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Afghanistan Nutrition Solutions Series

The National Solidarity Programme: Improving Nutrition and Empowering Women

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About the Afghanistan Nutrition Solutions Series:

The Afghanistan Nutrition Solutions Series is a collaboration with program implementers and policymakers in Afghanistan to identify and refine promising programmatic platforms for scaling-up effective nutrition solutions in the country. The overarching framework for the Series is the Government of the Islamic Republic of Afghanistan's Nutrition Action Framework. The Nutrition Action Framework outlines a multisectoral approach for addressing, in a sustainable way, the alarmingly high rates of child and maternal malnutrition in Afghanistan. The Series builds on the global knowledge base to support Afghanistan-specific analysis, technical assistance, and pilots that generate contextualized nutrition solutions in relevant sectors. Combining global evidence with in-depth knowledge of the Afghan context generates these solutions. Each of the notes in this series is the result of the review of evidence, additional information gathering in Afghanistan, and engagement with a range of stakeholders.

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Abbreviations and Acronyms

AREDP	Agriculture and Rural Enterprise Development Project
CDC	Community Development Council
MRRD	Ministry of Rural Rehabilitation and Development
NHLP	National Horticulture and Livestock Productivity Project
NSP	National Solidarity Programme
NSP I	National Solidarity Programme Phase I
NSP II	National Solidarity Programme Phase II
NSP III	National Solidarity Programme Phase III
NSP IV	National Solidarity Programme Phase IV
Ru-WatSIP	Rural Water, Sanitation, and Irrigation Programme
SAFANSI	South Asia Food and Nutrition Security Initiative
SEHAT	System Enhancement for Health Action in Transition

Key Messages:

This paper identifies opportunities for the National Solidarity Programme (NSP) to improve nutrition, and in doing so empower women, as follows:

- Women leaders inthe NSP Community Development Councils (CDCs), with basic nutrition and health training, could deliver basic nutrition messages to other women in their village, encourage women in prenatal attendance, breastfeeding support, and distribute micronutrient powders.
- Through the leadership of the CDCs, leverage women's income generating activities utilizing production from the National Horticulture and Livestock Productivity Project (NHLP) and microenterprise development support from the Agriculture Rural Enterprise Development Project (AREDP)– micro-production of yogurt and cheese, local production of high-energy biscuits for schools, and the production of nut butters.
- Increasing access to clean water, improved sanitation, proper latrines, and other basic services, to mitigate and raise awareness about the negative impacts of environmental enteropathy on nutrition outcomes.

Introduction

The National Solidarity Programme (NSP), established in mid-2003 by the Ministry of Rural Rehabilitation and Development (MRRD), is the flagship, national priority program of the Government of the Islamic Republic of Afghanistan. With financing from the World Bank Group/International Development Association, its initial aim was to empower Afghans to reduce poverty through establishing and strengthening a national network of self-governing institutions—Community Development Councils (CDCs). While NSP focuses heavily on self-governance and community driven development, it incorporates many activities that have the potential to help the nutritional wellbeing of the Afghan population. With financing from the World Bank, MRRD is working to improve nutritional outcomes through NSP. This technical assistance document highlights the ongoing actions and proposes innovative activities to increase NSP's nutritional impact.

Why Nutrition in Afghanistan?—Key Nutrient Deficiencies

Annually, Afghanistan loses over US$235 million in GDP to vitamin and mineral deficiencies.[1] Increasing the nutritional impact of NSP in the country has to potential to improve micronutrient deficiencies, while simultaneously having a positive impact on women's empowerment.

