Milk, Market and Malnutrition

Human rights assessment of scaling-up affordable dairy nutrition in Bangladesh

December 2017

Executive summary

As Arla continues to expand its business activities in Bangladesh, it is essential to our long-term success that growth is achieved in a responsible way that does not adversely impact the local dairy sector, its related farmers and communities, as well as consumers. As part of Arla's commitment to respect human rights, we have a responsibility to assess, avoid and address our actual and potential adverse impacts on human rights.

Dano® Daily Pushti is a fortified fat-filled milk powder intended to target consumers who are unable to afford traditional dairy products, and who can benefit from access to affordable and nutritious dairy solutions. When introduced in 2015, Dano® Daily Pushti was the first of its kind on the market in Bangladesh. Since then, the sale of Dano® Daily Pushti has reached a promising and growing volume.

The purpose of this human rights assessment is threefold:

- To assess the impact of Arla's increasing sales and distribution of Dano® Daily Pushti on the local dairy sector and its most vulnerable smallholder farmers
- To assess the impact of increasing sales of Dano® Daily Pushti on vulnerable consumers
- To explore how Arla can contribute to the UN Sustainable Development Goals in Bangladesh

Although substantial, this human rights assessment is not considered as representing a full human rights impact assessment of our operations and business relationships in Bangladesh, and should not limit the scope of such future assessments and/or periodic reviews of our operations in Bangladesh, which are undertaken in parallel to this assessment[1].

The key findings of this human rights impact assessment can be summarised as follows:

The right to an adequate standard of living, including the right to food and its fair distribution, the right to work and the right to non-discrimination for local smallholder farmers and their dependents, including female farmers and single-headed female households

- There is a potential risk for Dano® Daily Pushti to outcompete local farmers if Dano® Daily Pushti is targeting rural milk producing villages and if the product is aggressively marketed in these areas. Dano® Daily Pushti is today reaching urban and semi-urban outlets. However, if reviewing ambitions for scaling up, this risk[2] is assessed as being possible to happen.
- If local processors substitute raw milk with Dano® Daily Pushti as an ingredient, this may potentially hamper the local dairy processing industry. So far Dano® Daily Pushti does not seem relevant for this market, and only 2% of the sales of Dano® Daily Pushti go into the foodservice industry. Therefore, the risk is assessed as unlikely.
- Arla may outcompete local dairy farmers if consumers switch from dairy products based on local raw milk to Dano® Daily Pushti. Based on price, brand recognition, food safety and easy to store options, about 25 % of Dano® Daily Pushti consumers have switched completely.

[1] A human rights impact assessment related to our operations is undertaken in parallel with this assessment. Dano® Daily Pushti is a fortified fat-filled product using certified palm oil as an ingredient. With the recent reveal of severe adverse impact identified in palm oil plantations, Arla is using our leverage through our engagement in RSPO. See Arla's statement on palm oil at https://www.arla.com/globalassets/arla-global/company---overview/responsibility/pdf/sourcing/2016-arla-palm-oil-company-statement.pdf

[2] Risks assessed based on the likelihood over a five-year period and the accumulated impact, reflecting the net risk taking existing mitigation into account, but without considering planned future mitigation (planned future mitigation may, however, be part of the action plan).

The impact for out-competition seems, however, to be only minor due to a steadily growing Bangladeshi dairy market, which is large enough to include local processors as well as milk powder imports.

- The underdevelopment of the dairy sector in Bangladesh seems to be mainly driven by a vast number of local constraints, which adversely impact vulnerable dairy farmers. The scaling up of Dano® Daily Pushti does not seems to cause adverse impact on the underdevelopment of smallholder dairy farmers and their dependents. However, since smallholder farmers' ability to be empowered is not supported, either by the business case of Dano® Daily Pushti, or by Arla's current business model in Bangladesh, we are presently not promoting the governmental agenda on sustainable dairy sector development. As one of the dairy market leaders in Bangladesh, we recognise that Arla is a significant actor in the dairy sector, which might risk amplifying the current tendency of underdevelopment.

The right to health and the right to information for vulnerable BoP consumers, including illiterates, children and infants as well as pregnant and lactating women

- Despite the intention to reach lower income segments, Dano® Daily Pushti seems to currently, and to a higher extent, penetrate high income groups rather than lower income segments.
- There is a risk for Arla to adversely impact consumers if they are not using Dano® Daily Pushti as intended. About 25% of the current Dano® Daily Pushti consumers use the product as infant feeding for infants between zero and two years.
- With a large part of the population not having access to safe water, combined with many consumers not being able to distinguish between safe and unsafe water, the risk of mixing Dano® Daily Pushti with polluted water is prevalent. If adequate and easily accessible information is not available, Arla may contribute to health threats for vulnerable consumers.
- With about 40% being illiterate, it is likely that vulnerable consumers do not possess the capacity to read information on the Dano® Daily Pushti packaging. The scale of the adverse impact depends to a large extent on the information provided by Arla.
- The current version of Dano® Daily Pushti has a lower nutritional composition than local milk products based on locally sourced milk and non-fat-filled milk powders. As 88% of Dano® Daily Pushti consumers have switched from raw milk, pasteurised milk or non-fat-filled milk powders, this may reduce nutritional outcomes. As Dano® Daily Pushti contributes to increased milk consumption, the potential adverse impact is reduced, in particular among vulnerable consumers, who did not regularly drink milk before the introduction of Dano® Daily Pushti.

To mitigate and prevent adverse human rights impacts, we commit to a number of actions with the aim of improving nutrition of the lower income segment through improved access to affordable dairy solutions while co-existing in the local dairy value chain. These can be summarised as follows:

- Arla will avoid being in direct competition with smallholder dairy farmers by not strategically targeting low income consumers in rural milk producing villages, where smallholder dairy farmers are dependent on income from raw milk production.
- Arla will strategically enhance its sales, distribution and marketing channel to target BoP consumers with a strong need for affordable nutrition. Arla's edutainment activations and

project "Pushti Ambassadors", which are now being piloted in partnership with BRAC is key in this regard.

- Arla will support job creation and female empowerment in the dairy value chain by including female entrepreneurs as an alternative sales channel to improve accessibility and availability of affordable dairy in rural and peri-rural non-milk producing areas in Bangladesh.
- Arla will support sustainable dairy sector development by exploring possibilities for knowledge transfer and capacity building of smallholder dairy farmers regarding dairy farm and processing practices. In collaboration with Bangladesh Agricultural University and IFCN, Arla will initiate a farm and sector study during 2018 to provide background data and recommendations for strategic business involvement in local dairy sector development.
- Arla will innovate to improve the recipe of Dano® Daily Pushti to enhance its nutritional outcomes without increasing the price point of 10 BDT for 20 grams. The Arla Brand Nutrition Criteria introduced in 2016 will support this journey. The new recipe will be introduced in the first half of 2018. The dairy ingredient will continue to be sourced from Arla farmer owners in Northern Europe.
- Arla's marketing and packaging will be adjusted to ensure that accurate and transparent packaging information are available for vulnerable consumers, where illiteracy is prevalent and access to clean water limited. Among other activities, Arla's global nutrition team, in cooperation with the local marketing team in Bangladesh, will ensure that material and information provided to vulnerable consumers in regard to awareness raising campaigns on nutrition are adequate and accurate. This will be done in collaboration with both commercial and non-commercial partners.
- Arla will at all times ensure full compliance to the Bangladeshi Breast Milk Substitute regulations. Dano® Daily Pushti will target Dano® Daily Pushti consumers above five years and clearly communicate that there is no alternative to breastfeeding in line with the Bangladeshi BMS regulations, and that Dano® Daily Pushti is not to be used for infant feeding. All marketing campaigns will fully comply to the Bangladeshi Breast Milk Substitute regulations.
- Arla will relaunch Dano® whole milk powder as Dano® Power to ensure that consumers better perceive the difference between Dano® Daily Pushti and Dano® whole milk powder. This is to mitigate the risk of cannibalisation.

Arla's growing business activities in Bangladesh, including our commitments to prevention and mitigation actions, are inextricably linked to the SDGs, in particular SDG 2, 3, 5, 8, 12 & 17.

The results of the assessment are integrated into Arla's business processes in Bangladesh and actions being taken. The human rights assessment is publicly available on our website http://www.arla.com/about-us/responsibility/human-rights/ and will be disclosed in the Arla Corporate Responsibility report 2017.

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Introduction

Background and context

Arla is a global dairy cooperative owned by 12,700 farmers in seven European countries[3]. Arla is currently in the process of expanding its business in Bangladesh.

Arla embraces a strong vision of "creating the future of dairy to bring health and inspiration to the world, naturally". With an ambitious Good Growth strategy for 2020, we aim to develop our position as a leading global dairy company and increase our presence in international growth markets. Our mission is to create the highest value for our farmers' milk and the only way we can do this is by adding value for our consumers and our customers, while ensuring that we do it in a responsible, natural, cooperative and healthy way. The four principles include responsible business conduct, sustainable farming, democratic company structure and our health ambitions through natural products. They define our identity, which we name Good Growth. Good Growth means that we want to grow and we care about how we do it[4].

In Bangladesh, Arla's products are primarily sold under the Arla Dano® brand, which is the 2nd market leader in Bangladesh within the milk powder category and was rewarded as the "Best Brand 2017" in the milk category by Bangladesh Brand Forum.

Milk powder products are manufactured from raw milk produced and supplied by Arla farmer-owners in Europe, which are then imported into Bangladesh in powder form. The imported whole milk powder and filled milk powder are re-packaged locally. The remaining products, such as infant formula and UHT milk, are directly imported as finished goods. There is no processing of products based on locally sourced raw milk by Arla in Bangladesh. The business model is based on imported dairy products produced by milk from Arla's farmer-owners.

To strengthen our local presence, as part of our Good Growth Strategy 2020, through increased management control, Arla signed a joint venture with Mutual Foods[5] in 2014. Mutual Foods is a Bangladeshi distributor, which has been packaging the Dano® milk powder brand since the 1960s. Arla has a 51% share and provides the bulk products, runs the repackaging factory with approximately 130 employees, and carries out the product marketing; Mutual Foods own 49%, and runs a network to distribute Arla's milk powder products in Bangladesh. Arla was rewarded as the "Best Employer Brand 2017" in the country.

In October 2015, Arla introduced a filled milk powder, Dano® Daily Pushti; the first of its kind on the market in Bangladesh. Pushti is the Bengali word for "nutrition" and the product is aimed at consumers who are unable to afford traditional dairy products, and who could benefit from access to affordable nutritious dairy solutions. After a year, Dano® Daily Pushti has successfully reached a sales volume that has exceeded all expectations, and is now volume-wise contributing significantly to Arla's business in Bangladesh. Recently, three other brands have launched similar fat-filled products, namely "No. 1" and "Super Pure Pushti Praitidin" by Tanveer Food Ltd[6] and "GoodLife" by PRAN Dairy Ltd[7].

As Arla continues to expand our presence and business activities in Bangladesh, it is essential to long-term business success that Arla's growth is achieved in a responsible way that does not bring

[3] Arla's web page: http://www.arla.com/
[4] Ibid.
[5] Mutual Group web page: http://www.mutual-bd.com
[6] A company under Meghna Group.
[7] A company under Pran-RFL Group.

unintentional adverse human rights impacts on the local dairy sector, its related farmers and communities, as well as consumers[8].

Arla is committed to respecting human rights, as outlined in the UN Guiding Principles on Business and Human Rights. This commitment has been made public in Our Responsibility, Arla's Code of Conduct and the Arla Foods Human Rights Policy[9]. Thus, we have committed ourselves to identifying and assessing the human rights impacts of our business in terms of actual and potential adverse impacts, and we realise that these should be addressed through prevention, mitigation and, where appropriate, remediation[10].

The focus of this assessment is to understand the potential and/or actual adverse human rights impacts of upscaling sales of Dano® Daily Pushti in Bangladesh.

With Arla's growth ambition in Bangladesh, we want to fully investigate if and how increasing sales of Dano® Daily Pushti milk powder in Bangladesh may impact the human rights of local dairy farmers and their dependants, and also how introducing affordable milk powder products into Bangladesh may impact the human rights of especially vulnerable groups of consumers. Thus, the objective is to identify whether the import, sales, distribution and consumption of Dano® Daily Pushti actually or potentially causes, contributes to or is directly linked to adverse human rights impacts with a specific emphasis on:

1. Impact on smallholder dairy farmers:
    - The right to adequate standard of living for local farmers and their dependants, including the right to food and its fair distribution and the right to adequate housing.
    - The right to work for local dairy farmers and their dependants and to assess whether increasing sales of Dano® Daily Pushti adversely impacts the local dairy farmers' access to work and thereby adversely impacts on the possibility for earning an income for living.
2. Impact on vulnerable consumers:
    - The right to health and to assess whether consumption of Dano® Daily Pushti adversely impacts the level of health of the most vulnerable consumers.
    - The right to freedom of information and to assess whether the most vulnerable consumers of Dano® Daily Pushti are provided with adequate information in order not to adversely impact their level of health.

Although substantial, this human rights assessment is not considered as representing a full human rights impact assessment of our operations and business relationships in Bangladesh, and should not limit the scope of such future assessments and/or periodic reviews of our operations in Bangladesh, which are undertaken in parallel to this assessment[11].

On the 25th September 2015, the UN launched the Sustainable Development Goals (SDG), which represents the most ambitious development agenda ever forged at international level. Human rights improvements are inextricably linked with these global goals.

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[8] Read more about Arla's Responsibility: http://www.arla.com/company/responsibility/
[9] See Arla Foods Human Rights Policy, 2015: https://www.arla.com/globalassets/arla-global/company---overview/responsibility/human-rights/arla_foods_human_rights_policy_update.pdf
[10] UN Guiding Principles on Business and Human Rights 2011, see §11, 12 and 17.
[11] A human rights impact assessment related to own operations is undertaken in parallel with this assessment. Dano® Daily Pushti is a fortified fat-filled product using certified palm oil as an ingredient. With the recent reveal of severe adverse impacts identified in palm oil plantations, Arla is using our leverage through our engagement in RSPO. See Arla's statement on palm oil at https://www.arla.com/globalassets/arla-global/company---overview/responsibility/pdf/sourcing/2016-arla-palm-oil-company-statement.pdf

The Bangladesh Government has committed, through its Country Investment Plan (CIP) guidelines, to protect and develop the local dairy sector, and to improve the nutritional status of the population in line with the UN Sustainable Development Goals[12]. Within agriculture, dairy sector development is a priority for the Bangladesh Government as they aim to decrease imported milk levels and reach self-sufficiency in terms of dairy production by 2021. Currently, there are a number of challenges to overcome before the government can fulfil this ambition. The government encourages international dairy companies to contribute to the development of nutrition security in an integrated way.

Moreover, a National Nutrition Policy was endorsed in 2015, as well as a National Strategy for Micronutrient Deficiency Control, to specifically improve nutritional outcomes in Bangladesh. Furthermore, an elaborated policy on breastfeeding and the implementation of the 2013 Breastmilk Substitutes Regulation of Marketing Act aim to protect children from consuming foods with poor sanitation, and has further restricted the marketing of infant formula.

Together with other multinational companies, Arla has made a public commitment to play its role as a dairy company to fulfil these ambitious development goals. Arla commits to the realisation of the Sustainable Development Goals. While we support all SDGs, we have highlighted three goal, on which we may have the biggest positive impact:

- SDG 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture
- SDG 8: Promote sustained inclusive and sustainable economic growth, full and productive employment and decent work for all
- SDG 12: Ensure sustainable consumption and production patterns

Arla is committed to promoting these three goals and their related targets, particularly as the Bangladesh Government has also expressed commitment to realising these goals. This human rights assessment should be considered as a step to stimulate dialogue with stakeholders in Bangladesh and to take into account their aspirations in our business decisions going forward.

For Arla, the Sustainable Development Goals is inextricably linked with the UN Guiding Principles on Business and Human Rights. Respecting human rights is not merely about addressing a negative practice, it is about generating a positive impact on people's lives whether it is employees or workers in the value chain, consumers or people living in the local communities who are affected by our business. Respecting human rights is simply at the heart of the people part of sustainable development[13].

Hence, the purpose of this human rights assessment is, therefore, threefold:

1. To assess the impact of Arla's increasing milk import volumes of Dano® Daily Pushti on the local dairy sector and its farmers. Could Arla potentially cause, contribute or be directly linked to an adverse impact on the right to work and/or adequate living standards for Bangladeshi farmers and their dependants who rely on raw milk production for their livelihood? Here, Arla's potential and/or actual impacts on the right to adequate standards of living and the right to work will be assessed, and appropriate prevention and mitigation measures will be discussed.
2. To assess the impacts on consumers of Arla's recent introduction of a filled-milk powder, under the brand Dano® Daily Pushti. Could Arla potentially cause, contribute or be directly

[12] UN Development Programme in Bangladesh, Sustainable Development Goals: http://www.bd.undp.org/content/bangladesh/en/home/post-2015/sdg-overview.html
[13] Ruggie, 2016, Making Globalization Work for All: Achieving the Sustainable Development Goals Through Business Respect for Human Rights: http://www.shiftproject.org/resources/viewpoints/globalization-sustainable-development-goals-business-respect-human-rights/

linked to an adverse impact on health, nutrition, and adequate food availability for the most vulnerable consumers in Bangladesh? Here, Arla's potential and/or actual impacts on the right to health, and the right to adequate food and its fair distribution will be assessed, and appropriate prevention and mitigation measures will be discussed.

3. To explore how Arla can contribute to the Sustainable Development Goals through promoting sustainable dairy farming and/or through improving nutrition and achieving food security. Possible actions to enable this will be included.

The results of the assessment are integrated into Arla's business processes in Bangladesh and shared across functions and management boards to inform decision-making. Information about our findings in Bangladesh will also be disclosed in the Arla Corporate Responsibility report 2017. The assessment is publically available on our website http://www.arla.com/about-us/responsibility/human-rights/ where we welcome feedback. Through sharing our methods and reflections openly and transparently, we hope to contribute to an open dialogue on how businesses manage their respect for human rights in practice. This is to further stress that in Arla we welcome dialogue with stakeholders on how the implementation of the Guiding Principles on Business and Human Rights can advance the protection of human rights in the dairy industry.

Arla would like to acknowledge and give thanks to the Danish Embassy in Dhaka who have supported us through stakeholder identification and planning of meetings. Furthermore, Arla would also like to thank BRAC and Aarong for their assistance in organising field research in dairy villages, milk sales points and the Aarong chilling centre in Dinajpur district, Bangladesh. We appreciate their transparency and openness in discussing the dairy sector and its development in Bangladesh. We also extend our thanks to Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner who has provided us with knowledge and analysis on the dairy sector and reviewed the report. Moreover, Arla appreciates the valuable meetings, knowledge and inputs provided by the government in Bangladesh. Finally, Arla gives thanks to ActionAid Denmark for also reviewing this assessment and for providing us with a constructive critique, which has helped us to raise the level of ambition.

For further information or comments about this assessment, you are welcome to contact:

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Methodological framework

This human rights assessment was conducted between May 2016 and June 2017. Since then we have undergone a process where a number of significant business decisions have been taken to address and mitigate the human rights impacts identified. Based on these business decisions, the report was published in December 2017.

A holistic approach

The methodological framework for Arla's human rights assessments has been developed in collaboration with the Danish Institute for Human Rights (DIHR)[14], which has also reviewed this report before publication. However, all data within the report, and conclusions generated from our research, remain the sole responsibility of Arla.

To build capacity and stakeholder relations within Arla, the assessment was conducted by Arla's international corporate responsibility team with comprehensive back-up from our business unit in Bangladesh. The team members are all trained in human rights and possess comprehensive international experience and has been involved in a number of human rights assessments conducted in Arla International.

The assessment is based on both quantitative and qualitative data, as well as a comprehensive literature review. The methodological approach is holistic in nature and information was generated through the following means:

- Desk research and literature review[15]
- Statistical data collection
- Stakeholder mapping[16]
- Key informant interviews were done using semi-structured interviews and stakeholder consultations with Bangladesh Government ministries, the Danish Embassy in Dhaka, Danish and British development agencies, EU Delegation, academic institutions for dairy research, NGOs, UN organisations, rural dairy farmers, rural dairy consumers, commercial dairy companies, Arla employees and business partners as well as dairy and health development projects[17]
- Outreach field visits to local dairy producers and processing facilities in rural Dinajpur and semi-urban Gazipur, Bangladesh
- Qualitative consumer interviews and field observations in rural milk production areas in Dinajpur District, Bangladesh
- Qualitative interviews with BoP[18] consumers in the Dhaka slum with the purpose of obtaining data on food consumption habits
- Market data provided by the Arla marketing team in Bangladesh

[14] The Danish Institute for Human Rights, Business and Human Rights: http://humanrights.dk/business-human-rights
[15] See comprehensive list of literature for reference.
[16] See comprehensive list of stakeholders for reference.
[17] See comprehensive list of interviewees for reference.
[18] Bottom of the Pyramid (BOP) is defined as those people that earn less than $2.50 per day
http://www.worldbank.org/en/topic/poverty

- Market surveys conducted by Cell, Bangladesh, of some 1,000 consumers to map the distribution and sales of Dano® Daily Pushti in relation to income segment, geographical distribution and consumption patterns
- Value chain observations along the formal, as well as the informal value chain in Bangladesh
- Structured review of the assessment by internal and external dairy, nutrition and human rights experts

The UN Guiding Principles on Business and Human Rights should be implemented in a non-discriminatory manner, with particular attention to the rights and needs of vulnerable groups and individuals, as well as those who are at heightened risk of becoming vulnerable.

It has therefore been of utmost importance for us to conduct field studies to observe and interview the most vulnerable dairy farmers and low segment consumers on whom we might potentially impact. This has enabled us to include the concerns of groups with heightened risk of vulnerability and marginalisation, including small-scale rural farmers and small-scale dairy middlemen, abandoned women, widows, teenage mothers, children and pregnant women living in both rural areas and urban slum areas, in order to have an understanding of their perspectives. It has also been important to assess how males and females may face different risks or experience impacts differently.

In total, we have conducted semi-structured interviews and stakeholder meetings with some 200 persons in Bangladesh representing three main stakeholder groups in terms of human rights:

1. Project affected stakeholders (also called rights holders, i.e. rural dairy farmers, local and urban dairy processors, rural dairy consumers, Dano® Daily Pushti consumers)
2. Duty bearers/responsible parties (government bodies)
3. Non-project affected stakeholders (NGOs, experts, UN organisations, development and trade councils, EU). The interviews have been recorded and transcribed to support our analysis. We have chosen not to include direct quotations, but instead refer to the meetings held with the particular organisation. The list of organisations interviewed is included in the appendix.

Limitations

Time-accurate statistical information on the dairy sector in Bangladesh is available to a limited extent, as much of it is outdated. The statistical information in our report is based on publically available sources including, but not limited to: UN data, World Bank data, Bangladesh governmental data, and data from non-governmental organisations. Furthermore, Dr. Uddin[19] of the Bangladesh Agricultural University and IFCN research partner, has provided us with updated data on the local dairy sector that we would otherwise not have been able to access.

We are aware that the decision to conduct the assessment by Arla's internal corporate responsibility team may have influenced the questions raised and the views expressed by interviewees. Trained as anthropologists, with comprehensive prior experience from rural villages in Asia, critical self-reflection of our approach as interviewers has been a key factor in establishing a trusted dialogue with interviewees.

Our field visits were organised by BRAC[20], the world's largest development organisation, with several BRAC community health workers, field organisers, programme managers and our Bengali interpreter

[19] Dr. Uddin's data refer to the Bangladesh dairy sector database that has been developed and validated through IFCN sector database in Germany, field observation, stakeholder consultation and final validation with a panel of experts in the related field, including government agencies (DLS). Database is updated every month and the data fixed in each year.
[20] BRAC, 2017: http://www.brac.net/

being present during the interviews. We are aware that we have met with individuals specifically involved in BRAC's comprehensive development programmes, including: The Health Nutrition and Population Programme, The Dairy and Food Programme, Specially Targeted Ultra Poor (STUP) programme and Other Targeted Ultra Poor (OTUP) programme. This means that the individuals interviewed may have been in a better position than those in the community with no BRAC support, or other NGO-provided social security networks, with nowhere to raise their voice.

On the other hand, BRAC's assistance in providing access to a vast number of rural male and female farmers, consumers, local processing facilities, sales points and development experts in Dinajpur district, which we otherwise would not have been able to interact with, has been invaluable. From this, our research and understanding of the role of dairy in rural milk-producing Bangladesh, and the concerns raised by both rural villagers and professional field workers, have been crucial to this assessment. Moreover, spending time with Aarong and nutrition specialists for three days provided us with valuable contextual insights into the country, the sector and the living conditions of the most vulnerable individuals, in terms of human rights.

The valuable insights and stakeholder relations, which we have built through this action-research oriented approach, are of utmost importance for the anchoring of the business decisions at corporate level in Arla, as well as in Bangladesh, in order to mitigate unintended adverse impacts and to support sustainable development in Bangladesh.

To achieve a full understanding of the actual and potential human rights impacts (caused, contributed to or directly linked to the upscaling of Dano® Daily Pushti) is a complex issue and we are aware that our findings should be presented with humility due to their limitations in methods, data and time.

External review

To strengthen our findings and involve stakeholders in the assessment process, the findings have been reviewed by the Danish Institute for Human Rights, BRAC Bangladesh, GAIN Bangladesh, ActionAid Denmark and Dr. Mohammad Mohi Uddin, Nutrition and Dairy Economics Expert and Assistant Professor at Department of Animal Nutrition, Bangladesh Agricultural University, as well as Bangladesh research partner in IFCN. Moreover, the findings have also been reviewed by Arla's internal nutrition, policy and marketing experts as well as top managers during the assessment process to address adverse human rights impact and qualify business decisions.

Assessing and addressing Arla's human rights impacts is an ongoing process. The journey started with the human rights assessments in Nigeria and Senegal in 2015. Based on experiences and feedback, the approach has been refined and is now expanded to Bangladesh to include a consumer and consumption perspective.

Report structure

The report is structured in five main sections:

1. Dano® Daily Pushti at a glance

The first section introduces Dano® Daily Pushti and an overview of Arla's product range in Bangladesh.

2. Human rights country profile

The second section of the report is aimed at capturing the characteristics of the country context that are relevant to identify human rights impacts. The country profile covers three areas:

- Human development profile: This section refers to the indicators for measuring the level of national development. It involves gathering data on the human conditions covering economy, inequality, poverty, food, water, health, education, freedoms and corruption.
- Human rights profile: This section is aimed at gathering basic data on the level of human rights protection provided to citizens through law and in practice, as well as human rights impacts by business.
- Dairy sector profile: This section is aimed at gathering basic data on the dairy sector in the country, including government policies and programmes.

3. Human rights impacts

The third section of the report is aimed at capturing the human rights impacts of Arla's business activities in relation to Dano® Daily Pushti, looking at each step of the dairy value chain model in Bangladesh:

- Raw milk production and processing
- Distribution and sales
- Consumers and consumption

In these sections the actors, and their capacity, in the local value chain for raw milk and milk powder are considered, including formal and informal actors seen in relation to Arla's business activities in the country.

4. Conclusion and commitments

This section discusses Arla's actual and potential adverse human rights impacts. Recommendations from stakeholder consultations are included. It concludes with an action plan for mitigation and prevention, and the linkage is created to promote the Sustainable Development Goals.

5. Appendices

The final section of the report contains appendices including bibliography, sources consulted in the assessment process and list of organisations interviewed.


Horlicks
GIOTTO
Arla
DANO
Full Cream Milk Powder
ALL NATURAL
MILK
GOODNESS
DANO
Daily

Dano® Daily Pushti at a glance

In October 2015, Arla introduced Dano® Daily Pushti in Bangladesh. Dano® Daily Pushti is a fortified fat-filled milk powder, with added vitamins, calcium and zinc. Dano® Daily Pushti has been a commercial success, which is emphasised by the product having a market share of 11% of the milk powder market in January 2017. Dano® Whole Milk powder has a market share of about 10%. According to Arla's 2017 volume ambition, we are aiming towards 20% market share for Dano® Daily Pushti, and to maintain 10% for Dano® Whole Milk by the end of the year.

The aim of launching Dano® Daily Pushti in Bangladesh is to introduce an affordable nutritional milk product to open up the market to those segments of society who had previously been unable to afford milk products, or consumed it on a highly infrequent basis. With malnutrition and food and nutritional insecurity being widespread, scaling up sales and marketing of Dano® Daily Pushti aims to improve access to an affordable, safe and fortified dairy product for low income segments.

The target group of Dano® Daily Pushti is lower income segments (lower segment C, segment D and E), i.e. people living on an income between 5,000 – 15,000 BDT a month (corresponding to about 2.1 – 6.2 US dollars a day per person). A 20g pouch sells for 10 BDT (€0.12 euro cents).

Dano® Daily Pushti intends to target BoP consumers. We understand BoP as consumers living on 2.5 US dollars a day, and who possess adequate purchasing power[21]. The purchasing power for this segment is deemed to arise mainly from this segment's drive to move up the socio-economic cluster, improved market access and knowledge, and the micro-credit facilities that they have within reach.

