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Advancing Nurse Education in Bangladesh

by Alex Berland

CENTRE FOR POLICY RESEARCH
IUBAT

IUBAT—International University
of Business Agriculture
and Technology
Dhaka, Bangladesh

ADVANCING NURSE EDUCATION IN BANGLADESH

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Contents

VAL HEDSTROM PHOTO

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This report is dedicated to the many nurses and nurse educators in Bangladesh who have shared with me their hopes for development of the nursing profession. I have great respect for their commitment and effort despite the challenging circumstances.

Foreword

I am delighted to introduce this report, the 10th Commentary to be published by the Centre for Policy Research. It provides a useful up-to-date summary of the state of nursing education in South Asia and in Bangladesh in particular. The major theme of the report is the importance of quality nurse education and means to improve the learning environment within both public and private education institutions.

Over the last decade, IUBAT has played a leading role in addressing the need for quality nurse education in Bangladesh. The IUBAT College of Nursing offers a Bachelor of Science in Nursing program, a pioneer for non-government universities.

In recent years, IUBAT has collaborated with the Ministry of Health and Family Welfare in analyzing how best to implement nurse education reforms, and we hope to continue playing a useful role in the future.

— Dr. M. Alimullah Miyan
Vice-Chancellor and Founder, IUBAT

List of acronyms

BNC	Bangladesh Nursing Council
BSC	Bachelor of Science degree
BSN	Bachelor of Science in Nursing degree
HHR and HR	Health human resources and human resources
HSC	Higher Secondary Certificate (equivalent to "A" level upper secondary certificate)
IUBAT	International University of Business Agriculture and Technology
MPH	Master of Public Health degree
MSN	Master of Science in Nursing degree
MOHFW	Ministry of Health and Family Welfare
OECD	Organisation for Economic Cooperation and Development
RN	Registered nurse
SLNC	Sri Lankan Nursing Council
WHO	World Health Organization

Executive summary

MANY PREVIOUS REPORTS HAVE DOCUMENTED BOTH THE NEED FOR BETTER nurse education in Bangladesh and the obstacles to realizing it. This report summarizes the current situation, introduces potential solutions from other countries and suggests a made-in-Bangladesh strategy. The author has spent many years supporting an innovative nurse education program in Bangladesh. This report follows that experience, as well as discussions with dozens of nurse educators, physicians and hospital managers.

Chapter 1 describes why nurse education is an important issue: how problems with nursing limit Bangladesh's ability to realize important population health goals, goals ranging from lower maternal mortality to better management of diabetes. In the last twenty-five years, life expectancy in Bangladesh has improved dramatically. However, other low-income countries have achieved even more. An adequate number of well-trained nurses is a key factor. Currently Bangladesh's nurse/population ratio is the lowest among South Asian countries. Matching the Nepalese ratio would require 26,000 additional nurses/midwives; to match Pakistan an additional 42,000; India, 113,000; and Sri Lanka, 264,000 additional nurses.

Although education programs offer a path to improvement, poorly prepared nurses will not serve the purpose. Chapter 2 discusses two areas affecting the quality of nurse education:

- Many reports have noted problems with faculty numbers and competence, as well as insufficient teaching resources and weak role models in the hospitals where student nurses practice.
- There are no formal quality assurance or accreditation mechanisms for nurse education programs. Therefore, nurse educators struggling with limited resources cannot identify problems and tackle them systematically.

The chapter also describes how nursing education in Bangladesh compares with modern approaches in other countries. Essential to nursing student development is clinical learning in a variety of settings, with effective role models who demonstrate modern professional values and compassionate practice.

The Government of Bangladesh is committed to higher nursing education standards, which address local needs as well as the global demand for nurses. In Chapter 3, we look at three international examples:

- The Philippines set out to train nurses for emigration; this led to various problems. A coalition of stakeholders developed a comprehensive approach, resulting in graduates better equipped for both national service and overseas jobs.
- Sri Lanka has the best health outcomes in South Asia. We highlight recent proposals to strengthen nurse education in that country. Key features are expanded upgrading programs for diploma-prepared nurses, plus a mix of private, public, national and international training programs at all levels.
- Canada educates nurses to different levels with corresponding differences in scope of practice. Such an approach in Bangladesh could make better use of existing staff. Also, Canada uses many structures and processes to ensure quality, protect the public and promote the nursing profession.

Every country faces unique challenges in strengthening nurse education – there is no single best way forward. The World Health Organization (WHO 2009) recommends that low-income countries, adopt 'a step-wise approach with specific goals and timelines" to raise nursing standards. Following that advice, we propose three initial steps to strengthen nurse education in Bangladesh:

1. Build a leadership coalition and a guiding strategy for overall nursing resource development.
2. Create a country-wide collaborative effort to advance nurse education.
3. Develop system supports to promote higher standards in nursing education and practice.

1. Building a leadership coalition and guiding strategy should begin with a clearly stated vision for the profession of nursing from the Prime Minister and Minister of Health.

Business leaders and civil society groups should also be promoters of nursing because this will benefit all sectors. Within the Ministry of Health and Family Welfare (MOHFW), top officials would then have a foundation to develop strategy, policies and priorities. An implementation plan should identify who would be involved, building in accountability to make sure the strategy is followed, for example by identifying committees with specific tasks. By reorganizing nursing roles, policy-makers can better match education requirements and the needs of employers. However, like many areas, work redesign requires a framework of policies, including Human Resources Information Systems for resource management, planning and monitoring.

TEACHING LABS for simulated practice provide a safe learning environment for junior students. ALEX BERLAND PHOTO

2. While the shortage of nurses is severe, the shortage of nurse educators is an even greater problem. Scaling up capacity of nurse educators is essential.

The recommendation for a countrywide collaborative effort arises from the complexity of the issues. This task will require coordination and training of senior staff across MOHFW, Bangladesh Nursing Council and Ministry of Education. In addition, the collaborative effort could include private and public nursing colleges and training institutes, nurse associations, employers, higher education institutions, and other professional groups (e.g. medical associations):

- The first priority should be to establish and validate competencies or practice standards for nursing graduates in Bangladesh. This might also include international advisers.
- Next, the collaborative should develop a plan for the existing educators. It will be important to assess the situation, in part to develop regional approaches to balance workload and capacity, possibly filling gaps with "master teachers" from in country or abroad. International faculty and internet-based learning may be useful with training of trainers as well as students.
- Due to the long lead-time, it will be important to start developing Masters level nursing programs that emphasize "training of trainers." Private universities and employers could help with delivery of post-graduate and specialty programs.
- There should be strong quality assurance processes for all nurse education, whether public or private.

NURSE EDUCATORS attending the "Cooperative Dialogue on Advanced Nursing Education in Bangladesh" January 2013. MS MASUD PHOTO

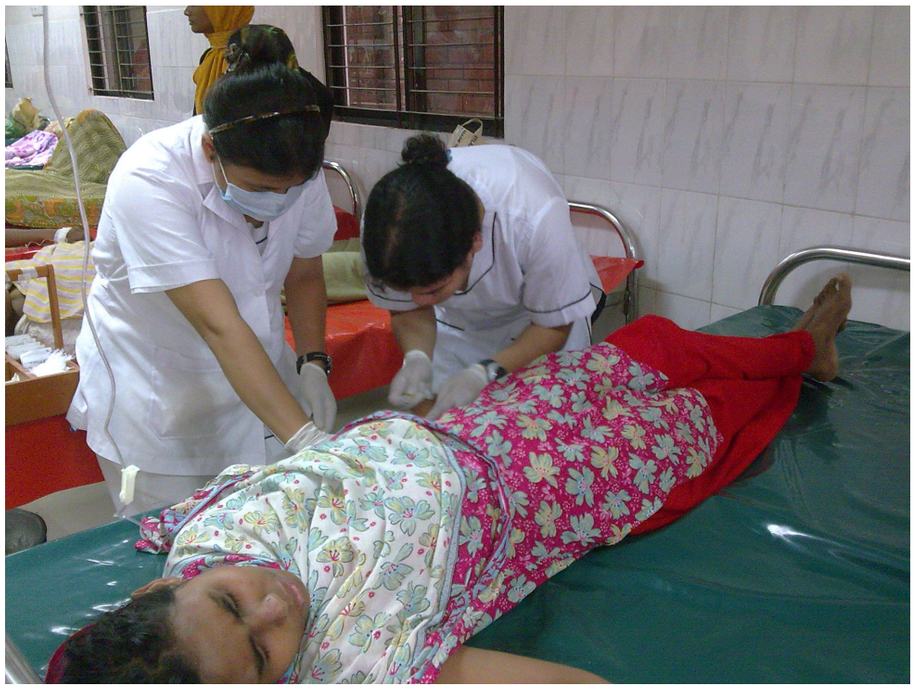
3. Developing system supports will be critical for achieving higher standards in nursing education and practice. Three priorities need to be considered:

- Currently in Bangladesh, there are very few quality management processes for nursing practice. There should be a made-in-Bangladesh approach in the clinical setting, probably with support from international advisers to provide technical assistance.
- Robust quality assurance mechanisms would enhance nurse education. For further development, an internationally recognized professional nursing group could work collaboratively with national experts to provide guidance on strengthening quality assurance in the nurse education sector.
- Today in Bangladesh, professional nurses lack an effective forum for regular communication, sharing of resources and linkages to policy-makers. International evidence shows that strong, self-regulating professional nursing associations enable nurses to maximize their contribution to public health.

This report focuses on one aspect of strengthening nurses' contributions, namely the education of nurses. A strong nurse education system could release nurses' capacity as caregivers, patient educators and public health promoters.

[Bangla executive summary page 1 of 5]

[Bangla executive summary page 2 of 5]



GOOD CLINICAL TEACHING SITES reinforce classroom learning. Sometimes, though, students practicing correct procedures – such as wearing masks and gloves – may be criticized by senior nurses for not following local rules, or "wasting" resources. ALEX BERLAND PHOTO

[Bangla executive summary page 4 of 5]

[Bangla executive summary page 5 of 5]

1. Introduction

IN PREPARING A REVIEW OF WHAT THEY DESCRIBED AS A "NURSING CRISIS" in Bangladesh and other South Asian countries, two international nursing experts interviewed many key informants. Informants within Bangladesh commented on "the tendency for crisis, ad hoc or single issue management" (Oulton and Hickey 2009, 14). It is not just the number of nurses that matters, the authors insisted; it is also the quality of training of nurses in service:

> *The challenges of enhancing the role of nursing, improving the quality of nursing education, and better regulating the nursing market are at least as important as increasing the number of nurses in Bangladesh*. (2009,16)

A Bangladeshi researcher, in another assessment of the strengths and weaknesses of Bangladeshi nurses, reached similar conclusions. He emphasized "that the current system of education and training needs to be further developed and updated" (Aminuzzaman 2007, 25).