The levels of child undernutrition in Afghanistan are very high. UNICEF finds that 59% of children under the age of five are stunted, and 33% are underweight.[2] The stunting levels are among the highest in the world. Acute undernutrition (wasting) in children under five is 9%,[3] which is low for a poor, conflict-stricken country, but these wasting levels remain very high in the first two years of life (18.1%in children between one and two years old[4]).[5] One of the causes of child undernutrition is widespread micronutrient deficiency.[6] The National Risk and Vulnerability Assessment shows that 57% of the population in Afghanistan have very low diet diversity.[7]

[1] UNICEF and the Micronutrient Initiative. 2004. *Vitamin and Mineral Deficiency: a Global Progress Report*.
&
World Bank. 2009. World Development Indicators (Database). From *Nutrition at a Glance Afghanistan*. 2013. Washington, DC: The World Bank Group.
[2] *State of the World's Children.* 2009. UNICEF.
[3] *State of the World's Children.* 2009. UNICEF.
[4] Levitt, Emily, Kees Kostermans, Luc Laviolette, and Nkosinathi Mbuya. 2011. *Malnutrition in Afghanistan: Scale, Scope, Causes, and Potential Response*. Washington, DC: The World Bank Group. Accessed from www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/11/15/000356161_20101115233235/Rendered/PDF/578720PUB0Maln11public10BOX353782B0.pdf.
[5] *Stunting* is low height for age. *Wasting* is low weight for height. *Underweight* is low weight for age.
[6] Iron, zinc, Vitamin A, and iodine deficiencies are the most widespread micronutrient deficiencies in Afghanistan. From the Back to Office Report—Lynn Brown.
[7] *Afghanistan National Development Strategy: An Interim Strategy for Security, Governance, Economic Growth, and Poverty Reduction*. 2006.

The level of malnutrition also is high among women in Afghanistan. 20.9% of women have low body mass indices, which indicate chronic energy deficiencies. 48.4% of non-pregnant women of childbearing age have anemia, and 75% of them have iodine deficiencies.[8]

Nutrition Action Framework

The Nutrition Action Framework of the Islamic Republic of Afghanistan seeks to address the problem of maternal and child undernutrition by focusing on the 1,000 days period from conception through the first two years of life. The Framework complements the Afghanistan National Development Strategy[9] and builds on its multisectoral approach, engaging the Ministries of Agriculture, Irrigation, and Livestock; Public Health; Education; Commerce and Industry; and Rural Rehabilitation and Development. The key areas of commitments by the ministries include:(a) the Ministry of Agriculture, Irrigation, and Livestock by (i) increasing food access and availability and (ii) improving dietary diversity with a primary focus on insecure food households; (b) the Ministry of Public Health by (i) the efforts to improve infant and young child feeding and care practices, (ii) infectious disease control including improved water sanitation, hygiene, and deworming, (iii) micronutrient provision, and (iv) the treatment of severe and acute malnutrition and other nutrition-related illnesses with a focus on disease prevention; (c) the Ministry of Education by (i) school health and nutrition, (ii) curriculum development in nutrition-related areas, and (iii) behavioral change communications, in each case providing special attention to female students to encourage enrollment and attendance; and (d) and the Ministry of Rural Rehabilitation and Development (MRRD) by (i) activities associated with NSP, (ii) improved water sanitation and hygiene; and (iii) social protection initiatives with special attention to women's participation.

The overall objective of the Nutrition Action Framework is to reduce stunting in children aged 0-24 months old by 10 percentage points (from an estimated 59% to 49% by the end of 2016).[10] The following principles were used in the preparation of the Framework:

- Common targets and indicators with the prevalence of child stunting serving as the primary impact indicator
- Coordination among the ministries and their partners, particularly in advocacy, fundraising, and overall governance
- Resource availability
- Ministry-specific identification of capacity development requirements
- An agreement to utilize the Framework as a means of increasing commitment in each of the relevant sectors to the reduction of malnutrition and to working as a coordinated body of ministries

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[8] *Malnutrition in Afghanistan: Scale, Scope, Causes, and Potential Response*,PPT. Accessed from http://siteresources.worldbank.org/INTAFGHANISTAN/Resources/Afghanistan-Reconstructional-Trust-Fund/Malnutrition_inAfghanistan_for_High_level_audience.pdf.
Afghanistan: The State of Health and Development. Micronutrient Initiative. Accessed from http://www.micronutrient.org/english/view.asp?x=601.

[9] The Afghanistan National Development Strategy highlights health and nutrition in Pillar 5 under the social and economic development goals. This Pillar commits to reducing the morbidity and mortality of the Afghan population by implementing a package of health and hospital services, special programs, and human resource development.

[10] Stunting (low height for age) along with wasting (low weight for height) and being underweight (low weight for age) can serve as measures of nutritional status in the first 1000 days.