Sales and marketing activities of Dano® Daily Pushti are designed to strategically target consumers and areas where malnutrition is prevalent and the need for an affordable nutrition solution is high. "Pushti Ambassadors" is, for instance, an initiative to promote nutritional awareness and milk consumption in rural and semi-rural non-milk producing areas. Furthermore, Arla has initiated edutainment activation in urban and semi-urban areas with a high density of the BoP segment, with a focus on urban slums, garment factories, crowded market places and schools to promote nutritional awareness and to ensure that Dano® Daily Pushti is reaching the intended target group.

Dano® Daily Pushti and Dano® Whole Milk powder are both made of cows' milk sourced by Arla dairy farmers in Northern Europe. The main difference between Dano® Daily Pushti and Dano® Whole Milk powder is the fat source; in Dano® Daily Pushti the milk fat is replaced with vegetable fat from palm oil. The below table elucidates the current nutritional composition of Dano® Daily Pushti and Dano® Whole Milk powder. The main difference between the two products, in regard to nutritional composition, is the variation in the protein and fat content of the products. Dano® Daily Pushti has a lower protein content as well as a higher content of fat, compared to Dano® Whole Milk powder. Thus, the nutritional density of Dano® Daily Pushti is inferior compared to Dano® Whole Milk powder. However, even though the nutritional value of Dano® Daily Pushti has been compromised in order to make it affordable for low income segments, Dano® Daily Pushti provides more protein per taka than Dano® Whole Milk, because of the low price point of Dano® Daily Pushti. On the packaging, it is informed that Dano® Daily Pushti is not a full cream milk powder by stating: "Not Full Cream Milk Powder".

Arla introduced Arla Brand Nutrition Criteria in 2016[22], as a natural extension of Arla's health strategy. As part of Arla's journey towards the goal that all Arla branded products, added health or content

[21] In general, the perception of the poverty line and BoP segment has been expanded the last years. See for example: http://www.theimpactprogramme.org.uk/wp-content/uploads/2015/01/TRACKING-REACH-TO-THE-BOP-for-PDF-final-CA2-.pdf
[22] Arla's CSR Report, Our Responsibility 2016, pages 13-14: http://docs.arla.com/csr-report/2016/EN/

claims, fulfil the criteria, it has been decided that the current formula of Dano® Daily Pushti will be improved. Thus, as from 2018, the formula of Dano® Daily Pushti will be changed, with the result that the protein content per 100g increases from 19.5g to 22g, while the fat content is reduced from the current 32g to 28g. This implies that the nutritional disparity between Dano® Daily Pushti and Dano® Whole Milk powder is reduced and the health impact significantly improves. Table 1 provides an overview of the nutritional composition of Dano® Daily Pushti, comparing the current formula with the new formula and with Dano® Daily Whole Milk.

Table 1 – nutritional composition of Dano® Daily Pushti (current formula), Dano® Daily Pushti (new formula) and Dano® Daily Whole Milk

Average composition	Per 100g	Dano® Daily Pushti (current formula)	Dano® Daily Pushti (new formula)[23]	Dano® Whole Milk
Energy	kJ	2200	2092	2070
Energy	kcal	526	500	495
Protein	g	19.5	22	24
Carbohydrates	g	40	41	41
Fat	g	32	28	26
Vitamin A	IU	1000	2000	2000
Vitamin D	IU	400	400	400
Vitamin B2	mg	0.93	0.93	1.1
Vitamin B12	µg	2.5	2.5	3.5
Calcium	mg	1000	800	880
Phosphor	mg	600	650	710
Sodium	mg			300
Potassium	mg	1000	1160	1200
Magnesium	mg			85
Zinc	mg	2	2.5	2.6

[23] The new formula expects to be introduced Q1 2018

Besides Dano® Daily Pushti and Dano® Whole Milk powder, Arla's current portfolio of milk products in Bangladesh includes:

<table>
<tr><th>Dano®
Whole Milk Powder</th><th>Product Information</th><th>Size (g)</th><th>Retail price (BDT)</th><th>Retail price (Euro)</th></tr>
<tr><td rowspan="9">
</td><td rowspan="9">Full cream whole milk powder</td><td>25g</td><td>20</td><td>0.23</td></tr>
<tr><td>50g</td><td>38</td><td>0.45</td></tr>
<tr><td>100g</td><td>72</td><td>0.86</td></tr>
<tr><td>200g</td><td>138</td><td>1.65</td></tr>
<tr><td>400g</td><td>260</td><td>3.11</td></tr>
<tr><td>500g</td><td>310</td><td>3.70</td></tr>
<tr><td>1000g</td><td>600</td><td>7.18</td></tr>
<tr><td>1250g</td><td>725</td><td>8.63</td></tr>
<tr><td>2500g</td><td>1,400</td><td>16.67</td></tr>
<tr><th>Dano® Daily Pushti
Filled Milk Powder</th><th>Product Information</th><th>Size (g)</th><th>Retail price (BDT)</th><th>Retail price (Euro)</th></tr>
<tr><td rowspan="7">
</td><td rowspan="7">Filled milk powder with vegetable fat instead of milk fat</td><td>20g</td><td>10</td><td>0.12</td></tr>
<tr><td>100g</td><td>45</td><td>0.54</td></tr>
<tr><td>200g</td><td>90</td><td>1.07</td></tr>
<tr><td>400g</td><td>175</td><td>2.08</td></tr>
<tr><td>500g</td><td>210</td><td>2.50</td></tr>
<tr><td>1000g</td><td>365</td><td>4.34</td></tr>
<tr><td>2000g</td><td>685</td><td>8.15</td></tr>
<tr><th>Dano® Deelac 1</th><th>Product Information</th><th>Size (g)</th><th>Retail price (BDT)</th><th>Retail price (Euro)</th></tr>
<tr><td rowspan="2">
</td><td rowspan="2">Infant formula for 0-6 months</td><td>180g (box)</td><td>2.62</td><td>530</td></tr>
<tr><td>400g (tin)</td><td>530</td><td>6.30</td></tr>
<tr><th>Dano® Deelac 1</th><th>Product Information</th><th>Size (g)</th><th>Retail price (BDT)</th><th>Retail price (Euro)</th></tr>
<tr><td>
</td><td>Infant formula for 6 months+</td><td>400g (tin)</td><td>595</td><td>7.07</td></tr>
</table>

Dano® Mom	Product Information	Size (g)	Retail price (BDT)	Retail price (Euro)

	Milk-based nutritional supplement for mothers and mothers-to-be	360g (tin)	450	5.35
Dano® Slim	**Product Information**	**Size (g)**	**Retail price (BDT)**	**Retail price (Euro)**
	Skimmed milk powder	400g	295	3.51
Arla UHT Milk	**Product Information**	**Size (g)**	**Retail price (BDT)**	**Retail price (Euro)**
	UHT milk available in: ▪ 0.01% fat ▪ 1.5% fat ▪ 3.5% fat ▪ 3.5% fat - organic ▪ 3.5% fat - lactose free	1litre	160 – 200	1.90 -2.38

All the above products are sourced by Arla's farmer owners and imported from Northern Europe. Dano® Whole Milk Powder and Dano® Daily Pushti are imported in bulk, and re-packaged locally, while the remaining products are imported as finished goods in retail size.


RUGBY

Human rights country profile

In this section, the characteristics of the country context that are relevant for identifying human rights impacts are identified. At the end of the chapter, potential human rights impacts based on the contextual analysis are presented.

Human development profile

Demographics & economy[24]	
Population	156,186,882 (July 2016 estimate)
Ethnic groups	Bengali: 98% Other: 2%[25]
GDP	$202.3 billion (2015 est.)
GDP (Purchasing Power Parity)	$577 billion USD (2015 est.)
GDP growth rate (est.)	6.4% (2015 est.)
GDP per capita (PPP)	$3,600 (2015 est.)
Human Development Index rank (out of 187 countries)[26]	0.57. Ranked 142 out of 187 countries
Inequality[27]	
Inequality-adjusted education index	0.274
Inequality-adjusted life expectancy index	0.634
Inequality-adjusted income index	0.375
Inequality-adjusted HDI value	0.403
Gender[28]	
Gender development index[29]	0.917
Adolescent birth rate (births per 1,000 women aged 15-19)	80.6 births
Maternal mortality rate (deaths per 100,000 live births)	170 deaths
Labour force participation rate, female (% aged 15+)	57.4%
Labour force participation rate, male (% aged 15+)	84.1%
Share of seats in parliament (% held by women)	20%

Employment[30]	
Unemployment rate[31]	4.9% (2015 est.)
Employment of population ratio (% aged 15 and over)	67.8%

[24] CIA World Factbook. Bangladesh Country Profile: https://www.cia.gov/library/publications/the-world-factbook/geos/bg.html
[25] Note: Bangladesh's government recognises 27 ethnic groups under the 2010 Cultural Institution for Small Anthropological Groups Act.
[26] UN Development Programme, 2014, Human Development Index – Bangladesh: http://hdr.undp.org/en/countries/profiles/BGD
[27] *Ibid*
[28] *Ibid*
[29] NB: measures gender gaps in human development achievements through accounting for disparities in three basic dimensions: health, knowledge, and living standards ; Gender Development Index explanation, UN Development Index: http://hdr.undp.org/en/content/gender-development-index-gdi
[30] UN Development Programme, 2014, Human Development Index – Bangladesh: http://hdr.undp.org/en/countries/profiles/BGD
[31] NB: circa 40% of the population are underemployed working only a few hours a week.

Child labour (% aged 5-14)	12.8%
Labour force participation rate (% aged 15 and over)	70.8%
Poverty[32]	
MPI: Multidimensional poverty index (%)	49.5%
MPI: Intensity of multidimensional poverty	47.8%
MPI: Headcount, percentage of population in severe multidimensional poverty (% of population)	49.5%
MPI: Population living below $1.25 PPP per day (%)	43.3%
Working poor living at PPP$2 a day (% of total employment)	76.4%
Food[33]	
Average dietary energy supply adequacy	108% (2014-2016)
Average value of food production	$138 per capita (2011- 2013)
Domestic food price index	7.99 (2014)
Prevalence of undernourishment	16.4%
Prevalence of food inadequacy	26% (2014-2016)
Water	
Access to safe water	85% (est.)[34]
Health[35]	
Life expectancy[36]	71 years
Life expectancy with healthy life expectancy adjustment[37]	60 years
Infant mortality rate (per 1,000 live births)	33.2
Under-five mortality (per 1,000 live births)	41.1
Life expectancy at birth (years)	71.6 years

Child malnutrition in under-5s[38]	
Underweight (%) *low body weight for age*	25%
Stunting (%) *shorter in height than expected for age*[39]	32.3%

[32] UN Development Programme, 2014, Human Development Index – Bangladesh: http://hdr.undp.org/en/countries/profiles/BGD

[33] UN Food and Agriculture Organization, Food Security Indicators: http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.VXBIStKqqko

[34] Note that this number is associated with uncertainty. Dependent on the source, the estimate varies from 40% to 85%. According to the latest national assessment, 85% of the population have access to safe water: http://www.ordbogen.com/opslag.php?dict=enda&word=restricted&link=590098 . However, Benneyworth et. al, 2017, emphasise, based on a multiyear, interdisciplinary study of water use in Bangladesh's rural areas, two major issues in regards to the national statistics: 1) in most communities there is no reliable year-round access to safe drinking water, 2) most residents do not know that their water is in fact unsafe. Thus, Benneyworth et. al, 2017 claim that 85% is an overestimation. It is important to stress that all sources agree on the fact that access to safe water has been improved significantly in the last decade.

[35] UN Development Programme, 2014, Human Development Index – Bangladesh: http://hdr.undp.org/en/countries/profiles/BGD

[36] UN Data, 2012, Healthy life expectancy (HALE) at birth (years) – Bangladesh: http://data.un.org/Data.aspx?q=hale&d=WHO&f=MEASURE_CODE%3AWHOSIS_000002

[37] This is the age that people can expect to live in "full health", taking into account those years spent living in less than full health due to disease or injury. Health Life Expectancy (HALE), World Health Organization, Health statistics and information systems: http://www.who.int/healthinfo/statistics/indhale/en/

[38] UN Development Programme, 2014, Human Development Index – Bangladesh: http://hdr.undp.org/en/countries/profiles/BGD

[39] The U.S. Government's Global Hunger and Food Security Initiative, 2015, Feed the Future: https://feedthefuture.gov/country/bangladesh

Wasting (%) *low body weight for height*[40]	14.3%
Public heath expenditure (as a % of GDP)	3.7%
HIV prevalence (% of adults age 15-49)	0.1%
Education[41]	
Expected years of schooling for children (years)	10 years (education is provided free up until this age)
Mean years of schooling	5.1 years
Adult literacy rate, both sexes (% aged 15 and above)[42]	61.5%
Adult population with some secondary education (%)	37.8%
Public expenditure on education (as a % of GDP)	2.2%
Freedoms[43]	
Freedom rating (1 - high level of freedom; 7 – extremely low level)	4.0 (partly free)
Political rights rating (1 - high level of freedom; 7 – extremely low level)	4.0
Civil liberties rating (1 - high level of freedom; 7 – extremely low level)	4.0
Corruption[44]	
Corruption Perceptions Index Score (0 - highly corrupt; 100 – very clean).	25
Country ranking (out of 176 countries and territories)	139

Bangladesh is a democratic republic, with a population of around 160 million, maintaining an ethnically homogenous profile of 98% Bengali. Bangladesh is a secular country. The constitution recognises Islam as the state religion of Bangladesh and Muslims constitute over 90.4% of the population, while Hindus and Buddhists are the most significant minorities of the country[45].

The People's Republic of Bangladesh was formed in 1971 after the war for independence between Bangladesh (former East Pakistan) and Pakistan (former West Pakistan), led by the Awami League.

The Head of State – currently President Abdul Hamid – is elected indirectly by members of parliament for a maximum of a five-year term. The Parliament consists of 300 members elected by the general voting population, with 50 parliamentary seats reserved for women. Following a general election, the leader of the majority party is appointed as Prime Minister and Head of the Government, and currently Sheikh Hasina is holding that role.

The local government in Bangladesh is enshrined within the constitution of Bangladesh. It consists of eight divisions; each being named after the major city within that area. Further to this, there are 64 administrative districts, and underneath lies a tiered system of local governments serving the urban,

[40] Children's Investment Fund Foundation, 2015, Undernutrition in Bangladesh – Valid Project Brief Report: https://ciff.org/library/valid-project-brief-report/
[41] UN Development Programme, 2014, Human Development Index – Bangladesh: http://hdr.undp.org/en/countries/profiles/BGD
[42] UN Educational, Scientific and Cultural Organization & Unesco, adult literacy rate, population 15+ years (both sexes, female, male): http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS&popupcustomise=true&lang=en#
[43] Freedom House country report, 2016: https://freedomhouse.org/report/freedom-world/2016/bangladesh
[44] Transparency International, Corruption Perceptions Index 2015: http://www.transparency.org/cpi2015/
[45] Bangladesh Bureau of Statistics, 2011, Population & Housing Census-2011: http://203.112.218.65/WebTestApplication/userfiles/Image/National%20Reports/Union%20Statistics.pdf

rural, and hill districts/councils. The judiciary system is based on the constitution, however, Islamic Sharia law governs over Muslim family matters, such as marriage, divorce, or inheritance[46].

Since gaining independence, there has been a struggle of rule between the Awami League and the Bangladesh National Party (BNP), with a period of military-backed rule occurring until the 1991 elections[47].

In 2014, the Bangladesh National Party boycotted the national elections, and instead of taking part in a parliamentary debate, the party initiated street protests. This led to blockades, violence, injuries and strikes for over three months with severe consequences for the country's economic development, including the local dairy sector. The Awami League retained parliamentary power, even though the official parliamentary process had been questioned[48]. Political unrest remains a large factor in Bangladesh to this day, and in 2015, the Bangladesh National Party marked the anniversary of the 2014 election with violent demonstrations and nationwide transportation blockades[49]. In 2016, this occurred again in conjunction with the execution of senior opposition leaders[50]. In July 2016, a serious attack on a café in the diplomatic quarter in Dhaka resulted in the tragic death of 20 hostages of which 14 were foreigners. These are just a few examples of the several instances, where serious human rights violations in regard to the right to security of the person, right to access to justice and the right to participate in public affairs were committed. Since late 2016, the country's political situation has been considered as more stable which is positive for the country's overall development[51]. In 2019, there will be an election for the parliament.

The employment rate has continuously increased over the past two decades, and in 2015 the unemployment rate was reduced to 4.5%. This rate seems rather low, however the low labour force participation, especially among women, high rates of underemployment, where people only work a few hours a week, and the large informal sector suggest that the rate does not capture the actual nature of unemployment[52]. The textile and garment industry constitutes an essential part of the economy as it accounts for about 78% of the country's export income and employs approximately four million people[53].

Corruption remains a problem in Bangladesh, with, for example, 44% of hospital patients reporting to have paid a bribe, 88% of Bangladeshis having encountered corruption during judiciary processes and an overall 70% of Bangladeshis, at some point, having paid a bribe[54]. This further adds to inequality and hinders a balanced and sound economic and social development of the country.

Malnutrition and food and nutrition insecurity remain severe problems in Bangladesh, in particular for children and women. This seriously puts strains on the right to health, the right to adequate food and its fair distribution for the wider population in Bangladesh. Social protection systems are still insufficient to effectively protect the most vulnerable citizens although the government is continuously attempting to expand the social protection programme. In 2010, the social system

[46] Commonwealth Local Government Forum, Bangladesh Country Profile: http://www.clgf.org.uk/default/assets/File/Country_profiles/Bangladesh.pdf
[47] *Ibid*
[48] Human Rights Watch, 2016: https://www.hrw.org/world-report/2016/country-chapters/bangladesh
[49] Human Rights Watch, 2014: Democracy in the Crossfire: https://www.hrw.org/report/2014/04/29/democracy-crossfire/opposition-violence-and-government-abuses-2014-pre-and-post
[50] Barry & Manik, 2016: Bangladesh Braces for Violence After Opposition Leader, Motiur Rahman Nizami, is Executed. NY Times: https://www.nytimes.com/2016/05/11/world/asia/bangladesh-executed-motiur-rahman-nizami.html?_r=0
[51] Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner.
[52] UN Development Programme, 2015, Millennium Development Goals - Bangladesh Progress Report: http://www.bd.undp.org/content/bangladesh/en/home/library/mdg/mdg-progress-report-2015.html
[53] World Trade Organization, Textiles: http://www.wto.org/english/tratop_e/texti_e/texti_e.htm
[54] Transparency International, 2016, Bangladesh: https://www.transparency.org/country/BGD

reached just 35% of those living below the poverty line. Thus, the right to social security is also under severe threat[55].

Bangladesh remains a focus for humanitarian aid work, and the country is particularly NGO-driven, with thousands of NGOs operating there. The biggest NGO, by staff numbers, is BRAC, which employs some 111,000 people worldwide, with a further 117,000 volunteer community health-workers, out of which some 60.000[56] are currently active. BRAC has supported millions of people in Bangladesh, and is often referred to as Bangladesh's 'second government'[57].

Major NGO-driven social enterprises, especially those with micro-finance facilities, are of note in Bangladesh, and many facets of Bangladeshi society are based on this, including banking, telecommunications and dairy. NGOs tend to run services in parallel to the government, with many targeting the most vulnerable segments of the population in terms of human rights. A number of programmes take place in rural locations, far-to-reach areas and/or urban slums, where government programmes or interventions may not reach or seem to be inadequate[58].

International NGOs often take a strategic role, working closely with the government, and smaller NGOs work on the ground, executing grass-roots projects to promote development and human rights where it is most needed.[59] With the ambition of becoming a middle-income country, it is expected that international development funding will decrease.

With the present contribution from the NGOs and international development funding, such as the EU[60], which is one of the main donors of aid, Bangladesh has been able to improve many of its areas for development. In particular, Bangladesh has made remarkable progress in reducing headcount poverty, reducing the prevalence of underweight and the under-five mortality rate. With a sustained GDP growth rate of 6% in recent years, to 6.4% in 2016[61], the country has made commendable progress in eradicating poverty. However, even though Bangladesh has demonstrated a capacity to reduce poverty, improving food security and nutritional outcomes for the increasingly populous country remains a major challenge[62]. Rapid population growth and dwindling land resources have been attributed to be some of the key contributors to undernutrition.

Among other initiatives, the Bangladesh Government has therefore committed to protect and develop the local dairy sector, and to improve the nutritional status of the population in line with the UN Sustainable Development Goals[63]. Within agriculture, dairy sector development is a priority for the Bangladesh Government as they aim to decrease imported dairy products and reach self-sufficiency

[55] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf

[56] BRAC (Building Resources across Communities) is an international development organisation based in Bangladesh. It is the largest non-governmental development organisation in the world, in terms of number of employees. Established in 1972 after the independence of Bangladesh, BRAC is present in Bangladesh as well as 13 other countries in Asia, Africa, and the Americas. BRAC employs 111,000 people, roughly 70 percent of whom are women, reaching more than 126 million people. Moreover, the organisation has a network of 117.000 community health workers. The organisation is 70–80% self-funded through a number of social enterprises that include a dairy and food project, a chain of retail handicraft stores called Aarong, seed and Agro, and chicken. BRAC has operations in 14 countries of the world. Read more in http://www.brac.net/ and annual report from Bangladesh: http://www.brac.net/images/reports/BRAC-Bangladesh-Report-2015.pdf. During a meeting with BRAC in March, 2017, it was estimated that some 60,000 community health workers are currently related to BRAC.

[57] Kelly, 2008, Growing Discontent, The Guardian, UK: https://www.theguardian.com/society/2008/feb/20/internationalaidanddevelopment.bangladesh

[58] WHO Western Pacific Region, Organization and Governance: http://www.wpro.who.int/asia_pacific_observatory/hits/series/hits_bgd_2_organization.pdf?ua=1

[59] Interviews conducted with a number of NGOs during field study in November 2016 as well meetings held in March, 2017.

[60] European Commission, European Development Policy: https://ec.europa.eu/europeaid/policies/european-development-policy_en

[61] CIA World Factbook. Bangladesh Country Profile: https://www.cia.gov/library/publications/the-world-factbook/geos/bg.html

[62] UN Development Programme, 2015, Millennium Development Goals - Bangladesh Progress Report: http://www.bd.undp.org/content/bangladesh/en/home/library/mdg/mdg-progress-report-2015.html

by 2021 in terms of dairy production. The government encourages international dairy companies to contribute to this development.

Moreover, a National Nutrition Policy was endorsed in 2015, as well as a National Strategy for Micronutrient Deficiency Control to specifically improve nutritional outcomes in Bangladesh. Furthermore, a strict policy on breastfeeding, and the implementation of 2013 Breast Milk Substitutes Regulation of Marketing Act aims to protect children by restricting the marketing of infant formula.

The results of these policy guidelines are expected to create a continuous improvement and to support Bangladesh in meeting the expectations of achieving middle-income status by 2021.

Human rights profile

Human rights in the legal and policy framework

The Bangladesh constitution declares all citizens as equal before the law, and with this comes entitlement to equal protection by the law. Bangladesh is currently a member of the UN Human Rights Council, with their membership expiring in December 2017.

In terms of International Human Rights Instruments, Bangladesh has ratified, amongst others, the following conventions[64]:

- International Convention on the Elimination of all Forms of Racial Discrimination: 1979
- Convention on the Eliminations of All Forms of Discrimination against Women: 1984
- Convention on the Rights of the Child: 1990, including the Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution, and child pornography and the Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict: 2000
- Convention against Torture and Other Cruel Inhuman or Degrading Treatment or Punishment: 1998
- International Covenant on Economic, Social and Cultural Rights:1998
- Convention on the Rights of Persons with Disabilities: 2007
- International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families: 2011

Bangladesh has not yet ratified:

- International Convention for the Protection of all Persons from Enforced Disappearance: 2010

The National Human Rights Commission Act was passed in 2009, and this has led to the establishment of the National Human Rights Commission, which formally supports Bangladesh's commitment to human rights, as set forth in the constitution. The purpose of the Commission is to ensure that human rights adherence is continuously improved in Bangladesh. The commission is also

[64] International Labour Organisation, Ratifications for Bangladesh: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11200:0::NO::p11200_country_id:103500

able to challenge governmental decisions related to human rights, and suggest when legal remedy should be provided[65].

Enjoyment of human rights in practice

Although Bangladesh is a member of the UN Human Rights Council and has ratified most of the Conventions, it has been criticised by human rights organisations for its insufficient in-country human rights efforts and the associated actual limited fulfilment of human rights for its population. Below, selected human rights[66] at risk in Bangladesh are presented and contextualised.

Civil and political rights

When considering the right to life, or the respect for the integrity of the person, it has been reported that the government and its agents have committed several arbitrary or unlawful killings[67]. The local media and international human rights organisations regularly report on the government having committed unlawful killings, and some NGOs have been restricted in their legal and informal activities because of their campaigning efforts[68]. Although not directly in conflict with human rights, the death penalty, by hanging, continues to be implemented in Bangladesh[69].

The right to freedom of thought, conscience and religion in Bangladesh is considered to be under severe threat, according to the British Humanist Association. Since 2015, there have been several attacks on minority religious groups, and on secular individuals, and this has also been linked to the increase of Islamic fundamentalism[70].

The right to freedom of speech and the right to peaceful assembly are also at risk in Bangladesh, with forced disappearances and torture in police custody. According to Amnesty International, in 2015, there were enforced disappearances of at least 43 people, with no individuals or groups being held accountable. This is of particular significance in Bangladesh, because as mentioned previously, the government is yet to ratify the International Convention for the Protection of all Persons from Enforced disappearance[71].

The state duty to protect the rights of minorities is, according to NGOs, not fully exercised. For instance, land rights are at risk for indigenous people in the Chittagong Hill Tract area of South-Eastern Bangladesh. Over time, 400,000 Bengali Muslims have been moved into the area, without informed consent from the indigenous community, resulting in forced removal by the military from their land[72].

Despite Bangladesh not being a party to the Refugee Convention, it has since the 1970s provided refuge to the Rohingya who are living in camps along the Bangladesh/Myanmar border administered by the UN High Commissioner for Refugees (UNHCR), and stateless Rohingya living in Bangladesh

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65 National Human Rights Commission, Bangladesh: http://www.nhrc.org.bd/about-nhrc/
66 The presented human rights are selected based on high risk areas and being closer to Arla's business.
67 US Department of State, 2015, Human Rights Bangladesh Country Report: http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2015&dlid=252959
68 US Department of State, 2015, Human Rights Bangladesh Country Report: http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2015&dlid=252959
69 Amnesty International, Bangladesh Report 2015/16: https://www.amnesty.org/en/countries/asia-and-the-pacific/bangladesh/report-bangladesh/
70 British Humanist Association at the UN Human Rights Council, 2016, BHA at the UN Human Rights Council calls on Bangladesh to respect the rights of its freethinking citizens and religious minorities: https://humanism.org.uk/2016/06/22/bha-at-the-un-human-rights-council-calls-on-bangladesh-to-respect-the-rights-of-its-freethinking-citizens-and-religious-minorities/
71 Amnesty International, Bangladesh Report 2015/16: https://www.amnesty.org/en/countries/asia-and-the-pacific/bangladesh/report-bangladesh/
72 Unrepresented Peoples and Nations Organisation, Chittagong Hill Tracts: http://unpo.org/members/7867

displaced from Myanmar[73]. In the early 2000s, denials by the Bangladesh Government of extending any refuge to the Rohingya and apparent "push back", have created concerns among human rights organizations and international communities. The governmental "push back" is setting at risk the right to protection of the child and the right to acquire a nationality for the increasing numbers of refugees, which UNHCR has deemed not to be able to return to Myanmar without risking deprivation of life, and being put forward to torture, or cruel, inhuman or degrading treatment or punishment[74].

Since 2017 the number of Rohingyes fleeing communal violence in the Northern Rakhine State in Myanmar has escalated dramatically and today it is estimated that about one million Rohingyes are living in Bangladesh. This pressure is impossible for the Bangladeshi government to handle on its own and the need for massive international humanitarian aid is required in order to protect the refugees against serious human right abuses.

Economic, social and cultural rights

It is the government's responsibility to ensure that their most vulnerable citizens are protected. However, a vast number, although legally protected, are not so in practice. The current social protection system can be seen as inadequate, since it is estimated that only 35% of those living below the poverty line are being reached by the governmental social protection schemes[75].

The human rights of vulnerable small-scale dairy farmers, and dairy-producing households, are of particular significance for Arla, and currently there are a number that are at risk. Substantial proportions of Bangladesh's population, almost 67% of the entirety, live in rural areas and rely on farming as a source of main income for their daily living. Furthermore, limitations regarding access to land, amplified due to growing population, means that there is increased pressure on land availability for farming. Additionally, extreme weather conditions, in conjunction with limited investment in small-scale farming and agricultural value chains, implies that many milk-producing households risk their livelihoods and income every year dealing with monsoon flooding and insufficient governmental funding and support[76].

In this vein, the right to food and its fair distribution is also an issue in Bangladesh. With a large and growing population of almost 160 million, Bangladesh is under pressure to ensure safe, available, accessible, and adequate food for all. Hence, the current structural transformation from underdevelopment of the dairy sector, to a more commercial market-oriented dairy sector in Bangladesh, can be seen as a positive contribution to meeting the constantly increasing demand and to the improvement of the current status, where 16.4% are acutely undernourished[77].