This monograph elaborates on the implications of these earlier analyses: what is required to implement reforms that strengthen nurse education in Bangladesh? The goal here is to frame the problem from a management perspective, focused on strengthening nurse education.

Recognizing the demand for and importance of the profession, the government of Bangladesh has made a commitment to raise nursing education standards (Daily Star 2009). As we developed this report, some people cautioned us that decision-makers in Bangladesh may be resistant to unsolicited advice. The caution is relevant. Indeed, we teach our nursing students that, in their work with patients and families, giving unasked-for advice will rarely be heeded. We realize that, as Canadians, we are guests in this country, but we have been teaching nursing students in Bangladesh for many years. Like nurses, we also have a "duty of care." While this monograph has not been written at the explicit request of anyone, many Bangladesh colleagues have asked our support in strengthening nursing and have informally asked for advice. We have decided to proceed and put our advice in writing. We do so with respect, and concern for the challenges facing those responsible for improving Bangladesh health services.

HIGHER STANDARDS in nurse education will be necessary if nursing practice is to improve. ALEX BERLAND PHOTO

In summary, the monograph proceeds as follows. Chapter 1 describes why this issue is important: how problems with nursing affect population health as well as national human development. Chapter 2 points to some of the root causes, focusing on two key areas affecting the quality of nursing care: basic education and regulation of the nursing profession. The chapter also describes how nursing education in Bangladesh compares with modern approaches in other countries. In Chapter 3 we look at international examples: the impact of training nurses for emigration in the Philippines; a strong model for nurse education in Sri Lanka; and structural approaches to quality improvement in Canada.

The World Health Organization (WHO 2009) recommends that Bangladesh, as a low-income country, adopt 'a step-wise approach with specific goals and timelines to raise the standards of nursing practice. Chapter 4 proposes three initial steps for strengthening nurse education in Bangladesh:

1. Build a leadership coalition and a guiding strategy for overall nursing resource development.
2. Create a country-wide collaborative effort to advance nurse education.
3. Develop system supports to promote higher standards in nursing education and practice.

Our research group at IUBAT has a long-term commitment to improving nurse education in Bangladesh. We hope that this report will help inspire national leaders to strengthen professional nursing. High quality nursing is one ingredient in generating better population health and human resource development.

2. Strengthening professional nursing in Bangladesh: Why it matters

Nurses are a vital resource for improving population health

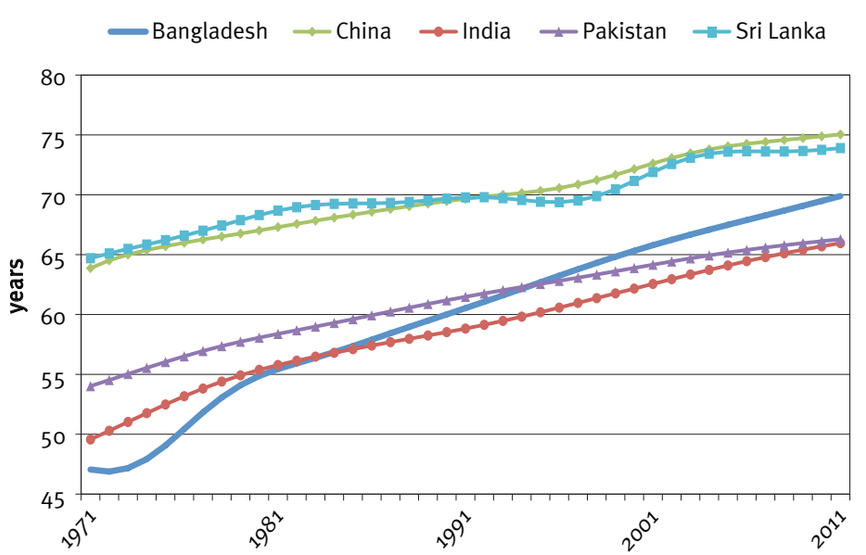
Life expectancy at birth is the most basic measure of national health. Bangladesh life expectancy was below 50 until 1975, and clearly the lowest of the five countries illustrated in Figure 1. Since independence from Pakistan, Bangladesh has made truly impressive progress. In the last quarter century, life expectancy in Bangladesh has surpassed that in both India and Pakistan. However, Sri Lanka and China have done even better over the last four decades. Much more can be done to enable Bangladeshis to lead long and healthy lives. A high quality health care system is a key enabling factor.

Health care outcomes depend on many factors. Public health programs, such as provision of sanitary drinking water and latrines, and child vaccinations are the most important. A very high priority is assuring adequate well trained professional health care workers (WHO 2010). The two key health professions are physicians and nurses. Both are vitally necessary:

> *In most cases, the doctor is tasked with examining and diagnosing patients. A nurse, on the other hand, will have a more hands-on role with physically treating a patient based on the doctor's diagnosis … the role of a nurse is not always as a subordinate to doctors. Advanced nurses, such as nurse practitioners, will also diagnose patients and can even prescribe medication … While it is obvious that the career of a doctor and nurse are different, … the two complement each other in the process of healing patients. Neither could exist without the other and neither role is more important.* (Nursing Online Education Database, 2012)

EXPERT BEDSIDE TEACHING imparts values as well as skills. NANCY STEPHENS PHOTO

Figure 1: Life Expectancy at Birth, Selected Asian Countries, 1971 – 2011

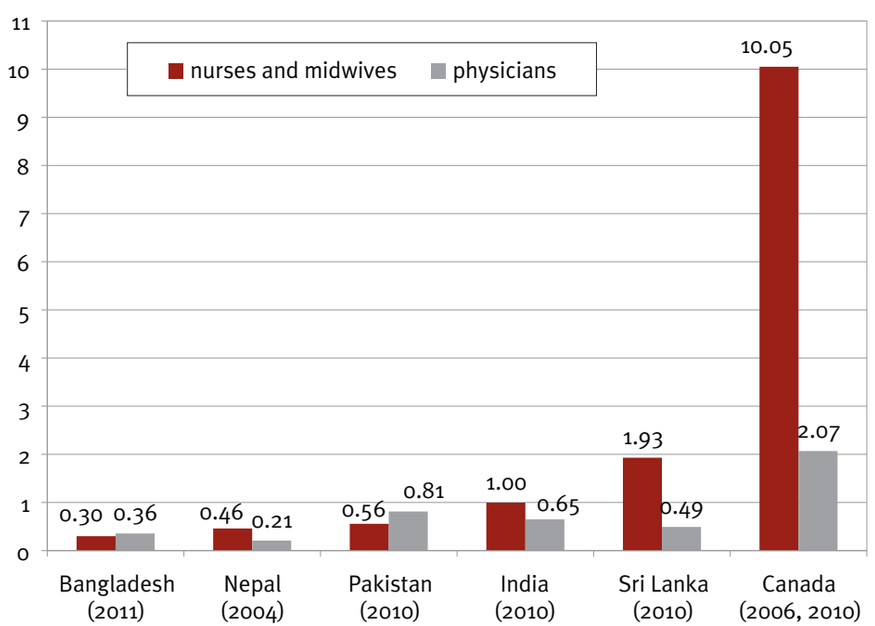


Source: World Development Indicators (2013)

Within South Asia, Bangladesh is the country facing the most acute nurse shortage. Figure 2 shows for five South Asian countries, plus Canada (a typical high-income OECD country), the number of nurses and physicians per 1,000 population. Like other high-income countries, Canada employs about 10 nurses per 1,000 people, which is five times the comparable ratio for physicians. Sri Lanka has the most successful health system in South Asia and has shown that, even with much lower ratios of health workers to population than Canada, it is possible to achieve impressive health outcomes. As in Canada, Sri Lanka employs many more nurses than physicians. Both Bangladesh and Pakistan have fewer nurses than physicians.

Improving health care delivery in Bangladesh is impossible without a dramatic increase in the number of well-prepared nurses. How serious is the shortage? One answer is to determine how many nurses and midwives would be necessary to achieve the ratios of other South Asian countries. The Bangladesh Bureau of Statistics (BBS) recorded 48,500 nurses and midwives in 2010 (approximately 0.3 nurses/midwives per 1,000 people). To realize the Nepalese ratio would require an additional 26,000 nurses/midwives. To realize the Pakistani ratio would require an additional 42,000; to realize the Indian ratio, 113,000; to realize the Sri Lankan ratio, 264,000 additional nurse/midwives.

Figure 2: Nurses/midwives and physicians, per 1,000 population



Year of data in brackets. Source: World Development Indicators (2013) (except Bangladesh nurse/midwife ratio)

ANNUAL RETRAINING: In many countries, annual re-training in cardio-pulmonary resuscitation is required of all nurses. In Bangladesh few such training opportunities even exist. ALEX BERLAND PHOTO

Strengthening professional nursing will create good jobs, both inside Bangladesh and globally

The public sector is the major health service provider in Bangladesh and hires the majority of nurses working in the country (BBS 2010). However, public hospitals and clinics cannot hire all the nurses they need (Asia Calling 2010). Private clinics and hospitals hire a smaller number of nurses, often at higher salaries than the public sector. Overall, the media report 10,000 unemployed nurses (New Age 2012). Yet, private hospitals in Bangladesh are hiring nurses trained abroad – especially for patients in intensive care and operating theatres (New Age 2012). These seemingly inconsistent events – vacancies in public hospitals, imported nurses in private hospitals, and unemployment among local nurses – were echoed by key informants in Bangladesh interviewed for a WHO review of nursing in South Asia (Oulton and Hickey 2009).

Although the problem is less acute, high-income countries also face a shortage of nurses (Siddiqui and Appiah 2012, Quan 2012). Both United States and Canada are interested in international recruitment of nurses (Walker 2010; WHO 2006). At present, very few Bangladeshi nurses are able to find employment abroad. About 1,200 female nurses emigrated from Bangladesh between 1991 and 2004, mostly to Middle Eastern countries (Aminuzzaman 2007). The demand from international agencies recruiting in Bangladesh far exceeds the supply of adequately qualified nurses (International Labour Organization 2010).

3. Strengthening the education of nurses in Bangladesh

Deep-rooted problems affect the nursing profession in Bangladesh

However the Bangladesh nursing shortage is defined, it is serious, and resolving it will not be easy. In their survey, Oulton and Hickey (2009) summarized four concerns:

1. Quality assurance in education and practice;
2. Working conditions (including security, better utilization of nurses, career paths and access to continuing education);
3. Faculty numbers and competence, as well as teaching resources and student clinical experiences; and
4. Absenteeism problems, deployment policy, and planning skills.