There is agreement among the ministries that a high-level coordination mechanism is necessary to integrate particular activities across ministries, to track progress of individual activities and of the Framework as a whole, to address problems and limiting factors quickly and efficiently, and to assure accountability for results within each of the core ministries. Following extensive consultations, the team designing the Nutrition Action Framework proposed that a High Level Food and Nutrition Security Steering Committeebe created under thechairmanship of the Second Vice President and comprised of the ministers from each of the five core ministries involved in food and nutrition security. Initially, the proposed Steering Committee will meet four times per year to review progress in operationalization of the Framework and to explore linkages between the participating ministries. This Steering Committee will be supported by a modest Secretariat located in the Office of the Second Vice President, with the following core functions: coordination, data collection and analysis to track the operationalization of the Nutrition Action Framework, and advocacy/communications. The Framework forms an integral part of a national Food and Nutrition Security Policy Framework, which currently is being developed. Each of the participating ministries also will have a small Nutrition Coordination Unit to support the delivery of the Nutrition Action Framework actions and to coordinate with other ministries. While the creation of technical sub-committees was considered, the recommendation at this point is to begin the implementation and to create sub-committees and task forces as and when required to address specific implementation challenges.

The core Islamic Republic of Afghanistan government ministries responsible for the design and implementation of this Framework are being supported, technically and financially, by a range of international technical and funding partners, including: the Canadian International Development Agency, the European Commission, the Global Alliance for Improved Nutrition, the UN Food and Agriculture Organization, the Micronutrient Initiative, the Millennium Development Goals Fund, UNICEF, the United States Agency for International Development (USAID), the World Bank, the World Food Programme, and the World Health Organization. Additionally, the Islamic Republic of Afghanistan's Ministry of Finance will have financial oversight over the Framework and the activities within it.

What is the National Solidarity Program by the Ministry of Rural Rehabilitation and Development?

The National Solidarity Programme (NSP), implemented by MRRD, is a community-led reconstruction and rural infrastructure initiative. NSP is the largest development program in Afghanistan and a flagship program of the Government of the Islamic Republic of Afghanistan. Since its inception in 2003, NSP has established approximately 22,500 CDCs, which is a group of community members elected by each village to serve as its decision making body. These CDCs have been established across 361 districts in all of Afghanistan's 34 provinces, and NSP has financed over 50,000 development projects with over US$1 billion in block grants.

NSP is structured around two major village-level interventions: (1) the creation of a gender-balanced CDC through a secret-ballot, universal suffrage election; and (2) the disbursement of grants, up to a village maximum of US$60,000, to support the implementation of projects selected, designed, and managed by the CDC in consultation with the village community. NSP thus seeks to both improve the access of rural villagers to critical services and to create a structure for village governance centered on democratic processes and the participation of

women. The program has made significant achievements in empowering communities, improving community relations, and increasing public faith in the system of government.About 80% of the community development projects involve infrastructure, such as irrigation, roads, electrification, and drinking water supply. MRRD, with World Bank financing,[11] has implemented NSP in three phases. The first two phases of this community driven developmentproject have been completed, and the third phase of implementation is underway. Finally, a fourth phase is likely to be considered following the completion of Phase III.Overall, the NSP budget from the beginning (Phase I) of the Programme until the end of Phase III in mid-2015 is an estimated at US$2.7 billion.[12][13]

*What are Community Development Councils (CDCs)?*A group of community members transparently elected by the village to serve as its decision-making body.

What is the Purpose of the Councils? The CDC members (often a mixed-gender group, but with female members sometimes meeting separately) consult directly with members of the community to reach a consensus of project ideas. The CDC submits the subprojects which require NSP funding to MRRD. If the proposal is approved, NSP block grants are disbursed to cover the purchasing of materials, and the funds are distributed for project implementation. The CDC continues to report to MRRD about the project's implementation progress and budget. Finally, the Community Development Plan consists of the projects which can be carried out with funds from NSP and from independent outside support.[14]

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[11] NSP has relied on funding from a variety of sources including financing from the World Bank, financing from the Afghanistan Reconstruction Trust Fund, which provides funding to the Program from various international donors (Australia, Belgium, Canada, Denmark, European Union, Finland, Germany, Norway, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom and the United States of America), and bi-lateral funding, which has come from Denmark, France, Italy, Netherlands, Czech Republic and New Zealand directly to the Program.

