in the rice fields. Sex (and sharing a bed with their partner) and praying or reading the Koran are prohibited during this period. On the other hand, the first menstruation of a girl is celebrated²⁸. Family, friends and acquaintances are invited for this occasion, special rituals are carried out, and particular dishes are served (Bosch & Hutter, 2002).

In Nepal, the Kumari, girls who have the status of living goddesses (incarnations of the goddess Kali), are believed to lose their divine strengths when they start menstruating; they lose their status of living goddess immediately.

In western Uganda where people keep cows, menstruating girls and women were not allowed to drink milk. It was believed that menstruation would affect the production of milk from the cows to get bloody milk. In the eastern Uganda, menstruating girls and women were not allowed to plant groundnuts during the planting season, because this would affect the yield. In central Uganda menstruation was supposed to be a top secret only known to yourself.²⁹

In Sierra Leone, it is believed that used sanitary napkins can be used to make someone sterile.³⁰

In southern Africa, "menstrual blood of women is [...] dangerous to men and also to the fertility of cattle and of crops" (Kuper, 1982, p. 19).

Among the Maya and in ancient Japan menstruating women had to isolate themselves in "women's huts" to carry out rituals and exchange experiences and wisdom. In that period, the men took over the daily chores of the women. This custom still exists in some Asian, African and South American cultures. In Ethiopia and among certain tribes in Nigeria menstruating women must isolate themselves in menstruation huts, because it is believed that menstrual blood pollutes the home.

In North America, shamans (traditional doctors) prohibit menstruating women from entering the sacred sweat hut.

Among the Aborigines in Australia, female healers treat wounds and contusions with cloth soaked in menstrual blood. The idea is that wounds heal quicker and that no scars are left behind because of this.

In Suriname, especially among the Creoles and Maroons³¹, menstruating women are not allowed to cook³² or prepare cakes, or share a bed or a room with their partner. Traditionally a Maroon woman had to isolate herself in a separate hut the moment she started to menstruate. This menstruation hut was frequently situated at the edge of the village where the woman lived. Nowadays, a woman does not have to isolate herself during her menstruation period; however, she must go to a separate part of the house where she lives. She must also use special pots and pans to cook her food during this period. When she stops menstruating, she can go home to her partner. However, before this happens, she has to wash the clothes she wore during the menstruation period and clean herself by the use of a traditional vaginal steam bath³³. Menstrual blood can also be 'dangerous', in the sense that a malevolent person can do harm to the woman or girl by using black magic ('wisi'). It is believed that a woman can also use her menstrual blood to impose her will on a man. A girl gets jewellery when she starts menstruating (she then becomes a 'big' girl). Among these two groups, a menstruating woman who takes care of and washes dead bodies is forbidden to do so, because she is impure. It is believed that the body will smell malodorous if this happens.³⁴

For different indigenous people, such as, Indians, menstruating women or girls are treated with respect. When Indians are hiking, pauses are planned for menstruating women or girls, so that they can rest and carry out their rituals.

Menstrual hygiene and waste management

Menstrual hygiene also has an environmental impact, in the form of a growing waste problem. In the Netherlands, this already causes problems.³⁵ In developing countries, which frequently have poor waste management infrastructure, this type of waste will certainly produce larger problems. For this reason, encouraging menstrual hygiene in developing countries must be accompanied with calculated waste management strategies.

According to Bharadwaj & Patkar (2004), menstrual hygiene seems to be an insufficient acknowledged problem with regard to MDG 7, especially in official programmes. They draw the conclusion: "Minimal effort has gone into the production and social marketing of low-cost napkins, reusable materials, research into biodegradables, etc. Research and development efforts have been limited to commercial ventures that [...] are unable to market products that are affordable for the poorest of the poor. The issue of washing of soiled materials and environmentally friendly disposal of napkins is absent from waste management training, infrastructure design and impact evaluation. [...]. An average woman throws away 125 to 150 kgs of tampons, pads and applicators in her lifetime. The great majority of these end up in landfills, or as something the sewage treatment plants must deal with."

Examples from India show that waste can be managed effectively. In the federal state of Tamil Nadu UNICEF has developed a cheap incinerator fed by firewood to handle the waste of sanitary napkins; in a pilot project in the federal state of Maharashtra girls' latrines are supplied with special wells in which sanitary napkins are composted. In the federal state of Uttar Pradesh, locally fabricated sanitary napkins of sifted timber ashes are wrapped up in a cloth, so that they can be broken down easily.

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These are just a few examples of good practice concerning waste management. The use of locally produced menstrual sanitary material, including sanitary napkins not only stimulates the local economy, but can also produce environmental hygiene advantages, provided that it is carried out well and accompanied with sufficient measures to manage waste.