These complex problems cannot be solved quickly. They require a comprehensive policy approach that addresses the many factors, stakeholders and trends involved.

Since our focus is nurse education, we will address the first and third concern in the list above. However, we also need to address some related issues. In Bangladesh, deep cultural problems compound the human resource shortages (Akhter 2003; Hadley et al. 2007). Several commentators have noted that nurses in Bangladesh have traditionally been poorly trained, poorly paid, and not respected as professionals (Hadley et al. 2007; Hadley and Roques 2007; Zaman 2009). This general under-valuing of nurses' potential contribution is reflected in poor wages with few opportunities for professional development. Published and anecdotal reports state that nursing practice standards are generally low in public hospitals (Bangladesh News 2007; Hammadi 2011). The situation may be even worse in

MODERN NURSE EDUCATION aims to promote self-directed learning, critical thinking and problem-solving

MAUREEN MALONEY PHOTO

rural areas and community settings. However, the general public's expectations for good care are increasing, so the new private hospitals are importing foreign nurses who can meet higher quality nursing standards.

Regulation and accreditation systems are insufficient to ensure public safety and professional quality

Professional practice is unlike other forms of service because the professionals have more knowledge than the clients who use their services. This "asymmetry of information" creates a potential risk for the public who cannot use their own judgment about what services they need, but instead must rely on the integrity of the professionals serving them. This is a universal concern. Every country faces two problems in ensuring the quality of professional services:

1. **HOW TO ASSURE STANDARDS OF QUALITY IN TRAINING INSTITUTES?** As in Bangladesh, United States and Canada regulate the degrees offered by educational institutes, which may be public or private. North American governments rely on accreditation procedures to evaluate whether an institute meets required standards. Typically, internal and external accreditation are required for both private and public institutes that offer professional training. Internal processes involve self-comparison to standards such as learning competencies and qualifications of faculty. External accreditation processes

typically use "content" experts (typically nurses) and "process" experts (typically university administrators or educators from other disciplines) for additional analysis of potential problems. External accreditation usually includes peer-review inspection and site visits to meet students and faculty.

2. **HOW TO ASSURE THE COMPETENCE OF GRADUATES?** As in Bangladesh, North American governments legislate to create professional bodies with the responsibility of assuring public expectations of professional quality in delivery of services. This is the case for nurses as well as other important professions – such as physicians, lawyers, engineers and accountants. An important role of these regulatory bodies is to assess whether graduates of professional programs should be allowed to work in their profession. Typically, the regulators require graduates to write exams to assess competence; they may also require internships for new graduates; most have some requirements that those in the profession undertake continuing training to assure competence. Exam results may be used as feedback for accreditation of the education program. In Canada and many US states, third-party bodies (neither educators nor regulators) develop and administer the exams used by regulators.

In Bangladesh some quality assurance mechanisms for the nursing profession do exist, but they are not robust. The Bangladesh Nursing Council has the authority to approve schools, to set standards for schools and graduates, and to register nurses. Unfortunately, most BNC board members are not nurses. The approval requirements include an outline of course material, the status of physical facilities and the numbers of staff at various qualification levels. After initial approval, review of accreditation is minimal: there is no in-depth or on-going review of curriculum content, educational practice or learning outcomes. Overall, the accreditation and quality assurance of nursing education programs are inconsistent and difficult to implement (Oulton and Hickey 2009; WHO 2000).

Nursing education in Bangladesh is a critical but insufficient resource

According to Oulton and Hickey (2009), 55 nursing institutes offer a Diploma in Nursing with a total of 1805 seats; of these, 35 are government-run. Twelve nursing colleges offer Bachelor of Science in Nursing (BSN) degrees with a total of 650 seats; six of these colleges are private. With about 2,500 new graduates entering the profession each year, the current supply of nurses can do little more than replace natural attrition.

The nursing institutes admit students after completion of the Higher Secondary Certificate (HSC), requiring 12 years of education. Unfortunately, many HSC students are weak in basic mathematics, science and critical thinking, and are unable to read English textbooks (Berland 2011). Since few nursing textbooks are available in Bangla, ability to read English is a requirement for good training. Some training programs offer remedial courses in English; in many cases,

PROFESSIONAL DEVELOPMENT: Many countries have some requirements that practicing nurses undertake continuing professional development to assure competence. ALEX BERLAND PHOTO

they are not available. To graduate with a diploma, all students complete three years of basic training, followed by an additional year of midwifery for female students or orthopaedics for men. Nursing colleges offer direct entry after HSC to a four-year BSN program. At some colleges, students with a Diploma in Nursing may earn a BSN in two years. Post-graduate training is limited to certificate courses. There is no Master's level nurse education available in Bangladesh.

Diploma and baccalaureate-prepared graduates of approved nursing schools in Bangladesh are eligible to write the national registration exam, introduced in 2012. Upon satisfactory completion of the exam, the nurses are entered in the BNC register. Re-licensing for Registered Nurses (RN) is currently required every five years. There is no examination, only submission of a form with accompanying fee. There are no requirements to ensure continuing professional competence, through either continuing education or requalification procedures.

Supply and quality problems affect many nurse education programs in Bangladesh

The deep-rooted social problems noted earlier affect many aspects of nurses' education in Bangladesh. Lund et al. (2013) describe one private-sector program that attempts to overcome these social problems and deliver higher quality nurse education. However, without decent working conditions and broader respect for nurses – among both the public and physicians – it will be hard to attract good students to any nurse education program (Berland et al. 2010).

Like many other low-income countries, nursing education in Bangladesh displays various structural supply problems:

- The curriculum may not be suitable for modern practice. In 2008, a new nursing curriculum was introduced; however many nurse educators continued with the previous curriculum due to lack of training, faculty and resources (Oulton and Hickey 2009; Berland 2011).
- Shortages of qualified teaching staff are acute. The teacher-student ratio for nurse education in Bangladesh is 1:55 (Bangladesh Health Watch 2007). In many countries, 1:20 is considered appropriate.
- Most government nurse education institutes lack basic infrastructure and suitable equipment in campus laboratories. Often the nursing students do not have opportunities to practise in community settings (WHO 2000; Murshed 2007). Even good hospital practice sites are sometimes lacking (Oulton and Hickey 2009).
- Faculty often lack clinical competence; specialized nursing knowledge; or expertise in teaching, learning assessment and clinical supervision (Oulton and Hickey 2009). Many nurse educators in Bangladesh have expressed to us that they do not feel equipped to teach a conceptually based curriculum. (On this subject see also Amiruzamman (2007)).
- Faculty members' limited ability to teach in English or even provide English-language textbooks is a significant problem because there are very few textbooks and other learning materials in Bangla (Leppard 2006; Bryant 2003).

NEXT STEPS: At the Cooperative Dialogue on Advanced Nursing Education in Bangladesh (2013), senior educators recommended specific steps for developing Masters level nurse education. MS MASUD PHOTO

Over the last decade our research group has undertaken extensive discussions about the problems of nursing service with senior Bangladesh health care managers (in, for example, the Bangladesh Nursing Council, Ministry of Health and Family Welfare Directorate of Nursing Services, principals of nurse education programs, senior physicians, hospital administrators), as well as with concerned Bangladeshi health professionals working abroad. In addition, in January 2013, we had the privilege of hosting a "Cooperative Dialogue on Advanced Nursing Education in Bangladesh" with over 30 nurse educators from public and private colleges (Lund et al. 2014). There was wide consensus among these leaders in nurse education on several major problems, which we summarize in three points:

- There is a lack of nurse educators and those who exist may be remote from practice and not current with their clinical skills. In addition, although there has been previous international support for curriculum development, the teachers may simply continue with previous lectures because they lack the capacity or resources to deliver new courses.
- Education focuses on memorization and learning by rote. Self-directed learning, critical thinking and problem-solving are not emphasized as in the better training institutes in other countries. Both physicians and nursing managers described major patient care problems caused by the current education approach.

- Modern teaching resources (texts, audio-visual, and internet) are available mostly in English, yet many nurse educators are not fluent English speakers or readers.

Internationally, nursing education focuses on professional comportment as well as acquisition of knowledge

Professional education helps nurses to manage uncertain situations that require knowledge, skills and experience. Memorizing facts is not enough; scientific understanding, critical thinking and problem solving skills are essential, as are effective communication and ethical values. Nurses need to apply all these abilities at the same time. Even a simple task such as measuring blood pressure requires critical thinking. First, the nurse must assess the patient based on scientific understanding of that individual's medical problem; then the nurse must apply critical thinking and team communication skills to ensure information from the assessment is used to treat the patient. Here is one listing of the abilities required by all professional nurses (Institute of Medicine 2010):

- Clinical judgment
- Critical reasoning
- Inter-professional teamwork
- Leadership
- Supervision of less-qualified caregivers
- Assisting patients with self-care
- Cultural sensitivity
- End-of-life care
- Professionalism
- Patient and family education

Essential to nursing student development is clinical learning in a variety of settings, with effective role models who exhibit professional values and comprehensive practice (American Association of Colleges of Nursing 2008). These role models demonstrate caring, mindfulness and authentic communication in one-on-one interactions with patients and families. Acquiring these professional skills requires students to practise with a team that itself is ethical, collaborative and altruistic. These values and behaviours are not necessarily common among health care providers in Bangladesh (Zaman 2004). Therefore, finding suitable clinical practice sites is not easy. Clinical practice for most government nursing colleges is exclusively in a single teaching hospital. Moreover, in many hospitals practice standards are variable and professional values lacking.

We proposed in Chapter 1 that Bangladesh needs somewhere between 26,000 and 260,000 nurses to match the levels in other South Asian countries. This chapter began by describing some of the deep cultural and social problems affecting professional practice. Stronger education offers a path to improvement. On the other hand, training more poorly prepared nurses will not solve the country's need for professional nursing care. The structural problems affecting nurse education itself create a barrier. In the next chapter we turn to international examples that may be useful.

4. Relevant lessons from international comparisons

THOSE INTERESTED IN NURSING REFORM, WHETHER IN BANGLADESH OR other countries, may find useful lessons from international experience. The following examples illustrate how other countries have addressed key issues of concern in Bangladesh.