[12]*National Solidarity Programme, NSP Donors*. National Solidarity Programme, Ministry of Rural Rehabilitation and Development, Islamic Republic of Afghanistan. Accessed from http://www.nspafghanistan.org/default.aspx?sel=18.

[13]The National Solidarity Programme Phase I (NSP I) covers the period from the start of the Program (May 9, 2003 to March 31, 2007). During NSP I, the Programme aimed to cover around 17,300 communities. The work around 10,000 of these communities was not completed during this time and was then extended into the National Solidarity Programme Phase II (NSP II) (April 1, 2007 to September 30, 2011). In addition to the work carried forward from Phase I, NSP II involved the rollout to an additional 6,000 communities bringing the total rollout to around 23,200. Finally, the National Solidarity Programme Phase III (NSP III) began in October 2010 and will continue until September 2015. It has two key sub-phases: (1) the rollout to cover the remaining estimated 16,000 communities nationwide with a first block grant, bringing the total number of communities to around 39,200; and (2) the rollout to a select 12,000 communities that have satisfactorily utilized their first block grant with a second (or "repeater") block grant.

[14] Facilitating partners, typically local or international nongovernmental organizations, help the CDCs to propose and implement their projects.

Key Findings of the National Solidarity Programme Phase II[15]

The report analyzes the impacts on village governance; political attitudes and social cohesion; access to utilities, infrastructure and services; and economic activity.

Key findings include:

- NSP induces changes in village governance by creating functional village councils (CDCs) and transferring some authority from tribal elders to these councils. The Programme also improves villagers' perceptions of a wide range of government figures, but does not change the chance of a village suffering a violent attack or result in appreciable changes in levels of interpersonal trust among villagers.
- NSP results in improvements in villagers' access to services and perceptions of well-being. At the current stage of project implementation, there is no evidence to indicate that the program affects objective measures of economic welfare, such as levels of household income or consumption.
- NSPincreases the engagement of women across a number of dimensions of community life, while also increasing respect for senior women in the village and making men more open to female participation in local governance. NSP also increases the availability of support groups for women and reduces extreme unhappiness among women.[16]

How the National Solidarity Program Relates to Nutrition and Health—*Analyses from the National Solidarity Program II*

- The impacts of NSP on services, infrastructure, and utilities and on economic activity at this stage of program implementation are mixed.
- Using data from villages with completed projects, the study identifies a strong positive impact of drinking water projects on the use of protected outlets and the availability of safe drinking water.
- Few impacts of infrastructure projects are apparent on the mobility of villagers or irrigation outcomes, although it could be too soon to test for these impacts.
- With respect to access to medical care and schooling, the program's impacts, at this stage, appear limited to female villagers. Womens' access to professional medical services appear modestly improved, but there is no evidence of an improvement for villagers overall. Some evidence exists that NSPinitiatives increase girls' school attendance rates, but there is no evidence that the Programme increases boys' school attendance.
- The Programme, in its current state of implementation, does not affect the size of land area under cultivation or harvest sizes. Although there is weak evidence that NSP increases the probability of farmers selling produce, there is no evidence of a similar impact on sales of livestock, animal products, or handicrafts.Revenues accruing from

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[15]A Ph.D. student at Harvard University, a professor at Massachussetts Institute of Technology, a professor at the New Economic School, and an Evaluation Specialist in the South Asia Sustainable Development Unit at the World Bank coauthored the randomized impact evaluation study on NSP II. The results of this study are crucial for adjustments to be made in NSP III.

[16] Beath, A., C. Fotini, R. Enikolopov, and S.A. Kabuli. 2010. *Randomized Impact Evaluation of Phase-II of Afghanistan's National Solidarity Programme (NSP).*

sales of produce, livestock, or animal products are unaffected by the program at this stage.