In terms of the right to water and sanitation, Bangladesh's water supply covers approximately 97% of the population. According to national statistics in Bangladesh, 85% have access to safe water[78]. Researchers[79], who have conducted a multi-year, interdisciplinary study, published in 2016, of water use in Bangladesh's rural areas, emphasise however that the national assessment overstates access to safe drinking water in Bangladesh. The researchers stress that most rural communities do not have

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[73] Human Rights Watch, 2016: https://www.hrw.org/world-report/2016/country-chapters/bangladesh
[74] Mia, 2012, Bangladesh's Obligation for the Protection of Refugees: http://refugeewatchonline.blogspot.dk/2012/07/bangladeshs-obligation-for-protection.html
[75] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf
[76] *Ibid*
[77] UN Food and Agriculture Organization, Food Security Indicators: http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.VXBlStKqqko
[78] Salisbury, 2017, national assessment overstates public access to safe drinking water in Bangladesh: https://news.vanderbilt.edu/2017/05/12/national-assessment-overstates-public-access-to-safe-drinking-water-in-bangladesh/
[79] *Ibid*

reliable year-round access to safe drinking water. Furthermore, the study highlights that most residents do not know that their water is in fact unsafe; when the water was unhealthily salty, had unsafe levels of arsenic and other chemicals, most people reported that the water had a good taste and used it regularly[80]. Thus, there is not only a restricted access to safe drinking water, consumers furthermore lack capacity to determine whether the water is safe to drink or not.

The water source for the bottom of the pyramid is, however, much cleaner and more hygienic than it used to be a decade ago, with the inception of the WASH intervention (water, sanitary and hygiene). Today, most households in the rural areas have deep-tube wells, private or shared, within the neighborhood[81].

Of the total amount of water available, more than 80% is used for agriculture[82]. Furthermore, with naturally occurring arsenic present in Bangladesh's ground water, WHO estimated in 2002 that the health of 30-35 million people is being directly affected through drinking contaminated groundwater from wells[83]. This situation has been called the largest mass poisoning of a population in history by the World Health Organisation[84], and one in five deaths in Bangladesh in 2002 could be attributed to arsenic as a result of (often unknowingly) the continuous drinking of contaminated water[85].

The inadequate access to safe water leads to higher levels of waterborne diseases, and many children in Bangladesh suffer from chronic diarrhoea and dehydration[86]. Thus, the right to water and sanitation is severely compromised in Bangladesh, and remains a critical development area[87]. Related to this is the right to health which remains under threat in the country. With a shortage of fully trained and qualified doctors in Bangladesh, 80% of the population (particularly women) are treated by an informal system of healthcare, provided by semi-qualified or unqualified village doctors, traditional herbalists and faith healers[88].

Vulnerable groups and the rights of women and children

The human rights of women and children, as vulnerable groups, are of particular relevance in Bangladesh.

Despite ratifying the International Convention on the Rights of the Child (1990), issues still remain in Bangladesh that prevent the country's 57 million children from fully enjoying and accessing their fundamental human rights. The 2013 Children's Act was passed in an attempt to implement the UN Convention on the Rights of Children, and this has changed the definition of 'child' from those under 14 years, to those under 18 years. It also criminalises any cruelty towards children working both in the formal and informal sectors. Among others, the ambiguity of some provisions in the act have, however, not been properly implemented[89]. Despite education being free and mandatory between ages six to 10, it is not compulsory or free for boys beyond the age of 10[90], and some children,

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[80] *Ibid*
[81] WASH Benefits, Wash Benefits Bangladesh: http://www.washbenefits.net/bangladesh.html
[82] The Water Project, Water in Crisis – Spotlight on Bangladesh: https://thewaterproject.org/water-crisis/water-in-crisis-bangladesh
[83] World Health Organisation, Sustainable Development & Healthy Environment: http://www.whoban.org/sust_dev_mental_env.html
[84] World Health Organisation, 2002, Arsenic – Mass Poisoning on an Unprecedented Scale: http://www.who.int/features/archives/feature206/en/
[85] *Ibid*
[86] Humanium, Children of Bangladesh: http://www.humanium.org/en/asia-pacific/bangladesh/
[87] CARE Bangladesh, Access to Safe Drinking Water: http://www.carebangladesh.org/shouhardoII/reportStory/AcessArsenicFreeSafeDrinkingWater.pdf
[88] Ministry of Health and Family Welfare, 2008, National Health Policy: https://extranet.who.int/nutrition/gina/sites/default/files/BGD%202008%20National%20Health%20Policy.pdf
[89] Save the Children Bangladesh, 2016: Workshop on the Amendment of the Children Act 2013: https://bangladesh.savethechildren.net/news/workshop-amendment-children-act-2013
[90] Unicef, Bangladesh, Primary School Years: https://www.unicef.org/bangladesh/children_355.htm

especially disabled or working children, are often denied this right to education. To increase household income, many children are sent to work by their families in places such as tobacco or garment factories[91], construction sites or car repair shops[92]. The children are often exploited and work long hours in unsafe conditions[93], and a report published in 2015 by the Bureau of International Labor Affairs reveals that children in Bangladesh are engaged in the worst forms of child labour, with forced child labour largely prevalent. Children working in the informal sector, including small farms, where child labour most frequently occurs, are not protected in the legal framework. According to the UN Human Rights Office, it is pointed out that the government in general lacks capacity to enforce child labour laws[94].

Furthermore, women and girls do not routinely enjoy the same rights as men, despite the Bangladeshi constitution declaring all citizens as equal before the law. This is due to the fact that Islamic Sharia Law runs parallel to national law, and even supersedes it in some instances. Even though the government guarantees the right to non-discrimination, this has only been applied in the public sphere, and not in the private family domain. Therefore, child marriage is still enabled and facilitated through Islamic Sharia law, despite it being illegal within the national Bangladesh governmental framework[95]. Despite signs of progress, Bangladesh continues, according to Human Rights Watch[96], to have one of the highest rate of under-age marriage in the world for girls, with an estimation of one-third of Bangladeshi girls getting married before the age of 15[97]. Aside from cultural expectations, under-age marriage can also be linked to the higher cost of schooling for children after the age of 10. Due to early marriage, many young girls become young mothers, and are not able to complete their education. They are subsequently locked out of the job market, or only qualified for menial labour[98]. In November 2016, the government passed The Child Marriage Restraint Act which makes child marriage illegal for under 18s, except for 'special circumstance', such as pregnancy, where marriage would provide a girl with 'social protection'[99]. The effect of this is yet to be seen.

In addition to marriage, equality within Muslim families and private life is not guaranteed legally, and Islamic Sharia law is also further applied in regard to land and property inheritance[100]. This puts women at both an economic and financial disadvantage. Women are usually entitled to inherit less than men according to Islamic law, particularly if there are other men entitled to parts of the same inheritance (for example, sons or brothers). Under this religious and legal framework, Muslim women generally inherit only one-eighth of their deceased husband's estate[101]. As a result of this, the UN estimates that women own less than 3% of the land in Bangladesh.

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[91] The government has tightened their regulations not to involve the child in garments. Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner.
[92] US Department of State, 2015, Human Rights Bangladesh Country Report: http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2015&dlid=252959
[93] Brignall & Butler, 2014, Bangladesh garment factories still exploiting child labour for UK products: https://www.theguardian.com/world/2014/feb/06/bangladesh-garment-factories-child-labour-uk
[94] Bureau of International Labor Affairs, Bangladesh, Child Labor and Forced Labor Reports: https://www.dol.gov/agencies/ilab/resources/reports/child-labor/bangladesh
[95] UN Human Rights Office of the High Commissioner (2013): Child Marriage in Bangladesh: Impact of Discriminatory Personal Laws. Retrieved from: http://www.ohchr.org/Documents/Issues/Women/WRGS/ForcedMarriage/NGO/WomenAndJusticeFellow5.pdf
[96] Human Rights Watch, 2017, Bangladesh: Legalizing Child Marriage Threatens Girls' Safety: https://www.hrw.org/news/2017/03/02/bangladesh-legalizing-child-marriage-threatens-girls-safety
[97] Humanium, Children of Bangladesh: http://www.humanium.org/en/asia-pacific/bangladesh/
[98] US Department of State, 2015, Human Rights Bangladesh Country Report: http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2015&dlid=252959
[99] *Ibid*
[100] Legislative and Parliamentary Affairs Division, 1937, The Muslim Personal Law (Shariat) Application Act – 1937: http://bdlaws.minlaw.gov.bd/print_sections_all.php?id=173
[101] International Models Project on Women's Rights, 2013, Current Legal Framework: Inheritance in Bangladesh: http://www.impowr.org/content/current-legal-framework-inheritance-bangladesh#footnote2_18jfbjy

Nutritional outcomes, the right to health and the right to adequate food and its fair distribution

Despite impressive improvements over the last three decades, malnutrition is still widespread in Bangladesh. The basic key drivers for this are poverty, rampant population growth and inequality. Thus, the enjoyment of the right to adequate food and its fair distribution and the right to health is restricted to the wealthier segments in Bangladesh, as the inability to afford a nutritious diet is closely linked to poverty[102].

Food insecurity is widespread in the society in Bangladesh, with 69% of households experiencing some food insecurity in 2011[103]. However, as per statistics from the World Food Programme, food insecurity has been reduced to 25% in 2015[104]. Food insecurity is a major contributor to the fact that about 20% of babies in Bangladesh are born stunted. In regard to the high level of stunting among infants, child marriage, which is deeply embedded in the culture, is found to impact this rate to a great extent[105].

As of the Bangladesh Country Report, 2010 - 2017, actual nutritional outcomes for children under five were as follows: 32.1% of children were stunted[106]; 32.6% of children were underweight; and 14.3% of children suffered from wasting[107]. Under-nutrition is also observed among adult women and adolescent girls and this varies widely per region. Micronutrient deficiency is also extremely prevalent in the country amongst females, with 43.5% of women in the reproductive age being anaemic. The implication of this is reflected in the fact that if a baby's mother has been malnourished during adolescence and pregnancy, the baby is more likely to be of low birth weight, and malnourished for the rest of their life[108]. 23 % of infants are born with a birth weight less than 2,500 grams, 18 % of pregnant women are undernourished and 30.8 % of women aged 15 – 19 years starts childrearing. A rural and urban divide is evident with rural areas being more disadvantaged with the exception of urban slums. Half of the children living in slums are stunted. The teenage pregnancy rate is higher among women living in slums[109]. Therefore, improving the nutritional outcomes for adolescent women is also vital for eradicating the major nutritional challenges Bangladesh is facing[110].

As already mentioned, poverty, the growing population rate and inequality play a major role in the limited enjoyment of the right to food and the right to health in Bangladesh. However, factors such as urbanisation and high population density, which trigger limited access to resources and land, as well as the intensity of seasons, such as flooding, also increase the vulnerability of the poorest in regard to access to food. In general, education and knowledge about what is healthy and nutritious is also inadequate – an example that clearly underlines this is that in 2011, 61% of women in Bangladesh had a diet consisting of four or fewer food groups which is an inadequately diverse diet from a health point of view. Research suggests that there is in fact enough food available to meet the current demand in the country; however, food insecurity mainly arises because of food not being affordable for the poorest segments of the society. Hence, researchers stress that targeting food security alone

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[102] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf

[103] *Ibid*

[104] World Food Programme, 2015, Bangladesh: http://www1.wfp.org/countries/bangladesh

[105] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf

[106] Too short for their age.

[107] Too thin for their height ; Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf

[108] US Aid, Bangladesh: Nutrition Profile: https://www.usaid.gov/what-we-do/global-health/nutrition/countries/bangladesh-nutrition-profile#fn-03

[109] Ministry of Health and family Affairs, 2017, Bangladesh Country Report 2010-2017

[110] WHO, 2005: Nutrition in adolescence issues and challenges for the health sector: http://apps.who.int/iris/bitstream/10665/43342/1/9241593660_eng.pdf

will not be sufficient, as addressing the underlying causes is crucial to addressing the complexity of the issue[111].

It should be emphasised that regional disparities exist, with the northern, south-western, coastal and mountain areas being at geographical disadvantage in regard to inequality[112].

Consumer awareness, illiteracy and the right to information

The right to information, linked to the right to health, is key when discussing food labelling and marketing in Bangladesh, as companies have an obligation to provide their consumers with adequate and correct information regarding their products and content in a format that is accessible. As a result of a number of cases of food adulteration, consumers in Bangladesh have heightened concerns around food safety[113] and clearly labelled product information.

With about 38.5% being illiterate[114], it is likely that consumers in the lower end of the pyramid do not possess the capacity to read and understand written information provided on packaging. The high level of illiteracy, further questions if the right to information for lower income consumers is respected, when packaging relies solely on writing with no further visual indicators.

Out-competition of smallholder dairy farmers, the right to adequate standard of living, the right to work and the right to education

Two co-related risks in terms of human rights that have come to the forefront of the agenda, both in the government's and NGOs' domains, are the right to an adequate standard of living and the right to work. This is especially the case for vulnerable dairy farmers, relying entirely or partially on the income derived from milk production, affected by even small changes in milk price reductions; and often not being able to cover their daily expenditures and needs. The state duty to protect the rights to work and the right to adequate standards of living for the most vulnerable actors in the sector has not been fully exercised, as the required framework and funding are currently insufficient.

In Bangladesh, the domestic dairy supply chain within dairy is constricted due to the underdevelopment of the sector, and it could be argued that one of the factors that has contributed, is the availability of affordable and safe imported milk powder. The available and affordable nature of the products is argued to have led to reduced incentive for domestic sector investment. A number of reports have been released discussing the potential and actual impacts of milk powder imports into Bangladesh. In particular, ActionAid's 2011 report 'Milking the Poor' focuses on the adverse impact of Arla's imported milk on local dairy farmers in Bangladesh[115]. An explicit critique of Arla's business activities in Bangladesh was raised, and the risk of out-competing local farmers and thereby causing adverse human rights impact on the right to adequate standard of living and the related rights are highlighted. The focal point of the critique is based on end-pricing and competition on unfair terms due to comprehensive EU export subsidies provided to European farmers and companies.

The constraints in monetary terms can also be related to a potential reduced incentive for offtake from farmers from privately owned businesses engaged in dairy processing, using a mixture of raw

[111] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf
[112] Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner
[113] Rahman et. al (2015): Food Adulteration: a serious public health concern in Bangladesh: http://www.banglajol.info/index.php/BPJ/article/view/23503
[114] UN Educational, Scientific and Cultural Organization & Unesco, Adult literacy rate, population 15+ years (both sexes, female, male): http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS&popupcustomise=true&lang=en#
[115] ActionAid, 2011, Milking the Poor: http://www.actionaid.org/sites/files/actionaid/milking_the_poor.pdf ; Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf

milk and milk powder. Namely, in order to secure stable profit margins, businesses would change the intake ratio between the two, in favour of bigger powder volumes if the price of the latter is lower, especially since it is easier to collect, store, etc. The fall in tariffs of milk powder imports has been argued to have further tightened the grip on the local dairy farmers, and put additional pressure on prices of their raw milk. This can in turn put the aforementioned rights at risk. With limited access to off-farm jobs, especially in rural areas, farmers would either be forced to relocate in search of new work opportunities and perhaps leave the sector entirely, or stay and remain as part of the "poverty cycle", hence suffering an adverse impact both on their right to work and, their right to an adequate standard of living. Here, according to Uddin and Hemme[116], limited financial capabilities can lead to an impact on the right to education as well, as disposable income is required to cover transportation and food costs.

Probability of adverse human rights impacts by business

According to the UN Guiding Principles on Business and Human Rights, it is the state's duty to protect its population against human rights abuses within their territory, by providing and enforcing appropriate policy and regulatory measures, as well as ensuring a robust and appropriate remedy for those affected. This includes the duty to protect against human rights abuse by third parties, including business enterprises.[117].

Despite this obligation, human rights abuses caused by businesses remain prominent in Bangladesh, particularly for manual labourers within industrial work, namely the ready-made garment sector. These abuses are able to continue, largely due to the fact that the government only implements and regulates labour standards to a limited extent in many factories. It should be stressed, however, that the responsibility of companies to respect human rights exists independently of State's abilities and/or willingness to fulfil its own human rights obligations, and does not diminish those obligations[118].

A critical sector in terms of human rights abuses by business is the garment industry. The collapse of the Savar building in 2013, also known as the Rana Plaza collapse, exemplifies the severity of the aforementioned; approximately 3,500 people were trapped inside the collapsed building, 1,130 people died and thousands more were injured. In response to the Rana Plaza factory collapse, the Accord on Fire and Building Safety – a legally binding agreement – was signed in 2013 between trade unions and global garment brands, with the purpose of working towards a safer ready-made garment industry. The Factories Act 1965 further states that no adult in Bangladesh may work more than 48 hours in a week, unless they are working overtime[119], and the total number of hours must not exceed 60 hours in total for the week, which is consistent with the ILO standards. However, investigations document that monitoring of compliance with the Act is inadequate, resulting in prevalence of violations[120].

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[116] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf
[117] UN, 2011, Guiding Principles on Business and Human Rights, UN Human Rights: http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf ; UN, 2014, Frequently asked questions about the Guiding Principles on Business and Human Rights: http://www.ohchr.org/Documents/Publications/FAQ_PrinciplesBussinessHR.pdf
[118] Human Rights Watch, 2016: https://www.hrw.org/world-report/2016/country-chapters/bangladesh
[119] International Labour Organization, The Factories Act, 1965, Bangladesh: http://www.ilo.org/dyn/natlex/docs/WEBTEXT/47346/65073/E65BGD01.htm#a050
[120] Rahman et. al, 2003, Labour Law Research for Bangladesh: http://www.hdrc-bd.com/admin_panel/images/notice/1387706357.01.%20research%20for%20the%20labour%20wedge%20of%20the%20oi%20trade%20campaign%20_labour%20law%20research%20for%20bangladesh.pdf

Although Bangladesh has ratified the 1998 Equal Remuneration Convention, reports emphasise that women, only in very few cases, enjoy the right to equal pay for equal work[121] and there is still no set minimum wage in Bangladesh, except for garment factory workers, where the statutory nominal gross monthly minimum wage is set at 5,300 BDT/month[122] (€61 euros/month). However, the Asia Floor Wage Alliance argues that this makes up just 19% of what constitutes an individual's living wage[123] in Bangladesh[124], and they campaign for governments to embed the living wage into their policies.

In terms of the agricultural supply chain, concerns have been raised around the human rights of workers on tobacco leaf picking farms[125]. In July 2016, Swedwatch released a report outlining adverse human rights impacts on child and adult tobacco leaf pickers working on farms for British American Tobacco (BAT)[126]. Swedwatch suggested that: child labour is widespread, the health of tobacco farm workers due to their work is questionable and that farming land and forest areas were being compromised through tobacco farming practices. Although companies often state that they are in constant dialogue with their stakeholders, Swedwatch found that tobacco farmers themselves are not included in these stakeholder dialogues, thus their voice is not heard[127]. One of the major tobacco companies in Bangladesh, Akij, is also a big local milk processor[128].

Furthermore, adverse impacts on the right to health, and the right to adequate food and its fair distribution, are also highly relevant for this assessment of Arla's business activities. In Bangladesh, where appropriate, consumer knowledge of health and nutrition is less established, particularly in rural areas, where the responsibility by businesses to respect the human rights of vulnerable people is amplified. Concerns regarding food safety and 'fake foods' are of note, and the consumer's right to health, and the right to food and its fair distribution, as well as the right to freedom of information, are under threat by businesses who are not in compliance with national food safety standards. In terms of dairy, adulteration of milk is well-known in Bangladesh, with shampoo and soybean oil being just some of the products mixed into milk to create 'fake milk', which is being sold in packaging similar to that of well-known brands, such as Milk Vita[129].

To address and better protect consumers, the Food Safety Act was passed in 2013 to establish an efficient authority to regulate activities relating to food production, import, processing, stock, supply, marketing and sales to ensure the rights to access to safe food. In consequence, well-founded concerns regarding food safety in dairy products – both powder and fresh products, means that consumers from higher income segments look for international premium brands such as Dano®,

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[121] *Ibid*; CARE Pathways to Empowerment, Equal Pay for Women workers: The Fair Wage Campaign: http://www.carepathwaystoempowerment.org/equal-pay-women-workers-fair-wage-campaign-bangladesh-case-study/

[122] International Labour Organisations, 2013, Bangladesh Minimum Wage: https://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page21.jspx?_afrLoop=1677836556760728&_afrWindowMode=0&_afrWindowId=mainwindow#!%40%40%3F_afrWindowId%3Dmainwindow%26_afrLoop%3D1677836556760728%26_afrWindowMode%3D0%26_adf.ctrl-state%3D1ceky3ma52_564

[123] A minimum wage is the minimum pay workers are entitled to by law, while a living wage is the minimum wage to enjoy an adequate standard of living.

[124] Clean Clothes Campaign, 2014, Living Wage versus Minimum Wage: http://www.cleanclothes.org/livingwage/living-wage-versus-minimum-wage. The living wage in Bangladesh is estimated at 259 euro, while the minimum wage is 49 euro.

[125] Swedwatch, 2016, Human Rights in the Tobacco Fields: http://www.swedwatch.org/sites/default/files/tmp/swedish_match_eng_16-06-30_0.pdf

[126] Swedwatch, Smokescreens in the Supply Chain: http://www.swedwatch.org/sites/default/files/tmp/executive_summary_0.pdf

[127] Swedwatch, 2016, Human Rights in the Tobacco Fields: http://www.swedwatch.org/sites/default/files/tmp/swedish_match_eng_16-06-30_0.pdf

[128] Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner. According to International Farm Comparison Network (IFCN), Dairy Report 2016, Akaij is the 8th largest processor in Bangladesh, based on local raw milk intake.

[129] BD News24, 2016, 12 companies selling milk in packets identical to Milk Vita: http://bdnews24.com/business/2016/05/08/12-companies-selling-milk-in-packets-identical-to-milk-vitas-govt ; The Dhaka Post, 2016, Shampoo and Soybean Oil being used to produce Milk Vita milk: http://www.thedhakapost.com/national/2016/05/10/324

which is well known for its high food safety standards. It also means that lower income segments of vulnerable consumers, until the introduction of Dano® Daily Pushti, did not have such a choice.

It is based on these identified human rights concerns that this assessment aims at investigating how Arla's upscaling of Dano® Daily Pushti can potentially have an adverse impact on the human rights of vulnerable consumer segments and local dairy farmers in Bangladesh.

Dairy sector profile

National production and consumption	
National milk production (cows and buffalo)	4.52 million tonnes (estimated for 2017)[130]
Annual dairy consumption (from all dairy species)	6.77 million tonnes (2015) [131]
Dairy consumption per capita (from all dairy species)	116 ml/capita/day (from all dairy species) (2015) [132]
Import of milk products	0.7 million tonnes (2015)[133]
Raw milk delivered for commercial use	13% (2017)[134]
No. of cows and buffalo	4,299,000 (2015) [135]
Average daily milk yield per cow	1-3 l per cow, per day[136]
No. of dairy farms	1,395,000 (2014)[137]
Average number of cows/farm	3.1[138]

The Bangladeshi dairy sector

With the increasing economy in Bangladesh, actors in the dairy industry experience huge growth in the demand for dairy products, generated by increase in population, higher incomes, a greater awareness of health and a low point of origin for milk consumption[139]. The strong growth prospect within dairy consumption is further assumed to be triggered by the fact that dairy products have a high income-elasticity of demand, especially to the low-income segments[140]. This means that even small increases in income may lead to large increases in household spending on dairy products. Thus,

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[130] International Farm Comparison Network (IFCN), Dairy Report 2017.
[131] *Ibid*
[132] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[133] International Farm Comparison Network (IFCN), Dairy Report 2016: Dairy consumption/ (imports/national consumption) = 6.77 mill t * 10.2%.
[134] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.
[135] The Board of Investment Bangladesh, Dairy in Bangladesh: http://boi.portal.gov.bd/sites/default/files/files/boi.portal.gov.bd/page/f40752f4_ccac_45d4_9bc4_3367eb475e8a/Value Proposition_Dairy.pdf ; International Farm Comparison Network (IFCN), Dairy Report 2016.
[136] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf ; Bangladesh Investment Development Authority, Dairy in Bangladesh: http://bida.portal.gov.bd/sites/default/files/files/bida.portal.gov.bd/page/f40752f4_ccac_45d4_9bc4_3367eb475e8a/1.%20VP%20-%20Dairy.pdf
[137] International Farm Comparison Network (IFCN), Dairy Report 2015.
[138] *Ibid*
[139] Global Agricultural Information Network, 2016, Exporter's Guide Bangladesh-2016: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Exporter%E2%80%99s%20Guide%20Bangladesh-2016_Dhaka_Bangladesh_6-7-2016.pdf
[140] FAO, 2013, Milk and dairy products in human nutrition: http://www.fao.org/docrep/018/i3396e/i3396e.pdf

rapid growth in the demand for dairy products in Bangladesh is expected also for lower income segments, when Bangladesh expects to move further toward a middle-income society[141].

Despite an average annual local milk production growth rate of 1.9% from 2010-15, domestic dairy production is not sufficient to fulfil domestic demand. When narrowly considering milk production from cows and buffalos, the self-sufficiency rate is about 65%[142]. This rate should, however, be interpreted with utmost caution, as the available statistics about self-sufficiency are very conflicting – some statistics even point to a 90% self-sufficiency rate[143].

The current daily dairy consumption is about 116ml per capita on average[144] and the country is still highly dependent on imported dairy products in order to bridge the current gap between supply and demand. Indeed, if Bangladesh is to reach a satisfactory milk consumption level, based on the WHO recommendation of a daily intake of 250ml, imports will be required for the foreseeable future. In spite of an increasing national production, the local dairy sector in Bangladesh is currently not adequately equipped to meet the huge growth prospects for dairy products [145].

Milk is a concentrated source of macro- and micronutrients, which according to the FAO means that milk and dairy products in particular, can play a vital role in improving nutrition in developing countries[146]. This is especially relevant for Bangladesh where much of the population is deficient in both macro- and micronutrients. However, despite milk and dairy products holding potential to improve the nutritional outcome in Bangladesh[147], milk consumption in the country is still limited with some part of society not being able to afford it at all[148].

Since 2008, the Bangladeshi dairy sector has been characterised by a milk price development clustered around the world market milk price. However, contrary to the world milk price, the milk price in Bangladesh quickly recovered after the steep decline in 2015, triggered by the abolition of the EU quota system. Thus, since 2014 the milk price in Bangladesh has been significantly higher than the world market price, with the farm gate price in Bangladesh on average being 11.7% above the world market price for the last five years[149]. However, among other factors, with feed prices in Bangladesh on average being above the world market price[150], the profit margin on milk is squeezed.

Analysis of the development of milk prices conducted by the Bangladesh Agricultural University suggests that Bangladesh mainly follows its own pattern of price transmission. The historic lowest milk price in the world market was 22.1 USD/100 kg ECM in May 2016 while for the same time the Bangladesh milk market price was as high as 43.6 USD/100 kg ECM. The highest world market milk price was observed in February 2014 amounting to 56.0 USD/100 kg ECM. For the same time the Bangladesh milk price was amounting to 49.8 USD/100 kg ECM. This clearly implies that Bangladesh does not respond to the global market milk price. The analysis of price development from 2006 to 2017 shows that most of the time, the local milk price was much higher than the world market milk

[141] Anudu, 2014, Dairy industry in growth spurt driven by demography, large retail channels: http://www.businessdayonline.com/dairy-industry-in-growth-spurt-driven-by-demography-large-retail-channels/
[142] International Farm Comparison Network (IFCN), Dairy Report 2016: National milk production (cow's and buffalo's) / annual dairy consumption 4.52 / 6.77 million tonnes = 66.77 %.
[143] International Farm Comparison Network (IFCN), Dairy Report 2016.
[144] International Farm Comparison Network (IFCN), Dairy Report 2016: Annual dairy consumption (2015) / population (2015) / 365 = 6.77 million tonnes / 156186862 = 118.7ml per day per capita.
[145] Global Agricultural Information Network, 2013: The Bangladesh Dairy Market: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/The%20Bangladesh%20Dairy%20Market_New%20Delhi_Bangladesh_6-25-2013.pdf
[146] International Dairy Federation, 2016, The role of dairy in optimal nutrition and under-nutrition: http://www.fil-idf.org/wp-content/uploads/2016/04/IDF-Factsheet-SCNH-The-role-of-dairy-in-optimal-nutrition-and-under-nutrition-The-first-1000-days_with-references.pdf
[147] *Ibid*
[148] FAO, 2013, Milk and dairy products in human nutrition: http://www.fao.org/docrep/018/i3396e/i3396e.pdf
[149] International Farm Comparison Network (IFCN), Dairy Report 2016.
[150] International Farm Comparison Network (IFCN), Dairy Report 2015.

price. In relation to the impact of milk powder import, the milk price in Bangladesh seems more linked to the demand and to government tariffs than to the effect of the world market milk price.