Reducing the hazards of an export-based approach in the Philippines

We previously noted the potential for Bangladeshi nurses to work internationally. However, for this to happen at any large scale, improving the quality of training will be paramount. Modern nursing practice requires education in professional behaviour, ethics, research, communications and teaching. If Bangladesh can supply better-trained nurses, some will accept opportunities abroad. In addition to providing remittance income for their families, their work overseas will help end the image of nursing as an undesirable job. However, we should be cautious:

- Emigration of nurses will result in the loss of skills needed domestically.
- High quality training is expensive. Fortunately one study suggests that at least 50% of skilled migrants return to their home country within five years of their departure (Lowell and Findley 2002). Returning nurses will probably have acquired additional skills while working abroad.
- Nursing practice in developed countries is highly specialized. Training Bangladeshi nurses to these specialized levels may be a poor allocation of limited training resources (Aminuzzaman 2007; Hadley et al. 2007).

NURSES IN THE PHILIPPINES: Bangladesh needs somewhere between 26,000 and 260,000 nurses to match the levels in other South Asian countries.

In the Philippines the emigration of skilled nurses has continued for many years. Remittances have a positive impact on the domestic economy, but there have also been negative effects. Dimaya et al. (2012) studied these effects and analyzed the policy responses to address the problems.

For example, student nurses became more interested in training for jobs overseas, especially in secondary and tertiary hospitals, and less interested in community health care. Therefore, the nurses who did not succeed in emigrating were unsuitable for the jobs available in their own country. There was also a significant increase in the number of nurse training programs. Many of these new nursing colleges were of low quality: mediocre faculty and college facilities, and overcrowded training sites.

Another cluster of problems related to shifts in the quality and quantity of nurse labour supply. Dimaya et al. (2012) called this "the Philippine Paradox." This refers to a series of events, starting with a brain drain as the more capable nurses left the country in large numbers. This was followed by an oversupply of unemployed recent nurse graduates whom foreign employers refused to hire due to their lack of professional experience. As more experienced nurses found jobs overseas, their vacant positions were taken by these unemployed nurses with limited experience. National hospitals were then forced to retrain the new nurses, only to experience the same cycle again once the new nurses had developed enough skills to emigrate. There are anecdotal reports that this dynamic is starting to happen in Bangladesh.

As a result of these problems, professional nursing groups organized a central advisory body that guides policy development and advocacy. This body includes public and private sector organizations representing healthcare, employment and migration. It advises on policy about education and training for healthcare workers, issues of domestic labour and employment, and ethical recruitment. The policy development process coordinates all the parties within the nursing sector. Responsibility and leadership is shared among more than 20 different groups. Jointly, the various parties have agreed to revision of curriculum and education standards (such as competencies and core values). In Bangladesh, the fragmentation of nursing professional groups would make this approach hard to adopt. Siddiqui and Appiah (2008) describe some of the consultative approaches attempted in Bangladesh with the aim of developing policy to support ethical and mutually beneficial nurse migration. Unfortunately, they were not able to report any results of this consultation.

There have been some important innovations in the Philippines to address these issues. The innovations provide opportunities in-country for nurses who cannot find work at home or abroad; these nurses provide services in underserved and rural areas. Some positive outcomes have resulted. First are changes in how nurses are employed. There is now better definition of nurses' roles and responsibilities. This has helped to strengthen the nursing sector and its contribution to health services. Second, there is now recognition of nurses' ability to practise independently as primary care providers. Third, the government has adapted its emigration policy by developing bilateral agreements with receiving countries based on the WHO Code for ethical recruitment of nurses.

Summing up, key elements of the Philippines nursing policy could be relevant in Bangladesh:

- Improved quality assurance, accountability and coordination;
- Involvement of public and private sector stakeholders in constructive dialogue;
- National policies for ethical recruitment practices; and
- Expanded scope for nurses so that they could be employed in underserved areas as primary health care providers.

Using national strategy to make a good system better in Sri Lanka

Overall, Sri Lanka has some of the best population health outcomes in South Asia. Because the country shares cultural and economic similarities with Bangladesh, it is worth looking at how nursing contributes to the country's impressive health outcomes. To begin, Sri Lanka has a higher nurse-to-population ratio than other South Asian countries. However, all observers note that Sri Lanka still has an acute shortage of nurses overall, and they recommend increases in their number and quality. As an example of the quality concern, current nurse education lacks the specialized clinical competence required by major hospitals (De Silva 2010).

Most nursing services are provided by diploma-prepared RNs and midwives. All government nursing schools offer three-year diplomas based on a national curriculum. A BSN degree is offered in a few universities and a post-diploma degree is available through the Open University. A Master of Science in Nursing degree was introduced in 2000 (Jayasekara 2009, Daily News.lk 2007).

Since 2011, nurses graduating from government schools register with the Sri Lankan Nursing Council (SLNC). Because SLNC has no procedure for registering privately trained nurses, they work only in private hospitals (Jayasekara 2009). Practising RNs elect a majority of the 19 SLNC members; the remaining members are appointed by the Health Ministry, Ministry of Finance and Ministry of Higher Education (Asian Mirror 2011, Daily News.lk 2011).

Nurse in Colombo slum, Sri Lanka (AIDEN JONES/FLICKR)

Recent policy recommendations to strengthen nursing in Sri Lanka could also be relevant in Bangladesh. Jayasekara (2009) offers the most comprehensive approach. For registration, he proposes that the SLNC should register both government- and private-trained nurses. For nurse education he proposes to:

- Develop a national nursing education framework with guidance from clinicians, educators and administrators as well as from healthcare experts and the public;
- Expand existing BSN programs to meet the demand from government and private health services;
- Expand the post-diploma BSN program at the Open University and make it easier for current diploma-prepared RNs to upgrade their qualifications to a BSN;
- Affiliate existing nursing schools with universities to enable promotion of nursing tutors on the basis of their qualifications and experience; and
- Increase the quantity and quality of nurse educators by providing post-graduate education opportunities through local and international universities.

Canada uses different kinds of nurses and varied processes to ensure quality of care

Two features of the Canadian health care system may be relevant for the development of the nursing profession in Bangladesh. First, Canada educates nurses to different levels with corresponding differences in scope of practice. Second, in order to manage the complex health care environment, Canada has developed many structures and processes to ensure quality, protect the public and promote the nursing profession.

Different levels and types of nurses are needed

Canada, like many countries, defines different classes of nurse, depending on the work requirements. These different classes have different scopes of practice specified in regulations. Although each province in Canada has slightly different arrangements, the roles outlined in Table 1 generally apply.

In Bangladesh there are somewhat similar distinctions between paramedics, diploma- and BSN-prepared nurses, any of whom may have additional certification. There are also some "nurses" with no

CANADIAN NURSES AT HOPSITAL IN MORRELGANJ, BANGLADESH. Canada educates nurses to different levels with corresponding differences in scope of practice. JOHN RICHARDS PHOTO

Table 1: Organization of nursing roles and education levels in Canada

Type of nurse	What they do	Education
Nursing aide	Work under direction of RNs in hospital settings. Work with elderly clients in various settings.	6 months certificate
Licenced Practical Nurse; Registered Nursing Assistant	Work under direction of doctors and RNs in hospital settings. Work independently with stable patients in hospital and community settings.	2-year diploma
Registered Nurse	Work under direction of doctors and independently in hospital and community settings.	4 year BSC or BSN degree
Nurse practitioner or RN with post-graduate qualifications or specialty training	Work as a team member or independently with stable and unstable patients in hospital and community settings. Teach in college and university programs.	Specialty certification; Master's, PhD

training at all. Unlike Canada, the scopes of practice in Bangladesh are not formally defined; practice is loosely regulated (if at all) and there is no limit on who may use the title "nurse," which creates confusion and skepticism for the public.

In a complex environment, many organizations influence quality assurance

The nursing profession is part of a very complex health care industry. In Canada it is regulated at the provincial level according to the principles of professional regulation endorsed by the International Council of Nurses. These provincial regulatory bodies have authority similar to the Bangladesh Nursing Council. However, quality assurance for nursing is also influenced by regulations and policies of many other professional agencies, educational accrediting bodies, government departments and private sector actors, including civil society groups and the media. The regulatory bodies must interact with many other organizations.

All of the agencies in Figure 3 have defined roles, but they must work closely together to achieve common coordinated goals.

Examples of shared quality assurance

- Regulators and employers define competencies for safe practice.
- Employers and unions agree safe working conditions.
- Nurse educators, employers and professional associations define competencies for advanced practice.

Figure 3: Quality assurance is a shared responsibility

- Universities (public and private) work with the provincial ministries of education, accreditors and regulators to ensure graduates meet appropriate standards.
- Researchers and employers analyze quality of care provided by nurses.
- Regulators and employers work with accreditation bodies to define nursing quality in hospitals.

In Bangladesh, there are very few external quality monitoring bodies; only one private hospital has international accreditation. Internal quality assurance mechanisms vary widely. There is no public reporting of quality, so members of the public have no way of knowing whether the care they receive is safe.

Although these international examples may suggest possible solutions for Bangladesh, there are no perfect answers from abroad to copy. Every country faces unique challenges and opportunities. In the final chapter, we propose a step-wise approach for strengthening nurse education in Bangladesh.

5. Opportunities for scaling-up and strengthening nursing capacity in Bangladesh

1. Build a leadership coalition and a guiding strategy for nursing resource development

Senior politicians have stated that nursing in Bangladesh deserves strengthening as a vital part of the health system and the economy. This message needs constant reinforcement, with support from politicians at all levels as well as from senior medical leaders. It would be helpful to have a formal announcement about development of nursing as a profession. This might take the form of a clearly stated vision and expectation for nursing from the Prime Minister and Minister of Health, supported by other relevant ministers. Business leaders and civil society groups should also be promoters of such a vision because better nursing care benefits all sectors. Popular media stories and celebrities could help counter the stigma against nursing and encourage bright young men and women to enter the profession.

Within MOHFW, top officials would benefit from a clear strategy to guide policies and priorities. An implementation plan should identify who would be involved in the work, building in accountability to make sure the strategy is followed, for example by identifying committees with specific tasks. Internal MOHFW committees, supplemented with groups of external stakeholders, would be a strong coalition for shared action. In other countries, external stakeholders play a key role in policy development because they bring varied perspectives to balance the views of government officials. The strategy could include broad policy directions such as scaling-up capacity to train more nurses. It could also include more focused mechanisms – for example, to improve quality of nursing practice in hospitals. Strengthening nursing is a complex task; it will require a long-term commitment. The current nursing project supported by Canada will provide an excellent foundation for this coordinated effort.

Human Resources Information Systems are critical for resource management, planning and monitoring. This information will be needed as the strategic planners explore various options. Personnel data should be linked to meaningful service delivery data, as well as staff training and performance measures. A first step would be to develop a system model and minimum data set for the nurse education sector.