Actuality and scope of the problem: what happens in developing countries

The issue of menstrual hygiene has the growing attention of women in developing countries; this applies to both individuals and self-help groups. Menstrual hygiene seems to be an insufficiently acknowledged problem in relation to MDG 7, especially in official programmes. From research, it becomes clear that the lack of menstrual hygiene in many countries in Africa and Asia is perceived as an urgent problem and that several grass roots initiatives are trying to find a solution.

In a pilot project in Kisumu (Kenya), boys and girls not only have the task to inspect and clean latrines, with clean water, in combination with information about hygiene issues. This has clearly resulted in a lower rate of school drop-out among girls. Moreover, President Mwai Kibaki promised to abolish the high taxes³⁶ on sanitary napkins.

The Forum for African Women Educationalists (FAWE) in Uganda observes that menstruation is the most important factor affecting school drop-out among girls. According to them, the cause lies in a combination of poverty³⁷, local customs, cultural traditions and taboos. FAWE Uganda organises workshops to facilitate discussion and have an open dialogue in which girls and women feel free to talk about issues such as menstruation and menstrual hygiene. This has led perceptibly to a wider distribution of sanitary napkins by the retail trade, a fall in prices and a larger effective demand. FAWE Uganda is doing its best to get legislation for the free supply of sanitary napkins to girls at schools.

At 12 primary schools in three districts of Kampala (Uganda), girls who attend school get free sanitary napkins made of crushed, stamped, locally produced papyrus that are wrapped in cloth and polythene paper in the framework of the Rockefeller Foundation-supported “Increasing Retention Through Improved Literacy and Learner Friendly Schools” project. School participation among girls has improved significantly because of this.

From research by the Iranian government, in co-operation with the University of Teheran, it becomes clear that 15% of girls between the age of 15 and 18 years do not attend school 1 to 7 days per month because of menstruation related problems.

From research by UNICEF, in co-operation with the government of Bangladesh, it appears that women and girls in rural areas³⁸, who are often the poorest and cannot afford to buy sanitary napkins, catch their menstruation blood in an extra sari, or in cloths. Washing the cloth is problematic, because the women must often walk to distant spots near a river or a lake. As a result, women and girls run an increased risk of becoming victims of sexual violence and abuse. Frequently, there is no possibility of properly drying the cloth, because nobody, especially men, may see any sign of the menstruation³⁹ (shame-based culture)⁴⁰. The consequence is that women and girls mostly have to hang it in well-hidden, often unhealthy places and use moisture and damp cloths.

The consequence is that women and girls mostly have use moisture and damp cloths. There is, however, a big demand for affordable sanitary napkins. To fulfil this need sanitary napkins are produced locally at a reasonable price on the initiative of the Bangladesh Rural Advancement Committee (BRAC). Sanitary napkins made of gauze and cotton cost approximately half as much as commercial products and are mainly distributed through BRAC health workers.

Slightly similar to the approach of BRAC are the self-help groups in the Indian federal state of Tamil Nadu that produce and sell sanitary napkins.

Conclusion

The problem concerning menstruation and participation in the higher forms of primary (grade 4 & 5) and secondary education has several aspects. Sanitary facilities and waste management at schools, including the hygienic disposal of sanitary napkins and other protection alternatives, are so poor and unsafe that girls and female teachers prefer not to use these during their menstruation period. Moreover, safe and effective protection alternatives, such as sanitary napkins, tampons, etc., are not available, and/or not affordable⁴¹, because they have to be imported or because of the high taxes being levied on these products (they are classed as luxury goods instead of necessary items). These problems are reinforced by local customs and cultural and/or religious traditions and taboos concerning menstruation, especially in rural areas.

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Towards a multi–sectoral action programme

1. Situation at schools

To prevent girls from dropping out of school due to problems concerning menstruation, it is necessary to educate all children within the framework of ‘comprehensive sexual education’ about health issues in general and reproductive and sexual health in particular, including menstrual hygiene. Moreover, it is important to have sufficient clean, private⁴² (separate) and safe sanitation facilities with accessible running water and effective waste management, which are not at an isolated location.

2. Accessibility, availability, affordability and acceptability of menstrual sanitary materials

To produce sanitary napkins and other protection alternatives that are affordable, one must look critically at the price calculation in several developing countries. The example of Kenya shows us that high taxes not only discourage but also make the use of sanitary napkins impossible, in particular for handicapped girls and women⁴³ and girls and women from rural areas.

To make sure that menstrual sanitary material is introduced in a culturally appropriate manner (acceptability) careful planning and involvement of actors who speak the local dialect or language, know the cultural context and have in–depth knowledge of the local customs, habits and lifestyle of girls and women is essential (Vijayan & Sandhaya 2004, p. 47).