Despite the underdevelopment of the local production of raw milk in Bangladesh, the sector represents an important component with great economic, nutritional and social implications for the nearly 1,395,000 farms involved in dairy farming. In fact, two in three households in rural Bangladesh rely on dairy cows for their own consumption. Surplus milk is sold directly to neighbours or the local market in order to generate total or supplementary income, with only about 13% of the local milk production entering the formal channel[151]. Within the informal sector, dairy is often considered to be a subsidiary profession, as the main focus is often within crop agriculture, in particular rice[152]. The average farm size consists of about three cows – in fact the majority of the farms (90%) have an average size of one to three cows, while 96% of the farms have fewer than 10 cows. This clearly underlines the small scale and informal nature of the Bangladeshi dairy sector[153].

Despite there being 4.3 million cows and buffaloes in the country, the total production of milk is limited, as yields remain low at one to three litres per cow per day. This is due, in part, to poor genetics, insufficient feeding practices, disorganised breeding procedures, poor management practices, neglect of animal healthcare, and the lack of an efficient dairy value chain[154]. Also, lack of land available for large-scale dairy development constrains the development of the local dairy sector. The lack of available quality feeds and fodder throughout the year is another major challenge that triggers poor milk production[155]. Despite the listed constraints, annual production has increased in the last two decades, reaching 3.36 million tonnes of milk production in 2015[156].

Formal channels of local milk production are dominated by a mix of dairy cooperatives, social enterprises and private companies with Milk Vita, Aarong Dairy and PRAN Dairy Ltd being the most prominent actors. Milk Vita, a government cooperative, is by far the biggest local commercial player, with a milk intake of 134 thousand tonnes of locally produced milk in 2015, which is corresponding to about 45% of the commercialised milk intake in Bangladesh[157]. For farmers involved in producing milk for commercial processing, local chilling centres are provided to deliver their milk to. This milk is tested for fat content, and is subsequently transported in a chilling tank to a processing factory located in urban areas. The milk is processed into pasteurised milk, UHT milk, yogurt and other dairy products before being distributed to sales outlets, mainly located in urban areas[158]. Milk Vita, Aarong Dairy and PRAN Dairy Ltd play a significant role in local dairy sector development through provision of increasing milk collection centres, micro-loans, training of farmers, veterinary services and other capacity building programmes.

Besides the big local brands, the formal players also consist of dairy products importers from Europe, Australia, New Zealand, India and China. Key players in the milk powder category include Marks, Dano,

[151] The Bangladesh Dairy Market, USDA Foreign Agricultural Service: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/The%20Bangladesh%20Dairy%20Market_New%20Delhi_Bangladesh_6-25-2013.pdf

[152] Global Agricultural Information Network, 2013: The Bangladesh Dairy Market: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/The%20Bangladesh%20Dairy%20Market_New%20Delhi_Bangladesh_6-25-2013.pdf

[153] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf; Bangladesh Investment Development Authority, Dairy in Bangladesh: http://bida.portal.gov.bd/sites/default/files/files/bida.portal.gov.bd/page/f40752f4_ccac_45d4_9bc4_3367eb475e8a/1.%20VP%20-%20Dairy.pdf

[154] National Livestock Extension Policy 2013, Bangladesh Government: http://old.dls.gov.bd/Final%20Draft%20%20of%20National%20Extension%20Policy.pdf

[155] Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner.

[156] International Farm Comparison Network (IFCN), Dairy Report 2016.

[157] *Ibid*

[158] Interview and observations at Aarong Dairy's chilling centre in Dinajpur, November 2016.

Diploma & Fresh. Marks is the largest player within the milk powder category in Bangladesh, followed by Dano[159]. Before the introduction of Dano® Daily Pushti, fat-filled milk powder has not entered the market in Bangladesh. Since then, three other brands, namely "No. 1" and "Super Pure Pushti Praitidin" by Tanveer Food Ltd. and "GoodLife" by PRAN Dairy Ltd have introduced sales of fat-filled milk powder in selected areas of the country.

Milk powder accounts for most of the dairy being imported into Bangladesh, with dairy imports constituting 0.7 million tonnes in 2015[160]. In 2008, the Chinese melamine scandal, a food safety incident in China where some milk powders and infant formulas were found to be adulterated with melamine[161], impacted Bangladesh due to suspicions around imported milk powder[162]. These consumer suspicions translated into fewer imported milk powder sales, and an increased demand for locally produced milk. However, over time, consumers regained confidence in milk powder from trusted brands, and in urban areas the preferences returned to this type of consumption, due to the nature of powdered milk, including long shelf life, easy to store, and no requirements for refrigeration[163]. As a result of the Chinese melamine scandal, combined with multiple incidences of fake milk, as well as many milk products in the country being subject to adulteration to some extent[164], ensuring food safety is a crucial concern in Bangladesh.

Despite it being possible to build a business case based on local sourcing, the local dairy sector in Bangladesh is still underdeveloped and faces a myriad of structural challenges. However, it is high on the political and NGO agenda to tackle and improve the current status, as the strong link between local dairy sector development and economic development, as well as health improvements, is acknowledged. A sound development of the local dairy sector has therefore become a main focus for the government.

Governmental policy

Governmental policy on dairy sector development

The institutional framework surrounding the dairy sector is organised through a number of ministries including the Ministry of Agriculture, the Ministry of Fisheries and Livestock and the Ministry for Local Government, Rural Development and Cooperatives. NGOs and UN agencies such as BRAC, Grameen, CARE, United Nations Development Program (UNDP) and United Nations Food and Agricultural Organisation (FAO) play, together with the ministries, a pivotal role in setting the agenda for dairy sector development.

In the early 90s, the Bangladeshi government introduced import duties to protect the sector and its local milk producers, and up to 2006, the Bangladeshi milk market could be defined as protected[165]. In 2007, the government reduced import duties for skimmed milk powder from 75% to 35%. In April 2009, during a severe dairy crisis, hundreds of Bangladeshi dairy farmers poured milk on highways to protest against reduction of governmental import tariffs and imports of cheaper milk powder – mainly from India.

[159] Internal report, with data from August 2015.
[160] International Farm Comparison Network (IFCN), Dairy Report 2016.
[161] Huang, 2014, The 2008 Milk Scandal Revisited: http://www.forbes.com/sites/yanzhonghuang/2014/07/16/the-2008-milk-scandal-revisited/#48f641b14428
[162] BBC, 2008, Bangladesh warning on milk powder: http://news.bbc.co.uk/2/hi/south_asia/7675906.stm
[163] Huang, 2014, The 2008 Milk Scandal Revisited: http://www.forbes.com/sites/yanzhonghuang/2014/07/16/the-2008-milk-scandal-revisited/#48f641b14428
[164] Ali, 2013, Food safety and public health issues in Bangladesh: a regulatory: https://www.k4health.org/sites/default/files/food_safety_and_public_health_issues_in_bangladesh-_a_regulatory.pdf
[165] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf

Over the years, concerns have been raised by farmers, NGOs and governments about the adverse human rights impact of EU subsidised milk imports on the local dairy sector of developing countries[166].

Today, the Common Agricultural Policy (CAP) provides mainly income support decoupled from production to European farmers based on acreages instead of the previous price support, and co-funds rural development programmes in member states. The direct payments are contingent upon farmers' compliance with food safety, environmental and animal welfare standards. Export subsidies have not been in use since 2014[167] and the EU has furthermore committed to phasing out export subsidies as a part of the WTO agreement concluded in Nairobi in 2015[168]. The Danish dairy sector has not received export subsidies since the dairy crisis in 2010[169].

The EU has taken a number of measures to open up its market in the last 20 years, and more than two thirds of its imports of farm produce come from developing countries. Bilateral agreements with many countries allow for low tariffs on farm imports, and the 50 poorest countries in the world can export unlimited quantities to the EU duty free[170].

In 2001, the EU-Bangladesh Cooperation Agreement was concluded, which provided wider opportunities for partnership between the EU and Bangladesh to develop trade and economic development, and cooperate on areas such as human rights, the environment, and good governance[171].

As a least developed country, Bangladesh benefits from the most favourable regime available, namely the Everything But Arms (EBA) arrangement. EBA grants the 48 least developed countries – including Bangladesh – duty free quota, free access to the EU for exports of all products, except arms and ammunition[172].

Bangladesh also has several free trade agreements which currently exist, or are being negotiated. None of them specifically provides tariff-free imports of dairy. However, in 2015, India proposed a 'milk grid' system which suggested a decrease in milk tariff prices in order to increase the flow of dairy products between countries in the South Asia Free Trade Area. This was partly in an attempt to decrease the reliance on international dairy imports, but primarily to improve the local dairy sector[173]. As of November 2016, no update or development of this system had occurred.

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[166] The discussion on how export subsidies allowed EU exporters to grab market share in import markets from competing exporters, put downward pressure on the level of world market prices, and competed unfairly with local producers in many developing countries has been analysed in a series of reports and pamphlets by development NGOs such as Oxfam (Stop the Dumping! How EU Agricultural Subsidies are Damaging Livelihoods in the Developing World, 2002; Dumping on the World: How EU Sugar Policies Hurt Poor Countries, 2004); Aprodev (No More Chicken, Please, 2007; ActionAid (Milking the Poor; How EU Subsidies Hurt Dairy Producers in Bangladesh, 2011) and Brot für die Welt (Milk Dumping in Cameroon: Milk powder from the EU is affecting sales and endangering the livelihoods of dairy farmers in Cameroon, 2009).

[167] European Commission, 2013, The common agricultural policy (CAP) and agriculture in Europe – FAQ: http://europa.eu/rapid/press-release_MEMO-13-631_en.htm

[168] European Commission, 2015, WTO delivers ground-breaking deal for development: http://europa.eu/rapid/press-release_IP-15-6379_en.htm

[169] Landbrug & Fødevare, 2014, Mejeristatistik 2014: http://www.lf.dk/tal-og-analyser/statistik/mejeri/mejeristatistik/mejeristatistik-2014

[170] European Commission, 2013, The common agricultural policy (CAP) and agriculture in Europe – FAQ: http://europa.eu/rapid/press-release_MEMO-13-631_en.htm

[171] European Commission, Bangladesh - Trade Policy: http://ec.europa.eu/trade/policy/countries-and-regions/countries/bangladesh/

[172] *Ibid*

[173] Seth & Sikarwar, 2015, *Government draws up plan to create a 'milk grid'; will push to seek tariff cut to less than 5%.* The Economic Times: http://articles.economictimes.indiatimes.com/2015-06-24/news/63783139_1_milk-powder-dairy-farmers-milk-grid

Today, imports of milk and dairy products in Bangladesh are regulated by the Bangladesh Import Policy Order 2009-2012, which sets several requirements, including:

- A certificate attesting that the product is below the acceptable level of radioactivity
- A certificate indicating that the product is fit for human consumption
- A certificate indicating that the product is free of melamine

While there are no quantitative restrictions on imports of dairy products, several border charges like supplementary duties, regulatory duties, and value added tax (VAT) are added to the 25% (highest level) customs duty for import of these products[174].

As shown in table 2, the present applicable duty measures on Dano® Daily Pushti and Dano® Whole Milk differ significantly. The table summarises the duty measures when importing in bulk. In case the powders were imported as finished products of retail size (below 2.5kg), the import duties would be considerably higher, e.g. importing Dano® Whole Milk in retail size would increase the custom duty from 10% to 25%[175]. Thus, importing finished dairy products is expensive and less competitive. In order to reduce the costs of importing dairy products into Bangladesh, many international dairy companies, including Arla, import milk powder in bulk and repack it on location, which leads to the expected positive effect of creating more local jobs.
It is noteworthy that Dano® Daily Pushti imported in bulk is subject to the same import duties as whole milk powder imported in retail size. It means that Dano® Daily Pushti is taxed relatively higher than whole milk powder despite the product being aimed at accessing lower income segments with an affordable dairy solution.

Table 2 - Duty measures for importing Dano® products from the EU into Bangladesh[176]

	Dano® Daily Pushti (in bulk)	Dano® Whole Milk (in bulk)	Dano® Whole Milk (in retail size)
Custom duty	25%	10%	25%
Regulatory duty	3%	0%	3%
Value added tax (VAT)	15%	15%	15%
Advance income tax	5%	5%	5%
Total	48%	30%	48%

In the past, local dairy sector development has not been a priority within the Bangladesh governmental policy. In the 2006-2007 financial year, livestock development accounted for just 1% of the overall Bangladesh Governmental budget[177]. It is, however, noteworthy that the government already in 1973 initiated the Bangladesh Milk Producers Cooperative Ltd, popularly known as Milk Vita, upon recommendations from FAO and UNDP.

The government has since stated that dairy production is one of the critical development areas for Bangladesh.

[174] The Dairy Site, 2013, The Bangladesh Dairy Market: Times of Change: http://www.thedairysite.com/articles/3633/the-bangladesh-dairy-market-times-of-change/
[175] European Commission. Trade - Market Access Database, Tariffs: http://madb.europa.eu/madb/atDutyDetailPubli.htm?hscode=04021010&countries=BD ; The HS Code for Dano® Whole Milk bulk is 0402 2191 and for Dano® Daily Pushti bulk is 1901 9010.
[176] *Ibid*
[177] Ministry of Fisheries and Livestock, National Livestock Development Policy 2007: http://old.dls.gov.bd/files/Livestock_Policy_Final.pdf

Thus, in 2007, the National Livestock Development Policy was published as a draft document for taking further steps for policy development. The objectives of this policy included promoting sustainable improvements in both the output of milk production; nutrition and employment for marginalised farmers; as well as increasing private sector participation in the development of livestock production and services. Furthermore, animal health, feed and fodder management, as well as the marketing of livestock products, were also outlined as critical development areas[178]. Thus, the government seeks to take a holistic value chain approach to address several factors included in the dairy value chain, from production and processing, to marketing and consumption.

As a result, by 2013, the livestock sub-sector had increased its contribution from 1% to 3% of the national economy[179], and the National Livestock Extension Policy was subsequently introduced to further address the key challenges and constraints still prevailing in Bangladesh's livestock production systems. The vision of the aforementioned policy is for the country to "become self-reliant to satisfy the national demand for milk, meat and eggs for the fast-growing population through increased productivity, thus accelerating economic growth, employment and income generation and reducing poverty"[180].

This renewed focus on agriculture and livestock is aimed at improving living standards and reducing poverty levels in rural Bangladesh, particularly for those who rely on dairy production either wholly, or partly to supplement their household income. Within the policy, the development of small-scale farming in particular has been encouraged, due to the lack of land that would be required for larger-scale farming[181].

During our stakeholder consultation process[182], acknowledgements but also concerns were raised towards the insufficiency of governmental policies and programmes, aiming at dairy sector development.

The concerns can be clustered into the following main themes:

- Lack of sufficient governmental investments to develop the dairy sector
- Insufficient import tax system to protect the local dairy sector against import of milk powder
- Inadequate organisation of actors involved in the sector
- Inadequate government measures to protect smallholder farmers against human rights abuses

If the above-mentioned policies are implemented effectively, it does not only hold potential for developing the dairy sector, it could as well trigger improvements in the nutritional outcomes of actors along the dairy value chain. According to FAO, strengthening smallholder dairy production is a powerful tool to reduce poverty, raise nutritional outcomes and to create wealth and improve the livelihoods of rural people[183]. Therefore, it is crucial to note that the National Livestock Extension Policy for Bangladesh is particularly focusing on the development of small-scale farming, as this may be a driver for improving economic, social and nutritional outcomes for vulnerable small-scale farmers and their dependants.

178 *Ibid*
179 Department of Livestock Services, National Livestock Extension Policy 2013: http://old.dls.gov.bd/Final%20Draft%20%20of%20National%20Extension%20Policy.pdf
180 *Ibid*
181 *Ibid*
182 See list of interviews in appendix 1.
183 FAO, 2010, Small-scale dairy production: a way out of poverty: http://www.fao.org/news/story/en/item/44582/icode/

Governmental policy on health and nutritional improvement

In terms of health and nutrition in Bangladesh, several ministries and institutions are responsible, including the Ministry of Health and Family Welfare, Ministry of Women and Children Affairs, the Institute of Public Health Nutrition, Directorate General of Health Services, and the Ministry of Food and Disaster Management. In addition, several NGOs and UN agencies are active in food and nutrition, including the Global Alliance for Improved Nutrition (GAIN), Bangladesh Breastfeeding Foundation (BBF)[184], BRAC, the World Food Programme (WFP), United Nations International Children's Emergency Fund (UNICEF), the SUN (Scaling Up Nutrition) Movement and the World Health Organisation (WHO).

The Government of Bangladesh recognises that health is a fundamental right of the population[185] and is the largest single contributor to physical and mental well-being, under development and disease. In 2008, an updated health policy was released. It describes the goal as sustainable improvement in health, nutrition and family welfare status of the people, particularly of poor and vulnerable groups, including women, children and elderly, with the ultimate aim of improving their economic and social emancipation and physical and mental well-being. The health policy is particularly focusing on nutritional outcomes for women, children and those in the poorer segments of society[186].

To specifically improve nutritional outcomes in Bangladesh, a National Nutrition Policy was endorsed in 2015, as well as a National Strategy for Micronutrient Deficiency Control.

The Health, Population and Nutrition Sector Development Programme, delivered by the Ministry for Health and Family Welfare, has been implemented for a period of five years from 2011 to 2016, and in practical terms it encompasses both infant and maternal health and aims to improve access to services, provide malnutrition interventions, in particular micro-nutrient deficiency supplements and education[187]. The Second National Plan of Action on Nutrition 2016 – 2025 was approved in August 2017 and continues in line with the National Nutrition Policy 2015 with an enhanced focus on bringing stakeholders together in joint action with clear targets and indicators to monitor progress[188].

Furthermore, a strict policy on breastfeeding and the implementation of the 2013 Breast Milk Substitutes Regulation of Marketing Act have aimed at protecting children where there is poor sanitation, and have also restricted the marketing of infant formula and commercially produced supplementary foods that are marketed as being suitable for infants and young children between six months and five years of age[189].

In this vein, the Bangladesh Breastfeeding Foundation (BBF)[190] should be highlighted. The BBF is an NGO focusing on promotion, protection of and support for breastfeeding for all infants in the country with appropriate and adequate home-made complementary food after six months. In addition, the organisation is promoting and advocating for appropriate and adequate nutrition for pregnant and lactating mothers. In line with this approach to breastfeeding and home-made complementary food, BBF has over the years been highly critical towards the marketing of infant formula, including the risk of substituting breastfeeding with milk powder.

The BBF is considered a highly politically influential and agenda-setting organisation, which works together with donor and UN organisations such as UNICEF, FAO, WFP, WHO and UNFPA as well as with a vast number of governmental bodies. BBF provides policy support and is implementing a number of

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[184] Bangladesh Breastfeeding Foundation web page: http://bbf-bangladesh.org/
[185] Ministry of Health and Family Welfare. Health, Population and Nutrition Sector Development Program 2011-2016: http://www.mohfw.gov.bd/index.php?option=com_content&view=article&id=166&Itemid=150&lang=en
[186] *Ibid*
[187] *Ibid*
[188] Ministry of Health and family Affairs, 2017, Bangladesh Country Report 2010-2017
[189] Ministry of Law, Justice and Parliamentary Affairs, 2014, Law on Breast Milk Substitutes, Infant Foods, Commercially Manufactured Complementary Foods and Accessories Thereof (Regulation of Marketing) - Act 20.
[190] Bangladesh Breastfeeding Foundation web page: http://bbf-bangladesh.org/

policy related programmes and campaigns to promote breastfeeding and adequate nutrition. It is to a large extent the merit of BBF that the BMS Code Monitoring System is established in Bangladesh. Another significant achievement is the increase of maternity leave from four to six months with pay[191].

Thus, the government and NGOs in Bangladesh are to a large extent focusing on improving the health status, with many policies and programmes already being in place to protect vulnerable groups. Together with the Government of Bangladesh, the SUN Alliance is promoting multi-stakeholder platforms to bring together government bodies, NGOs, business, academia and donors to mobilise joint action. In the same vein, the Bangladesh National Nutrition Council has been revitalised as a supra-ministerial body to coordinate agencies responsible for nutrition activities[192].

Integrated development programmes

To strengthen the synergies between dairy sector development, nutrition and health, organisations such as BRAC advocate strategies for linking development of smallholder dairy farming to social protection, access to healthcare and awareness-raising on nutrition, particularly targeting women[193]. The new governmental Social Protection Strategy also aims at providing a more coherent framework to better exploit these synergies[194].

BRAC's integrated development programmes should be highlighted for such a holistic approach. The organisation builds to a large extent on a social enterprise model, which is a market-based approach that offers sustainable business and consumer solutions to the vulnerable parts of the population. In these programmes, dairy plays a role in lifting ultra-poor people out of poverty[195]. In combination with BRAC's 60,000 community frontline health workers, who are teaching and guiding women on improved nutrition knowledge and correct infant and young child feeding practices using home-grown product including fresh local milk; synergies between dairy sector development, social protection, nutrition and health are being created.

The comprehensive portfolio of BRAC programmes relevant for this assessment, are:

- Social enterprise (Aarong Dairy) – *creating economic and social impact through social enterprise solutions*
- Health, nutrition and population – *bringing integrated healthcare to every doorstep*
- Targeting the ultra-poor – *lifting millions of lives out of ultra-poverty*
- Micro-finance programme – *helping five million families move toward economic freedom*
- Community empowerment - *giving one million women a voice*
- Advocacy for social change - *advocating for change to be incorporated into national laws and policies*

[191]See Bangladesh Breastfeeding Foundation web page: http://bbf-bangladesh.org/. The influence of the BBF was acknowledged by a number of stakeholders during interviews.
[192] Ministry of Health and family Affairs, 2017, Bangladesh Country Report 2010-2017
[193] FAO, 2013, Milk and dairy products in human nutrition: http://www.fao.org/docrep/018/i3396e/i3396e.pdf
[194] Food Planning and Monitoring Unit, Ministry of Food, 2012, Linking social protection and agriculture: http://fpmu.gov.bd/agridrupal/sites/default/files/Linking%20social%20protection%20and%20agriculture.pdf
[195] During our field trip to Dinajpur division, we observed a number of BRAC programmes where dairy was crucial as a means to nutrition and to income generation. We interviewed a large number of abandoned, ultra-poor women, who were provided with cows to start up a small dairy business and thereby was able to break the poverty circle.

- Integrated development programme – *eliminating poverty in hard to reach areas through holistic interventions*
- Human rights and legal services – *ensuring equal access to justice for all*

A significant component of BRAC's work is policy advocacy. The organisation is considered as a strong voice linking those living in poverty and socially marginalised populations to government, policy makers and development agencies. To strengthen the synergies between dairy sector development, nutrition and health and human rights, BRAC leverages small-scale farmers' and vulnerable consumers' capacity to raise their voices against human rights abuse.

Sub-conclusion: potential human rights impacts of scaling up of Dano® Daily Pushti

The context analysis reveals a number of potential human rights impacts related to the ambition of scaling up Dano® Daily Pushti:

1. Lack of governmental investments in, and organisation of, the dairy sector over the years add to the vulnerability of smallholder farmers. Import regulations have been introduced as a tool to protect the underdeveloped infant dairy sector, since the international dairy business is far better equipped to compete. The impact of the renewed governmental focus on dairy sector development remains to be seen. By scaling up sales and marketing of Dano® Daily Pushti as an affordable product targeting low income segments, Arla may contribute to an out-competition of local smallholder farmers who are partly or fully dependent on selling locally produced fresh milk, especially if Arla is strategic targeting rural villages in milk producing rural areas.
2. With milk production being widespread and growing in Bangladesh, there is a risk that Dano® Daily Pushti may out-compete locally produced milk. If processers substitute locally sourced milk with Dano® Daily Pushti or consumers switch from milk products based on local milk production to Dano® Daily Pushti, there is a risk that it may adversely impact actors throughout the entire value chain.
3. With malnutrition and food insecurity being widespread, scaling up sales and marketing of Dano® Daily Pushti has the potential to improve better access to an affordable, safe and fortified dairy product to low income segments. However, Arla may be linked to a potential adverse human rights impact if mothers are not using Dano® Daily Pushti as intended and instead use the product as a breast milk substitute during the first six months and/or as supplementary foods for children.
4. With a large part of the population not having access to safe water, combined with many consumers not being able to distinguish between safe and unsafe water, the risk of mixing Dano® Daily Pushti with polluted water is prevalent. If adequate and easily accessible information is not available, Arla may contribute to health threats for vulnerable consumers.
5. Dano® Daily Pushti is a fortified fat filled milk powder with less nutritional value than Dano® whole milk powder. If consumers trade down from fresh cows' milk or whole milk powder products, the nutritious value of their daily diet will therefore decrease, which then links Arla directly to an adverse human right impact on the right to health.
6. With food and nutrition insecurity being widespread in Bangladesh, the scaling up of marketing, sales and distribution of Dano® Daily Pushti has the potential to improve better

access to an affordable, safe and fortified dairy product to the population at risk of suffering from the serious impacts of lack of access to nutritious food. This is particularly relevant for the population living in hard-to-reach areas of Bangladesh, as well as adolescent girls and women of reproductive age. However, there is a risk of a number of adverse human rights impacts, if consumers are not informed through adequate and correct product information. This could lead to severe health threats through incorrect consumption of Dano® Daily Pushti. Despite governmental programmes supported and amplified by NGOs such as BRAC's and BBF's extensive network of community health workers, the severe shortage of trained heath personnel in rural areas, together with lack of knowledge on nutrition, add to the vulnerability amongst consumers with poor educational and economical capacity especially children, pregnant and lactating women.

7. Female empowerment at a community level may also be at risk. Even though dairy farming is mainly supervised and managed by men, a closer look would reveal that it is often women who oversee indoor income generating activities, for instance, back-yard poultry and dairy production as well as commercial gardening. Hence, the risk of triggering adverse impacts from a gender perspective is also prevalent.

Based on this analysis, the human rights country profile indicates that the main group of actors at risk of being adversely impacted by the upscaling of Dano® Daily Pushti are:

- Small-scale dairy producers, their families and related rural communities, who are poorly equipped to compete against Arla's marketing, sales and distribution of Dano® Daily Pushti and who possess limited capacity and can be subject to inadequate governmental human rights protection. Attention should be paid to women who are in a particular vulnerable position in this regard.
- Vulnerable actors who are dependent on income from formal and informal jobs along the local dairy value chain, who are at risk of being marginalised at the labour market and can be subject to inadequate governmental human rights protection.
- Vulnerable consumers, especially women and children, belonging to the lower income and educational segments, who are poorly equipped to consume Dano® Daily Pushti as intended and who possess limited capacity and can be subject to inadequate governmental human rights protection.

Within this fragile human rights country context, it is crucial that Arla identifies the specific areas where scaling up Dano® Daily Pushti potentially and actually impacts actors within the local value chain and takes action to prevent and mitigate such impacts. This will be addressed in the following sections.

Value chain assessment

Raw milk production and processing

In this section, the value chain activities and actors related to production and processing of raw milk is analysed. Further, Arla's activities in relation to raw milk production and processing is described. Finally, the human rights impact on the livelihood of smallholder farmers is assessed.

National context

Characteristics of raw milk production and processing

The dairy value chain related to raw milk production and processing can be distinguished between:

- A formal channel, which is linked to commercial collecting and processing actors
- An informal channel, which is linked to collecting and consumption mainly within the local communities in the milk producing areas

Raw milk production in Bangladesh is particularly significant in the northern and western areas of the country. Recently, milk production has increased substantially in the south-western part of Bangladesh. This is especially true after the occurrence of Sidr, a tsunami, in 2007, which resulted in a number of development programmes making an effort to improve the livelihoods in the ruined regions through taking measures to improve the livestock sector, in particularly dairy farming[196]. Milk production is found in almost all 64 districts of Bangladesh, with only a few exceptions.

Raw milk is produced by Bangladesh's approximately 1.4 million dairy farmers. In spite of a slight decrease in farm numbers by 0.4 % for 2015, two out of three households still rely on dairy cows for their livelihoods. Dairy constitutes a vital component for income, nutrition, and social wealth creation for those involved in the dairy sector, in particularly in the rural areas. The number of farms is expected to increase again during 2016 by more than 1% and it seems that more young and educated people are now attracted to the sector.

In contrast to many other countries, no dairy processing takes place at farm level. An estimated 37% of raw milk is consumed as non-processed liquid raw milk within the informal sector, i.e. dairy farm households or in the neighbourhood[197].

The majority of raw milk, namely 50% of the total raw milk production, is delivered to so-called sweetmeat makers through the informal channels.

The last, roughly 13% of locally produced fresh milk, is delivered to milk processors via formal channels. The formal processors are characterised by an organised collection of milk by a number of private dairy companies, cooperatives, social enterprises and by middlemen delivering milk to the aforementioned. In general terms, it is estimated that milk processors involved in the formal channels source some 50% of their milk from Bangladeshi dairy farmers and some 50% is sourced via import of milk powder, mainly skimmed milk powder[198].

[196] Unpublished data from National Level Cattle Feed Value Chain in Bangladesh prepared by US-AID. Provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner
[197] Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner
[198] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf

Types of actors involved in raw milk production and processing

Dairy producers

Actors involved in raw milk production are generally small-scale family farmers. More than 90% of the dairy farms keep between one and three cows, and about 96% keep fewer than 10 cows[199]. The sector is primarily informal.

The acute lack of land available for agriculture makes large-scale dairy farming almost impossible and the average farm size has been centred around 2.5 cows since 1996[200].