Table 2 illustrates the importance of strong HR strategy for the organization of nursing work and training. (This is an example: the titles and job duties may not evolve exactly as shown.) If each role is inter-connected with the others, nurses can take extra training to move into a higher qualification. Also, there should be some way to test and up-skill nurses or helpers like ward-boys so that their experience-based learning is fully utilized. However, any formal change to roles and responsibilities will affect other policies, such as education standards, recruitment and promotion processes, performance standards and wages. Redesign of work is just one of many areas that require a framework of carefully considered HR policies.

Table 2: Possible reorganization of nursing roles and education

Type of nurse	What they will do	Length of training	Training site
Nursing aide; paramedic	Work under direction of registered nurses (RN) in hospital setting.	6 months certificate	New training institutes
Junior RN	Work under direction of doctors and RNs in hospital setting; may work under direction of doctors with stable patients in community setting.	2-year diploma	Government nurse training institutes
Intermediate RN-midwife	Work under direction of doctors and senior RNs in hospital setting; may work independently with stable patients in hospital setting.	3-year associate degree plus additional midwifery training	Government nurse training institutes
Senior RN-midwife	As Head Nurse, lead groups of nurses under direction of doctors in hospital setting; may work independently with stable and unstable patients in hospital and community settings. Junior instructor in training institutes.	4 year BSC or BSN degree	Private and public sector universities

2. Create a country-wide collaborative effort to advance nurse education

While the shortage of nurses in Bangladesh is severe, the shortage of nurse educators is an even greater problem if nurse training is to expand as required. Scaling up capacity of nurse educators – in terms of both ability and number – is essential. This task will require coordination and training of senior staff across MOHFW, BNC and Ministry of Education for planning, implementing, and evaluating projects.

Given the shortage of qualified educators, it would be useful to create a national collaborative effort to support basic or pre-registration nurse education programs. This "collaborative" could include private and public nursing colleges and training institutes, nurse regulators and associations, as well as stakeholders such as nurse employers, higher education institutions, other professional groups (e.g. medical associations) and donor representatives. Again, we emphasize the importance of balancing government perspectives with those of external stakeholders, consistent with international experience and "best practice." The primary goal of such a collaborative would be to increase capacity (more and better education) within nursing colleges and training institutes.

The collaborative's first priority should be to establish and validate competencies or practice standards for nursing graduates in Bangladesh, based on global standards and national needs (e.g. WHO 2009b). This validation process should include the stakeholders noted previously, as well as international experts who can advise on evidence and trends. The resulting competency statement would be the benchmark to assess current education programs and clinical training sites. Competencies and associated responsibilities can also support improved human resources practice. Better wages and working conditions are important to persuade highly competent nurses to become educators. Competencies can be used to match nurses' responsibilities with other professions (e.g. accountancy) so that attractive and equitable incentives can be developed.

Next, the collaborative should develop a plan to strengthen the capacity of the existing pool of educators. It will be important to identify and validate competencies for faculty, which could be used to assess the current situation in all nurse education institutes. By assessing strengths and weaknesses of capacity at each institute, collaborative members could also develop regional approaches to balance workload and student learning experiences. Such approaches might include filling major gaps with external resources like "master teachers" from in country or abroad. In addition, using these competencies it will be possible to develop individualized learning plans for current faculty. Educators who are already working need opportunities for professional development based on personal learning plans. Program and individual evaluation can help improve group performance based on these learning plans (Oulton and Hickey 2009). Programs for current faculty could offer, for example, a two-year Masters in Nursing (MSN) with a strong emphasis on pedagogy; or a one-year post-BSN Teaching Certificate; or specialty short courses, all with full and part-time attendance options.

NURSE EDUCATORS: While the shortage of nurses in Bangladesh is severe, the shortage of nurse educators is an even greater problem. S CHOWDHURY PHOTO

Some hospital-based nurses may be suitable as teachers, particularly as clinical preceptors in hospitals. Although they may lack formal qualifications, some could be a source of experienced personnel to expand training programs quickly. However, they would also need individualized assessment and tailored instruction for upgrading. These practicing nurses and probably all nurse educators would benefit from skill-development courses in teaching and learning. International faculty and internet-based learning can play significant roles with training of trainers.

Because of the time required, it is important to start developing advanced level nursing courses, especially MSN programs that emphasize "training of trainers." This is a significant and pressing challenge: current faculty will not be nearly enough to train the large number of nursing students required. Some preparation has already started. Senior nurse educators have developed detailed recommendations for development of an MSN program tailored to the Bangladesh context (Lund et al. 2014). However, new resources will be needed, both financial and intellectual. Private universities could play a role in delivering MSN programs, as they do presently with MPH programs. There should be a strong quality assurance process for all post-graduate nursing education, whether public or private. International support would be helpful here since few Bangladeshi educators have the appropriate qualifications to teach or perform quality assessment at the MSN level.

The collaborative effort could also explore technology-based solutions. Web-based learning, widespread in high-income countries, is little used in Bangladesh nurse education. Cost of the technology is rapidly falling. Investing in digital transmission of high quality lectures and teaching material could greatly enhance student learning across the country. For example, content experts based in one of the larger academic centres could webcast lectures to other training centres. Local instructors attending with their students would be available to help students assimilate lecture material, and add relevant clinical examples. The instructors would be able to upgrade their own knowledge in a discreet fashion. This might mean for example, that a recognized expert in cancer nursing present a series of lectures broadcast to all nursing institutes simultaneously via the internet. After delivery, these lectures could be recorded and archived so that students (and faculty) could review the material independently or use them during follow-up discussions in local classrooms.

Finally, there is need for a coordinated national effort to provide post-graduate professional development. The objective would be to ensure that practising nurses can remain current with scientific advances in their profession. A first step would be to make an inventory of all professional development opportunities available through hospital in-service and external short courses. Collaboration between the educational institutions and employers could create opportunities for post-graduate certificate courses in specialties such as Operating Theatre and Critical Care.

3. Develop system supports to promote higher standards in nursing education and practice

Change cannot occur in a vacuum. Nursing practice in modern health care settings is one part of a complex system. Changing any element in the health system affects several other systems, which in turn will have an impact on nursing. Therefore it will be important to look at "the big picture" when planning policy to strengthen nursing practice and education. Here we discuss three priority areas:

- Quality management of clinical nursing is necessary to encourage improvement. Currently in Bangladesh, there are very few quality management processes for nursing practice. In other parts of the world, quality assurance is built into professional regulation, nurse education and hospital administration and individual behavior. This multi-dimensional approach usually includes processes such as accreditation, continuing competence evaluation, peer review, nursing audit, review of documents, client satisfaction surveys and morbidity data. It is a very big task to create such a system, especially where none has existed before. There should be a "made in Bangladesh" approach to develop quality assurance in the clinical setting, probably with support from international advisers to provide technical assistance.
- Robust quality assurance mechanisms are also needed for nurse education. Currently the Bangladesh Nursing Council regulates education standards, registration and licensure, and continuing competency requirements. Due to the rapid evolution of nursing knowledge and practice in modern societies, such a regulatory body dominated by government appointees may not be the most effective. There are other options to consider. Many countries allow professional associations to nominate members to regulatory bodies and attempt to balance concerns about close quality regulation with the benefits of allowing independent institutions to develop new programs. In Canada, for example, responsibility for quality assurance of nurse education is shared among provincial nursing councils, the Canadian Association of Schools of Nursing, university authorities and employer advisory groups (Canadian Association of Schools of Nursing 2012; WHO 2008). For further development in Bangladesh, an internationally recognized professional nursing group could work collaboratively with national experts to provide guidance on strengthening quality assurance in the nurse education sector. Because of the urgent need for expansion of training sites, the group's first priority should be creation of an advisory structure to approve new schools of nursing.
- Changes in the workplace will be required to make sure students can observe good practice and newly trained graduate nurses can be used properly. Excellent clinical practice sites are vital. Good role models are the most important requirement for practice settings. This means that all the nurses and doctors in a particular ward are dedicated to providing superior clinical practice and team-work at all times. Senior doctors and nurses must demonstrate not only strong clinical skills, but also respectful communication with all members of the health care team and high ethical standards towards patients and family members. Without excellent clinical practice opportunities for students and junior nurses, the present practice standards cannot be improved.

Some of these changes require resources, such as adequate equipment, workspace and supplies. Funding these changes may not be possible on a large scale. Other changes require management time to develop and implement, for example, revised job descriptions and expectations; motivation and incentives for different performance expectations; supportive supervision; and clear and immediate performance feedback. There may not be enough resources to introduce these changes everywhere at once. Therefore it may be helpful to consider pilot or "beacon" sites, where limited resources can be concentrated. According to Oulton and Hickey (2009), Nepal has invested in 'model wards' for clinical nursing practice. By carefully selecting and nurturing a smaller number of sites, better results can be created. Lessons learned from the pilot sites can be applied to the next generation of sites selected for implementation. However, because of the expense, this needs further evaluation. In the meantime, there could be recognition awards or other social marketing efforts to encourage hospital wards to volunteer to improve the student nurse experience. Also, clinical simulation laboratories can be created for educational settings.

EFFECTIVE VOICE FOR NURSES All participants in the Cooperative Dialogue commented that lack of leadership, support and recognition undermines their daily effort to improve nursing services. International evidence shows that strong, self-regulating professional nursing associations enable nurses to maximize their contribution to public health. JOHN RICHARDS PHOTO

Engagement of all stakeholders is critical if nurses are to maximize their contribution to the health care system. It will be especially important to encourage doctors to support the changes in education and scope of practice of nurses. When doctors demonstrate respect for nurses and nursing work, quality of care improves (Agency for Health Care Research and Quality 2010). Creating a culture of respect for nursing in Bangladesh society is a long-term goal. It will require consistent and visible leadership from the top levels of the medical profession in Bangladesh, namely the professional associations and educational institutes. In this regard, it may also be useful to enlist support of Bangladeshi physicians working overseas, where they observe the modern role of nurses in international settings.

In a final recommendation, it is appropriate to give voice to nurses themselves. All the participants in the Cooperative Dialogue commented that lack of leadership, support and recognition undermines their daily effort to improve nursing services (Lund et al. 2014). This lack of effective voice is in part due to lack of unity among the groups representing nurses. Dialogue participants recommended formal system supports for nurses, such as a forum for regular communication and sharing of resources among themselves, and linkages to policy-makers and regulators. Such a forum would enable nurses to express professional concerns to senior administrators. International evidence shows that strong, self-regulating professional nursing associations enable nurses to maximize their contribution to public health.