Promising developments, such as in Bangladesh and in the Indian federal state of Tamil Nadu, must be supported and closely examined. These projects offer girls and women better menstrual hygiene at an affordable price, and provide them with employment and economic independence. Both with regard to production and distribution,

these ‘best practices’ must therefore be fostered and encouraged, so that they can be applied in other developing countries.

3. Waste Management

Attention must be paid to ensure the disposal of sanitary napkins and other protection materials hygienically and in an ecologically friendly way. The production of menstrual protection alternatives, which will not have negative environmental effects or be a hazard to the environment, must be encouraged.

Disposable sanitary napkins require the presence of closed waste bins or containers, which are emptied and cleaned on a regular basis, preferably located in a place that offers privacy.

In several developing countries, various ecological sanitation systems (composting and burning) are used to manage waste material for menstrual hygiene. These ‘best practices’ may serve as a model.

Goal

To improve the reproductive health of girls and women in developing countries by increasing the accessibility, availability, affordability and acceptability of sanitary napkins and other protection materials for menstrual hygiene, as a result of which different MDGs (2, 3, 5, 7 & 8) can be achieved, in particular the guaranteed right to education and the right to (sexual and reproductive) health.

What action is needed?

- The development of affordable sanitary napkins and other protection materials used for menstrual hygiene of good quality, which can be produced in the developing countries. For the production of sanitary napkins the use of locally available materials (such as

papyrus, sisal, etc.) must be sought and used as much as possible. Moreover, it is essential that producers of sanitary napkins are willing to transfer their advanced technology to locally established small businesses that will produce the sanitary napkins.

- The search for 'new' markets (target groups) by active involvement of women's organisations and other stakeholders, such as community-based organisations (CBOs), local 'significant' women, health care staff, etc.
- Connect as much as possible with existing, promising local initiatives and encourage the development, manufacturing and commercialisation of locally produced menstrual protection products.
- Provide information in schools about personal and menstrual hygiene within the framework of 'comprehensive sexual education', not only to boys and girls, but also to male and female teachers⁴⁴.
- Provide girls who are starting to menstruate or have already begun their menstruation with menstrual hygiene protection material for free or at least at an affordable price, particularly in the higher forms of primary (grade 4 & 5) and secondary education.⁴⁵ This will encourage permanent school attendance of girls and contribute to the prevention of child marriages.

Who are important partners?⁴⁶

For the production of affordable and ecologically-friendly sanitary napkins and other protection alternatives used for menstrual hygiene, partners at different levels are needed:

- The private (corporate) sector, in particular producers and exporters of sanitary napkins and waste handling and packaging companies.

Their participation will be vital to expedite success:

- a. For the transfer of expertise and technology that need to be made locally applicable, by using simple, small-scale and easily operable machines;
 - b. To teach in particular women in developing countries about their technology;
 - c. To invest, so that women can establish businesses⁴⁷ that manufacture and distribute sanitary napkins;
 - d. To guide and coach the female entrepreneurs (eventually by bringing in PUM), so that these businesses can make profit, pay back the investments and grow.⁴⁸
 - e. To develop links with educational institutions and encourage other producers of menstrual sanitary products to do the same.
- Dutch embassies abroad, to identify promising and reliable local partners with which one can co-operate, so that the lowest distribution costs can be realised.
 - Foreign embassies in the Netherlands, which can help to identify eligible and reliable local partners in the countries they represent.
 - Governments – central and local – in developing countries also play a crucial role. They must:
 - a. Develop structures, especially in rural areas, that girls at school obtain sanitary napkins for free or at an affordable price;
 - b. Invest in, ensure sufficient, safe, sustainable and good quality sanitation

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facilities when building new schools, and rehabilitate existing ones to fulfil the special (health and hygiene) needs of girls and women and with that assure full participation of all children.

- c. Do their utmost to reduce tax on sanitary napkins (not a luxury good but a necessary item).
 - d. Provide support, in particular to producers of sanitary napkins, by sharing knowledge about appropriate local material that can be used to produce affordable sanitary napkins and other menstrual protection alternatives.
- NGOs, in particular women's organisations, and other stakeholders, such as girls' clubs, CBOs, local 'significant' women, health care staff, etc. to build an 'enabling' environment and mobilise the different 'users' groups. Their participation is essential in order to sensitise all relevant actors and encourage and promote positive attitudes towards the use of sanitary napkins and other menstrual protection alternatives⁴⁹ to maximise the advantages. This can be done by:
 - a. Building awareness of the importance and advantages of sanitary napkins and other menstrual protection alternatives among girls, parents – both mothers and fathers – and 'significant others' from the own community.
 - b. Teaching women how to use (and reuse in the case of washable) sanitary napkins, the best washing and drying practices and other health and hygiene-related issues.
 - c. Teaching parents – both mothers and fathers – not to feel uncomfortable or ashamed when they educate their daughters (and sons) about the

significance of all issues concerning reproductive health, sexual maturation, (knowledge and understanding⁵⁰ about) menstruation, etc.