According to data from the IFCN and the Bangladesh Agricultural University[201], the dairy producers in Bangladesh can, broadly viewed, be classified in the following three categories[202]:

1. The majority of small-scale milk producers are persons or households, often landless or without assets, engaged in milk production for economic return on surplus of milk, usually owning up to three cows. The farms are not specialised in dairy, and undertake various agricultural and non-farming activities. Thus, dairy production is only considered to be a subsidiary profession, as the farmers are often more inclined toward crop agriculture. Dairy is for household consumption and supplementary income, in case of surplus milk. The average size of the land is 0.5 ha, with about 30% allocated for dairy. The majority of the cows are indigenous with an average milk yield of two - three litres a day per cow. Family labour constitutes about 67% of the total labour input, with seasonal use of part-time hired labour. The majority of the milk is sold through the informal sector, either in the neighbourhood or on the local market. Most farms in Bangladesh fall into this category.
2. Small-scale dairy farmers, who are linked to milk processing through cooperatives or associations, or individually by milk traders or middlemen. Initially, they start with one animal but have the potential to grow. Many households have moved out of poverty and now have 20 or more milking cows.
3. Large-scale farmers, who are located in rural and semi-urban areas. On these farms, dairy income contributes to a larger portion of the total household income. Non-dairy income, if existing, only serves as a supplement. The average land size is 2.5 ha, with about 50% allocated for dairy. Hired labour is the main labour input (82% of the total labour input), with the remaining undertaken by the family. The farms rear improved indigenous and crossbred cows. The average milk yield is about 5.5 l/per cow, per day. The majority of the milk is sold to a milk collection point, thereby entering the formal sector.

Depending on the farm size, cows are either left to graze on communal land, or, for larger farms, the animals are kept tied in stalls and provided with fodder and straw grown on the land[203].

In regard to family farms, mainly women are responsible for daily activities related to milk production. However, men do the overall supervision of the farm, source feed, sell the milk and make the ultimate decisions[204]. At professional farms, women supplement the work, with activities such as cleaning,

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[199] Uddin, Sultana & Peters, 2013, Participatory Rural Appraisal to characterize dairy production systems in Bangladesh: http://www.lrrd.org/lrrd25/2/uddi25029.htm
[200] *Ibid*
[201] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[202] International Farm Comparison Network (IFCN), Dairy Report 2016; and data provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[203] *Ibid*
[204] Quisumbing et. al, 2014, Closing the Gender Asset Gap: Learning from Value Chain Development in Africa and Asia.: http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/128013 ; It is noteworthy, however, that during our farm visits to rural Dinajpur, it was the men who seemed to be the active and responsible actor in dairy at the more professional farms, whereas the women were the target group for BRAC's Ultra-Poor Programme who trained women in small-scale dairy business.

washing and supporting feeding of the cows as well as manure management[205]. This division may be due to the patrilineal lineage through which cows, as a valuable household asset, are passed through the family line from father to son. This stems from Islamic Sharia law, and its framework for dealing with land and inheritance cases. As women are responsible for many activities related to milk production, there is a potential risk of women being marginalised if the locally produced milk is outcompeted. This is especially true for the most vulnerable women, including abandoned wives, single headed female households, disabled women and/or women who belong to the ultra-poor segment and who are dependent on income from a few litres of milk. During our field trip, we observed the ultra-poor programme of BRAC and met with groups of women who were provided with a "micro-business-start-package" consisting of a calf, chicken and/or a goat as well as training in farm business and human rights. This is to empower women in local communities and serves as an important instrument to improve nutrition and eradicate poverty[206].

During the field trip among small-scale dairy producers and farmers, who were contracted by Aarong Dairy, it was revealed that all milking was done by hand, and low milk yields were prevailing. Furthermore, our field research highlighted challenges with quality along the value chain, with lack of a cold chain from farm to milk collection centre, hygiene and sterility of the milk all being issues.

Dairy production generates a total or supplementary income for the dairy farmers[207]. Typically, a dairy household generates its income from three sources:

- Dairy farming represents 15%
- Other farm activities represent 11%
- Off farm income represents 74%[208]

Some studies, however, suggest that the above underestimate the share of dairy, as they conclude that dairy farming accounts for between 45-93% of the household income[209].

Through interviews with farmers, mothers and BRAC community health workers and the field trip to milk-producing areas, it was found that at least one litre of milk is always kept for the household consumption, regardless of the market conditions; even when farmers could obtain a higher price for their milk, the value of the milk, as a nutritious contribution to the daily diet of the family, was still prioritised.

Dairy processors

A milk processor in Bangladesh has two options for sourcing milk:

- From local farmers' raw milk
- From dairy imports, mainly skimmed milk powder

The locally produced milk is processed through three channels:

This pattern was also observed at the BRAC milk chilling centre where it was the men who brought larger amounts of milk for selling transported on motor bikes or bicycles, whereas the women brought in rather small amounts of milk transported on foot and in small jars. Field trip organized by BRAC, Dinajpur District, November 2016.

[205] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.

[206] Read more on BRAC's Ultra-Poor Programme: https://www.brac.net/tup?view=page

[207] The Dairy Site, 2013, The Bangladesh Dairy Market: Times of Change: http://www.thedairysite.com/articles/3633/the-bangladesh-dairy-market-times-of-change/

[208] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf

[209] Uddin, et. al, 2010, A farm economic analysis in different dairy production systems in Bangladesh: http://www.lrrd.org/lrrd22/7/uddi22122.htm

1. Sweetmeat makers in the informal processing channels, who source and process fresh milk into local sweets, including sweet yogurt and varieties based on colour and taste
2. Commercial processors in the formal processing channels, who source and process raw milk into a comprehensive product portfolio, including fresh and powdered milk, UHT, flavoured milk, flavoured yogurt, ghee, butter and sour curd
3. Commercial processors in the formal processing channels, who source and process milk powder into a comprehensive product portfolio including pasteurised milk, UHT, yogurt and ice cream

1. Sweetmeat makers

Sweetmeat processing is by far the primary channel for locally produced raw milk. Sweetmeats are very popular in Bangladesh, and about 50% of the total raw milk produced in the country is processed into a comprehensive variety of local sweets, including sweet yogurt (mishtee doi)[210].

When receiving the milk, the sweetmeat makers smell the milk and use a lactometer to test the purity of the milk as well as the fat content. Often no tests are conducted to check the level of bacteria in the milk. The level of processing at the point of the sweetmeat shops is very traditional and artisanal, and the milk intake varies from 8 to 1600 litres per day, depending on the individual sweet maker.

In general, hygiene and quality standards are low, due to the perception that it is not necessary to check raw milk quality as it is being boiled afterwards.

It is a well-known practice that sweetmeat makers to a certain extent use imported milk powder in their products. This is done with the purpose of securing the right consistency of the product. However, since sweet makers do not label the content and since the recipe is partly non-accessible, the information on the volume is not available.

Practically, all sweetmeat makers have their own retail outlets to sell the sweets. However, some of the sweets are distributed to retail outlets in the big cities[211].

2. Commercial local processors

Despite the dairy value chain in Bangladesh primarily being informal, a well-systemised formal dairy value chain does co-exist, which was also observed in the case of rural Dinajpur. Out of the 8 divisions in Bangladesh, a formalised collection network is established in all districts, except one, namely Sylhet. This clearly indicates the importance of milk production across all parts of Bangladesh. Moreover, it indicates that it is today profitable to establish a commercialised collection network of raw milk in seven out of eight divisions.

The larger dairy cooperatives and enterprises usually collect milk from central milk collection points in rural and semi-rural areas. Hereafter the milk is transported in cooling tanks to dairy processing facilities located in urban areas. At the dairy plant, the milk is processed into a variety of products that are sold to urban consumers.

For farmers involved in selling milk for commercial processing, a comprehensive network of local chilling centres is provided. This milk is tested for fat content, and is subsequently transported in a

[210] Rodrigues & Baker, 2012, Grameen Danone Foods Limited: https://www.ifama.org/resources/Documents/v15i1/Rodrigues-Baker.pdf
[211] RAO & Odermatt, 2006, Value chain analysis report of the milk market in Bangladesh: https://www.scribd.com/document/28847769/Bangladesh-Milk-Market-LEAF ; Rodrigues & Baker, 2012, Grameen Danone Foods Limited: https://www.ifama.org/resources/Documents/v15i1/Rodrigues-Baker.pdf

chilling tank to a processing factory. The milk is processed into pasteurised milk, UHT milk, yogurt and other dairy products before being distributed to a variety of sales outlets, which are primarily located in big cities, especially in Dhaka.

It is noteworthy that Milk Vita, Aarong Dairy and PRAN Dairy Ltd are to a limited extent processing raw milk into powdered milk. This occurs when there is a seasonal surplus of locally produced milk. The production of milk powder is rather expensive and seems at the moment to represent a minor part of the overall business, according to information gathered during interviews with the aforementioned three commercial players.

The number of commercial local processors has increased significantly during the last ten years. As mentioned, the top three processors are:

- **Milk Vita:** A government co-operative owned 51% by the government, and 49% by farmers, Milk Vita was initially established with help from FAO, DANIDA and UNDP, and is now operating within its own infrastructure and management body. Cooperative members deliver their milk to central collection points, where fat content is tested in order to determine the price, as well as a platform test for conformity with quality standards. Based on the results of the platform test, the milk is either accepted or rejected immediately. The accepted milk is then chilled and transported to Milk Vita's milk processing plants and used for further processing of a variety of products, including pasteurised milk, ghee, flavoured milk, and ice cream[212]. It remains the largest and longest running producer of fresh dairy in Bangladesh, supplying over half of the country's processed milk[213]. The yearly milk intake for Milk Vita is about 75 million litres[214]. Members receive training in areas such as veterinary services and livestock genetic training. Milk Vita has established its own feed mill, thus producing cattle feed, which is sold for no profit. The cooperative has also started to produce total mixed ration[215].
- **Aarong Dairy:** In 1998, a BRAC social enterprise was formed to source local milk for product development under the brand 'Aarong Dairy'. It was initially launched to assist rural villages in developing their dairy sector and improving market conditions[216]. Farmers bring their milk to chilling centres where it is collected, transported and centrally processed at the Aarong Dairy processing facility in Gazipur District, Dhaka[217]. Training and microfinancing are available to farmers to help increase their livestock numbers, and thus increase their total milk yield. Aarong Dairy is the third largest fresh dairy product processor in Bangladesh, in regard to milk collection. The enterprise has a yearly milk intake of about 40 million litres a year[218]. Aarong Dairy products include fresh and powdered milk, flavoured milk, flavoured yogurt and sour curd. Half of the profits are returned to the Aarong Dairy social enterprise, and the other half is invested into BRAC development projects. BRAC has introduced a digital fat collection centre, where milk is digitally tested and the percentage of the fat content is immediately revealed. Thus, Aarong Dairy is able to provide farmers with an individual price based on the

[212] Milk Vita Product, Milk Vita: http://www.Milk Vita.org/product_details.php
[213] FAO, Bangladesh: Social gains from dairy development: http://www.fao.org/docrep/011/i0588e/I0588E03.htm
[214] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.
[215] The term total mixed ration may be defined as, "the practice of weighing and blending all feedstuffs into a complete ration which provides adequate nourishment to meet the needs of dairy cows." Each bite consumed contains the required level of nutrients (energy, protein, minerals and vitamins) needed by the cow; Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner.
[216] Aarong Dairy – A BRAC social enterprise creating an urban market for rural dairy farmers: http://www.brac.net/sites/default/files/Dairy_June_2014.pdf
[217] Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner.
[218] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.

particular fat level in their milk. In Milk Vita, the price paid to the farmers is based on a bulk sample (often at society level)[219].

- **PRAN Dairy Ltd:** PRAN Foods is the largest food processing company in Bangladesh, and one of the leading national dairy players. It produces UHT milk (60% of total dairy activity), pasteurised milk (20%), milk powder, and other dairy products (cheese, butter, etc.). PRAN Foods Ltd started its operation in 1981 as a processor of fruit and vegetables in Bangladesh and has become one of the largest food and beverage brands, exporting to 95 countries. PRAN Dairy Ltd does not export dairy products; its processed dairy products are sold solely in Bangladesh[220]. In 2011, a sustainable smallholder farmers' milk production development project was initiated between Tetra Pak, PRAN Dairy Ltd, UNIDO, and the Department of Livestock Services[221]. Here, 'Dairy Hubs' were organised for small-scale dairy production. Farmers deliver their milk to cooling tanks in their area, from where the milk is transported to the PRAN Dairy Ltd dairy factory on the outskirts of Dhaka and utilised in the production of UHT milk. Training is provided to the farmers to help increase the milk yield. As of 2015, the Dairy Hub initiative had involved over 2,000 dairy farmers, and reached a total yearly milk intake of about 55 million litres[222]. When consulting PRAN Dairy Ltd during our field trip, it was emphasised that it was possible to build a business case based on sourcing of raw milk in Bangladesh. It should be noted, however, that external funding has also been provided for training programmes for farmers.

The three largest local milk processors manage a total of 267 chilling centres, corresponding to Milk Vita operating 47, PRAN Dairy Ltd 120 and BRAC 100[223]. See figure 1 for a more comprehensive illustration of the extent of the commercialised collection network.

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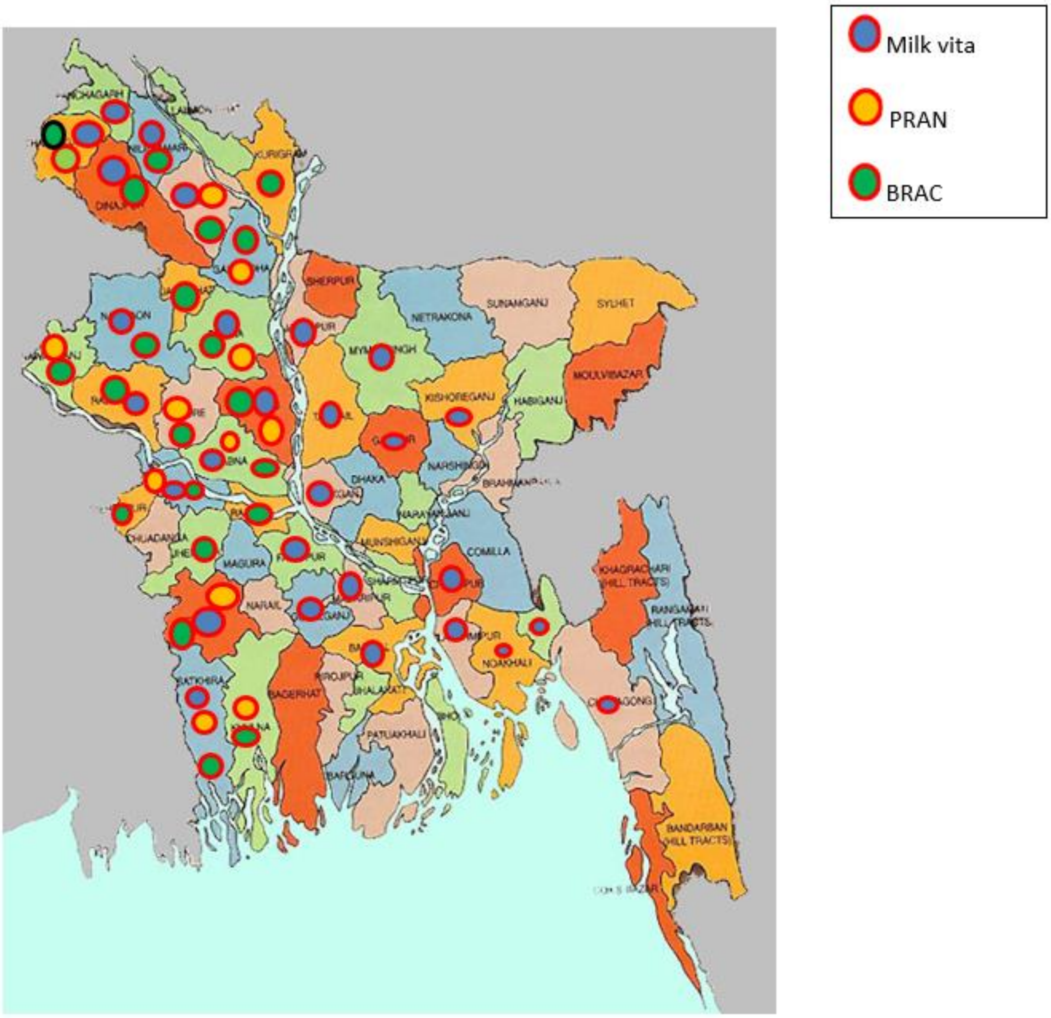
[219] Information provided by Dr. Mohammad Mohi Uddin, Bangladesh Agricultural University and IFCN research partner.
[220] PRAN web page: http://www.pranfoods.net/home.php
[221] Tetra Pak, Dairy Hubs - Meeting demand for dairy: http://www.tetrapak.com/sustainability/food-availability/dairy-hubs
[222] International Farm Comparison Network (IFCN), Dairy Report 2016; Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.
[223] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.

Figure 1 – Milk collection network by the three biggest milk processors in Bangladesh[224]



In addition to the above-mentioned processors, there are a number of other privately owned dairy processors that source raw milk in Bangladesh, such as Ammo Milk, Akij Group (Farm Fresh), Aftab Milk and Milk Products Ltd, Tulip Milk Products and Rangpur Dairy Products Ltd.

Over the last five years, the commercialised share of local raw milk production entering the formal value chain has grown from 9% to the current level of 13%. This increase is primarily due to a strategic business decision made by processors, who have recently invested significantly in expanding the collection network. Out of 64 districts, 37 districts are today covered by the milk collection network of the top three processors. On the one hand, chilling centres are today increasingly established in remote areas. On the other hand, a significant number of districts still do not have access to the milk collection network. It is estimated that a number of these districts has the potential for commercial milk production[225].

[224] *Ibid*

[225] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.

The wider access to the commercialised value chain has prompted a tendency to transition from subsistence-oriented to more market-oriented raw milk production[226].

3. Commercial processors who process dairy products from milk powder

In addition to the above-mentioned processing of raw milk into fresh dairy products, a number of processors also produce dairy products from reconstitution or recombination.

In the off-season periods, when raw milk is a perishable commodity, it is replaced partly or fully by milk powder as raw material. In this case, milk powder is reconstituted with water to prepare pasteurised milk to be sold during crisis or high demand seasons. On the other hand, when it is high season and there is, in some cases, an overproduction of local raw milk which the dairy processing companies are not able to off-take, then the largest dairy processing companies process local milk into milk powder. It is in this case that concerns of losing markets share through direct competition with imported milk powder, especially brands with cheap price points, were expressed.

In the case of Milk Vita, Aarong and PRAN Dairy Ltd, we were informed that they only base the reconstituted products on their own milk powder. Based on our market insights, reconstitution is not a major business, but mainly a way of bridging seasonal fluctuations.

Recombination is an alternative method of supplying the market with a product that closely resembles fresh dairy milk. Recombination in Bangladesh includes mainly ice cream. Local ice cream companies, including Dhaka Ice Cream, Igloo and Golden Harvest with their brand Bloop, are mainly using skimmed milk powder and to a limited extent whole milk powder. No liquid milk is processed into ice cream.

Yogurt is produced mostly by sweetmeat makers, and as mentioned, they mainly use fresh milk for processing. However, to obtain a thicker texture, using some skimmed milk powder in yogurt production is quite common, as it also contributes to a higher content of protein. Beside sweetmeat producers, some companies are commercially producing yogurt and use some skimmed milk powder along with fresh milk, for example Grameen Danone.

In Bangladesh, recombination is not mentioned on the label and no data on the volume is available.

Intersection of value chains related to raw milk and imported milk powder

The analysis of formal and informal processors in Bangladesh indicates that the dairy value chain for imported milk powder and raw milk is rather segmented at the point of production and processing in the value chain.

Local produced raw milk is delivered either to local dairy processors, who transport the milk into urban areas for processing, or the local raw milk is delivered to sweetmeat makers who mainly process the raw milk in areas not far from the point of delivery, i.e. the dairy farm. To a limited extent, local processors produce milk powder when there is a surplus of raw milk, which is then used for dairy processing in seasons with a lack of raw milk.

However, both informal and formal processors use imported milk powder in dairy processing. It is difficult to obtain data estimating whether dairy processors prefer milk powder on the expense of raw milk. Moreover, it is difficult to estimate, which type of milk powder is most likely to potentially substitute raw milk – cheap milk powder from India and China or premium, more expensive milk powder from the EU or Australia?

[226] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling Centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.

Farm gate milk prices in Bangladesh

One of the key issues to assess is whether scaling up of Dano® Daily Pushti may adversely impact the income of smallholder dairy farmers. In other words, is the farm gate milk price in Bangladesh potentially under pressure due to scaling up of Dano® Daily Pushti?

Concerns about the impact of imported, cheaper milk powder on local dairy sector development are also prevalent among stakeholders in the dairy sector in Bangladesh today, as revealed during our fieldwork interviews.

A case study from 2009 estimates[227] how decreasing world milk prices during 2009 significantly affected the livelihood of more than five million Bangladeshi dairy farmers, who experienced a severe reduction of household income deriving from dairy production. The study investigates the correlation between the decrease in world milk prices, local characteristics, Bangladeshi farm gate milk prices and the impact on livelihood of smallholder farmers.

The dramatic decrease in milk prices in 2009 in Bangladesh was triggered by a number of factors[228]:

- Government's strategy to reduce the import tariff from 75% to 35% in 2008[229]
- Imports of very cheap milk powder, mainly from India and China
- Decision of milk processors not to collect milk one day per week
- Significant increases in production costs, especially related to fodder
- Shift of consumer preferences towards milk powder after the melamine crisis was solved

Moreover, milk powder, in particular milk powder imported from India, challenged the local dairy sector in Bangladesh, especially since Bangladesh became a conduit for the smuggling of cheap milk powder across the border from India[230].

As a consequence, hundreds of dairy farmers in Bangladesh participated in a demonstration in 2009, and poured milk away in protest of the lowest farm gate milk prices in Bangladesh's history, where prices decreased by 25% in February 2009. The impact of the EU export subsidies at that time was estimated to slightly amplify the adverse impact on the sector during the crisis in 2009, since EU export subsidies contributed to lowering world milk prices. It meant that the elimination of EU export subsidies was expected to create a slightly positive effect on the livelihood of dairy farmers in Bangladesh, since it was expected to contribute to an increase in world milk prices[231].

After the liberalisation of the global milk market and the abolishing of the EU milk quota system in April 2015, world milk prices have decreased significantly as result of a major increase in milk production by European dairy farmers.

One of the main questions to discuss in this section of the assessment is, then, what is the potential impact of the liberalisation of the milk market on Bangladeshi farm gate milk prices and thereby on the income of local dairy farmers? Have the national farm gate milk prices decreased as a consequence of the decreasing world milk prices and thereby lowered the income of dairy farmers?

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[227] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf
[228] *Ibid*
[229] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[230] Schendel, 2005, The Bengal Borderland – Beyond State and Nation in South Asia.
[231] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy research center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf

To try to answer this question, it is important to grasp the complexity of how farm gate milk prices are determined and to investigate farm gate price development over a longer time span.

We asked Mohammad Mohi Uddin, Assistant Professor at Bangladesh Agricultural University, and IFCN Research Partner[232] to analyse the development of the Bangladeshi farm gate milk price[233]. It has been found that the price constantly increased during the last 10 years, although there have been some significant deviations in national milk price development[234]. This development can be split into two major phases:

1. Phases where the national farm gate milk price is lower than the world milk price
2. Phases where the national farm gate milk price is higher than the world milk price

A lower national farm gate milk price was observed in four periods of time, namely from January 2006 to August 2008 (-20%), October 2009 to October 2011 (-10%), March 2013 to March 2014 (-16%) and January to February 2015 (-7%). Within this time-span, the farm gate price fluctuations in Bangladesh are in general more linked to local characteristics and strikes, and seem to be delinked from the world market price, except from the period January to February 2015. In the remaining periods, the national farm gate milk price remained higher than the world milk price[235].

However, the recent trend analysis of the world milk price reveals that since June 2016, it has been constantly increasing. This period can be divided into two phases: The first phase from June to September 2016 is characterised by a rapid world milk price increase. The second phase from October 2016 to February 2017 is characterised by a moderate world milk price increase.

During this time-span, the farm gate milk price in Bangladesh remained stable (from 45.5 USD/100 kg ECM). This indicates that the national farm gate milk price seems not to be directly linked to the world milk price, which started from a very low world milk price level in May 2016 (22.1 USD/100kg ECM). By September, the world milk price had increased by 51%, reaching 33.3 USD/100kg ECM. The strongest monthly jump was observed between August and September where the world milk price increased by 16%, i.e. 4.6 USD/100kg ECM. Since October 2016 the growth slowed to a monthly average growth of around 2%, reaching a price of 37.2 USD/100kg ECM in February 2017.

In conclusion, the world milk price increased until February 2017, where the price reached a 68% increase compared to May 2016. The IFCN World Milk Price Indicator[236] was estimated to drop in March 2017. After 9 months of increasing world milk prices, the March milk price decreased by around 4.6%, reaching a level of 35.5 USD/100kg ECM. In contrast, the national milk price in Bangladesh has increased and is expected to further increase.

From this analysis, it can therefore be assumed that Bangladesh farm gate milk price development is mainly driven by local characteristics of the dairy sector and government policy to safeguard the local producers.

Field observations support the above analysis of the impact on local factors. When visiting the local open market in November 2016, we identified that milk was sold by farmers or middlemen for 40 BDT

[232] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[233] The analysis is based on data up to March 2017.
[234] The analysis is conducted in by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[235] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[236] The IFCN has improved their world milk price indicator. The 'New combined IFCN world milk price indicator' is calculated as a weighted average of the three IFCN world milk price indicators for SMP and butter (35%), Cheese and whey (45%) and WMP (20%), based on their world dairy trade shares (commodity based). The indicator illustrates the world market price level for milk. It represents the milk price a milk processor could theoretically pay to its farmers if it was selling its products on the world spot market and operating at standardised costs.

(€0.47 euro cents) per litre of milk. It was stated that a high influx of raw milk to the market would result in prices at the local open market dropping as low as 10 BDT (€0.12 euro cents). This was said to be the case, when processors, due to internal decisions, suddenly stopped collecting milk at very short notice, for example due to an electricity cut, a break-down at the chilling centres and in high peak seasons, when the chilling plant cannot absorb the amount of produced milk[237]. The prices peak when the milk production falls in major milk shed areas. Stakeholders also raised their concerns in regard to increasing prices for fodder, which impacts production costs and thereby reduces profitability.

Aarong Dairy and Milk Vita operate with a fair pricing model. As two out of three of the top local players, the stabilising impact on farm gate milk price of their fair pricing is apparent. Dairy farmers reported that the nature of the payment structure of Aarong Dairy resulted in farm gate milk prices amounting to an average of 40-50 BDT (€0.47 - €0.59 euro cents) per litre milk, depending on the fat content[238].

Despite seasonal variation in milk production, farmers involved in the formalised milk collection system said that they could have their raw milk collected on a regular basis and therefore to a large extent are protected and ensured a stable income from their dairy production, which encourages investment.

It could therefore be argued that the capacity of the major commercial local processors in Bangladesh contribute to a reduction in the price fluctuations and thereby secure dairy farmers a more stable and regular income. It is also noteworthy that the fluctuations in farm gate milk prices have become smaller over the last six years, suggesting less seasonal fluctuation in price.[239]

The theory behind the impact of world milk prices on the Bangladeshi dairy sector states that once the world milk market price, plus import duties, is higher than the Bangladeshi milk market price, the local dairy sector can be defined as protected. Once the world milk market price, plus import duties, is lower than the Bangladeshi milk market price, the dairy sector is not protected.

Adding to the complexity of the situation, it is noteworthy that during the period from March 2015 to November 2016, with continued world market price falls, quota abolition in Europe and economic recession, together with a supply boom in milk and a shift in demand, a record high price gap of 78% between the world market price and national farm gate price in Bangladesh was experienced. In this period of time, the Bangladeshi dairy sector seemed not to be well protected. Since then, the world milk market price has increased and the Bangladeshi dairy sector seems again to be relatively protected through import duties.

Capacity of actors in production and processing

The local dairy sector in Bangladesh has developed significantly in the last decade, with the implication that the capacity of the actors along the local value chain has gradually improved.

The many efforts undertaken by a wide variety of actors to improve and respect the rights of smallholder farmers should be acknowledged. Partnerships between commercial actors, governmental bodies and NGOs, supported by major international donors like the EU, as well as UN organisations such as FAO, UNDP, WFP and UNICEF, have been a main driver for developing the local

[237] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[238] See for example, Dr Verghese Kurien, The Amul Pattern: http://www.domain-b.com/businessleaders/leaders_profile/amul_pattern.htm
[239] The above analysis is conducted by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.

dairy value chain to increase capacity of smallholder dairy farmers and communities. Substantial investments in expanding collection systems, increasing milk intake for commercial use and capacity building on farms have contributed to the strengthening of the dairy sector and to the improvement of the capacity of smallholder farmers.

Hence, even though the commercial value chain does not reach every corner of the country, many remote areas have access to the formal commercial value chain today[240]. Training and service programmes aimed at small-scale farmers to improve farming techniques and milk quality add to capacity building for small-scale farmers and to the development of the sector. Furthermore, the introduction of digital fat content testing at milk collection points has created quality control capacity and systems that incentivise farmers to improve milk quality[241].