6. Conclusion

MANY OF THE BARRIERS TO STRENGTHENING THE PROFESSIONAL ENVIRONMENT for nurses are common to all South Asian countries. Many factors impede the goal of "enhancing the role of nursing" (to use the expression of Oulton and Hickey). We have focused on one aspect, the education of nurses within the larger context of health human resources. A strong policy platform for developing the nurse education system could release nurses' capacity as caregivers, advocates and client educators.

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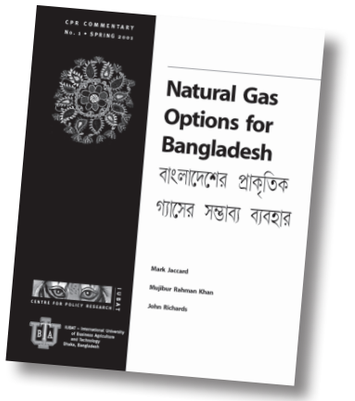
CPR COMMENTARY NO. 1

Natural Gas Options for Bangladesh

বাংলাদেশের প্রাকৃতিক গ্যাসের সম্ভাব্য ব্যবহার



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The very low level of available commercial energy is a serious constraint on economic development in Bangladesh. Fortunately, there is one bright prospect – sizeable discoveries of natural gas.

This report explores three options for how Bangladesh might use its natural gas endowment: exporting gas to provide public revenues that could be directed to many other development needs; expanding the many possible end-uses for gas in domestic industry, agriculture and households; or concentrating natural gas use on accelerated electrification. After assessing the three options, the authors conclude that rapid electrification should have the highest priority.

In addition, the report discusses institutional reforms to foster private investment and to improve the transparency, efficiency and consistency of government corporations, ministries and agencies. There is an important case to be made for integrated resource planning that includes environmental and social objectives.

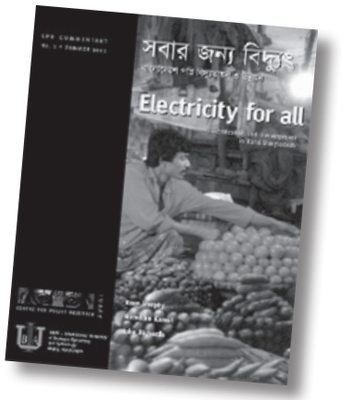
বাণিজ্যিক খাতে জ্বালানি শক্তির অতিস্বল্পতা বাংলাদেশের অর্থনৈতিক উন্নয়নের পথে একটি গুরুত্বপূর্ণ অন্তরায়। সৌভাগ্যক্রমে প্রাকৃতিক গ্যাসের বড় ধরনের উৎস আবিস্কৃত হওয়ায় উন্নয়ন ক্ষেত্রে একটি উজ্জ্বল সম্ভাবনা সৃষ্টি হয়েছে। এই প্রতিবেদনে বাংলাদেশের প্রাকৃতিক গ্যাস সম্পদ ব্যবহারের তিনটি সম্ভাবনা নিয়ে পর্যালোচনা করা হয়েছে ঃ গ্যাস বিদেশে রপ্তানী করে সরকারী রাজস্বখাতে অর্থ আয় যা উন্নয়নের চাহিদা মিটাতে পারবে, দেশীয় শিল্প, কৃষি, গৃহস্থলি ও অন্যান্য সম্ভাব্য কাজে গ্যাসের ব্যবহার সম্প্রসারণ; বা দ্রুত বিদ্যুতায়নের ক্ষেত্রে প্রাকৃতিক গ্যাসের ব্যবহার কেন্দ্রীভূত করা। এই তিনটি সম্ভাবনা যাচাই করে প্রতিবেদকগণ এই সিদ্ধান্তে পৌছেন যে দ্রুত বিদ্যুতায়নই সর্বোচ্চ প্রাধান্য পাওয়া উচিৎ।

অধিকন্তু এই প্রতিবেদনে কিছু কিছু প্রাতিষ্ঠানিক সংস্কারের বিষয় আলোচনা করা হয়েছে যা বেসরকারী বিনিয়োগকে উৎসাহিত করবে এবং সরকারী প্রতিষ্ঠান, মন্ত্রণালয়সমূহ এবং এজেন্সিসমূহের কাজের স্বচ্ছতা, দক্ষতা এবং নির্ভরযোগ্যতা বৃদ্ধি করবে। পরিবেশগত এবং সামাজিক লক্ষ্যগুলি অন্তর্ভুক্ত করে সমন্বিত সম্পদ পরিকল্পানার গুরুত্বের বিষয়ও এই প্রতিবেদনে সুপারিশ করা হয়েছে।

CPR COMMENTARY NO. 2

Electricity for All

সবার জন্য বিদ্যুৎ



by **ROSE MURPHY,** *Research Associate with the Energy and Materials Research Group at the School of Resource and Environmental Management at Simon Fraser University,* **NURUDDIN KAMAL**, *Senior Research Fellow for the Centre for Policy Research at IUBAT, and* **JOHN RICHARDS,** *Professor, Master of Public Policy Program at Simon Fraser University*

বাংলাদেশে পাঁচজনের মধ্যে মাত্র একজন বিদ্যুতের সুবিধা পান। গ্রাম বাংলায় বিদ্যুতের সুবিধা পান প্রতি সাতজনে একজন।

বাংলাদেশে বিদ্যুৎ খাতে এই সমস্যাগুলি কেন অব্যাহত থাকছে? এই সমস্যাগুলি সমাধানের জন্য কি ব্যবস্থা নেয়া যায়? এই রিপোর্টে দ্রুত বিদ্যুতায়ন, বিশেষ করে পল্লি বিদ্যুতায়নের ক্ষেত্রে বাধা সমূহের মূল্যায়ন করা হয়েছে। একই সাথে এই বাধাসমূহ দূর করার জন্য কিছু বাস্তবধর্মী সুপারিশ রাখা হয়েছে।

বর্তমানে পল্লি বিদ্যুতায়ন বোর্ড (আর ই বি) এবং তার সমবায় নেটওয়ার্ক পল্লি বিদ্যুৎ সমিতিগুলির মাধ্যমে পল্লি এলাকায় দেশে ব্যবহৃত বিদ্যুতের এক চতুর্থাংশ বিতরণ করে। এই আকর্ষণীয় সাফল্য সত্ত্বেও, বাংলাদেশে বিদ্যুতায়নের ক্ষেত্রে আরো অনেক কিছু করার বাকি আছে।

গবেষকগণ সুপারিশ করেন যে আর ই বি'কে স্বাধীনভাবে বিদ্যুৎ উৎপাদনের প্রতি অগ্রাধিকার ভিত্তিতে অধিক গুরুত্ব দিতে হবে, বিশেষ করে জাতীয় সঞ্চালন গ্রীড বহির্ভূত এলাকাসমূহে। এই সম্প্রসারণের জন্য প্রয়োজন হবে অধিকতর মাত্রায় ব্যক্তিখাতে বিনিয়োগে এবং আর ই বি গ্রাহকদের ক্ষেত্রে বর্ধিত হারে গড় ট্যারিফ।

অধিকতর হারে নতুন বিনিয়োগ আকর্ষণ এবং ট্যারিফসমূহের সংস্কার কঠিন কাজ, তবে বিদ্যুৎ ব্যবস্থার ব্যাপক সম্প্রসারণের লক্ষ্যে গুরুত্বের সাথে এই প্রয়োজনীয় সংস্কারসমূহ বাস্তবায়ন যুক্তিসঙ্গত।

Only one in five Bangladeshis has access to power; among those in rural areas the ratio is about one in seven. What can be done to improve access? This report assesses the barriers to accelerated electrification – rural electrification in particular – and offers practical recommendations.

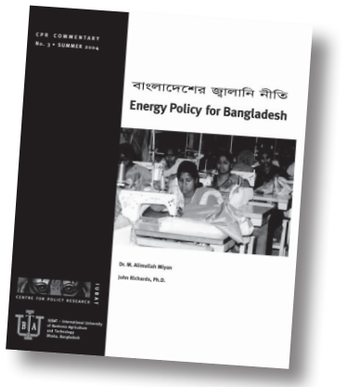
The Rural Electrification Board (REB) and its network of cooperatives – Palli Biddyut Samitees – now distribute nearly a quarter of electricity consumed in the country. Despite this impressive accomplishment, they need to do more.

The authors recommend that the REB place a high priority on power generation independent of the national transmission grid. This expansion will require private investment and higher average tariffs for REB customers. Securing major new investment and revising tariffs will not be easy, but the goal of increased electrification is sufficiently important to justify the required reforms.

CPR COMMENTARY NO. 3

Energy Policy for Bangladesh

বাংলাদেশের জ্বালানি নীতি



by **DR. M. ALIMULLAH MIYAN,** *Vice Chancellor and Founder, IUBAT, and* **JOHN RICHARDS,** *Professor, Master of Public Policy Program at Simon Fraser University*

বাংলাদেশের ভবিষ্যৎ সমৃদ্ধির জন্য পর্যাপ্ত পরিমাণ বাণিজ্যিক জ্বালানি সরবরাহের গুরুত্ব সম্বন্ধে অতিরঞ্জনের কোন অবকাশ নেই। বাংলাদেশ সরকার ২০০৪ সালের মে মাসে একটি খসড়া জাতীয় জ্বালানি নীতি ঘোষণা করে এবং এর উপর জনসাধারণের অভিমত আহবান করে। সরকারের এই প্রতিবেদনে বর্তমান নীতির গুরুতর সমস্যার বিষয় এবং নূতন নীতি প্রণয়ন যে অতীব বিতর্কপূর্ণ তা স্বীকার করা হয়।

সেন্টার ফর পলিসি রিচার্সের এই তৃতীয় প্রতিবেদনটির মাধ্যমে খসড়া জাতীয় জ্বালানি নীতির উপর মন্তব্য এবং সুপারিশ করা হয়েছে। ড. এম আলিমউল্যা মিয়ান, উপাচার্য ও প্রতিষ্ঠাতা, আই ইউ বি এ টি - ইন্টারন্যাশনাল ইউনিভার্সিটি অব বিজনেস এগ্রিকালচর এন্ড টেকনোলজি এবং ড. জন রিচার্ডস, অধ্যাপক, সাইমন ফ্রেজার ইউনিভার্সিটি, কানাডা এবং আই ইউ বি এ টি'র ভিজিটিং অধ্যাপক এই প্রতিবেদনটি প্রণয়ন করেছেন। তাঁদের সুপারিশ মালার মধ্যে প্রাকৃতিক গ্যাসের রপ্তানি থেকে শুরু করে জৈব জ্বালানি শক্তি ব্যবহারের উন্নতি সাধনসহ গুরুত্বপূর্ণ বিষয় সমূহ অন্তর্ভূক্ত হয়েছে।

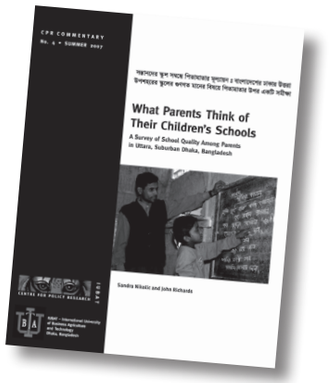
It is hard to exaggerate the importance of adequate supplies of commercial energy for the future development of Bangladesh. In May 2004, the Government of Bangladesh released a draft National Energy Policy, and invited public commentary. The government report acknowledges the serious shortcomings of present policy and the dilemmas in designing new policy.