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Appendix 1: Important producers of sanitary napkins and other protection alternatives

United States of America

- Johnson & Johnson (OB en Modess).
- Kimberly–Clark (Kotex).
- Procter & Gamble (Always, Alldays).
- Tambrands (Tampax).

Europe

- Ontex (Helen Harper) (Belgium).
- Svenska Cellulosa Aktiebolaget (SCA) (Libresse) (Sweden).

Washable sanitary napkins

- Cotton for Her (Canada).
- Petra Sood (Vivas) (Germany).

Appendix 2: Menstrual protection alternatives

1. Sanitary napkins (cotton and synthetics)

Reuse of cotton sanitary napkins requires the availability of soap, the presence (accessibility) of clean running water and sufficient private washing facilities that do not harmfully affect the amount of drinking water, which is sometimes limited in developing countries. The advantage of this type of menstrual sanitary material is that the chance on skin irritations is smaller. Synthetic sanitary napkins are not environmentally friendly, unless degradable.

2. Tampons⁵¹

For girls, inserting a tampon can be cumbersome, painful or awkward. Moreover, lack of hygiene can lead to infections. In cultures where girls must get married as a virgin, the fear that the hymen tears when using this menstrual protection alternative will not encourage the use of this product.⁵²

3. Soft cup

The soft cup is a soft flexible plastic cap that is placed around the mouth of the uterus. From this hangs a small bag that catches the menstruation blood. The soft cup can stay in place for 24 hours. Then it is taken out, disposed and replaced by a new one. The soft cup has several advantages: it can be used for a longer period without producing bad smells; the costs of the production of disposable sanitary napkins can be saved; this type of menstrual sanitary product limits the quantity of waste. When travelling, and at places where other protection alternatives are not easily available, the soft cup is ideal. Moreover, it takes up little space due to its small size. However, there are also disadvantages. Inserting the cup can be cumbersome, painful or awkward for girls. In cultures where girls must get married as a virgin, the fear that the hymen tears when using the soft cup will not encourage the use of this product. In comparison with sanitary napkins and tampons, a disadvantage of the soft cup is that it can be used only once; therefore, it is expensive which makes it financially out of reach for girls and women in the developing world, who frequently must manage to live on US\$ 1 dollar or less.

4. Keeper

The keeper is a flexible cup of natural rubber that, used internally, catches menstrual blood. The keeper has a life span of at least ten years. The protection alternative has several advantages: it provides a saving on the production of throwaway sanitary napkins and limits the quantity of waste. When travelling, and at places where other protection alternatives are not easily available, the keeper is ideal. Moreover, it takes up little space due to its small size. There are however also disadvantages. Inserting the keeper can be cumbersome, painful or awkward for girls. In cultures where girls must get married as a virgin, the fear that the hymen tears when using the keeper will not encourage the use of this product.

Conclusion

The most suitable protection alternative for menstruation seems to be sanitary napkins (cotton and synthetic). The tampon, soft cup and keeper seem to be less appropriate for women and girls in developing countries due to the disadvantages described above.

Endnotes

1. This is for example illustrated by the euphemisms women use to indicate their monthly period: auntie/grandfather is on a visit; the red flag hangs out; I have a party; the red sea; the red monster is in town; going to the moon (FAWE Uganda, 2003), Loulou (Egypt, http://www.sk.uit.no/WW99/papers/EI-Nahhas_Susan_M._Belcher.pdf).
2. AIV (2002, p. 7): Gender refers to the economic, social, political and cultural attributes and opportunities associated with being male or female. In most societies, men and women differ in the activities they undertake, in access and control over resources, and in participation in decision making. These inequalities are a constraint to development because they limit the ability of women to develop and exercise their full capabilities, for their own benefit and for that of society as a whole. The nature of gender definitions (what it means to be male or female) and patterns of inequality vary among cultures and change over time. A recognition of this variability assists in the analysis of socio-economic contexts and relationships and the possibilities for change.
3. Think for example of the advertisements in magazines and on TV which indicate that protection during the menstruation period by using 'good' sanitary napkins protects a woman optimally and prevents 'leaking', as a result of which a woman or girl can move easily and is not troubled by bad smells that are socially embarrassing.
4. The problem is well-known. DeJaeghere (2004, p. 17) says for example that improving water and sanitation facilities, including the provision of sanitary goods for menstruating girls can be a successful strategy to remove barriers which hamper school attendance among girls.
5. See for example www.medicinfo.nl.
6. Menstrual hygiene in developing countries is not only a problem for girls and young women that visit schools. It is a problem during the whole reproductive life cycle of women. Mothers of newly born children and older women have specific problems in the field of sexual and reproductive health (for example incontinence), to which frequently insufficient attention is given. During calamities (man made and natural disasters) where housing conditions, access to good, safe sanitary facilities and fuel stocks are poor, and there is a lack of privacy, food and clean water, this 'peak' problem increases.
7. NCDO, 2005. Rhodes, Walker & Martor (1998) report that, in spite of the fact that girls represented almost 50% of students in the early grades of primary schools in Guinea, only 34% were left by grade six.