Moreover, the cooperative nature of Milk Vita and its strong support from the government provide further leverage of smallholder farmers' capacity. The same is true for BRAC, which is considered as a strong voice that leverages small-scale farmers and increases the capacity of farmers to raise their voice[242].

In spite of the commercialised actors building capacity for local raw milk producers, it should be acknowledged that a vast number of barriers still exist that hinder the sector's ability to unlock its full potential and establish an effective route to market. During our stakeholder consultations, we systematically requested perceptions on the main challenges for actors within raw milk production and processing. When including desk research as well as the stakeholder consultations, the results can be summarised as follows[243]:

1. Low milk yield
2. Scarcity of land available for dairy farming
3. High cost of inputs
4. Weak farm management practices
5. Poor outreach of veterinary services
6. Limited access to formal processing facilities (cold chains, collection and processing)
7. Lack of access to credit
8. Widespread concerns of milk adulteration
9. Imports of cheaper powder milk from abroad, especially India, may curb the price

Major structural challenges, therefore, exist for the development of the Bangladeshi dairy sector. The framework conditions for dairy farmers operating in the informal sector are less favourable and more uncertain, in particular if a household to a larger extent relies on raw milk production for income, as milk prices may be highly volatile[244].

However, in spite of the structural barriers, the presence of strong commercial players with a strong social profile is building capacity upstream in the local dairy value chain. This implies that these actors leverage the capacity of vulnerable farmers to raise their voice on behalf of local raw milk producers

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[240] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling Centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.
[241] *Ibid*
[242] See appendix 1.
[243] According to stakeholder interviews; information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[244] This is true because in the formal sector, sales of all the milk are guaranteed, meaning that households do not have to sell it at local markets, where it risks being spoiled, or through middlemen who also need to obtain a profit.

in order to push for improved governmental measures. It includes prioritising and protecting the sector, including investment, import duties on dairy products and fair prices for farmers for local milk. Together, this improves the resilience of smallholder farmers vis-à-vis competition from international dairy companies and supports the growth of the sector.

The assessment reveals that the most vulnerable groups of dairy farmers are the smallholder dairy farmers who are dependent on income and nutrition from milk production and who are not linked up to one of the Bangladeshi dairy processors operating in the formal processing channel. Thereby, there is very limited – if any – access to capacity building through training, veterinary services and credit schemes in order to improve the livelihood of this group. Moreover, there is a limited organisational and governmental framework to leverage the voice in order to promote their basic human rights.

Arla's activities in regard to Dano® Daily Pushti in relation to raw milk production and processing

Arla is currently not engaged in any upstream activities related to the local dairy value chain in Bangladesh. Dano® Daily Pushti is imported to Bangladesh in bulk from Europe. The product is subjected to import duties of 48%, in total, and the imported bulk of Dano® Daily Pushti is repacked by Arla's locally hired employees at the dairy plant in Gazipur. The growing sales of Dano® Daily Pushti during the last year has resulted in Arla currently being in the process of expanding its repackaging facility and expects to further increase the number of local employees to some 200 from today's 150.

An estimated 2% of the sales of Dano® Daily Pushti is sold in bulk to foodservice companies who are then recombining Dano® Daily Pushti into ice cream, yogurt and commercial baking of cookies and cakes. Dano® Daily Pushti is not used for repackaging by Bangladeshi commercial players.

The value chain of raw milk and the value chain of Dano® Daily Pushti intersects at some points, namely in the very few cases where processors are co-sourcing or substituting locally produced milk powder with Dano® Daily Pushti for recombination. However, it does not seem to be the case that sweetmeat makers are sourcing Dano® Daily Pushti.

Arla is currently not involved in activities aiming to develop production and processing in the local dairy sector in Bangladesh, and thereby does not, at the moment, provide support to the governmental agenda to develop the sector and increase dairy self-sufficiency through local sourcing and processing of raw milk. A revised business model is currently under exploration in relation to Arla's 2020 business strategy in Bangladesh.

Arla's contribution to local dairy production and processing improvements is mainly related to:

1. Tax payment through import duties
2. Creation of jobs in the commercial dairy value chain
3. Compliance to international food safety and nutrition standards

This assessment, including recommendations from stakeholders, is the first step in investigating how support of sustainable dairy sector development could be initiated.

Human rights impacts of scaling up sales of Dano® Daily Pushti in relation to production and processing

Despite not being directly involved upstream in the local dairy value chain, potential adverse impacts of increasing sales of Dano® Daily Pushti were raised by Bangladeshi stakeholders such as FAO, The Ministry of Livestock and Fisheries, the Ministry of Local Government, Rural Development and local dairy companies, Aarong Dairy and Milk Vita.

These human rights impacts can be categorised into three main issues, which will be discussed in the following section.

The risk of Dano® Daily Pushti affecting farm gate milk prices

A key issue to be discussed is whether the scaling up of sales of Dano® Daily Pushti may result in a decrease in the farm gate milk price and therefore adversely impact the livelihoods of dairy farmers, since the income from raw milk production may decrease.

The introduction of Dano® Daily Pushti as the first fat-filled dairy product on the market has already been followed by three similar product launches with a similar price point of 10 BDT per 20-gram sachets. A few commercial players have even recently introduced sachets of whole milk powder with the same price point. With a growth ambition of 20% market share for Dano® Daily Pushti within the milk powder category, this could potentially add a certain pressure on the retail price, which could push back on the Bangladeshi farm gate milk price.

However, national farm gate milk prices in Bangladesh have been stable and increasing since the introduction of Dano® Daily Pushti in October 2015. In contrast to world milk prices, national farm gate milk prices in Bangladesh are even expected to increase further in the months to come.

Through stakeholder consultations with the main commercial local players, who source milk from Bangladeshi farmers, it was revealed that the impact on milk prices of imports is not necessarily transferred back to dairy farmers directly in terms of a decrease in farm gate milk prices. These observations are in line with the results of the above-mentioned analysis of farm gate milk price development.

This is due to a number of local factors, including the capacity of Milk Vita and Aarong Dairy to secure farmers a fair price for their milk and to use business profit to build capacity for dairy farmers and grow the dairy business further. Sales price in Bangladesh for raw milk by the processor is determined simply the day to day demand of the milk in mostly urban markets.

The impact of scaling up Dano® Daily Pushti is therefore not likely to directly affect farm gate milk prices in the shorter term. This applies especially for those dairy farmers who are producing for the formal production channels.

In milk producing villages, where farmers have access to milk collection systems, which absorb the milk produced and which guarantee a stable and fair price to the farmers, potential adverse impact is reduced. The risk may vary in areas where dairy farmers' production is entirely linked to informal processing channels whereby vulnerability and price sensitivity increases significantly.

However, if the sector is not protected, the world milk price may impact local farm gate milk prices. This tendency may be amplified by the cheaper price point of Dano® Daily Pushti, although exceptional higher import duties on Dano® Daily Pushti reduces this risk significantly.

If the ambitious upscaling of Dano® Daily Pushti slightly amplifies pressure on Bangladeshi farm gate milk prices, it is likely to be the most vulnerable smallholder producers and farmers, who rely on dairy for their household income, who will suffer. This especially applies to those who are not well protected by governmental or NGO supported social security schemes, and who do not have access to milk collection networks and capacity building programmes. Those, who are connected to milk collection systems will only be affected if consumer preferences change from fresh dairy products towards Dano® Daily Pushti.

It is noteworthy that stakeholder consultations with a vast number of dairy farm households in rural milk producing Dinajpur did not reveal any concerns regarding the adverse impact of Dano® Daily Pushti on their ability to gain an income from dairy production. The main concerns expressed by the farmers were related to feed prices being on average above the wold market price, thereby squeezing the dairy business.

The risk of Dano® Daily Pushti outcompeting smallholder farmers' sale of raw milk in collection and processing

Does the low price point of Dano® Daily Pushti reduce the incentives for Bangladeshi dairy players to source from local farmers, due to easy and cheaper accessibility and availability of Dano® Daily Pushti for commercial use and thereby adversely impact the right to adequate standard of living of smallholder dairy farmers?

The price point of Dano® Daily Pushti is significantly lower than skimmed milk powder, which is the product typically used for reconstitution and recombination both in the formal and informal sector.

Whether the average Bangladeshi farm gate milk price will remain well above the world market price plus tariffs, is to a large extent dependent on consumer preferences and the options for processors to increasingly substitute raw milk with Dano® Daily Pushti.

That is especially risky if processors such as sweetmeat makers in the future begin to substitute raw milk with Dano® Daily Pushti.

This is, however, unlikely to happen since the recipes are traditionally based on locally sourced raw milk and since Dano® Daily Pushti is not available as an alternative raw material in most of the local areas where sweetmeat makers are operating. It is also not an option for the local top three players Milk Vita, Aarong and PRAN Dairy Ltd to change their business model towards milk powder, since they have recently made substantial investments in expanding the national milk collection grid.

Keeping in mind that the industrial processing is mainly based on skimmed milk powder and that only 2% of Dano® Daily Pushti goes into foodservice, there is no indication at the moment of Dano® Daily Pushti outcompeting raw milk for processing by sweetmeat makers. The segmentation of the two value chains contributes to reducing this risk.

Even though the impact of Dano® Daily Pushti on local dairy farmers is very complex and ambiguous by nature, indications that the sales of Dano® Daily Pushti to some extent contribute to an out-competition of locally produced milk will be investigated in the next sections of the value chain analysis. Thus, adverse impact on the right to an adequate standard of living, including the right to food and its fair distribution amongst small-scale farmers and their dependants who rely on local milk for their income and nutrition, will be discussed further.

The risk of Dano® Daily Pushti amplifying the underdevelopment of the dairy sector

Based on comprehensive stakeholder consultation, it has become evident that local dairy sector development in Bangladesh is constrained by a complex set of local structural barriers related to production and processing as well as global trade, such as the world milk price and international trade agreements. Lack of government investment and priority has further added to the present underdevelopment, leaving the sector under-prioritised for a number of years, including its most vulnerable actors.

The presence of strong local commercial players, including the government-owned cooperative, however, builds capacity upstream in the local value chain, which in turn strengthens the local dairy sector's capacity to compete against imports of international milk powders and strong international players like Arla. Given that factors such as quality and product safety are the main reasons for consumers buying Dano® Daily Pushti, the local dairy value chain should indeed focus on improvements within these areas. The framework conditions for improvements already exist through the presence of the strong local commercial players.

As emphasised above, potential price pressures on local milk do not necessarily translate to a lower payment to farmers for their milk. Rather, price pressures are felt at a profit level for the commercial actors downstream in the value chain. This is not to neglect Dano® Daily Pushti's potential impact on small-scale farmers, because naturally if the profitability of running a business based on local sourcing is squeezed it may hamper the incentive to invest further in local sourcing in the longer term. Thereby, we fully acknowledge that the cumulative effect of importing Dano® Daily Pushti may potentially hamper further development of the dairy sector.

However, in spite of the sector's current difficulties, it has managed to grow, driven by a huge growth in demand of both fresh and powdered dairy products followed by significant investment in milk collection networks, an increase in dairy farms and a change towards more market-oriented dairy farming. As stated by the Ministry of Livestock, major raw milk production exists but the route to the market is the weak link in the chain.

The scaling up of Dano® Daily Pushti is therefore to be seen as an integrated part of the complex systemic factors affecting actors in the dairy sector, which are fundamental to the continuous underdevelopment of the dairy sector in Bangladesh.

Despite a number of local jobs created in the sector, we acknowledge that if we do not tap into the governmental agenda on sustainable dairy sector development, the upscaling of Dano® Daily Pushti could be seen as Arla contributing to amplifying the current challenges. As a significant commercial player in the dairy sector, this indicates a potential structural connectedness to an adverse human rights impact on the dairy farmers who are dependent on raw milk production for their livelihoods.

Even though self-sufficiency in dairy is high on the political agenda, the current stage of development requires a balanced solution to achieve both sustainable development of the local dairy sector in the long run, and to meet the current and future consumer and industry demand for nutritious dairy products. At the moment and in the near future, imported milk powder is necessary to bridge the gap between supply and growing demand.

Partnerships with international dairy business, including Arla, could accelerate development and make the local dairy sector better equipped for sustainable growth in a rapidly growing market large enough to embrace both local dairy processors and international actors. The presence of high-quality milk powder at affordable prices can thus also be understood as positively challenging the local sector to use its capacity to improve quality and safety measures in regard to processing of local raw milk and to address the widespread risk of adulteration. From a long-term perspective, if a structured development approach to the sector is implemented that meet the needs of adequate investments in order to address existing barriers that limit the upstream capacity of actors and enforces a route to the market, the most vulnerable dairy farmers may be empowered in the long run.

Distribution and sales

In this section, the value chain activities and actors related to distribution and sales of locally produced dairy products are presented. Further, Arla's activities in relation to distribution and sales of Dano® Daily Pushti are described. Finally, the human rights impact related to distribution and sales of the scaling up of Dano® Daily Pushti is assessed.

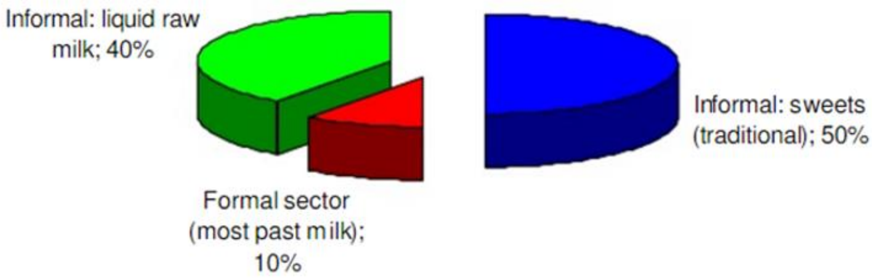
National context

Characteristic of distribution and sales

There are two main types of distribution and sales channels in Bangladesh:

- Traditional milk market model, also named the informal channel
- Modern milk market model, also named the formal channel

Figure 2 - Dairy categories within the formal and informal distribution and sales channels



Overall, dairy categories and their related distribution channels can be grouped as follows:

1. Raw milk, not being linked up to a commercial value chain:

The traditional milk market model is characterised overall as being irregular, non-systemised and opaque, resulting in individual farmers often being exploited by middlemen[245].

The traditional milk market model includes about 90% of the local milk market (see figure 2) and involves small-scale dairy farmers located in the rural and semi-rural areas. Locally produced raw milk in the informal sector is primarily consumed within the household, while surplus milk is transported and sold at the local open market, in the neighbourhood or to middlemen, sweetmeat shops, tea stalls and local restaurants.

In general, there are no written or only short-term contractual agreements[246].

2. Local commercialised milk products, including pasteurised milk, yogurt, etc.:

[245] Ghosh & Maharjan, 2002, Milk Marketing Channels in Bangladesh: A Case Study of Three Villages from Three Districts: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.581.4366&rep=rep1&type=pdf
[246] Uddin et. al., 2011, Milk Production Trends and Dairy Development in Bangladesh ; Ghosh & Maharjan, 2002, Milk Marketing Channels in Bangladesh: A Case Study of Three Villages from Three Districts: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.581.4366&rep=rep1&type=pdf

Raw milk being linked up to a commercial value chain is transferred from rural areas, processed into a variety of dairy products, and then distributed to urban areas where the demand for new dairy products, not just liquid milk, is increasing[247].

Pasteurised milk is still the main category within local commercialised dairy products. However, the recently developed supermarket concept in Bangladesh has further ensured that consumers have easy access to a variety of dairy products, including cheese, butter, ghee and various types of yogurt[248].

In regards to the modern milk market model, distribution and sales are, besides imported brands, dominated by local processing companies such as Milk Vita, Aarong Dairy and PRAN Dairy Ltd. The milk collection network of the top three local commercial players in Bangladesh is illustrated in the figure below, which clearly shows that raw milk is being transferred from rural areas, processed, and then distributed in urban areas, especially in Dhaka.

Figure 3 – Milk collection network for the top three local commercial players in Bangladesh[249]

3. Milk powder:

Multinational dairy companies such as Arla and Anchor, as well as local dairy companies that base their business on imported milk powder, such as Marks, Diploma, Fresh and Red Cow[250], dominate the

[247] Uddin et al., Milk Production trends and dairy development in Bangladesh, 2011.
[248] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[249] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.
[250] Internal market statistics.

modern milk market channels. Imported milk powder is available across the country in virtually all urban and rural retail market outlets. Milk powders are in general available in the following channels:

1. Grocery: Wet markets
2. Convenience: Neighbourhood clusters
3. Supermarkets
4. Tea bunks: Street kiosks (mainly selling tea/tobacco products)
5. Wholesale: Industrial sector, including sweetmeat makers and restaurants

The distribution of imported milk powder is mainly concentrated in urban and semi-urban areas. However, milk powders also reach rural kiosks located in nearby cities, where local dairy producers also deliver their raw milk to open local markets[251].

With distribution of milk powder being available in all the above-mentioned channels, the distribution channel of imported milk powder does to some extent intersect with the value chain of commercialised dairy products based on local sourcing[252].

Types and actors involved in distribution and sales

There are four main types of actors involved in distribution and sales:

1. Dairy farmers:

Dairy farmers sell their milk in the neighbourhood, directly at local markets or to middlemen, sweetmeat shops, tea stalls and local restaurants. Dairy farmers in remote areas obtain approximately 15-25% less for their raw milk, compared to urban farmers[253]. In order to reduce this vulnerability, farmers in certain areas, in particularly the Char area, sell their milk jointly, instead of individually, in order to obtain better prices and minimise transportation costs.

Typically, this type of informal marketing group comprises 20-50 smallholder dairy farmers. This is defined as the Pala system, where on a rotational basis, each member of the group is responsible for selling the milk[254].

For small-scale farmers, several limitations exist, including short shelf-life of the products due to the lack of cooling facilities and equipment, lack of information and transparency in regard to prices, which often leads to exploitation when selling to middlemen[255]. When selling their milk to open markets, small-scale farmers do have some bargaining power; however, when selling to middlemen, the price is usually fixed and the middlemen often exploit the small-scale farmer, due to their lack of access to information[256].

[251] Data provided by Arla's local marketing office.
[252] *Ibid*
[253] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[254] International Livestock Research Institute, 2012, Asian Livestock: Challenges, opportunities and the response: http://www.fao.org/docrep/017/i3166e/i3166e00.pdf
[255] Information provided by Mohammad Mohi Uddin, Dairy, Nutrition, and Economics specialist at Bangladesh Agricultural University and IFCN research partner.
[256] *Ibid*

Even though the formal collection system has been expanded significantly in the last few years, now reaching several remote areas, many farmers do still not have access to the formal sales channel[257], hence they need to rely on the traditional market model for sales.

2. Middlemen:

Both in the informal and the formal sectors, middlemen are performing various intermediary functions when linking dairy farmers to processors and consumers[258]. When selling surplus milk, small-scale farmers are primarily using a middleman that normally performs door-to-door milk collection from milk producers. When selling milk through middlemen, a FAO report suggests that small-scale farmers receive a price up to 40% lower than market price[259].

In order to prolong shelf-life, it is common practice that middlemen add different additives to the milk, including water, mustard oil and chemical preservatives[260]. Furthermore, middlemen sometimes mix water and milk powder into the raw milk to increase volume and generate higher profit.

In some cases, middlemen provide loans to smallholder farmers, with interest rates up to 20% per month, and sometimes middlemen pay farmers in advance, but, under the agreement/condition that farmers are obliged to sell the milk at a discount[261].

Middlemen, in general, earn substantial profit from the unorganised, informal channel, which could have been earned by smallholder farmers if they, to a larger extent, were better organised within a collective marketing approach[262].

Middlemen related to the formal milk collection network are often contracted formally by the processing company. The milk is checked at the chilling centres for fat content and the middlemen are paid according to fat content. In the formal sales channel, the risk of adulteration by the middlemen is therefore reduced.

3. Bangladeshi commercial dairy companies:

The structured sales channel is primarily led by Milk Vita, Aarong Dairy and PRAN Dairy Ltd, but other local commercial players are present at the Bangladeshi dairy market as well. These processors are collecting milk through their own collection systems or through middlemen, who are contracted by the dairy company to collect raw milk.

Farmers delivering milk directly to local commercial enterprises are often in a better position, as Aarong Dairy and PRAN Dairy Ltd agree to buy the farmers' surplus milk at a fair price based on the fat content, thus reducing both sales and price uncertainty for the smallholder farmers[263].

The local commercial companies manage distribution and sales of a wide range of dairy products which are distributed and sold in urban areas[264].

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[257] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.
[258] Ghosh & Maharjan, 2002, Milk Marketing Channels in Bangladesh: A Case Study of Three Villages from Three Districts: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.581.4366&rep=rep1&type=pdf
[259] International Livestock Research Institute, 2012, Asian Livestock: Challenges, Opportunities and the Response: http://www.fao.org/docrep/017/i3166e/i3166e00.pdf; Ghosh & Maharjan, 2002, Milk Marketing Channels in Bangladesh: A Case Study of Three Villages from Three Districts: https://www.researchgate.net/publication/32115838_Milk_Marketing_Channels_in_Bangladesh_A_Case_Study_of_Three_Villages_from_Three_Districts_Article
[260] *Ibid*
[261] Uddin et al., Milk Production Trends and Dairy Development in Bangladesh, 2011.
[262] Ghosh & Maharjan, 2002, Milk Marketing Channels in Bangladesh: A Case Study of Three Villages from Three Districts: https://www.researchgate.net/publication/32115838_Milk_Marketing_Channels_in_Bangladesh_A_Case_Study_of_Three_Villages_from_Three_Districts_Article
[263] Stakeholder interviews.

4. Dairy companies that base their business on imports of milk powder:

Local dairy companies that base their business on importing milk powder, as well as multinational dairy companies involved in the import and sales of dairy products, are the key players within the milk powder category. Milk powder, including Dano® Daily Pushti, is primarily distributed in the urban and semi-urban areas. With the nature of milk powder, as having long shelf-life and low storage requirements, these products are appealing to many pockets of urban retailers that do not have cooling facilities.

Capacity of actors in distribution and sales

Rapid growth in dairy consumption is expected in Bangladesh[265], which implies that there is an increasing demand for dairy products. If the increasing demand is not met by increasing imports of milk powder, it necessitates capacity building in distribution and sales for local commercial players.

Thus, the market conditions seem to make investments in commercialisation of the local dairy value chain viable. The fact that the commercialisation rate of local milk production has increased almost 50% from 9% to its current 13% during the last five years, mainly due to strategic decisions taken by processors to expand the collection network[266], highly emphasises that actors downstream in the dairy sector have the capacity to leverage the entire value chain and develop the sector.

Practically, milk production takes place in every corner of the country, though milk production is more prevalent in rural areas. In spite of increased commercialisation, the informal sector is still predominant. Thus, during our consultation it was systematically revealed that stakeholders consider the sectorial underdevelopment as a distribution problem, more than a production problem. Stakeholders stress that lack of investment to create routes to market is the crux of the issue and highlight it as a major capacity constraint. Among others, Milk Vita, PRAN Dairy Ltd and BRAC enhance the capacity of small-scale farmers, since they guarantee to buy all the milk from the farmers at a fair price and they have established a grid of collection centres. However, in areas where the commercial grid system does not reach, dairy farmers are vulnerable and often under pressure from middlemen.

Another challenge stems from the nature of the collection system, which frequently includes middlemen. The use of middlemen often raises questions about the quality of milk, as it is a widespread practice to mix raw milk with water and other ingredients. Due to the quality of water in Bangladesh, there have been many instances of contaminated dairy products based on locally sourced milk. Despite many of the big commercial actors performing tests of the milk at the point of delivery, the tests are generally limited to assessing the fat content of the milk. Thus, there is general mistrust and concern in regard to product quality and safety, in particular for dairy products based on local milk[267]. Issues with milk quality and adulteration are, therefore, one of the main barriers for local commercial players, who build their business on local sourcing. Recognised milk powder brands, like Dano®, are therefore perceived as more favourable by consumers, due to high quality and food safety standards.

The assessment reveals that small-scale farmers are in a highly vulnerable position, if they are not linked to commercial distribution and sales channels provided by domestic processing companies, who are buying milk from small-scale farmers at fair prices. The protection of the commercial

[264] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.
[265] Anudu, 2014, Dairy industry in growth spurt driven by demography, large retail channels:
http://www.businessdayonline.com/dairy-industry-in-growth-spurt-driven-by-demography-large-retail-channels/
[266] Uddin, 2017, The overview (including mapping of milk producing areas) of the commercial value chain in terms of number and location of chilling centres in Bangladesh: The case for Milk Vita, PRAN and BRAC.
[267] Consistently revealed during our stakeholder consultation.

distribution network of small-scale farmers is furthermore strengthened due to the fact that the three top players are offering capacity building to farmers with the purpose of ensuring a viable business for both farmers and dairy processing companies.

However, this protection mechanism, related to distribution and sales, has also been challenged during a number of periods of political instability and/or a severe drop in farm gate milk prices. During the dairy crisis in 2009, farmers experienced a 25% price reduction within a month and were protesting against milk processors, who quite suddenly decided not to collect milk one day per week and thereby eliminated the route to market for dairy farmers. Also from January to February 2015, the route to market was not accessible due to a countrywide long-standing strike.

Based on the stakeholder consultation and desk research, the string of limitations that the smallholder dairy farmers are facing in regard to distribution and sales can be summarised as:

1. Limited access to markets
2. Limited access to formal distribution and sales channels
3. Adulteration risks
4. Quality considerations
5. Unfair competition in terms of farm gate milk prices determined by middlemen
6. Lack of cold chains from cow to consumer

Stakeholders further stress that widespread presence of imported milk powders in the market may hamper incentives to invest and build the capacity of actors in the local dairy value chain, due to milk powder having a prolonged shelf-life, being easy to store and the fact that is considered a safer product.

However, this argument was historically challenged, namely during the melamine crisis in China between 2008 – 2009, where local dairy products were preferred to imported milk powder. The result was a significant increase in farm gate milk prices to the benefit of local farmers during this period of time[268].

Arla's activities in regard to Dano® Daily Pushti in relation to distribution and sales

Arla's joint venture partner, Mutual Foods, manages the distribution of Dano® Daily Pushti to a network of over 100 local distributors who work on behalf of Arla to distribute the products across Bangladesh. Dano® Daily Pushti targets the consumer market through variations in packaged volumes, including small sachets (20g) with a current price point of 10 BDT, thus appealing to vulnerable lower income consumers living hand-to-mouth.

Arla's distribution channels of Dano® Daily Pushti are primarily located in Chittagong, Dhaka and Sylhet, as illustrated by the below figure:

[268] Uddin & Hemme, 2010, Dairy Policy Impacts on Bangladesh & EU 15 Dairy Farmers Livelihoods. Dairy Case Study – IFCN Dairy Research Center: https://www.oxfam.de/system/files/20091128_Englischsprachige_Hintergrundstudie_des_IFCN.pdf

Dano® Daily Pushti is available in the following channels:

1. Grocery: Wet markets
2. Convenience: Neighbourhood clusters
3. Wholesale: i.e. places where 55% or more of the business is within wholesale vs retail
4. Tea bunks: Street kiosks (mainly selling tea/tobacco products)[269]
5. Supermarket: Modern trade

Arla primarily recruits outlets that show 'any traceability of milk powder'. Placing and promoting Dano® Daily Pushti in these outlets helps to push occasional milk consumers into the regular groups of milk consumers. Since the launch of Dano® Daily Pushti, Arla has expanded its coverage by 90%, and it is estimated that more than 50% of this coverage come from these outlets, mostly situated in semi-urban areas.

Secondly, for expanding coverage further, Arla's distribution goes to the outlets that carry consumer packaged foods (e.g. snacks, beverages etc.), but no milk category in particular. Again, these outlets are also situated in semi-urban areas.

Moreover, there are pocket markets within Arla's long-standing Dano® Whole Milk powder distribution coverage areas, which used to be bypassed due to difficulty in logistical access and the offering of only a little potential. These sales points are now brought into Arla's distribution network with the help

[269] Child labour is very prevalent here, which we are fully aware of. This is, however, outside the scope of this human rights assessment.

of 40 bicycle delivery facilities carrying Dano® Daily Pushti, exclusively. These sales points are mostly located in slum areas as well as semi-urban areas.

It is worth mentioning that almost all sales points carrying Dano® Whole Milk started asking for Dano® Daily Pushti as well, because they regularly experience a vast number of shoppers with limited purchasing power who cannot afford Dano® Whole Milk powder. This happens because, geographically, there is no exclusive cluster market in the country that caters only to affluent shoppers; rather the number of economically less affluent consumers visiting the markets is multiple times bigger.

Thus, in spite of the target groups for Dano® Daily Pushti and Dano® Whole Milk Powder being completely different, the distribution channels are quite similar. However, the reach of the distribution channel is much wider for Dano® Daily Pushti, which is more intensively available in semi-urban areas as well as urban slums. The reason is that the retail landscape in Bangladesh is highly overlapping and clustered, i.e. most sales outlets are placed in locations where consumers from different segments live and do their grocery shopping. As a result, fast-moving-consumer goods brands cannot define an exclusive distribution model for each of the sub-brands. Some sales outlets market both premium and price competitive brands, while the majority of the outlets only market price competitive brands, due to many neighbourhoods having very restricted purchasing power. To summarise, this means that there are no or only a few exclusive Dano® Whole Milk Powder outlets, while exclusive outlets of Dano® Daily Pushti are more prevalent[270]. The distribution of Dano® Daily Pushti is therefore considerably wider than the distribution of Dano® Whole Milk Powder.