In this third report of the Centre for Policy Research, Dr. Alimullah Miyan, Vice-Chancellor and Founder of IUBAT—International University of Business Agriculture and Technology, and Dr. John Richards, Professor at Simon Fraser University in Canada and Visiting Professor at IUBAT, respond to the draft National Energy Policy and offer a series of recommendations. The recommendations cover major issues from export of natural gas to improvements in the utilisation of biomass fuels.

CPR COMMENTARY NO. 4

What Parents Think of Their Children's Schools

A Survey of School Quality Among Parents in Uttara, Suburban Dhaka, Bangladesh



সন্তানদের স্কুল সম্বন্ধে পিতামাতার মূল্যায়ন ঃ বাংলাদেশের ঢাকার উত্তরা উপশহরের স্কুলের গুণগত মানের বিষয়ে পিতামাতার উপর একটি সমীক্ষা

by **SANDRA NIKOLIC,** *Planner, Health Services Authority of British Columbia, and*
JOHN RICHARDS, *Professor, Master of Public Policy Program at Simon Fraser University*

বিগত এক দশকে শিক্ষার প্রাপ্যতা বিস্তারে বাংলাদেশ প্রশংসনীয় সাফল্য অর্জন করেছে। ২০০৪ ইংরেজি সালে ১৮ মিলিয়ন শিশু, ১,১০,০০০ প্রাথমিক স্কুলে ভর্তি হয়। এতদ্সত্ত্বেও অনেক পিতামাতা তাঁদের সন্তানদেরকে বেসরকারি স্কুলে ভর্তি করান, যার ব্যয়ভার তাঁদেরকে বহন করতে হয়। আরো অনেকে বেছে নেন বেসরকারি সংস্থা কর্তৃক পরিচালিত স্কুল, যেমন ব্রাক পরিচালিত স্কুল বা মাদ্রাসা। সরকার পরিচালিত স্কুলের চেয়ে বেসরকারি পর্যায়ে পরিচালিত স্কুলের জনপ্রিয়তার মধ্যে আমরা দুটি বিষয়ের দিক নির্দেশনা দেখতে পাই যথা স্কুলের গুণগতমান সম্বন্ধে পিতামাতার উদ্বেগ এবং স্কুলে স্থান সঙ্কুলান সম্পর্কে সচেতনতা।

স্কুলের গুণগতমান সম্পর্কীয় সমস্যা সম্পর্কে পিতামাতার মনোভাব যাচাই করার জন্য, ঢাকা শহরের উত্তরে অবস্থিত উত্তরায় আইইউবিএটি-ইন্টারন্যাশনাল ইউনিভার্সিটি অব বিজনেস এগ্রিকালচার এবং টেকনোলজি'র গবেষণারত ছাত্র-ছাত্রীরা একটি জরিপ পরিচালনা করে। জরিপের ফলাফল এই প্রতিবেদনে উপস্থাপন করা হয়েছে। এই সমীক্ষায় শিক্ষার ফলাফল উন্নত করার লক্ষ্যে কয়েকটি কৌশলের মূল্যায়ন করা হয়েছে।

Over the last decade, Bangladesh has made impressive gains in the *quantity* of education available. As of 2004, there were 18 million children enrolled in 110,000 primary schools. Still, many parents choose to enrol their children in private schools where parents pay, in nonformal schools run by NGOs such as BRAC, and in madrasas. The popularity of school types other than government-run schools suggests that parents have concerns about school quality – as well as the availability of school spaces.

To assess parental attitudes to problems of school quality, student researchers from IUBAT—International University of Business Agriculture and Technology surveyed residents in Uttara, a suburb in northern Dhaka. This study reports their findings. The study also assesses broad strategies for improving education outcomes.

CPR COMMENTARY NO. 5

Barriers to Girls' Secondary School Participation in Rural Bangladesh

গ্রাম-বাংলায় মাধ্যমিক স্কুলে মেয়েদের অংশগ্রহণে প্রতিবন্ধকতা

by **JENNIFER HOVE,** *Bachelor of International Relations at University of British Columbia 2000, Master of Public Policy at Simon Fraser University 2007, Visiting Fellow, IUBAT*

বিগত ১৫ বছর মাধ্যমিক স্কুলে ছেলে-মেয়ে উভয়ের ভর্তির হার নাটকীয়ভাবে বেড়েছে। অবশ্য মেয়েদের ৬ষ্ঠ থেকে ১০ম মান পর্যন্ত লেগে থেকে পড়া শেষ করার হার হতাশাব্যঞ্জকভাবে কম। তুলনামূলকভাবে যদিও ছেলেদের টিকে থকার হারও কম। ৬ষ্ঠ মানে ভর্তির বেলায় ছেলে-মেয়ের ভর্তির হার প্রায় সমান সমান। ১০ম মান পর্যায়ে ছেলেরা মাধ্যমিক সরকারি পরীক্ষায় বিশেষভাবে মেয়েদের থেকে এগিয়ে। দশম মানের পরবর্তী উচ্চ মাধ্যমিক পর্যায়ে ভর্তির বেলায়ও ছেলেদের হারই বেশি। মেয়েদের মধ্যে যাঁরা ১০ম মান শেষ করে উচ্চ মাধ্যমিক একাদশ ও দ্বাদশ শ্রেণীতে প্রবেশ করে তাদের হার মাত্র ১৩%। স্কুল, পরিবার ও বৃহত্তর পর্যায়ে সমাজের মধ্যে এমন কিছু ক্ষমতাধর শক্তি কাজ করে যা মেয়েদেরকে স্কুলে টিকে থাকতে নিরুৎসাহিত করে। পলী এলাকার ৪টি স্কুলের শিক্ষক, ছাত্রী ও পিতামাতার মধ্যে সমীক্ষা চালানোর মাধ্যমে এই গবেষণায় ছাত্রীরা কেন স্কুল ছেড়ে যায় তার কারণ বিশেষণ করা হয় এবং একই সাথে কি নীতিমালা অবলম্বনে ছাত্রীদের মাধ্যমিক স্তরে স্কুল শেষ করার হার বাড়ানো যায় তার সুপারিশ পেশ করা হয়।

Over the last 15 years, secondary school enrolment rates among both boys and girls have risen dramatically. However, girls' rates of progression and completion of the secondary cycle (from Grades 6 through 10) are disturbingly low – albeit the comparable rates for boys are also low. At Grade 6 there is near parity between the number of boys and girls enrolled. By Grade 10, boys are significantly ahead of girls in participation in public examinations and promotion to higher secondary school. Only 13 per cent of girls who complete the tenth grade transition to the higher secondary Grades of 11 and 12. There are powerful forces at work within schools, families and the broader society that dissuade girls from staying in school. Based on interview responses among teachers, students and parents in four rural schools, this study analyses why girls drop out of school, and offers policy recommendations to increase completion rates.

CPR COMMENTARY NO. 6

A New Mandate for the Rural Electrification Board

পল্লী বিদ্যুতায়ন বোর্ডের জন্য নতুন নির্দেশাবলীঃ

বিদ্যুৎ স্বল্পতা নিরসনে এলাকা-ভিত্তিক পরিকল্পনার পদক্ষেপ

by **B.D. RAHMATULLAH, NANCY NORRIS, JOHN RICHARDS**

নির্ভরযোগ্য বিদ্যুৎ অভাব বাংলাদেশের অর্থনৈতিক উন্নয়নকে দারুণভাবে বাধাগ্রস্ত করছে। বাংলাদেশের শতকরা ৭৮ ভাগ প্রতিষ্ঠান দুর্বল বিদ্যুৎ সেবাকে তাদের ব্যবসা সম্প্রসারণে প্রধান অন্তরায় হিসাবে চিহ্নিত করে।

সফল সংস্কারের ভিত্তি হলো প্রশাসনিক বিশ্বাসযোগ্যতা। বিদ্যুৎ খাতের প্রধান সংস্থাগুলির মধ্যে সবচাইতে বেশী বিশ্বাসযোগ্য হলো পল্লী বিদ্যুতায়ন বোর্ড (আর ই বি)। বিগত একদশকে আর ই বি বিদ্যুৎ সংযোগের সংখ্যা দ্বিগুণ করেছে এবং এই সংস্থা বর্তমানে বাংলাদেশে উৎপাদিত মোট বিদ্যুতের শতকরা ৪০ ভাগ বিতরণ করে থাকে। এই মনোগ্রাফের প্রণেতাগণ সুপারিশ করেন যে আর ই বি-এর ম্যান্ডেট সম্প্রসারণ করে জাতীয় গ্রীডের বাইরে স্বাধীনভাবে বিদ্যুৎ উৎপাদনের ব্যবস্থা করা। স্বাধীনভাবে বিদ্যুৎ উৎপাদনে স্বাভাবিকভাবেই এই সংস্থার সহযোগী পল্লী সমবায় (পল্লী বিদ্যুৎ সমিতি)গুলি সম্পৃক্ত হবে। উৎপাদিত বিদ্যুত অগ্রাধিকার ভিত্তিতে স্থানীয়ভাবে সহযোগী পি বি এস এর গ্রাহকদের মধ্যে বিতরণ করা হবে।

A lack of reliable electrical power is severely impeding Bangladesh economic development. Seventy-eight per cent of Bangladeshi firms cite poor electricity service as a “major” or “severe” obstacle to expansion.

Successful reform requires building on a foundation of administrative credibility. The most credible of the major agencies in the power sector is the Rural Electrification Board (REB). Over the last decade, it has doubled the number of customer connections, and now distributes 40 per cent of all power generated in Bangladesh. The authors of this monograph recommend an expansion of the REB mandate to enable the REB and its network of rural cooperatives (Palli Biddyut Samitee) to create generating capacity independent of the national grid, capacity whose power would be distributed on a priority basis to customers in the local participating PBS.