Improving Nutrition through the National Solidarity Programme

In a Community Driven Development Programme in Bangladesh, which like NSP also developed women's local leadership potential, the focus groups revealed that women were concerned about their household food and nutrition status. As the women's groups began to focus on income generating activities, their concern was to link that focus to improving their households' food and nutrition security. Several ideas from this initiative in Bangladesh are very relevant to NSP and to increased production of high quality nutrition products in the National Horticulture and Livestock Productivity Project(NHLP) as well.[17]Additionally, the impact evaluation of NSP II indicates that women in Afghanistan also are concerned about the provision of healthcare. Based on the randomized impact evaluation and discussions with colleagues at the World Bank office in Kabul,some of the ways in which NSP has the potential to improve nutrition awareness and outcomes in Afghanistan are as follows:

- Women leaders inthe NSP CDCs, with basic nutrition and health training, could deliver basic nutrition messages to other women in their village, encourage women in prenatal attendance, breastfeeding support, and distribute micronutrient powders.
- Through the leadership of the CDCs, leverage women's income generating activities utilizing production from NHLP and microenterprise development support from the Agriculture Rural Enterprise Development Project (AREDP)– micro-production of yogurt and cheese, local production of high-energy biscuits for schools, and the production of nut butters.
- Increasing access to clean water, improved sanitation, proper latrines, and other basic services,to mitigate and raise awareness about the negative impacts of environmental enteropathy on nutrition outcomes.

Local Women CDC members as Nutrition and Health Providers

The Ministry of Public Health's revised Basic Package of Health Servicesincludes: (a) preventive services such as immunization, micronutrient supplementation, and promotion of insecticide treated bed nets against malaria; (b) health promotion services such as encouraging breastfeeding and use of family planning; (c) basic curative services such as treatment of acute respiratory tract infections, diarrhea, other childhood illnesses, and tuberculosis; (d) reproductive health services such as prenatal care, emergency obstetrical care, and postpartum care; and (e) basic mental health and disability services. These services are delivered through a network of community health workers going from the most basic care at sub-center health facilities to more advanced care at district hospitals. The sub-centers each have 2 staff members and serve a population of 3,000 - 7,000. Basic health centers each have about 5 staff members and serve a population of 15,000 – 30,000. Comprehensive health centers each haveabout 12 staff members and serve a population of 30,000 – 60,000. And finally,district hospitals each have about 35 staff members and servea population of 100,000 – 300,000. In addition to the fixed centers, the

[17] For more information on the Ministry of Agriculture, Irrigation, and Livestock's NHLP, please refer to SAFANSI's *Increasing the Nutritional Impact of the National Horticulture and Livestock Productivity Project* (February 2014).

Government of the Islamic Republic of Afghanistan aims to provide healthcare services through mobile and outreach activities.

In Afghanistan, there are more CDCs than health clinics and community health workers. Each health clinic has a caseload of approximately 150 households, which generally will cover several villages. Whereas every village has its own CDC, so a CDCon average will cover 25 households but sometimes more. All CDC members would benefit from basic health and nutrition training, allowing them to encourage the adoption of healthy behaviors as well as enabling them to engage more closely in the monitoring and accountability of local health provision. CDCs are comprised of transparently elected and well-respected members of the community, so increasing fundamental knowledge of basic nutrition and health for these community members has the potential to greatly impact behavior change for the community at-large.

Educating the female CDC members in greater depth on basic components of nutrition and on some of the simple aspects of healthcare, would enable them to provide leadership, knowledge and very basic service deliveries to women and children in their communities. Currently, approximately 30,000 women are now members of mixed-gender CDCs; NSP promotes these mixed gender CDCs.[18]Educating female CDC members by giving them definitive roles and linking them to local health facilities will empower them to participate more actively in health discussions and has the potential to create opportunities for upward mobility.