In an effort to expand our distribution channels and penetrate more broadly, Arla has developed a door-to-door sales channel for Dano® Daily Pushti in partnership with BRAC. The partnership project named "Pushti Ambassadors", builds on empowering female micro-entrepreneurs to educate local communities in nutrition and to offer Dano® Daily Pushti as an affordable dairy product. The sales force will activate BRAC's volunteer community health workers and provide them with an income from distribution and sales of Dano® Daily Pushti. This channel is a way for Arla in Bangladesh to ensure that the distribution channel of Dano® Daily Pushti is reaching lower income segments located in areas that are hard to reach through usual distribution channels and to ensure accessibility to nutrition across the country, particularly in areas with no access to locally produced milk.

Furthermore, Arla has intensified the reach of Dano® Daily Pushti in industrial belts and slum areas with a high density of lower income segments through edutainment campaigns reaching urban slums, garment factories, schools and crowded market places in local urban communities. Further information regarding social activation campaigns will be provided in the next section on consumers and consumption.

Human rights impacts of scaling up sales of Dano® Daily Pushti in relation to distribution and sales

When assessing the potential human rights impacts of scaling up distribution and sales of Dano® Daily Pushti, it is crucial to consider the degree of market segmentation in order to identify the extent to which the value chain of Dano® Daily Pushti intersects with the value chain of locally produced milk.

The risk that scaling up sales of Dano® Daily Pushti hinders small-scale farmers to distribute and sell locally produced milk

[270] Information provided by Arla's local marketing office.

Currently, the distribution channel of Dano® Daily Pushti focuses on urban areas, for which reason the product is not directly, or only to a limited extent, competing with local raw milk in rural areas. This claim was confirmed during our field trip in the Dinajpur district, where interviews with households in this area indicated that only very few consumers had ever purchased milk powder, and would not intend to, as they either had access to their own cow, or access to local milk in the market. A vast number of rural inhabitants, who we interviewed, had never even heard about the existence of milk powder.

If sales and distribution of Dano® Daily Pushti is expanded to milk producing rural areas, there may be a potential risk that Dano® Daily Pushti contributes to an adverse impact on local small-scale farmers, who are partly or fully dependent on selling locally produced milk, if Dano® Daily Pushti outcompetes local raw milk in the rural areas. Expanding sales and distribution of Dano® Daily Pushti to rural milk producing villages may therefore potentially imply that it becomes more difficult for small-scale milk producers to sell their milk. Thus, if Dano® Daily Pushti reaches small kiosks and open markets in the rural milk producing villages, where the majority are dependent on milk production for nutritional outcome and/or income, the product may be directly linked to an adverse impact on the right to adequate standard of living for vulnerable small-scale farmers.

To investigate this potential impact further, this risk was explored in a survey conducted in February 2017[271]. The findings clearly indicate that Dano® Daily Pushti is at heightened risk of outcompeting local raw milk in rural milk producing areas, due to consumers' access of abundant local raw milk in these areas. However, in regard to local raw milk it is imperative to stress that Dano® Daily Pushti does not outcompete based on price (see table 3), especially not in rural areas, where Dano® Daily Pushti is more expensive than local raw milk and is furthermore not readily available. When considering the prices in table 3, it is evident that Dano® Daily Pushti is cheaper than pasteurised milk. Thus, it could be argued that the product, based on price, could outcompete pasteurised milk, thereby adversely impacting farmers in the commercialised value chain.

Table 3 – prices on raw milk, pasteurised milk, Dano® Whole Milk and Dano® Daily Pushti

Product	Approximate cost per litre of milk
Raw liquid milk	40 taka (rural areas)/ 60 taka (semi-urban areas)
Pasteurised milk (e.g: Aarong Dairy/Milk Vita)	64 taka
Dano® Whole Milk Powder	70 taka
Dano® Daily Pushti (filled milk powder)	50 taka

As the price point of Dano® Daily Pushti suggests, potential out-competition may not necessarily be linked to price, as Dano® Daily Pushti is often more expensive than local raw milk. However, measures such as food safety, quality and convenience may influence consumers to potentially favour Dano® Daily Pushti. A survey conducted in February 2017[272] reveals that the major reasons for buying Dano® Daily Pushti is quality, high trust in product safety and taste. Affordability came out to be on par with reasons such as convenience, accessibility and health components. This emphasises that price is not the main reason for consumers purchasing Dano® Daily Pushti. This further stresses that the question of whether Dano Daily Pushti adversely impacts the development of the local dairy value chain by outcompeting locally produced milk is far more complex than simply about price.

[271] CELL, 2017, Market research on Dano Daily Pushti Consumers - February 2017.
[272] CELL, 2017, Market research on Dano Daily Pushti Consumers - February 2017.

In regard to semi-urban areas the competitive landscape is very clustered. Some Dano® Daily Pushti outlets are present and local milk production is prevalent in some areas. This indicates that Dano® Daily Pushti is potentially in direct competition with local raw milk production in semi-rural areas. As pointed out by the survey results:

- 16% of Dano® Daily Pushti consumers used raw milk before they started to consume Dano® Daily Pushti; 15% of these have completely switched to Dano® Daily Pushti. This means that about 2.4% of the Dano® Daily Pushti consumers have substituted local raw milk with Dano® Daily Pushti.

This clearly stresses that the current scope of distribution of Dano® Daily Pushti to semi-urban areas and the value chain of local raw milk are occasionally intersecting, thus amplifying the potential of Dano® Daily Pushti to hamper the opportunities for small-scale milk producers to sell their milk, in particularly when taking into account the high concerns around food safety and quality.

To summarise, the segmentation of the market implies that there is limited/or no direct competition between local raw milk and Dano® Daily Pushti in rural milk producing areas. However, within the current scope of distribution of Dano® Daily Pushti, the product is to a limited extent outcompeting local raw milk. This could potentially lead to an adverse impact on the right to an adequate standard of living for local small-scale farmers, if they experience difficulties in selling their milk. However, the field trip revealed that farmers did not seem to face any difficulties in selling and distributing their milk. However, we fully acknowledge that scaling up sales and distribution of Dano® Daily Pushti may heighten this risk in the future, if Dano® Daily Pushti is aggressively targeting local milk producing villages.

The risk that Dano® Daily Pushti reduces the incentives for commercial actors to develop or manage a viable business based on locally produced milk

As previously elaborated on, formal channels of local milk production are dominated by dairy co-operatives and private and social enterprises, such as Aarong Dairy, PRAN Dairy Ltd and Milk Vita. Even though Dano® Daily Pushti is a fat-filled milk powder, it could potentially, in the perception of consumers, be considered as a direct substitute for locally produced milk products. In particular, if consumers are not well informed that Dano® Daily Pushti is in fact a fat-filled milk, and understand the meaning of this.

As the fourth largest dairy company in the world, Arla is in a stronger position to compete against Bangladeshi dairy companies in the milk powder and pasteurised milk categories in Bangladesh. This is due to a number of factors, including cost-efficient value chain management, unique knowledge about distribution, low global milk prices, large scale roll-out, and the most trusted brand "Dano®" in Bangladesh, due to high food security standards.

According to the results from the survey conducted in February 2017, many consumers purchase Dano® Daily Pushti at the expense of locally produced milk products, including local pasteurised milk:

- 36% of Dano® Daily Pushti consumers used pasteurised milk before they started to consume Dano® Daily Pushti; 62% of these consumers, corresponding to about 22% of Dano® Daily Pushti consumers, have completely switched to Dano® Daily Pushti.

This clearly indicates that Dano® Daily Pushti, to some extent, outcompetes local commercial processors of raw milk. As previously stressed, this does not necessarily induce a lower farm gate price for small-scale farmers, at least not from a short-term perspective. However, it can unequivocally be argued that Dano® Daily Pushti is an integrated part of the complex systemic factors, which are connected to the continuous underdevelopment of the dairy sector by amplifying current difficulties, as Dano® Daily Pushti is capturing market shares at the expense of local commercial actors. This could reduce the incentive to invest further in the development of the sector in the long run, and thereby connect Dano® Daily Pushti to an adverse impact on small-scale farmers' rights to an adequate standard of living by hampering their opportunities for selling their milk. The prospects for growth in dairy demand, however, indicate that the Bangladeshi dairy market is large enough to embrace both local milk production as well as milk powder imports.

Consumers and consumption

In this section, the value chain activities and actors related to consumers and consumption are analysed. Further, Arla's activities in relation to consumers and consumption of Dano® Daily Pushti are examined. Finally, the human rights impact on vulnerable Dano® Daily Pushti consumers is assessed.

National context

Characteristic of consumers and consumption

The Bangladeshi dairy retail market is valued at about €700m, with an expected yearly growth rate of 6%. High rates of poverty, however, lead to low consumption for the majority of the population; about 151m people in Bangladesh have a low milk consumption, primarily due to income restrictions[273].

Despite consumers being budget conscious due to income restrictions, they identify brands and quality as the main factors affecting the purchase decision[274].

Consumers' purchase decisions are highly influenced by brands, with a higher trust in renowned brands, and a willingness to pay a price premium for well-known brands. Moreover, Bangladeshi consumers have a strong and growing desire to trade up, and even low-income consumers are willing to pay a higher price for better quality[275]. This is particularly true when it comes to dairy products, where low-income consumers, despite struggling and living hand-to-mouth, are aspiring to provide better nutrition for the family. Thus, value-for-money products are key for low income segments[276]. The strong desire for high quality dairy products is further emphasised by the fact that Bangladeshi consumers have high concerns around food quality and safety[277].

In general, there is a heightened concern around food quality and safety in Bangladesh. Consumers are highly suspicious about milk adulteration, especially in urban areas. Numerous cases of 'fake milk', where for instance shampoo and toothpaste are being added to milk to increase the volume, add to consumer scepticism[278].

Additionally, there is a widespread food safety concern in regard to locally produced dairy products in Bangladesh. This is especially due to it being a well-known and common practice to add water and other additives to milk in order to increase volume. Many cases exist, where the water being added is contaminated. Further, some products, which are sold as 'fresh' liquid milk are in fact reconstituted milk powder products. Consumers are therefore suspicious of the many fresh milk products on the market[279].

The consumption habits differ greatly between urban and rural areas.

1. Urban areas:

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[273] According to internal documents.
[274] Presentation provided by Tetra Pak, "Dairy in Bangladesh", Arla Foods Bangladesh 2017.
[275] Boston Consulting Group, 2015, Bangladesh – The Surging Consumer Market Nobody Saw Coming.
[276] *Ibid*
[277] International Livestock Research Institute, 2010, Consumer Preferences and Demand for Livestock Products in Urban Bangladesh: https://core.ac.uk/download/pdf/6455729.pdf
[278] The Dhaka Post, 2016, Shampoo and soybean oil being used to produce Milk Vita milk: http://www.thedhakapost.com/national/2016/05/10/324
[279] Islam & Jabbar, 2009, Quality and Safety of Milk in Bangladesh: What do Consumers Believe In? https://www.researchgate.net/publication/237403436_Quality_and_Safety_of_Milk_in_Bangladesh_What_do_Consumers_Believe_in

Triggered by Bangladesh's improving economic status, exponential urbanisation, a fast-growing middle class, and high concerns around food safety, the consumer patterns of milk have moved in the direction of an increased preference for processed milk and dairy products, due to food safety, convenience and the less perishable nature in comparison to fresh milk. Therefore, the use of condensed milk, milk powder, butter, ghee, cheese, etc. has increased significantly over latter years[280].

The main milk categories in urban areas have different consumption patterns:

- Fresh milk: mainly consumed as liquid milk. Fresh milk is also used as an ingredient in home-made desserts as well as in the industrial production of sweetmeats.
- Milk powder: the main consumption of powdered milk is as tea whitener; about 50% of milk powder is used for tea whitening. Powdered milk is furthermore used for liquid milk, primarily for children before bed. Liquid milk consumption in urban areas is less prevalent among adults.
- Condensed milk: main usage of condensed milk is as a tea whitening in tea bunks. Condensed milk is also a frequently used ingredient in the sweetmeat industry. It is noteworthy that sugar and milk powders are main ingredients in condensed milk.

A previous study conducted by Arla Foods Ingredients revealed that urban mothers are busy, thus demanding convenient food. The size of the packaging is also of major importance; for the low-income consumers, small packs need to be available in order to make it affordable.

2. Rural areas:

In contrast to urban areas, rural milk producing areas have a high prevalence of liquid milk consumption by family members of all ages. Here, milk powder is hardly available at the village level, and only accessible at the larger markets and kiosks in nearby towns. Indeed, milk producing households are conscious of holding back at least one litre of milk for their whole family to consume, even if this is milk that could be sold at the market. Thus, the status milk is given as a nutritious product is remarkable.

Our fieldwork and observations in Dinajpur district in fact suggested that milk powders do not reach milk producing households. Indeed, when we asked households in this area about their milk powder consumption, most said that they had never purchased milk powder, and intend never to do so, as they either had access to their own cow, or access to local milk in the market.

The culture of drinking milk as a liquid drink, for both children and adults, was clearly observed during our field research. During the field trip to rural milk producing villages, we systematically asked consumers – mainly women, about their perception of milk. It was revealed that, in rural Bangladesh, milk is considered as "pushti", the common word for "nutrition". Milk is considered on a par with vegetables, meat, eggs, and fish, as opposed to being perceived as a thirst-quenching drink interchangeable with water, juice or other drinks[281]. Thus, milk and dairy products are preferred items of the daily diet in rural households.

In non-milk producing rural areas, it should further be emphasised that milk is not a daily commodity for all households, especially not in the lower income brackets, due to affordability – and many

[280] Mila & Raha, 2012, Consumers' preferences for processed milk – A study in Mymensingh town: http://ageconsearch.umn.edu/bitstream/209702/2/14918-54256-1-PB.pdf
[281] Chakma et. al, 2015, Identification of Food habits of Urban and Rural People in the Southern District of Bangladesh: http://www.fisheriesjournal.com/vol2issue5/Pdf/2-5-62.1.pdf

households can only afford to provide milk for some members of the household. In such cases children are given priority, and women in particular, are neglected[282].

Types of actors involved in consumption

The Socio-Economic Classification (SEC) is frequently used in Bangladesh. This segmentation system uses occupation and education as classification parameters, instead of purely income, partly because it is difficult to collect valid data on household income, and partly because it has been demonstrated that education and occupation criteria are better indicators of consumer preferences[283]. Based on market data, the Bangladeshi dairy market in urban areas can be segmented as follows:

Table 4 – consumer segments and their dairy consumption in urban areas of Bangladesh[284]

SEC[285]	Occupation (examples)	Dairy consumption (via retail market)
SEC A & B (about 11% of the population)	• Sr. and Jr. executives • Business and salesmen with employees or university degrees	• Infant formula, milk powder for children, and condensed milk for tea are consumed on a daily basis • Ghee is mainly used for festivals and celebration • Quality and food safety matters • Can afford larger packages
SEC C (about 26% of the population)	• Businessmen with little education • Salesmen and workers with secondary school education • Shop owners	• Top 30% are similar to SEC A & B • The rest consume dairy products for celebration – and only milk powder in small volume for tea whitening and desserts • Some working mums are forced to buy infant formula (usually served diluted) • Highly price sensitive segment
SEC D (about 31% of the population)	• Garment workers • Mechanics • Wet market grocers	• Consume dairy products only for celebration. i.e. monthly or half-yearly – and only small milk powder sachets for tea whitening and dessert • Aspiration to buy exists - but daily budget is a constraint
SEC E	• Unskilled (or skilled) workers living	• No purchase of dairy products

[282] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf; World Food Programme, 2015, Food Insecurity and Undernutrition in the Urban Slums of Bangladesh: http://documents.wfp.org/stellent/groups/public/documents/ena/wfp282624.pdf
[283] Vats, 2011, Indian Households Get New Socio-Economic Classifications: http://www.hindustantimes.com/business/indian-households-get-new-socio-economic-classifications/story-24kquf6V9ToJ7t5QlzlCsJ.html
[284] It is important to stress that the table is related to urban consumers often with a salaried job.
[285] Presentation provided by Tetra Pak, " Dairy in Bangladesh", Arla Foods Bangladesh 2017.

(about 32% of the population)	from day to day	

As the above table elucidates, SEC A, B and upper C consume infant formula, milk powder or pasteurised milk for children, condensed milk and milk powder for tea whitening on a daily basis.

The lower income segments (lower SEC C and D) consume dairy products infrequently; they occasionally buy small sachets of milk powder and smaller cans of ghee for celebrations. For the lower income segments, 70% of their income is spent on food, and many live hand-to-mouth[286] – affordability and value for money is therefore key for this segment.

SEC E, the BoP segment, rarely possesses sufficient purchasing power to afford dairy products. In rural areas, where the majority own or have access to cows, households are provided with milk, despite being in SEC E. There is, however, a grey area in regard to SEC E; higher SEC E consumers have some purchasing power and a strong aspiration to move up their socio-economic cluster. Lower SEC E can be categorised as ultra-poor, and practically do not have any purchasing power. It is important to realise that the most vulnerable people in rural Bangladesh, the so-called ultra-poor, do not even have purchasing power to buy eggs or milk from neighbouring farmers. During our field trip, we conducted interviews with this segment of ultra-poor who were included in BRAC's development programme. For lower SEC E consumers, the main aim of eating is to feel full, and therefore the focus is less on the nutritional content of food, and more on the volume of food and the feeling of satiety after eating[287].

Capacity of actors involved in consumption

Poverty and inequality are main drivers impacting the enjoyment of the country's poor of the right to adequate food, its fair distribution and the right to health. Intensity of seasons, urbanisation and high, and increasing population density, all put further pressure on the amount of available resources and add to the vulnerability of the poorest segments of society[288].

Food insecurity mainly does not arise from unavailability, as it has been estimated that Bangladesh is able to produce sufficient food to meet demand[289]. Hence, the crux of the problem lies mainly with affordability; many food groups are out of financial reach for the poorest segments of consumers. As a result, targeting food security alone will not address the root cause of the issue – the complexity needs to be taken into consideration, and affordability, in this regard, is crucial[290].

Knowledge about nutritious diets is inadequate, and as previously noted, budget restrictions imply a focus on volume, often compromising little nutritional value. An affirmation of this is that in 2011, more than six in 10 women in Bangladesh had a diet consisting of four or fewer food groups, which is inadequately diverse from a nutritional point of view[291]. Furthermore, high prevalence of zinc, iodine, iron, calcium and vitamin A deficiency exists among women[292]. This highlights the vulnerability of

[286] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf
[287] Arla Food Ingredients, 2016, Bottom-of-the-Pyramid Food Habits in Bangladesh.
[288] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf
[289] Probably the so called far-to-reach-areas make up an exemption to this estimation. See BRAC Annual Report 2016.
[290] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf
[291] *Ibid*
[292] According to internal mapping of a typical Bangladeshi diet compared to recommended intake levels.

women[293] and underlines that women are not given priority, in cases where the household income does not allow for all family members to receive a nutritious diet[294]. This is critical because the nutritional status of mothers during pregnancy and breastfeeding are of vital importance for infants. If the nutritional requirements for mothers are not met, it may detrimentally impact the health and development of the infant[295].

Exclusive breastfeeding for the first six months is strongly advocated by the government, with breastfeeding and complementary feeding advocated up to the age of two and beyond[296]. Breastfeeding is today a widespread practice in Bangladesh, and over 80% of children are still breastfed at the age of two[297]. However, despite the advocacy of breastfeeding, poor practices of infant feeding are still prevalent[298]. Childhood undernutrition in particular arises because of inappropriate feeding practices for infants[299]. Some studies suggest that mothers mainly obtain information regarding infant feeding from the media, and that the majority is able to recall messages such as 'give only breastmilk for six months, feed the child with other foods after six months of age'[300].

In general, mothers are well aware that breastmilk is best for the infants. Despite this, studies indicate that the prevalence of exclusive breastfeeding for the first six months is often not practised in the lower income segments. Some studies reported that about half of the lower segments of the society introduced a breastmilk substitute during the first six months, which partly may be due to mothers' inability to breastfeed because of high malnutrition and partly lack of access to information and adequate health services. In this regard, a study conducted by the Centre for Health and Population Research in the Netherlands concluded that 90% of respondents in the low-income segment and 70% of the lower middle-income segment of mothers were not able to differentiate between infant formula and milk powder. In this study, many mothers further stated that both infant formula and milk powder are suitable as a breastmilk substitute, with some claiming the only difference being that infant formula is more expensive[301].

The high level of illiteracy further adds to the vulnerability of consumers. With 38.5% being illiterate[302], it seems highly likely that consumers in the lower end of the pyramid do not possess the capacity to read and understand written information provided on packaging.

In this vein, a previous study conducted by Arla Foods Ingredients further revealed that information provided in advertisements is trusted by low income consumers, and given that many low-income consumers cannot read information on the packaging, they extract information from the images on the packaging[303].

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[293] Save the Children, 2015, Malnutrition in Bangladesh: http://www.savethechildren.org.uk/sites/default/files/images/Malnutrition_in_Bangladesh.pdf

[294] *Ibid*; World Food Programme, 2015, Food Insecurity and Undernutrition in the Urban Slums of Bangladesh: http://documents.wfp.org/stellent/groups/public/documents/ena/wfp282624.pdf

[295] International Dairy Federation, 2016, The Role of Dairy in Optimal Nutrition and Under-Nutrition: http://www.fil-idf.org/wp-content/uploads/2016/04/IDF-Factsheet-SCNH-The-role-of-dairy-in-optimal-nutrition-and-under-nutrition-The-first-1000-days_with-references.pdf

[296] Ministry of Health and Family Welfare, 2007, National Strategy for Infant and Young Child Feeding in Bangladesh: http://www.unicef.org/bangladesh/IYCF_Strategy.pdf

[297] *Ibid*

[298] Ahmed et. al, 2012, Nutrition of Children and Women in Bangladesh: Trends and Directions for the Future: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3312353/

[299] *Ibid*

[300] *Ibid*

[301] Roy et. al, 2002, Perception of Mothers and Use of Breastmilk Substitutes in Dhaka, Bangladesh: https://www.ncbi.nlm.nih.gov/pubmed/12430764

[302] UN Educational, Scientific and Cultural Organization & Unesco, Adult literacy rate, population 15+ years (both sexes, female, male): http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS&popupcustomise=true&lang=en#

[303] Arla Food Ingredients, 2016, Bottom-of-the-Pyramid Food Habits in Bangladesh.

Moreover, there is restricted access to safe water and the majority of vulnerable consumers are not able to distinguish between safe and unsafe water[304]. Therefore, it is crucial that consumers are provided with adequate, accessible information in regard to hygiene and mixing instructions of milk powders.

Despite lower income consumers being extremely vulnerable, capacity is being built as NGOs, including BRAC, GAIN, Save the Children, World Vision and Bangladesh Breastfeeding Foundation, support a wide range of nutrition programmes that raise awareness and knowledge about nutrition among vulnerable consumers. Furthermore, the government is building capacity for vulnerable consumers through campaigns on nutrition and strict legal marketing regulations in regard to infants and supplementary baby foods to protect children up to the age of five.

To summarise, the capacity of the most vulnerable consumers is characterised by:

- High degree of malnutrition, wasting and stunting, in particular among women, children and infants
- Not being able to afford milk as a regular commodity
- Low milk consumption per capita
- Inadequate knowledge about a nutritious diet
- Poor infant feeding practices
- High rate of illiteracy, with many consumers not being able to read information on packaging
- Trust in information provided in advertisements and images on packaging
- Widespread concerns on food quality and food safety, including suspicion around adulteration
- Limited access to safe water and lack of capacity to distinguish between safe and unsafe water

Arla's activities in regard to Dano® Daily Pushti in relation to consumers and consumption

Arla Dano® is a well-established premium brand in Bangladesh. It is a brand traditionally aimed at middle-class consumers with disposable income for dairy products. It is a household brand for many, with a good word-of-mouth reputation and often repeat purchased.

While Dano® Whole Milk is targeting segments A, B and upper C, Dano® Daily Pushti is aimed at targeting lower segment C, segments D and E, with the purpose of improving access to an affordable, safe and fortified dairy product to low income segments. In reality, only segments C, D and upper E are targeted since lower segment E is practically out of reach due to lack of purchasing power.

[304] Salisbury, 2017, National assessment overstates public access to safe drinking water in Bangladesh: https://news.vanderbilt.edu/2017/05/12/national-assessment-overstates-public-access-to-safe-drinking-water-in-bangladesh/

In contrast to Dano® Whole Milk, the marketing of Dano® Daily Pushti has taken into consideration the needs of improved access to affordable nutrition of the lower income target group. As such, a TV campaign has been created[305], and direct activation and sampling with the target group have been used. This has been conducted in garment factories and schools as well as open squares and schools in urban slum areas where consumers, through Arla's sales force that includes nutritionists, are educated about the nutritious benefits of milk, instructed about mixing methods, and then provided with a wet sample of Dano® Daily Pushti. For many, this sample is the first time that they have tasted milk. Through the edutainment campaign, awareness and knowledge on nutrition is being built with the aim of leveraging vulnerable consumers' capacity.

To add to our field research and consumer understanding, market research was conducted in November 2016 and February 2017 among Dano® Daily Pushti consumers. It was found that Dano® Daily Pushti, despite the intention to reach lower income segments, to a greater extent has penetrated high income groups rather than lower income segments. This might be one of the reasons why Arla has recorded some unintended cannibalisation between Dano® Whole Milk and Dano® Daily Pushti.

The survey conducted in February elucidated that Dano® Daily Pushti, overall, leads to higher milk consumption:

- 93% of Dano® Daily Pushti consumers have increased their household milk consumption, after starting consuming the product.
- On average, Dano® Daily Pushti consumers have increased their weekly household consumption of milk with 1.33 glasses, after starting consuming Dano® Daily Pushti.
- 12% of Dano® Daily Pushti consumers did not consume milk products, or consumed it on a highly infrequent basis, before they started to consume Dano® Daily Pushti.

This points to a tendency that the affordable milk product, Dano® Daily Pushti, translates into higher rates of milk consumption, thereby supporting improved nutritional outcomes.

Human rights impacts of scaling up sales of Dano® Daily Pushti in relation to consumers and consumption

As Arla is scaling up sales of Dano® Daily Pushti to highly vulnerable consumer segments, there is a number of potential adverse human rights impacts to assess.

The risk that consumers 'downtrade' to Dano® Daily Pushti

The aim of Dano® Daily Pushti is to provide lower income consumers with an opportunity to 'trade up' from water, cheap energy drinks, shoddy drinks and juices and thereby improve the nutritional status of lower income consumers. However, the market survey clearly indicates that substantial downtrading is taking place in regard to local raw milk, local pasteurised milk and other non-fat-filled milk powder brands. It can be seen from the survey that:

- 88% of Dano® Daily Pushti consumers have, partially or fully, downtraded from either local fresh milk, pasteurised milk or other non-fat-filled milk powders.

This clearly indicates that increasing sales of Dano® Daily Pushti are contributing to an adverse impact on the right to health by reducing nutritional outcomes for consumers, due to Dano® Daily Pushti

[305] See for example, Dano Daily TVC, 2016: https://www.youtube.com/watch?v=NhR0Tvlbao4

being inferior in nutrition compared to raw milk, pasteurised milk and other non-fat-filled milk powders. This indicates that the scale of the adverse impact is significant, due to substantial downtrading taking place.

In this vein, it should be stressed that an assessment of the adverse impacts on the right to health by switching to Dano® Daily Pushti is rather complex and ambiguous. First of all, there are major quality and food safety concerns in regard to locally produced milk, which means that a switch to Dano® Daily Pushti can also be perceived as an improvement in regard to food safety. Furthermore, the survey reveals that households consuming Dano® Daily Pushti have increased the daily consumption of milk significantly. In spite of the fact that it is generally seen that Dano® Daily Pushti leads to increased milk consumption, we fully acknowledge, based on the results in the survey, that substantial downtrading is taking place, which may potentially contribute to an adverse impact on the most vulnerable consumers' right to health. However, it is noteworthy that consumers often switch from local fresh milk and pasteurised milk due to higher quality and safety perceptions around imported milk powder brands, and due to adulteration being widespread in regard to locally produced milk products.

The potential risk is particularly critical where vulnerable lower income consumers are not fully aware that Dano® Daily Pushti is a fat-filled milk powder, thus being inferior in nutrition. The survey results indicate that the majority of the Dano® Daily Pushti consumers are not aware that Dano® Daily Pushti is inferior in nutrition, as:

- 83% of Dano® Daily Pushti consumers perceive Dano® Daily Pushti as a more nutritious product than Dano® Whole Milk

Consumers have a right to information that makes them capable of making informed choices. On the Dano® Daily Pushti packaging it is clearly stated that the product is 'Not Full Cream Milk Powder'. This confirms that the written words on the packaging provides consumers with the information that Dano® Daily Pushti is not a full cream milk powder. However, with an illiteracy rate of 38.5% in Bangladesh, it is highly unlikely that the target group, i.e. lower income consumers, are able to comprehend the labelling of Dano® Daily Pushti. Thus, it could be argued that Dano® Daily Pushti does not provide consumers with readily available information about the product being a fat-filled milk powder. Furthermore, it is highly questionable if vulnerable lower income consumers have the capacity to understand the meaning of the product being a fat-filled milk powder. Based on these insights, it could be argued that Dano® Daily Pushti contributes to an adverse impact on the right to information, and may contribute to a related adverse impact on the right to health for consumers, who are not aware that they are in fact downtrading, when switching to Dano® Daily Pushti.