The World Bank (Winter & Macina, 1999) pointed out that investments in the education for girls have a positive effect on the quality of life of the women themselves and that of their children in the long-term. This investment has several advantages and is one of the most effective ways to break through the vicious circle, in which many developing countries find themselves: (a) Economic advantages: Education raises economic productivity on the national, community, family and individual levels. From economic research it becomes clear that the result of education to girls is equal, and sometimes even higher, than the output of education to boys; (b) Health advantages: Education of girls has a great impact on lowering the rates of mortality and birth; (c) Generation exceeding advantages: The educational level of the mother correlates more strongly with the educational possibilities of her children than does that of the father; (d) advantages for the environment: Trained women not only use more environmentally friendly working methods, they also use natural resources more effectively.
8. See: UN Millennium Development Declaration, 2000.
9. Compare World Education Forum (2000), Education for All, goal 5: Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality.
10. After the delivery, good body hygiene is important. Because of the fact that resistance has diminished, the chance of inflammations and infections is greater. A consequence of the lack of clean water is that women often cannot wash themselves in the places, which are necessary, such as the area around the vagina, the anus and the perineum (the space between the vagina and anus). Women frequently do not have sanitary napkins, which need to be regularly changed to catch the blood

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of the wound, which is created by the release of the placenta in the uterus.

11. The former Secretary-General of the UN, Kofi Annan, recommended the General Assembly of 2006 in his Report on the Work of the Organisation (GA Official Records Supplement No. 1 A/61/1 para 24) to add the reproductive health goal under MDG 5.
12. It seems that MDG 8, especially targets 6 and 7, can be applied: if the term drug is interpreted broadly, affordable essential drugs can also be applied to this issue. Moreover, menstrual protection products are frequently sold in pharmacies.
13. In research carried out by Plan the Netherlands (2004) in Niger, it was observed that approximately 68% of girls were married before their first menstruation. In the same research it was reported that married girls in Niger, irrespective of their age, are no longer considered as children; the right to education expires as soon as girls marry.

This practice is probably directly linked to the fear that it will be an impediment to the girl's marriage, or that the girl may lose her and her family's honour through, for example, pregnancy.

14. Research by FAWA Uganda, a pan-African NGO, shows that "in many schools, girls aged between 11 and 14 are absent for an average of three to five days a month due to their menstrual periods" (<http://www.ugandaobserver.com/new/archives/2004arch/easy/health/dec/hth200412161.php>).

According to a study in Cuernavaca (Mexico), lower-middle-class girls are kept under constant control and may be withdrawn from school when they start to menstruate. The reason is that they are thought to face an immediate sexual threat from men (Levine, 1993).

Caldwell, Reddy & Caldwell reported in a study in South India that one-half of the girls who were in school when they started to menstruate were withdrawn, "usually to be married as soon as possible, either because menstruation is taken as a sign that marriage should be arranged or because of the disgrace and danger of an unmarried pubescent girl being in public" (1985:, p. 41).

An extra factor for the absence of girls, especially in the rural areas, is that children sometimes must travel long distances to go to school; moreover, there are two, three and sometimes more school shifts (a morning and afternoon/evening shift) due to the huge shortage of teachers. If girls have lessons in the afternoon/evening

shift, they must cover the distance from their home to school and vice-versa in the dark. Because of this, there is a greater risk of becoming the victim of sexual violence and abuse, with the most serious consequences being forced marriage, unwanted pregnancy and getting children at an early age, infection with the HIV virus and other sexually transmitted diseases as well as unsafe abortions. The late school shift may also cause problems for girls because it may be incompatible with their household chores schedule. Another factor is the girl-unfriendly school infrastructure. Pupils at schools in Kenya must lift their leg to be able to sit at the school desk and must stand up to answer to the questions of teachers as a sign of respect (Muito, 2004, p. 6). This procedure will increase a girl's feelings of uncertainty and ambivalence during the menstruation period (Britton, 1996; Kissling, 1996; Van Moffaert & Finoulst, 2001). Another factor is the lack of clean and private sanitation facilities in schools (Zomerplaag & Mooijman, 2005; UNICEF, 2005).