Female CDC members can provide pregnancy guidance, encouraging women to attend prenatal care and distributingiron and folate tablets to both adolescent girls and pregnant and lactating women, which is especially important when health facilities are located far away from the village. They can support women in breastfeeding and provide basic guidance on infant and young child feeding. They also may be able to address food taboos and other issues that harm or undermine nutrition outcomes for pregnant and lactating women and young children. Additionally, when locally sourced micronutrient powders are available at the end of the year, female CDC members can distribute these powders to *all*children between 6-59 months old. This system of distribution through the female CDC members would be a way to operate a more localized pipeline for delivery of the micronutrient powder with greater coverage than solely through community health workers.In order for the female CDC members to successfully provide micronutrient powders and other types of supplements, the CDCs must introduce a village-based extension of the formal health facilities scheme outlined above. Therefore, supplies (e.g. micronutrient powders, iron and folate tablets, etc.) and healthcare trainings (e.g. basic prenatal and postpartum care) must come from the government approved health facilities and their community health workers.

In communities where mobility of women is limited, attendance at health clinics for prenatal care, nutrition counseling, and well-baby care is often minimal. Healthcare often only is sought in the event of sickness. By empowering women CDC members to deliver some counseling and services, this would extend healthcare into the community. It also may enable them to innovate and create strategies that will enable women to take their children to health facilities without

[18]*Emergency Project Paper on a Proposed Grant in the Amount of SDR 27.2 Million (US$40 Million Equivalent) to the Islamic Republic of Afghanistan for a Third Emergency National Solidarity Project*. 2010. The World Bank Group.

male accompaniment; male accompaniment typicallypulls men away from productive activities. For example, female CDC leaders could accompany groups of women and children.

Promoting the engagement of CDC members in nutrition and health activities and fostering greater engagement with healthcare providersalso will increase the accountability of health service providers to local governance mechanisms.

This creates a natural synergy and engagement betweenNSP and the System Enhancement for Health Action in Transition (SEHAT) Program. In the past decade, approximately 20,000 community health workers—half of them women—were trained and deployed throughout Afghanistan, increasing access to family planning and boosting childhood vaccinations. Additionally, the number of facilities with trained female health workers rose from 25 percent to 74 percent today.At the same time, the number of functioning health facilities increased drastically as well. These interventions have produced significant improvement in the coverage of reproductive and child health services, as well as a significant drop in maternal and child mortality, but more work must occur. The Ministry of Public Health will implement the SEHAT Program in an attempt to achieve the following outcomes among other others: 1) 35% of births will be attended by skilled health personnel; 2) 60% of children aged 12-23 months will be vaccinated against five preventable disease; 3) 40% of pregnant women will have prenatal care coverage; and 4) 50% of pregnant and lactating women will receive counseling on infant and young child feeding. At the village level, the female CDC members, as part of increasing the nutritional impact of NSP, can work with the SEHAT Program fieldworkers in order to achieve the SEHAT Program and NSP goals.

Most importantly, in addition to providing crucial healthcare services, the female CDC members, and subsequently other women in the villages, will be empowered by helping their communities through their increased role in vital daily villageservice provision.

Nutrition, Women's Empowerment, and Income-Generating Activities

The central role of CDCs in local level governance and community development makes them perfectly situated to lead income generation activities that would promote linkages of NSP with both NHLP and AREDP. This role could be further developed in the event of future phases of both NSP and AREDP.

NHLP supports the production of nuts, fruits, livestock, and home gardens (including pomegranate trees, watermelons, etc.).A combination of local nuts, dried fruit, seeds, fortified flour, eggs, and milk could produce high-energy biscuits for use in schools.[19]In Afghanistan, children frequently go to school without breakfast, and as a result their concentration and learning potential are impaired. Consuming a high nutrient biscuit early in the day can address this lack of breakfast and improve the micronutrient status of school children.[20] Importantly, women's cooperative groups could bake these biscuits locally with leadership, infrastructure and capital assistance through NSPandAREDP. Production of these biscuits has the potential to grow into a larger enterprise with business, technical assistance, and financial support—all

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[19] Using local nuts and fruits would enable local production of high-energy biscuits, which could also be used by the World Food Programme in its school feeding programs.

[20] When schoolchildren are provided snacks at school rather than meals they are less likely to experience a reduction in meals at home.

facilitating female empowerment, as well as promoting nutrition and enterprise opportunities. Making these biscuits creates the avenue for cooperation between MRRD (through NSP) and the Ministry of Agriculture, Irrigation, and Livestock (through NHLP and/orAREDP). NSPcould focus on governance and leadership, AREDP could address the infrastructure and capital assistance necessary for such an endeavor, and NHLPcould focus more heavily on local horticulture and small-scale dairy development.