CPR COMMENTARY NO. 7

Benchmarking the Nutritional Status of Women in the Tongi-Ashulia Road Slums

টঙ্গি-আশুলিয়া সড়কের বস্তিবাসি মহিলাদের পুষ্টিমান মূল্যায়ন

by **JOHN RICHARDS, AFIFA SHAHRIN AND KAREN LUND**

এই সমীক্ষায় উত্তরার তুরাগ নদী সংলগ্ন এলাকার বস্তিবাসী মহিলাদের পুষ্টিমানের একটি প্রতিবেদন তুলে ধরা হয়েছে। গবেষণাটির উপাত্ত সংগ্রহ করে আই ইউ বি এ টি—ইন্টারন্যাশনাল ইউনিভার্সিটি অফ বিজনেস এগ্রিকালচার এণ্ড টেকনোলজি-এর নার্সিং শিক্ষার্থীরা। জরিপে দেখা যায় যে অধিকাংশ মহিলার খাবারে পর্যাপ্ত পরিমাণ ক্যালরী থাকে। তবে তাদের অধিকাংশই সব শ্রেণীর খাদ্যের সুষম বন্টন থেকে বঞ্চিত। চালের মূল্যস্ফিতির কারণে হয়তবা তারা একই পরিমাণ চাল ক্রয়ের জন্য অন্যান্য শ্রেণীর খাবার বাদ দিতে বাধ্য হয়েছে।

অধিকাংশ পরিবার কোনও ধরণের বিশুদ্ধিকরণ ছাড়াই ঢাকা পানি ও পয় কর্তৃপক্ষের পানি ব্যবহার করে। ভূ-পৃষ্ঠের পানি দূষণের কারণে ওয়াসার পানিতে আশংকামুক্ত মাত্রায় রোগ-বালাইয়ের জীবানু থাকতে পারে। পরিবারের সদস্যদের মাঝে তামাক ও পানের ব্যাপক ব্যবহার লক্ষণীয়। দীর্ঘমেয়াদী ব্যবহার এই দুইটিই ভয়ানক স্বাস্থ্যহানীর কারণ হতে পারে। স্বাস্থ্যকর্মীদের কাছ থেকে প্রাপ্ত প্রত্যক্ষ উপদেশ এবং মহিলাদের স্বাক্ষরতা পুষ্টিমানের উপর ইতিবাচক প্রভাব ফেলে।

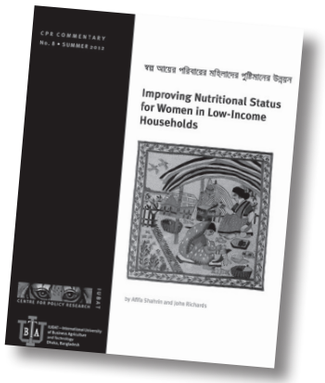
This Commentary reports on the nutritional status of shanty dwelling women in Uttara (near the Turag River). Data were collected by nursing students at IUBAT—International University of Business Agriculture and Technology. Most women have an adequate caloric intake. However, most lack adequate servings from the full range of food groups. Inflation in rice prices may have induced them to sacrifice other foods in order to maintain rice consumption.

The majority use non-boiled tap water from the Dhaka Water and Sewage Authority. Due to contamination from ground water, it may contain high levels of pathogens. Tobacco and betel nut are widely used by family members. Both pose serious health hazards if consumed on a long-term basis. The ability of women to read, and receiving one-on-one advice from a health worker had positive impacts on aspects of nutrition.

CPR COMMENTARY NO. 8

A New Mandate for the Rural Electrification Board

স্বল্প আয়ের পরিবারের মহিলাদের পুষ্টিমানের উন্নয়ন



by **AFIFA SHAHRIN AND JOHN RICHARDS**

এই গবেষনায় বাংলাদেশের দুইটি অঞ্চলের স্বল্প আয়ের পরিবারের মহিলাদের খাদ্য ও পুষ্টিমানের অবস্থা তুলে ধরা হয়েছে। অঞ্চল দুটির একটি হল জামালপুর জেলার পাশাপাশি চারটি গ্রাম, অপরটি হল ঢাকা মহানগরীর উত্তরা এলাকার বস্তি। স্বল্পসংখ্যক মহিলা ক্যালরী স্বল্পতায় ভুগলেও অধিকাংশের সমস্যা হল আমিষ, ভিটামিন, মিনারেল এবং খনিজ পদার্থের স্বল্পতা।

পুষ্টিকে প্রভাবিত করতে পারে এমন উপাদানগুলোর গুরুত্ব এই গবেষণায় পর্যালোচনা করা হয়েছে। সাধারনত কম শিক্ষিত পরিবারের মহিলাদের তুলনায় বেশি শিক্ষিত পরিবারের মহিলাদের পুষ্টিমান উন্নত; তাদের অধি কাংশ ধূমপানও করেনা, তবে যেসব পরিবারে ধূমপায়ী সদস্য রয়েছে সেসব পরিবারের মহিলাদের পুষ্টির অবস্থা তুলনামূলক খারাপ।

এক্ষেত্রে সরকারের প্রতি যে প্রধান দুইটি সুপারিশ তা হলঃ পুষ্টি সম্পূরক উপাদান যোগ করে চালের পুষ্টিগুণ বাড়ানো (Rice fortification) এবং যেসব অঞ্চলে আর্সেনিকের প্রকোপ বেশি নয় সেসব অঞ্চলে অগভীর টিউবওয়েল বসানো। বেসরকারী সংস্থাগুলোর প্রতি সুপারিশ হলঃ গনস্বাস্থ্যকর্মীদের উন্নতমানের প্রশিক্ষণ দিয়ে তথ্য-উপদেশের কার্যকারিতা বাড়ানো এবং গ্রামাঞ্চলের বাড়িগুলোতে সবজি বাগান করতে জনগণকে সহযোগিতা করা।

This monograph reports on the nutritional status of a sample of 600 women in two sites: four villages near Jamalpur, and shanty dwellers in the Dhaka metropolitan area. While some suffer inadequate calorie intake, the major nutritional problem is inadequate consumption of protein, vitamins and micronutrients.

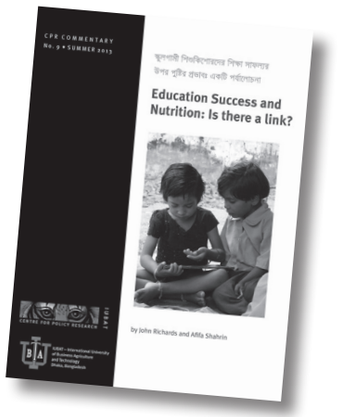
The authors assess the importance of factors that influence nutrition. In general, women's nutrition is better in households with higher education levels; most women do not smoke, but their nutrition is worse if other family members use tobacco.

The recommendation to government is to pursue two programs: rice fortification, and setting of tube wells in slum neighbourhoods (where groundwater is not affected by arsenic). NGOs are invited to improve training of community health workers, and encourage household vegetable gardens in rural villages.

CPR COMMENTARY NO. 9

Education success and nutrition: Is there a link?

স্কুলগামী শিশুকিশোরদের শিক্ষা সাফল্যর উপর পুষ্টির প্রভাবঃ একটি পর্যালোচনা



by **AFIFA SHAHRIN AND JOHN RICHARDS**

শিশুদের শিক্ষা সাফল্যের সাথে পুষ্টির কোন সম্পর্ক আছে কি? অনেক আন্তর্জাতিক গবেষণা মতে এই সম্পর্ক ইতিবাচক। বাংলাদেশের শহর ও গ্রামাঞ্চলের নিম্ন আয়ের পরিবারের উপর পরিচালিত এই গবেষণায় প্রাথমিক এবং মাধ্যমিক স্কুল পর্যায়ে এই সম্পর্কের মাত্রাজনিত প্রমাণ পাওয়া যায়।

গবেষণায় অন্তর্ভুক্ত শিশুদের মধ্যে যাদের পিতা-মাতা পড়তে পারে তাদের স্কুলের শিক্ষা সম্পন্ন করার সম্ভাবনা পিতা-মাতা পড়তে পারেনা এমন শিশুদের চাইতে বেশি। যেসব পিতা-মাতার আয় বেশী তারা সাধারণত তাদের শিশুদের বেশী সময় পর্যন্ত স্কুলের পড়া শেষ করার সুযোগ দিতে পারে। আবার বাড়ীতে বিদ্যুৎ সংযোগ থাকায় অর্থনৈতিকভাবে সম্পন্ন পিতা-মাতার সন্তানেরা পড়াশুনায় ভাল করে। দেখা গেছে, স্কুলের সাফল্যের ক্ষেত্রে উন্নত পুষ্টি একটি গুরুত্বপূর্ণ নিয়ামক।

জরিপে হতে প্রাপ্ত তথ্যের বিশ্লেষণে আলোচ্য গবেষণা মা এবং শিশুদের উন্নততর পুষ্টির উপর গুরুত্ব আরোপ করেছে। প্রসূতি মা এবং নবজাত শিশুর পুষ্টি কর্মসূচী থেকে শুরু করে সামাজিক বিপনন উদ্যোগ, দরিদ্র পরিবারের শিশুরা পড়ে এমন স্কুলগুলোতে খাদ্য কর্মসূচী ইত্যাদি অনেক ধরনের নীতিই দরিদ্র জনগোষ্ঠীর পুষ্টিমান উন্নয়নে সহায়ক ভূমিকা রাখে।

Is there a link between nutrition and children's education success? The answer from international studies is "yes." Here we provide evidence on the extent of the link – both at the primary and secondary school level – among a sample of low-income families in urban and rural Bangladesh.

Children whose parents can read are more likely to complete their studies than children whose parents cannot. Higher-income parents typically have more time to help their children, and usually their homes have access to electricity, a valuable aid to learning. This study demonstrate that, among the factors bearing on success at school, good nutrition matters.

Evidence from the families surveyed indicates the importance of better maternal and child nutrition. The range of potentially valuable programs is wide: from nutrition campaigns targeting pregnant mothers and pre-school children, to social marketing campaigns that promote improved diets, to school feeding programs.

Modern nursing practice has the potential to improve population health in Bangladesh, as shown in other low-income countries. However, there are significant practical challenges, especially with training. This report summarizes the current situation for nurse supply and education, introduces relevant ideas from other countries and suggests a made-in-Bangladesh strategy.

The author, a nurse executive and policy consultant in Canada, has spent many years supporting an innovative nurse education program in Dhaka. From that experience, as well as discussions with Bangladeshi nurse educators, physicians and hospital managers, this report proposes a way forward. It focuses on the critical obstacle – the shortage of qualified nurse educators. A strong nurse education system could release nurses' capacity as caregivers, patient educators and health promoters.

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