15. Abagi & Odipo (1997) report that school drop-out rate among girls in Kenya is higher in the highest forms of primary school (Also see: Beyene, 1989; Herz, 1991; Mehrah, 1995). This probably has to do with the fact that parents believe that girls should be prepared for marriage and motherhood.
16. Bista (2004) reports that menstruating women in Nepal have to remove themselves from public places. This also applies to female teachers.
17. If sanitation facilities are at a remote distance girls and young children have a higher risk of becoming the victim of sexual violence and abuse. Harassment and molestation does not only occur between the different sexes; it also takes place among children of the same sex and of different age groups.
18. In Kenya, the number of children in a classroom is approximately 100.
19. Articles 28 & 29 of the Convention for the Rights of the Child. At present, 104 million children do not go to school (NCDO, 2005); the percentage of girls in this group is about 57% (http://www.unesco.org/education/efa_report/2003_pdf/chapter2.pdf).
20. In the Kalangala district in central Uganda, menstruating girls and women have to sit on a pile of sand to absorb the menstrual blood. This means that they are immobile for approximately 3 to 4 days (<http://www.ugandaobserver.com/new/archives/2004arch/easy/health/dec/hth200412161.php>).
21. In Egypt, women say that they do not feel comfortable

talking about menstruation and protection products in the presence of men or children.

22. Leviticus 15, verse 19–33 says:

19 And if a woman have an issue, and her issue in her flesh be blood, she shall be put apart seven days: and whosoever toucheth her shall be unclean until the even.

20 And every thing that she lieth upon in her separation shall be unclean: every thing also that she sitteth upon shall be unclean.

21 And whosoever toucheth her bed shall wash his clothes, and bathe himself in water, and be unclean until the even.

22 And whosoever toucheth any thing that she sat upon shall wash his clothes, and bathe himself in water, and be unclean until the even.

23 And if it be on her bed, or on any thing whereon she sitteth, when he toucheth it, he shall be unclean until the even.

24 And if any man lie with her at all, and her flowers be upon him, he shall be unclean seven days; and all the bed whereon he lieth shall be unclean.

25 And if a woman have an issue of her blood many days out of the time of her separation, or if it run beyond the time of her separation; all the days of the issue of her uncleanness shall be as the days of her separation: she shall be unclean.

26 Every bed whereon she lieth all the days of her issue shall be unto her as the bed of her separation: and whatsoever she sitteth upon shall be unclean, as the uncleanness of her separation.

27 And whosoever toucheth those things shall be unclean, and shall wash his clothes, and bathe himself in water, and be unclean until the even.

28 But if she be cleansed of her issue, then she shall number to herself seven days, and after that she shall be clean.

29 And on the eighth day she shall take unto her two turtles, or two young pigeons, and bring them unto the priest, to the door of the tabernacle of the congregation.

30 And the priest shall offer the one for a sin offering, and the other for a burnt offering; and the priest shall make an atonement for her before the LORD

for the issue of her uncleanness.

31 Thus shall ye separate the children of Israel from their uncleanness; that they die not in their uncleanness, when they defile my tabernacle that is among them.

32 This is the law of him that hath an issue, and of him whose seed goeth from him, and is defiled therewith;

33 and of her that is sick of her flowers, and of him that hath an issue, of the man, and of the woman, and of him that lieth with her that is unclean.

23. According to the Koran (verse 2:222) menstruation "is a harmful something, therefore, stay away from the women during the menstruation and do not enter to them, until she is pure."

From an article in the Belgian newspaper, *Het Volk* (2005), it becomes clear that these religious conceptions can be abused. In this article it is stated that American female soldiers besmear pious Muslim prisoners in Guantanamo Bay with fake menstrual blood (red paint) when questioning, whereupon they are locked without water to wash themselves. They feel impure and cannot proceed to the daily prayer.

24. Also, compare Leviticus 20, verse 18: When someone has intercourse with a woman during her menstruation and the woman herself also agreed with that, then both must be repudiate from the community.

25. Pliny the Elder states in *Naturalis Historia* (book 28, chapter 23, 78–80/book 7, chapter 65): "Contact with the monthly bleeding of women causes new wine to become sour, the harvest becomes dry, grafting fail, seeds in the gardens dry out, fruits of the trees fall, the clear surface of a mirror becomes dull, the sharp edge of steel becomes blunt, the brilliance of ivory becomes lustreless, bees die, iron and bronze starts to rust, and the air is filled with a terrible smell. Dogs that taste the blood become crazy, and their bite becomes as poisonous as with rabies. The Dead Sea cannot be separated then only with a thread which is drenched in the toxic fluid of the menstruation blood. A thread of an infected dress is already enough. When the woman touches linen at cooking and washing in the water it turns black. The strength of the woman during these monthly periods is so magical that hailstorms and tornados are dispelled when the liquid of menstruation is exposed to the light of lightning."

26. Until late in the 19th century menstruating women in

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the western countries were banned from industrial processes such as wine making, sugar refining and ham curing (Montgomery, 1974; Brooks–Gunn & Furstenberg, 1990). In that period, menstruating girls and women in the Netherlands were not allowed to enter the cellar because it was believed that dairy products and other perishable goods would contaminate.