The risk that the information provided on the Dano® Daily Pushti's packaging in regard to mixing instructions is inadequate

With about 38.5% being illiterate, it is likely that consumers in the lower end of the pyramid do not possess the capacity to read and understand the written information provided on the Dano® Daily Pushti packaging in regard to mixing instructions.

Thus, Dano® Daily Pushti may potentially contribute to an adverse impact on the consumers' right to information and in consequence, the right to health, if Arla does not provide consumers with easily accessible information in regard to mixing instructions on the packaging.

As access to safe water is restricted, combined with the majority not being able to distinguish between safe an unsafe water, an example of risk therefore would be, if consumers use contaminated water or dirty utensils to reconstitute the milk powder, because they cannot read and understand the mixing instructions provided on the packaging. Based on the previously discussed constraints regarding the right to water and sanitation and the high levels of arsenic, combined with contaminated water, using dirty utensils to prepare the milk powder, it may contribute to adverse impacts on the right to health for vulnerable consumers.

The risk that consumers are not able to distinguish between Dano® Daily Pushti and Dano® Whole Milk, or even consider Dano® Daily Pushti as a more nutritious product

During stakeholder consultations, it was suggested that many consumers may be purchasing Dano® Daily Pushti, unaware of the vegetable fat addition, assuming the product is based on whole milk. Indeed, it became clear that many consumers do not study the ingredients of products, and instead rely on word of mouth, visual advertising and the images on the packaging to acquire information. Furthermore, a consulted nutritionist outlined that Bangladeshi consumers value naturalness, and that they may not perceive a milk powder with vegetable fat as 'natural' in terms of its milk composition. Thus, more stakeholders suggested that if consumers were fully aware of the ingredient differences, they might have been less keen to purchase it in the first place.

The packaging of Dano® Daily Pushti and Dano® Whole Milk are very similar in design, and consumers seem not to be able to distinguish between the two. This may be directly linked to a potential adverse impact in regard to the right to health and the right to information if consumers mistakenly take Dano® Daily Pushti for Dano® Whole Milk, or if they perceive Dano® Daily Pushti as a more nutritious product. The market survey reveals that cannibalisation between the two products is actually taking place:

- 9% of Dano® Daily Pushti consumers used Dano® Whole Milk, before they started to consume Dano® Daily Pushti; 97% of these, who previously consumed Dano® Whole Milk, corresponding to about 8.7% of Dano® Daily Pushti consumers, have completely switched to Dano® Daily Pushti.

This may be a result of consumers mistaking one product for the other, perceiving that Dano® Daily Pushti is equal or better in nutrition or simply because Dano® Daily Pushti is more affordable. Thus, the cannibalisation indicates that Dano® Daily Pushti is contributing to an adverse impact on the right to information, and may be directly linked to an adverse impact on the right to health.

Furthermore, on the front of Dano® Daily Pushti, all the vitamins contained in the product are visibly highlighted which is not the case on the current Dano® Whole Milk packaging. This can mislead consumers to believe that Dano® Daily Pushti is the healthy option. Moreover, the brand name, which includes 'Pushti', meaning 'Nutrition' in Bangla, may lead consumers to wrongly assume that Dano® Daily Pushti is a more nutritious product compared to Dano® Whole Milk. Thus, the layout on the packaging may potentially lead to misinterpretations by vulnerable consumers. This concern was investigated in the market survey, which alarmingly emphasised that:

- 83% of Dano® Daily Pushti consumers perceive Dano® Daily Pushti as a more nutritious product than Dano® Whole Milk.

This clearly indicates that Arla contributes to an adverse impact on the right to information, and through that, may contribute to an adverse impact on consumers' right to health.

Moreover, when visiting market outlets during our field research, we observed that some sellers of Dano® milk powders seems not to know the fundamental difference between Dano® Daily Pushti and Dano® Whole Milk, with an assumption that the only difference was in pack sizes and pricing. With sellers, not being able to distinguish between the two products, nor being able to provide customer the right guidance, it seriously questions whether vulnerable low-income consumers possess sufficient capacity to differentiate the two products and to make qualified choices based on nutritional value, price, quality and food safety.

The risk that Dano® Daily Pushti is used as a breastmilk substitute or as complementary feeding for infants

From our field research observations in rural milk producing Dinajpur district, it was revealed that there is significant prevalence of breastfeeding[306]. Through BRAC's network of community health workers, mothers are discouraged from using infant formula, not only due to infant nutrition criteria, but also due to hygiene reasons including the inability to sterilise the milk bottle regularly before feeding, the risk of mixing infant formula with unsafe water and due to economic reasons. Instead, mothers are strongly advised to breastfeed and to use home-grown products for complementary feeding for infants above six months. The mothers consulted in rural Dinajpur clearly expressed that they do not consider milk powder or infant formula as a substitute for breastfeeding – in reality, they have hardly any knowledge or experience in consumption of milk powder.

On the Dano® Daily Pushti packaging, the following is stated: 'Not Full Cream Milk Powder. There is no substitute or even close to it as mother's (breast) milk. Mother's (breast) milk substitute, infant formula etc. cannot be the main source of nutrition for your infant'. This is the exact wording from the national regulatory authority on the BMS legislation. However, this wording may be misinterpreted, as there is no sentence directly stating that Dano® Daily Pushti is not a breastmilk substitute and the product should not be consumed by infants[307]. Due to a general lack of awareness among low income consumers of the fundamental differences between milk powder and infant formula, there is a heightened risk for infants to consume Dano® Daily Pushti. Thus, this concern was further investigated in the market survey. The data reveals that:

- 7% of Dano® Daily Pushti consuming households use Dano® Daily Pushti as feeding for infants between zero and six months.
- 18% of Dano® Daily Pushti consuming households use Dano® Daily Pushti as feeding for infants between six months and two years.
- 32% of Dano® Daily Pushti consuming households use Dano® Daily Pushti for children between two and five years.

The fact that such a large proportion of Dano® Daily Pushti consumers use the product for infant feeding suggests that Dano® Daily Pushti contributes to an actual adverse impact on the right to health of the infants. If this misuse is a result of insufficient information provided on the packaging, Dano® Daily Pushti may as well contribute to an adverse impact on the right to information.

Insufficient information provided by Arla may indeed play a role. However, general lack of awareness in regard to the difference between milk powder and infant formula as well as poor infant feeding practices being widespread in Bangladesh, may as well be part of the factors affecting the substantial misuse of Dano® Daily Pushti. In such a context, Arla's responsibility to provide clear and accessible information is amplified.

[306] Ministry of Health and Family Welfare, 2007, National Strategy for Infant and Young Child Feeding in Bangladesh: http://www.unicef.org/bangladesh/IYCF_Strategy.pdf
[307] Roy et. al, 2002, Perception of Mothers and Use of Breastmilk Substitutes in Dhaka, Bangladesh: https://www.ncbi.nlm.nih.gov/pubmed/12430764

Creating Good Growth in Bangladesh

Conclusion and commitments

Dano® Daily Pushti is a fortified fat-filled milk powder aimed at consumers who are unable to afford traditional dairy products, and who can benefit from improved access to affordable and nutritious dairy solutions.

When introduced in 2015, Dano® Daily Pushti was the first of its kind on the market in Bangladesh. Since then, the product has successfully reached a promising sales volume and contributes significantly to Arla's growth in Bangladesh by reaching out to a vast number of sales points.

As Arla increases our business activities in Bangladesh, it is essential that growth does not bring unintentional adverse human rights impacts on the local dairy sector, its related farmers and communities, as well as consumers. While growing, we want to ensure that we do it in a cooperative, healthy, natural and responsible way. These four principles define our identity – Good Growth.

The purpose of this human rights assessment has therefore been threefold:

1. To assess the impact of Arla's increasing sales and distribution of Dano® Daily Pushti on the local dairy sector and its farmers. Could Arla potentially cause, contribute or be directly linked to an adverse impact on the right to work and/or adequate living standards for Bangladeshi farmers and their dependants who rely on raw milk production for their livelihood?
2. To assess the impacts of Arla's introduction of Dano® Daily Pushti on consumers. Could Arla potentially cause, contribute to or be directly linked to an adverse impact on health, nutrition, and adequate food availability for the most vulnerable food consumers in Bangladesh?
3. To explore how Arla can contribute to the UN Sustainable Development Goals through our business activities.

Stakeholder consultations

To take the concerns of the potentially affected and related stakeholders into account, we systematically sought their advice on how Arla can support sustainable development regarding dairy farming and improvement of nutrition and achievement of food security by means of dairy.

The advices from stakeholders can be summarised as follows:

1. Improve sustainable dairy farming:
    - Build capacity of local farmers, including transfer of technology and improved farm management to increase milk yields and milk quality
    - Invest in local sourcing of raw milk to stimulate local dairy production and processing
    - Support and supervise business-driven dairy cooperatives
    - Build capacity of dairy processing
    - Innovate affordable dairy products based on local milk

- Enhance routes to market by linking locally produced raw milk to Arla's commercial value chain
- Improve the organisation of the dairy sector
- Improve food safety in the local dairy value chain
- Establish public-private partnership to develop the sector
- Create decent jobs for women in the dairy value chain
- Develop partnerships with business, government and civil society to strengthen sustainable dairy sector development in Bangladesh
- In international multi-stakeholder fora, continue to play a constructive role in the discussion of adequate frameworks for how promoting of local dairy sector development can go hand in hand with international trade

2. Improve nutrition amongst the most vulnerable consumer groups:
   - Market, distribute and sell Dano® Daily Pushti to lower income segments of the population with no access to local fresh milk, including urban poor, garment workers and people living in far-to-reach areas
   - Take the lead and claim the highest standards of food safety in dairy products
   - Raise awareness on nutrition and the health benefits of natural and safe dairy products to increase demand and develop the market for dairy
   - Leverage Arla's knowledge on improved nutrition through dairy and build partnerships by joining the SUN Alliance
   - Work with the garment sector to add affordable and nutritious dairy products to the assortments offered to garment workers
   - Innovate more affordable dairy products to improve access to affordable nutrition for adolescent girls and women of reproductive age
   - Ensure accessibility to dairy products amongst the poorest and most vulnerable segments of the population

This valuable advice has undergone a business review and has been included in Arla's action plans, when a strategic fit is identified and/or mitigation measures are required.

Conclusions

The tables below summarise the conclusions of the human rights assessment:

1. Potential and actual adverse human rights impacts of scaling up sales of Dano® Daily Pushti are concluded
2. Arla's human rights prevention and mitigation actions are concluded.
3. Arla's growing business activities, including our commitments to prevention and mitigation actions are inextricably linked to the SDGs. The table summarises how Arla's commitments contribute to future sustainable development in Bangladesh.

Rights at risk

The right to adequate standard of living, including the right to food and its fair distribution, the right to work and the right to non-discrimination

Rights holders at risk

Local smallholder dairy farmers and their dependents, including female farmers and single-headed households

Human rights impact

By scaling up sales and marketing of Dano® Daily Pushti, there might be a potential risk for Arla to be directly linked to an out-competition of local smallholder farmers who are partly or fully dependent on income from production of raw milk. This is if:

1. Dano® Daily Pushti is extensively available in rural milk producing villages where most farmers are dependent on nutritional outcome and/or income from raw milk production.
2. Local dairy processors substitute raw milk with Dano® Daily Pushti as an ingredient in local processing.
3. Consumers switch from dairy products based on locally produced raw milk to Dano® Daily Pushti.

Ad. 1. Dano® Daily Pushti is currently not available in milk producing rural villages. Moreover, household consumers in milk producing areas do not have preferences for milk powder, including Dano® Daily Pushti, since raw milk is available, accessible and desired for household consumption in a vast number of households in rural Bangladesh. The risk of adverse impact is therefore currently unlikely.

Ad 2. Only 2% of Dano® Daily Pushti is sold in bulk for the processing industry and this market share is not expected to grow in the future. Traditionally, sweetmeat makers use raw milk together with some skimmed milk powder. It is not likely that local sweetmeat makers will change their recipes and source Dano® Daily Pushti. Dano® Daily Pushti does not seem relevant for this market. The risk of adversely impacting the informal dairy processing industry is therefore unlikely. The same seems to be the case for formal processors, who are using skimmed milk powder and not fat-filled dairy products for processing.

Ad 3. About 25% of Dano® Daily Pushti consumers have switched completely from dairy products based on locally produced raw milk to Dano® Daily Pushti. Consumer preferences are based on price, brand trust, food safety and easy to store options; Arla is therefore potentially directly linked to a risk of out-competition of dairy farmers and related actors in the dairy value chain through its increasing sales. The scale of the impact seems, however, to be limited due to the fact that both local demand and supply is growing. The fact that local demand is growing far more rapidly than the local supply of commercialised raw milk reduces the potential adverse impact. The assessment reveals that the Bangladeshi market is large enough to embrace both local raw milk processors and dairy businesses based on milk powder import. To satisfy increasing consumer demand and address malnutrition amongst the lower income segments, imported dairy products seem necessary to bridge the milk deficit in the years to come.

It can be concluded that lack of governmental investments in the dairy sector over the years add to the vulnerability of smallscale farmers. Import regulations have been introduced years ago, as a measure to protect the underdeveloped sector against the dairy businesses based on import of cheap milk powder. However, the effect of the renewed governmental priority of dairy sector development remains to be seen.

Dano® Daily Pushti is subject to significantly higher import duties than other milk powder categories. At one hand, the higher import duties are a potential hindrance for lower income segments to get access to an affordable dairy solution, which is a risk in regard to protecting the right to food and its fair distribution and the right to health. On the other hand, the local dairy farmers remain well protected due to the high import tax. The assessment concludes that farm gate milk prices remain stable during the period where Dano® Daily Pushti and three other low priced fat-filled dairy products have been introduced to the market, which indicates that the introduction of Dano® Daily Pushti has a limited if any influence on the ability of selling local raw milk of local farmers since the demand for locally produced raw milk exceeds production.

Influential NGOs like BRAC, Grameen, Care, Oxfam, ActionAid and farmers' organisations together with FAO and UNDP leverage small scale farmers' capacity to raise their voices to government and businesses against human rights abuses. International funding, including by the EU, provides means to develop the dairy sector with the purpose of eradicating poverty and addressing malnutrition.

Large cooperatives, social enterprises and private companies led by the top three players, Milk Vita, BRAC, PRAN Dairy Ltd, have succeeded in establishing a comprehensive grid of milk collection centres to establish links between local raw milk producers and a commercial value chain. Recently, massive investments have developed the milk collection system geographically. The assessment concludes that this reduces the risk of vulnerability and out-competition in these areas of the country as the farmers can sell all their milk at fair prices to local processors, except during periods with political instability.

Thus, the most vulnerable farmers at risk are the smallholder producers and farmers who are entirely dependent on sales to the informal market, i.e. to the local market, middlemen and sweetmeat makers. This is especially true for female farmers and single-headed female households, who play a significant role in dairy to ensure that income from dairy is spent on household consumption to address nutritional, housing and educational needs of its members.

The assessment indicates that the underdevelopment of the dairy sector in Bangladesh has multiple causes, mainly driven by a vast number of local barriers, which adversely impact vulnerable dairy farmers, including female farmers and female single-headed households. Regarding Dano® Daily Pushti, it can be concluded that local farmers' ability to be empowered is not supported either by the business case of Dano® Daily Pushti or by Arla's current business model in Bangladesh, since Arla currently is not promoting the governmental agenda on local dairy value chain development. As one of the market leaders in Bangladesh, Arla is a significant actor in the dairy sector, and therefore might risk amplifying the current tendency of underdevelopment through our current business model. On the other hand, by introducing a premium brand with high standards of food security, Arla does also contribute to developing the dairy market, where consumption per capita currently is far below the recommendations of WHO.

Prevention and mitigation actions

- Arla will avoid being in direct competition with smallholder dairy farmers by not strategically targeting low income consumers in rural milk producing villages, where smallholder dairy farmers are dependent on income from raw milk production.
- Arla will strategically enhance its sales, distribution and marketing channel to target BoP consumers with a strong need for affordable nutrition. Arla's edutainment activations and Project "Pushti Ambassadors", which is currently piloted in partnership with BRAC, is key in

this regard. These alternative sales channels will be tested during Q3 and 4, 2017 with the purpose of scaling up the business model in 2018 with more partners.

- Arla will support sustainable dairy sector development by exploring possibilities for knowledge transfer and capacity building of smallholder dairy farmers to improve dairy farm and processing practices. In collaboration with Bangladesh Agricultural University and IFCN, Arla will initiate a farm and sector study during 2018 to provide background data and recommendations for strategic business involvement in local dairy sector development.
- Arla will continue to refrain from promoting Dano® Daily Pushti over products based on local raw milk in our marketing campaigns. This is to prevent downtrading.

Arla's contribution to UN Sustainable Development Goals

SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

- Increase efficiency in agriculture through better dairy farm and dairy processing practices

SDG 5: Achieve gender equality and empower all women and girls

- Hinder marginalisation of female dairy farmers
- Capacity build female dairy farmers
- Include equal employment for women at Arla's repackaging facility

SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

- Create more and better jobs in the dairy value chain
- Expand the Arla repackaging facility to create more and decent local jobs
- Develop employees competence in the dairy sector through training

SDG 12: Ensure sustainable consumption and production patterns

- Continue to expand and modernise Arla's repackaging facility to ensure the highest standards of production, food quality and safety

SDG 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development

- Develop partnerships with business, government and civil society to strengthen sustainable dairy sector development in Bangladesh
- In international multi-stakeholder fora, continue to play a constructive role in the discussion of adequate frameworks for how the promoting of local dairy sector development can go hand in hand with international trade

Rights at risk

The right to health and the right to information

Rights holders at risk

Vulnerable BoP consumers, including infants and children as well as pregnant and lactating women

Human rights impact

With malnutrition and food and nutrition insecurity being widespread, scaling up sales and marketing of Dano® Daily Pushti has the potential to improve access to an affordable, safe and fortified dairy product for low income segments. However, through the report, it was revealed that Dano® Daily Pushti, despite the intention to reach lower income segments, to a higher extent has penetrated high income groups rather than lower income segments.

However, it can be concluded that there is a risk for Arla to impact vulnerable consumers adversely if Dano® Daily Pushti is not used as intended, i.e. use of the product as a breastmilk substitute or for supplementary feeding. The nature of the impact depends to a large extent on the information provided by Arla in this regard. Nearly 25% of the current Dano® Daily Pushti consumers use the product as infant feeding for infants between zero and two years.

With about 40% being illiterate, it is likely that vulnerable consumers in the lower end of the income pyramid do not possess the capacity to read and understand written information on the Dano® Daily Pushti packaging, which is why other communication platforms should be utilised.

With access to safe water being restricted, combined with the majority not being able to distinguish between safe and unsafe water and with widespread arsenic pollution of ground water, there is a risk of mixing Dano® Daily Pushti with polluted water. Arla may contribute to serious health threats to vulnerable consumers, if they cannot read and understand the mixing instructions provided in writing on the packaging.

Dano® Daily Pushti is a fortified fat-filled milk powder with a lower nutritional composition than Dano® Whole Milk Powder and local milk products based on locally sourced milk as well as other non-fat-filled milk powders. If vulnerable consumers switch from fresh cow milk or non fat-filled milk powders, this may reduce nutritional outcomes. The actual nature of this impact is complex, as it is generally seen that Dano® Daily Pushti leads to increased milk consumption. However, Arla may be directly linked to an adverse impact on the right to health, if Arla does not ensure that consumers are well informed about the higher nutritional value of Dano® Whole Milk in comparison with Dano® Daily Pushti being a fat-filled milk powder.

Capacity is being built as NGOs like the Bangladesh Breastfeeding Foundation, BRAC and GAIN, together with UNICEF and WHO, work to increase awareness and knowledge on nutrition, thereby protecting and leveraging vulnerable consumers' capacity. However, shortage of trained health personnel in rural areas together with lack of knowledge on nutrition, add to the vulnerability amongst consumers with poor educational and economical capacity, especially children, pregnant and lactating women.

Prevention and mitigation actions

- Arla will innovate and improve the recipe of Dano® Daily Pushti to enhance nutritional outcomes. The Arla Brand Nutrition Criteria introduced in 2016 will support this journey. This will be done by reducing the fat content from 32% to 28%, thereby increasing the content of high quality proteins from 19.5% to 22% per 100 grams. Consuming high quality proteins is highly essential among malnourished consumers and a very efficient way to reduce the prevalence of malnourishment. The new recipe has already been tested and approved by the Bangladeshi Standards and Testing Institution.
- Arla's marketing and packaging will be adjusted to ensure that accurate and transparent packaging information is available for vulnerable consumers:
  - In 2018, Arla's labelling on the Dano® Daily Pushti package will be changed, so it is clearly

communicated that Dano® Daily Pushti is not a breastmilk substitute, nor for infant feeding or young children below five years. The current information provided on the packaging seems to be perceived as inappropriate in clearly stressing that the product is not for infant feeding. In the future, the communication on the package will be strengthened by clearly stating:

1. Dano® Whole Milk: There is no alternative to breastfeeding. Not suitable for children under five years and not to be used for infant feeding.
2. Dano® Daily Pushti: Not a Full Cream Milk Powder. There is no alternative to breastfeeding. Not suitable for children under five years and not to be used for infant feeding.

    - As the Bangladeshi BMS code is applicable for children below five years, we will in the future target Dano® Daily Pushti consumers above five years and state this on the labelling, as well as adjust our marketing and awareness training material accordingly. This is to avoid any misperception of target groups of Dano® Daily Pushti.
    - In 2018, Arla will review its marketing and awareness campaign material to ensure that no children below five years are pictured.

- Arla will prevent downtrading from more nutritious dairy products to Dano® Daily Pushti:
    - Arla will more clearly market the nutritional benefits of Dano® Whole Milk by launching the product under a new name "Dano® Power". This includes redesigning the packaging of Dano® Daily Pushti and Dano® Whole Milk to more clearly market the higher nutritional value of Dano® Whole Milk.
    - Arla will more clearly market the nutritional benefits of Dano® Whole Milk. This includes providing sellers with knowledge to support consumers to make well-informed choices.
- Arla will strengthen its marketing strategy to better reach BoP consumers with a need for affordable nutrition:
    - In partnership with BRAC, Arla will test a pilot project, Pushti Ambassadors, through a door-to-door sales force of female micro-entrepreneurs to expand existing sales channels. This is to ensure that the product is reaching the intended low-income segments, introduced through nutritional awareness training and instructed on location to avoid adverse impacts related to unintended consumption and to increase sustainable development impact. The nutritional awareness raising material will be adjusted and strengthened based on this assessment. Through a six-month pilot phase with BRAC, a cost-effective approach in delivering Dano® Daily Pushti in peri-rural and rural areas will be tested and tried for the first time in Bangladesh by Arla. However, we will ensure that the Pushti Ambassadors avoid entering the very last mile so as not to compete with local farmers in milk producing rural villages. The campaign starts with recruitment of community sales agents and a Training of Trainers programme for the Pushti Ambassadors.
    - In 2018, Arla will intensify its edutainment activities in slum areas, garment factories, crowded market places and schools through teams of nutritionists and singers plus film and drama. This is to ensure that the product is reaching the intended income segments, introduced through nutritional awareness training and instructed on location to avoid adverse impacts related to unintended consumption and to increase sustainable development impact. The nutrition awareness raising material will be adjusted and improved based on the findings in this assessment and with the expertise of Arla's global nutrition team. Edutainment or outreach campaigns are conducted for the communities with a high density of BoP consumers. These campaigns provide free samplings and

employ mobile projectors to raise awareness through short films on product and health benefits. The main message through these campaigns is to promote healthy food habits.

- With increasing world milk prices and with more fat-filled dairy products available in the market, the business viability of Dano® Daily Pushti is under increasing pressure since we do not want to compromise on food safety and nutritious value. Moreover, alternative and more costly marketing, distribution and sales channels must be developed to reach BoP consumers (see above). Arla will therefore seek a regulation of import duties to equate Dano® Daily Pushti with other milk powder products imported in bulk. This is to better address prevalent malnutrition challenges through a strengthening of availability, accessibility and affordability of nutritious dairy products to the BoP income segment. The regulation of import duties will positively impact capacity building of beneficiaries – female micro-entrepreneurs and vulnerable consumers - involved in Project "Pushti Ambassadors" and edutainment activities. A regulation of import duties will on one hand increase access to affordable dairy solutions and build capacity of BoP consumers, and on the other hand increase the risk of out-competing smallholder dairy farmers if this risk is not mitigated through a strategic choice of not targeting rural villages in milk producing areas. If duties are reduced, we plan to re-invest the gains into adding more nutritional value into Dano® Daily Pushti, to empower consumers through nutrition awareness raising, training of female micro-entrepreneurs and into expanding the targeting of BoP consumers in non-milk producing areas.

Arla will engage in stakeholder dialogue on improved nutrition:

- Arla will explore participation in multi-stakeholder fora in Bangladesh to address malnutrition and promote safe and affordable dairy products; this could include building partnerships with local NGOs, government, academia and organisations to increase awareness and endorse the message of dairy as a healthy, natural and nutritious food group.

Arla's contribution to UN Sustainable Development Goals

SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

- Improved nutritional status through better access to affordable dairy solutions targeting the BoP consumers including factories, urban slums and schools
- Enhanced access to affordable nutrition through door-to-door sales in rural non-milk producing areas including far-to-reach areas with heightened risk of food and nutrition insecurity and high degrees of malnutrition
- More knowledge on food habits achieved
- Dietary study to better understand nutrient deficiency amongst vulnerable consumers in Bangladesh
- More affordable dairy products developed to address malnutrition

SDG 3: Ensure healthy lives and promote well-being for all ages

- Awareness raising and information campaigns on location targeting the BoP segment to promote well-being and increase knowledge on nutrition and the benefits of dairy
- Improved communication of health benefits of Dano® Daily Pushti through clear guidance on correct consumption
- Partnership with BRAC community health worker programme to support better guidance on healthier lives conducted by community sales agents, Pushti

	Ambassadors
	SDG 5: Achieve gender equality and empower all women and girls
	▪ A sales force of female door-to-door micro-entrepreneurs, trained in nutrition, sales and micro entrepreneurship ▪ Creation of more job opportunities for BoP women through scaling up project Pushti Ambassadors ▪ Income generation and empowerment of BoP women through enrolment in project “Pushti Ambassadors”
	SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
	▪ More jobs created through recruitment of women to enrol in project Pushti Ambassadors ▪ Enhanced income generation opportunities at rural level for BoP women ▪ More and better jobs in the Dano® Daily Pushti value chain created through increasing sales ▪ Decent salaries secured through fair contracting and attractive profits
	SDG 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development
	▪ Development of business and civil society partnerships around project Pushti Ambassadors to address malnutrition and job creation ▪ Strengthening of multi-stakeholder dialogues to improve and endorse communication on nutrition and to develop the market for dairy as a source to nutritional improvements for more people

Appendix

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List of consulted stakeholders

Project affected stakeholders
Dairy farmers related to BRAC's chilling centre in Dinajpur district
Employees and management at BRAC's chilling centre in Dinajpur district
Employees and management at Aarong Dairy plant, Gazipur, Dhaka Division
BRAC employees related to BRAC's Health Nutrition and Population Program and Ultra-Poor Program
BRAC Community Health Workers enrolled in BRAC's Health Nutrition and Population Program
Smallholder farmers enrolled in Aarong
Female dairy farmers enrolled in BRACs' Ultra-Poor Program
Mothers in rural Dinajpur district enrolled in BRAC's Health Nutrition and Population Program
BoP consumers in urban areas
Dano® Daily Pushti consumers participating in market survey

Duty bearers/responsible parties
Ministry of Livestock and Fisheries
Ministry of Local Government, Rural Development and Cooperative
Ministry of Health and Family Welfare
Institute of Public Health and Nutrition
Mutual Foods
Arla Foods amba
Arla Foods Bangladesh Limited
Milk Vita Government Co-operative
Aarong Dairy – BRAC social enterprise
PRAN Dairy
Farm Fresh (Akij Food & Beverage Ltd.)
American Dairy Limited

Non-project affected stakeholders
ActionAid
BRAC
GAIN
The CSR Centre
DanChurchAid
The Royal Danish Embassy, Bangladesh
DANIDA - Danish Development Agency, DK Government, Bangladesh
DFID – Department for International Development, UK Government, Bangladesh
The EU Delegation to Bangladesh
Global Alliance for Improved Nutrition (GAIN)

Oxfam
SwissContact
Grameen
Jita
Ashoka
Social Marketing Company (SMC)
Bangladesh Garment Manufacturer & Exporters Association (BGMEA)
UNICEF
FAO, UN Food and Agriculture Agency
WFP, UN World Food Programme
Bangladesh Agricultural University
CELL – Marketing Bureau

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