Furthermore, in areas where livestock is promoted for dairy production, NSP leadership, together with AREDP, can facilitate investment in local basic infrastructure for processing milk into cheese and yogurt. Widespread cheese and yogurt production will help nutritional improvement for children. Also the production itself is a new source of income generation.

Additionally, the production of local nut butters, using almonds and pistachios, promoted through NHLP can help provide iron, zinc, and folate to young children without the risk of choking on whole nuts. Nut butters currently are imported into some urban centers in Afghanistan, and with basic technology to crush nuts, local nut butters could be produced for young children on a widespread scale. Producing nut butters on a large scale would require basic equipment from NSP and AREDP. This technology and local nut butter production could create local manufacturing plants, which in turn will help the local Afghan economy.

In terms of educational advancement, one of the NSPinfrastructure projects is to construct school buildings. As a multisectoral collaboration effort, MRRD could collaborate with the Ministry of Education. The Ministry of Education produced a nutrition curriculum as part of the Female Youth Employment Initiative.[21] The comprehensive nutrition curriculum modules from the Initiative could be used in the new schools either in full at the high school level or in part at the middle school or elementary levels, the latter being more likely in most villages. Additionally, new school buildings should be designed with school gardens to teach about nutrition and to use for providing nutritious meals at the school. Women CDC members also could be encouraged to hold local schools accountable for delivering the relevant nutrition curriculum.

Improved Access to Water, Latrines,& Basic Services

A large portion of the funding from the NSP is put toward water reservoirs, safe water supply projects, irrigation water supply networks, and drainage. Access to safe water is key to avoiding life-threatening illnesses and to food security. In developing countries such as Afghanistan, about 80% of illnesses are linked to poor water and sanitation conditions.[22]

Historically, healthcare providers and public health specialists assumed that children grow poorly because they do not eat the correct foods and thus do not receive the correct nutrients. Numerous programs have tried various nutrient dense foods, nutrition supplements, nutrition education, and infant and young child feeding behavior change. A review of 38 studies focused on these types of interventions showed that none of these interventions resulted in children achieving normal

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[21] For more information on the Ministry of Education's Female Youth Employment Initiative, please refer to SAFANSI's *Raising Nutrition Awareness Among Young Women in Afghanistan through the Female Youth Employment Initiative* (January 2014).
[22] *The Lack of Clean Water: Root Cause of Many* Problems. 2014. The Water Project. Accessed from http://thewaterproject.org/water_scarcity_2.asp#phys=18.

growth, and the best only achieved a reduction of one-third in the nutritional deficit as measured by anthropometric Z scores.[23]

Repeated incidence of diarrhea, due to unsafe water, poor hygiene and sanitary conditions also have been linked to stunting. But many authors believe that diarrhea has a limited effect on permanent stunting due to the increased growth velocity between diarrhea episodes. In the influential *Lancet Maternal and Child Undernutrition Series*,it is shown that even if sanitation and hygiene activities were implemented with an "impossible"99% coverage, they would reduce diarrhea incidence by less than one-third, which would translate into a reduction in stunting of only2-4%.[24]

These results led to a renewed focus on environmental enteropathy in more recent literature as a potential key factor in undernutrition. Environmental enteropathy results from poor environmental sanitation and hygiene affecting seemingly health adults and children, compromising the growth of the latter group.[25][26]

> *What is Environmental Enteropathy?* Adults and children who live in poor environmental sanitary conditions ingest high concentrations of fecal bacteria, which colonize the small intestine and initiate environmental enteropathy through a T-cell mediated process. Then, the child's compromised, hyperpermeable gut facilitates the translocation of microbes, which subsequently triggers the metabolic changes of the immune response. Growth halts when these changes combine with reduced nutrient absorption by atrophied villi, marginal dietary intake, and the high growth demands in the first two years of a child's life.[27]

The crucial question is: how can children be protected from feces and consequentenvironmental enteropathy? The safe disposal of stools through toilets and hand washing with soap after fecal contact are the two primary ways to prevent feces from entering the domestic environment and thus prevent fecal-oral transmission.[28][29]According to USAID, 89% of people in rural

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[23] Humphrey, Jean H. 2009. "Child undernutrition, tropical enterophathy, toilets, and hand washing." *The Lancet*. 374: 1032-1035.