27. In Ghana among the Akan, menstruation is also perceived as ‘messy, revolting and polluting’ (Agyekum, 2002).
28. This is probably linked to her new status as marriageable. Girls are now seen as a source of capital because they will increase the family income from a dowry payment at some time in the future.
29. Most of these beliefs have now died out due to girls being educated and reasoning out most things scientifically.
30. Eileen Hanciles, Acting National Coordinator for FAWE Sierra Leone, states that FAWE is succeeding slowly in opening the discussion about the use of sanitary napkins.
31. Creoles are people of whom at least one of the ancestors was imported as a slave from Africa (Helman, 1978). The people that escaped and settled down in the inaccessible interior of Surinam are called Maroons.
32. Pakosie, 1998; Polimé, 2000.
A 76-year-old Creole woman told me the following: “If you are menstruating and there is nobody to cook for you and your family, you must do it yourself. You then make a cross with carpenter’s chalk on the pots and pans you use. This cross offers enough protection, as a result of which your partner does not feel sick or get a rash. There is a superior power at work and you cannot do anything about it. However, it must remain a secret. If you start cooking, you beg the Lord to pardon you, by saying: “Please, Lord have mercy on me that nothing happens to him. I cannot do it in a different way”. In this context the proverb in one of the languages of Surinam, Sranan, is used: ‘Angri e broko futuman trefu’ (literally translated: Hunger breaks the allergy of menstruation). The English proverb for this is: Necessity knows no law.
33. Orthodox Jewish women also take a ritual bath as soon as the menstruation period has finished, the mikveh.
34. Tjon A Ten, 1995.
35. In 2002, approximately 3% of the total quantity of waste in the Netherlands was diaper and incontinence material (adult diapers). From sorting analysis, it becomes clear that still at least 250 Kton remains as “rest waste” (www.Senternovem.nl/uitvoeringwastebeheer/). Nowadays, approximately 80 Dutch municipalities collect disposable diapers and the largest part of the diaper waste is burned as rest waste. Annually approximately 25 million kg of diapers is also processed; on the understanding that from this synthetic grains are regained for reuse in the industry (Waste forum, 2006, p. 37).
36. Women Link Korea also conducts a campaign for sanitary napkins to be considered as a tax-free article, because women need them during the reproductive years of their life (Campaign to Make Sanitary Napkins Tax-Free; http://www.womennews.co.kr/ew_news/ewnews40.htm#c).
37. ‘Buying sanitary protection means a monthly spending equivalent of four radio batteries or enough paraffin to last a family one month. Where men most often control the household budget, how can girls succeed in getting sanitary materials on to the priority list? What is worse, where sanitary protection for one girl may cost around a tenth of a monthly family income, how can a household afford this where there are two or three girls?’ (Kanyike, Akankwasa & Karungi, 2004; p. 1).

From this quotation it becomes clear that, looking at to the need hierarchy of Maslow (1974), the needs at a lower level (i.e. the primary life needs like food and shelter) have to be fulfilled first. Sanitary napkins and other safe and effective menstrual protection alternatives are not considered as one of the primary life needs in poor households.
38. Acharya, Yadav & Baridalyne (2006) report that the majority of the women questioned from rural areas in India use cloth and rags to protect themselves during the menstruation period. This material is not always clean. Only a small number buy sanitary napkins. The reason for this is probably the lack of accessibility and the fact that women do not have sufficient financial means to buy sanitary napkins (poverty). According to this study many women have infections, which are possibly caused because the sanitary napkins made of cloth are not clean.

Research by Baridalyne & Reddaiah (2004) in an urban area in India shows, however, that one third of the women use sanitary napkins. The authors attribute this to a wider knowledge of hygiene and the financial circumstances of these women.

Women and girls who cannot buy sanitary napkins, but want to protect themselves during the menstruation period sometimes use (banana) leaves, newspaper or toilet paper, sponge, pieces of jute sacks or in the worst

case sand or ashes (<http://www.globalgiving.com/pfil/1628/projdoc.pdf>).

The use of these materials does not only harm women; it also limits the life span of existing sanitary facilities.