[24] Bhutta, Zulfiqar, Tahmeed Ahmed, Robert Black, et. al. 2008. "Maternal and child undernutrition 3: What works? Interventions for maternal and child undernutrition and survival." *The Lancet*. 371: 417-440.

[25] Environmental enteropathy differs from diarrhea. Diarrhea is a symptom of infections caused by a host of bacterial, viral, and parasitic organisms, which often are spread by feces-contaminated water. Infection is more common when there is a shortage of adequate sanitation and hygiene and safe water for drinking, cooking, and cleaning. Rotavirus and *Escherichia coli* are the two most common bacteria in diarrhea in less developed countries. While complications from diarrhea (such as dehydration) often cause death for young children in less developed countries, diarrhea explains only a very small portion of long term growth stunting and malnutrition in populations.

[26] Humphrey, Jean H. 2009. "Child undernutrition, tropical enterophathy, toilets, and hand washing." *The Lancet*. 374: 1032-1035.

[27] Humphrey, Jean H. 2009. "Child undernutrition, tropical enterophathy, toilets, and hand washing." *The Lancet*. 374: 1034.

[28] Humphrey, Jean H. 2009. "Child undernutrition, tropical enterophathy, toilets, and hand washing." *The Lancet*. 374: 1034.

[29] Many randomized trials of hand washing in less developed countries have shown substantial reductions in diarrhea, but unfortunately, most trials did not include the effects of hand washing on environmental enteropathy or child stunting. As a result, the Bhutta, et. al. *Lancet* article likely underestimates the impact of sanitation and hygiene interventions on undernutrition.

Afghanistan defecate in the open.[30]In terms of a global perspective, a recent study demonstrated that the high levels of open defecation in India could explain all the excess stunting in Indian children.[31]Additionally, care of the home environment, especially when livestock and foraging chicken are part of the homestead, are critical.

NSP attempts to build and encourage the use of safe water supplies and to build improved drainage schemes and latrines for better sanitation conditions. Some of the priorities of NSP as well as the Rural Water, Sanitation, and Irrigation Programme (Ru-WatSIP), also administered by the Ministry of Rural Rehabilitation and Development, focus on making all Afghan rural communities 100% open-defecation free and thus fully sanitized. Both NSP and Ru-WatSIP hope to empower communities to: 1) improve existing traditional latrines to become safe, hygienic, and ensure user privacy; 2) make new latrines as models of safe sanitation in households, schools, and healthcare clinics; 3) undertake the safe disposal of solid and liquid wastes; and 4) provide hygiene education with appropriate follow-up activities in schools, households, and communities for sustained behavior change and adoption of safe hygiene practices.[32]NSP should continue to prioritize safe water, drainage, and the provision of latrines.

Future Multisectoral Collaboration within the National Solidarity Program around Nutrition

The feasibility of our suggestions depends on multisectoral coordination between MRRDand the various health, nutrition, education, and commercial actors within the country as well as multisectoral collaboration within development partner organizations.It points to a need for the interaction between several current projects including NHLP, AREDP, Ru-WatSIP, and SEHATthat could be fostered by NSP and the local CDCs to increase the nutritional impact of all projects. The Nutrition Action Framework effectively outlines the reasons these various sectors should come together around a joint cause of nutrition, and NSP with World Bank and other donor financing has the potential to take MRRD’s role within the Nutrition Action Framework one-step further to a reality.

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[30]*USAID Afghanistan Sustainable Water Supply and* Sanitation. 2013. Tetra Tech ARD. Accessed from http://www.tetratech.com/projects/usaid-afghanistan-sustainable-water-supply-and-sanitation.html.

[31] Spears, D. 2013. *How much international variation in child height can sanitation explain? WPS 3651*. Policy Research Working Paper, World Bank.

[32] Ru-WatSIP, by MRRD, complements NSP and often starts the implementation of hygiene and sanitation projects in areas where NSP is not yet working.