39. The same is reported by Surinamese women. One woman told me the following: "I had older sisters, but I really did not know where they hung the napkins they used for menstruation. I have never seen them. I also had my own space. You see, you did not speak about it".
40. Kalinowski defined 'shame culture' as follows: "A shame culture is one in which individuals are kept from transgressing the social order by fear of public disgrace."
41. In India a pack containing 10 sanitary napkins costs 35 Rs (approximately US\$ 0.90). A survey shows that women from rural areas cannot afford more than 15 Rs (http://www.facetoface.org/nl_mayjuly 2001.html).
- In Zimbabwe a pack containing 10 sanitary napkins costs US\$ 10; the average salary varies between US\$ 50 and US\$ 100 per month (South Africa–Zimbabwe: ZCTU hopes to bring in sanitary pads every month; <http://www.irinnews.org/report.asp?ReportID=52459>).
- The average Ugandan lives on less than UGS 1,000 (€ 0.40) a day. On an average, a girl will have 13 menstruation cycles a year, which means that parents yearly need UGS 26,000 (€ 11), to buy sanitary pads (<http://www.irc.nl/page/8392>).
42. Zomerplaag & Mooijman (2005, p. 32) report that 'in some cultures it is important not to be seen entering or leaving the facility'.
43. Although 90% of the children with a handicap do not go to school yet (Tweede Kamer der Staten Generaal, Vergaderjaar 2005–2006, 30 5049, nr. 1), it is of essential importance that action and measures will be taken, in connection with the recently adopted UN Convention on the Rights of Persons with Disabilities, so that this group can also exercise their rights.
44. According to Gichaga (z.j.) both female and male teachers feel ashamed to instruct pupils in mixed classes concerning adulthood and menstruation practices.
45. The same school-going incentive that is used for girls can be used to ensure that female teachers do not 'drop-out' of their profession; as they are important role models; this will probably have a positive effect on girls' school attendance.

46. According to Kirk & Sommer (2005, p. 4) girls and women in many developing countries, especially men/boys, have a worrying lack of knowledge of the biological function of menstruation. Because of this, preconceptions and behaviour rules remain. They plead for a 'multi-sectoral approach' to break through restrictions imposed on menstruating girls and women: "It is becoming clear that multi-sectoral approaches are needed. Addressing menstruation challenges for girls in a strategic way requires more than simply building a toilet or drilling a well. We need to link physical infrastructure and water and sanitation projects to health education and reproductive health programs and address the issue in more holistic ways. Education programs are required for teachers and education authorities, as well as sensitization for parents and wider communities. Such approaches require the experts from health, water and sanitation, and the education sectors to all work together, and to collaborate when possible with local women's organizations, girls' clubs in and out of school, and other grassroots organizations [...]. Given the many cultural or traditional beliefs around menstrual blood and menarche, approaches developed for specific locations must be informed by the understanding of local social and cultural attitudes and perspectives on the significance of menstruation for girls and their families. Such approaches may challenge current organizational structures, funding parameters and the attitudes of programmers and policy-makers, however they remain critical [...] for the fulfilment of girls' rights. Women's and girls' rights activists also have important advocacy roles to play in drawing attention to the issue and proposing solutions. Such solutions, however, should be developed based on the insights of the girls themselves [...] girls are 'knowers' of their own lives, of the challenges they face and of possible solutions for these."

Vijayan & Sandhaya (2004, p. 47) state that the participation of local women's organizations is needed in order to lessen the chances of women being resistant.

47. With this the importance of creating employment to fight poverty, a strategic goal of the Decent Work Agenda of the ILO (1999), is fulfilled.

Experience in several developing countries shows that girls find it easy to buy sanitary napkins in shops when women are running the shops (see: <http://64.233.183.104/search?q=cache:f8kMOEnXJbEJ:www.environment.gov.pk/sacosan-2005/Proceedings/Thematic%2520Papers/Qumrun%2520Nahar%2520Paper.pdf+Issues+to+address+on+menstrual+hygiene+and+related+issues&hl=nl&c=clnk&cd=23&gl=nl>).

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48. Prahalad, 2005.
49. Within this context, Female Genital Mutilation (FGM) must be discussed as well. Extremely painful and prolonged menstruation, chronic infections and inflammations, which lead to a longer period of school absence, will also limit full and equal participation of girls in primary and secondary education.
50. Because of the fact that menstruation is rarely openly discussed (WHO, 1981; McMaster, Cormie & Pitts, 1997; Castle, 2003; Adhikari, Mabuhang & Kunwar, 2004), the majority of the girls and women have misunderstandings, misperceptions and false beliefs about fertility, menstruation and hygienic practices during menstruation (Poureslami & Osati-Ashtiani, 2002; Khanna, Bhawsar & Bhawsar, 2005).
51. In ancient Egypt, women used strips of soft papyrus, which they rolled up and placed in the vagina. Roman women used pieces of rolled linen. In the 18th century, women used a sponge during the menstruation period. Because of the poor hygiene, however, they often contracted infections. Also in ancient Greece, sanitary napkins were reportedly used (http://en.wikipedia.org/wiki/Sanitary_towel).
52. In comparison with Europe and the USA, the use of tampons is less common in Japan. In Japan only 30% of women use tampons; in Europe and the USA the percentage of women using tampons is 60% (<http://www.unicharm.co.jp/english/ir/05.html>).

